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it was not possible to state The infection attacked some part of the intestinal canal, in the majority of cases the small intestine, and was liable to spread upwards, involving the stomach The result of the interference with absorption and secretion was ultimately to produce a condition resembling chronic starvation With regard to etiology, one of the most prominent theories until recently, that of Ashford, that sprue was due to a combination of several factors causing glandular insufficiency, to which was added the organism *Monilia psilosis*, had been disproved by experiments in Bombay, and the theory was losing ground even in the country of its birth

DR P H MANSON-BAHR spoke from his experience of two hundred cases which had been under his care at the Hospital for Tropical Diseases, and showed graphs illustrating the improvement and recovery on a mixed milk high-protein diet Increase of weight in the patient had coincided with a decrease in the size of the stools He believed that sprue was a specific disease, that wherever it occurred it was liable to affect Europeans, and was more prevalent among Europeans the nearer the Equator, though in its distribution sprue missed the whole Central African continent Wherever it occurred, in widely separated localities, the nature and symptoms of sprue were identical It had a definite incubation period, which he reckoned at three months, and it must be assumed that the virus of sprue was capable of lying dormant in the human body for a number of years

DR G M HARSTON spoke of the excellence of ultra-violet radiation in sprue, the best form of apparatus for the purpose was the open tungsten arc DR G W GOODHART raised the question of familial incidence in sprue or allied conditions, and mentioned the case of a patient invalided home from India with pernicious anaemia, which responded to liver treatment, the father of this patient had died of sprue Dr Low, from the chair, said that caution was necessary in appraising any dietetic result, but he highly praised the value of the biochemical work which Dr Fairley had done

ABDOMINAL HYSTEROTOMY

AT a meeting of the Edinburgh Obstetrical Society held on June 11th, with the president, DR H A DAVIDSON, in the chair, DR W F T HAULTAIN reviewed a series of twenty-eight cases of abdominal hysterotomy which had been carried out by the staff of the Royal Maternity Hospital, Edinburgh, during the last three and a half years

Dr Haultain said that as this operation was of recent origin it was advisable to examine statistics to show in what kind of cases it was advocated, and to estimate its value in comparison with other procedures for therapeutic abortion In the cases under review, the most common indication for the operation was severe toxic hyperemesis, the operation having been done twelve times for such cases In five cases it had been done for albuminuria associated with a persistent high blood pressure occurring in the earlier months of pregnancy, in three for toxic pyelitis which had finally been associated with persistent hyperemesis, and in three for myocarditis Twice it had been done in association with myomectomy for degenerating fibroids which had invaded the decidual lining of the uterus It was done once for acute toxic chorea gravidarum, once for a hydatidiform mole, and once for an acute phthisis Only one patient died, a mortality rate of 3·6 per cent., which was thought to be remarkable, as in more than half of the cases the patients were almost *in extremis* with toxaemia before the operation was performed This mortality rate compared very favourably with that in 25 cases of vaginal hysterotomy which had been performed for similar indications during the three years previous to June, 1927, the mortality in these cases was 5—that is, 20 per cent

In comparing the abdominal and vaginal operations, it therefore seemed that the abdominal route was much safer and more successful This was due, in the first place, to the rapidity and ease with which the abdominal operation could be done In the second place, to the absence of severe shock and of bleeding, which was sometimes associated with the vaginal operation Also in cases suffering from dehydration—a frequent cause of death in toxic cases, the abdomen could be filled with saline before closing the peritoneal cavity—this being of very great value to the patient In cases such as severe myocarditis and recurrent albuminuria sterilization could be carried out at the same time With regard to the slower methods of induction of abortion, abdominal hysterotomy would seem to be preferable, especially in primiparae, where induced abortion between the third and sixth months is a most painful and tedious business It was also of special advantage where sterilization had to be carried out It was recommended in cases of hydatidiform mole, for by such an operation the uterus could be completely evacuated of the growth with certainty, and therefore the danger that sepsis, haemorrhage, and chorion epithelioma might develop at a later date would be greatly minimized Up to the present it was not found that the operation had any bad effect on future conception, as one of the patients had had two children since the operation for hyperemesis in 1927

DR C D KENNEDY followed with details of four cases of abdominal hysterotomy which showed the type of case for which the operation was advocated In the first two cases induction was for severe pregnancy toxaemia, in the third for an acute exacerbation of chronic nephritis, and in the last for acute chorea gravidarum The first patient was a primipara, aged 21, who was five and a half months pregnant, and had pre-eclamptic symptoms associated with almost complete loss of vision, urine solid with albumin, and a blood pressure of 220/100 The second was a primipara, aged 21, who was four months pregnant, and was suffering from persistent vomiting She was very emaciated, jaundiced, and mentally deranged, her pulse rate was 144, and her urine contained bile and albumin Conservative treatment was abandoned after five days, because the general condition of the patient was getting worse The third patient, an 8-para, aged 43, was six months pregnant She had pre-eclamptic symptoms with very marked oedema, jaundice, and dyspnoea The urine was solid with albumin, and contained bile and pus cells as well These three patients were operated on under spinal anaesthesia, and made satisfactory recoveries The fourth patient, a primipara, aged 19, was four months pregnant She was very anaemic and suffered from exaggerated involuntary movements of arms and legs The urine contained bile and albumin In spite of conservative measures, the movements increased very markedly She was unable to get any rest at any time during the day or night, she became delirious, and mental symptoms developed rapidly The uterus in this case was evacuated under general anaesthesia, and the patient made an excellent recovery

HABITUAL ABORTION

MISS E V CROWE, reading a paper on habitual abortion, began by stating that this condition was by no means always associated with spirochaetal infection, and that during the past two years there had been 19 non-specific cases treated at the ante-natal department of the Royal Maternity Hospital, Edinburgh In 9 of the cases the abortions were preceded by a full-time, often instrumental, labour Among the 19 cases, 2 were suffering from toxaemia, 5 from cervicitis, 1 from pyelitis, and 2 from valvular disease of the heart All seemed to be suffering from general debility, which made itself manifest by anaemia, emaciation, sallowness, listlessness, headaches, constipation, and loss of appetite and strength All had enjoyed fairly good health until their first pregnancy, after which this chronic ill-health developed The majority of them lived in the poorer districts of Edinburgh, where both fresh air and sunlight may have been lacking The average number of pregnancies was five in the short space of five and a half years—a fact which might be of some significance Dental caries or pyorrhoea was present in 11, and 5 of the patients had septic tonsils All the cases were treated more or less alike by giving them small repeated doses of neokharsivan and a special diet which was rich in calcium, along with any special treatment for the cervix, teeth, etc., which might be required The results were, in the main, satisfactory, but the cases were too few to point to any definite conclusion

KEY TO DATES AND PAGES.

THE following table, giving a key to the dates of issue and the page numbers of the BRITISH MEDICAL JOURNAL and SUPPLEMENT in the second volume for 1930, may prove convenient to readers in search of a reference

Serial No	Date of Issue	Journal Pages	Supplement Pages
3626	July 5th	1 - 46	1 - 8
3627	" 12th	47 - 86	9 - 16
3628	" 19th	87 - 128	17 - 28
3629	" 26th	129 - 168	29 - 64
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3641	" 18th	627 - 670	173 - 180
3642	" 25th	671 - 716	181 - 188
3643	Nov 1st	717 - 762	189 - 204
3644	" 8th	763 - 806	205 - 212
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3649	" 13th	987 - 1030	253 - 260
3650	" 20th	1031 - 1072	261 - 268
3651	" 27th	1073 - 1110	269 - 272

It would appear that a number of false positives were obtained, though, on the other hand, the percentage of positives in active infection was very high, moreover, as the author insists, it is not a single test which is of value, but the curve plotted from a series of tests on a single individual, the curve rises with the infection and falls as it dies down "The reaction appears to be indispensable as a control of specific treatment for tuberculosis" Some observations by other workers follow, with a long list of diseases which may also give a positive reaction—notably typhoid fever, scarlatina, streptococcal septicaemia, and the acute specific fevers in general This reaction is also compared with the complement fixation reaction, and is said to be superior to it

Part II deals with the results in various types of cases, non-tuberculous cases gave an average figure of just under 15, latent tuberculosis had no effect on the reaction (18), ambulatory tuberculosis gave a figure round about 25, whereas in active tuberculosis the figure rose to 50, 60, 100, or more In cases going on to a fatal termination the figures were always high, though immediately before death they fell The author concludes that flocculation increases with the severity of the disease, high figures mean grave lesions and a serious prognosis, while a rise or fall in the curve means increased activity of the disease or improvement respectively In addition, increase in flocculation (that is, a rise in the figure) precedes the clinical signs The broad deductions are as follows (1) Simple infection with the tubercle bacillus does not affect the result of the reaction (2) Active tuberculosis increases the flocculation, no matter what organ or system is involved (3) A chronic lesion may or may not affect the reaction The reaction is often helpful when other examinations, such as clinical, bacteriological, or radiological, fail It tells whether a tuberculous process is progressive, and when it is clearing up It is not a specific diagnostic reaction—only a series of tests, from which a curve may be drawn, is of value

Part III is devoted to B C G vaccination and Vernes's reaction Some account of the vaccine and its mode of administration (by mouth or subcutaneously) is given, together with the classes of persons immunized The serums of 46 such immunized persons gave an average optic density of 21, showing that they did not materially differ from the normal, but definitely might be distinguished from those with active tuberculosis On the other hand, B C G vaccination affects the tuberculin reactions, and may cause nodular local reactions which in 50 per cent of cases go on to the formation of cold abscesses

ADVANCES IN PHYSIOLOGY

THE fourth edition of Professor LOVATT EVANS'S *Recent Advances in Physiology*[1] is sure to receive the usual hearty welcome from teachers of physiology, from clinicians who wish to keep abreast of the subject, and most certainly from senior students who wish to be guided wisely through the maze of current research The two new chapters which have been added deal with the regulation of the coronary circulation and with the functions of the carotid sinus The active interest displayed at present in the problem of coronary occlusion makes the choice of the former topic particularly apt The work of Hering and of Corneille Heymin and his collaborators on the physiology of the carotid sinus is singularly little known in this country—many human anatomists seem to be scarcely aware that this dilatation exists at the bifurcation of the common carotid artery—and the summary given by Professor Lovatt Evans will serve as an admirable introduction to a beautiful regulatory mechanism for controlling blood pressure, cardiac activity, and adrenaline secretion, according to bodily needs

We note with regret that the chapter on tissue oxidation has been dropped We feel sure that this will disappoint many readers—especially teachers of physiology—who have been hoping to receive some help in the elucidation of the intricate results of recent studies in this field It might be mentioned that the position has not been appreciably clarified by the fresh discoveries as to the constitution and properties of glutathione We hope that in a future edition the problem will be reviewed again The chapters which have been retained all show evidence of painstaking revision A helpful account is given of the chemistry of the phosphorus compounds in muscle, and their interrelationships are discussed It now appears that at least six phosphorus-containing compounds exist in muscle and undergo changes during activity—namely, orthophosphates, pyrophosphates, phosphagen, hexose-monophosphoric ester, hexose-diphosphoric ester, and the nucleotides—adenylic and inosinic acid The author concludes, however, that the functions of some of these (especially of phosphagen) are accessory to contraction rather than of fundamental importance No reference appears to be made to the fact that contraction can occur without the formation of lactic acid, though Professor Evans in his discussion expresses scepticism as to whether this substance is as essential as has been hitherto believed

The valuable surveys of chronaxie (probably the best in the language), of the nerve impulse, where mention is made of Matthews's conclusion that the nervous impulses from skin and muscle end-organs may be *qualitatively* different, and of blood reactions regulation (with a full account of the glass-electrode technique), have all been retained May we suggest for the next edition a discussion of the chemical control of the intestinal secretions?

SCIENCE IN SOVIET RUSSIA

GENERALIZATIONS are notoriously dangerous, but many people writing about Russia seem to be prepared to take the risk Mr J G CROWTHER, for example, who made a month's tour of laboratories in Leningrad and Moscow was so favourably impressed by what he saw there that he does not hesitate to write in *Science in Soviet Russia*[2] that Russia may possibly be the most powerful country in the world in twenty years' time, and that "the rest of the world will not find the spectacle of a scientifically developed and armed people of over 100,000,000 particularly comforting" For these reasons he thinks it highly important that "relations with Soviet Russia should be carefully cultivated"

Mr Crowther's account of the actual work being carried on in Russian laboratories is rather diffuse and directed to the inexpert reader Clearly, however, it is only the experts in each branch of science who could judge whether the progress is as real as his account would have it appear That the Soviet Government is making efforts to encourage the growth of science is evident from the facts recorded by Mr Crowther about the new laboratories that have been completed, or are in course of construction, and about the sums of money that have been placed at the disposal of State departments responsible for the development of the various branches of applied science The main objective at present is the fulfilment of the five years' industrial programme, and it is only natural, therefore, that the greater part of the Government's effort should be concentrated in developing new industrial and engineering works throughout the Soviet Union We learn that the heads of manufacturing concerns must not only listen to the opinions of the expert committees appointed by the Government, but must obey their orders "If they didn't, they might get the sack, or worse, if it were proved that their obstinacy had hindered the realization of the five years' plan, and hence, in the Soviet idiom, contributed to counter-revolutionary activities"

Scientists, according to Mr Crowther, are among the best paid workers in the Union, some of them receiving as much as the equivalent of £1,200 a year, if they desire it, though Mr Crowther has heard of "one important director who did not desire so much as that"! Large salaries, however, can be gained only by hard work in multiple appointments, as the salary for a single laboratory directorship is rarely over £400 a year University appointments are even less remunerative, the salary of a senior professor being about £250 a year Mr Crowther's

[1] *Recent Advances in Physiology* By C Lovatt Evans D Sc F R C P, F R S Fourth edition London J A Churchill 1930 (5½ × 8½ pp xii + 456 113 figures

[2] *Science in Soviet Russia* By J G Crowther London Williams and Norgate, Ltd 1930 (Demy 8vo pp 128 illustrated 7s 6d net)

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They arrived either in ground-glass stoppered jars or in sealed tins, and there is no reason to assume that their vitamin content had diminished appreciably during transit

As a preliminary step samples of all four fats were saponified, the unsaponifiable matter from each was dissolved in chloroform, and the chloroform solutions were submitted to a modified Carr and Price test with antimony trichloride, under conditions which have been carefully standardized in the Glaxo laboratories during three years It was found that samples Nos 1 and 3 showed no trace of blue colour sample No 2 showed a trace, which was almost unmeasurable, sample No 4 showed an amount corresponding to 1/500 of that shown by a standard cod-liver oil, and about 1/10 of that shown by average butter By a standard cod-liver oil is meant an oil of such chromogen content that 0 02 gram of the oil dissolved in chloroform and treated with the reagent in a total volume of 2 2 c cm would give in a 1/2 inch cell a reading of 10 Lovibond units on the Rosenheim-Schuster tintometer

One gram of ghee No 2 was therefore fed daily to a rat, whose reserves of vitamin A had been depleted on a diet adequate in other respects After a temporary small increase of growth, which was probably not significant, the animal rapidly lost weight, and developed marked xerophthalmia Other animals of the same litter fed 5 mg per day of an active cod-liver oil, showed definite increases in weight, and developed no signs whatever of xerophthalmia Although the test on this sample of ghee was conducted on only one animal, the colour reaction had suggested its superiority over the other three samples none the less it was found that the effect of 5 mg of cod-liver oil was markedly superior to that of two hundred times the quantity of ghee These results clearly indicate that the ghee must have been for practical purposes devoid of vitamin A, and this in turn suggests that the other three samples were at least as deficient From the description of ghee given in Ghose's paper it is clear that there must be very considerable variations in its method of manufacture Our samples were selected, we understand, as typical of those to be obtained in the open market The sample of fresh ghee examined by Ghose even if his results were confirmed by modern technique, was quite possibly not typical in its vitamin content The results given in this note limited though the investigation has been to a super- survey suggest that the problem, which is clearly of ance to Indian dietitians, needs some fuller and ollateral investigation

is I Aitchorne Miss V Hazley and Mr E L Smith M Sc co-operated in the biological and chemical work described and I would like to take the opportunity acknowledging their w

(from NW1 V H BACHARACH, B A Camb, F I C

The follow empyema coliform bacilli. timative character

[ILLEGIBLE] PASSED THROUGH A SINUS IN THE BACK

extremely rare, and the following case ordin_

The patient a man who had had five children was admitted 192[illegible] as a case of influenza h Hospital on December 6th 1929 back and limbs headache had been having attacks of stabbing m ning in the twenty four h noon and between the shoulder was 103° I his puls rate 92 a t very severe but the last two abn rmalities was detected on exam nd had been associated with and with an ureties l stools Altogether there On January 21 c the temperature fe [illegible] four days later he had pain in th appeared in the left and a dry cough Hi temperature was 103° harged thin yellow [illegible] ser pu tion rate 30 Pl ural friction an independently of [illegible] app ar d l ow th left scapula Within about the size [illegible] of stone had [illegible] tld and the patient s general co m the dis [illegible] proving [illegible] nts four On [illegible] ar 3 d he developed [illegible] naur in the right side [illegible] at dry cough His [illegible] emperature wa 102 [illegible] She [illegible] 0 and his respiration rate 40 The under area of [illegible] I and fr tion was pr sent of the sinus in the [illegible] the r h base d veloped and sl lumbar vertebra and [illegible] At m rature of the sw admitted the point of [illegible] of fluid rec a pir n or acetone, urine [illegible] and finally th was 238 mg per [illegible] n and dr on injected into the [illegible] followed I ject extend d upwards [illegible] ral turban n of the pancreas to that of the gall bladder It gave off a small branch, which passed downwards just to the right of the vertebral column

At operation, under gas oxygen and ether anaesthesia, the gall-bladder was found to be only a small fibrous remnant but it contained one gall stone It was opened, and the stone was removed No bile escaped The pancreas was thickened, and there was much fibrosis round the gall bladder, but no other stone was felt The wound was closed with drainage Post-operative vomiting was severe, and on the third day bile began to discharge from the wound After three weeks the bile ceased to flow and after two months the patient was discharged Her general condition was excellent, and there was only a slight exudate from each sinus The resting blood sugar was down to 140 mg per 100 c cm, and the glycosuria no longer persisted One month later both sinuses had completely healed

I can find no record of a similar external biliary fistula in the literature, and should like to express my thanks to Mr M W Bulman for permission to publish the details of this case

Woking F H MCCAY, B A, M B, B Chir Cantab

Reviews.

PRINCIPLES OF HYDROLOGY

NEW books and papers on hydrology are calling attention to this time-honoured branch of practice Drs R G GORDON and F G THOMSON,[1] from their experience at a great English spa, set out to apply physiological principles to the known effects of external treatment by baths They are inclined to the view that the activity of medicinal waters depends a good deal on their physical properties, such as the degree of ionization, the colloidal state of their ingredients, and their radio-activity In a series of concise chapters they summarize the action of baths on the organic systems—skin, circulation, nervous system, and metabolism—showing that on physiological grounds hydrotherapy has a rational place in medical treatment This admirable survey of physiological foundations should be useful, not only for hydrologists, but for the family practitioner, who does not always realize the value of surface treatment Many forms of external treatment are actually at his disposal, in the home and at the health resort, to rectify abnormal conditions in the skin and in the peripheral and deep circulations These often play no little part in the causation of disease, especially in temperate climates and in frigo-sensitive persons The authors refer to the value of "sedative bathing" as insulating the body from external impressions," and also, when combined with manipulation, in the treatment of many paralytic and traumatic conditions This revival of an old method has produced, in their experience, encouraging results It is interesting to note that they regard the vapour bath as one of the most valuable forms of bathing, and as far too little employed at the present time

ANTIVIRUS THERAPY

IN a volume entitled *Antivirustherapie*,[2] Professor BESREDKA has given us a further exposition of his views on immunity and their practical application in the various branches of medicine The first chapter is devoted to a consideration of the nature and mode of action of antivirus An antivirus is a filterable growth-product of an organism cultivated in nutrient broth, which according to the author, is capable of exciting a specific immunity when applied to the tissues locally The usual method of preparation is to filter a broth culture which has been incubated for ten or more days, though acting on a culture by means of a bacteriophage will give a satisfactory product and in case of emergency filtration may even be dispensed with and the whole culture used after keeping it at 100° C It is rather difficult to understand exactly how these antiviruses do their work Besredka's view is that they desensitize the susceptible tissue cells which

[1] *The Physiological Principles of Hydrology* By R G Gordon M D D Sc F R C P E and F G Thomson M D F R C P Modern Treatment Series London J Cape 1930 (Cr 8vo pp 131 5 net)

[2] *Antivirustherapie* Par A Besredka Paris Masson et Cie 1930 (5½ × 9 pp viii + 429 40 fr)

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NOTE ON A CASE OF LIPOID NEPHROSIS.

PART I.—CLINICAL AND BIOCHEMICAL.

BY

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THE term nephrosis was first suggested in 1905 by Friederick Müller[1]; it is usually employed nowadays to distinguish a bilateral degenerative and mainly tubular diffuse renal lesion in contrast with nephritis, which is limited to diffuse inflammatory and proliferative kidney changes. Valuable contributions to the problem of nephrosis were made from 1913 onwards by Munk,[2] Volhard and Fahr,[3 4] Epstein,[5] Elwin,[6] and others. In 1914 a special lipoid form of nephrosis was described by Volhard and Fahr, and has since received a good deal of attention, the following characteristics being defined.

Lipoid nephrosis has an insidious onset, but some think it may follow a comparatively mild or unnoticed attack of acute nephritis; its course is chronic; there is marked albuminuria, oliguria, decreased blood protein with relative albumin-globulin increase and reversal of the normal albumin-globulin ratio, lipaemia, hypercholesterolaemia, normal renal function tests, oedema, and no retention in the blood of nitrogenous waste products. In the urine are found casts and double refractive lipoid droplets, but no erythrocytes. The blood pressure is normal, and the basal metabolic rate is frequently below the normal. With regard to the basal metabolic rate, it should be noted that most determinations in the published cases were made when the patient was oedematous, and that the increase in body weight due to water retention tends in itself to lower the rate, which would have a higher reading were the patient oedema-free.

The main lesion in lipoid nephrosis is supposed to be a degenerative one chiefly affecting the renal tubules, but its occurrence is very rare. Very few necropsy findings of pure lipoid nephrosis have been recorded, partly because the infrequency of the condition, and partly because e patients exhibiting this syndrome usually live for considerable time, or die of intercurrent infections, or progress into chronic nephritis with glomerular as well as tubular changes. Thus, sometimes the clinical syndrome of nephrosis is present, but at necropsy the changes characteristic of nephritis are found as well as those of tubular degeneration.

Generally speaking it may be said that, while we have no pathological classification of diffuse degeneration or inflammation of the kidneys which may be used clinically to predict accurately the nature of the kidney lesions, nevertheless it appears that the clinical syndrome of nephrosis does exist. It must be remembered also that the physiological unit of architecture of the kidney is in itself a complex structure, consisting of glomerulus, proximal convoluted tubule, loop of Henle, and distal convoluted tubule which empties into a collecting tubule; that this tubular system is lined by a layer of epithelial cells which are of different types in the different parts; and that between the afferent glomerular arteriole and the efferent tubular venule a double system of capillaries exists. It is reasonable to expect that if this complex secreting structure is injured in any part, its other parts may become secondarily affected, either functionally or structurally. It is thus readily realized that a diffuse renal lesion seldom follows a simple course, but that one type of lesion frequently merges into another. The view is gaining ground that, while the most obvious early kidney lesion in lipoid nephrosis is a degenerative one affecting the tubules, changes may be found also (and possibly at an early stage in the development of the disease) in the glomeruli; these glomerular changes at first may be slight, and may require special pathological methods for their demonstration. Lipoid nephrosis is regarded by some as a particular form, or development in the course, of Bright's disease, but others think that it may be primarily due to a special type of disturbance of the lipoid-protein metabolism. At any rate, its position as a *clinical* entity is doubtless established.

The work of Barker and Kirk[7] is interesting in this connexion. These authors decreased the blood proteins in dogs by repeated bleedings, but returned the corpuscles to the circulation; when the serum protein was diminished to a certain degree by this procedure oedema appeared, and its amount seemed to be more closely related to the level of the serum albumin than to that of the total serum protein. At the time of the appearance of the oedema, albumin, fat droplets, and casts appeared in the urine, and the basal metabolic rate fell; pathological study of these dogs showed definite degeneration of the renal tubules, and later, with progression of the disorder, glomerular changes. In other words, the clinical picture of nephrosis was experimentally produced.

Christian's[8] views are of importance. This investigator believes that the majority of cases of nephrosis are mixed cases in which, clinically and pathologically, there are evidences of both nephrosis and nephritis, and that as they progress they tend to lose the clinical evidences of nephrosis, and to gain the clinical features of nephritis. He seems to consider the protein loss through albuminuria of considerable significance, and points out the necessity of liberalizing the protein of the diet to replace the protein lost from the blood through the albuminuria. He believes that the source of the albuminuria is in the passage of albumin through the walls of blood vessels, most probably glomerular capillaries, because of functional changes. He considers nephrosis as simply a form of chronic nephritis, and thinks that the name should be used merely to describe a clinical syndrome, since it does not imply that a definite and single form of pathological lesion will be found in the kidney.

Report of Case.

A man, aged 34, was admitted to the Mater Misericordiae Hospital on January 10th. His weight was 151½ lb. and height 5 ft. 7 in. The previous history is irrelevant. From six months before admission he had oedema of the legs and face, and he first noticed oedema in the legs on the day after he had marched in a procession for several hours. On admission to the hospital the legs and lower part of the back were considerably oedematous, and the face was puffy and pasty pale. Albumin was abundant in the urine, which also showed hyaline and fatty casts and a few leucocytes, but no erythrocytes. The blood pressure was 170/100, and the pulse rate 70 per minute and regular; there was slight accentuation of the aortic sound at the base of the heart. *X*-ray examination by Dr. J. Geraghty revealed pyorrhoeal absorption of the alveolar borders of most teeth present, but Professor Edward Sheridan stated that, owing to recession of the gums, there was almost complete absence of pockets, and consequently only a small area of infection at the time of examination. The nose, accessory sinuses, and throat were normal (Dr. P. Dempsey). There was dullness on percussion, and diminished breath over both pulmonary bases. *X*-ray examina

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magnesium sulphate and digitalis. Tinned meat, fresh salmon, codfish, albumin water, butter, and white bread formed the basis of the diet, and wholemeal bread, wheat germ, cabbages, beans, or peas were not given. These foodstuffs were fed in small amounts at frequent intervals in as palatable a form as possible.

The patient remained on this diet for four days, during which time she got rapidly worse. The ascites increased, and her condition became critical. Paracentesis abdominis was performed and 109 oz. of fluid removed.

At this point she was put on the usual "anti-beri-beri" diet used at St. Anthony Hospital, containing wholemeal bread, fresh meat, milk, eggs, cabbages, potatoes, beans, and peas. In addition, she was given 1 oz. of wheat germ daily.

Following this change her general condition gradually improved. In about three weeks she lost the cachectic look, felt comfortable, and developed a good appetite. The red blood corpuscles rose to 4 million. The oedema, however, did not disappear from the abdomen or legs, and further paracentesis was necessary on three occasions. The urine remained free from albumin.

Seven weeks after admission, since the diagnosis was still in doubt, Dr. Curtis performed a laparotomy. Nothing was found to account for the recurrent ascites. The liver, spleen, and peritoneum were normal.

Nothing further could be done for the patient in the way of dietary treatment. It became necessary to perform paracentesis about every ten days, and when I last saw her in September she was becoming exhausted by the repeated tappings, but was otherwise in fairly good shape. Some oedema persisted in the calves and over the sacrum.

It is difficult to be completely certain that the patient's condition was due to faulty diet. The very low dietary level, which is actually below that which usually leads to severe beri-beri, and the absence of other causes to account for the oedema, makes it probable that we were dealing with a nutritional condition. Except for the fact that the dropsy did not clear up on a good diet, the case was identical with famine oedema, which certainly occurs in Newfoundland, though rarely. Appleton[10] noted four cases on the Straits of Belle Isle in 1920, and an oedema occurring in ill-nourished children, not due to nephritis, and usually responding to a good diet, is recognized at St. Anthony Hospital.

The mechanism of the production of oedema in cases of famine dropsy is unknown. Some alteration in the permeability of the capillaries is presumably present, though histological evidence of local damage has not so far been obtained. The following are among the theories that have been formulated: an extreme deficiency of calcium in the blood leading to altered permeability of the vessel walls; a "nephritis without albuminuria"; damage to the endothelial linings of the vessel walls by the products of excessive endogenous protein metabolism.

It seems possible that this was a case of famine oedema in which the capillary walls were permanently damaged and unable to recover, though the patient's general condition improved under dietary treatment. It must be remarked that wheat flour carries a fair amount of protein (10 per cent.). The high protein diet without much antineuritic vitamin did not produce improvement in the oedema or the general condition, but was tried only for a few days.

Whatever the diagnosis, it seemed worth while recording an obscure dropsical condition which followed a long period on an extremely faulty diet. It is peculiar that a patient who had practically lived on dry bread for six months or longer should develop this condition rather than one of the better-known deficiency diseases.

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BLOOD CHANGES FOLLOWING INJECTION OF SANOCRYSIN IN PULMONARY TUBERCULOSIS.

BY

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PRELIMINARY REPORT.

WHEN sanocrysin was first introduced for the treatment of pulmonary tuberculosis it was believed to be capable of destroying the tubercle bacilli *in vivo*, and the reaction which frequently followed its administration was attributed to the endotoxins set free. An antitoxic serum was prepared for the purpose of counteracting this reaction and was given before each injection. This, however, was soon found to be of doubtful value and fell into disuse. It is now realized that sanocrysin acts on the tissues rather than on the bacilli, but how exactly it combats the disease is not clear. The opinion has been expressed that it acts by speeding up curative processes that go on slowly in its absence.[1]

In view of the prognostic importance attached to the variations in the white blood cells in pulmonary tuberculosis it was thought that some light might be thrown on the mode of action of sanocrysin in this disease by a study of leucocytic changes that follow its injection. A neutrophilia in phthisical patients is a bad sign, while an increase in lymphocytes is a good omen, especially in early cases. Much work has been done on the significance of the monocytic response and of the monocyte-lymphocyte ratio in tuberculosis. Some increase in monocytes is common, Cunningham and Tompkins[2] having found it in 85 per cent. of cases. It is generally stated that a diminution of monocytes and an increase of lymphocytes is a sign of improvement, and that a rise in monocytes denotes progress of the infection.[3] It is interesting to note that a monocytosis to the extent of 15.5 per cent. was found by Pittaluga and Garcia[4] in infants receiving B.C.G. vaccine.

This preliminary report deals with observations made on four patients suffering from extensive chronic bilateral disease. All were febrile when resting. In No. 1 the first dose (0.5 gram) gave rise to some improvement, but the second (0.1 gram) produced a bad effect and the treatment had to be stopped. No. 2 received only one injection, which made his condition worse. The effects of two doses (0.05 gram and 0.1 gram) were observed in No. 3. There was slight but definite benefit, especially after the second injection. No. 4 improved steadily from the start; after 4 doses (0.1, 0.25, 0.35, and 0.5 gram) the fever disappeared, the weight increased, and the sputum became scanty and free from tubercle bacilli. Injections were given at intervals of four to seven days, and there were no complications except a rise of temperature on two occasions. Control experiments with 0.1 gram to 0.15 gram were made on two individuals who were free from any evidence of active tuberculosis. Blood counts were done each morning at the same hour while the subjects were fasting. On "injection" days two counts were made, one just before and one two hours after administration of the drug. This interval was chosen because it had been noticed that when reactions occurred they were most marked two to three hours after the injections. In the differential counts at least 300 cells were noted.

The daily counts showed that in both tuberculous and non-tuberculous individuals the changes in the red cells and total white cells were irregular, but there was often a steady fall for two to four days after the injections. Abrupt rises were seen on some occasions, notably in patient No. 3, who suffered from severe night sweats. They were probably caused by concentration of the blood. An increase in the monocytes took place after every injection. This was generally observed on the following day and lasted one to three days. In the non-tuberculous

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OBSERVATION AND EXPERIMENT.

SIR,—The admirable philosophical article by Mr. Wilfred Trotter in the *Journal* of July 26th (p. 129) has rightly aroused considerable attention. It is not often that space is allotted to so clear an exposition of the groundwork of medicine, and I hope the discussion will continue.

I should like to comment on the last sentence of Mr. Trotter's last paragraph: "On the other hand, it is perhaps the lack of rational doctrine and a general interest in the problems of method that has made medicine the scene of so much disunited and contradictory effort, and helped to put it down from its historical position as the mother and the nurse of science." In the first leading article in the same issue the statement is made: "In this process, method—that is, the way in which facts are discovered—has an important but secondary place," and, further on, "and it may be said to have scientific value in so far as it is adapted to the material being studied and to the ends the scientist has in view." You stress the ends of science which Mr. Trotter implies but does not specifically state in his article.

The ends or purpose of medicine are to alleviate pain, prolong life, restore to health, and promote health in the individual and the community. These are practical aims, and all the sciences have passed through this phase, but as sciences they go beyond it, and make their own contribution to the sum total of knowledge—knowledge for its own sake. Geology, first concerned with quarrying and mining, was led on by the accumulation of facts—chiefly observational, but a few experimental, as instanced by Mr. Trotter—to the stratification of the rocks, the age of the earth, and to its contribution to evolution and the antiquity of man. If geology had remained only as a means of coal or gold getting it would never have reached its present status as a science, nor would any of the other sciences had they continued in their practical stage. Medicine, if it is to reach a similar status—there is no reason why it should not—must acquire, collate, and co-ordinate its facts with the object of passing beyond the practical aims of "curing" illness and soothing pain. It does not seem to matter very much whether the facts are obtained by observation or by experiment so long as they are facts—pieces of objective reality and not subjective fancies. Such facts will find their proper place somewhere and sometime in the scheme, even if at the time of discovery they have no relevance to the practical aims of medicine.

The chief question seems to be whether medicine is in the bondship of practice, whether it is a skilled art comparable to plumbing or joinery, or whether it can emerge to give its own unique contribution to abstract thought and philosophy. When it is able to do this it will have achieved its status as a science.

There is no reason why it should not reach this position, for it deals with a distinct set of phenomena in nature—the sick man; surely there is scope enough here to lead out to the widest fields of thought. Medicine would not, of course, be coextensive with anthropology, but it would be one of its chief contributory sciences. As it is, the history of medicine is one of the branches of anthropology, but modern medicine must go further and make its own contribution from its insight into the nature of man.

The absence of rational doctrine which Mr. Trotter deplores may be but a phase in the present practical stage of medicine. That this will pass is best guaranteed by the fact that medicine possesses thinkers of the calibre of Mr. Trotter.—I am, etc.,

Warrington, Aug 10th J. S. MANSON.

DIATHERMY IN GYNAECOLOGY.

SIR,—Dr. Cumberbatch's letter in the *Journal* of August 2nd (p. 194) impels me to add my confirmation to his modest reference to his and Dr. Robinson's work in this connexion. I had the privilege in 1920–21 of seeing the very successful results of their methods, almost daily, for more than a year. Since then many articles have been published in the medical press by them and others, and in Dr. Cumberbatch's book on diathermy a detailed account is given of their methods and results.

These methods have been successfully used for years past by, probably, every up-to-date electrotherapeutist in the country; yet your reviewer deplores that "in this country we have, as yet, had little success in this direction," and lauds American superiority. In this connexion an element of humour is introduced by the fact that some years ago Dr. Cumberbatch accepted an invitation from some American medical societies to give a series of lectures in America on these subjects! Is it possible that Professor Thomas Cherry may have been present at one of these lectures?

Anyone conversant with the work of the leading British electrotherapeutists will be convinced that these workers need fear no comparison with those of any other country. A prophet is not without honour save in his own country.—I am, etc.,

Southport, Aug. 6th. J. NEWTON DYSON.

LOCAL ANAESTHESIA.

SIR,—The excellent review of my book, *Practical Local Anesthesia and its Surgical Technic*, in the *Journal* of April 5th (p. 654) contains certain statements which I feel require elucidation. Thus I am said to advise the use of "adrenaline (2 to 5 drops of 1 in 1,000 solution to each cubic centimetre of novocain solution used)." The fact is that I recommend—except in certain thyroid cases—3 minims of this solution to 30 c.cm. I am also said to advocate morphine or heroin, whereas pantopon instead of heroin is recommended.

A third point relates to the statement that space is devoted to the description of surgical instruments, etc., "matters which would more appropriately be included in a work on operative surgery." I feel that the reviewer has failed to interpret my attitude toward this subject—namely, that the successful use of local anaesthesia comprehends a modified surgical technique, or "operative surgery" if you will; one cannot be taught without the other. One instance may serve as an illustration. It is simpler to anaesthetize the abdominal sympathetic nerves than the cerebro-spinal, provided that they are exposed. In my book a comparatively large amount of space has been given to a discussion of the method of gaining this exposure. This necessitates the employment of an adjustable operating table, perfect illumination, efficient retraction, and a particular type of surgical technique. While your reviewer may see no relation between these factors and the employment of local anaesthesia I am convinced that they are so interdependent that the omission by the surgical profession to employ the proper surgical technique is the cause of failure and of the former dissatisfaction with local anaesthesia in abdominal surgery. I believe also that until surgeons realize the importance of appliances and modified surgical technique (strategy) in conjunction with local anaesthesia they will continue to find the use of the latter unsatisfactory in major work.

It is my opinion that, if local anaesthesia is the method of choice in the simplest of procedures, it should likewise be the one of choice in complicated procedures, provided that the proper strategy is employed to render the latter simple. Otherwise why employ local anaesthesia at all? There is no essential difference in the removal of a small skin tumour and a large fibroid of the uterus except in the surgical technique which is required to gain exposure in the latter. Much of the so-called "operative surgery" described in my book is there described because of the fact that very many visitors to my clinic have subsequently admitted that their dissatisfaction with local anaesthesia was due largely to their failure to realize the importance of the foregoing statements.

The successful employment of local anaesthesia is a method encompassing not only its introduction, but the preparation of an opportunity for its introduction as well; this factor involves "operative surgery," often to an extent that makes this feature more important than the administration of local anaesthesia. Hence the frequent references to surgical technique in the pages of my book. I do not condemn general, spinal, or regional anaesthesia; I have only attempted to present my views as to the most simple and satisfactory manner of employing local anaesthesia.

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City and County Borough of LINCOLN.

ASSISTANT SCHOOL MEDICAL OFFICER (Woman).

The Education Committee invite applications from duly qualified and registered Medical Practitioners (women) holding a Degree or Diploma in Public Health or Science for the post of Assistant School Medical Officer. Applicants must have had not less than three years' Post-graduate experience, and preference will be given to applicants who have had previous experience in School Medical Inspection and in the Testing of Eyesight. The scale salary offered is £500 per annum, rising by annual increments of £25 to a maximum of £700 p.a.

The person appointed will be required to pass a medical examination and to contribute to the Superannuation Fund established under the Local Government and Other Officers Superannuation Act, 1922.

The appointment will be subject to two calendar months' notice on either side, and to the approval of the Board of Education. The officer will be required to reside within the City of Lincoln, and will not be allowed to engage in private practice.

The person appointed will be required to work under the direction of the Medical Officer of Health, and to carry out such other duties as the Medical Officer of Health may from time to time direct.

List of duties and form of application will be forwarded by the undersigned on receipt of a stamped addressed foolscap envelope.

Canvassing, either directly or indirectly, is prohibited.

Education Department, Corporation Offices, Lincoln. R. C. MINTON, Director of Education.

County Palatine of Chester.

CHESHIRE COUNTY COUNCIL.

APPOINTMENT OF DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.

The Cheshire County Council invite applications by registered male Medical Practitioners who possess a Diploma or Degree in Public Health, for the appointment of Deputy County Medical Officer of Health for the County of Chester.

The salary payable will be £1,000 per annum, in addition to travelling expenses on the prescribed scale, and office accommodation and clerical assistance will be provided.

The appointment will be an established post for the purposes of the Local Government and Other Officers Superannuation Act, 1922, and the salary will be subject to the deductions prescribed by that Act.

Applications are limited to persons not exceeding 45 years of age.

Forms of application and further particulars of the appointment can be obtained from the undersigned. Applications, accompanied by three recent testimonials, to be received not later than September 8th.

Canvassing, either directly or indirectly, is prohibited.

County Offices, Northgate Street, Chester. REGINALD POTTS, Clerk of the County Council.

August 8th 1930.

Lancashire County Council.

PUBLIC ASSISTANCE COMMITTEE.

LAKE HOSPITAL AND DARNTON HOUSE, ASHTON-UNDER-LYNE, near MANCHESTER.

APPOINTMENT OF SENIOR ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners (men) for the appointment of Senior Assistant Resident Medical Officer at the above Hospital and Institution, at a salary at the rate of £200 per annum.

Candidates should be unmarried.

The appointment will, in the first instance, be for a period of six months. The successful applicant, however, will be eligible for re-appointment for a further period of six months at the end of that period.

In addition to the salary the Resident Medical Officer will be provided with the usual residential allowances.

The Hospital comprises 300 beds, and the Union 600 beds.

Applications, accompanied by copies of not more than three testimonials, should be forwarded to the County Medical Officer, Public Health Department, County Hall, Preston, not later than August 23rd. Diplomas or Courses of Instruction should be endorsed "Senior Hospital (Medical and Surgical) Appointments" or "Junior Hospital (Medical and Surgical) Appointments conducted by the Medical Officer."

Full particulars to GEORGE ETHERTON, M.D., D.P.H., Public Health Department, County Medical School, Cambria. Clerk of the County Council.

Metropolitan Borough of Saint PANCRAS.

ASSISTANT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the appointment of an ASSISTANT MEDICAL OFFICER in the Public Health Department.

The appointment is a whole-time one, and the officer will be required to carry out, under the supervision of the Medical Officer of Health, such duties under the Council's Maternity and Child Welfare Scheme and Tuberculosis Scheme, as may be required from time to time by the Council. Applicants must possess the D.P.H. qualification and have had adequate experience in the duties above mentioned.

The inclusive salary will be £500 per annum, rising by annual increments of £25 to £700 per annum.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1928, and the successful applicant will be required to pass a medical examination.

Applications, endorsed "Assistant Medical Officer," stating age, qualification, and previous experience, and accompanied by copies of three recent testimonials, should be forwarded to the undersigned not later than 12 noon, Wednesday, September 3rd.

Canvassing, either directly or indirectly, any member or officer of the Council, will disqualify.

By Order,
A. POWELL COKE, Town Clerk.

Town Hall, Pancras Road, N.W.1.

County Borough of Croydon.

PUBLIC ASSISTANCE DEPARTMENT.

APPOINTMENT OF RESIDENT ASSISTANT MEDICAL OFFICER (Male).

The Council invite applications for the above appointment at their MAYDAY ROAD HOSPITAL.

The Resident Medical Staff consists of the Medical Superintendent; Assistant Medical Superintendent and Surgical Officer; Obstetrical Officer, Medical Officer; Assistant Medical Officer. The Hospital has upwards of 500 beds and offers excellent opportunities for further experience containing a variety of good clinical material.

Candidates must have held a resident Hospital appointment, and be experienced in anaesthetics. Further particulars may be obtained from the Medical Superintendent.

Salary £300 per annum, with full residential emoluments valued at £140.

Application forms may be obtained of the undersigned, and should be returned completed, together with copies of three recent testimonials, not later than the first post on Thursday, August 28th.

JOHN M. NEWNHAM, Town Clerk.

Public Assistance Offices, Mayday Road, Thornton Heath. August 1st, 1930.

Dumfries and Galloway Joint SANATORIUM BOARD.

ASSISTANT MEDICAL SUPERINTENDENT.

Applications are invited for the appointment of Assistant Medical Superintendent of (1) the Board's Sanatorium at LOCHMABEN, Dumfriesshire, and (2) an adjoining Infectious Diseases Hospital. The officer will be required to devote his whole time to the duties and not to engage in private practice. Salary £300, rising by annual increments of £25 to £400 per annum, with board, lodging, and laundry. Candidates must be regularly qualified in Medicine and Surgery.

Full particulars and forms of application may be obtained from the undersigned with whom applications (on the prescribed form) must be lodged prior to noon of Monday, August 25th.

County Buildings, Dumfries. JOHN ROBSON, Clerk of the Board.

August 7th, 1930.

City of Salford.

HOPE HOSPITAL (1,000 Beds).

RESIDENT SURGICAL OFFICER required about September 22nd. Commencing salary £400 per annum, together with board, lodging, laundry, and attendance. Candidates must have had at least two years' general or municipal hospital experience, and must produce evidence of experience in surgical operative work. Preference will be given to candidates possessing one of the higher surgical qualifications.

Further particulars may be obtained from the Medical Superintendent, Hope Hospital, Salford, Lancs. Forms of application may be obtained by forwarding stamped addressed foolscap envelope to the Medical Officer of Health, 143, Regent Road, Salford, to whom they must be returned not later than Saturday, Aug. 30th.

H. H. TOMSON, Town Clerk.

County Borough of Darlington.

HEALTH VISITOR.

The Corporation invite applications for the appointment of Health Visitor.

Applicants must hold the following qualifications:

(a) the new Health Visitor's Certificate of the Royal Sanitary Institute; or
(b) the Certificate for Health Visitors prescribed by the Board of Education Regulations of 1919, or
(c) have held a post as Health Visitor approved by the Ministry of Health.

The duties are chiefly concerned with maternity and child welfare, and the successful applicant will be required to carry out such duties under the direction of the Medical Officer of Health.

The salary for the appointment (under the Corporation's scale) as at present adjusted by reference to the rise or fall in the cost of living is £172 16s., and is subject to such other conditions of such scale as are applicable, and additional allowances amounting to £11 in respect of travelling and uniform are made.

The salary is subject to a deduction of 5 per cent. under the Local Government and Other Officers Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Applications, stating age, qualifications, and experience, must reach the Medical Officer of Health, Feethams, Darlington, not later than Monday, September 1st.

Town Clerk's Office, Darlington. H. HOPKINS, Town Clerk.

July 26th, 1930.

Lindsey County Council.

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

Applications are invited for the post of Assistant County Medical Officer of Health.

The person appointed will be required to act as an Assistant Tuberculosis Officer and School Medical Inspector. He will also be required to take charge of a Venereal Disease Clinic and act as Medical Officer to a Tuberculosis Hospital of 12 beds.

The appointment will be made in accordance with the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930.

The salary will be at the rate of £600, rising by annual increments of £25 to £700, with an allowance for travelling on the County Council's scale.

Particulars of appointment and forms of application may be obtained from the undersigned. Applications to be received not later than August 23rd.

W. S. H. CAMPBELL, County Medical Officer of Health.

Public Health Dept., County Council Offices, Newland, Lincoln.

July 26th, 1930.

County Borough of Walsall.

MANOR HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICERS.

Applications are invited from duly qualified ladies or gentlemen for the above appointments.

The salary of the first Assistant Medical Officer will be at the rate of £200 per annum, and the salary of the second Assistant Medical Officer at the rate of £150 per annum, together with the usual residential emoluments.

The appointments will be tenable for a period of twelve months.

The persons appointed will be required to act under the general direction of the Medical Officer, from whom particulars of the appointments may be obtained.

Applications, stating age, professional qualifications, and experience, accompanied by not more than three copies of recent testimonials, should be sent to the undersigned at once.

29, Leicester St., Walsall. C. S. FOTHERGILL, Public Assistance Officer.

August 8th, 1930.

City of Bradford.

MUNICIPAL GENERAL HOSPITAL, ST. LUKE'S.

HOUSE PHYSICIANS and HOUSE SURGEONS required.

Salary in each case, £200 per annum, with board and lodging.

These appointments are for six months, renewable for a further period of six months.

Application forms may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned to him not later than August 23rd.

Town Hall, Bradford. N. L. FLEMING, Town Clerk.

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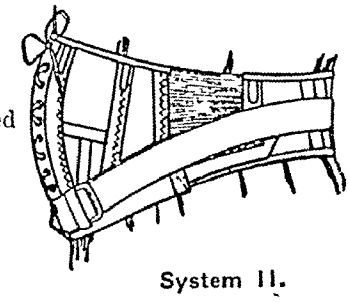
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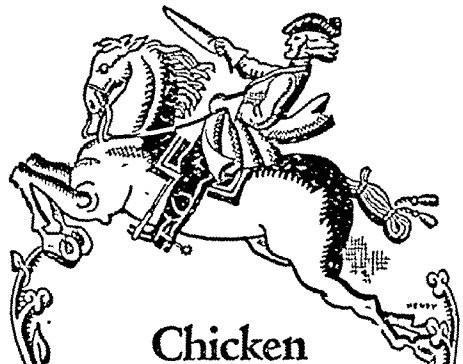
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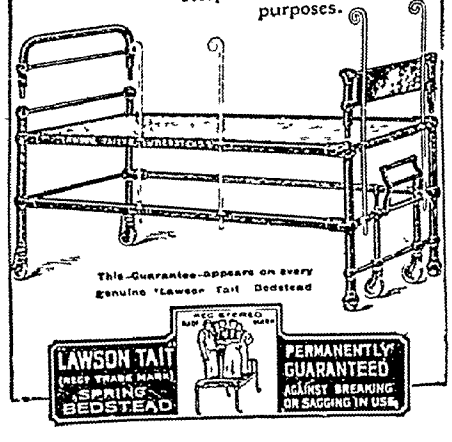
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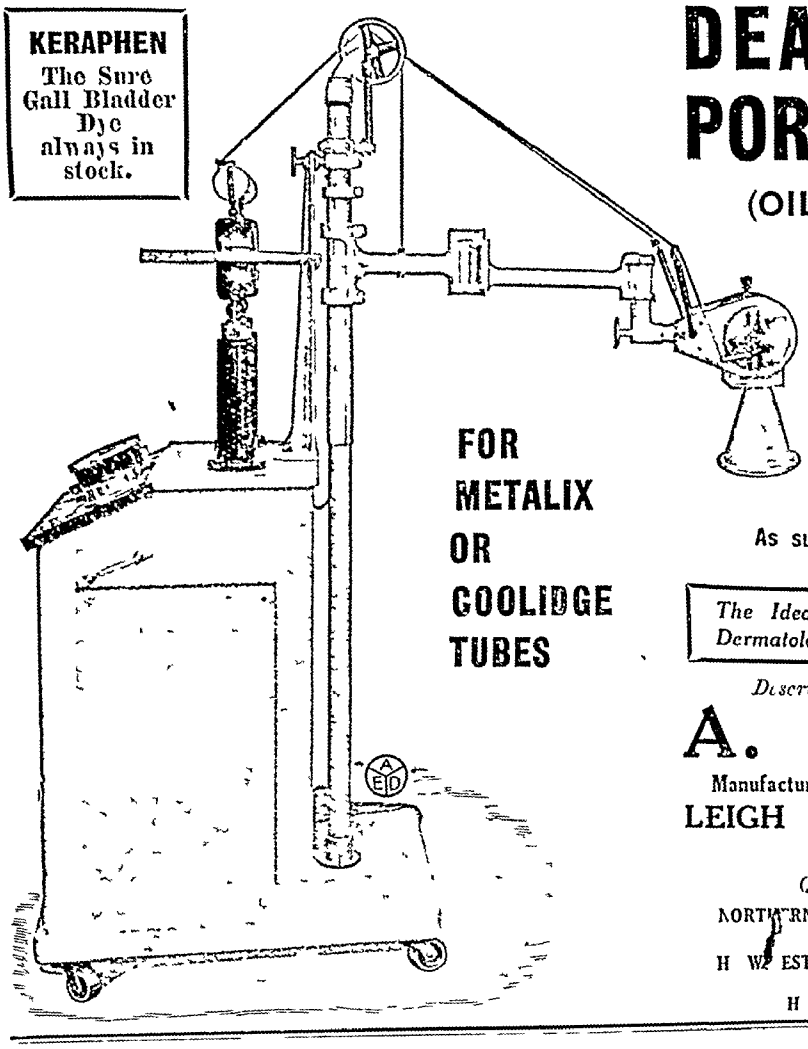
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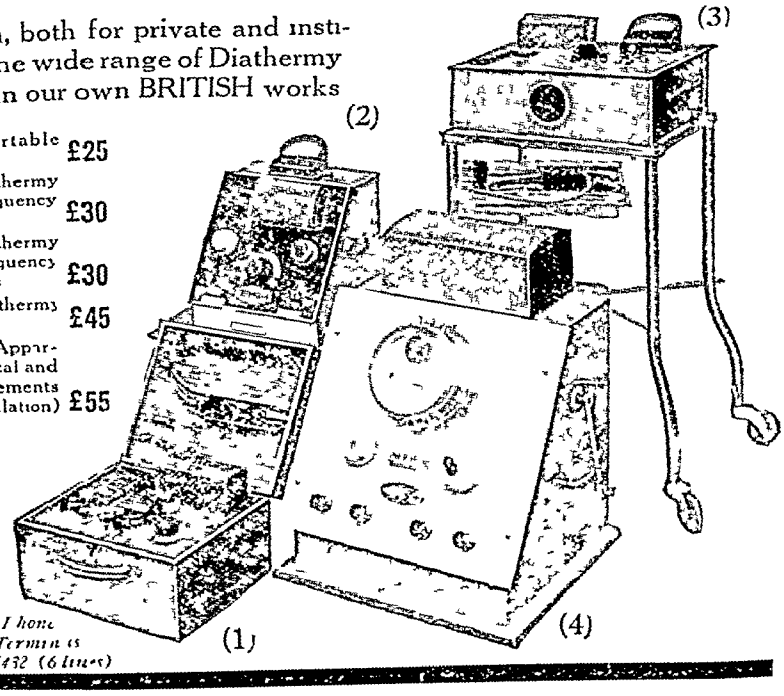
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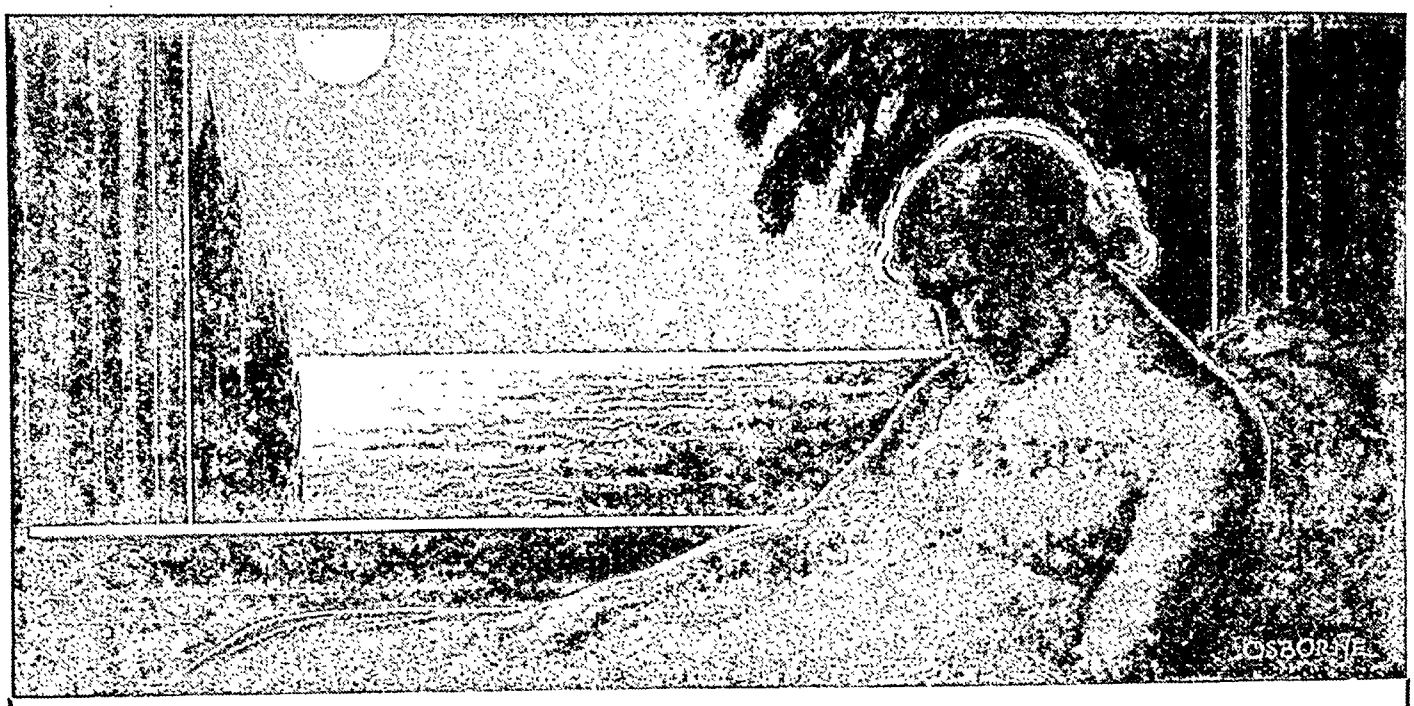
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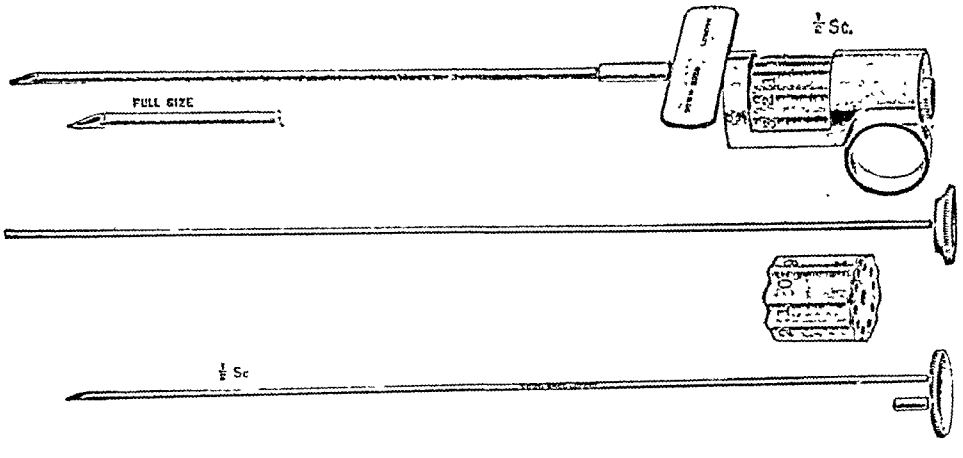
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The contrast between this and the original estimate of 512 is a striking example of the remarkable effects of crossfire. It is, of course, true that the effect is greatest at the centre, that we have taken no account of absorption, and that such a distribution is unattainable in practice. The argument is, however, perfectly sound in demonstrating the value of an even distribution and the enormous increase in effective radiation which results, and incidentally it provides a substantial reason for the use of seeds by which an even distribution can most readily be obtained.

The seeds are introduced by means of a fine cannula 15 cm. in length and provided with a breech at the proximal end by which the seeds may be introduced. The seed is pushed down the cannula by means of a plunger, and is extruded at the distal end. The cannula is now withdrawn a short distance, say, 2 cm., and another seed is introduced. In this way a linear distribution of the seeds can be made with great accuracy and with no further trauma than is involved in the first introduction of the cannula. Further parallel rows of seeds can be similarly introduced, or several rows may be arranged to radiate from one puncture. The actual number of punctures in the skin required is very small, and we have usually found that for the breast six punctures will be ample, whilst for a full infiltration of the pelvis for a carcinoma of the rectum two punctures in the perineum may suffice. The resulting absolute elimination of sepsis is no small advantage of the method.



The best results are undoubtedly obtained by the introduction of large numbers of seeds, so that the total amount of radon is distributed as evenly as possible. The introduction of fifty or sixty seeds down a simple cannula is a tedious process, and I have therefore devised a magazine introducer, with a detachable magazine carrying ten seeds. The introducer is held in the left hand, and the magazine is rotated by the thumb, whilst the plunger is pushed home with the right hand. The saving of time is considerable, but perhaps even more important is the gain in precision of distribution of the seeds.

In the oesophagus this method is not applicable, and a special instrument is required. This takes the form of a long wire carrying a fine tube laterally at the distal end. A parallel wire running in guides can be pushed through this tube as a plunger. A seed is introduced into the *distal* end of the tube, which is bevelled off to a blunt needle point, and is fixed there with a little vaseline. The introducer is passed down the oesophagoscope under full visual control, and is advanced directly into the substance of the growth, the plunger is pushed home, and the seed deposited.

The Use of Seeds in Special Regions.

The application of these general principles to tumours in various regions involves in each case special considerations, and we propose to illustrate these by discussing in turn the treatment of tumours in the tongue, the breast, the rectum, and the oesophagus.

The Tongue.

The tongue is particularly adapted to the use of seeds, their introduction is such a simple matter and their [illegible] is quite unnecessary, whilst the patient is saved the annoyance of the threads which must be used [illegible] radium needles. As in the case of all tumours, [illegible] is made to infiltrate the growing edge of the [illegible] a uniform barrier of seeds. The definition of this growing edge is the most difficult part of the problem, and can only be judged after considerable experience. In this surface of growth the seeds are deposited so as to lie about 1 cm. apart, and a few additional seeds are then introduced into the tumour itself superficially to the deep growing surface. The total amount of radon used and the number of the seeds will, of course, vary with the nature of the case, but in an average case from ten to sixteen 1.5 mc. seeds will be required. They should be screened with platinum, as it is of importance that the mucous membrane of the tongue itself and of the palate should be absolutely protected from the action of beta rays.

The actual introduction of the seeds is a simple matter. Even in tumours situated at the base of the tongue it is quite easy to guide the cannula by means of a finger placed upon the ulcerated surface, and to judge of the depth at which it lies within the substance of the tongue. The needle is introduced through any convenient site, whether from the dorsal surface or from beneath the tongue, whilst in growths which extend on to the floor of the mouth the seeds may even be introduced with advantage from the neck beneath the jaw. Uniformity of arrangement so as to obtain a uniform crossfire is the chief object to be aimed at, and one should not allow oneself to be tempted to concentrate groups of seeds in the substance of the tumour where they will merely have a destructive action and produce a slough. I feel convinced that many of our failures are due to a too localized distribution of radium, and that some, at least, might have been converted into successes if a primary layer of seeds had been distributed far beyond the apparent region of the growth and not within its margins.

The course of events to be expected in a successful case is somewhat as follows. Within forty-eight hours it will be noted that the induration is diminishing, and in a week it has almost disappeared, whilst the growth is definitely smaller. At the end of two weeks the growth itself, and sometimes the adjoining mucosa, is covered by a smooth white layer of lymph, absolutely characteristic of a successful reaction. Beneath this the epithelium spreads in from the margins, and at the end of three weeks the growth has disappeared completely, the surface is healed, and only a pucker may remain. Where the growth is very large the process may take longer, and some deformity may result, but it is never in any way comparable with that produced by any form of operative removal.

The cervical lymphatic glands form one of the most difficult problems in carcinoma of the buccal cavity. It has long been recognized that in carcinoma of the tongue recurrence in the cervical lymphatics is almost invariable unless these have been removed, even where no local recurrence has taken place, and it is quite commonly bilateral. We have no doubt at all that at the present day the proper treatment of a primary carcinoma in the buccal cavity is irradiation; we cannot, however, speak with the same confidence of the cervical glands, and it still remains a question whether these should be dissected out completely, or whether we should depend on irradiation, or whether complete dissection should be followed by surface irradiation.

The method we are at present adopting is to treat the glands in precisely the same way as the primary growth, infiltrating the whole of the cervical region on the affected side with seeds, and following this up if necessary with a similar irradiation of the opposite side of the neck. In almost every case where the glands were already enlarged

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OESOPHAGUS.

No.	Age.	Duration.	Character of Growth.	Dosage.	Result.
54	53	6 months	Carcinomatous stricture 12 in. from teeth.	6 × 1·5 mc.; dilated	Very marked improvement. Swallowed well for 8 months. 10 months—oesophagoscopy showed a dense stricture 1½ in. long, the walls of which were apparently formed of scirrhous carcinoma. Dilated up to 12 mm.; tube inserted. In the lumen of this tube were packed six needles containing in all 24 mg. of radium. They were left in for 4 days and then removed, the tube being left in place. Marked improvement. Lived 14 months.
55	61	4 months	Large growth 10 in. from teeth.	8 × 1·5 mc.	No improvement. 2 months, oesophagoscopy showed hard growth extending into pharynx. 8 × 1·5 seeds. Later, gastrostomy. Lived 7 months.
56	53	4 months	Carcinoma 15 in. from teeth.	8 × 1·5 mc.	Marked improvement. Swallowed well for 5 months. Recurrence at 6 months. Gastrostomy. Lived 14 months.
57	54	4 months	Carcinoma 10 in. from teeth.	7 × 1·5 mc. Tube	Marked improvement. Recurrence at 5 months. Oesophagoscopy. Infiltrating growth 2 in. above level of tube. (Post-mortem, perforation of aorta by growth.) Lived 5 months.
58	76	6 months	Carcinoma 10 in. from teeth.	8 × 1·5 mc.	No improvement. Not traced.
59	72	4 months	Carcinoma 10 in. from teeth. Condition of patient desperate.	8 × 1·5 mc.; dilated	Very marked improvement. Swallowing almost normal. At 6 months radiogram showed definite obstruction at level of hilum, but still swallowing well. Lived 9 months.
60	53	10 weeks	Obstruction above cardia, also obstruction 10 in. from teeth.	6 × 2 mc.	Marked improvement. Two months later developed pyloric obstruction. Lived 2 months.
61	49	5 weeks	Ring carcinoma 12 in. from teeth.	8 × 1·5 mc.; dilated	Very marked improvement. After 7 months cerebral embolus. Lived 7 months.
62	59	5 weeks	Large growth in anterior wall.	15 × 3 mc.; dilated	Marked improvement. Lived 10 months.
63	69	2 months	Carcinoma 2½ in. above cardia.	11 × 2 mc.; dilated	Improvement. Lived 2 months.
64	51	9 months	Growth encircling oesophagus 12 in. from teeth.	9 × 2 mc.	Marked improvement. Living after 5 months.
65	58	7 months	Fungating carcinoma 12 in. from teeth.	10 × 2 mc.; dilated	Improvement. Living after 4 months.
66	62	12 months	Large tumour in anterior wall.	10 × 2 mc.	No improvement. Not traced.
67	60	6 months	Large fixed ulcer in anterior wall. Dilatation impossible.	12 × 2 mc.	Very marked improvement. Well after 4 months.
68	61	5½ months	Round disc-like growth on posterior wall 12 in. from teeth, below this encircles wall. Dilatation impossible.	6 × 2 mc.	No improvement. Not traced.
69	49	4 months	Large growth completely obstructing lumen.	12 × 2 mc.	Improvement. Not traced.
70	55	4½ months	Fungating irregular nodular growth extending across oesophagus 13 in. from teeth.	12 × 2 mc.	Marked improvement, but intubation required later.
71	71	6 months	Large fungating growth 8 in. from teeth.	12 × 2 mc.	Marked improvement. Well after 3 months.
72	70	4 months	Carcinomatous stricture 8 in. from teeth, another much narrower just below.	12 × 2 mc., dilated	No improvement.
73	56	6 months	Carcinomatous stricture 10 in. from teeth. Nodular growth extending for about 2 in.	10 × 2 mc.	Improvement. Gastrostomy later. Lived 4 months.
74	60	4 months	Tumour 17 in. from teeth bulging into oesophagus from left side. Condition of patient desperate.	8 × 1.5 mc.	Very marked improvement. 6 weeks later swallowing normal. X-ray, apparently normal oesophagus. Swallowing normal for 9 months. Then recurrence of dysphagia. Oesophagoscopy. Secondary nodules 6 in. above site of original growth. 10 × 2 seeds. Immediate improvement. (Haemorrhage.) Lived 11 months.
75	60	6 months	Fungating carcinoma at middle of oesophagus.	8 × 1·5 mc.	Marked improvement. Lived 3 months.
76	53	18 months	Fungating carcinoma 12 in. from teeth.	10 × 2 mc.	No improvement. Lived 2½ months.
77	42	8 months	Nodular carcinoma encircling oesophagus, 18 in. from teeth.	12 × 2 mc.	Marked improvement. Well after 8 months.
78	77	3 months	Carcinomatous stricture 12 in. from teeth.	12 × 2 mc.	Improvement. Lived 4 months.
79	56	4 months	Nodular carcinoma 12 in. from teeth.	12 × 2 mc.	Remarkable improvement. Swallowing normal for 8 months. Recurrence of obstruction after 8 months. Localized fungating carcinoma at same site. Radon again inserted.

VARIOUS.

No.	Age and Sex.	Duration.	Characters of Growth.	Dosage.	Result.
80	M. 60	1 year	Indurated nodular carcinoma of lesser curve of stomach extending on to posterior wall.	18 mg. radium for 6 days	Improved at first. Died after 6 weeks from peritonitis. Post mortem, tumour had disappeared and was replaced by a large chronic ulcer involving liver and pancreas.
81	F. 72	5 weeks	Nodular growth involving both lobes of thyroid, attached to skin and compressing oesophagus.	20 × 2 mc.	10 days complete disappearance of growth and of pressure symptoms. No local recurrence. Died 7 months later from secondary deposits in liver.
82	F. 58	1 month	Spontaneous fracture. Large tumour replacing neck of right femur. Sections: columnar carcinoma of intestinal type.	8 × 1·5 mc.	Size of tumour rapidly diminished, bone united. 5 months later, reappearance of tumour. 50 × 2 radon seeds. Tumour diminished in size and pain reduced. One year later leg soundly united. No local recurrence, but secondaries in spine.
83	M. 68	9 months	Large mass of carcinoma in right anterior triangle of neck extending deep to jaw. Gross sepsis.	30 × 2 mc.	Very temporary improvement. Essentially a hopeless case.
84	M. 62	1 year	Large tumour in upper part of anterior triangle of neck (L.)	31 mg. radium for 5 days	Swelling reduced in size and pain entirely disappeared. Four months later recurrence of swelling and pain.
85	F. 45	4 months	Hard ulcerated mass on posterior surface of rectum, 3 in. diameter, absolutely fixed to sacrum.	30 × 2 mc.	Rapid diminution in size of tumour, which was replaced by a firm fibrous nodule 11 months later, small local recurrence. 14 × 2 mc. Well after 16 months.

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amputated the left leg at the junction of the upper and middle thirds of the tibia on June 5th, 1929. Macroscopic and microscopic examination of the blood vessels at the site of amputation showed nothing special, and the wound healed up well at first. On July 11th, when he was getting about on crutches, slightly varicose veins were noticed in the right leg. In the right foot there was good pulsation in the dorsal artery and in the posterior tibial artery behind the internal malleolus. The brachial systolic blood pressure in both arms was 125 mm. Hg. The "oscillometric index" at the left thigh (above the site of amputation) was three divisions, and that at the right thigh, and also at the right calf, was five divisions.

However, on September 25th amputation through the middle of the left thigh had to be performed because of chronic gangrenous trouble in the stump. Macroscopic examination of the amputated part revealed some periarterial "matting" about the popliteal artery, and microscopic examination showed the artery to contain some not very old thrombus. The patient had apparently, for the last month or so, followed our advice in giving up tobacco smoking altogether. By October 19th the operation wound had almost completely healed, and there were no signs of ischaemic circulation in the stump, but a sequestrum formed, which had to be removed later on. There is still slight discharge from part of the operation wound (February, 1930), though the patient can get about well on crutches.

We confess that in the third case the diagnosis of the exact nature of the condition remains uncertain. The changes in the popliteal artery hardly afforded sufficient explanation, and an ulcus cruris must be very rare indeed as the sole or main symptom of thrombo-angiitis obliterans. The supposition that the large leg ulcer was of the ordinary kind, though without obvious varicose veins, in an individual with very poor local tissue resistance against trauma and pathogenic microbes of low-grade virulence, seemed hardly tenable for the present case. In this connexion we searched especially for any sign, however slight, of congenital haemolytic jaundice (anaemia), but with negative results.*

Remarks.

One of us (F. P. W.) has formerly seen various cases of intermittent claudication of lower extremities in English (non-Hebrew) subjects, some of them medical practitioners, but, so far as he could judge, they were mostly due to arterio-sclerosis (atheroma) of large arteries. He believes that such cases seldom progress to actual gangrene, or die of the disease in question, but in one case a post-mortem examination (after death from another disease) was made by the expressed wish of the patient, and old advanced atheroma of the abdominal aorta and iliac arteries was discovered.† Syphilitic arterial disease is certainly very rarely the cause of symptoms resembling thrombo-angiitis obliterans.‡

Recently, at other London hospitals, Dr. Weber has been given the opportunity of seeing examples of apparently true thrombo-angiitis obliterans in men without any Hebrew ancestry; in one man amputation was necessary, and in another gangrene occurred, followed by death.§ A probably arterio-sclerotic case was that of a doctor who, in 1912, when 49 or 50 years old, suffered from severe ischaemic symptoms in the left leg. Dr. Weber saw him first in 1913. He recovered sufficiently to do very active local work during the war, but developed angina pectoris in 1922. From 1924 he had symptoms of occlusion of various blood vessels. The attacks of angina pectoris continued, and he died with gangrene of the right leg in December, 1926, having refused amputation.

It seems as if intermittent claudication from arterio-sclerosis (atheroma) is almost as much confined to males as is thrombo-angiitis obliterans, and in both classes nicotine is usually a prominent item in the past history. In this connexion one must remember the extreme rarity of nicotine abuse among Jewish women of the poorer classes; but it has even been suggested that the female sex factor bestows constitutional immunity from thrombo-angiitis obliterans. Cardiac symptoms (slight angina pectoris, etc.) are probably more likely to be associated with intermittent claudication of the lower extremities when the latter is due to arterio-sclerotic changes than when it is due to thrombo-angiitis obliterans. Indeed, in cases of intermittent claudication in lower extremities, due either to arterio-sclerotic changes or to thrombo-angiitis obliterans, the supervention of angina pectoris or coronary artery symptoms (in cases known to Dr. Parkes Weber) suggests that the intermittent claudication is caused by arterio-sclerosis (atheroma)—alone or superadded to thrombo-angiitis obliterans.

* On the occurrence of chronic leg ulcers in cases of congenital haemolytic jaundice, see F. P. Weber, *Practitioner*, 1920, cxxiv, p. 392; Gänssler, *Klin. Woch.*, 1920, ix, p. 1208; *Deut. Arch. f. Klin. Med.*, 1925, clvi, p. 22.

† In this case there had likewise been cutaneous xanthoma, and it is referred to at some length by F. Parkes Weber, *Cutaneous Xanthoma*, etc., p. 14. 1924. London: H. K. Lewis and Co.

‡ Cf. A. S. Warthin, Syphilis of the Medium and Smaller Arteries, *New York Med. Journ.*, 1922, vol. 115, p. 69

§ In this case, however, the subsequent microscopical examination (Professor R. Donaldson) revealed atherosclerosis as the arterial disease.

PERNICIOUS ANAEMIA AND BLOOD TRANSFUSION.

BY

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THE introduction of liver treatment for pernicious anaemia by Minot and Murphy completely altered the outlook in what was usually a fatal disease. Further research, stimulated by Castle's[1] work, by Sturgis, Isaacs, and Sharp,[2] and later by Wilkinson[3] and by Conner,[4] has demonstrated the value of hog's stomach in the treatment of this disease. More recently Renshaw[5] published a case which relapsed on liver and which responded to hog's stomach (ventriculin).

There is a real danger, therefore, that the older methods of treatment may be relegated too much to the background. I have encountered cases that did not respond well to liver treatment, and in many of these the giving of arsenic and a blood transfusion has been largely responsible for tiding the patient over a dangerous period.

The most important point in giving a blood transfusion is correct grouping of the donor. I have sometimes had a little difficulty with Group III serum, as occasionally the clumping is slow and not very definite. In contrast, if clumping occurs in Group II serum, it is usually quick and leaves no room for doubt. It is a wise precaution to confirm all Group IV donors by using also a diagnostic Group IV serum. Brines[6] recently stated that since adopting this as a routine measure no error in blood grouping has been detected in his laboratory during the past six years. While serious reactions rarely occur with Group IV donors, in my own experience fewer reactions occur when the donor is of the same group as the patient, but, although I prefer patient and donor to be of the same group, I never hesitate to use a Group IV donor, no matter to which group the recipient belongs.

In pernicious anaemia the giving of unsuitable blood is a very serious matter, because, even if the transfusion is stopped at the first sign of restlessness, backache, or dyspnoea, death may follow if the patient is very anaemic. Some time ago I was asked to do a transfusion on a patient with a very low red cell count. As he belonged to Group I—the universal recipient—no care was taken in selecting a donor. After about 40 c.cm. of blood had been given he became restless, and said that the blood was too strong for him. The transfusion was stopped, but the patient died eight hours later. He was grouped again before he died, and was undoubtedly a Group I, unless the particular tubes of serums used were at fault, which is unlikely.

Unmodified blood was used in all the transfusions referred to in this paper, the Louis Jubé syringe being employed. This instrument was demonstrated to me by Dr. Skinner of Sheffield, who described it in the *British Medical Journal*[7]; since then I have done over a hundred transfusions with it, and I regard it as the most convenient method when a transfusion of 500 c.cm. or less is given. Above 500 c.cm. it is sometimes inclined to clot, but fortunately this is noticed early, and the transfusion can be discontinued. Reactions following the use of untreated blood are said by Brines[6] to be far fewer and less severe than when citrated blood is used.

I wish to record here an unusual reaction which occurred when using a Group IV donor; the patient, who belonged to Group II, was suffering from pernicious anaemia. At

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I have been told by many that a blood transfusion should not be given to a patient with pernicious anaemia who is running a high temperature, but I have repeatedly given 500 c.cm. of blood to patients with a temperature of 102° F., and so far I have not had a severe reaction either in cases where both donor and recipient were of the same group, or where the donor belonged to Group IV and the patient was of another group.

In most cases of pernicious anaemia, and in all cases where patients have a temperature, I give liquor arsenicalis by the mouth. In three non-febrile cases which were being treated with liver extract, one showed no improvement and the other two only very slow improvement until arsenic was given, when a prompt and rapid increase in the red blood cells took place. In each case a different firm's liver extract was used.

The case of a patient who was kept for thirty-six days on liver extract alone without showing improvement, and who made rapid progress on arsenic, will suffice to emphasize this.

CASE IV.

A man, aged 37, was admitted on November 23rd, 1928. Red blood cells were 1,600,000 per c.mm.; haemoglobin 36 per cent. He was put on liver extract in amounts equivalent to half a pound of whole liver daily without other treatment. The succeeding counts were as follows:

December 4th: Red blood cells 1,620,000 per c.mm.; haemoglobin 37 per cent.
December 15th: Red blood cells 1,650,000 per c.mm.
December 21st: Red blood cells 1,520,000 per c.mm.
December 29th: Red blood cells 1,340,000 per c.mm.

On December 29th liquor arsenicalis was prescribed in increasing doses, and on January 14th the red blood cell count was 3,370,000 per c.mm.

In the concluding paragraph, referring to liver extract, the report[8] of the Committee on Pernicious Anaemia of the Harvard Medical School states:

"Because one lot of a product has been effective it does not prove that subsequent lots will be satisfactory, as the experience of the committee under the best conditions at one time demonstrated."

Since treating the case just mentioned I have advised patients that, although they may alternate whole liver with liver extracts, on no account must the whole liver be stopped. I always double the dose of extract; if the patient is receiving whole liver in quarter-pound portions, when substituting an extract I prescribe the equivalent to half a pound. This is not a needless precaution, as I have had relapses in patients who said that they had tired of whole liver and had relied entirely on the equivalent amount of liver as extract. It is possible, of course, that these relapses might have occurred even if they had been taking whole liver, but this is doubtful.

The following case will indicate the undoubted superiority of whole liver over liver extract, at any rate in this particular patient.

CASE V.

A man, aged 29, was treated in hospital for pernicious anaemia, and discharged on September 25th, 1929, with a red blood cell count of 3,000,000 per c.mm. He took one and a half pounds of lightly cooked whole liver per week until the beginning of May, 1930, when he tired of liver and began taking liver extract in amounts equivalent to two and a quarter pounds of whole liver per week. During the time he was on whole liver he felt as well as he ever did; in addition to returning to work he was able to play games. From the middle of May, 1930, two weeks after he had substituted liver extract for whole liver, his appetite began to fail, and increasing weakness and anaemia was noticed. At the beginning of June, 1930, he stopped the extract and tried to take whole liver again, but his lack of appetite prevented him from eating much of it during the ensuing week. He was admitted to hospital on June 10th with a temperature of 100.2° F. and a red cell count of 1,040,000 per c.mm.

He was put on whole liver, half a pound a day, and arsenic, without, it must be admitted, very rapid improvement, and two transfusions were given in the course of the next two weeks before the temperature came down and real improvement set in.

Conclusions.

1. Severe cases of pernicious anaemia with a high temperature either do not respond to liver treatment or they respond very slowly.

2. Severe cases with a temperature often respond well to a blood transfusion, and in some cases it is probably a life-saving measure.

3. Improvement takes place quicker if arsenic is prescribed for cases of pernicious anaemia which are under liver treatment.

4. It is safer not to rely entirely on liver extracts. Whole liver should always be included in the diet in every case of pernicious anaemia.

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ACUTE LYMPHOCYTIC LEUKAEMIA.

RECOVERY AFTER INTRAMUSCULAR INJECTIONS OF HOG SPLEEN.

BY

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LYMPHOCYTIC leukaemia is such a rapidly fatal disease that the following account of a recovery may be of interest. In publishing it I wish to point out that I do so merely in the hope of stimulating the interest of others to try the treatment. The suggestion of using spleen extract was put forward on the grounds of the connexion in the etiology and the pathology of the disease and the imperfectly understood functions of the spleen. Workers with more material at their disposal might experiment with further cases and draw their own conclusions from their results.

A girl, aged 8, was brought to the surgery on February 1st, 1930. Her mother complained that she looked pale and tired. On examination no physical signs could be discovered to account for the child's loss of interest and energy, but there appeared to be slight anaemia. She was put on a simple iron mixture, and was seen at intervals of four or five days.

On February 19th her condition appeared to have become suddenly much worse; she was therefore ordered to bed. On the following day the degree of anaemia was found to be much more severe, and a loud systolic murmur was heard over the whole cardiac area, being loudest in the recumbent position. There was visible pulsation of the carotid arteries. The spleen could not be felt, but the liver was enlarged to one inch below the costal margin. The child had had three attacks of epistaxis, and had vomited that morning.

A blood count made on the following day was: haemoglobin 24 per cent.; red cells 1,940,000 per c.mm.; leucocytes 6,100; and colour index 0.63. The differential count was: polymorphonuclear neutrophils 40 per cent.; polymorphonuclear eosinophils 0.5 per cent.; lymphocytes 57.5 per cent.; large mononuclears 1 per cent.; and neutrophil myelocytes 1 per cent. There was great variation in the size and shape of the red cells. Punctate basophilia was prominent, and nucleated red cells were present.

The child continued to get rapidly worse. She was removed to hospital for further investigation, and a blood count made on March 3rd—that is, only twelve days after the first count—showed the following alarming progress of the disease: haemoglobin 12 per cent.; red cells 856,000 per c.mm.; leucocytes 9,600; and colour index 0.7. The differential count now was: polymorphonuclear neutrophils 7.2 per cent.; lymphocytes 87.2 per cent.; and large mononuclears 1.6 per cent. The red cells showed a great deal of change in the form of anisocytosis and poikylocytosis, polychromaxia, and punctate basophilia. Normoblasts and megaloblasts were now present in percentages of 6.4 and 0.8 respectively. Blood platelets were scanty.

On examination the spleen was found to be still not enlarged, and there was no discoverable enlargement of the lymphatic glands. She was obviously extremely ill, of a pale, yellowish waxy colour, with oedema of ankles and legs; a moderate pyrexia was present. Repeated attempts were made to administer liver extract by the mouth, and a small amount was taken, but it was vomited.

On March 7th the child was too ill to take any notice of anything, and entirely refused food. The next day it was decided to try the intramuscular injection of hog spleen and liver extract alternately. The injections were made into the gluteus medius muscle, and 5 c.cm. of a 40 per cent. albumin-free solution of hog spleen was given. Two days later 1 c.cm. of a 20 per cent. solution

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Whether or not the mind or spirit was a mere function of the brain was a question for metaphysicians; what was pertinent was the fact that a particular mind might function well or ill apart from any change in bodily structure. The acknowledgement that organic disease might produce results analogous to the neuroses did not prove that a neurosis could not exist apart from organic disease. It might be that in future years pathologists might be able to demonstrate definite structural changes peculiar to the neuroses, but these would be the result of, and not the cause of, the ailment. As R. G. Gordon had pointed out, habits of thought or behaviour might be revealed in patterns of the neuronic cells. The practical point was that the neuroses could only be understood and treated if they were approached as diseases of the mind. This devotion to the theory of the organic origin of the neurosis had unfortunate consequences; such patients were subjected to every possible refinement of physical examination—a matter of much waste of time and energy. The radiographer, biochemist, pathologist, and surgeon were all called in to aid. Knowledge of the limits of the normal was so incomplete that as a rule this exhaustive examination revealed something amiss, and treatment could be directed to its cure; this might be successful, but the patient remained ill! In this way sound methods fell into disrepute, and unsound ones gained spurious reputation.

When all investigations had been made, and all treatment had failed, a diagnosis of neurosis might be made by a process of exclusion; but, fortunately, there was a better way. The history of the patient was of primary importance. Unless a patient had a psychogenic history, a diagnosis of neurosis should be avoided, for nobody became neurotic suddenly with no previous history pointing to this type of disorder. Again, the neuroses had positive signs as well as merely negative ones. To take one instance only, in a case of hemiplegia the observer should place his hands under the patient's heels and asked him to raise each in turn. If the paralysis was due to organic disease the paralysed limb would lie limp on the hand, but if it was a case of hysterical hemiplegia the paralysed limb would not only fail to be raised, but the heel would be felt to be pressed strongly down. All sick persons might usefully be divided into three primary classes: those suffering from organic disease which was the cause of all their symptoms, the effect on the mind being entirely secondary; those suffering from an organic disease and a neurosis, when either disease might be cured without material amelioration of the other; and those suffering from a neurosis alone. If this possibility of a neurosis, either alone or associated with other disease, was kept in mind, many a baffling problem would be resolved, many a mistake would be prevented, and the physician would be reminded of the great importance of using good suggestions and avoiding bad ones.

The examination of any patient who might be neurotic must be carried out with more than ordinary care. A complete physical examination was necessary, since there was no natural law which shielded a neurotic from cancer or any other illness, and an apparent neurosis might be the earliest symptom of pulmonary tuberculosis or of arteriosclerosis. In addition, the physical examination gave the opportunity of gaining the patient's confidence, an essential condition of success. When a diagnosis of neurosis had been made, the origin of the condition must be sought; this would require exemplary patience, a wide knowledge of humanity, and familiarity with psychological principles and methods, including psycho-analytic procedure and hypnotism. The time necessary for discovery might range from a single interview to a series extending over a year. The simplest case, which was encountered every week, was the patient who had a phobia that some symptom portended serious disease; if he could be assured that the symptom was of no importance he was cured. At the other end of the scale was the patient who required an entire re-education and readjustment. It might happen, as in other branches of medicine, that no final cure could be effected, but it was rare indeed that the condition could not be ameliorated, and in such cases a real service was given in that the patient was prevented from wasting his money and time, as well as that of others, by flitting from doctor to doctor, and to every variety of cult or patent remedy. Moreover, the credit of the profession was preserved.

The recovery of the neurotic patient was very largely bound up with the discovery of the origin of his neurosis. Whether or not the origin was detected, treatment would be directed towards readjusting and re-educating the patient. Use might have to be made of "suggestion," with or without hypnosis; this powerful remedy was used, consciously or unconsciously, by every doctor with every patient, yet it was apparently despised by a large section of the profession. While affecting to ignore it, there was no hesitation in ascribing to its use all the apparent cures of the quacks and miracle workers. Was it not time that the uses of this most effective agent were scientifically examined?

Dr. Pridham then cited a few illustrative cases.

A girl, aged 20, suffered from a spasmodic jerk which occurred on slight stimulus; after an attack of influenza the spasm became so marked that she was unable to return to work. After two or three interviews Dr. Pridham ascertained that she was unable to get on with her employers, who were three maiden ladies of peculiar temperament; these ladies were relations, and the patient's parents were averse to her leaving them. He interviewed the parents and the girl was allowed to change her employment; the spasm disappeared, and though he took steps to elicit a recurrence, by giving her a slight fright at the next interview, there was no such result.

This case of hysteria or conversion neurosis served as an example of the "flight into sickness" by which such patients resolved their difficulties. The situation was explained to the parents, and now, some seven years later, there had been no recurrence of the hysterical symptoms. Another well-known instance of this method of meeting troubles was the case of the soldier suffering from hysterical paraplegia. The paralysis solved the dreadful problem of the intense desire to flee from danger, and the equally intense desire not to disgrace himself or his regiment.

A woman, aged 30, was sent from an adjoining county suffering from "colitis"; she had been in bed for many weeks with a trained nurse in the house, and brought an elaborate series of charts and notes with a carefully constructed diet scheme. Dr. Pridham ascertained that there was no organic bowel disease; he found that the colitis was a term applied to excessive peristaltic action which was easily influenced by emotion; the patient's motions followed her emotions. In a week she was on ordinary diet, was up all day, and went out one evening to a dance. The treatment included the explanation of the rationale of the colitis and reassurance as to its significance, after which it was entirely ignored. It soon became evident that she required a complete re-education for her permanent cure. Unfortunately after two months she had to return to her home, which was the source of her disability, and four months later she relapsed.

A woman, aged 60, came to be cured of alcoholism; she had had previous breakdowns and had been treated in a home many years before. Suggestion treatment under light hypnosis was given on about five occasions; the patient became an abstainer and had remained so for seven years.

A married woman, aged 70, suffered from acute headaches for more than thirty years. These headaches were so acute and so unresponsive to treatment that twenty years previously she had consulted the late Sir Victor Horsley, who trephined her. Ten years later another doctor injected the occipital nerves with alcohol. Thus two competent men had been impressed with the severity of the pain, and had believed it to be due to organic disease. Dr. Pridham formed the opinion that a neurosis was present. He had been sent for one day, and had found the patient in bed in acute agony; she had lost self-control, and begged to be allowed to die. He applied light hypnotism, when she fell asleep in a few minutes and remained asleep for several hours. At her request further treatment was given by suggestion, and her headaches did not recur in a severe form for several years.

Dr. Pridham remarked that the last two cases were instances of treatment by light hypnosis. In the first instance it was noteworthy that as the alcoholism was cured the underlying neurosis became obvious. In conclusion, he suggested the possibility that neurosis was the correct diagnosis in many an obscure case, and that modern psychological methods could cure, or at least ameliorate, the condition of these patients. The credit of an honourable profession was very definitely involved in the way they were handled.

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investigation before they can be accepted. With the enormous amount of trachomatous material at the disposal of the staff, guidance as to the treatment of this disease is of considerable interest. Treatment by chaulmoogra oil has been intensively practised, and while it is pointed out that this is not a specific agent in the treatment of trachoma, yet it possesses valuable properties, especially in the treatment of the later stages of the disease. Its advantage lies not so much in shortening the course of the affection as in the comparatively small discomfort which its administration involves. Treatment with carbon dioxide snow also has been investigated, but the method appears to be less satisfactory than the old-fashioned application of copper sulphate. Gold salts have also been employed as subconjunctival injections, and in some cases this method of treatment has had good results: one of the features of its use is its efficacy in producing a relatively clear cornea as a final result, but among the disadvantages of the treatment must be noted the considerable pain and discomfort to the patient and the cost of the drug.

THE PROFESSIONAL CLASSES AID COUNCIL.

THE Professional Classes Aid Council, upon which the British Medical Association is represented by its Treasurer, Mr. Bishop Harman, has enhanced the interest of its report for 1929-30 by publishing an address delivered last November by its president, Major Darwin, who is now succeeded in office by Lord Sankey, the present Lord Chancellor. Major Darwin recalled the fact that the members of the Professional Classes War Relief Council of 1914 were mostly amateurs in philanthropic work, and that, although anxious not to interfere with the work of other benevolent bodies, their efforts were for a long time regarded with suspicion. The first aim of the council still remained the same—namely, to see in every case whether the applicant could not be dealt with more effectively by some older professional association. But the giving of advice to applicants by a body upon which a very large number of professions was represented was not in itself sufficient. The council discovered that financial resources were necessary as well as advice in helping an applicant to earn again his living or to regulate his life, and that blind trust in the statements even of educated men and women was dangerous. It therefore added to its activities methods of searching inquiry and "bridge-building" financial grants, especially in such matters as education. Help is being given preferably to persons suffering from misfortunes which could not be foreseen and reasonably provided against. The aim of such assistance is not merely to provide ob[illegible]porary relief, but rather to enable the applicant to Buerger's own livelihood. The council has to deplore a the orga[illegible]eduction in income during the last twelve months, liferating [illegible]h is p[illegible]s hardly likely to be arrested under 1879; the co[illegible]is qu[illegible]nditions. But the fact that nearly sclerosis (athe[illegible]onol. The[illegible]utlay for the year has been spent cases, by combin[illegible]the with t[illegible]mulate the generous-minded to reg direc[illegible]the vario[illegible]moder[illegible]an afford to the treasurer, the send such [illegible]donations, [illegible]author[illegible]ne Colville, 31, Brompton Road, S.W.3.

"CHEVALIER" TAYLOR.

JOHN TAYLOR, who in the eighteenth century dubbed himself "Chevalier," was undoubtedly a quack, and according to Dr. Johnson a very ignorant one, but at that time nobody knew much of ophthalmology, and the practice of quacks probably differed little from that of duly qualified doctors of medicine. The chief difference between them was that the regular physicians knew their own want of knowledge and often refrained from meddling, while charlatans such as Taylor were deterred by no fear of failures, which they were prepared to explain away by impudent bluff. A good deal has been written about Taylor and his confreres from time to time. Hogarth has immortalized him, and a brief account of his career appeared in our pages twenty-five years ago[1] under the title of "Hogarth and Quackery." He also figured among "Some Notable Quacks" in the special issue of the *British Medical Journal* published on May 27th, 1911. Mr. S. Wood has recently (May, 1930) contributed to the *British Journal of Ophthalmology* a thirty-page illustrated paper on Taylor, containing a transcript of a manuscript believed to have been written by him, with facsimile reproductions of parts of it. This manuscript is in the Library of the Royal College of Surgeons of England. At the time when Taylor flourished ophthalmic surgery did not go beyond couching for cataract, some plastic operations on the eyelids, and possibly some attention to the lacrymal ducts. Conjunctivitis was also more or less successfully treated. Quack as he was, Taylor became eye surgeon to George the Second, but he left England and died at Prague. His "Life" written ostensibly by his son (who did not formally disclaim the authorship) was a scurrilous publication, by no means creditable to the author or the subject, but according to Mr. Wood the best account of Taylor is to be found in a paper by Mr. George Coats in the *Royal Ophthalmic Hospital Reports* for 1915. Mr. Wood defends Taylor from the accusation of being a mere quack, and credits him with a liberal education in general medicine and a special study of ophthalmology, but all contemporary authorities seem to have been agreed that he was uneducated and ignorant, and the extant account of his self-advertising lectures do not support a claim to culture. Mr. Wood rather gives away his case in defence of Taylor when he admits that "his conceit bordered on the pathological, and on reading his *Travels and Adventures* one is left with a feeling of disgust that a man of his ability could be so childish." Probably he did some good in the world and less harm than his contemporary, "Spot" Ward, for Taylor did not administer irritant poisons as did Ward in his blue, red, and purple antimonial pills, which were believed to have proved fatal in many cases. But a claim to be better than Ward (the statue of the latter in the House of the Society of Arts notwithstanding) is not a claim to excellence.

THE MEDICAL RESEARCH COUNCIL AND ERGOT STANDARDIZATION.

THE Medical Research Council has requested us to make public the following official statement. "The attention of the Medical Research Council (Great Britain) has been drawn to a misleading advertisement, involving misuse of their name, which has been given currency on the American continent in respect of a preparation of ergotamine tartrate known as Gynergen 'Sandoz.' This advertisement states that 'the Pharmaceutical Society of Great Britain, after consultation with the Medical Research Council, adopted Gynergen as the standard for ergot, thus making it the acknowledged leader in this field.' This statement is not true. The Medical Research Council desire to make it plain that they never at any time concurred in, or were consulted about, the adoption of this preparation as a standard. The suggestion made with reference to the Council is therefore entirely without foundation. Further, the current official publications of the Pharmaceutical Society of Great Britain state expressly that for ergot 'the standard is a sample of ergotoxine phosphate which is kept in the dark *in vacuo* over phosphorus pentoxide.' The adoption by the society of this standard, in place of a sample of ergotamine tartrate, was also announced three years ago in a paper by Burn and Ellis (*Pharmaceutical Journal*, 1927, cxviii, p. 384), which constituted a report to the chairman of the International Conference on the Biological Standardization of Certain Remedies."

[1] *British* "

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should not be in the proximity of a lift-shaft or staircase-well, or near an intake or outlet of a general duct-ventilating system. In no circumstances should it communicate with a general duct-ventilating system. Preferably the store should be an isolated single-story building with independent access. Failing that, the store may be placed on the roof of a building or, if that is not feasible, in one of the higher stories in as isolated a position as possible.

The walls, floor, and ceiling of the storeroom should be fireproof and of robust construction. The door should be fireproof and of a self-closing, closely fitting type. If the storeroom forms part of a main building, a useful further precaution is a fireproof vestibule with a second fireproof door. The store should be provided with a direct vent to the outer air, preferably on the side remote from the most adjacent building. Such a vent should not normally be less than a square foot in effective area, a figure which may require to be exceeded for large stores. The vent may be protected against weather, etc., by thin, unwired glass, or other equally frail device.

The store may well be equipped with steel cabinets. If it is designed to carry unusually large stocks of films (exceeding, say, one ton), it should be divided into completely isolated fireproof compartments, each with its own vent and fireproof door. The temperature of the store should be maintained at a moderate figure. If the roof is exposed to the sun suitable thermal lagging may be necessary in hot climates. It seems certain that good quality celluloid does not ignite spontaneously at any temperature attained under ordinary room conditions. The store should be equipped with an automatic water sprinkler device. If windows are provided in a film store they are best situated in a north wall, though other considerations may be more important. Any windows immediately above the windows or vent of the storeroom should be provided with wired glass.

MENTAL TREATMENT ACT, 1930.

THE Board of Control, with the approval of the Minister of Health, has appointed a committee with the following terms of reference:

> To consider and advise what principles should be observed in the approval by the Board of Control of medical practitioners for the purposes of Sections 1 (3) and 5 (3) of the Mental Treatment Act.

The committee is constituted as follows:

Sir John Rose Bradford, P.R.C.P. (chairman).
Sir Hubert Bond, Commissioner of the Board of Control.
R. G. Gordon, M.D., F.R.C.P., British Medical Association.
G. W. B. James, M.D., D.P.M., Royal Society of Medicine.
A. Rotherham, M.B., Commissioner of the Board of Control.
J. S. B. Stopford, M.D., General Medical Council.
R. Worth, M.B., Royal Medico-Psychological Association.

With Mr. H. C. Bleakley of the Board of Control as secretary.

ROYAL MEDICAL BENEVOLENT FUND.

At a recent meeting of the committee thirty-four grants were made, amounting to £515. Subscriptions and donations are very urgently needed in order that the activities of the Fund may be continued and applicants given the help they need. Cheques should be forwarded to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, Cavendish Square, W.1. The following are particulars of a few of the cases helped.

M.R.C.S., aged 89, with wife aged 70. Has been in practice for over fifty years, but latterly, owing to increasing deafness, there was a falling off of patients. The daughter, aged 40, looks after her aged parents. The three live on a total income of £184 a year; £150 of this is contributed by the son, who is a bank cashier at a salary of £425, and has to keep himself in lodgings. Voted £40.

Widow, aged 51, of L.S.A. Her husband, who died in July, was helped by the Fund during the last two years of his life. He was also in receipt of £104 a year from another charity as he was unfit for work and in receipt of the old age pension. The widow has been left with nothing. The allowance of £104 has been discontinued as the widow is not eligible for this help, and the pension has been stopped. The widow has obtained a post as companion at a salary of £1 a week (food). Voted £26.

Widow, aged 63, of M.D. Husband died in 1929, leaving his widow quite destitute, her only support being her daughter, who is earning 48s. a week. Voted £20. Epsom College has also given a pension.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, Tavistock House (North), Tavistock Square, W.C.1.

Ireland.

Coombe Lying-in Hospital, Dublin.

IN the report for 1929 of the Coombe Lying-in Hospital, Dublin, to which a brief reference was made in the *Journal* of May 24th (p. 979), there is an interesting analysis of abnormal cases, with the treatment employed and the results. The total admissions during the year reached 1,204, with 1,080 deliveries; maternal deaths numbered only 11, and of these 10 were emergency cases. The one fatal case in which there had been previous booking of the patient was that of a woman, aged 27, who suffered from mitral stenosis, and who was admitted at the twenty-fourth week of gestation on account of profound anaemia, dyspnoea, and oedema. She improved considerably on liver extract, iron, and digitalis, but left hospital contrary to advice, and was admitted again a few weeks later in a dying condition. Puerperal sepsis was responsible for only one death among the eleven; it developed three days after bleeding from a lateral placenta praevia and delivery of a stillborn infant. In spite of glycerin drainage and a course of kharsulphan, subinvolution was marked, and the patient died on the twelfth day. Other deaths were due to accidental haemorrhage, eclampsia, ruptured uterus, shock following Caesarean section, and such extraneous conditions as cerebral haemorrhage, intestinal obstruction, and ruptured splenic artery. The members of the hospital staff are of the opinion that pelvic contraction is unduly emphasized in the training of medical students, while the signs of disproportion and their interpretation receive insufficient attention. They consider, furthermore, that unnecessary operations can only be avoided by a properly conducted trial labour. During the year there were three examples of pelvic delivery following previous Caesarean section. The first patient had a history of a stillborn child, followed by the spontaneous delivery of a living child at her second pregnancy, and Caesarean section at her third; labour was induced at the thirty-eighth week of the fourth pregnancy, and she was delivered of a living child weighing 6¾ lb. The second patient had a history of three stillbirths, followed by Caesarean section for delivery of a child weighing 9¾ lb.; in her fifth pregnancy labour was induced after the thirty-eighth week, with delivery of a 7½ lb. child. In the third case Caesarean section had been performed in a previous labour for posterior asynclitism; during the second pregnancy there was no evidence of disproportion, and she was delivered of a 7¾ lb. baby at term. The three cases give an indication of the value of individual consideration, not only of every case, but of every pregnancy of the same case. Forceps delivery was used in forty-eight labours, and it is interesting to note that among these there were only two deaths, both occurring in patients brought in as emergencies with accidental haemorrhage. Morbidity followed the use of forceps in six patients, but with recovery in every case; gonococcal infection was present in one of them, and suspected in another. Stillborn children were obtained in four cases, and five died at or soon after birth. Breech presentations occurred in 21 cases, not including twins; of these, six babies were stillborn and two macerated. Of the six stillborn, one was anencephalic, one had a prolapsed cord on admission, and the third case was sent in after repeated vaginal examinations, and was followed by morbidity in the mother after delivery. Perforation of the aftercoming head was necessary in three instances. An interesting case of chorea gravidarum was only seen at the onset of labour, and improved rapidly with recovery in ten days. The patient was treated for three days with 10 c.cm. of serum daily from patients in labour. In extern maternity work 1,432 deliveries were attended with only two maternal deaths. In the gynaecological department 304 operations were performed; *x*-ray and radium treatment were given in 16 cases and palliative treatment in 41. Three deaths occurred, one following Caesarean section for labour obstructed by round-celled sarcoma of the vagina; the other two deaths were due to peritonitis.

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Hospital is expected to be able to deal with 12,000 in-patients every year. The reconstruction of St. Mary's Hospital, which in the meantime will serve with Rothwell Infirmary as a hospital for the infirm sick, is regarded as a necessary development of the hospital system of the city in the future. These proposals are considered to form a basis on which a really sound and efficient public hospital service can be built to meet the present and future needs of the city.

National Council for Maternity and Child Welfare.

Among the many activities of the constituent bodies of the National Council for Maternity and Child Welfare is the maintenance of two complete travelling exhibitions, which are concerned with many aspects of child welfare. They include a section on clothing, where model garments for infants and young children may be examined by mothers, while a food section conveys instruction about the nursery diet, the vitamin-containing foodstuffs, and the production of clean milk. There are also dental exhibits, photographs of the care and cure of crippled children, a day nursery section, and an effective chamber of horrors, illustrating a number of common dangers, and indicating how they may be avoided. The exhibition can be packed in four large hampers in half a day, and travels from town to town under the care of a lecturer. It is usually open for two or three days, sometimes for a week or two. Arrangements are made for the elder school children of the district to visit it in the mornings for special lectures and demonstrations, the afternoons being reserved for women. Lantern lectures are given wherever possible. During 1929 the exhibitions are reported to have been enthusiastically received; in one town half of the entire population—about 10,000 people—is said to have visited the exhibition hall in the course of a single week. Another constituent body of the council is the Blind Babies Department of the National Institute for the Blind. The education of the child blind from birth demands special qualities in the nurse and teacher, because there is no basis of vision on which to build up concepts. Three centres, known as the Sunshine Homes, are now provided for these infants, under the charge of a staff which trains the senses of touch and hearing, correlating them with underlying ideas. When these children are ready to pass on to a blind school, at the age of 5, they have learned "how to be blind," in the sense that they are essentially independent and self-reliant. The homes do not admit mentally defective children; they aim to be schools rather than asylums, and to give the blind child the opportunity of learning to share in the life of the community.

Wingfield Orthopaedic Hospital.

In a leading article in the *Journal* of December 12th, 1925, the second edition of Mr. G. R. Girdlestone's pamphlet, *The Care and Cure of Crippled Children*, was discussed. The scheme for the treatment of the cripples of Oxford and Bucks is well known, and there is no need to recapitulate its details. In the annual report of the Wingfield Orthopaedic Hospital, Oxon., just published, Mr. Girdlestone now records progress to the extent of an increase of patients treated in the hospital (which is the central one of the scheme) of 20 per cent., and of the out-patients attending clinics of 30 per cent. This last figure probably does not mean an increase of crippling disease, but an improved consciousness of the need of following up cases. This is likely to be the result of the reorganization of the Federation of Clinics under the name of the Berks, Bucks, and Oxon. Association for the Care of Cripples. Readers of this report are reminded that the work at the Wingfield Hospital includes vocational after-training, and that the Wingfield Workshops entered in four classes in competition at the International Exhibition of Cripples' Handicrafts held at Exeter last autumn and obtained three first awards for bootmaking and repairing, and (notably) surgical instrument making, and lamp shades. In addition, the workshops won the principal trophy of the exhibition presented by the Council for the Care of Cripples, for the best piece of work submitted by a British institution. These are encouraging facts, and show that the Oxfordshire central hospital is still leading the way. The medical and surgical staffs of the Royal Berks, Royal Bucks, and King Edward VII (Windsor) Hospitals have co-operated with the Wingfield Hospital throughout the past year. The work of the honorary surgeons is of paramount importance, but the devoted work of the honorary secretaries, committees, and helpers at the clinics has been of the greatest value, and indeed is indispensable. The average attendance at the hospital school was ninety-six. During 1929 481 operations were performed, the majority involving section of bone, and the variety and importance of the parts concerned give some idea of the value of the work done. Tendon transplantations were forty-seven, but osteotomies for bow-legs and knock-knees only twelve. It is to hoped that this last low figure means that rachitic deformities of bone are much less common than they were in the counties concerned. It is generally accepted that they are becoming rare in London, but there are wide variations of prevalence of the disease in different parts of the country.

The Leasowe Open-air Hospital for Children.

Study of the value of artificial light in the treatment of surgical tuberculosis has produced some interesting results at the Open-air Hospital for Children at Leasowe in Cheshire; a report on 224 cases was submitted to the Board of Education at the end of 1929. Except in the case of tuberculous adenitis after curetting, no evidence of any specific action of artificial light upon cases of tuberculous disease was definitely established. The value of this form of therapy seems to lie in the improvement in the general health following generalized irradiation; local irradiation with the mercury vapour lamp is considered to assist and hasten recalcification of bone during convalescence, and to promote the healing of sinuses. Experiments are being conducted to decide whether artificial light therapy has any influence on calcium retention within the body in cases where the total calcium intake and output can be estimated, since this would throw much light on the improvement in the rate of recalcification. The use of light therapy in tuberculous adenitis and peritonitis appears to shorten the duration of the stay in hospital, according to the statistics of the past two years, but deep-seated abscesses seem to be unaffected by either local or general irradiation. In the case of superficial abscesses there is some evidence that a carefully controlled dosage may induce absorption. Investigations of amyloid disease are proceeding at the hospital; the degree of retention of a dye injected intravenously is said to afford a measure of the extent of amyloid changes in the body. An attempt is being made to determine whether the alleged hastening of amyloid change under ray therapy actually occurs. During 1929 more than 200 patients were discharged from the hospital, of whom 86.6 per cent. left with the disease quiescent. Statistics of old cases show that of 110 patients discharged with quiescent lesions in 1926 94 per cent. are now known to be fit; in 1927, 132 patients were discharged, and of these 91 per cent. are now fit, while of the cases for 1928 the percentage is 95.3.

The East End Maternity Hospital.

The clinical report of the East End Maternity Hospital for the year 1929 is made up of statistical tables, the most important of which refer to the presentations and obstetrical complications met with during the period under review, and the operations that were performed in the out-patient and in-patient departments in the hospital. In the previous year 1,276 mothers had been delivered in the hospital, that being the record number in any one year; in 1929 the total reached 1,310, though the number of out-patients dropped from 788 to 610. The number of births in the hospital was 1,325; on the district it was 612. There was one case of Caesarean section for contracted pelvis, the other obstetrical operations including 58 inductions, 76 forceps deliveries, 4 versions, 15 manual extractions in cases of breech presentation, and 25 in which the placenta and membranes were removed by hand. The obstetrical

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In many, a streptococcus was found, insoluble in bile, producing a green coloration on blood agar; it occasionally appeared as large diplococci varying in sugar reaction and with chains not always reacting uniformly to Gram's stain. Animal experiments were not undertaken. The only conclusion reached was that a pleomorphic streptococcus seemed to be related to the infection, though the relationship may have been very remote. None of the usual drugs had any marked effect upon the course of the disease. Various prophylactic measures were tried, most of them without success. Persons who had received prophylactic inoculations proved no more resistant than others. Some whose throats were daily painted with iodine were attacked, but regular gargling had some effect in warding off the disease. Considering its incidence, the death rate was remarkably low; six deaths were reported altogether, five of these being of persons over 60 years of age. No relationship was established between the outbreak and the prevailing climatological conditions, but there were indications that fewer cases occurred and that patients felt better in dry, frosty weather. Another matter referred to by Dr. Fyfe in his report is the organization of the national health insurance scheme, which he considers is in need of revision. From a study of panel records he thinks that the administration of the Act should be more intimately linked up with the administration of public health. If the work of the general practitioner was co-ordinated with that of the medical officer of health, their concerted efforts, in his opinion, would enable a thorough investigation of the health of the nation to be made.

The Royal Samaritan Hospital for Women, Glasgow.

Gynaecologists and others engaged in hospital work will be interested in the statistical report of the Royal Samaritan Hospital for Women, Glasgow, for 1929. This institution came into being in 1886, and ten years later was rebuilt; new wings were added in 1906 and again in 1927, and the present report represents the first account of a full year's work of the hospital since the most recent extension. The classification of the figures presented obvious difficulties, and it was not found possible to devise a strictly anatomical or pathological basis. Four main headings are therefore employed—namely, diseases restricted to one of certain regions of the genito-urinary tract; diseases affecting more than one such region; related diseases outside the genital and urinary tracts; and conditions not classified in the foregoing groups. Where the disease was restricted to a definite region a sub-classification has been employed—namely, (1) disorders of function without macroscopical changes and developmental errors; (2) conditions resulting from infection and calculi; (3) hypertrophy, hyperplasia, neoplasms, and cysts; (4) circulatory disturbances; and (5) diseases associated with pregnancy. The second main heading comprises: malformations and developmental errors; diseased conditions resulting from infection; and obstetrical and other injuries such as prolapse, displacements, fistulas, and hernias. Diseases outside the genital and urinary tracts include: primary and secondary anaemia; cardiac and pulmonary conditions; and diseases of the alimentary canal, particularly appendicitis and haemorrhoids. The number of patients dealt with was 2,841, and a detailed list is supplied of the various conditions encountered. The etiological evidence is tabulated, reference being made particularly to the association or otherwise of childbearing, developmental errors, and the incidence of new growth.

James Murray's Royal Asylum, Perth.

In 1827 there was brought into existence, in Perth, James Murray's Asylum, and subsequently it was incorporated by Royal Charter. The nominal number of available beds at present is 200. In the hundred and third annual report of this institution, for the year ended March 31st, 1930, Dr. W. D. Chambers, the physician-superintendent, states that at this date there were 181 patients on the registers of the institution, of whom 177 were resident. A number of new patients were refused admission during the year owing to lack of accommodation, but a new reception hospital, in course of erection at Gilgal, is expected to be available in a few months. In the twelve months under review 81 patients were admitted (42 men and 39 women); 70 were discharged; and 22 died. Voluntary admissions constituted 70.4 per cent. of the total admissions, male patients numbering 30 and female 27. Among the causes which were considered to have been wholly or partly responsible for the mental breakdown were adolescence in 14 cases, the climacteric in 13, and the senile or pre-senile period in 12 cases. In 15 cases the symptoms were affected by alcoholism, and in one case by addiction to morphine. There were 3 cases of epilepsy, 5 of syphilis, 4 of influenza, and 1 of encephalitis lethargica. Of those discharged, 17 certified and 20 voluntary patients had recovered, and 27 were relieved. The average age at death was 65.2 years, the death rate being 12.4 per cent. of the average daily population. In a postscript to the report Dr. Chambers refers to the fire in April which destroyed the roof of the east wing, and draws attention to the fact that much more extensive damage was prevented largely by the sound fireproof structure of the building. The loss has been assessed at approximately £2,400. It is recalled that after a previous outbreak of fire in 1837, which destroyed the roof of this same wing, the then directors rebuilt it with fireproof arches, a policy which has now proved to be most wise, since otherwise the recent disaster would have probably resulted in the destruction of the whole wing.

Correspondence.

A NATIONAL MATERNITY SERVICE.

SIR,—The interim report of the Departmental Committee on Maternal Mortality, as reviewed in the *Times* of August 6th, is a little difficult to understand, since the results of its investigations into the causes of maternal deaths and the remedies suggested seem to bear no logical relationship to each other. The one important exception is the clause urging the better teaching of obstetrics. As this, the most sensible clause, will, if carried out, not involve the expenditure of public money, or provide bureaucrats with a job, or bring glory to the politicians, it will probably be the least popular with the authorities.

The following facts are, according to the *Times*, the chief evidence on which the committee has based its conclusions. (1) That the maternal death rate is 4.3 per 1,000. This figure can scarcely be called alarming. (2) That in the United States (where the cult of health almost amounts to a disease) the maternal mortality is 8.3 per 1,000, while in France, where, one is given to understand, medical facilities are not of the high standard provided in England and Wales and the United States, the rate is only 2.5. (3) That in England and Wales since 1911–15 the rate has risen from 4 to 4.3 per 1,000. (4) That overcrowding and dirty conditions have no appreciable relation to puerperal sepsis.

In face of these findings, why does the committee recommend the establishment of a general maternity service (midwifery service would be a more accurate name for it)? Ante-natal care and asepsis have been practised on a growing scale for a number of years, yet not only have they failed to reduce the mortality rate, they have failed to prevent a slight increase.

The review of the interim report in the *Journal* of August 9th quotes none of these findings, but it does quote some other figures which may be misleading: thus 48 per cent. of maternal deaths are said to be preventable. These are classified in four groups: (1) deaths resulting from omission or inadequacy of ante-natal management; (2) deaths resulting from errors of judgement in management; (3) deaths due to lack of reasonable facilities; and (4) deaths due to negligence on the part of patients. Of these, only those in the third group might be prevented by the provision of a general midwifery service. Of 2,000 cases investigated 64 were put into this group; that is to say, only 3.2 per cent. of maternal deaths might be prevented by a general service. Since the maternal mortality rate is 4.3 per 1,000, this means that the rate would fall by less than 0.2 per 1,000, so that if each birth

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She then developed neuritis and, after all the usual examinations had been made with negative results, the appendix was removed.

The association of ocular inflammation with abdominal sepsis is recognized by every ophthalmologist of experience, and it is a matter of surprise that a reviewer of a valuable work by a surgeon of world-wide reputation should be so flippant. It is quite obvious that when Dr. Watson-Williams mentions "errors of refraction" he does not mean the optical abnormality, but the symptoms associated with such errors—asthenopia and headache. The relationship between asthenopic symptoms and sinus disease was the subject of a communication made by an American rhinologist to the Oxford Ophthalmological Congress in 1929; there is little doubt that the irritation of a septic nasal sinus can give rise to ocular symptoms quite apart from any actual disease of the eyes.—I am, etc.,

Birmingham, Aug. 8th. F. Harrison Butler.

DIATHERMY IN GYNAECOLOGY.

Sir,—I have pleasure in adding my testimony to that of Dr. J. Newton Dyson, whose letter on August 16th (p. 266) confirmed the statements made by Dr. Cumberbatch in the *Journal* of August 2nd (p. 194) concerning the pioneer work undertaken by himself and Dr. Robinson in the above connexion. I studied the methods of Drs. Cumberbatch and Robinson for two years under their direct guidance and supervision. I have since continued their principles in my own practice with complete success in cases of chronic gonorrhoea, in both women and men, to our mutual satisfaction and the abiding gratitude of the patients. My medical friends, however, smile indulgently and incredulously when I tell them that, speaking from my own experience, about 90 per cent. of cases can be cured by this means alone, and that, if employed with other methods, the percentage of cures is nearer 100.—I am, etc.,

London, W 2, Aug. 18th. R. Galway Murray.

THE PERFORMANCE OF NECROPSIES BY GENERAL PRACTITIONERS.

Sir,—I heartily agree with the comments of "Rusticus" in the *Journal* of August 9th (p. 228). I suggest that, in rural districts, each coroner should appoint two or three general practitioners to do all the post-mortem work, with the help, in each case, of the medical attendant. Those appointed would quickly gain sufficient experience to form reliable opinions about the cause of death, and the medical attendants would learn enough to take up the appointments when vacancies occurred.—I am, etc.,

August 10th. A Country Doctor.

Sir,—Having had twenty-five years' experience as a country practitioner, I entirely agree with the indictment by "Rusticus" (*Journal*, August 9th, p. 228) of the present obsolete and unsatisfactory conditions under which medical men practising in rural districts are expected by coroners to carry out post-mortem examinations. There is certainly, in my opinion, urgent need for reform in the present methods, which he so justly condemns.—I am, etc.,

August 11th. Country G.P.

Obituary.

CHARLES BROOK, F.R.C.S.,

Vice-President and Consulting Surgeon, Lincoln County Hospital

We have to record with regret the death of Lieut.-Colonel Charles Brook, R.A.M.C.T., who died at his residence in Lincoln on August 10th, in his ninety-second year, he was one of the oldest medical men in the country. In a long and distinguished career he showed conspicuous ability both in civil and military spheres, and his death is profoundly mourned in Lincoln, where he was senior magistrate.

Charles Brook was born in Lincoln, and after studying for a year at the Lincoln County Hospital he entered St. Bartholomew's Hospital in 1858, where he won a scholarship and prizes for anatomy and clinical surgery; he obtained the diplomas M.R.C.S. and L.S.A. in 1861. He was then appointed house-surgeon at St. Bartholomew's, but resigned owing to the illness of his father, the late Dr. W. H. Brook, succeeding him in practice at Lincoln in 1862. Two years later he was appointed surgeon to the Lincoln County Hospital, and in 1900 he became consulting surgeon; he was elected vice-president of this institution in 1921. He was also chairman of the Lincoln Dispensary. In 1922 he was elected to the Fellowship of the Royal College of Surgeons of England as a distinguished member of twenty years' standing. His association with the Army dates from 1862, when he was commissioned assistant-surgeon to the Royal North Lincoln Militia, afterwards the 3rd Battalion of the 10th Foot (Lincoln) Regiment; he was promoted to surgeon-major in 1877, and retired in 1891. Although he was 75 at the outbreak of war in 1914 he was then appointed senior officer of the surgical staff of the 4th Northern General Hospital, retiring in May, 1918, with the rank of lieutenant-colonel.

Always an enthusiastic sportsman, Charles Brook excelled as a cricketer, a keen rider to hounds, and a good shot, able to tramp over the heather until nearly 80. He was chairman of the Lincoln Race Committee until 1926, racing himself at one time under the name of "Mr. Seabrook." His business instincts and organizing ability enabled him to render valuable services on the boards of several important local commercial organizations; and he was chairman for a time of the local Conservative Association. He was the senior city magistrate, having been appointed J.P. as long ago as 1888. For many years he was a member of the British Medical Association, being chairman of the Lincoln Division from 1924 to 1928. He is survived by a son and daughter, his wife and an elder son having predeceased him.

Lord Moynihan writes: I am so sorry to hear of dear old Charles Brook's death; he was a great figure and a fine type of cultured English gentleman, and there is surely nothing so fine as that.

Mr. George Robertson, F.R.C.S., who died at Bonar Bridge, Sutherlandshire, on August 2nd, was born at Dunfermline in 1879 and received his medical education in Edinburgh, where he obtained the diplomas L.R.C.P., L.R.C.S., and the L.R.F.P. and S.Glas. in 1900, after a distinguished career as a medical student, in which he won the Pattison bursary, the Bathgate gold medal, and the residents' prize for clinical surgery. After holding the post of resident surgeon in the gynaecological ward of the Royal Infirmary and in the Royal Maternity and Simpson Memorial Hospital, he returned to his native town and quickly built up a large practice, becoming a surgeon of considerable ability and skill. During the war Dr. Robertson served on the Eastern Front as a captain in the R.A.M.C. He became a Fellow of the Royal College of Surgeons of Edinburgh in 1918, and was appointed surgeon to the Dunfermline and West Fife Hospital. He published numerous communications on surgical subjects. Dr. Robertson was on holiday at the time of his death, which was due to a heart affection. He is survived by a widow and a daughter.

Dr. Gerald Alfred Child of Hythe, Southampton, who died on August 11th, aged 59, was the only son of the late Rev. Alfred Child, rector of Upper Clatford, Hants. He was educated at the University of Oxford and St. Thomas's Hospital Medical School, and obtained the diplomas M.R.C.S. and L.R.C.P. in 1895. He was medical officer of the Beaulieu, Dibden, and Hythe district of the New Forest Union, and also of the Hythe and Dibden Cottage Hospital. He was joint designer of the Leslie and Child ambulance, which was adopted by the War Office and extensively used during the war. The distinction of O.B.E. was conferred on him for his services, which included supervision of the work of the Hampshire Automobile Club Ambulance, which had the fine record of travelling 695,890 miles and removing 211,400 cases from hospital ships in Southampton Docks. He was also surgeon-in-charge of the West Cliff War Hospital throughout the period of hostilities. Dr. Child was a member of the Southampton Division of the British Medical Association.

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QUERIES AND ANSWERS.

DERMATITIS HERPETIFORMIS.

"F. H. R.," replying to Dr. J. E. Richmond (August 2nd, p. 200), writes: Permanent change of locality may cure, but relapses can occur if only a holiday or stay in hospital is taken. Cure has been reported from vaccines prepared from the vesicles; vaccines made from any abnormal intestinal bacteria or from any existent infective focus may help. A diet of milk and water only in an acute attack, if persevered with, has been known to cause the disease to disappear. Great benefit may result from thyroid extract, insulin, alkaline diuretic mixtures, and hexamine; ultra-violet ray treatment, general galvanization, and auto-serotherapy are also worth trial. There is no certain cure, but the measures mentioned have sometimes been successful. General treatment should aim at combating the decided neurotic and toxic forces present in this disease.

SOUR MILK.

DR. W. CAMPBELL MACKIE (Wigan), replying to "E. W. D.," suggests the use of Grade A milk acidified with lacteol tablets, which must be kept carefully corked in their tubes. Three or four are soaked and placed in a tablespoonful of the milk; they are then crushed, intimately mixed with it, and the mixture then transferred to one or two pints of milk. This is well stirred, and left at room temperature during the summer, or in winter kept at body temperature. The milk is soured in six to eight hours, and is then ready for use. Dr. Campbell Mackie advises also the administration of a preparation—"colactin"—marketed by E. H. Spicer, Watford, Herts, since this aids the establishment of *B. bulgaricus* in the large intestine.

DR. C. G SALVESEN (Tarland, Aberdeenshire) writes: In reply to "E. W. D.," who asks for advice regarding the artificial souring of milk in the *Journal* of August 9th (p. 236), I may state that this form of milk is very extensively used in the Scandinavian countries as a daily food, and is prepared as follows. The bottom of a deep plate or bowl is smeared with a teaspoonful of sour milk or cream; the dish is then filled with fresh milk and allowed to stand for 24 to 36 hours in a warm place, such as a kitchen cupboard, but not on a range. When ready a thick cream should have formed, and the milk below should be fairly firm. Eaten with a sprinkling of brown sugar and cornflakes or grape-nuts it is a delightful summer food, but is in most cases an acquired taste. A little of the top cream should be used for preparing the next supply.

"R. G." recommends the following procedure: Squeeze into a teacup the juice of half a lemon, and add to this half a teacup of warm boiled milk (blood heat) with a nut of butter. Keep in a warm place. The mixture ought to "set" in twenty-four hours. A tablespoonful of this, stirred into half a pint of hot milk and kept in a warm place, gives the supply for the next day, and so on.

ANOTHER CORRESPONDENT writes to recommend "yaghourt," which may be purchased from Boudja Manoli, 22, Great Chapel Street, Soho. The sour milk is prepared from this, and information about the method may be obtained from the suppliers.

TREATMENT OF DYSMENORRHŒA.

DR. BLANCHE HENDERSON (West Hartlepool), replying to Dr. Murray's inquiry (August 16th, p. 272), writes: I am inclined to think much might be done by encouraging the patient to believe that the pain will lessen if she will be very persevering with the following treatment: sedobrol daily, with veramon p.r.n.; also laxatives, a tonic, and postural exercises, such as raising the pelvis above the level of the thorax. If possible, the patient should remain in bed, with a hot bottle the first day. She should be encouraged to try to get her mind off the condition and to occupy herself fully.

INCOME TAX.

Expense of Purchasing a Practice.

"W. S." bought a practice in 1929 and thereby incurred certain legal and other costs as well as the expense of removing from non-professional to professional premises. Is any allowance due in respect of these expenses?

*** No; they represent the cost of acquiring and starting his practice rather than expenses incurred in carrying on the work. On the analogy of other decided cases, "W. S." has no legal claim to deduct these expenses.

LETTERS, NOTES, ETC.

HOLIDAYS FOR FACTORY GIRLS.

WE have received the following letter, signed on behalf of the Factory Girls' Country Holiday Fund by the Countess of Sandwich, Dame Mary Scharlieb, Miss Lilian Braithwaite, Sir Thomas Barlow, the Bishop of London, the Chief Rabbi, the Rev. R. F. Horton, and Mr. J. F. Green: May we again ask for your friendly co-operation in our efforts to help women workers in factories, workshops, and domestic service to obtain a restful and much-needed holiday away from the congested and noisy areas of industrial centres? It is a principle of the Factory Girls' Country Holiday Fund to ask the girls and women themselves to contribute to the expense of their holiday to the best of their ability; but if they were dependent entirely upon their own savings, necessarily small, the holiday would be quite out of the question. Through your columns we beg leave to ask the public, which has not failed us in the past, to help again those who cannot adequately help themselves. The benefit derived by these women and girls, who after a strenuous day go home to stuffy streets and crowded dwellings, is almost incalculable. The holiday means change of air, change of scene, change of interests. It infuses those who enjoy it with new life; it inspires them with new hope; it invigorates the body and refreshes the mind. The scene presented week after week at the headquarters by a crowd of tired but eager and excited girls and women ready to start off on a holiday, or by another crowd returning home, the picture of health and happiness, demonstrates the immensity of the benefits received. Those who watch it are filled with gratitude to subscribers to the Fund who by their magnanimity and generosity help to make such holidays possible. Subscriptions and donations will be thankfully received and acknowledged by the honorary treasurer, Mrs. Slater, or by Miss Canney, 75, Lamb's Conduit Street, London, W.C.1.

FOREIGN BODY IN THE VAGINA.

MR. IAN FRASER (Belfast) recalls the case of the insertion of a hairpin into a child's vagina (July 26th, p. 168), and reports the case of an unmarried girl, aged 19, who had a fetid and blood-stained vaginal discharge. He writes: Examination revealed a wooden object impacted in the vagina. It was so firmly implanted that her doctor was unable to move it; with difficulty I was able to get between the softened vaginal wall and the wooden object and extract it. It turned out to be a boy's penny top, which she had put in pointed end foremost ten days previously. During it in bed! accident—in fact, she had sat on it as a

SEVERE CEREBRAL SYMPTOMS FOLLOWING SPIROCID ADMINISTRATION.

WITH regard to an abstract in the Journal of August 16th (*Epitome*, para. 146) entitled "Severe cerebral symptoms following stovarsol administration," we have received a communication from Messrs. May and Baker, Ltd. (Battersea), pointing out that it is apparent that spirocid and not stovarsol was the preparation used in the case recorded. They add: stovarsol is a registered trade mark belonging to ourselves.

ERRATA.

WE much regret that in the *Journal* of July 26th (p. 135) a line was omitted from the article by Dr. Leonard Colebrook entitled "Infection by anaerobic streptococci in puerperal fever." The last sentence of the paragraph on the third page describing the clinical features of seventeen cases of generalized infection due to anaerobic streptococci should have been as follows: It may be noted that 5 of the 9 cases which developed suppuration gave mixed cultures from the blood, and in 3 of them a septic thrombus was found post mortem.

PROFESSOR HENRY MOORE calls our attention to the fact that in the first line of his article on lipoid nephrosis in the *Journal* of August 16th (p. 242), the name Friedrich was given as mis-spelt as Friederick.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 34, 35, 36, 37, 38, 39, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41 of the Advertisement columns appear in the *Supplement* at page *123*.

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181. Hepato-biliary Infection by Friedlander's Bacillus.

P. CARNOT, J. DUMONT, and E. LIBERT (*Paris Méd.*, May 24th, 1930, p. 479) report the case of a man, aged 44, who in 1923 had had an appendicectomy on account of crises of abdominal pain, and in 1925 a cholecystectomy for violent abdominal pain followed by jaundice. He was admitted into hospital in January, 1929, on account of rigors, temperature, pain in the right hypochondrium, biliary vomiting, and jaundice. A blood culture was negative. He was given atophan by the mouth daily for ten days, and left the hospital apparently cured, but he returned to hospital with a relapse in November. Bacteriological examination of the bile obtained by a duodenal tube showed the presence of the pneumobacillus of Friedländer, but its significance was overlooked. He recovered rapidly with intravenous injections of hexamine, was discharged, and returned for another course of injections in December. He was readmitted in January, 1930, with a severe relapse; the liver was palpable five finger-breadths below the costal margin. The blood culture on this occasion showed the presence of the bacillus of Friedländer, and culture of the bile obtained by duodenal tubage was always positive. The biological reactions of the pneumobacillus showed that it was pathogenic. In spite of the administration of atophan and an autogenous vaccine, duodenal drainage, and non-surgical drainage of the bile passages by the method of Vincent Lyon, the patient remained pyrexial till the end of February. He was discharged improved early in March at his own request, but was readmitted a few days later, and died in a few hours. Permission for a necropsy was refused. A second patient, a woman, aged 23, was seen in hospital in February, 1930, with a history of three weeks' jaundice following dyspepsia, anorexia, and obstinate constipation. The clinical examination was, generally, negative, but the bacteriological examination of the bile obtained by duodenal tubage yielded Friedländer's bacillus in pure culture, culturally identical with that obtained in the first case. This case, however, responded to simple measures, and the patient was discharged cured in a month.

182. Gangrene associated with Scarlet Fever.

D. S. SUTHERLAND (*Brit. Journ. Child. Dis.*, April–June, 1930, p. 102), after reviewing the literature and emphasizing the rarity of this condition, records two personal cases. The first patient was a Jewish boy, aged 4½ years, who on the eighteenth day of a mild attack of scarlet fever developed gangrene of the left leg. A definite line of demarcation appeared just above the knee in the fourth week. A diagnosis of embolic gangrene was made, and amputation was performed a fortnight later, recovery ensuing. No evidence of thrombosis or embolism, however, was found in the amputated leg. The second case of gangrene occurred in a boy, aged 4, suffering from post-scarlatinal nephritis and otitis media, who developed purpura fulminans on the thirty-sixth day of disease and died on the forty-second. There was no necropsy.

183. Leprosy and Malignant Growths.

J. J. PUENTE and M. I. QUIROGA (*Rev. Méd. Latino-Americana*, February, 1930, p. 671) illustrate the rarity of the coexistence of leprosy and cancer by the following statistics. Among 2,337 deaths in the Norwegian leper hospitals there were only 19 cases of cancer, in Rejkjavik 2 among 105, in the Philippines 5 among 300, and in Portugal only 1 among 2,000. Puente and Quiroga now record 4 cases of cancer which occurred among 700 cases of leprosy, a proportion of 5.6 per 1,000. The first patient was a man, aged 62, suffering from the purely nervous form of leprosy, who had an epithelioma of the cheek. The second was a man, aged 37, with the mixed form of leprosy and a destructive epithelioma of the nose. The third was a man, aged 60, who had the mixed form of leprosy; epithelioma of the gall-bladder was found at the necropsy. The fourth patient was a woman, aged 23, with macular leprosy and scirrhous cancer of the breast.

184. Prevention of Prostatic Hypertrophy.

E. G. BALLINGER, O. F. ELDER, and H. P. MCDONALD (*Urol., and Cut. Rev.*, June, 1930, p. 374) state that benign hypertrophy of the prostate is usually due to hyperplastic changes which are probably caused by a mildly irritating intrastatic substance. They claim that massage of the prostate to express the stagnant secretion containing the toxic agent from the glandular structure of the organ may prevent hypertrophy and urinary obstruction if employed at the beginning of obstructive changes. Patients suffering from oedematous prostates often receive as prompt relief from prostatic massage as do those with definite prostatitis. Before a course of massage is prescribed, however, care should be taken to exclude a median fibrous bar or contraction of the vesical neck, carcinoma, tuberculosis, and calculus of the prostate.

Therapeutics.

185. Oxygen in Coronary Thrombosis.

R. L. LEVY and A. L. BARACH (*Jour. Amer. Med. Assoc.*, May 3rd, 1930, p. 1363) believe that anoxaemia plays a critical part in determining the outcome after the incidence of coronary thrombosis. By the use of an oxygen tent a concentration of 45 to 50 per cent. of this gas may be obtained. The authors suggest that such treatment may maintain an adequate circulation until the heart has had an opportunity to recover from its acute functional disturbance in cases when the injury is not so severe that such recovery is impossible. They describe a case in detail in which relief was given in this way for four days; the tent was then removed, but cyanosis returned and Cheyne-Stokes breathing recurred. The patient continued to become alarmingly worse and the tent was replaced, with prompt relief. On the ninth day after the onset of the illness, and after approximately seven days in an atmosphere of 45 per cent. oxygen, the tent was removed finally, without any untoward effect on the patient, who improved from that time slowly but continuously. The authors state that in other cases also subjective improvement was similarly brought about in from one to three hours after the administration of oxygen was begun. Relief was given to the respiratory embarrassment and restlessness; the cyanosis was diminished or abolished; the respiratory rate was slowed and the Cheyne-Stokes breathing, if present, tended to disappear; the heart became slower, the cardiac sounds grew stronger, and the volume of the pulse improved.

186. Sodium Thiosulphate in Cyanide Poisoning.

M. SCHMIDT (*Ugeskrift for Laeger*, June 5th, 1930, p. 548) draws attention to the markedly reducing properties of sodium thiosulphate which has recently been employed in poisonings of many kinds. Given in a 10 per cent. solution by intravenous injection, it has been tried in cases of poisoning by salvarsan and sanocrysin. In the most recent textbooks on toxicology it is recommended with no great show of enthusiasm in potassium cyanide poisoning, in doses of about 0.1 gram, a 1 or 0.5 per cent. solution being prescribed by subcutaneous or intravenous injection. The author suggests that in the light of the dramatic case recorded by Feyerabend (*Klin. Woch.*, 1928), and of the equally dramatic case he records in the present paper, the uncertain favour this remedy has hitherto enjoyed is attributable to the timid dosage given in the past. His own case was that of a workman, aged 34, who made a solution of potassium cyanide, obtained for photographic purposes, and drank a little of it. A minute later he lost consciousness and was bathed in cold sweat. Consciousness was still completely lost when he was first seen by a medical man some twenty minutes later. His respiration was heaving, there was froth about his mouth, the eyes were wide open, and there was no corneal reflex, but the pupils were widely dilated. There were no muscular twitchings, the limbs were completely flaccid and cold, and there was incontinence of urine. A little later tonic rigidity and slow tonic contractions of the arms set in, and the fists were clenched hard. About three hours after the poison had been taken 10 c.cm. of a 10 per cent. solution of sodium thiosulphate was given slowly by intravenous injection; the administration had not been completed before the patient began to rally markedly. At the end of the injection, which had taken some minutes, he began to look around, to smile a little, and to cough, holding his hand over his mouth; uneventful recovery ensued. Schmidt remarks that to see a man who had been unconscious for hours, and who in two or three minutes during an injection suddenly woke to complete consciousness, was most dramatic. The author therefore recommends this treatment as the only effective measure in poisonings of this class; although he admits that it is generally assumed that recovery follows if the patient survives the ingestion of potassium cyanide for an hour, he greatly doubts if his patient would have recovered without the treatment just described.

187. The Intramuscular Injection of Liver Extract.

O. AUBERTIN and VOILLEMIN (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, May 19th, 1930, p. 749) report a case of pernicious anaemia in a man who, besides the usual symptoms of asthenia, suffered from marked gastric intolerance so that treatment by liver diet was not possible. On admission to hospital the red cell count was 1,060,000 per c.mm. and the haemoglobin percentage 40; 250 grams of raw calf liver was given daily by the mouth, but the treatment was stopped after five days owing to continuous vomiting and diarrhoea, as the result of which the patient lost nearly 8 lb. in weight. Intramuscular injections of calf liver extract were given, of which 2 c.cm. were estimated to represent 60 grams of raw calf liver; each ampoule

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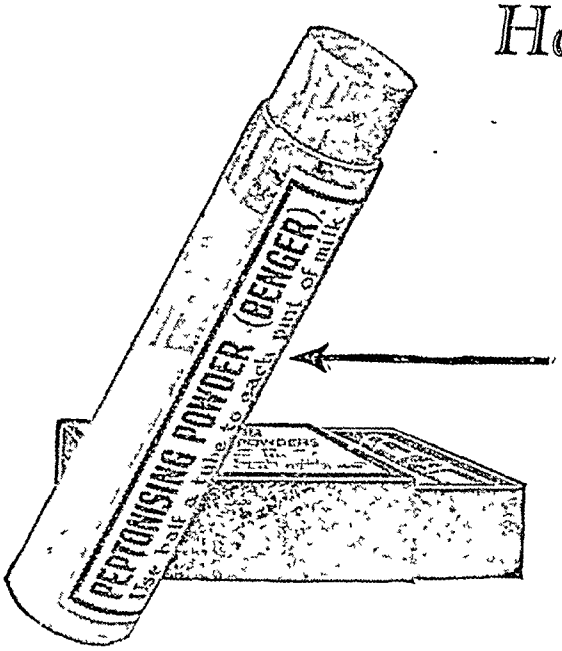
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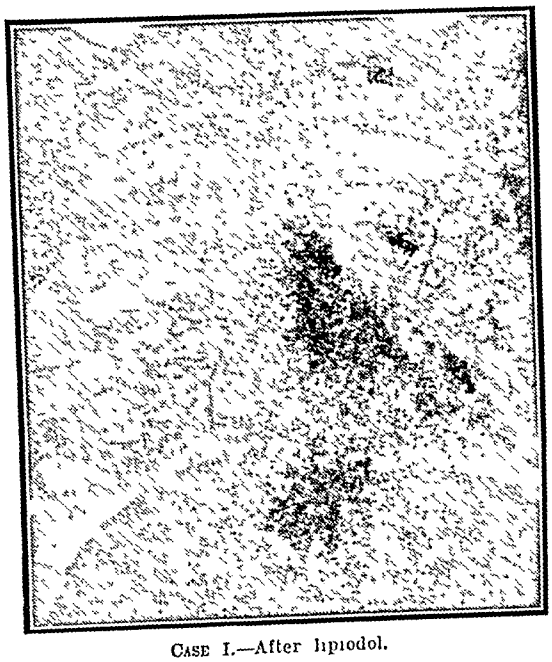
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Haemoptysis, when no primary disease can be found outside the lungs which might have caused it, very frequently leads to the suspicion of tuberculosis; even the absence of physical signs in the lungs does not negative this. Quite large cavities are sometimes revealed by the x rays, although no definite evidence can be found clinically. We



CASE I.—After lipiodol.

do not propose to discuss the differential diagnosis of haemoptysis, but wish to point out the reality of the difficulty in this condition of dry bronchiectasis; during the last two years we have seen fifteen cases of this disease, and in most of them the presence of tuberculosis has been either diagnosed or suspected.

The general features of bronchiectasis in its ordinary form are well recognized. Textbooks lay particular stress on the typical "bronchiectatic sputum," which separates into three layers in a cylindrical vessel. The sputum is abundant, and often offensive; it is usually evacuated on change of position, especially on rising and going to bed. There are often periodic attacks of fever, and nearly always clubbing; an exception to all these points is found in apical bronchiectasis, in which condition, owing to the position of the lesions, there are no accumulated secretions, often no cough, and usually no clubbing—an indication, when considered with the dry basal type, that clubbing in this disease is certainly due to toxic absorption.

It is possible that the apical type corresponds with the dry basal type to be described, the satisfactory drainage preventing secondary infection. It is also possible that most cases of bronchiectasis, commencing after pneumonia or empyema, start as the dry type and become infected at varying periods; only rarely do necropsies reveal the dry type, for the patient with bronchiectasis dies from toxaemia after the cavities have become infected. The mere fact that there is no clubbing of the fingers is always a point in favour of the diagnosis of tuberculosis as against bronchiectasis, the apical type and the dry basal type being exceptions to this rule. Since the introduction of lipiodol injection as a means of visualizing the bronchial tree, it has been possible to demonstrate the presence of bronchiectasis in cases in which the amount of sputum is negligible, and it has been our custom to carry out this investigation in any doubtful case, the cases recorded below proving the evidence of its value.

The condition of dilatation of the bronchi without secretion was described by Reinberg[1] under the name of dry bronchiectasis; the following case is a typical example.

CASE I.

A girl, aged 20, had had pneumonia when 8 years old; since then she had been troubled by a cough, with occasional slight expectoration and for twelve years she had been under observation at a tuberculosis dispensary.

On examination she was found to be a well-developed, healthy-looking girl. No clubbing was present. The physical signs consisted of an impaired note, and diminished breath sounds at the left base behind. The heart was not displaced, but a skiagram showed some increase of shadows in the left basal region. After lipiodol injection well-marked cylindrical and sacculated bronchiectasis was revealed.

The occurrence of haemoptysis in bronchiectasis was pointed out by Goumbault[2] as long ago as 1859, but in these cases the diagnosis was made on the presence of typical physical signs and sputum. After the introduction of intratracheal lipiodol injection it was established that "haemoptysis" might occur in cases of bronchiectasis which gave none of the typical signs or symptoms of the condition.

CASE II.

A woman, aged 28, had had "influenza" eight years before; since then she had been quite well for six years, when she had a haemoptysis. She continued at work during the last two months. She had had repeated haemoptyses, 15 oz. in all.

Her general condition was found to be quite good, and the physical signs in the chest were very indefinite. She was examined by three highly competent clinicians, who were unable to find definite signs which would suggest the origin of the bleeding. No clubbing was present, and the skiagram showed no abnormality. After lipiodol injection an extensive glove-finger type of bronchiectasis was demonstrated.

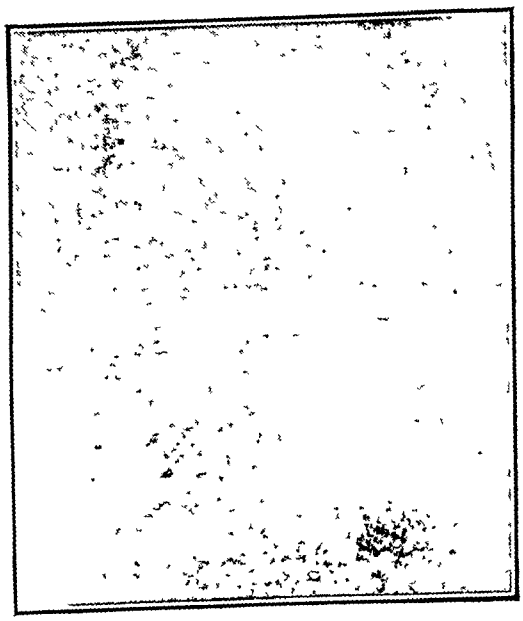
CASE III.

A girl, aged 14, had had pneumonia two years previously, since when there had been a cough, with occasional expectoration. Six months before the examination took place she had had a haemoptysis (3 oz.).

On admission she was found to be a well-developed healthy-looking child, with no clubbing. At the right base there was an impaired percussion note and diminished breath sounds, but no added sounds. While in hospital the patient produced no sputum. The skiagram showed no abnormality, but lipiodol injection demonstrated a well-marked bronchiectasis.

CASE IV.

A man, aged 51, six years previously had had a left empyema, for which he was treated by open drainage. Since then there had been a slight cough, with occasional sputum. No medical advice was sought until two months before admission, when he had a haemoptysis of 10 oz. When seen as an out-patient he was having another haemoptysis, which amounted to 10 oz.



CASE IV.—After lipiodol. Lateral view.

He was a short, robust man, with emphysema; the scar of an empyema drainage wound was visible at the right base behind. Around this region there was bronchial breathing, with a few added sounds. The skiagram showed no abnormality except the resected rib. After lipiodol injection the antero-posterior view showed no definite bronchiectasis, but a lateral view revealed a well-marked saccular bronchiectasis behind.

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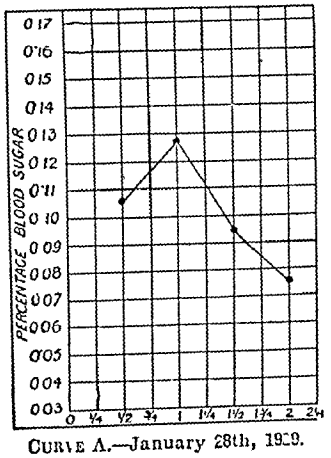
FOUR DIFFERENT TYPES OF BLOOD SUGAR CURVE IN ONE PATIENT WITHIN SEVENTEEN MONTHS.

BY

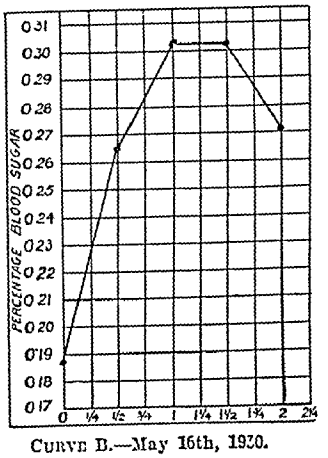
F. J. G. LISHMAN, M.B., B.S.,
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THE following details appear to be of some pathological interest, and may also be of importance in connexion with life insurance of glycosuric subjects.

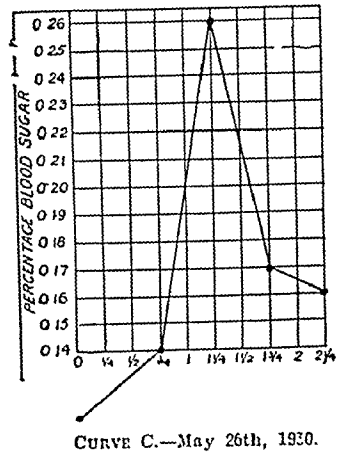
An obese butcher, aged 50, came under treatment in January, 1929, for osteo-arthritis of the knee- and ankle-joints; owing to the discovery of glycosuria on routine examination, a blood sugar examination was made (A). The curve was found to be normal, but indicated a low renal threshold of 0.128 per cent. sugar.



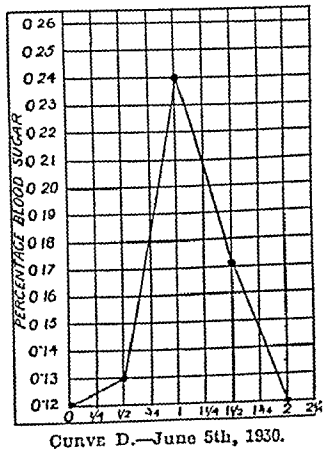
CURVE A.—January 28th, 1929.



CURVE B.—May 16th, 1930.



CURVE C.—May 26th, 1930.



CURVE D.—June 5th, 1930.

CURVE A.—Fasting blood sugar (not estimated). Glucose 40 grams by mouth. Blood sugar: 1/2 hour after, 0.108 per cent.; 1 hour after, 0.128 per cent., 1½ hours after, 0.095 per cent.; 2 hours after, 0.077 per cent. Urine: fasting, 0; 1/2 hour after glucose, 0; 1 hour after glucose, ++, 1½ hours after glucose, +; 2 hours after glucose, +.

CURVE B.—Fasting blood sugar, 0.188 per cent. Glucose, 40 grams by mouth. Blood sugar: 1/2 hour after, 0.266 per cent; 1 hour after, 0.304 per cent., 1½ hours after, 0.304 per cent.; 2 hours after, 0.272 per cent. Urine: fasting, +; 1/2 hour after glucose, ++; 1 hour after glucose, ++; 1½ hours after glucose, ++; 2 hours after glucose, ++.

CURVE C.—Fasting blood sugar, 0.095 per cent. Glucose, 50 grams by mouth. Blood sugar: 3/4 hour after, 0.14 per cent; 1½ hours after, 0.26 per cent., 1¾ hours after, 0.17 per cent.; 2½ hours after, 0.16 per cent. Urine: fasting, sugar 0, acetone +; 3/4 hour after, sugar 0, acetone +, 1¼ hours after, sugar +, acetone trace; 2¼ hours after, sugar trace, acetone 0.

CURVE D.—Fasting blood sugar, 0.124 per cent. Glucose, 50 grams by mouth. Blood sugar: 1/2 hour after, 0.132 per cent.; 1 hour after, 0.24 per cent., 1¼ hours after, 0.172 per cent.; 2 hours after, 0.12 per cent. Urine sugar: fasting, 0; 1/2 hour after, 0; 1 hour after, 0, 1½ hours after, +, 2 hours after, +.

(The figures at the base of the charts represent the time in hours after administration of glucose.)

The patient's teeth were extracted, and he was treated by radiant heat baths, and also by thyroid gland (dried) 1 gram daily till April, 1930. During eleven months of this period he lost weight slowly, presumably owing to the action of the thyroid; but he rapidly lost 5 st. in the course of four months, concurrently with the development of symptoms of thirst and polyuria, and the presence of increased quantities of sugar, together with ketone bodies and albumin in the urine. This was so suggestive of diabetes mellitus that a second curve (B) was prepared after re-admission to hospital, the patient having been kept on a light diet, with restricted carbohydrate only, and without thyroid, for four days. This curve was typical of diabetes mellitus, but sugar was passed in the urine throughout.

The patient was put on a strict diabetic diet of approximately 1,000 calories containing 25 grams of carbohydrate, 58 grams of protein, and 75 grams of fat; the symptoms of thirst and polyuria then disappeared, and he became completely free from sugar in two days. Owing to the cessation of the glycosuria, suggesting that the renal threshold might now be higher, a third curve (C) was prepared to determine the threshold. This, while still being of the diabetic type, and not returning to normal within two hours, was suggestive of the "lag" type of curve; sugar was not passed until one and a half hours after the administration of the glucose, the blood sugar then being 0.21 per cent. The diet was increased to 1,500 calories (carbohydrate, 43 grams; protein, 78 grams; fat, 112 grams); the patient remained without symptoms, and the urine continued to be sugar-free, with only traces of albumin and ketone bodies. After another ten days' interval a final curve was made; this was definitely of the "lag" type. The patient had had no thyroid for twenty-seven days previously, was never given insulin, and was not of Jewish extraction. He had no complications of diabetes mellitus.

I am indebted to Dr. Batty Shaw for permission to publish this case, and to Dr. G. W. Goodhart and Dr. B. W. S. Mackenzie for the blood sugar estimations.

SUBSEQUENT HISTORY OF PATIENTS TREATED WITH A RESIDUAL ANTIGEN OF B. TUBERCULOSIS.

BY

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IT is probable that in no disease is the value of a remedy more dependent upon remote results than in pulmonary tuberculosis. A preliminary paper in which I described the preparation of the antigen and the immediate results obtained was published in 1928 in the July issue of the *British Journal of Tuberculosis*, and the present note deals with the after-history of the cases then described. At that time no patient was refused treatment because of the state of the disease; consequently, the records were not improved by the fate of these hopeless cases. It was desired to test the antigen thoroughly, and the only requirement was that there should be no doubt about the certainty of the diagnosis. The sputum was positive in 79 per cent.; the remaining patients had had positive sputa in the past, or had spent one or more periods in sanatoriums, and presented clinical signs and symptoms that were unquestionable.

Of 67 consecutive cases reported, 10 patients died during or shortly after the treatment, 12 were not improved and were classified as failures, and 45 were said to show definite clinical improvement after a course of treatment lasting three months. The assessment was made immediately the course finished, in every case by the clinician in charge of the patient, usually the private doctor. Care was taken that the present writer offered no opinion on a case. All these cases have now been traced after an interval of two to three years has elapsed, and the results are here set forth.

The original deaths and the original failures are added together, since such deaths are obviously part of the original failures; they form a group of patients numbering 22, of whom 2 had improved, 4 had not improved, 15 had died, and one was untraced. Thus the percentage of those improved was 9, and of those now alive 29.

The patients who were originally improved numbered 45; of these, 32 were found to be still improved after two or three years, 6 had not improved, 5 had died, and 2 could not be traced. The percentage of those improved was 74, and of those now alive 88.

These results support the original observation that the conditions requisite for success with antigenic treatment in pulmonary tuberculosis are the same as for antigenic treatment of any other disease. It is essential for success that the patient shall possess some reserve of resistance, although that factor may need the antigen to call it into operation.

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Reviews.

THE PHYSIOLOGY OF SENSATION.

The sensory phenomena attending the division and subsequent regeneration of peripheral nerves have attracted considerable attention since the classical work of Head, and the conceptions which arose out of that work have been the subject of a good deal of further work and of much controversy. The occasional accidents of daily life, and the innumerable injuries suffered in the war, have given Professor J. S. B. Stopford an opportunity to study the question anew, and the results of his investigations are given in his recent book on *Sensation and the Sensory Pathway*.[1] The results reached by him are so satisfying that it can be said without hesitation that by a rare combination of observation, deduction, and philosophic synthesis he has made a most valuable contribution to the subject.

Stopford has not only closely confirmed most of Head's observations, but has made further progress in the same direction. Cutaneous sensibility he regards, much as Head did, as falling into two categories: the finer, discriminative sensibility, of more recent phylogenetic acquisition, with the interpretation of which the sensory cortex is mainly concerned; and the quite distinct, cruder, protective sensations, affective in quality and exhibiting an all-or-none character of response, which are dealt with mainly by the thalamus. Careful analysis of deep sensibility shows that this also is divisible into sensations of two types—primitive protective and finer discriminative, the latter being concerned particularly with localization and with the appreciation of passive movement. The loss and dissociation of sensation following the division and suture of a peripheral nerve may, under suitable conditions, extend to the deep sensibility, which may also show an earlier return of the more primitive components of sensation. It is, moreover, noteworthy that in the glans penis the deep sensibility shows a lack of localization and a strongly affective character—qualities which are comparable with those of the purely "protopathic" superficial sensibility of the same region, and with similar qualities of both deep and superficial sensibility in skin areas during the first stage of recovery from nerve section.

In Head's experiments on his own hand, the nerves divided—radial and musculo-cutaneous—were apparently almost purely cutaneous, but this is by no means the case in all subjects. Stopford has found, by detailed anatomical and clinical studies, that the subcutaneous supply to the hands and digits comprises fibres for tactile pressure and pressure pain which mainly accompany tendons and blood vessels, and to a lesser extent fibres from main deep or cutaneous nerves and those responsible for the finer elements of deep sensibility, such as posture recognition and localization, which are supplied by branches from the ulnar, median, and cutaneous nerves. The fundamentally different types of sensation have separate paths in the spinal cord—the primitive protective type crossing over to ascend in the posterior spino-thalamic tract of the opposite side, while the finer discriminative functions are related to the phylogenetically more recent posterior columns of the same side. In the brain stem there is further separation of these discrimination tracts into those concerned with tactile discrimination and those for position sense. The axones of the tertiary neurones represent two main streams—one to the affective nucleus of the thalamus, and one to the sensory cortex. The thalamus is concerned with the crude protective functions and the affective aspects of sensation; its response is of the all-or-none character, so that when it is released from the inhibitory control of the sensory cortex there is affective overaction in sensation. The sensory cortex is essential for localizations and discriminations; it responds to different strengths of stimuli, and enables comparisons to be made between them.

After nerve section and primary suture, the recovery of both superficial and deep sensibility occurs in two closely comparable stages, the return of discrimination in both instances being delayed and rarely complete; after secondary suture the return of the discriminative properties of the sensations is much less complete, and not infrequently altogether lacking. For clinical purposes it is convenient to disregard the subdivision into superficial and deep, and to separate sensation into two kinds, one served by the thalamic system, the other by the cortical. The former is protective and affective in type, the latter discriminative; each, as already explained, includes both superficial and deep components; the thalamic returns first and most completely, the cortical later and less completely. The reason why recovery is delayed and incomplete in the latter is simple and adequate; it is due to the crossing of fibres on regeneration, and to the fact that the sensations depend, not on the end-organ, but on the central connexions. The thalamic connexions, being relatively simple, will be established early; whereas the cortical connexions will need much re-education. Until this process has advanced far enough to give proper function the cortical inhibition of the thalamus will not make itself evident, with the result that there will be affective overaction. Professor Stopford presents his thesis with great skill and clarity, and he has succeeded in throwing much light upon this interesting and important subject.

[1] *Sensation and the Sensory Pathway.* By John S. B. Stopford, M.D., F.R.S. London: Longmans, Green and Co. 1930. (5½ × 9, pp. xii + 148; 17 figures. 7s. 6d. net.)

JOINT INJURIES.

The fact that Sir Robert Jones's little book on *Injuries to Joints*,[2] has reached a third edition, and that eleven impressions of it have been necessary in fifteen years to meet the demand, shows that it does far more than merely meet the needs of practitioners who, as the preface to the first edition expressed it, had "left the quiet paths of private practice for the more eventful career of military surgery." The first edition was reviewed in our issue of September 25th, 1918. The author in this, the third edition, has, he tells us, been careful not to change the character of the book in any way, but he has enlisted the services of Mr. Harry Platt of Manchester, and together they have brought it up to date and rewritten some parts, such as those on ischaemic paralysis in relation to its causation and prevention. Although this disease can hardly be claimed as the result of an injury to a joint or joints, yet as it may and does occur during the treatment of injuries of joints, and can be such a tragedy for the patient, and even more so for the surgeon's reputation and pocket, we are glad that Sir Robert Jones and Mr. Platt have disregarded the bonds of strict definition and have included it.

We have here, from the pen of a master, in less than two hundred diminutive pages, a vast amount of good advice and sound teaching in the bloodless surgery of joints. The reader of this book who pays heed to these precepts may be sure that in following them he is taking the best course for his patients and for himself. Expert advice as to what position or what splint he should choose for putting up any injury to a particular joint is placed at his disposal, and the advice is given in clear, plain language.

We are a little doubtful as to the author's meaning in his remarks on the operative treatment of hallux valgus. We fully agree with him that a pseudarthrosis should be aimed at by excision of the metatarsal head, and the freer the resulting movement the better, but what does he mean by excision of the joint, which he deprecates? We must confess that we do not know who are the surgeons who recommend removal of the base of the phalanx as well as the head of the metatarsal for this deformity. We are interested to find that Sir Robert Jones still advocates excision of portions of the tendons of the long and short peronei for certain forms of spasmodic flat-foot. In the discussion on this subject at the Royal Society of Medicine, on which we commented on March 15th last, most of the speakers had either abandoned this treatment or resorted to it only rarely. That it is efficacious we can testify from experience.

[2] *Injuries to Joints.* By Sir Robert Jones, Bt., K.B.E., C.B., Ch.M., F.R.C.S., F.A.C.S. Third edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Fcap. 8vo, pp. 195; 183 figures. 6s. net.)

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to be most convincing. Chapters on marasmus and on vomiting in infancy are particularly valuable for the wealth of practical detail they contain, but unfortunately the chapter on diarrhœa is rather spoilt by too great an insistence on the importance of otitis media as a factor in severe cases. There is also a surprising passage on page 103, which seems to mean that while a very young baby can go through the night without being fed, it "may be advisable to resume one of the night nursings" later on in the first year. One other criticism is that in describing congenital pyloric stenosis Dr. Marriott does not consider the feeling of the tumour essential in diagnosis. This statement is surely out of date as far as English workers are concerned, and can only lead to confusion between real stenosis cases and examples of pylorospasm. Chapters on rickets, tetany, and scurvy are included, and there is an wholly admirable exposition on anhydraemia, acidosis, and alkalosis, written in conjunction with A. F. Hartmann. Throughout the book details of cases are given, and it is obvious that the work is based upon wide clinical experience. It can be warmly recommended to all students of the difficult art of infant feeding.

DR. BERNARD MYERS has contributed a little book on *Modern Infant-Feeding*[7] to the "Modern Treatment Series," and it must be admitted that this modest volume comes well out of an inevitable comparison with Marriott's larger textbook. Dr. Myers also bases his advice upon physiological principles, and his chapter on breast-feeding is particularly good. In his summary of the best methods of artificial feeding the comments on lactic acid milk are especially good, but the details about the size of feeds are too condensed, so that the account of caloric feeding will almost certainly be unintelligible to anyone without a sound previous acquaintance with this subject. This handy pocket-book is well produced, but contains an unnecessary number of italicized passages, which spoil the appearance of many pages.

NOTES ON BOOKS.

MISS LYLA M. OLSON, in her *Improvised Equipment in the Home Care of the Sick*,[8] expresses her thoroughness by inditing separate prefaces, or invocations, on separate pages, to the private duty nurse, the public health nurse, and the student nurse. A further preface to the general public tells how Miss Olson had difficulty in collecting improvised equipment for the purpose of a demonstration sponsored by the Minnesota Board of Examiners of Nurses. The book is well illustrated, and shows a number of ingenious devices made out of grocery boxes, wooden barrels, chairs, bricks, and other odds and ends. Miss NORMA SELBERT'S little book on the *Home Care of the Sick*[9] is described as a non-technical book, written for the benefit of "homemakers" and for "students who are carrying vocational courses in high schools and colleges." If the homemaker is sufficiently level-headed not to be frightened by the numerous duties imposed upon her, she will no doubt learn much from Miss Selbert.

The English edition of Messrs. MERCK'S *Annual Report*[10] now appears in three parts a year. Part III for 1929 contains two short articles on tropical diseases, which are of general interest. Dr. Heraldo Maciel reports on the treatment of hookworm infection among sailors by carbon tetrachloride. A single dose of 4 grams cured 70 per cent. of cases, and no toxic effects were observed. Dr. D. Teitel writes on the treatment of amœbic dysentery in infants. The article is an abstract of an address delivered at the first Paediatric Conference at Jerusalem. The results produced by emetine, yatren, and stovarsol are compared. Emetine was the most effective and yatren the least effective, whilst stovarsol produced the highest incidence of toxic effects. The author concluded that emetine was the most important of these remedies. The best results were obtained by commencing treatment with emetine and continuing with one of the other drugs. These conclusions were drawn from the results of about six hundred cases. The report also contains short notices of a number of drugs. Plasmochin, the new quinine substitute, is stated to have the composition of alkylamino-6-methoxy quinoline. It is best given in small doses (0.02 gram) repeated three to five times a day. This method avoids the unpleasant toxic effects that may be produced by large doses. A number of reports regarding the use of thallium acetate as a depilatory have been brought together, and it is concluded that the dose should not be repeated even after an interval of some months, and that it is unsafe to use thallium after puberty. Part I for 1930 contains an interesting article by Professor Carrasco on the history of the ancient University of Salamanca. This was founded early in the thirteenth century, and in the fourteenth century ranked with Paris, Bologna, and Oxford as one of the four famous universities of the world. Unfortunately it remained unaffected by the intellectual movement of the Renaissance, and in consequence declined during the seventeenth and eighteenth centuries. During the present century there has been a fresh development of activity, especially in its medical school, and the future of this ancient seat of learning appears hopeful.

Aids to Zoology,[11] by H. LISTER, is a brief outline of systematic zoology suitable for students who are revising the subject for preliminary examinations. The text is clearly arranged, and is illustrated by figures and diagrams.

Frequent reference has already been made in these columns to Professor Honigmann's series of textbooks on differential diagnosis, the most recent being to Part IV of volume i of the series which dealt with diseases of the alimentary system (June 21st, 1930). Volume iii of the series is devoted to Practical Differential Diagnosis in Psychiatry.[12] The author is Dr. HERMANN HAYMANN of Badenweiler; and there is an additional section on the diagnostic significance of intelligence tests by Dr. ERICH STERN of Giessen. Under the heading of general symptomatology there is a detailed description of the various bodily and mental symptoms encountered in the psychoses, and the various psychoses themselves are considered seriatim in the ensuing section. The concluding portion of this section deals with the psychoneuroses, latent psychopathic tendencies, and disorders of personality make-up. There is also a chapter on feigned insanity. Each author has contrived to give a compact and reliable account of his subject, and the work is one which will commend itself to all psychiatrists and specialists in mental defect.

[7] *Modern Infant-Feeding*. By Bernard Myers, C.M.G., M.D.Edin., M.R.C.P. The Modern Treatment Series. London: J. Cape. 1930. (5 × 7½, pp. 160. 5s. net.)

[8] *Improvised Equipment in the Home Care of the Sick*. By Lyla M. Olson, R.N. Philadelphia and London: W. B. Saunders Company. (4 × 7, pp. 103, 150 figures. 6s. net.)

[9] *Home Care of the Sick*. By Norma Selbert, R.N., B.S. Philadelphia and London: W. B. Saunders Company. 1929. (Fcap. 8vo, pp. 155, 4s. 6d. net.)

[10] *Merck's Annual Report*. Part III, 1929, and Part I, 1930. English edition. Darmstadt: E. Merck. (Demy 8vo, Part III, pp. 324–503; Part I, pp. 158, illustrated. Sent free of charge, postage paid, to any member of the medical profession on application.)

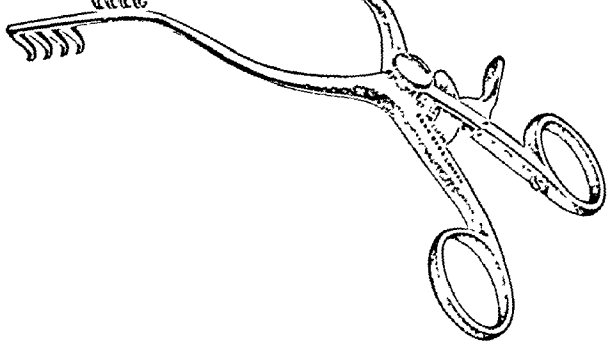
[11] *Aids to Zoology*. By Harry Lister, M.Sc., F.Z.S. Students' Aids Series. London: Baillière, Tindall and Cox. 1929. (F'cap. 8vo, pp. viii + 214; 29 figures. 3s. 6d. net.)

[12] *Praktische Differentialdiagnostik*. Band III: *Differentialdiagnostik in der Psychiatrie*. Von Dr. med. Hermann Haymann. Dresden und Leipzig: T. Steinkopff. 1930. (Med. 8vo, pp. viii + 261. R.M. 17.)

PREPARATIONS AND APPLIANCES.

A MASTOID WOUND RETRACTOR.

MR. W. M. MOLLISON, M.Ch., F.R.C.S., writes: The illustration shows a simple self-retaining mastoid wound retractor which has proved itself most satisfactory in use. It is lightly but strongly made, and is so curved that when the jaws are in position the shafts and handle lie conveniently against the



head of the patient out of the way. It is fitted with a cam ratchet, which maintains the jaws at any desired width with delicacy and rigidity.

The instrument, which can be taken apart at the joint, is made of stainless steel so as to withstand repeated sterilizations without damage. It was made to my design by Messrs. Down Bros., Ltd., 21 and 23, St. Thomas's Street.

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vaccinated population, the vaccinated have not been exposed to infection. This is a fallacy, for here, as elsewhere, we have a large population which was vaccinated during the war. Not one of these men has contracted small-pox, though many, including not a few whose wives contracted the disease, were as freely exposed to infection as were doctors and nurses. Forty extensions of the present outbreak of small-pox consisted of a single case in a fresh neighbourhood. In seventeen of these cases every house contact (three on an average) was traced and vaccinated; thanks to these precautions, each outbreak was limited to the one initial case. No case has occurred in any contact vaccinated within seventy-two hours of exposure to infection—that is, to an eruption; late vaccinations, while sometimes effective, were unreliable, although the cases were usually modified to such an extent that they would frequently have been missed had it not been for careful medical inspection for twenty-one days after exposure to infection.

The classification of 570 cases of small-pox admitted to the Snarestone Small-pox Hospital was as follows: unvaccinated, 450; vaccinated in infancy, 63; and vaccinated late as contacts, 57. Of those vaccinated in infancy the highest age was 75 years, the lowest 38 years, the average age being 51 years.

Statistics Relating to Severity.

The following classification refers to the eruption in 560 cases:

Mild cases	243 (43.5 per cent.)
Discrete cases	243 (43.5 per cent.)
Very mild cases	68 (12 per cent.)
Confluent cases	6 (1 per cent.)

The eruption of 53 patients vaccinated as contacts, and later developing minor small-pox, was classified as follows:

Mild cases	22 (42 per cent.)
Very mild cases	16 (30 per cent.)
Discrete cases	15 (28 per cent.)

From these figures it will be observed that of the total admissions to hospital 12 per cent. had a very mild attack, compared with 30 per cent. in those vaccinated late as contacts.

Although vaccination, more than two or at the most three days after the first exposure to infection, could not be relied upon as protection for any single individual, it has been our practice to advise it in all infected households, for in the event of one or more of a family developing the disease the remainder would then enjoy absolute immunity, and the house would be given its clearance.

I take this opportunity to express my indebtedness to Dr. J. A. Fairer, medical officer of health for Leicestershire, for his permission to publish these notes, and also to Dr. J. E. O'Connor for his invaluable assistance in many difficult diagnoses.

Frank T. Doleman, M.R.C.S., L.R.C.P.,
Assistant Medical Officer for Small-pox, Leicestershire.

MEDICAL EDUCATION IN INDIA.

[From a Correspondent.]

The reference in the *British Medical Journal* of July 5th (p. 38) to the conference called by the Government of India on June 23rd and 24th to consider the maintenance of adequate standards in provincial institutions for medical education is of great interest. The *Times* correspondent states that there was a unanimous agreement between the representatives of the provincial Governments and representatives of the Indian universities on the desirability of establishing an All-India Medical Council to ensure proper standards and qualifications. The next step is for the Government of India to enact legislation. A bill is to be prepared forthwith, and the local Governments are to be consulted on the details in time for submission to the Central Legislature at the Delhi session early in 1931. The indications are that we may look forward to the organization of a central council. Such a council has long been needed in India, wherein medical education on an All-India basis may be discussed, and the differing standards of qualifications, in the separate and widely separated provincial institutions, may be studied and a system of registration adopted to meet the requirements of All-India.

The history of former medical bills prepared by private members of the Legislature and submitted to provincial Governments for opinion has shown how many diverse problems appear and call for solution; and all the bills hitherto considered have had to be dropped. There will, of course, be difficulties in the present attempt, and perhaps delays. The Medical Acts in force in this country were for many years under discussion before they reached the Statute Book. And in India, though much ground has been covered by previous discussions, new problems are appearing with the approach of responsible government and the political developments under the new constitution. It is an all-important step in advance now to be undertaken, and all who are concerned with medical education, and appreciate the incalculable benefits that may accrue to the public health of India, will wish the new movement every success, and watch its progress with sympathy and understanding. A review of the present position of medical education in India will probably prove essential as a preliminary step. Perhaps this has already been undertaken. A detailed record is required as a basis of legislation, and will be of great assistance to the lay members of the Legislature when the bill comes under discussion.

There is no mention in the telegrams from India as to whether the object, or one of the objects, of the proposed council will be to arrange that the qualifications granted in India may, by agreement with the General Medical Council in Great Britain, become registrable in this country. It seems probable that this may be one of the objects, for a further resolution of the conference expressed regret at the decision of the General Medical Council to withdraw the conditional recognition of medical degrees granted by the Universities of Bombay, Calcutta, Lucknow, and the Punjab. This decision gave rise at the time to expressions of indignation in India, and to severe and violent denunciations in the press. But as similar views have been voiced during the last three or four years, and more especially in the Legislative Assembly in 1929, when the conditions under which these degrees could remain registrable in Great Britain were debated, it is possible that the extreme views were influenced by political and racial feeling, as well as by lack of acquaintance with the facts. The views may be moderated as information spreads and political feeling becomes less acute.

Thoughtful members of the medical profession are gradually freeing from political entanglements the question of improving medical education, as can be surmised from the reasonable expression of regret in the wording of the resolution referred to. This resolution mentions only four* of the eight Indian universities granting medical degrees, as the degrees granted at Patna, Andhra, and Rangoon Universities have never been registrable in Great Britain. They are all registrable in India, as are certain diplomas granted by local licensing bodies. The "licensed medical practitioners"—a numerous class—are also registrable in India, though the courses of instruction and the examinations are not recognized for degrees given by any of the Indian universities.

The problems concerning recognition and registration of qualifications which represent widely different standards of education will call for much patient study and careful consideration by the Indian council now about to be constituted. It would seem that sooner or later this body will find itself the authority for the maintenance of an All-India register of persons holding qualifications granted in India or practising in India. The procedure, requirements, and terms for admission to the Indian register of recognized qualifications granted outside India will fall to be devised in due course. Certain requirements will then be laid down for registration in India, just as certain requirements are laid down for registration in Great Britain. And when this is done there should be no lack of opportunity for the Indian authorities, should they so desire, to raise the question of recognition of Indian degrees with the Council in Great Britain.

The lapse in the recognition of some of the Indian degrees in Great Britain was due to the non-fulfilment by India of the present requirements deemed necessary for admission to the British *Register*. On this question many correspondents to the press in India have laboured under a complete misapprehension, and have in effect claimed the right of unconditional admission of Indian graduates to the British *Medical Register*. The requirements for admission to the British *Register* rest with the authorities in Great Britain, and in the same way the requirements for admission to the Indian register will, when a responsible and authoritative council is constituted in India, rest with the authorities in India.

*Madras is not referred to in the telegram.

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will be found to have advanced medical science, and to have helped to a clearer conception and more adequate solution of the hygienic and social problems to which the contribution of medicine should be paramount. The presidential address of Professor Harvey Smith will not be least among its valuable features. We should like to accord to our Canadian brethren, and to the affiliated Canadian Medical Association, our thanks for their most hospitable welcome.

OUR CANADIAN SUPPLEMENT.

Throughout this week the British Medical Association has been holding its ninety-eighth Annual Meeting at Winnipeg in conjunction with the sixty-first Annual Meeting of the Canadian Medical Association. In order to commemorate this event we publish with our present issue a special *Canadian Supplement*. Its contents include Professor Harvey Smith's presidential address to the Association on Medicine in Canada, to which reference is made above; the full text of Lord Moynihan's eloquent Listerian Oration; and three of the clinical addresses which the local executive invited leaders of the profession from these islands to deliver at special afternoon sessions in the Winter Club at Winnipeg. The subject of Sir Lenthal Cheatle's address is the primary tumour in carcinoma of the breast; Sir William de Courcy Wheeler discusses the significance of surgical recoil following visceral decompression; and Professor W. E. Dixon returns to the problem of drug addiction, to which he has devoted much attention for years past. Exigencies of space and time prevent us from giving any detailed account this week of the proceedings at Winnipeg, other than the note on page 329, but brief cabled messages have already assured us of the success of the Annual Meeting on its social and scientific sides. We hope that the *Canadian Supplement* will be read for its intrinsic interest by members of the Association at large, and that those who have taken part in the Winnipeg Meeting of 1930 will value it as a memento.

CONVENTION NUMBER OF THE "CANADIAN MEDICAL ASSOCIATION JOURNAL"

The August issue of the *Canadian Medical Association Journal* is issued in the form of a special number devoted to the Meeting at Winnipeg of the British and Canadian Medical Associations. A frontispiece reproduces photographs of the three presidents concerned—namely, Professor A. H. Burgess, president of the British Medical Association; Dr. A. T. Bazin of Montreal, president of the Canadian Medical Association; and Professor W. Harvey Smith, president-elect of the two Associations. This number of the Canadian Journal opens with a "word of welcome" to visitors from overseas and the United States of America. It is recalled that the first Meeting of the British Medical Association in Canada was held in 1897 in Montreal, "the commercial metropolis . . . the tolerant home of two diverse yet complementary national civilizations." The second Meeting took place in 1906 in Toronto, "the Queen City, the friend of literature, art, and music . . . the stronghold of the more purely British tradition." The third Meeting, now in progress, is experiencing the hospitality of Winnipeg, "the exponent of the enterprise, resourcefulness, and optimism of the breezy West." This word of welcome contains a significant sentence: "Canada is grown-up now, and is conscious of a new life and a broader outlook," a sentiment which represents also the state of affairs as regards the profession of medicine in the British Empire and the position of the British Medical Association. Reference is made to the honourable place taken in the advance of science by leaders of Canadian medicine, as well as by the rank and file. Among the editorial notes is a reference to the *Book of Canada*, a volume of some 250 pages, worthily presenting life and work in that Dominion, and reflecting great credit on Professor Chester Martin and the committee associated with him. An editorial article, signed by Dr. A. Grant Fleming, on the proposals of the British Medical Association for a general medical service for the nation, is followed by a paper by Dr. W. H. Hattie, in which the probable future of medicine is contemplated as "a principal factor in making man's life really worth while." Among the numerous clinical contributions special topical interest attaches to a discussion by Dr. M. R. Bow, Deputy Minister of Health for Alberta, of maternal mortality as a public health problem. Dr. A. T. Bazin discusses elsewhere in the issue the surgical problems presented by the diabetic patient, and other topics dealt with include: insulin; pitfalls in the clinical application and interpretation of the basal metabolic rate; the surgical treatment of tuberculous empyema; the living suture operation in ventral and inguinal hernia; health insurance in British Columbia; diphtheria toxoid; the mechanism of cancer development; and the radical treatment of traumatic epilepsy. In conclusion may be quoted some of the final sentences of the preliminary word of welcome. "Not the least of the benefits to be derived from a meeting such as this in Winnipeg is that our problems will be discussed formally and informally, on the platform, on the links, and amound the festive board, from different angles. . . . Much may be expected from this interchange of ideas. Englishmen, Scotsmen, Welshmen, Irishmen, Australians, New Zealanders, Canadians, are meeting shortly in the centre of Canada. The sense of brotherhood which already binds us together as members of one great Empire will inevitably be strengthened by the association, by the struggle towards our common goal, and the realization of our common successes. Again, a welcome to all."

BRITISH ASSOCIATION IN BRISTOL.

The British Association for the Advancement of Science meets this year in Bristol from September 3rd to 10th, under the presidency of Professor F. O. Bower. Information about the Sections has been given already in the *British Medical Journal* (May 17th, p. 917). The two Sections of most direct interest to the medical profession are those of physiology and psychology. In the first of these Professor H. S. Raper has chosen for the subject of his presidential address "Synthetic activities of the cell"; this will be delivered on Thursday, September 4th, and will be followed by a discussion. Other subjects which will be dealt with in this Section are: pseudo-isochromatism and the detection of colour-blindness; the blood groups and their inheritance; the removal of lactic acid after exercise in the mammal; quantitative aspects of the action of drugs; the factor concerned in diabetic coma; the function of carbon dioxide; and some unpublished work on the heart. A joint meeting of the two Sections will be held on Monday, September 8th, to discuss the question: In what sense can we speak of primary colours? Professor C. W. Valentine, president of the Section of Psychology, will deliver his address on Friday, September 5th, taking for his subject "The foundations of child psychology." For the previous day a discussion has been arranged on certain psychological problems of adolescence, including the following topics: variations in the emotional development of normal adolescents; adaptation in youth as illustrated by the difficulties of the mental defective; adolescent modes of thinking; and the adolescence of the young wage-earner. Other points of psychological interest which will receive

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205. Lung Complications following Operations.

E. N. Stahnke (*Zentralbl. f. Chir.*, May 31st, 1930, p. 1333) classifies post-operative chest conditions as: (1) purulent bronchitis, broncho-pneumonia, and pneumonia; (2) complications caused by aspiration (often with similar signs to the above, but distinguished by their course; and (3) embolic conditions (not dealt with in his article). The type of anaesthesia has little effect on the number of complications, but anaesthesia by inhalation is contraindicated where bronchitis or tuberculosis already exist. Avertin has so far given good results. Chloroform is more often followed by pneumonia than is ether. Infection plays an important part in causation, as does also chilling of the back and extremities during operation. The particularly large number of complications after abdominal section, whether under general or local anaesthesia, is probably explained by the dorsal decubitus of the patient, which places the respiratory muscles at a disadvantage, and by abdominal pain, which hinders full respiratory movement and coughing. The poor abdominal and diaphragmatic movements have an adverse effect on the circulation, and a condition of congestion and relative stagnation arises in the respiratory tract, favouring the development of bacteria. Complications most frequently occur after operations on the upper abdomen (stomach and gall-bladder), but the average age of the patients in this group is considerably more than that in the case of operations on the lower abdomen, such as for appendicitis and hernia. The author recommends protection from infection (neighbouring patients and attendants to be free from respiratory catarrh); treatment of any existing cardio-respiratory condition; and, possibly, the injection of antipneumococcal serum. After operation the patient's respiratory exchange should be improved by preventing apathy, rubbing several times daily with cold damp towels, deep breathing exercises, and inhalations of CO_2 every few hours. The patient should lie on his side, frequently changing from the right to the left. Treatment comprises the same measures associated with the use of expectorants such as camphor, and the author claims to have had some success with optochin, combined with intramuscular injections of the patient's blood.

206. Statistics of Appendicitis.

C. Bruusgaard (*Norsk Mag. f. Laegevid.*, June, 1930, p. 584) states that between October 29th, 1895, and January 1st, 1930, 3,349 cases of acute appendicitis and 3,023 of chronic appendicitis were admitted to the Dranem municipal hospital. Of the acute cases, 1,860 were in male and 1,499 in female patients; 3,053 were operated on in the early stage, and 148 in the interval between the attacks, while 148 received medical treatment only, two patients dying. None of the acutely ill patients was under the age of 2 years, and the oldest was 83. The highest mortality occurred in patients above the age of 40. Peritonitis was absent in 1,771 cases, of which 6 were fatal; 575, of which 32 were fatal, had an encapsuled abscess; 550, of which 14 were fatal, had a local peritonitis; and 232, of which 63 were fatal, had a diffuse peritonitis. The total mortality among the 3,349 patients during the period of thirty-five years was 3.55 per cent. (3.8 among the males and 3.2 among the females). Of the 3,023 chronic cases, 889 were in male and 2,134 in female patients. Most of these patients (1,203 cases) were between the ages of 20 and 30; 8 died, of whom 5 were males and 3 females—a mortality of 2 1 per cent.—the causes of death being pulmonary embolism in 4, peritonitis in 2, heart failure in 1, and unknown in 1.

207. Treatment of Recurring Dislocation of the Shoulder.

Mauclaire (*Bull. et Mem. Soc. Nat. de Chir.*, July 5th, 1930, p. 878) summarizes the chief causes of recurring dislocation of the shoulder as follows: dilatation of the capsule, which may be total or partial, anterior or inferior; a tear in the capsule made at the first dislocation; a posterior notch in the humeral head; alteration, flattening and posterior disorientation of the glenoid cavity; and tearing away of the long portion of the biceps and of the supra- and sub-spinous and sub-capsular muscles. To remedy these various lesions the insertion of osseous abutments has been attempted, the first case being that of Eden in 1920, who inserted bone grafts from the tibia in front of the glenoid cavity. A personal case is here recorded, in which good results were obtained by this method and have been maintained for six years. The capsule was first opened and folded cross-wise; tibial grafts were then inserted in front of and below the lower part of the glenoid cavity (the point where the humeral head had escaped). Subsequent radiographs showed that the anterior grafts had coalesced, while the lower ones could still be seen. Mauclaire mentions that these abutments should be examined at long intervals, since some authorities have noted that some undergo a late resorption. Mauclaire, however, believes that they are often replaced by fibrous ones, and that osteo-periosteal grafting, either alone or in combination with lengthening of the coracoid process, is the best technique to follow. Before operating, radiographs should be taken of the humeral head and glenoid cavity; at the operation the joint and capsule should be explored. The latter, often distended, should be very tightly folded, and if a diverticulum is present this should be eradicated by folding. Shortening of the often elongated subscapular muscle is important. In serious cases, as epileptics, it is necessary to perform a sort of reconstitutive arthroplasty by combining the grafts, the coracoid abutment, suture of the tear, the capsular folding, its closure in front and below, and tendino-muscular resection and shortening.

Therapeutics.

208. Ephedrine in Myasthenia Gravis.

Harriet Edgeworth (*Journ. Amer. Med. Assoc.*, April 12th, 1930, p. 1136) describes a personal experience of influenzal pneumonia in which, after a relapse, severe prostration and tachycardia developed without evidence of organic disease. Several months were spent in bed and she then resumed work, but the pulse rate was still 100–120, and the lassitude persisted for five years, when, in 1924, slight ptosis and intermittent diplopia appeared. Six months later, during a pharyngeal infection, the intermittent diplopia became still more severe, and there was great prostration; on several occasions there was weakness of the right arm. Ptosis and diplopia increased, with weakness of the left ocular muscles and in the legs. She could not open the left eye, move the left side of the face, or swallow without nasal regurgitation. A diagnosis of myasthenia gravis was made. By 1927 she was quite helpless; mastication, swallowing, and breathing were difficult, there was severe cyanosis, and an electrocardiogram showed myocardial weakness. In 1928 a chronic sinus infection was relieved and the myasthenic symptoms were improved by the administration of an autogenous vaccine. Thyroid extract and adrenaline generally had adverse effects. In 1929 she commenced taking ephedrine tablets (1/8 grain) and amidopyrin (1½ grains) for dysmenorrhoea; this was followed by gain in muscular strength, but when the ephedrine was discontinued weakness returned. She states that she is now taking (ephedrine 3/4 grain) almost daily, and there is distinct though slow improvement.

209. Iodine in Cutaneous Tuberculous Infections.

J. J. Jensen (*Ugeskrift for Laeger*, June 5th, 1930, p. 550) recounts his experiences as a veterinary surgeon with tuberculous infections of the fingers contracted in the handling of tuberculous carcasses. On one occasion, while handling a heavily infected carcass, he made a deep incision into one of his fingers beside the nail. The wound, which was treated with tincture of iodine, healed quickly, but about a month later a slightly tender swelling developed at the same spot; a tiny fistula formed, and a little purulent fluid escaped. The fistula closed periodically, only to open again, and this state of affairs went on for months, in spite of repeated paintings with tincture of iodine. The treatment was now changed to painting with a strong mixture of iodine in a watery solution of potassium iodide (one part of iodine, three parts of potassium iodide, and four of water). After only a few applications of this solution the condition cleared up permanently. Details are given of another very similar case, and the author suggests that this treatment may be suitable for other forms of tuberculosis of the skin. He points out that the concentration of the solution may be changed to one part of iodine, two parts of potassium iodide, and two parts of water, since a solution as strong as this can still be applied to the skin with impunity. While tincture of iodine has a strong surface action, its deep action is slight. The solution recommended by the author, on the other hand, has but a weak surface action, whereas its deep action is prolonged and strong.

210. Treatment of Chronic Gonorrhoea.

C. Pisacane (*Riv. Sanitaria Siciliana*, May 1st, 1930, p. 611) reports the results of the treatment of twelve cases of chronic gonorrhoea in males with the method of gaseous dilatation recommended by Maisler. The technique used was urethral injection by means of a Guyon's syringe of 1–2 c.cm. of neol (the action of which is similar to that of hydrogen peroxide), followed immediately by 1 c.cm. of silver protein (silver protein 2 grams, glycerin 4 grams, distilled water to 20 c.cm). The production of oxygen dilates the urethra, with consequent compression of its walls, facilitating the penetration of the silver protein into the mucosa. The patients thus

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strong, concentrated solution of novocain into the lumbar region of the canal; it sinks towards the coccyx, cutting off the sensory paths and leaving the motor ones unaffected. Müller has treated 30 cases by this method; 4 complained of headache afterwards, and 4 required uterine stimulation. The anaesthesia lasted two and a half hours. Henkel does not consider that the ideal obstetrical anaesthetic has yet been found, nor does he think that in every case an entirely painless labour is desirable. He finds that light ether anaesthesia for the passage of the head is sufficient, since it allows any necessary manipulation and has no bad after-effects.

216. Interstitial Pregnancy.

ALLUDING to the difficulties in diagnosis, before and during operation, caused by interstitial pregnancy, G. COTTE and ARMANET (*La Gynecol.*, March, 1930, p. 129) state that they have twice opened the abdomen for supposed interstitial pregnancy, and have found in the uterine angle a pregnancy which afterwards evolved normally. They quote also the observations of Kreis, who discovered that the site of insertion of the round ligament offers no reliable means of distinguishing interstitial from angular pregnancy. Treatment at operation varies according to the urgency of the symptoms and the age and parity of the patient. When there has been much haemorrhage the choice lies between subtotal hysterectomy and simple resection of the tube; the latter procedure is easier and quicker if the ovary of the affected side is removed at the same time, but haemostasis of the uterine artery demands special care. When the interstitial pregnancy is not complicated by rupture or haemorrhage the same two operations may be envisaged, but in certain cases it is possible to excise the uterine cornu and to implant the remains of the tube in the uterus. Pregnancies have followed cases of resection of a cornu uteri together with unilateral castration.

217. A. BLAGODAROW (*Zentralbl. f. Gynäk.*, April 5th, 1930, p. 868) agrees with others in estimating the proportion of interstitial among ectopic pregnancies as about 1 per cent. He records three cases of interstitial pregnancy, in one of which a pre-operative diagnosis was made. In this case there had been no peritoneal bleeding, and a compact bundle of chorionic villi had penetrated the internal ostium of the tube without having become attached to the endometrium. In one instance the interstitial portion of the tube was lengthened and flexed, and exhibited an acute kink; to such abnormalities Hermstein and Neustadt attach considerable etiological importance. In conflict with earlier writers Blagodarow states that interstitial pregnancy often leads to morbid symptoms before the fourth month, and has not necessarily a bad prognosis.

218. Pregnancy following Nephrectomy.

M. L. PÉREZ and A. I. SOSA Y SANCHEZ (*Rev. Méd. Latino-Americana*, March, 1930, p. 763), who record four illustrative cases, state that pregnancy in a woman who has undergone nephrectomy is a serious problem owing to the risks involved. The favourable character of the prognosis, however, is shown by the fact that among 246 cases with 270 pregnancies there were only 20 complications and 3 deaths. Pregnancy, therefore, after nephrectomy generally pursues a normal course apart from the cause which has necessitated the operation, usually pyonephrosis, nephrolithiasis, or renal tuberculosis. The authors believe that, as a rule, a woman should not be allowed to become pregnant until two to four years after nephrectomy, though in some cases there has been an interval of only one year, and in others nephrectomy has actually been performed during pregnancy. As soon as pregnancy has commenced a close watch should be kept on the patient, so that it should be interrupted if signs of renal insufficiency occur. Lactation is not contraindicated unless the nephrectomy has been performed for unilateral renal tuberculosis. The present four cases were in women aged from 32 to 42, in three of whom nephrectomy had been performed for pyelonephrosis, and in the fourth for obstinate haematuria. In three the renal tolerance was absolutely good throughout pregnancy, and in the fourth there was occasional haematuria. All the women were able to suckle their children without bad effects.

219. Chorea of Pregnancy.

ACCORDING to S. A. SELITZKY (*Gynécol. et Obstét.*, April, 1930, p. 298) the chorea of pregnancy is much more common in northern than southern countries; it is unknown in the Tropics, and very rare in Russia, where only about 20 cases have been reported, 19 in the north. Details are given of eight recent Russian cases. In three there was a personal or family history of infantile chorea, and four patients had albuminuria; one case proved fatal to the mother, and in only three was a live foetus born. Selitzky advises rest, a milk and vegetable diet, and the exhibition of horse serum.

Pathology.

220. Electrically caused Lesions of the Central Nervous System.

THE problem of injuries following contact with electric currents has become an important one owing to the present extensive use of electricity. Circuits supplying homes and factories are commonly of 110 or 220 volts, with either an alternating or a continuous current, and a 100-volt circuit may prove fatal. For this reason O. R. LANGWORTHY (*Journ. Exper. Med.*, June 1st, 1930, p. 943) has deemed it important that a careful study of electrical injuries should be made, and he records experimental evidence concerning the injuries produced in the central nervous system. Many deaths from electricity are attributed to the resulting fibrillation of the cardiac ventricles, and this condition is believed to be more common after contact with low voltage circuits. Circuits at high voltages are thought to cause death from respiratory failure due to a central inhibition in the nervous system. Since in rats the heart recovers spontaneously from ventricular fibrillation, these animals (286 in number) were chosen as the test material, and were exposed to continuous or alternating circuits at different potentials. It was found that these circuits produced different types of lesions in the central nervous system. Haemorrhages were common after alternating current shocks, and few were observed in the continuous circuit group. With both forms of circuits at potentials of 1,000 and 500 volts severe abnormalities in the nerve cells were noted; these were more marked in the continuous circuit group. The Purkinje cells of the cerebellum were most susceptible to the current. Injured cells were studied in the dorsal nucleus of the vagus, in the somatic motor group, among the primary sensory neurones, and in the olivary bodies; the structural cellular changes in reference to recovery are discussed. Injury to the cerebral and cerebellar cortices occurred on the dorsal surface close to the head electrode, and small cavities were produced, particularly in the cerebral cortex, by the circuit contact. With both circuits at 110 and 220 volts potential less severe changes were seen in the nerve cells, although haemorrhages were common in the alternating group. In these cases death was probably due to respiratory blocking rather than to actual death of the cells. While most of the other pathological changes in cells develop slowly, electricity produces abnormalities that may be demonstrated at once, thus indicating the suddenness with which these changes are produced.

221. Lactic Acid Values in Cancer and Hepatic Disease.

O. JERVELL (*Norsk Mag. f. Laegevid.*, May, 1930, p. 536) studied the concentration of lactic acid in the venous blood in 23 patients suffering from various diseases of the liver, and found a rise in the normal amount in 14. Five of these patients had pneumonia and two a cardiac affection which might have been a contributing cause of the excess of lactic acid in the blood. Seven cases, on the other hand, showed no other cause for the excess of lactic acid besides hepatic insufficiency. Normal lactic acid concentration, however, was found in the blood of 9 patients who presented signs of hepatic insufficiency, such as urobilinuria or bilirubinaemia. Of 13 cancer patients, 6 of whom had metastases in the liver, 7 had increased lactic acid concentration in the blood; all the cancer patients, however, were anaemic, so that no definite conclusions could be drawn as to the cause of the excess of lactic acid. In 2 cases, however, in spite of anaemia and hepatic metastasis, normal values were found. Increase in the lactic acid is therefore a frequent though not constant phenomenon in cancer and hepatic disease; its determination does not possess any diagnostic value, and has hardly any prognostic significance.

222. Cardiac Sarcosporidiosis.

G. SCAGLIA (*Arch. Ital. di Anat. e Istol. Patol.*, March–April, 1930, p. 156) examined the hearts of more than a hundred oxen and many sheep in the slaughterhouses at Cagliari at various seasons of the year, and, in spite of the fact that the animals had been in excellent condition, constantly found sarcosporidiosis in a more or less considerable amount in the myocardium generally, and particularly in the bundle of His. Scaglia's own experience, therefore, as well as a study of the literature, indicates that sarcosporidiosis is very frequent in slaughterhouse animals, whereas barely 15, of which the lesions were localized in the heart in a few, have been recorded in the human subject, reported respectively by Hadden (1883), Kiebs (1887), Koch, two cases (1887), Eve (1888), Rosenburg (1892), Kartulio, the only fatal case (1893), Barabau and Saint-Remy (1894), Targett (1899), Darling (1910 and 1919), Brumpt (1910), Manifold (1924), Vasudevan (1927), and Lambert (1927).

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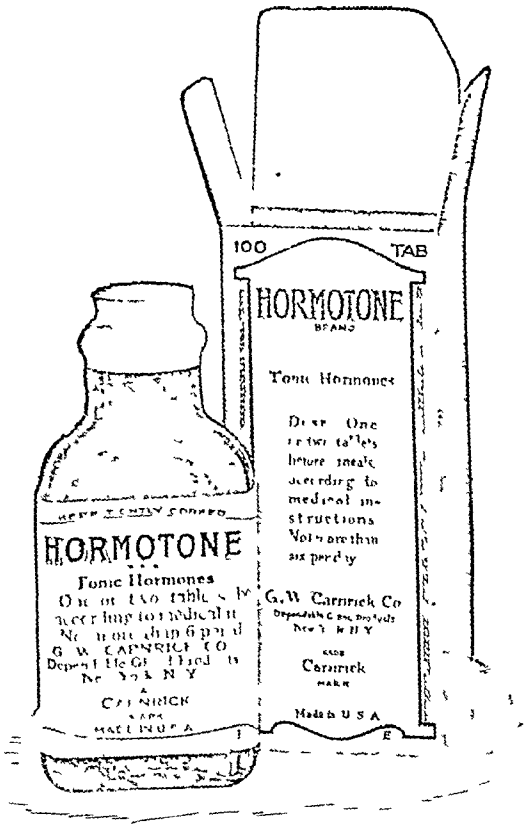
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them, before he enters a university or medical school, he must be prepared to spend an extra year at the medical school. He must in a sense start a year behind the men of his year. A student who has completed chemistry and physics, but not biology, may be handicapped by time-table difficulties.

The position is emphasized at Oxford and Cambridge, where medical students have an opportunity of taking a degree with honours in natural science. For the examinations for these honour degrees there is a time limit of terms from matriculation, so that a student who has to devote his first year at the university to First M.B. subjects is handicapped a whole year in competition with men who are able to start preparation for an honours degree in their first term. In some cases students after leaving a public school spend a year at the medical school of a London hospital in order to pass the First M.B. Examinations of the University of Cambridge, and then proceed to Cambridge in the following year. Boys who intend to study medicine are usually advised to complete the work of the First M.B. or a similar examination before they enter a university or medical school; that under present conditions the advice is wise none can doubt.

One result is that the general education of the medical student stops at a very early age; while he is still very young he specializes on the science side of his school, and begins to cram for a series of pass examinations in elementary science. A boy of ability can pass an examination which entitles him to matriculate at a university or enter a medical school between his fifteenth and sixteenth birthday. In too many cases the passing of the matriculation examination means the end of general education. It may be argued that a boy who can pass one of these examinations has proved that he has had a good education. A boy who can just pass a university matriculation examination has attained a reasonable but not remarkable standard of general knowledge. But the point is that boys destined for professions other than medicine continue their general education for one, or two, or perhaps three years after they have passed a matriculation examination. The medical student loses two or three years, and the best years of his life at a public school, the years spent in the upper forms of the classical or modern side. There are still some who hold, as the author of this article holds, that a classical education—the discipline of the Greek and Latin tongue—is the best training for science, and for every other profession. But among those who will not go so far as this there may be some who will admit that a knowledge of literature and language, and the power to express thought clearly in speech and writing, are far from negligible assets to the scientist and the medical man. We are proud to think that we belong to a learned profession, and we have sanctioned a system which tends to put a premium on illiteracy.

On the other hand, it may be doubted whether the schoolboy gets good value for the last two years of his school life if he devotes them almost entirely to First M.B. subjects. It has been said often enough that natural science is better appreciated at the university than at the school age; under the aegis of a university department rather than in the form room of a public school. There may be something in this point of view, although it must be admitted that not all university teaching has the quality of inspiration, and science is excellently taught in many schools. But it is true that preparation for the First M.B. takes longer at school than it does at a university. Preparation for the First M.B. at school occupies about two years, and school terms are longer than university terms. A certain number of boys after two years of science at school are unable to pass the First M.B.; they have, however, done enough to become bored, and they have lost their interest in science.

One of the great difficulties which confront the schoolmaster is the fact that each university has a separate schedule and syllabus for its First M.B. Examination; this difficulty is marked in the case of biology. In the case of the matriculation examination universities accept one or other of the examinations conducted by the joint university examination boards, and the schoolmaster can choose one examination for all his pupils. It is difficult for a schoolmaster to prepare a number of boys in one class to meet the varied requirements of the First M.B. Examination of a number of universities. If boys are expected to pass the First M.B. from school, the universities should agree to form a joint examination board to provide a common First M.B. Examination.

There has been a tendency to raise the minimal age at which a student may be admitted to a university or medical school; nevertheless, we allow schoolboys, aged 15, to begin preparation for professional examinations. The study of natural science at school is one thing, the assimilation of knowledge with the immediate object of passing an examination is another. On the other hand, it has become very difficult for a boy to remain on the classical side of a public school until he is 18 or 19, and then begin the medical curriculum after he has matriculated at a university. Thirty years ago many students entered a laboratory for the first time in their first term at a medical school. To-day a boy who has postponed the commencement of science until he enters the university is at a great disadvantage as compared with his contemporaries, and must work very hard to catch up. It seems a pity that the choice of medicine as a career must be made so early. It is a serious matter if the medical profession is to lose recruits who have had the great advantage of a general and unspecialized education. If preparation for the First M.B. must be undertaken at school the syllabus of the examination should be so framed or cut down that the necessary work should not occupy more than the last year at school.

The Medical School.

The chief characteristic of the medical curriculum is the lack of co-ordination between the various subjects of which it is composed. The curriculum may be divided into three stages or strata: (1) the elementary study of physics, chemistry, zoology, and botany; (2) the more intensive study of human anatomy, and physiology; (3) the practical study of the recognition, prevention, and treatment of disease. Between these three principal strata are two huge clefts, and numerous subsidiary fissures divide the subjects included in each stratum.

The effective control of each subject remains with the professor or head of the department, but, as a general rule, professors of chemistry, physics, zoology, and botany are not medical men. The attitude of the professor of chemistry, for example, towards the faculty of medicine is perfectly clear, perfectly logical. From time to time, in one medical school after another, the medical faculty or one of its members, greatly daring, asks the professor of chemistry, "Could you manage to adapt your First M.B. course to the needs of the medical student?" The professor of chemistry replies, "Do you want your medical students taught chemistry, or do you not?" The answer is "Yes." "Very well," retorts the professor of chemistry (and who will blame him?), "I know what chemistry is and you do not; I settle the syllabus." In practice the conversations are more polite and protracted. The attitude of the professor of chemistry is not unreasonable, and it is not easy for the medical man to explain to the chemist the needs of the medical student.

Occasionally the professors of pure science are more complacent, and meet their colleagues of the faculty of medicine more than half-way. A professor of chemistry has said, "We teach the medical student the structural formulae of all the more important drugs." A professor of physics remarks: "I quite understand; you want the medical student to know about the physics of the *x*-ray coil." A professor of zoology proposed to include in his elementary course for medical students an account of the structure and life-history of parasites. These examples are quoted to show how difficult it is for non-medical teachers to understand the needs of the medical student. The technical applications of science must come later; the medical student in his first year needs the fundamental principles of the natural sciences. His labours are lightened when his teacher can abstain from examples which illustrate the applications of science to other trades and professions.

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If his mind is not made up already, the newly qualified practitioner has now to consider in which branch of the profession he can find a suitable outlet for his energies. The choice is very wide, though (as in many other affairs of life) the decision is often dictated rather by opportunity than by a nice balancing of tastes and talents. Among the great variety of paths open are general medical practice in town or country; Government service at home or abroad, including, of course, the medical branches of the Navy and Army and Air Force, and the I.M.S.; public health appointments and other administrative or official posts; institutional work, such as that of the municipal hospital, the mental hospital, the fever hospital, and the sanatorium; academic positions in the various schools of medicine; and special work in scientific research or in one of the many subdivisions of clinical medicine and surgery. Most of these careers are discussed in some detail in the later sections of this Educational Number, but a few words may be said here about general practice and the work of a consultant or specialist.

Further information about such matters will be found in the *Handbook for Recently Qualified Medical Practitioners*, published by the British Medical Association.[1] This comprises articles on openings for members of the profession; on practical aspects of medical work; on registration and the privileges of practitioners; on practice under the Insurance Acts; on post-graduation study and special diplomas; and on medical defence societies. The section dealing with practical aspects of medical work embodies much sound advice on professional conduct, on common medico-legal difficulties, and on the relations between doctor and patient and one doctor and another.

GENERAL PRACTICE.

It is estimated that three-quarters at least of those who pass out of the medical schools become "family doctors" sooner or later. The work is onerous and the pay too often inadequate; but it is a full life rich in human interest, and many of the very best students, now as formerly, choose general practice as a career. It is usually entered in one of three ways. The newcomer may take a house, put up a plate, and wait for work to come to him; he may buy the goodwill of a practice rendered vacant by retirement or death; or he may become a partner in an established firm. The first is considered more risky than the second, and the second than the third. A well-managed partnership of three or more has this advantage over single-handed practice, that it allows each partner leisure for recreation and for keeping up with the progress of medicine. Success in private practice demands a great deal of knowledge beyond that gained at the medical schools, and hence a man is more likely to be accepted as a partner, or to do well on his own account, if he has already some experience as an assistant or deputy. Those who begin their work as assistants seldom find cause to regret the time spent in learning the ropes under the eye of an experienced senior. As the circumstances of general practice vary much from place to place, it may be well to serve this "post-graduate apprenticeship" under conditions resembling those to be met later.

The general practitioner cannot hope to be an expert in every department of medicine, but he should have a more comprehensive outlook than the man whose life is devoted to perfecting himself in the technique and minutiae of one subject, to which he gives all his energy and time. Both types of workers are indispensable. It says, they are complementary. The good general practitioner possesses powers of perspective in disease that are denied to the specialist, and he must remain not only the most useful and encyclopaedic working unit of our profession, but also the member of it to whom, at least in the first instance, the public, for its own good, should apply for relief in sickness and guidance in maintaining health. The opportunities he has of seeing his patients repeatedly for minor ailments as well as for serious illnesses; his acquaintance with their idiosyncrasies, their family history, habits of life, and social circumstances; and many other personal details learnt only after long and confidential intercourse, make the "G.P.," of all medical men, the most important. In short, he has just that knowledge which enables him to treat the patient and not merely the disease.

The value of the work done by the family medical attendant is better appreciated now than in the past. In its recent Proposals for a General Medical Service for the Nation[1] the British Medical Association puts this matter in the forefront. It states as an axiom that "the medical service of the community must be based on the provision for every individual of a general practitioner or family doctor"; and the whole series of proposals rests on this as a fundamental principle. In regard to the prevention of disease, on which the Association lays great stress in its memorandum, the general practitioner has an increasingly important part to play. Unlike the doctor of yesterday, his time is not now wholly spent in treating developed disease in individuals. As knowledge accumulates he will come more and more to study early disorders of function and the preservation of bodily and mental health in varying circumstances. While this is all to the good, it cannot be denied that encroachments on private medical practice are perpetually being made under the auspices of the State or of the municipality or of voluntary bodies, and that official requirements and administrative checks imposed by public authorities tend to increase.

The national system of compulsory health insurance, now more than eighteen years old, has had a profound influence on general medical practice in this country. The Insurance Acts provide domiciliary medical attendance for some sixteen million persons, and more than 17,000 members of our profession undertake responsibility for the medical care of this vast section of the community. Thus the bulk of the general practitioners of the country now give, in large or small measure, medical attendance and treatment under a system embracing almost the whole working population. These practitioners, by placing their names on the panel (or medical list), signify their assent to the terms of service set out in the Medical Benefit Regulations and other relevant provisions. It would have been strange indeed if a measure so far-reaching and so complex had not brought about great changes in general practice, with some detriment to the freedom of the individual doctor. On the other hand, the panel system admittedly gives a better service than was provided under the old "club" arrangements, though it is by no means as complete or as effective as it might be made.

CONSULTANT AND SPECIALIST PRACTICE.

The term "consulting practice" comprises in ordinary usage the work of the general physician, that of the general surgical consultant or operating surgeon, and that of the gynaecologist and obstetrician. These are the three large divisions of consulting practice, as distinct from general practice, which, though they imply some restriction, yet call for a wide range of activity and outlook, in contrast with the smaller ambit of a "specialty" in the narrow sense. Of these main divisions the third is obviously the most limited, but on several grounds it can claim to rank as something larger and more comprehensive than the other specialties. It is impossible, however, to draw a sharp line between consulting practice and specialist practice. Most general consultants, whether medical or surgical, are specialists in some branch of their practice,

[1] *Handbook for Recently Qualified Medical Practitioners.* British Medical Association, Tavistock Square, W.C.1. (2s. 6d. net, post free 3s. 9d.)

[1] *Supplement to the British Medical Journal*, April 26th, 1930, pp. 175-182. The memorandum in its revised form is also issued as a separate document by the British Medical Association.

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are systematic, clinical, and operative surgery, surgical anatomy, surgical pathology, and bacteriology.

Other information concerning this university will be found in the section devoted to Provincial Medical Schools.

UNIVERSITY OF WALES.

The Charter and statutes of the University of Wales provide *inter alia* for a Faculty of Medicine and for the granting of the following degrees: Bachelor in Medicine (M.B.), Bachelor in Surgery (B.Ch.), Master in Surgery (M.Ch.), and Doctor in Medicine (M.D.).

A candidate for the M.B., B.Ch. is required to pursue a course of study of not less than six academic years subsequent to matriculation in the university, and of these years at least three must have been passed in one of the constituent colleges of the university. These are the University College of Wales, Aberystwyth; University College of North Wales, Bangor; University College of South Wales and Monmouthshire, Cardiff; and University College of Swansea. He must also hold an arts or science degree of the University of Wales, or of some other university approved for this purpose. Certain of the courses of study pursued for a B.Sc. or a B.A. degree may be counted as courses required for the degrees in the Medical Faculty.

The courses for the M.B., B.Ch. are divided into two sections, of which the first includes the preliminary subjects—physics, chemistry, botany, zoology; and the ancillary subjects—organic chemistry, human anatomy, and physiology. Study of the preliminary subjects and of organic chemistry must extend over at least one academic year; study of physiology and anatomy must extend over at least two academic years; the first section of the course must occupy not less than three years. The second section includes courses in pathology, bacteriology, pharmacology, hygiene and forensic medicine, medicine, surgery, and obstetrics and gynaecology, and cannot be commenced, except in the case of pharmacology, until the examinations relating to the preliminary and ancillary courses have been passed. Examinations in all the subjects are held in June of each year, and in medicine, surgery, obstetrics, and gynaecology in December also.

The university also offers courses of study in public health and in tuberculosis. Candidates for the diploma in public health (D.P.H.) and for the tuberculous diseases diploma (T.D.D.) must possess a medical qualification registrable for practice in Great Britain and Ireland, and must have completed courses of study as prescribed by the regulations either at the Welsh National School of Medicine, Cardiff, or at another institution approved by the university.

WELSH NATIONAL SCHOOL OF MEDICINE

Students can complete the whole of their curriculum in the Welsh National School of Medicine, and qualify for the degrees of M.B., Ch.B. in the university.

Further information may be obtained from the Registrar, the University Registry, Cathays Park, Cardiff.

English Medical Corporations.

THERE are in England three medical corporations which grant licences to practise—the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries of London. The first two combine for certain purposes to form what is known as the Conjoint Board in England. Details concerning this body, its component Colleges, and the third licensing body here follow.

THE CONJOINT BOARD

THIS body—the Examining Board in England—deals with the qualifications of all candidates for the Licence of the Royal College of Physicians of London and for the Membership of the Royal College of Surgeons of England. It prescribes for them certain periods of study, and recommends those who pass the required examinations for the Licence and for the diploma of Member respectively. The successful candidate is then entitled to register as L.R.C.P.Lond., M.R.C.S.Eng. It performs the same task in connexion with diplomas in public health, tropical diseases, ophthalmic medicine and surgery, psychological medicine, laryngology and otology, and gynaecology and obstetrics—jointly issued by the two Colleges in question. Under the present regulations every candidate for the L.R.C.P. and M.R.C.S. must (1) complete five years of professional study after passing a recognized preliminary examination and a recognized pre-medical examination in chemistry and physics; (2) comply with the regulations, which may be had from the Secretary, Examination Hall, Queen Square, London, W.C.1; and (3) pass the two professional examinations of which particulars appear below. The old regulations for the Conjoint diploma, of which an account was given in the Educational Number of the *British Medical Journal* for 1922, still apply to students who passed their preliminary examination in general education before January 1st, 1923.

PRESENT REGULATIONS FOR THE CONJOINT DIPLOMAS.

The following is an outline of the present regulations for the L.R.C.P.Lond. and M.R.C.S.Eng. The full regulations and synopses and forms of certificate may be obtained from the Secretary.

PRE-MEDICAL EXAMINATION.

Students are required to pass a pre-medical examination in chemistry, physics, and elementary biology, conducted by the Conjoint Examining Board, before commencing the five years' curriculum of professional study, or some other examination recognized by the Board—namely, the examination in chemistry, physics, and biology for the degree in Medicine of any university recognized by the Board, the higher school certificates of Oxford and Cambridge Universities and the Oxford and Cambridge Schools Examination Board, the higher certificates of London, Bristol, Durham Universities, the Joint Matriculation Board of the Northern Universities, the Central Welsh Board higher certificate, or the pre-medical examination in chemistry, physics, and biology conducted by any of the qualifying bodies whose degrees or diplomas are registrable on the *Medical Register*.

A candidate must enter for chemistry and physics together and he will not be allowed to pass in one without obtaining at the same time at least half the number of marks required to pass in the other subject. He will be admitted to the examination on producing evidence of having passed the required preliminary examination in general education.

The examination is partly written, partly oral, and partly practical. A candidate rejected in one or both subjects of the examination will not be admitted to re-examination until after the lapse of a period of not less than three months. Not more than two terms of professional study is recognized before the examination in elementary biology is passed.

PROFESSIONAL EXAMINATIONS.

There are two professional examinations called the First and Final Examinations. The courses of study for the First Examination may be commenced before the pre-medical examination in chemistry and physics or some equivalent examination has been passed provided three terms of study of anatomy and physiology are completed after passing such examination.

First Professional Examination.—The subjects of this are: Section I, (*a*) Anatomy, including histology and embryology; (*b*) physiology, including biochemistry. Section II, Pharmacology, practical pharmacy and materia medica. A candidate must have attended at a recognized Medical School courses of instruction in anatomy, including embryology, during five terms, in the course of which he must dissect the whole body, courses of instruction in physiology, including general biology, biochemistry, and biophysics during five terms, courses of instruction in pharmacology and materia medica. A candidate may present himself for the two sections together or separately, but he must take parts (*a*) and (*b*) of Section I together until he has passed in one or both parts, but a candidate will not be allowed to pass in one part unless he obtains at the same time at least half the number of marks required to pass in the other part. Section II of the examination may be passed at any time before the candidate enters for the Final Professional Examination. A candidate who produces satisfactory evidence of having passed an examination in the subjects of Section I or of either part of Section I and of Section II in the examination for the degree in Medicine conducted at a university recognized by the Board will be exempted from further examination in such subject or subjects.

Final Professional Examination.—The subjects of this are: Section I, Pathology (including morbid anatomy, morbid histology, and clinical pathology) and bacteriology. Section II, Part I, Medicine, including medical anatomy, forensic medicine, and public health; Part II, Surgery, including surgical anatomy and the use of surgical appliances. Part III, Midwifery and gynaecology. The examination is partly written, partly practical, partly clinical, and partly oral. A candidate may take Sections I and II and the three parts of Section II of the Final Examination separately, or may take the whole examination together. He will be required to produce the certificates prescribed by the regulations before being admitted to the respective parts of the examination. No exemption is granted from any subject in the Final Examination.

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are two sessions—one lasting from the beginning of October to the middle of March, and the other from the middle of April to the beginning of July.

PROFESSIONAL EXAMINATIONS.

The distinctive feature of the Scottish curriculum is that though nominally there are only four examinations, each of these may be, and habitually is, split up by the student into sections. Hence, a student may complete some stage of his career during the course of nearly every session. Thus, by the end of the first winter session the student may pass in zoology and chemistry. At the end of the first summer session he can finish with botany and physics, and with anatomy and physiology at the end of the second. Pathology and materia medica he will pass at the end of the third year, and so on, until the final examination in midwifery, surgery, and medicine, and the corresponding clinical subjects, at the end of the fifth year of study. At each examination the candidate may pass "with distinction," and a record is kept of the merit displayed, so that when the time comes for the candidate to graduate, one who has done well throughout can be declared as graduating with honours. A further point in the system is that the student's own teachers commonly take some part in his examination.

Of the four examinations, the first deals with physics, botany, zoology, and chemistry; the second with anatomy and physiology; the third with materia medica and pathology; the fourth with medicine and surgery (clinical and systematic), midwifery, clinical midwifery, and clinical gynaecology, and forensic medicine and public health. The first three examinations are held three times a year; the final twice a year.

Exemption from the first professional examination can be obtained by candidates who have passed an arts, science, or medical degree examination in its subjects at any recognized university. When a candidate presents himself for an examination in several of its parts, but is not successful in all of them, he is credited at the next examination with those subjects in which he has already been approved.

THE HIGHER DEGREES.

It is open to those who are already M.B., Ch.B. to proceed either to the M.D. or the Ch.M. A candidate for the former must have been engaged for not less than one year in work in the medical wards of a hospital, or in scientific research in a recognized laboratory, or in the Naval or Military Medical Service, or have been at least two years in general practice, and he must be 24 years of age. He has to write a thesis on any subject not exclusively surgical, and is examined in clinical medicine and in some one or other of its special departments. The regulations for candidates for the Ch.M. are of a corresponding character, a period of surgical work in a hospital or elsewhere being substituted for medical work, and the thesis being on a surgical rather than a medical subject. He is examined in surgical anatomy, clinical surgery, operative surgery, and in some of the special departments of surgery.

FEES.

It is estimated that the class, examination, and other fees for the M.B., Ch.B. come altogether to about £256, the separate examination fees included in this calculation being as follows:

	£	s.	d.
First Professional	9	9	0
Second Professional...	7	7	0
Third Professional	6	6	0
Final	11	11	0

Re-entry in any subject in which the candidate has failed entails a fresh payment of £1 1s. Candidates for the M.D. and Ch.M. pay £21, and on re-entry £5 5s.

More detailed information with regard to the University of Edinburgh can be obtained from the *Medical Programme*, price 6d., which is published by Mr. Thin, 55, South Bridge, Edinburgh, or on application to the Dean of the Faculty of Medicine. Similar information about Glasgow should be sought from the Assistant Clerk, Matriculation Office, Glasgow. With regard to Aberdeen, application may be made to the Secretary of the Medical Faculty, Marischal College. In respect of St. Andrews, information can be obtained either from the Secretary of the University, or, alternatively, the Secretary of the United College, St. Andrews, or the Secretary of University College, Dundee, these being the two constituent colleges of the University of St. Andrews.

Finally, it should be mentioned that in connexion with all the Scottish universities there are valuable bursaries and scholarships, some information as to which will be found in the article on Medical Schools.

THE CARNEGIE TRUST.

The following is a summary of the regulations made by the Carnegie Trust for the Universities of Scotland for assistance in the payment of class fees in the universities and extra-mural colleges of Scotland.

Applicants must be over 17 years of age; they must be of Scottish birth or extraction, or have attended for two years, after the age of 14, at a school or institution under inspection of the Scottish Education Department. Applicants so qualified who have been pupils of schools under the Scottish Education Department will be eligible for assistance in the payment of class fees if they have obtained the leaving certificate of the Department, provided that it bears evidence of such preliminary education as is required by the universities for their graduating curricula, or that it has been supplemented by such passes either in the Scottish Universities Preliminary or other examination as will satisfy the above requirement of the universities. Where applicants have not been pupils of schools under the Scottish Education Department, or where other good ground for not having obtained the leaving certificate can be shown, the Executive Committee has power to accept instead what it deems equivalent evidence of attainments.

Applicants in the Faculties of Arts and Science must have had their course of study for each academic year approved by the University Adviser of Studies, and they must have passed the graduation examinations belonging to the previous stage of their curriculum before becoming eligible for assistance in the payment of fees of classes belonging to a further stage. Beneficiaries must submit to the Executive Committee at the end of each session particulars as to their attendance and work, any distinctions gained, and any graduation examinations passed.

The annual allowance towards payment of class fees offered to beneficiaries by the Trust in the Faculty of Medicine is £19 for four years, in all £76. Any unexpended part of a grant will be carried forward to the succeeding year. In combinations of Faculties the allowances available for beneficiaries are: Arts and Medicine—two Arts grants of £3 and four Medicine grants of £19, in all £22; Science and Medicine—two Science grants of £17 and four Medicine grants of £19, in all £110.

Applicants, in writing for application forms, must name the university and faculty in which they intend to study, and state whether they have previously obtained the benefits of the Trust. Applications must be lodged not later than October 25th for the winter session, or May 10th for the summer session. Payments are made by means of fee coupons, and fees already paid are not refunded.

The Scottish Corporations.

THERE are three medical corporations in Scotland—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Their licences can be separately obtained only by persons who are already in possession of a recognized qualification—in surgery in the case of the College of Physicians, and in medicine in the case of the College of Surgeons and the Faculty of Physicians and Surgeons of Glasgow. All others must submit to the examinations held by the Conjoint Board, which the three corporations have combined to form. Details concerning this Board and its component colleges follow. The conditions on which their higher qualifications are granted will be found set forth separately in connexion with each corporation.

THE CONJOINT BOARD IN SCOTLAND.

THIS body has charge of all questions connected with candidates for the Conjoint Licences of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Those finally approved by it are entitled to registration and to the initials denoting the Licences of the three bodies concerned—namely, L.R.C.P.Ed., L.R.C.S.Ed. and L.R.F.P.S.Glas. The Board requires all candidates to comply with the regulations of the General Medical Council. It has an arts examination of its own, but is prepared to accept in its place any of the other educational tests approved by the General Medical Council. All candidates must obtain registration with the General Medical Council.

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ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

This body possesses two classes—Licentiates and Fellows. The regulations applying to the former correspond with those respecting candidates for the Licence of the Royal College of Surgeons of Edinburgh. Candidates for the single Licence are examined in surgery (including clinical surgery and surgical anatomy). The fee is £15 15s., and examinations are held quarterly. Candidates for the Fellowship must be qualified medical men of not less than two years' standing and 24 years of age. Candidates approved at this examination are then eligible for election as Fellows. The Faculty can also elect three Fellows annually without previously submitting them to examination, provided they "have highly distinguished themselves in medical science or practice." They must be of not less than ten years' standing and 40 years of age.

The fee for the Fellowship is £83. Further information can be obtained from Mr. Walter Hurst, Faculty Hall, 242 St. Vincent Street, Glasgow.

Irish Universities and Corporations.

MEDICAL REGISTRATION IN THE IRISH FREE STATE.

The Medical Practitioners Act, 1927 (Irish Free State), provides for the establishment of a Medical Registration Council for the Irish Free State. The main functions of the Council will be (1) to keep a register of medical practitioners who may desire to practise permanently or temporarily in the Irish Free State, and (2) to exercise disciplinary power with regard to all medical practitioners who are on the register and engaged in practice in the Irish Free State. The first schedule of the Act contains the agreement between Great Britain, the Irish Free State, and Northern Ireland. This agreement provides for the nomination of a member of the General Medical Council, formerly made for Ireland by His Majesty on the advice of the Privy Council, to be made henceforth by His Majesty in Council on the recommendation of the Governor of Northern Ireland. The nominations of members of the General Medical Council by universities and medical corporations in Ireland and the election of a member of the General Medical Council by registered medical practitioners in Ireland will be in all respects the same as heretofore. The constitution of the General Medical Council and of the several Branch Councils as formerly existing under the Medical Acts, and the powers of holding qualifying examinations and granting diplomas for the purpose of registration in the general *Register* formerly vested in certain universities and medical corporations in Ireland, are not affected by the establishment of the Irish Free State or of Northern Ireland, and for the purpose of the preparation and keeping of the general *Register* the General Medical Council and the Branch Council for Ireland shall have the same powers and jurisdictions under the Medical Acts as they exercised formerly. The agreement provides also that any person who is or shall be registered in the general *Register* shall be entitled on the payment of a prescribed fee to be registered in the *Irish Free State Register*, but this fee will not be payable by any person who on the date of the establishment of the *Irish Free State Medical Register*, is registered on the general *Register*. Then follow provisions with regard to the erasure from the *Register* of the name of a person on account of misconduct.

The *Irish Free State Medical Register* was established on May 26th, 1928, this being the date appointed by the Medical Registration Council. The *Register* on establishment contained the names of every medical practitioner who was registered in the general *Medical Register* immediately before May 26th, 1928, and who either was then resident in the Free State according to his address as stated in the general *Register*, or was living outside the Free State and applied to the Council within one month before May 26th, 1928, to be registered. No fee for registration was charged in such cases.

For registration in the *Irish Free State Register* subsequent to its establishment a fee is required, together with a prescribed form of application. A person is eligible for registration if he is at the time of application registered in the general *Medical Register*, or if he possesses the requisite qualifying diploma granted by colleges or bodies in the Free State as set out in the Act. Application for further information may be made to the Registrar, Medical Registration Council, Room 35, Upper Fitzwilliam Street, Dublin.

THE IRISH UNIVERSITIES.

There are three universities in Ireland, each with a medical faculty. These are, in the Irish Free State, the University of Dublin (usually known as Trinity College, Dublin), and the National University of Ireland; and, in Northern Ireland, the Queen's University of Belfast.

UNIVERSITY OF DUBLIN: TRINITY COLLEGE.

This university grants two degrees in medicine (M.B. and M.D.), two in surgery (B.Ch. and M.Ch.), two in midwifery (B.A.O. and M.A.O.), and a post-graduate diploma in public health. It also grants post-graduate diplomas in gynaecology and obstetrics, for which nine months' study is required, and in psychological medicine, for which twelve months' study is required. The degrees are granted to those who, having passed the professional examination, have also graduated in arts.

PROFESSIONAL EXAMINATIONS.

A candidate for the Final Examination for the M.B., B.Ch., and B.A.O. degrees must be a matriculated student of at least five years' standing. The examinations which students must pass are the Preliminary Scientific, the Intermediate Medical, and the Final. Before admission to any of these examinations students must have completed the courses of study in the subjects involved.

Preliminary Scientific.—This covers (*a*) chemistry, (*b*) physics, (*c*) botany and zoology; the three divisions may be taken together or at different times.

Intermediate Medical.—This is divided into two parts: (*a*) anatomy, physiology, organic chemistry, and histology; (*b*) applied anatomy and applied (clinical) physiology. The two parts may be taken separately or together.

Final Examination.—Part I. Hygiene and medical jurisprudence, pathology and bacteriology, materia medica and therapeutics. Part II. (*a*) Midwifery and gynaecology; (*b*) medicine and mental diseases; (*c*) surgery in all branches, including clinical ophthalmology. The three sections of Part II. may be taken separately or together. In either case the full curriculum must have been completed, and the Final Examination cannot be completed before the end of the fifth year.

M.D.—The candidate must have passed all the qualifying examinations in medicine, surgery, and midwifery, and have taken, or have been qualified to take, the degree of B.A. three years previously. He must send in a thesis for approval. Subsequently the Regius Professor of Physic and an assessor will discuss with him questions connected with the thesis, and also examine him viva voce on other medical subjects of a more general nature.

M.Ch.—The candidate must be a B.Ch. of not less than three years' standing and have been engaged in practice for two years.

M.A.O.—The candidate must be a B.A.O. of not less than two years' standing and must produce satisfactory evidence of having been engaged for two years in the study of obstetric science. The examination is specially directed to obstetrics and practical gynaecology.

Further information regarding courses of instruction, etc., may be obtained from the Registrar of the School of Physic, Trinity College, Dublin.

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ROYAL COLLEGE OF PHYSICIANS OF IRELAND AND ROYAL COLLEGE OF SURGEONS IN IRELAND

The Diploma in Public Health

Every candidate for the Diploma in Public Health must observe the following rules:

Rule 1. A period of not less than two years shall elapse between the attainment by a candidate of a registrable qualification in Medicine, Surgery, and Midwifery and his admission to the Final Examination for a Diploma in Public Health.

Rule 2. The curriculum for the Diploma in Public Health shall extend over a period of not less than two calendar months, and shall conform to the attainment of a registrable qualification.

Rule 3. Every candidate shall produce evidence of having attended during a period of not less than four months at an institution approved by the Licensing Body granting the Diploma, practical instruction in—

(*a*) Bacteriology and Parasitology (including Medical Entomology), especially in their relation to diseases of man, and to those diseases of the lower animals which are transmissible to man,
(*b*) Chemistry and Physics in relation to Public Health,
(*c*) Meteorology and Climatology in relation to Public Health.

At least 180 hours must be devoted to Course (*a*), of which not less than 150 hours shall be occupied in practical laboratory work.

At least 90 hours must be devoted to Course (*b*), of which no less than 70 hours shall be occupied in practical laboratory work.

At least 10 hours must be devoted to Course (*c*).

Rule 4. Every candidate shall produce evidence of having received during not less than 80 hours at an institution or from teachers approved by the Licensing Body granting the Diploma, instruction in the following subjects:

(*a*) The Principles of Public Health and Sanitation (30),
(*b*) Epidemiology and Vital Statistics (20),
(*c*) Sanitary Law and Administration (including Public Medical Services) (20),
(*d*) Sanitary Construction and Planning (10).

[The numbers indicate the normal proportion of time to be given to each subject.]

Rule 5. Every candidate shall produce evidence that he has attended for three months on the clinical practice of a recognized Hospital for Infectious Diseases, and has received therein instruction in the methods of administration. At least thirty daily attendances of not less than two hours in each week shall be required.

Rule 6. Every candidate shall produce evidence that he has, during a period of not less than six months been engaged in acquiring a practical knowledge of the duties routine and special of Public Health Administration under the supervision of a Medical Officer of Health, who shall certify that the candidate has received from this Officer or other competent Medical Officer, during not less than three hours on each of sixty working days, practical instruction in these duties and also those relating to

(*a*) Maternity and Child Welfare Service,
(*b*) Health Service for Children of School Age,
(*c*) Venereal Diseases Service,
(*d*) Tuberculosis Service,
(*e*) Industrial Hygiene,
(*f*) Inspection and Control of Food including meat and milk.

Certificates of having received the prescribed instruction in Public Health Administration must be given by a Medical Officer of Health who devotes his whole time to Public Health work, or by the Medical Officer of Health of a Sanitary Area having a population of not less than 50 000, or in Ireland the Medical Superintendent Officer of Health of a County or County Borough having a population of not less than 50 000.

Rule 7. The examination for the Diploma shall be divided into two parts, Part I and Part II.

Rule 8. The examination for Part I shall include the following subjects:

Bacteriology and Parasitology (including Medical Entomology),
Chemistry and Physics, and Meteorology and Climatology in relation to Public Health.

Rule 9. The examination for Part II shall include the following subjects:

Hygiene and Sanitation (including Sanitary Construction),
Epidemiology and Infectious Diseases,
Sanitary Law and Vital Statistics,
Public Health Administration.

The examination shall be written and oral, and shall include practical examinations in Infectious Diseases, Food inspection, Inspection of premises—dwellings, factories, workshops, schools, etc.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

THOSE whose names already appear on the *Medical Register* can obtain the separate Licence in Medicine of this College and its Licence in Midwifery. In either case an examination has to be passed in the subjects indicated, questions on midwifery, hygiene, and jurisprudence being included in the examination for the Licence in Medicine. For the Licence in Midwifery practitioners of over five years' standing are exempted from examination by printed questions. The other grades of the College are Members and Fellows. The former are admitted after an examination which is open to all university graduates in medicine and Licentiates in medicine of the Royal College of Physicians, and deals with the general subjects of medicine. Fellows are selected, by vote, from among the Members of the College.

Fees.—For the Licence in Medicine 15 guineas. Special Examination, £21. For the Licence in Midwifery, 8 guineas. Special Examination, 16 guineas. For the Membership 20 guineas to a Licentiate of the College, 35 guineas to others; a special examination costs 10 guineas extra. The Fellowship, £35, in addition to stamp duty, £25.

Information as to special examinations and other matters can be obtained from the Registrar, the Royal College of Physicians, Kildare Street, Dublin.

ROYAL COLLEGE OF SURGEONS IN IRELAND

THIS body, besides granting a Licence in Surgery, admits those possessed of registrable surgical qualifications to its Fellowship under certain conditions. Its Licence is usually granted conjointly with that of the College of Physicians, but it is given separately to holders of a registrable qualification in medicine, provided the College is satisfied that adequate courses of study have been pursued, and provided its own provisional examination is passed. This examination is held on its behalf by the Conjoint Board, and is identical with the ordinary surgical portion of the examinations imposed by that body.

The Fellowship.—Candidates for the Fellowship must pass two examinations, of which the first is in anatomy (including dissections), physiology, and histology, and the second in surgery (including surgical anatomy) and pathology. Both examinations are partly written, partly practical, and partly viva voce, while the final examination includes the performance of operations. All subjects of either examination must be passed at one time, and in neither can a candidate be admitted who has been rejected in any of its subjects by any other licensing body within three months. Candidates are not admitted to the Primary Examination except on evidence that they have already passed an examination in anatomy, physiology, and histology, held by some university or other body whose degrees or licences entitle the holder to admission to the *Medical Register*, if, however, the candidate's name is on the Colonial or Foreign List in the *Medical Register*, at the discretion of the Council. Candidates for the Final Examination must be over 25 years of age, produce a certificate of general good conduct signed by two or more Fellows of the College, and, if successful, must make a declaration before admission to the effect that they do not conduct dispensing practices, and will not do so as long as they are Fellows.

Fees.—Candidates for the Licence pay 5 guineas for examination which sum if the candidate is counted as part of the fee payable on admission to the Licence, this being 25 guineas. Candidates for the Fellowship pay 5 guineas for each examination, the total of 10 guineas being reckoned as part of the fee payable on admission to the Fellowship. That fee is 25 guineas in the case of those who are already Licentiates, and 40 guineas in the case of others.

APOTHECARIES' HALL OF IRELAND

A DIPLOMA is granted by this Hall which entitles the holder to be registered as a practitioner of medicine, surgery, and midwifery, and confers also the privileges of an apothecary. Women candidates are eligible.

Fees.—Primary Examination (Parts I and II) £21. Final Examination £21. Subjects of examination: Primary Part I, Anatomy and Physiology; Primary Part II, Materia Medica including Pharmacy, Medical Jurisprudence and Hygiene, Pathology. Final Examination, Medicine, Surgery, and Midwifery. Candidates must enter for and pass at the one time in Anatomy and Physiology. They are at liberty to enter for the subjects of the Final Examination at separate times, but the Final Examination cannot be completed until a period of three years has elapsed from the date of passing Primary Examination Part II.

Application for other information should be made to the Registrar, 95 Merrion Square, Dublin.

MEDICAL SCHOOLS AND COLLEGES.

LONDON

INFORMATION as to the fees at each of the various metropolitan medical schools, and the scholarships, prizes, and junior appointments which they offer, will be found in the following pages. The courses they provide are fundamentally the same, and in all or them the arrangements made are such as to meet the requirements of students of every class—of those who are aiming at the diplomas of the English Conjoint Board or the Apothecaries' Society, not less than of those who have London or other university degrees in view. At all, too, special facilities are offered to students who have commenced their professional education at Oxford or Cambridge, and are seeking the medical degrees of those universities.

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received treatment. Of the latter number, 39,226 received treatment in the departments for diseases of the ear, nose, throat, eye, skin, and teeth, and in the paediatric, orthopaedic, venereal, radiological, electro- and physico-therapeutical, and inoculation departments. The number of major operations which were performed amounted to 7,422.

The hospital presents, therefore, a large field for clinical instruction, and in its wards and out-patient and special departments exceptional opportunities are afforded for acquiring an extensive and practical experience of all phases of disease.

A clinical unit in medicine, under the charge of a whole-time director, assisted by an assistant director, two assistants, and two house-physicians, provides for the more elaborate methods of diagnosis and treatment, and takes a leading part in the initiation and co-ordination of medical research. To each medical and surgical firm throughout the hospital there is attached a first assistant, who is responsible for instructing the clerks or dressers of the firm in elementary medicine and surgery, and who assists the honorary members of the firm in the preparation of their demonstrations. In the department of obstetrics and gynaecology there are two assistants and two resident accoucheurs. Special courses of lectures and demonstrations are arranged in medicine and surgery and in their ancillary subjects. Opportunities for research are provided under the supervision of the staff.

All the departments are modern and adapted for the teaching of all subjects in the various curricula. Special courses of instruction are held in preparation for the examinations of the University of London, for the Fellowship of the Royal College of Surgeons, and for the Membership of the Royal College of Physicians. Special entries can be made for the medical and surgical practice of the hospital. Two resident hostels are provided for the convenience of students and the holders of house appointments. Recent additions to hospital and college buildings include a laboratory for the manufacture of certain preparations of radium. The athletic ground, of over thirteen acres, is at Higham's Park, and is open to all members of the Clubs Union

Appointments.—The salaried appointments, open to past students of the hospital are those of assistants to the medical unit, first assistants to the medical and surgical firms; obstetric registrar, assistants to the department of obstetrics and gynaecology, medical, surgical, and obstetric tutors; clinical assistants in the medical, surgical, ophthalmic, aural, light and skin orthopaedic, and electrical departments, and in the Institute of Pathology There are appointed annually 4 resident accoucheurs, 14 resident house-physicians and 22 resident house-surgeons, 14 resident receiving-room officers, 8 resident emergency officers, 8 clinical assistants to the medical out-patient department, and 16 clinical assistants to the surgical out-patient department, also paid and unpaid clinical assistants in the various special departments. In addition, there are numerous assistantships, clerkships, and dresserships in the departments of medicine, surgery, gynaecology, and obstetrics.

Scholarships and Prizes.—The following is a list of scholarships and prizes:—At entrance: Price Scholarship in science, £100. Two open scholarships, each of the value of £100. Scholarships open to students of Oxford and Cambridge Universities (1) £100, anatomy and physiology; (2) £100, pathology. Entrance Scholarship in science, £50; Epsom Scholarship, "free medical education." After entrance: Burton Prize in anatomy and physiology, £40; Letheby Prizes in organic chemistry and chemical pathology, £25; Prizes in clinical medicine, surgery, and obstetrics and gynaecology, £20 each; Duckworth Nelson Prize in practical medicine and surgery, £10; Hutchinson Prize in clinical surgery, £60; Treves Prize in clinical surgery, £15, Sutton Prize in pathology, £20; K. E. D. Payne Research Scholarship in pathology, £20; Sir Andrew Clark Prize in clinical medicine and pathology, £14; T. A. M. Ross (proxime accessit) Prize in clinical medicine and pathology, £10 10s; Anderson Prizes in elementary clinical medicine, £20, Dressers' Prizes, £20; Practical Anatomy Prizes, £10; Arnold-Thompson Prize in medical and surgical diseases of children, £15; Liddle Prize, £120; Francis Farmer Entrance Scholarship in chemistry and physics, £25, Harold Fink Prize in dental surgery, £8 8s. The "London" Prizes in dental surgery and pathology, £5 5s., and in dental prosthesis, £5 5s. Seven class examination prizes, each of the value of £3 3s., are offered for competition at the end of the courses of lectures in the dental curricula. Funds to the value of over £113,000 permit of financial assistance being given to students and graduates engaged in medical research.

Fees.—Entrance fee, 20 or 15 guineas, according to examinations passed; annual fee, 40 guineas.

Full information may be obtained from the Dean at the London Hospital Medical College, Mile End, E.1.

THE MIDDLESEX HOSPITAL.

THE school and hospital are in Mortimer Street, W.1, close to Oxford Circus, Goodge Street, and Great Portland Street stations. There are a gymnasium, common rooms, and restaurant within the hospital precincts, and an athletic ground within easy reach. The hospital contains over 450 beds, including a wing containing 92 beds for patients suffering from cancer. There are special wards for maternity and gynaecological cases, for mental cases, for cases of venereal disease, and for diseases of children and of the skin and eye. The newly built west wing and residents' house are now occupied.

The medical school, which includes the Bland-Sutton Institute of Pathology, the S. A. Courtauld Institute of Biochemistry, and the Barnato-Joel Laboratories, is completely equipped for teaching the entire medical curriculum, including the pre-medical subjects, chemistry, physics, and biology. The Bland-Sutton Institute, under the charge of the Professor of Pathology, contains large pathological and public health laboratories, and smaller rooms for original investigation as well as a pathological and anatomical museum. Bacteriological, chemical, and microscopical examinations of material from the wards, operating theatres, and out-patient departments are carried out in the laboratories, and senior students are eligible for clerkships in connexion with this work. Junior assistants in the pathological and bacteriological laboratories are elected annually from recently qualified students. Every facility is given for original research. The Biochemical Institute is under the charge of the Professor of Biochemistry, and contains teaching and research laboratories in addition to those devoted to the routine clinical work of the hospital. The Barnato-Joel Laboratories offer unrivalled opportunities for the study of cancer in both its clinical and pathological aspects

Appointments.—Twenty-six resident appointments are open annually for competition among students of the hospital. The officers reside and board in the residential college free of expense Two casualty medical and two casualty surgical officers, and three resident officers to the special departments, are appointed annually. Eight house-surgeons are appointed every year at intervals of two months, after examination, six house-physicians are also appointed annually at similar intervals. An obstetric and gynaecological house-surgeon is appointed every six months. Ten registrars are appointed annually In the out-patient departments the appointments are: clerk and dresser to the physicians and surgeons to out-patients; clerk in the departments for diseases of the skin and nervous diseases, dressers to the department for diseases of women, to the ophthalmic surgeon, to the throat and ear department, and to the dental surgeon. Extern midwifery clerks and post-mortem clerks are also appointed. The appointments are so arranged that every student may, during his course, hold all the out-patient and in-patient clerkships and dresserships. Students must have held an out-patient clerkship and dressership before holding in-patient clerkships or dresserships. Non-resident qualified clinical assistants are appointed in the medical, surgical, skin, neurological, ophthalmic, throat and ear, odonto-logical, children's, and electro-therapeutic out-patient departments.

Scholarships.—There are two Entrance Scholarships, value £100 each. Two annual Entrance Scholarships, of the value of £90 and £60 respectively, are open to students of the Universities of Oxford and Cambridge who have completed the curriculum for, or passed the examinations in, anatomy and physiology Students joining the school in the previous April are eligible. The Freer Lucas Scholarship is annually awarded on the nomination of the headmaster to a pupil of Epsom College who has passed the first examination for medical degrees (Preliminary Scientific Examination). There is also a scholarship, value £50, awarded annually to students from New Zealand. In addition to the Entrance Scholarships, there are numerous other valuable scholarships, prizes, and exhibitions open to students of the hospital, including the Brodrip Scholarships, value £60 and £40; Lyell Gold Medal and Scholarship, value £55 5s.; Freeman Scholarship, value £30; John Murray Gold Medal and Scholarship, value £25, Hetley Clinical Prize,

Fees.—First year (First M.B. or pre-medical course), £36 15s.; second and third years, £42 each. For the course of clinical study, in the fourth and subsequent years, entrance fee, £10 10s.; annual composition fee, £42. No entrance fee is payable by St. George's students who have studied at King's College.

Further information may be obtained from the Dean of the Medical School.

St. Mary's Hospital.

THIS hospital and medical school are situated close to Paddington Station (G.W.R.), having on one side a poor district of 500,000 persons, and on the other side the residential district of Kensington and Bayswater. The hospital contains 348 beds, and extensions recently completed have provided two new operating theatres. By a scheme of affiliation, for teaching purposes, of several neighbouring hospitals, the teaching facilities extend over 1,000 beds. By arrangement with the Lock Hospital, students take the courses of instruction in venereal diseases there. The athletic ground (ten acres) is situated at Wembley, and can be reached in twenty minutes by a constant service of trains.

Clinical Facilities.—Clinical units in medicine and surgery were established in 1920, and have now been formally recognized by the University Grants Committee, St. Mary's being one of the six medical schools in London which enjoy this privilege. Under this system professors of medicine and surgery, with competent assistants, give their whole time to teaching and research. This means a regularity of teaching and a degree of individual attention that are only possible where units exist. The system also provides additional salaried posts which are open to students after qualification.

Teaching of Midwifery.—The hospital has lying-in beds, and in addition to the instruction thus obtained each student attends a short course at Queen Charlotte's Hospital as part of his training in midwifery, without additional fee. Under the new building scheme it is proposed to institute additional lying-in wards.

Institute of Pathology and Research.—Students specially interested in pathology and bacteriology have singular advantages at St. Mary's. The Institute comprises seven special departments, the whole being under the personal direction of Sir Almroth Wright, F.R.S. Research scholarships of £200 each are awarded annually to students working in the departments of the Institute, and research beds are provided. Clerkships in pathology and bacteriology and chemical pathology, lasting for a period of three months, are open to students of the fifth year, and enable them to carry out the pathological and bacteriological investigations of the wards, and learn the necessary technique under supervision. Seventy-two of these posts are available annually. Numerous appointments are open to newly qualified members of the medical school, including ten salaried posts, with salaries varying from £200 to £750 per annum.

Rebuilding of the Medical School.—The site for the rebuilding of the medical school and inoculation department has already been cleared, and building operations will be commenced shortly. The new school will contain departments for the teaching of all preliminary and intermediate subjects, and will include a students' club, dining and billiard rooms, and a gymnasium and swimming bath.

Complete Curriculum.—The medical school provides complete courses of instruction, and students can join at once on passing a preliminary examination in arts. Terms begin in October, January, and April.

Entrance Scholarships.—Two Entrance Scholarships of £210 each and one of £26 5s. are awarded annually in July by nomination on the lines of the Rhodes Scholarships. The Geraldine Harmsworth Scholarship (£200) and one or more University Scholarships of £200 are awarded annually in July.

Fees.—Composition fees for entire curriculum (6 years), £205 in one sum, or £215 by five annual instalments. Composition fee for clinical curriculum (3 years), 95 guineas in one sum, or 100 guineas by two annual instalments. As an alternative, students may pay an annual fee of 40 guineas, with an entrance fee.

St. Thomas's Hospital.

THIS school and hospital are situated in Lambeth, on the south bank of the Thames, facing the Houses of Parliament, and form one of the well-known architectural features of London.

The school buildings, which are separated from the hospital by a quadrangle, comprise lecture theatres, laboratories, and classrooms well adapted for the modern teaching of large bodies of students in the subjects of the medical curriculum. A splendid library and reading room and a complete museum are open to all students from 9 a.m. to 5 p.m., on Saturdays to 1 p.m. St. Thomas's House, the new Students' Club recently opened, comprises spacious dining and club rooms, etc., and provides accommodation for some sixty resident students. The terrace affords facilities for exercise and recreation. The sports ground, more than nine acres in extent, is at Chiswick. It can be reached in forty minutes from the hospital; it is admirably adapted for football, cricket, lawn tennis, and athletic sports.

The hospital proper contains 644 beds. In addition to the ordinary provisions of a great hospital there are connected with the out-patient department physicians' and surgeons' rooms provided with ample sitting accommodation, so that students are enabled to follow closely the practice and teaching of the out-patient staff. There is a full complement of special departments, and connected with the hospital a special tuberculosis department gives opportunity for instruction of students. There is a clinical theatre, centrally situated, so as to facilitate the illustration of lectures by patients from the wards and out-patient room; it is arranged also for lantern demonstrations. Clinical units in medicine and surgery have been established. The maternity ward, containing 21 beds, gives students full facilities for maternity training, under supervision, within the precincts of the hospital. This obviates any necessity for supplementary instruction elsewhere, and fully prepares the student for the extern maternity practice of the hospital district. The revised regulations of the examining bodies can thus be fully complied with.

Appointments.—All hospital appointments are open to students without charge. A resident assistant physician and a resident assistant surgeon at £225 each per annum, and a resident anaesthetist at £200 per annum, are appointed annually. Eight hospital registrars—three medical, one diseases of children, and four surgical—at an annual salary of £250 each, rising by £25 to £300, are appointed yearly. The tenure of these offices may be renewed for a term not exceeding three years. A pathological registrar to the department of obstetrics and gynaecology (at an annual salary of £250), an ophthalmic registrar (at an annual salary of £200), and an orthopaedic registrar (unpaid) are appointed yearly. Ten resident casualty officers and anaesthetists (including two senior) are appointed every six months. Seven house-physicians (including two obstetric house-physicians and one house-physician to the department of diseases of children) and nine house-surgeons (including two ophthalmic house-surgeons, one orthopaedic house-surgeon, and two house-surgeons to the ear, nose, and throat department) are appointed every six months. Thirty-six or more clinical assistants in the special departments are appointed every three months, and hold office for six months if recommended for re-election. Clinical clerkships and dresserships to the in-patient and out-patient departments are available to the number of 400 each year.

Scholarships.—There are five Entrance Scholarships: one in arts, giving two years' free tuition; one of £150 and one of £60, in chemistry, physics, and biology, for students who have not received instruction in anatomy or physiology; one of £100, and an exhibition worth £40, in any two of the following subjects: anatomy, physiology, chemistry, or pathology, for students who have completed their examinations in anatomy and physiology for a medical degree in any of the universities of the United Kingdom or the Colonies, and have not entered as clinical students in any London medical school. The money value and subjects of examination of the remainder are as follows: (*a*) William Tite Scholarship for second-year students, £25; (*b*) and (*c*) Musgrove Scholarship or (alternately) Peacock Scholarship, each for third-year students and tenable for two years, £35 each; (*d*) Mead Medal, medicine, pathology, and hygiene; (*e*) Wainwright Prize, medicine; (*f*) Toller Prize, medicine; (*g*) Cheselden Medal, surgery and anatomy; (*h*) Clutton Memorial Medal in clinical surgery, biennial; (*i*) Beaney Scholarship, £50 biennially, surgery and clinical pathology; (*j*) Solly Medal and Prize, biennially, reports of cases; (*k*) Sutton Sams Prize, biennially, reports of cases, (*l*) Bristowe Medal, pathology and morbid anatomy; (*m*) Hadden Prize, pathology and morbid anatomy; (*n*) Grainger Testimonial Prize, £31 10s., anatomy and physiology; (*o*) Louis Jenner Research

INTERMEDIATE HOSPITAL IN ANNEXE AT 17, PARK LANE

Helped by an endowment fund, an Intermediate Hospital is now open for suitable general surgical cases at 17, Park Lane, London, W 1 The fees for a room cost now only two guineas a week, interest in the project having made possible a series of four reductions since the scheme was started

(The whole scheme is an attempt to help people unable to pay ordinary full surgical expenses and yet at the same time to avoid any semblance of a charity which would be distasteful to such)

(The only condition attaching to the endowment is that any advantages—such as they are—should be widely advertised and not in any way limited to any small section of the community A further promise is made that if, and as, more beds are required they will be provided)

All further particulars can be obtained from the Secretary or Matron at 17, Park Lane
Telephones Grosvenor 2312 & 2313

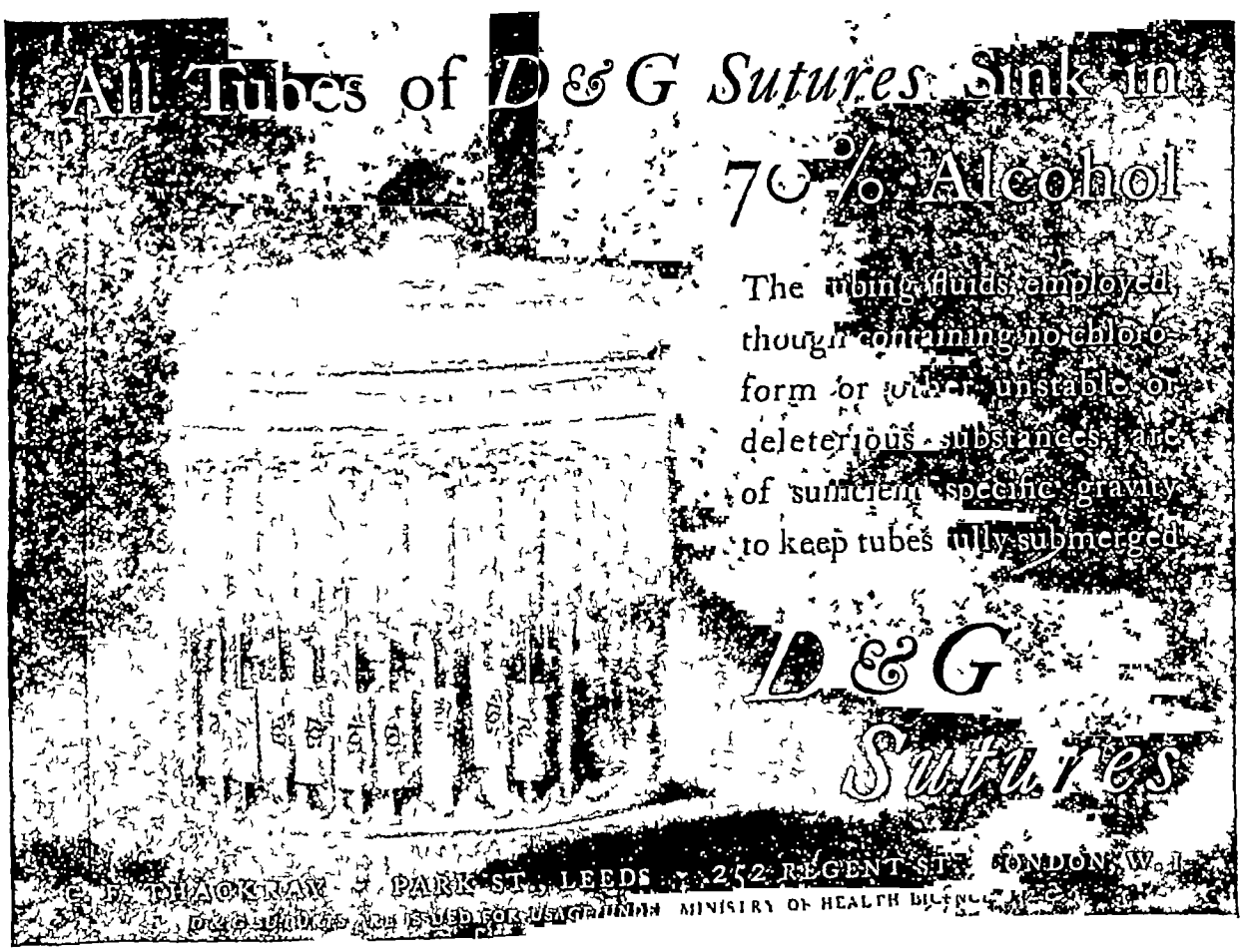
A Typical Scale of Reduced Fees for Surgical Cases in the Annexe Clinic of the Harold Fink Memorial Hospital at 17, Park Lane

Hospital Fees, including Nursing, 2 guineas a week (limited to an average stay of 3 weeks)	£6 6 0
Dressings, Theatre Fees, etc	1 1 0
Anæsthetic Fee	3 3 0
Surgical Fees for Major Operation (nominal fee only according to patient's means) (say, from)	10 10 0
(From Twenty guineas inclusive fee)	£21 0 0

The patient must be recommended as a suitable case for these reduced fees by their own Medical Attendant who may of course be present at the operation, and who, if convenient to himself, will take charge of the after-treatment while in hospital, and be paid direct by the patient his usual fees for such attendance

When the patient's doctor wishes to arrange a preliminary consultation with the Surgeon-in Chief (with a view, for example, to a Bismuth Meal, Cystoscopic, X-ray Examination etc), all that is necessary is to telephone either the Secretary or Matron, and an appointment will be made (Proportionately reduced nominal fees only charged therefor)
Telephones Grosvenor 2312 & 2313

All rooms are of course separate, and hold one patient only, there being no wards



and are fully equipped for the examination courses of the University of London and the Royal Colleges of Physicians and Surgeons. Research laboratories are attached to all departments. A large, well-equipped library, common room, Union Room, and refectory are provided for the use of students. Resident accommodation for 80 students is provided in students' chambers attached to the school.

The Royal Free Hospital, Gray's Inn Road, W.C.1, has 268 beds, all of which are available for clinical instruction. The obstetrical and gynæcological unit controls 68 beds. A large maternity district is served from the unit with a separate maternity hostel in the Essex Road, Islington. There are separate departments for diseases of the eye, ear, and skin, children and infant welfare, venereal diseases, orthopædic surgery, massage, light, electrical and x-ray work, dentistry, and casualty. Students attend the practice of one of the fever hospitals of the Metropolitan Asylums Board and receive special instruction in lunacy at Horton Mental Hospital, Epsom; they are also admitted to the practice of a number of special hospitals, and hold clerkships and dresserships at the Elizabeth Garrett Anderson Hospital, the Cancer Hospital, Hospital for Sick Children, Great Ormond Street, the National Hospital for Nervous Diseases, the South London Hospital, and the Royal Ophthalmic Hospital. The work of the school includes preparation for the Primary Fellowship examination, and also for the Medical School and general hospital course for dental students.

Appointments.—Qualified students of the school can obtain appointments as house-physicians and house-surgeons, obstetric assistants, surgical, gynæcological, and medical registrars, assistant pathologists, assistant anæsthetists, medical electrician, skiagrapher, and clinical assistants and demonstrators in various subjects.

Scholarships.—The Isabel Thorne Entrance Scholarship, value £30, the St. Dunstan's Medical Exhibition, value £60 a year for three years, which may be extended to five years, the Alfred Langton Scholarship of £50 a year for two years, the Flora Murray Bursary of £50, and the Mabel Sharman-Crawford Scholarship, value £20 a year for four years, are offered for competition in each year. The Sir Owen Roberts Memorial Scholarship of the value of £75 a year for four years, the Mrs. George M. Smith Scholarship of the value of £50 a year for three years, which may be extended to five years, the Dr. Margaret Todd Scholarship of the value of £37 10s. a year for four years, and the Sarah Holborn Scholarship of the value of £20 a year for three years, which may be extended to five years, are awarded in alternate years. The School Jubilee Bursary of £50 a year for three years is offered every third year. The Bostock Scholarship, value £30 a year for two or four years, is awarded by the Reid Trustees on the result of an examination held in May by the University of London every fourth year. The holder of the scholarship must enter the London School of Medicine for Women. The Lieutenant Edmund Lewis and Lieutenant Alan Lewis Memorial Scholarship, of the value of £25 a year for four years, is awarded every fourth year. The John Byron Bursary of £20 a year for two years, the Julia Ann Hornblower Cock Prize of £60, the Helen Prideaux Prize of £60, the Mabel Webb Research Scholarship of £30 for two years, the Fanny Butler Scholarship of £16 a year for four years, together with many other scholarships and prizes, are offered on sundry conditions. The Dr. Edith Pechey-Phipson Post-Graduate Scholarship of £100 is awarded annually. Altogether the school offers annually £1,350 in scholarships. Various missionary societies also offer scholarships on certain conditions, and assist women who wish to go to India and other countries as medical missionaries.

Fees.—Courses for the University of London degrees and the diplomas of the Conjoint Board in England and other qualifications £50 per annum throughout the course.

The Students' Union exists to promote corporate action of the students on matters of common interest, to promote and maintain athletic and other clubs, and to issue a school magazine. All students are required to become members of the Union.

Further information can be obtained from the Warden and Secretary.

KING'S COLLEGE

In the Faculty of Medical Science instruction is given in the preliminary and intermediate subjects of the first and second examinations leading to the degree of M.B., B.S. of the University of London, of the corresponding examinations of other universities, and of the Conjoint Examining Board of the Royal Colleges of Physicians and Surgeons. The courses are open to women students on the same terms as to men.

Regular students who have completed their preliminary and intermediate examinations proceed to one of the associated or other hospitals to pursue their studies for the final examinations. Special courses in anatomy and physiology are held in preparation for the primary examinations for the Fellowship of the Royal College of Surgeons.

A course for the degree of the University of London and for the diploma of the Royal College of Surgeons in dental surgery is given in conjunction with King's College Hospital Medical School.

Scholarships.—The entrance scholarships are (1) Two Warneford Scholarships, each £30 for four years, subjects—selected from mathematics, classics, divinity, and science; (2) One Sambrooke Scholarship of £30 for three years, subjects of examination selected from mathematics, classics, and science. The holders of the preceding awards must proceed to King's College Hospital; (3) Worsley £100, paid in five annual instalments; (4) Rabbeth Scholarships, value £30 and £15, in July, for the best student of the first year; (5) Donnell Scholarship, £40, awarded on the results of the University Honours Examination; (6) The Layton and Berridge Studentships, each £150 per annum, and (7) numerous prizes.

Full information as to admission, fees, and scholarships can be obtained from the Dean of the Faculty of Medical Science, King's College, Strand, W.C.2.

UNIVERSITY COLLEGE.

This institution, one of the principal component parts of the University of London, possesses a Faculty of Medical Sciences whose work covers all the subjects included in the group commonly known as the preliminary medical sciences—namely, physics, chemistry, botany, and zoology; and also the intermediate medical sciences—namely, anatomy (including embryology and histology), physiology, biochemistry, and pharmacology. The new anatomy building, provided by the munificent gift of the Rockefeller Foundation of New York, was opened on May 31st, 1923, by His Majesty the King. This building forms part of the block which includes physiology and pharmacology. Research work is undertaken in all the above-named departments. The College undertakes the education of students in all the subjects mentioned, leaving them free to complete their education in the strictly professional subjects—medicine, surgery, and the like—at any one of the recognized schools of advanced medical studies. The work is somewhat differently arranged, according to whether the student has in view the degrees of the University of London or the diplomas of the Royal Colleges. In either case the whole work to be done is divided into courses devised to meet the requirements of different examinations, and students can join the College for any of them. Women students are admitted to all courses on the same terms as men. The general arrangements for the benefit of students include membership of the Union Society or the Women's Union Society with the College gymnasium and the athletic grounds. There is also a collegiate residence for about fifty-five men students at Ealing and for about seventy women students at Byng Place, Gordon Square.

Scholarships.—The scholarships and exhibitions obtainable include the Bucknill Scholarship, value 160 guineas, in chemistry, physics, botany, and zoology (the successful student must complete his work at University College Hospital Medical School), two entrance exhibitions in the same subjects, each of the value of 55 guineas, a Faculty of Medical Sciences Entrance Scholarship value £30 a year for three years, and the Baynes Starling Memorial Scholarship (physiology and or biochemistry), £120.

Fees.—The fees for the courses covering the work of the First Examination for medical degrees of the University of London and in both parts of the Second Examination, amount to 115 guineas. The fees for the courses covering the corresponding examinations held by the Conjoint Board in England also amount to 115 guineas. These fees may be divided into payments for the different courses which it may be desired to take out, but do not cover tuition for more than a stated period.

A handbook specially relating to this faculty may be obtained on application to the Secretary of University College, Gower Street, London, W.C.1.

THE PROVINCES

There are in England and Wales, not counting London, ten medical schools each supplying instructions in the full medical curriculum. Accounts of these here follow. In several cases information is appended about hospitals other than those directly connected with the school in question; such hospitals, officially and unofficially, play a part in the education which the students of the school receive, and in any case serve as places of additional or post-graduate study.

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JULY 5TH, 1930

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THE LONDON & COUNTIES MEDICAL PROTECTION SOCIETY, Ltd.

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Some of the Fellowships awarded by the Colston Research Society for research in the university are allotted to the Faculty of Medicine.

A Bowlby Fellowship tenable for three years is open to all members of the university holding a medical qualification.

Fees.—The fee for all the courses required for the medical curriculum, including hospital practice, is 205 guineas, paid by annual instalments.

Further information as to scholarships, curricula and fees can be obtained from the Dean of the Faculty of Medicine, or the Registrar of the University, Bristol.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE

THIS, the Medical School of the Faculty of Medicine of the University of Durham, is in the neighbouring city, Newcastle-upon-Tyne. Its classes and lectures are arranged to meet the requirements of the university in all the degrees which the latter grants, and also those of the other examining bodies. The students do their work in the preliminary sciences at Armstrong College, also part of the university. Hospital practice is carried out at the Royal Victoria Infirmary, a general hospital containing more than 550 beds, where there are facilities for the study of the various special subjects. Students do their practical midwifery at the Princess Mary Maternity Hospital, which contains 90 beds, and has an annual indoor and outdoor attendance on 3,000 cases. In the Heath wing of the school itself there is a gymnasium and a set of rooms for the separate use of the students. A new bacteriological department has been erected adjacent to Armstrong College.

Post-Graduate Instruction.—A comprehensive series of post-graduate courses has been arranged to enable practitioners to take advantage of the facilities for laboratory work and clinical study which are afforded by the College, the Royal Victoria Infirmary, and other associated hospitals, and in order to meet the varied requirements of practitioners there are general and special courses in the winter and summer session as well as an intensive course in the summer vacation.

Students' Union.—A Students' Union has been erected and furnished at a cost of over £40,000, and is in daily use. Separate accommodation (non-residential) is provided for men and women students.

Appointments.—Pathological assistants, and assistants in the eye department, throat and ear department, and department for skin diseases, are elected periodically. Clinical clerks and dressers are appointed every three months.

Scholarships.—University of Durham Entrance Scholarship, £25 a year for four years; Pears Entrance Scholarship £40 a year for three years (awarded every third year), Heath Entrance Scholarship (from Kepier Grammar School), £60 (renewable), Province of Durham Masonic (Entrance) Scholarship, £60 (renewable), Heath Scholarship for surgery, £200 available every second year, Rutherford Morison Surgical Scholarship, £180, available every third year.

The following scholarships are tenable for one year—namely, Tulloch Scholarship for elementary biology and organic chemistry, £20, Dickinson Scholarship for medicine, surgery, midwifery, and pathology, Gold Medal and £20, Charlton Scholarship for medicine, £25, Gibb Scholarship for pathology, £23, Luke Armstrong Scholarship for comparative pathology, £25, Stephen Scott Scholarship for surgery, £40, Philipson Scholarships for highest marks in Final M.B., B.S. Examination, two of £48 each, Goyder Memorial Scholarship for clinical medicine and clinical surgery, interest on £325, Gibson Prize for midwifery and diseases of women and children, £10, Turnbull Prize and Silver Medal for surface anatomy, Outterson Wood Prize for psychological medicine, £10, and Sewell Memorial Prize and Silver Medal for clinical pathology. At the end of each session a prize of books is awarded in each of the regular classes.

Fees.—The composition fee for lectures at the college is £140. Composition fee for hospital practice, £46, *plus* £2 2s. yearly for three years, payable to the Committee of the Royal Victoria Infirmary. Other information should be sought from the Dean of the College, University of Durham College of Medicine, Newcastle-upon-Tyne.

LEEDS

THE School of Medicine—which is open to both male and female students—in this city forms the teaching centre of the Medical Faculty of the University of Leeds, and is situated in immediate proximity to the General Infirmary, where students sufficiently advanced receive their clinical instruction. The buildings were opened in 1894, and contain excellent dissecting rooms, well-arranged laboratories for physiology, pathology, and bacteriology, three lecture theatres, and several similar classrooms. In addition, there are a library and reading room and museums of pathology and anatomy. The comfort of the students is secured by means of common rooms and a refectory. Extensions of the medical school buildings will be opened in October, 1930, and an Institute of Pathology is to be built in the near future on an immediately adjacent site. The General Infirmary has 632 beds, and includes gynaecological and ophthalmic wards, special children's wards, and a large out-patient department. The Ida and Robert Arthington Semi-convalescent Hospitals, Cookridge, attached to the infirmary, have 88 beds. The West Riding Mental Hospital at Wakefield is available for the study of mental diseases. Students can, in addition, attend the practice of the Leeds Public Dispensary, the Hospital for Women and Children, and the Leeds Maternity Hospital.

Appointments.—Physicians' clerks and surgical dressers are appointed every six months, clerks in the children's department, orthopædic dressers, ophthalmic and aural dressers, gynæcological ward clerks, maternity clerks, assistant physicians' clerks, dermatological clerks, assistant surgeons' dressers, dressers in the casualty rooms, junior and senior post-mortem clerks, laboratory assistants and dressers in the venereal clinic every three months. After graduation a considerable number of resident and other appointments become available in the Leeds General Infirmary, Leeds Public Dispensary, Hospital for Women and Children, West Riding Mental Hospital, etc., occupying periods of from six to twelve months at rates varying from £20 to £150 per annum.

Scholarships.—The university awards annually on the results of the first examination a scholarship in the form of free admission to the lectures and classes given in the School of Medicine. The university also awards a scholarship on the results of the second examination, of the value of £68, in the form of free admission to the clinical teaching of the infirmary.

Fees.—It is estimated by the authorities that the approximate cost of medical education to a student in this university is £324 *plus*, of course, the expenses of living during the five and a half years covered by the curriculum. The composition fee for the course for the first, second, and third examinations, and for the clinical work at the infirmary is £237. The composition and clinical fee for those who have passed the second examination is £156.

Further information can be obtained from the Academic Subdean or Clinical Subdean, School of Medicine, Leeds.

LIVERPOOL

THE Medical School of this city is part of the university, and, owing to the enlightened liberality of several men of wealth, is exceptionally well provided with special laboratories, as well as with ordinary spacious and well-equipped classrooms and laboratories for the instruction of students proceeding to medical degrees and diplomas in special and ordinary subjects. All the laboratory and other rooms are situated close to one another and intercommunicate, together forming large blocks of buildings. The work of students throughout all stages of their career is arranged upon very satisfactory lines, and the teaching hospitals, of which a list is given below, have amalgamated to form the clinical school of the university.

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connected with the subjects of the first and second examinations—namely, chemistry, physics, biology, anatomy, and physiology—are, both as regards structural arrangement and scientific equipment, on the most modern and complete lines.

For students of pathology and bacteriology there are laboratories replete with everything necessary for the most advanced work, and a large pathological museum, which is open daily. In addition, there is a large library and reading room. There are a number of recreation, athletic, and other societies, all under the management of an annually elected students' representative council, and large and comfortable common rooms for both men and women students. There are also two student unions—one for men and one for women students. In the university buildings there is a refectory open to all students of the school, and a university journal is published each term. The ordinary clinical work of the school is done at the Royal Infirmary and Royal Hospital, which have amalgamated for the purpose of clinical instruction, and provide over 800 beds for medical, surgical, and special cases, including diseases of the eye.

In addition, the Royal Infirmary has special departments for the treatment of diseases of the skin and ear, with beds assigned to them, whilst at the Royal Hospital there are special out-patient departments for diseases of the throat, ear, skin, orthopædics, and mental diseases. The medical and surgical staffs attend daily, and give clinical instruction in the wards and out-patient rooms. Clinical lectures in medicine and surgery are given weekly. Instruction in the practical administration of anæsthetics is given at either institution by the anæsthetists, and the post-mortem examinations at both institutions are in charge of the Professor of Pathology, and afford ample material for study of this subject. Students are able to attend the practice of the Jessop Hospital for Diseases of Women and the Hospital for Sick Children, while special courses on fever are given at the City Fever Hospital, and on mental diseases at the South Yorkshire Mental Hospital.

Appointments.—The following appointments are open to all students who have passed their examinations in anatomy and physiology: (1) casualty dresserships, (2) surgical dresserships, (3) medical clerkships, (4) pathological clerkships, (5) ophthalmic clerkships, (6) clerk to the skin department, etc. These appointments are made for three months, commencing on the first day of October, January, April, and July.

Scholarships.—Entrance Medical Scholarship, value about £100, open to both sexes. Six Edgar Allen Scholarships of £125 a year for three years may be held by students taking the degree course in medicine. Two Town Trustees' Scholarships, each of the value of £50 a year, tenable for three years for boys or girls under the age of 19 years who have been educated in a Sheffield secondary school for a period not less than two years immediately preceding the examination. Four Town Trustees' Scholarships, value £50 a year, for boys or girls under 19 years of age educated in any school in Sheffield, secondary or otherwise. Town Trustees Fellowship, value £75, tenable for one year. Mechanics Institute Fellowship, value £50 (with remission of fee), tenable for one year, and renewable for a second year. The Fredrick Clifford Scholarship, value about £50, tenable for two years. Kaye Scholarship for proficiency in anatomy and physiology. Gold and bronze medals are also awarded for proficiency in various subjects.

Fees.—Students in the Faculty taking their complete medical course in the university pay an inclusive composition fee of £36 for each of the first five years and £25 6s. 8d. for the sixth year. The composition fees for the dental courses are as follows: for B.D.S., first and third years, £75, second, fourth, and fifth years, £25, for L.D.S., first and second years, £75, third and fourth years, £25. The fee for special courses taken separately can be ascertained by inquiry of the Dean. (*Note.*—The fees for the session 1931–32 will be increased.)

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THE next session opens on October 7th. All classes are open to both men and women students. Particulars relating to the admission of students as from October 7th, 1930, can be obtained on application to the Dean of the Faculty of Medicine, or to the Secretary, Welsh National School of Medicine, Newport Road, Cardiff.

The following is a list of heads of departments: Physics, Professor (to be appointed), chemistry, Professor W. J. Jones; zoology, Professor W. M. Tattersall, botany, Professor R. C. McLean, anatomy, Professor C. McLaren West; physiology, Professor T. Graham Brown, materia medica and pharmacology, Dr. W. Mitchell Stevens, pathology and bacteriology, Dr. J. B. Duguid; medicine, Professor A. M. Kennedy, surgery, Professor A. W. Sheen, obstetrics and gynæcology, Professor Sir Ewen J. Maclean, preventive medicine, Professor Edgar L. Collis; tuberculosis, Professor S. Lyle Cummins.

SCOTLAND

As will be gathered from the following paragraphs, the facilities for acquiring a medical education in Scotland are very ample, whether the student be proceeding to a university degree or to a diploma. To the descriptions of the different Scottish medical centres is in some cases added an account of hospitals which either play an official part in the education given to students as yet unqualified, or offer valuable opportunities for post-graduation work.

ABERDEEN

THE school is conducted by the Faculty of Medicine. This comprises thirteen chairs, from which instruction is given in all the main branches of medical science—namely, botany, zoology, physics (ordinary and preparatory), chemistry (ordinary and preparatory), anatomy, physiology, materia medica, pathology, bacteriology, forensic medicine, surgery, medicine, and midwifery. Courses of instruction in public health and infectious diseases, tropical medicine, medical ethics, tuberculosis, and clinical methods are conducted by lecturers appointed by the University Court. Special opportunities for practical instruction are afforded in the laboratories and museums attached to the departments.

Clinical instruction is obtained in the Royal Infirmary (accommodating 370 patients), the Royal Mental Hospital (200 patients), the Sick Children's Hospital (132 patients), the City Fever Hospital (350 patients), the General Dispensary, Maternity, and Vaccine Institution (10 000 out-patients annually), and the Ophthalmic Institution (3 000 patients annually). Courses of practical instruction are given in diseases of children at the Sick Children's Hospital, in fevers at the City Fever Hospital, in mental diseases at the Royal Mental Hospital, in diseases of the ear, nose, and throat at the Infirmary and Dispensary, in diseases of the eye at the Infirmary and Eye Institution, in venereal diseases and diseases of the skin at the Royal Infirmary.

The degrees granted in medicine are Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.). A diploma in public health is conferred after examination on graduates in medicine of any university of the United Kingdom.

The degree of Ph.D. is also granted in this faculty.

Bursaries, scholarships and fellowships, to the number of fifty, and of the annual value of £1,200, may be held by students of medicine in this university. They range from £8 to £150 per annum and are tenable in most cases for two or three years. The winter session begins on October 14th, 1930; the summer session on April 21st, 1931.

Fees.—An inclusive fee of 126 guineas is payable for instruction within the university, and the fee for the degrees of M.B., Ch.B. is 35 guineas. The total cost including hospital fees, class and matriculation fees and degree fees is about £242.

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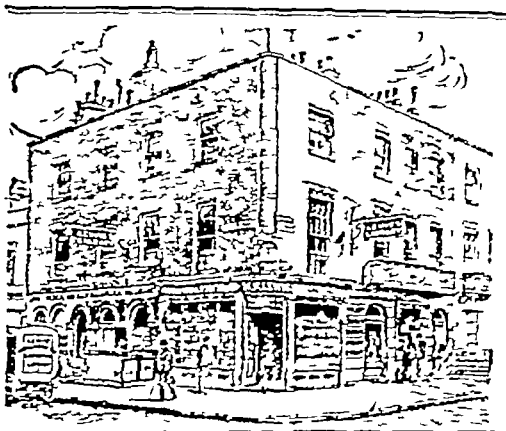
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Fees.—The matriculation fee for each year is £2 12s. 6d. In most cases the fee for each university class is £6 6s., but in some cases it is £4 4s. For hospital attendance at the Western Infirmary students pay £12 12s. for a perpetual ticket, or £1 11s. 6d. for a single term ticket, with an additional fee of £5 5s. for each winter and £2 12s. 6d. per term for each clinical course. The fees are the same at the Royal Infirmary. The university fees for the four professional examinations total £34 13s. For the whole curriculum the fees for matriculation, class attendance, hospital attendance, and professional examinations amount to about £259.

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Scholarships.—The Arthur Scholarship, annual value £20 tenable for three years. Open to competition by medical students of first year at the First Professional Examination in October, 1931. This scholarship is restricted to women medical students.

Full information can be obtained from the Mistress, Queen Margaret College, Glasgow.

Board for Students.—University houses of residence for women students, Queen Margaret Hall and Roberts Hall, are situated near the college. The cost of board and residence is from 35s. to 42s. a week, according to accommodation. Applications to be made to the Wardens. Another hostel near the college is South Park House, Ann Street, belonging to the Student Christian Movement, and open to women students of all colleges in Glasgow. Cost of board is from 32s. to 35s. weekly. Applications to be made to the Warden.

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A Calendar will be sent on receipt of a postcard by the Secretary to the Medical Faculty, the Anderson College of Medicine, Glasgow, W., who will forward any further information which may be desired.

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This institution, formerly known as Queen's College, Cork, is one of the constituent colleges of the National University. It holds examinations for all the faculties of that university, in addition to continuing the work which it has hitherto performed—namely, that of providing education adapted to the needs of medical students at all stages of their career. Its first aim is to fit students for the degrees of the National University, but students proceeding for the examinations of the Conjoint Board of England, Scotland, or Ireland, the Society of Apothecaries of London, or the Apothecaries' Hall of Ireland, or London University, can arrange the courses of lectures which they attend, and the order in which they attend them, to meet the requirements of those bodies. Certificates of attendance at the college courses are also accepted by the University of Cambridge. Clinical instruction is given at the North and South Infirmaries (each 100 beds) and at the Cork Union Hospital (1,200 beds). Students can also attend the Mercy Hospital (130 beds), the County and City of Cork Lying-in Hospital, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session extends from October to June.

There is a Dental School in which the degree of Bachelor of Dental Surgery of the National University of Ireland can be obtained. There is a large well-equipped dental hospital in connexion with the school.

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Further information can be found in the Calendar or obtained on application to the Registrar.

University College, Galway.

This institution is one of the constituent colleges of the National University of Ireland, and includes Faculties of Art, Science, Law, Celtic, Engineering, Commerce, and Medicine. The college buildings are well lighted and well ventilated, and contain dissecting rooms, an anatomical theatre, and laboratories for the study of physiology, chemistry, physics, and other departments of medical science. For pathology and chemistry new laboratories are now provided. It has good grounds surrounding it, and there are many arrangements, such as a library, a college union, and an athletic union, for the benefit of those belonging to the Medical Faculty, as well as for students in other departments of the college. The clinical teaching, which is recognized as qualifying not only for the degrees of the National University, but for those of the London University and the diplomas of the various colleges in the three kingdoms, is carried on at the Galway Central Hospital and the Galway Tuberculosis Hospital. The Galway Central Hospital is a general hospital, and at the two hospitals students have ample opportunities of studying zymotic and chronic diseases. The Central Hospital has a special ward for diseases of children. Each year the governing body offers about £2,500 and the County Councils of Connaught offer about £3,500, in scholarships. These scholarships are tenable in any faculty. Additional information regarding these scholarships can be obtained on application to the Registrar, and to the Secretaries of the Connaught County Councils.

CLINICAL HOSPITALS IN ENGLAND.

Many hospitals in Great Britain and Ireland, though not connected with any medical school, open their doors either to those who have yet to be qualified, to those who are doing post-graduation work, or to both. The facilities they offer for gaining practical clinical experience are very great, and should not be overlooked. Their honorary staffs commonly make a point of giving such instruction as opportunity offers, and at those situated in the larger towns there are often appointments as clinical assistants to be obtained. In addition, they all have to offer, at shorter or longer intervals, appointments for resident medical officers, house-physicians, and house-surgeons. These are usually paid offices, which may be held for periods varying from six months to a year, or even longer. Some of those situated in the great medical centres in the provinces, and in Scotland and Ireland, have already been mentioned in speaking of the medical schools in these localities; but it should be added that there are many other provincial hospitals where admirable work is done, and at which much valuable experience can be gained by both senior and junior students, and by those already qualified. Cases in point are the Royal Infirmary, Bradford; the Royal Sussex County Hospital, Brighton; the Royal United Hospital, Bath; the Kent and Canterbury Hospital; the Derbyshire Royal Infirmary; South Devon and East Cornwall Hospital, Plymouth; the Royal Albert Hospital and Eye Hospital, Devonport; the Royal Devon and Exeter Hospital; the West of England Eye Infirmary, Exeter; the Gloucestershire Royal Infirmary and Eye Institution; the Royal Infirmary, Leicester; the County Hospital, Lincoln; the General Hospital, Northampton, the Norfolk and Norwich Hospital; the General Hospital, Nottingham, the Royal Portsmouth Hospital, the Royal Berks Hospital, Reading; the Royal South Hants and Southampton Hospital, the Staffordshire General Infirmary, Stafford, the North Staffordshire Infirmary at Hartshill, the Royal Hants County Hospital, Winchester, the Wolverhampton and Staffordshire General Hospital, the County Hospital, York; and the Coventry and Warwickshire Hospital.

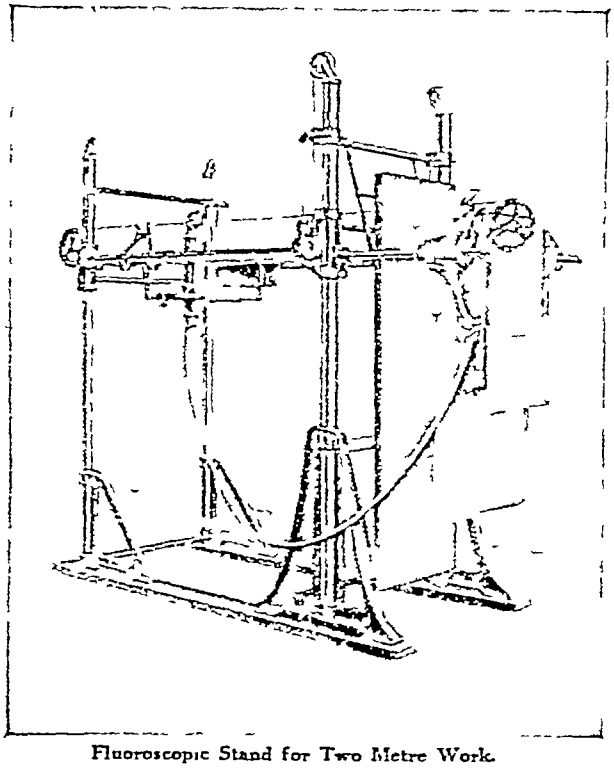
London Clinical Hospitals.

As for the hospitals in the metropolis, so many of these take a share in the giving of clinical instruction that it is worth while to classify them

Children's Hospitals.—There are at least seven of these, the leader among them being the Hospital for Sick Children, Great Ormond Street, which has 268 beds. There are also the East London Hospital for Children, Shadwell, with 156, the Queen's Hospital for Children, Bethnal Green with 134, the Victoria Hospital for Children, Chelsea with 130, the Belgrave Hospital for Children, which has a considerable out-patient department and in-patient accommodation for 74 children, the Paddington Green Children's Hospital, and the Evelina Hospital for Sick Children, Southwark Bridge Road, with 76 beds. The largest and the oldest of the hospitals for both women and children is the Royal Waterloo Hospital for Children and Women, Waterloo Road, S.E.1.

Hospitals for Women.—Queen Charlotte's Maternity Hospital, Marylebone Road, with 75 beds and a residential college for medical students and practitioners, specializes in the teaching of midwifery. The first section of the new Queen Charlotte's Hospital in Goldhawk Road, Hammersmith, was opened on July 10th last. The City of London Maternity Hospital, City Road, with 71 beds, also admits medical students and graduates to its practice. The Samaritan Hospital for Women, Marylebone Road, admits qualified practitioners as clinical assistants to both the in-patient and out-patient departments, demonstrations are given daily in both departments, the fee—payable in advance—being £3 3s. for three months, full particulars may be obtained from the Secretary. In addition may be mentioned the Hospital for Women, Soho Square, where teaching is confined to post-graduates in limited numbers, the Chelsea Hospital for Women, Arthur Street, Chelsea, and the Elizabeth Garrett Anderson Hospital for Women in Euston Road, the latter being in the nature of a general hospital so far as concerns the class of case treated.

Eye Hospitals.—The largest of these is the Royal London Ophthalmic Hospital (Moorfields), City Road, E.C.1, 152 beds; 2,534 in-patients, 51,924 out-patients in 1929. At this hospital two complete courses of instruction are given during the year—October to February, and March to July—comprising the following subjects: (1) anatomy (including histology and embryology), (2) physiology, (3) optics (including physiological optics), (4) refraction classes, (5) methods of examination and use of the ophthalmoscope, (6) pathology and bacteriology, (7) ophthalmic medicine and surgery, (8) ophthalmoscopic conditions, (9) operative surgery, (10) practical pathology, (11) practical bacteriology, (12) radiology, (13) physiotherapy (including ultra-violet light, diathermy, and ionization), (14) slit-lamp microscopy. A fee of 35 guineas will



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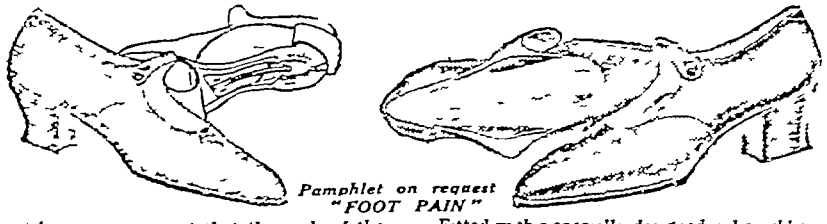
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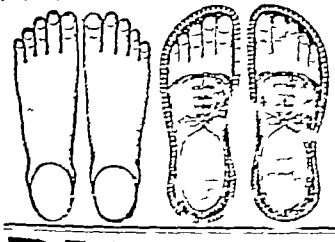
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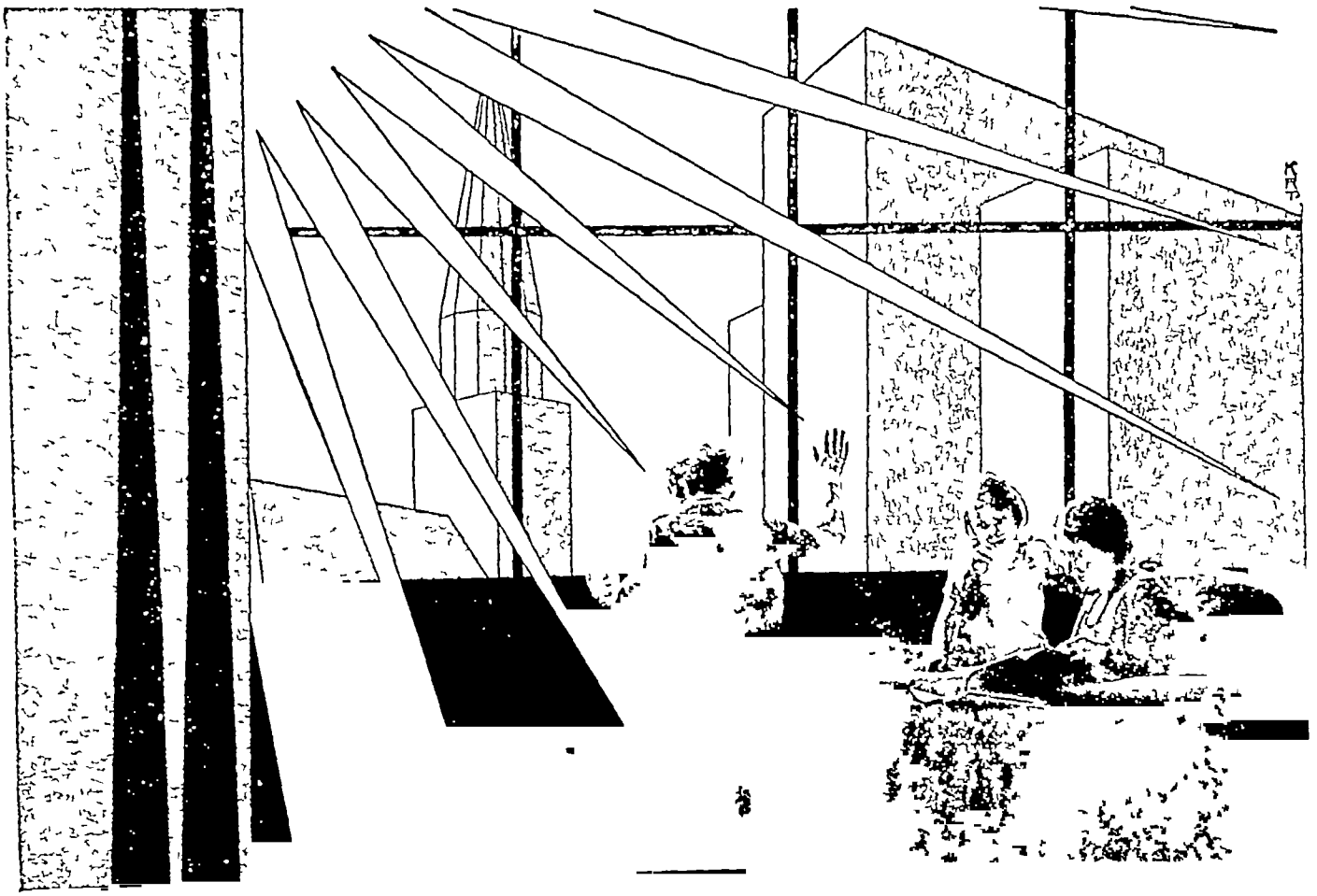
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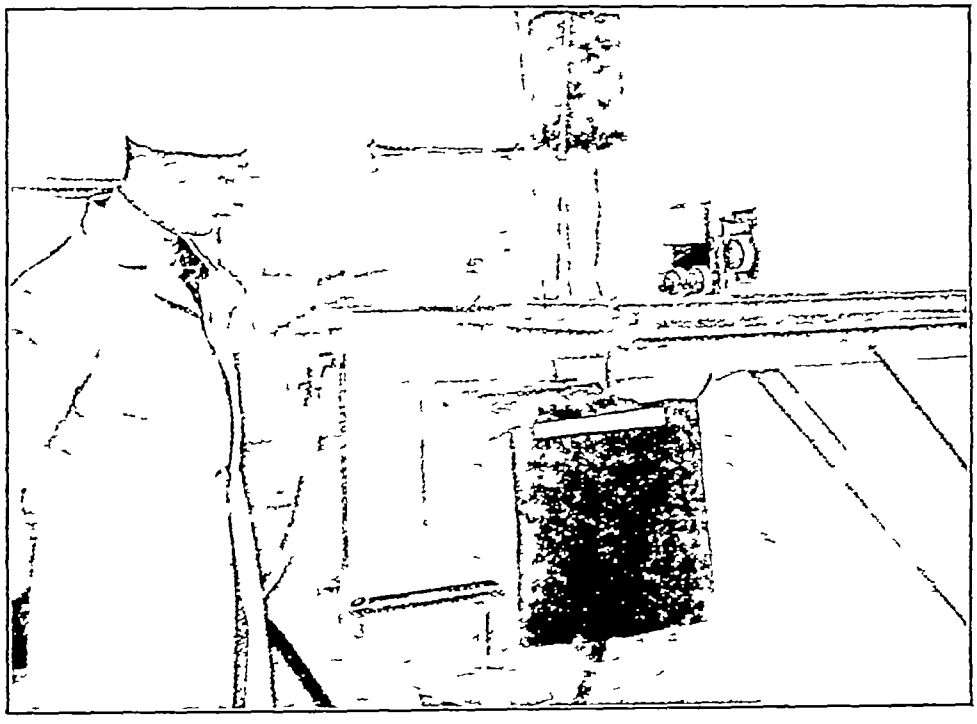
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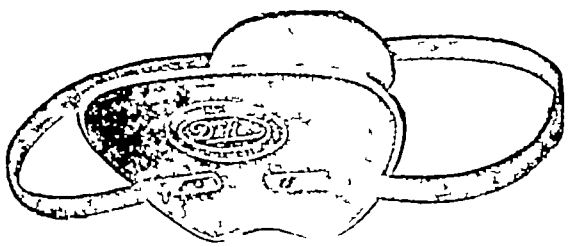
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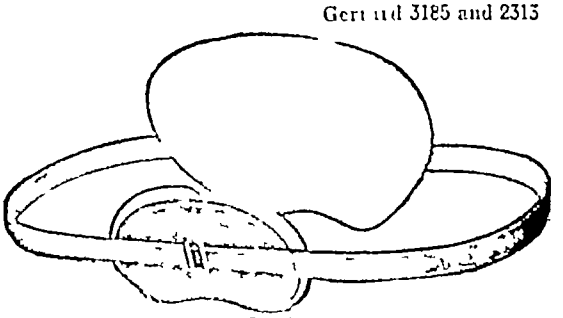
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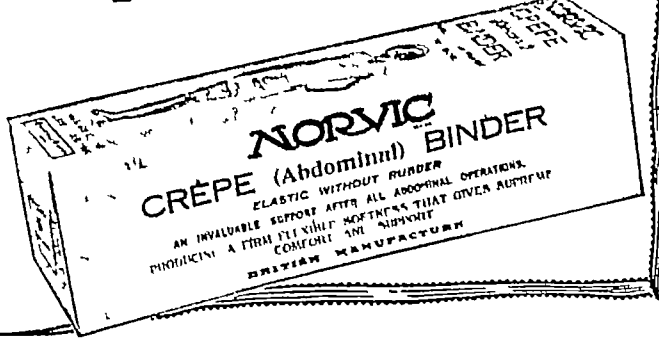
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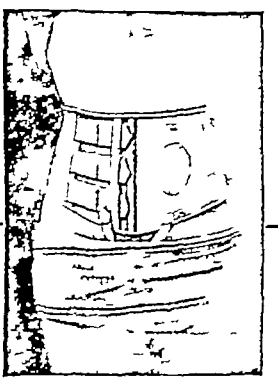
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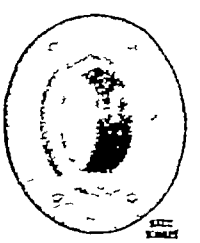


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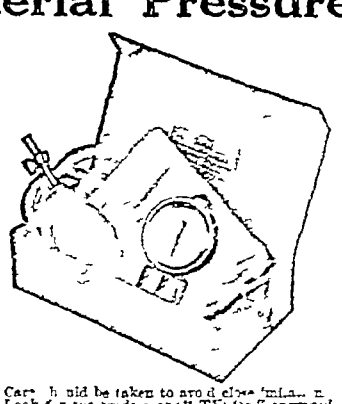
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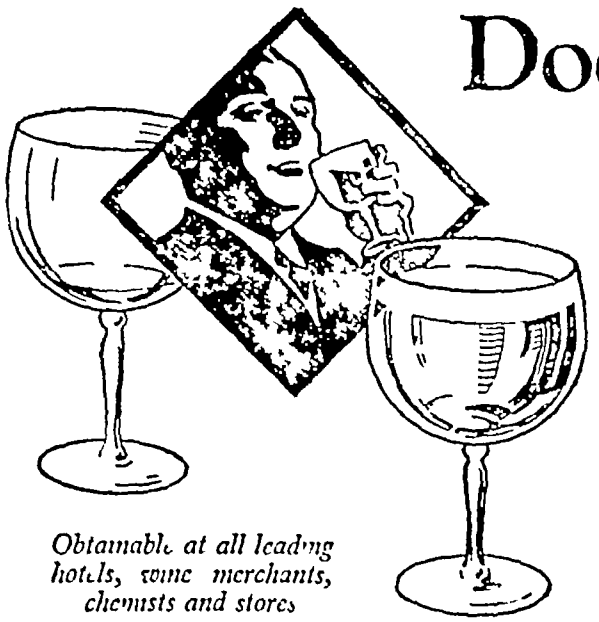
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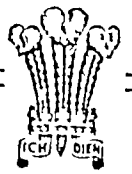
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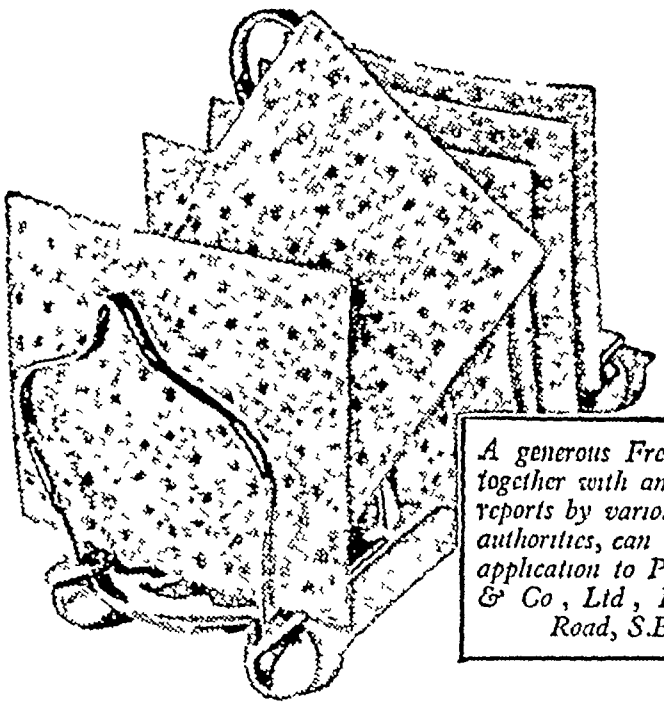
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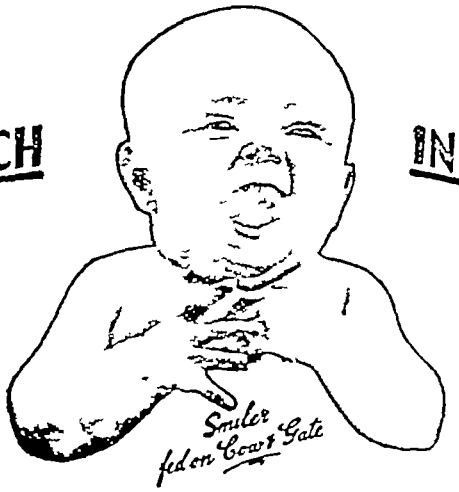
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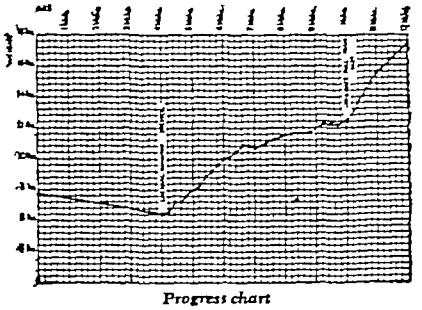
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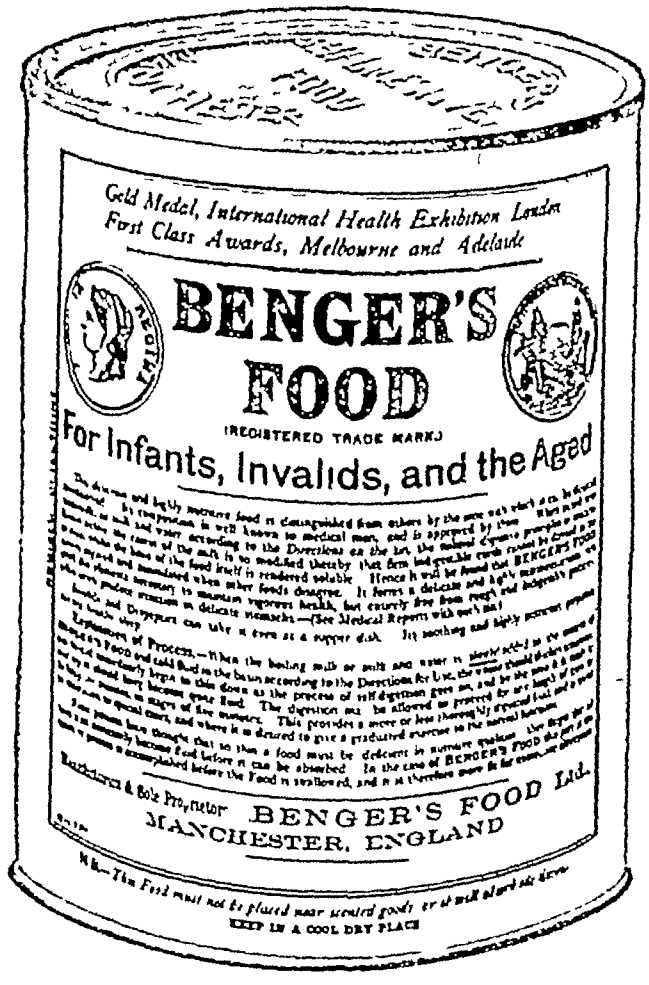
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British Medical Journal

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION

LONDON SATURDAY, JULY 5TH, 1930

The Morison Lectures

ON

NERVOUS SEMEIOLOGY, WITH SPECIAL REFERENCE TO EPILEPSY

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH ON JUNE 2ND, 3RD, AND 4TH, 1930,

BY

S. A. KINNIER WILSON, M.D., F.R.C.P.,

NEUROLOGIST AND LECTURER IN NEUROLOGY, KING'S COLLEGE HOSPITAL.

LECTURE I.—THE RELATION OF NERVOUS SYMPTOMS TO NERVOUS LESIONS

IT is my first and pleasing duty to express to the President and Council of the Royal College of Physicians of Edinburgh my deep appreciation of the signal honour paid me by the request to deliver the Morison Lectures. Scanning the list of my distinguished predecessors and the subjects chosen by them, I find that comparatively few have in recent years dealt with any special aspect of neurology, and I am glad to take this chance of submitting to the consideration of my *confrères some matters bearing on nervous* semeiology and on the interrelation of nervous symptoms and lesions to which I have long given thought. I do this with no little diffidence, however, because the general considerations to the importance of which I have become increasingly attached will doubtless appear to a number familiar and possibly axiomatic, yet they may prove not without interest as representing, in some degree, certain changes in my own views on fundamental problems of interpretation that concern every neurologist. There is also advantage in allowing one self the leisure for a look round, seeing that the directional flow of a stream is not always appreciated by *those whose attention is centred* on eddies, pools, or backwaters.

As a tyro in the subject of nervous diseases I imagine I began with a conception based on clinical differentia, it seemed practical enough to separate cases in accordance with their particular semeiology, a given disease was represented clinically by a corresponding syndrome or symptom-complex, and even if *specific modifications* were found the generic picture could always be relied on for purposes of diagnosis. The typical syndrome of disseminated sclerosis was constituted by the old Charcotian triad of intention tremor, nystagmus, and scanning speech, that of tabes by Argyll Robertson pupil, lightning pains, ataxia, and loss of deep reflexes; of infantile paralysis by flaccid palsies, wasted muscles, and deformities, and so forth. Yet it did not take long to be convinced of the limitations of a purely clinical arrangement, for the fact was soon discovered that one and the same symptom can arise in conjunction with lesions at different physiological levels in the nervous system, *and as a result of different pathogenic actions*. Besides, experience showed the futility of the endeavour to circumscribe the clinical tableau of a given affection by a series of Procrustean lops. Epidemic encephalitis may be thought by some to be one and indivisible, but so far as its semeiology is concerned its manifestations are legion.

The next step, *under the influence of honoured teachers* of twenty-five years ago, was to rely on the well-tried clinico-anatomical method, to correlate symptoms during life with lesions found after death and to assume (if not always to demonstrate) their essential consonance. I am the last person to decry the value of the method in a time, for there can be no doubt, in the first place that such correlation (with certain provisos) is legitimate enough, and *in the second*, that its employment has led to discoveries and advances of the first importance. Indeed I suppose the devotees of what has been called the neurological school of medical thought are as numerous as ever and will continue to be reinforced by successive generations of medical students unless and until their preceptors are sufficiently emboldened to point out its rather misleading assumptions. The method, if I *mistake not*, is becoming just a little *démodé*, although years have already elapsed since that shrewd observer the late Sir James Goodhart wrote a paper on 'The passing of morbid anatomy,' which exercised more than a transient influence on my own views. *Hopeful lines of present-day research* are directed to study of the living in preference to scrutiny of the dead, and some day diagnostic autopsies will be a reproach and not a satisfaction.

It appears to me incontrovertible that neither a clinical nor a pathological classification offers any particular advantage from the standpoint of nology and that the only basis for the scientific arrangement of nervous diseases is etiology. Yet this is precisely the department of investigation which lags behind. The enumeration of a large group of nervous affections is undiscovered, but until we find interesting factors we dare not begin to speak of such and such *a clinico-pathological combination as constituting a disease*. The day has passed for the physician to transform clinical syndromes and pathological complexes into diseases. For what is a disease? Obviously it is neither the etiological excitant nor the clinical *allure* nor any underlying pathological change, *and we may* with Sir Humphry Rolleston allege that it is nothing else than a mental picture—a conception figured in the mind, a composite of elements no one of which by itself suffices to define. At any rate, we shall find great may insuperable, difficulty in establishing disease entities unless we can prove that a given causative agent produces invariably and solely the same reaction *in the body*, exhibiting the same syndromes, and amenable to the same treatment.

THE PHYSIOLOGICAL NATURE OF SYMPTOMS

1. It will, I think, be generally allowed that an etiological factor, a pathogenic agent, can be regarded physiologically as a stimulus, and physiology recognizes only three classes of stimuli—namely, pure excitants, pure depressants and those which first excite and then depress. Accordingly, clinical symptoms are to be considered as representing either excitation or cessation of function or a series in which the latter follows the former. *Without exception*, all are functional, *in the sense* of being related to *function*. To attempt to distinguish "functional" from *organic* symptoms is therefore meaningless. This *so far as I personally am concerned, is an ancient platitude. I date my* awakening to a conversation with *my old teacher the late Dr. Charlton Bastian* who *when I told him* a patient had been admitted under his care *suffering from* what I with the dogmatism of the *house-physician*, described as functional fits," *replied*. "Did you ever see a fit that was not functional?" I then secured an insight into semeiology which I trust I have never since failed to maintain. Whether we deal with motor, sensory, vegetative, or psychical symptoms, each and all are classifiable as consisting of either increase (inclusive of "escape") of function, or of decrease, and there is nothing else.

2. A symptom is the expression of a physiological reaction, and hence can never be specific unless we imagine

reactions themselves to be so—an impossibility when the unbelievable diversity of stimuli is born in mind. Take any banal symptom of neurology—headache, neuralgia, hemiplegia, paraplegia, amyotrophy, anaesthesia—everyone recognizes their production by a host of differing agencies. With advance of knowledge the alleged specificity of many a neurological symptom is steadily undermined, till we may well question whether any at all can thus be distinguished. An Argyll Robertson pupil is just as characteristic of colloidal neoplasm as of neurosyphilis, the epileptic fit occurs as a semeiological incident in circumstances we should never dream of ascribing to a "disease" called "epilepsy", intention-tremor is by no means confined to the subjects of disseminated sclerosis. I have not myself seen a case of rabies, but no one who is conversant with the graphic descriptions of older observers can fail to notice either the remarkable similarity of recorded cases as regards the dramatic consequences of any attempt to swallow fluids, or the overwhelming consensus of opinion that such symptoms are so pathognomonic of the disease as to provide it with one of its names. Here, however, is a recent account, reported by Fletcher and Fitzpatrick[1] in the *Lancet* of 1927:

"When he attempted to swallow the result was terrible. While we were examining him he asked for some iced water, but no sooner did he put the cup to his lips than he was seized with violent spasms of the throat, jaws, and left side of his face. The small amount of fluid which had entered his mouth was shot out again with a hissing sound. Short, sharp hisses followed each other at intervals of about half a second. With each hiss the head was jerked forward by a spasm of the sterno mastoids, and sometimes the hiss ended in a sharp sound like a bark. The patient must have remained in this torture for a minute or more," etc.

No feature of the spasms of hydrophobia is awanting, not even the bark, the case, however, was one of tetanus. Further comment would surely be superfluous.

3. Being the expression of a process (of excitation or depression, as the case may be) a symptom is likely to be fluctuating and variable, it may wax and wane, rise and fall, it need not be the same at each examination, and therefore any argument that "organic" can be differentiated from "functional" symptoms by their relatively unchanging character, or their persistent nature, or their being uninfluenced by factors of a different order, is at once vitiated. The tremor of paralysis agitans is as patently under the influence of emotional and other psychical stimuli as is that of hysteria, it may be present at one moment and absent the next (an observation made originally by James Parkinson[2] himself). A number of illustrations of this clinical fact were given in the Croonian Lectures[3] of 1925. Similarly, in cases of progressive lenticular degeneration I have had occasion to observe the remarkable "fluidity" of the tremor, which may leave one group for no apparent reason to develop forthwith in some other, separate, distribution. The tremor of hysteria, in point of fact, does not often itself exhibit such variability. Only when a structural change is permanent, when tissue reaction has come to an end, does a given symptom become stabilized or static. In itself it stands in no constant relationship whatever to underlying structural alterations. Thus may we observe a patient with disseminated sclerosis exhibiting ankle clonus one week and none the next, but even more illustrative instances are at hand. In the course of the cataplectic attack of narcolepsy the knee-jerks are abolished as completely, as "organically," as in a case of tabes with sclerosis of dorsal columns—yet only for a few seconds or minutes. One of my narcoleptic patients at hospital, a girl of 18, fell sound asleep in the ophthalmic room after I had been looking at her discs, during this sleep tapping her patellar tendons yielded one single, brief, and faint twitch, and thereafter they were totally irresponsive to repeated percussion, yet when she awoke, walked into another room, and sat down, the knee-jerks were found again to be brisk. Recent work by Jacobson[4] in the University of Chicago has proved that a normal subject may so relax himself voluntarily, may empty his muscles of tone to such a degree, that in the course of a few minutes the knee-jerks may be entirely abolished. I had occasion to sit by the bedside of an old gentleman of 70, who complained of recurring attacks of right-sided weakness, on my first examination he showed neither symptom nor sign of abnormality but while I was talking to him he suddenly remarked 'It's coming back now," and a minute later he could move neither arm nor leg. I then found a characteristic extensor plantar response where a moment before it had been flexor, and the abdominal reflex disappeared. Ten minutes later, power returned, and once more the plantar reaction was in flexion.

From these and numerous examples that come to mind, which can surely be paralleled in the experience of most neurologists, I submit only one conclusion can be drawn—namely, that symptoms *per se* are the expression of dynamic alterations in function, and either may *or may not* coincide with structural change. To ascribe of necessity to structural lesions what we have been in the habit of thinking "organic" signs is therefore improper, only when the latter are residual and static is it legitimate to attribute to them such clinical phenomena. Otherwise, indeed, our talk of "recovery of function" is meaningless. A further conclusion is, that in themselves it is impossible to differentiate between symptoms due to dynamic and to static change, an extensor response which is present for five minutes, a knee-jerk which is absent for the same time, are indistinguishable from those that endure.

Defects of the Clinico-anatomical Method

When we endeavour to link the clinical symptoms of illness with any tissue modifications found subsequently, our path is beset with pitfalls of a sufficiently obvious kind.

1. In the first place, we have to consider the precise nature of the semeiological picture during life. Adopting Jacksonian terminology, we must state whether the symptoms are "positive" or "negative"—that is, whether they correspond to enhanced or diminished function, to its presence or absence. Clearly, excitation of function cannot be associated with destructive lesions, the sole direct effect of the latter must be its abolition. When we find paralyses or anaesthesias or amyotrophies, we can properly assign them to interruption or disintegration of nervous tissues. But it is far otherwise with "positive" symptoms, of which a moment's thought will convince the clinician a large part of nervous semeiology is composed. These must be produced by the action of healthy mechanisms. To attribute the involuntary flexor spasms of a case of paraplegia to lesions in the pyramidal tract is illogical, for their occurrence integrity of lower spinal reflex arcs is essential. That is to say, a prominent *symptom* is produced by the action of a *healthy* mechanism. The problem of all involuntary movements (tics, chorea, tremor, epilepsy, myoclonus, athetosis, etc.) is a problem in physiology, and will never be solved by their ascription to destroyed cell-fibre systems. Or take another example in the case of neuralgia, precisely what lesion do we expect to discover that can be correlated with it? Essentially a positive symptom, it must be caused by excitation (or release, if that is thought more accurate physiologically) of sensory mechanisms which must be in a state of health, not of depression. Can such cell-fibre systems be distinguished histologically from any others? What can we suppose is the state of the dorsal root ganglia in the persistent pains of tabes? Logic insists that a neurone or neurones responsible for the conveyance and experience in consciousness of impulses underlying pain must be histologically intact, and not in a condition of degeneration. To find such ganglia indistinguishable from any of the rest, so far as the cells are concerned, would be in no way surprising, but quite the reverse.

This provides, indeed, a sufficiently plausible reason for postulating a sensory inhibiting system of *efferent* type, as has been advanced by Foerster[5] and others, both before him and since, the suggestion then would be that de-inhibition of this system by destroying agencies would allow over-action on the afferent sensory system whereby pain (for instance) would be persistently experienced in consciousness.

What changes is it rational to expect in the spinal cord of a patient who has suffered from tetanus—I mean in

relation to his clinical symptoms? Not a few modern cases are on record (cf. Aschoff and Reinhold[1]) with either minimal cellular change or indeed with none that is recognizable. So far from this situation proving disconcerting, it is, I submit, entirely the other way. The purer the action of tetanus bacilli and toxins—that is to say, the less the histological picture is complicated by antitoxin, magnesium sulphate or narcotic treatment during life—the more insignificant are the departures from cellular normality. If a patient dies from the affection we surely cannot expect to discover identical modifications in the cells whose activity has been responsible for tetanic spasm, and in those who escape paralysis has caused death. In respect of the former we should postulate, and expect to find, integrity and not disease. Logically, once more, we should be unable to correlate a pronounced symptom with any lesion of the mechanisms producing it.

2. No constant relationship holds between size of lesion and amount of functional disorder. In a given case the most prominent clinical symptoms are by no means necessarily coupled with the lesions most apparent at the *sectio*. The widespread functional disturbance of a generalized major epileptic seizure, which ranges, in fact, from hallucination to micturition, stands in no proportionate relation whatever to any "lesion" that may subsequently be demonstrated. No connexion exists between the mass of a cerebral tumour and its symptomatology, some, for that matter, are discovered only after death. For the immense range of symptoms badly classed as "subjective" no objective basis is supposed to exist—though, of course, we know they must have a physiology.

3. The localization of a symptom, a functional system, and a lesion, is in each instance a different and separate thing, and herein lies one of the more serious shortcomings of the clinico-anatomical method. A capsular haemorrhage produces a paralytic hemiplegia, but any inference that motor function is confined to the pyramidal system is clearly erroneous. Its sub tratum extends far beyond that part a lesion of which is followed by motor symptoms of a negative kind. When the contractured fingers of the hemiplegic hand open in extension as the patient warns the symptom (an involuntary movement) has nothing to do, *qua* localization, with a thrombosis in the pyramidal path. The phenomenon of micrographia doubtless is a symptom of some cases of Parkinsonism, post-encephalitic or otherwise, but it is also found in cerebral arteriopaths in hemiplegics, and in normal subjects. How, then, in the name of all that is logical, can it be "localized" in the corpus striatum, as some would maintain? The same considerations hold good in respect of the sensory system, we "refer" or "localize" sensory symptoms to or in various parts of the body, whereas, as a fact, every sensation is a presentation in consciousness, and therefore of, let us say, cortical site. Yet the lesion stands in no spatial relation thereto. Central pains arise in association with a lesion which may be situated in spinal cord, pons, *or thalamus, but whatever its position, it cannot* correspond to the place where sensation is being experienced.

Symptoms, lesions, and functional systems are not comparable, cannot be, as it were, superimposed one on the other, and obey differing rules of localization. It would be a simple matter to amplify the contention by a further series of illustrations, but one must suffice. For a number of years many writers, more especially on the Continent, have been assigning post-encephalitic ties to destructive lesions of the putamen or caudate nucleus. Now such a view can be shown to be doubly or triply erroneous, for in the first place a tic is a positive movement and must be caused by activity of motor cells, it cannot be assigned to those that are dead. Secondly, it represents a mode of activity of the motor system, and as such its intrinsic clinical characters compel us to place it at a high level in that system, certainly not at an infracortical site. Thirdly it exemplifies escape of motor funct on from control and if a lesion is to be sought therefor that lesion may be situated in transcortical inhibitory mechanisms far removed anatomically from the region whose healthy activity is causing the tic. No adequate reason perhaps exists for seeking any recognizable *lesion* for habitual movements, tricks of motor type, *mannerisms, stereotypies*, if there be any at all, it is one which is responsible for de-control only. Unfortunately we do not know what and where that may be. We postulate transcortical defect without being able to specify it.

There is, however, a still more radical objection to the mode of thinking which associates physiological symptoms with visible lesions. We must, I believe, definitely concede that in respect of the motor system (say the motor region of the cortex) excitation can produce immediately obvious motor symptoms, whereas limited destructive lesions of the same part may not cause any paralysis. Movements are represented over relatively wide areas, and unless the part destroyed is sufficiently large it may not effect any interference with movement production. Thus small lesions in cerebellum, corpus striatum or cortex itself may not be responsible for any discoverable symptom if the function or functions concerned enjoy a wide representation. To find a lesion of such a kind therefore with the active manifestation of a movement is an unsound and indefensible proceeding. I am tempted to add another corroboration of the general argument of value because it concerns a negative symptom—namely agraphia. For my present purpose the term may be taken to signify inability to write correctly as regards formation of letters and words. Say that this occurs in consequence of a stroke with right hemiplegia in a right-handed person. Assume that his incapacity is not so severe as to prevent his holding the pencil properly enough and that he has preserved in his mind the necessary ideas but—he cannot write. To ascribe this symptom to a destructive lesion which may be found post mortem in the left hemisphere is facile and the corollary is practically certain to be drawn that the area involved is a "writing centre." But surely here is a complete *non sequitur*. Have we *tried our patient's left hand?* If he can write with it there is no agraphia at all. Have we thought of trying him with his toes? It is relatively easy to write with the foot if the pencil is suitably fixed and in even more unexpected ways—for example with the pen between the teeth. I have a pen-and ink signature thus written solely by movements of the head, executed by a soldier with complete traumatic quadriplegia. Where, then, is the writing centre? At the least, it is not where a destroying lesion interferes with conduction to the right arm and hand. Did not Grock, the French clown, play the piano with his nose? And if a lesion were to obstruct the route from temporal lobe to neck muscles, would he suffer from amusia?

4. A further frequent misunderstanding in respect of clinico-anatomical correlation is concerned with the question of time. I know well, of course, that one lesion can often be shown to be older than another in the same brain, but this declaration is of minor significance compared with the inability of the neuropathologist to do more than present a static tissue picture in contrast to what has consisted in life of a physiological progression, a series of functional events. The temptation is almost irresistible to set a pronounced clinical symptom alongside an obvious structural change without considering the approximate time of development of either. If yielded to, the result may be *unfortunate*. A striking example comes to mind. The average duration of a case of rabies is only three days, its incubation occupies less than thirty, and only rarely when more than sixty—in either instance extremely brief. Some recent studies (cf. Schukri and Spatz[2]) have demonstrated conclusively that even without that short period of four days the substantia nigra is the most heavily implicated of all affected regions, many of its ganglion cells are totally disintegrated and glial scavenger cells packed full of melanotic pigment. This simple fact—namely that degeneration and disappearance of the cells of that tract are seen in acute rabic cases well inside a week—at once renders extremely suspect any ascription of the Parkinsonian syndrome of epidemic encephalitis to their absence in that affection since (apart from the definitely positive nature of the syndrome) it leaves out of account the fundamental question of the time factor. Should the objection be raised that the comparison is of two different morbid affections I may point out that in epidemic encephalitis Greenfield[3] has noted destruction of these cells by the twenty-third day. When Parkinsonism develops say two years after the acute attack, and at a *sectio* five years later outfall of the cellular

elements of the substantia nigra is apparent, how can we allege clinico-anatomical relationship if we do not know at what time they disappeared? Without such knowledge we are committing the easy error of setting in juxtaposition merely the obvious symptom and lesion and of ignoring the time component.

But there is another aspect of the same topic that merits attention. A syndrome whose unrolling involves the idea of succession in time cannot be localized by spatial rules. Discussing this point, Monakow and Mourgue[9] take as illustration a musical box, in which dissonance can be produced (1) by absence of one or more projections on the rotating brass cylinder, (2) or absence of teeth in the vibrating comb, (3) or by changing the position of the latter in relation to the former to right or left. Incidentally, we have here a useful proof of the fact that one and the same symptom can be caused by changes at different physiological levels, as already remarked. All such possibilities effect alterations in temporal succession and modify the melody, but if the question is asked, "Where is the melody localized?" it is seen to have no meaning. Its "localization" is chronogenic. Some time ago neurologists were seeing cases of post-encephalitis characterized by inversion of sleep rhythm—a rather difficult symptom to deal with, and often extremely pronounced, the youthful patients were sleepy or asleep during the day, and became imps of mischief during the night. Here is a symptom, definite and special, but where is it localized? One has only to set the question to perceive its absurdity. And this leads naturally to the cognate question of narcoleptic phenomenology. In view of the fact that all of us sleep for a number of hours during the twenty-four, what exactly do we expect to find should such a case come to necropsy? I cannot see that occasional or even frequent diurnal sleeps are calculated to effect any persisting morphological change in nerve cells, and if none is recognizable what becomes of the relation of symptoms to lesions? It is perfectly clear that the narcoleptic patient is suffering from a derangement of sleep rhythm, a hypersomnia which is merely an exaggeration of a condition recurring normally in every one of us every day, and I submit that that disorder of the processes of sleep constitutes a symptom embodying the idea of modification in time and cannot be interpreted by reference simply to static change. Even if organic lesions are seen post mortem in a case characterized by pathological sleep—as occurs often enough—it behoves the neurologist to proceed warily in his correlation of the two. To explain alterations in time processes by morphological tissue change is strictly an illogical procedure.

We have thus seen how lesions can be present without recognizable symptoms, and symptoms without recognizable lesions. So far, however, from being nonplussed thereby, I am clearly of the opinion that not only is this to be expected, but that it also throws light on the true nature of what in a superficial way is termed "disease." Rather should any scientific parlance employ the term "reaction" as explanatory of symptom-lesion relationship, and it is informative to note that some present-day psychiatrists—dissatisfied with Kraepelinian conceptions—now speak of paranoid reaction types, schizophrenic reaction types, etc., instead of paranoia, schizophrenia, and so on, once thought to constitute actual disease entities.

Interpretation of Neuropathological Change

Since no specificity, as we have found, attaches in a general way to nervous symptoms, then causation being—again speaking generally—multiplex, the homologous question of whether pathological changes can be considered specific becomes of much interest. My submission is that they cannot so be regarded, that they are nothing else than tissue reactions to noxious agents, classifiable no doubt in certain groups, they form none the less merely a series of pictures, the features of any one of which are as a fact common to numerous others.

We may begin by looking for a moment at cellular change. Now Nissl himself, who at first hoped for and believed in an unvarying correspondence between specific poisons and specific cell alterations, was compelled in the end to concede that similar or identical changes can be brought about by a whole series of etiologically distinct factors—an admission that must be fully accepted by everyone who has any knowledge of the subject. The statement of Dejerine,[10] made as long ago as 1897, that "la chromatolyse de la cellule nerveuse est une lesion banale, interessante au point de vue cytologique, mais jusqu'ici, du moins, ne repond à aucun phénomène physiologique et, partout, pathologique determine," is for practical purposes almost as true to day as it was thirty years ago. I need scarcely point out, by way of illustration, that swelling of the nerve cell occurs in fevers, alcoholism, botulism, strychnine poisoning, diffuse coloration of the achromatic substance in diphtheria, lead and phosphorus poisoning, and various mental affections, vacuolation in toxicosis from cocaine, morphine, chloroform, and in such infections as rabies, cholera, plague, enlargement of the nucleus in burns, uræmia, cholæmia, nuclear shrinkage in poisoning by arsenic, alcohol, etc., and in eclampsia, nuclear displacement in pneumonia, typhus, morphinism, cocainism, and so on and so forth. None of these reactions are mutually exclusive, none a feature of one class more than another.

Or take the mesodermal—that is, conjunctivo-vascular—reactions, considered nowadays to form the correlate of inflammation in the central nervous system. Here are included cellular infiltrates and exudates as well as glial and other hyperplasias. Assuredly there is nothing whatever specific in respect of these pathological "lesions," for they are a banal feature of the action of such totally different etiological factors as those of syphilis, tubercle, rabies, trypanosomiasis, poliomyelitis, and what not. Under the microscope it is impossible to distinguish rabies from epidemic encephalitis, the cortex of tuberculous meningo-encephalitis—so far as mesenchymal change is concerned—bears the closest resemblance to that of general paralysis. Or take the glial knots and nodules once imagined characteristic of typhus, they are found as a fact in a whole series of diverse pathological states associated with toxi-infective conditions—the very latest being yellow fever (cf. Jakob and Fralho[11]). And what of perivascular demyelination? It is seen in Schilder's encephalitis, in disseminated sclerosis, neuromyelitis optica, post-vaccinal encephalitis, some cases of measles encephalitis, and the vague "acute disseminated encephalomyelitis" that is once again arousing interest. Whether one or other of these is or is not accompanied by other reactions that may conceivably serve to differentiate is immaterial to my argument, I urge strongly that the data allow of only one conclusion—namely, that perivascular demyelination is itself nothing else than a tissue reaction common to a number of conditions which differ clinically *toto cælo*, it cannot be taken by itself, and of itself, to constitute a disease in any scientific sense. When my friend and colleague Dr. Godwin Greenfield,[12] in his latest contribution to this subject, declares that "acute disseminated encephalomyelitis is a disease *per se*, which may be brought on or directed against the nervous system by certain febrile or exanthematous diseases," I answer that he is erecting a mere tissue reaction into a disease, contrary to all the canons of nosology, and that his assumption that one *disease* can "bring on" another *disease* demands the most critical scrutiny. Only if proof were one day forthcoming of the causation of this particular histological reaction by one and the same virus, invariably, inevitably, and uniquely, could it possibly attain specific value.

But illustrations need not be multiplied. This general conception of the essential non-specificity of normal tissue reactions, whether mesenchymatous or parenchymatous, has so impressed me for a long period now by its substantial truth that I consider it unassailable. The newest corroboration comes from the distinguished neuropathologist of Munich, Professor Spielmeyer[13], I quote from his Mayo Foundation Lecture of December, 1929:

> "The same alterations are found in a lesion from trauma, intoxication from carbon monoxide, intoxication from morphine, chloroform narcosis, hypertension, pseudo uræmia, and other spasmodic conditions. Always the same alterations are seen. They are different only according to their age and intensity. When in the past they sometimes seemed to be different in

localization and there seemed to be something really typical in them further experience showed that that was an error *So these findings mean nothing in the definition and classification of disease entities* Their fundamental value rather consists in showing something common to all these diverse *structural and clinical* and so very *different* not anatomical forms of disease but similar pathogenic complexes It can be seen how the most varied injuries by a more or less long chain of causes finally lead to the same pathophysiological process (Italics mine)

These are weighty words they represent with exactness the conclusion I myself reached some time ago though applied by Spielmeyer more especially to vascular disturbances they stand for a principle capable of much wider application What the neuropathologist sees is not the response the expression of a pathophysiological process one and the same process is capable of being called into being by etiological factors differing among themselves and causing clinical symptoms also differing in their type

One or two other questions of pathological interpretation remain for brief allusion

Such expressions as "acute haemorrhagic encephalitis" "acute disseminated encephalomyelitis" "acute parenchymatous degeneration" and other analogous terms are merely descriptive *names* for pathological reactions they correspond pathologically to such clinical expressions as 'headache' or 'paraplegia" and are devoid of meaning from a nosological or etiological standpoint And it is of prime importance to note that *differing* reactions may and do sometimes occur in the *same* affection For example parenchymatous degeneration without obvious mesodermal hyperplasia characterizes some cases of epidemic encephalitis as is now fully recognized further a number of disease conditions—for example epidemic encephalitis rabies neurotubercle neurosyphilis and still others—may exhibit both types of reaction in one and the same case in different parts of the neuraxis and seemingly in complete independence of each other Attention has lately been directed by Jakob[15] Spielmeyer[16] and other workers to the occurrence in the cortex of regions of general parenchymatous necrobiosis pale or bleached in appearance often without well-delimited margin and visible only in Nissl preparation They are best seen with a low power Whether they are of vascular origin does not concern us for the moment what is significant is their identical development in morbid conditions that differ fundamentally in etiology and in clinical character and their coexistence with but separation from reactions of mesenchymal type Clearly, the inference is again justified that some of the morbid states which we have thought constituted disease entities possess no specific pathological reaction on which to base that assumption while on the other hand, a seemingly definite pathological reaction is common to a number of diverse clinical states

A final consideration bears on the question of modifications undergone by nerve cells during the normal activities of life and after dissolution has set in Histological differences between resting and actively functioning cells are sufficiently well known an extensive series of studies by Dollery[18] has demonstrated the orderly sequence whereby changes in the quantity and distribution of chromidial substance and variation in the nucleus-plasma ratio are natural results of activity and depression After activity indeed, a cell may be practically dechromatinized and yet recover its full complement of chromatin during rest The details of these changes need not delay us but their import should not be overlooked For in the examination of nervous tissues after death departures from the pattern of the resting cell do not all of necessity indicate the existence of pathological circumstances on the contrary, they may equally well be physiological and equally, therefore indicative of health and not of disease

Analogously, it becomes of cardinal importance to note that in toxic conditions as well as in "natural" conditions, changes take place in nerve cells in accordance with the period after infection at which tissues are fixed and examined This has recently been well demonstrated by Barros[19] He has injected tetanus toxin into guinea-pigs and shown by the microscope that if the tissues studied are fixed two hours after inoculation the ganglion cells of the spinal cord yield a normal Nissl picture, if after six and a half hours the cell exhibits early chromatolysis if after seventeen, it presents much more definite resemblance to the ordinary picture of a toxically degenerating cellular element Evidently a toxin may be at once dynamically interfering with cell function before histological change can be detected

The general bearing of the observation of [illegible] which some discussion has been allotted will not escape the inquiring mind They indicate the desirability and necessity of regarding 'disease processes' as resulting from vital effort to cope with noxae many strip of positive proof of health many 'lesions' are evidences of attempted repair Along such lines of thought I believe we shall gain a truer insight into the activities of the nervous system

REFERENCES

[illegible]

INFLAMMATION OF THE DIAPHRAGM *

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(With Special Plate)

INFLAMMATIONS in the neighbourhood of and implicating the diaphragm is fairly common but the symptoms resulting vary enormously in their severity they may be anything from a slight discomfort in the side to those suggestive of an acute abdominal condition Some of the cases which I have chosen to call chronic may exist, I think without any symptoms while some of the misleading and urgent symptoms of acute pneumonia may be the result of implication of the diaphragmatic pleura in the inflammatory process For descriptive purposes I propose to divide the subject into two parts (1) Inflammation of the upper surface or diaphragmatic pleurisy (2) Inflammation of the under surface or subdiaphragmatic abscess It must however be remembered that inflammation of the upper surface may produce symptoms resembling an acute abdominal condition and that inflammation of the under surface may on account of the distribution of the phrenic nerve produce pain about the shoulder in the supraclavicular region

It would here be convenient to remind you of the nerve supply of the diaphragm Excluding the sympathetic fibres the diaphragm receives *branches from* (1) the phrenic nerves (1) the lower six or even intercostal nerves The phrenic nerve arises from the third fourth and fifth cervical nerves but mainly from the fourth It arises from the same segment of the cord from which the supraclavicular region receives its cutaneous nerve supply thus accounting for pain being referred to the supraclavicular region—the so-called shoulder-tip pain of diaphragmatic pleurisy On reaching the diaphragm most of the phrenic nerve fibres pierce it and are distributed on its abdominal surface The phrenic nerves contain afferent

* Read before the Blackburn Medical Society April 1930

as well as efferent fibres, the former constituting about one-third They are the sole motor supply of the diaphragm in man Their sensory fibres are more limited, and are mainly distributed to the more central part, and particularly to the more central part of the abdominal surface, and the fact that the shoulder-tip pain previously referred to is the result of irritation of the branches of the phrenic is of interest, in that it indicates that the central part of the diaphragm is affected Branches from the lower intercostal nerves can be traced into the diaphragm It is doubtful if they contain any efferent fibres, but their afferent innervation is of interest Their sensory field is *the more peripheral part of the diaphragm Irritation* of this part of the diaphragm is therefore more likely to induce pain in the cutaneous distribution of the lower intercostal nerves, which embraces not only the lower costal region, but includes, of course, the anterior abdominal wall, and in that way may lead to difficulties in diagnosis

DIAPHRAGMATIC PLEURISY

In view of the wide variation of the symptoms of this condition I propose to subdivide it clinically into (*a*) acute, (*b*) subacute, and (*c*) chronic

(*a*) *Acute*

The onset is very abrupt The patient is seized with severe pain and vomiting The pain in a typical case is referred to the lower costal region, but it frequently extends to the upper abdomen and tends to radiate round the lower thorax, and, if the central part of the diaphragm be implicated pain is also complained of in the supraclavicular region of the shoulder on the same side, it does not radiate to the shoulder, but is felt there in addition to being felt in the lower costal region, in this way it can be distinguished from the pain of acute cholecystitis, which seems to pass through the side as if a red-hot stiletto had been plunged through the liver to come out at the lower end of the scapula Again, the pain in acute cholecystitis is, at its height, often referred to the epigastrium whereas, when it has subsided a little, it tends to be located over the gall-bladder It may happen however, that the initial pain is referred almost entirely to the abdomen, the patient making little or no complaint of pain in the lower costal region It is in these cases, particularly if vomiting is a conspicuous and urgent symptom, that great difficulty in diagnosis is apt to arise, and operations may be undertaken in the mistaken belief that the case is one of appendicitis, cholecystitis, or even perforative peritonitis or acute haemorrhagic pancreatitis, according to the situation of the pain, though usually in these conditions the degree of abdominal rigidity is greater than in diaphragmatic pleurisy Of all the conditions the pain is perhaps most intense in acute haemorrhagic pancreatitis There is usually moderate pyrexia, though this does not appear to be essential at the outset, as is instanced by the following case

A woman aged 41, complained of severe pain in the left lower costal and left upper abdominal regions, associated with urgent vomiting The history was that four days previously, after a supper of veal and ham pie, she went to bed feeling in her usual health In the middle of the night she woke with what she described as "terrible pain" in the left lower costal region and "could not get her breath" About 9 A.M. she began to vomit, and vomited so violently that she fainted From this time onwards she had vomited everything she had taken At first there was no pyrexia and not until two days after the onset did the temperature rise to 99·6° It then continued to rise gradually until when I saw her on the fourth day, it was 102·8°, the pulse was 112 and respirations 20 Examination revealed marked hyperaesthesia over the left costal margin and left upper abdomen, but no striking rigidity A diagnosis of diaphragmatic pleurisy was made, which apparently was correct, for the next day a friction rub made its appearance on the left side Ultimately the patient made an uninterrupted recovery

The pulse is rapid and small The breathing is impeded, but not always appreciably accelerated, and is often entirely thoracic The skin over the painful area is markedly hyperalgesic, so that touch or light pressure causes intense pain, whereas firm pressure with the hand is infinitely less painful, and may even give relief The absence of abdominal rigidity is most striking, and this, combined with hyperalgesia of the skin and the character of the breathing, is of the greatest service in differentiating from an acute abdominal condition Later the diagnosis is often put beyond doubt by the detection of a friction rub at the base or by the supervention of unmistakable signs of pneumonia

Treatment

Once the diagnosis is established, it is advisable, if the pain is very acute, to give a dose of heroin or morphine hypodermically and to apply a fomentation locally

(*b*) *Subacute Diaphragmatic Pleurisy*

In these cases the pain is not so severe It is located in the lower costal region, with or without referred pain in the supraclavicular region of the shoulder As a fairly typical example I would quote the following case, which I saw on January 9th, 1925

The patient was a schoolgirl, aged 15, with a history of having contracted a cold five days previously Three days later she complained of severe pain in the left lower costal region, which, in the course of the day, was referred to the outer side of the left shoulder but did not affect the arm The temperature was 99° She had a slight, a very slight, cough, but no expectoration The pain in the costal region was greatly intensified by breathing When I saw her the temperature was normal, the respirations were short and rather rapid—namely, 26 The chest over the lower costal margin was tender, but there was no friction sound The outer side of the left shoulder was also slightly tender, but there was no swelling and the movements at the joint were good There was no affection of any joints The next day a friction sound was heard at the base of the left lung

In some cases the pain over the shoulder is the first to make its appearance

A patient, admitted to the Manchester Royal Infirmary on June 18th, 1927, for right sided pleural effusion, gave a history that, four weeks previously, he was seized with sharp stabbing pains at the top of the right shoulder which lasted for two hours and recurred frequently until, a day or two later, pain began in the lower costal region

(*c*) *Chronic Diaphragmatic Pleurisy*

This group comprises those cases in which old adhesions exist between the visceral pleura and the diaphragm

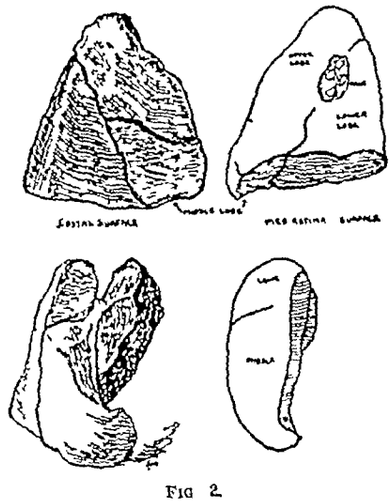


FIG 2.

Many of these cases do not appear to give rise to any symptoms In others the presence of certain symptoms may lead one to suspect the presence of adhesions, but the diagnosis can only be established when confirmed by *x*-ray examination The patient may complain of a frequently recurring sharp pain in one or other lower costal region, with occasional pain in the supraclavicular region of the shoulder, which, if present, is a great help in diagnosis Examination will reveal some impairment of movement with diminished air entry at the base of that lung There are three main types of these adhesions as revealed radiologically

Type 1—*Adhesions between the diaphragmatic surface of* the pleura and the diaphragm These adhesions may occur at any point but not uncommonly may be seen (Fig 1) in a radiogram taken laterally as pointed out by Twining[1] to extend from the diaphragmatic part of the fissure between the upper and lower lobes on the left side or between the middle and lower lobes on the right side causing tenting of the diaphragm The oblique fissures were shown by Kreuzfuchs and Schuhmaker to extend to the diaphragmatic surface of the lung (Fig 2)

Type 2—Adhesions along the periphery of the diaphragm or a the costo-phrenic angle or mediastino phrenic angle hooking up the diaphragm (Fig 3) The following case is an example

A foreman calico printer aged 41 complained of tiredne shortness of breath pain in the left side on yawning or sneezing and occasional sharp pain at the tip of the l ft shoulder The history was that four month previously he had dry pleurisy at the base of the left lung and that ever since h had run an intermittent temperature ri ng in the evening to b tween 100° and 101° with occ sional night sweat and steadily loss of weight Cough had only been very slight and accompanied by very little expectoration which had on three separate occasion been examined for tubercl bacilli with negative result Examination revealed deficient movement impaired resonance and diminished breath sounds at the left base but no adventitious sounds and no cardiac displacement X-ray examination of the chest showed the left diaphragm to be fixed and obliteration of the left costo-phrenic angle with some pl ural thickening

Type —Adhesions arising from the mediastinal surface of the lung and connecting it with either the diaphragm or as mentioned above with the pericardium (Figs 4 and 5)

The explanation of the formation of the adhesions arising from the interlobar fissures is interesting In an antero-posterior view a pleural effusion is represented in a radiogram by a more or less uniform shadow and if the effu ion is insufficient to fill the chest the shadow is seen to have a convex upper margin rising to it maximum height in the axillary line Fleischner[2] however, has shown that in a lateral view this shadow may be seen to dip into the interlobar fissures, the effusion having separated the lobe of the lung by invading the e fissures (Fig 6) In some cases this interlobar exudate di appears entirely by ab sorption in others it becomes organized, and in this way is I believe responsible for the formation of adhe ions arising from the fissures Such adhesions, we have seen may connect an interlobar fissure with the diaphragm or with the pericardium, and may, by their contraction cau e so-called 'tenting" though actually this is very slight for careful examination shows that the 'tent is composed almost entirely of adhesion

SUBDIAPHRAGMATIC ABSCESS

Any abscess in contact with the under surface of the diaphragm (except when in the liver or spleen) is spoken of as a subdiaphragmatic abscess Such an abscess may be either right-sided or *left-sided and may, in addition to* pus contain gas (Fig 7) These characteristics will, in great measure be determined by the underlying cau e of the abscess *The commonest cause of subdiaphragmatic abscess* is perforation of a peptic ulcer the resulting abscess being usually on the left side, and in view of the direct communication with a hollow viscus will contain ga in addition to pus

The perforation may be subacute or acute, for the relief of which immediate operation may have been performed Hurst and Stewart[4] in dealing with this subject, while admitting that immediate operation for gastro-duodenal perforation has enormously reduced the mortality of this complication, doubt if the frequency of subdiaphragmatic abscess has been appreciably affected, the proce s of localisation having begun before the patient is seen by *the surgeon*, or the peritoneal drainage provided being inadequate Later in the same article, when discussing the symptoms they state that "if the temperature remains raised or if after an initial fall it rises, and symptoms of a general infection occur about the fifth day after an operation for a perforated ulcer, a localized abscess is probably forming If abdominal and rectal examination show that there is no obvious local ab cess in the abdomen or pelvis a subdiaphragmatic ab cess is probably present"

When the perforation in the original peptic ulcer is very small the resulting ab-cess may not contain gas

Of the other cau e of subdiaphragmatic al cess [perforating one of the most frequent is the tracking up of an appendicular abscess The e abscesses are usually on the right side and are non-gas-containing though it may be remembered that occasionally such an ab cess may contain gas as the result of infection by putrefactive bacteria

Symptoms and Signs—The general symptom of subdiaphragmatic abscess are those of a collection of pus anywhere in the body and consist of languor loss of appetite emaciation, constipation and dry furred tongue with irregular pyrexia and rapid pulse sweating and occasional rigor The onset and sign and symptoms however, will vary with the cau e and situation of the abscess In cases following an appendicular abscess or the operation for perforation of a peptic ulcer the onset is usually insidious If five or six days after the operation pyrexia persist without any local condition to account for it, and the patient complains of pain in the lower costal region with impeded though not necessarily accelerated breathing the formation of a subdiaphragmatic ab cess should be suspected The subsequent sign will depend upon whether the abscess is situated posteriorly when the signs will be mainly thoracic or anteriorly when they will be mainly abdominal With a *posterior abscess* an area of dullness appears at the base of the lung and gradually increases in size but the upper border of the dullness being limited by the diaphragm retains the curve of the diaphragm but with an increased convexity and does not rise toward the axilla as in the case of pleural effusion Again, the apex beat is displaced upward and not laterally as in cases of pleural effusion Not uncommonly however a subdiaphragmatic abscess is complicated by the presence of pleural effusion and when this occurs the convex upper border of the diaphragm cannot be detected by percussion and the apex beat is displaced laterally as well as upwards *Over the area of dullness there is marked* tenderness which as pointed out by Hale-White is a very valuable sign Owing to compression of the lung *there may be bronchial breathing and sometimes a* result of concomitant pleurisy a friction sound may be heard If the abscess is on the right side the liver may be palpable if on the left side the normal resonance of the stomach and splenic flexure of the colon may be replaced by dullness Exploration in the tenth intercostal space in the axillary line—*the needle being pushed boldly* on through the diaphragm—may reveal pus though such a procedure is not without the risk of infecting the pleural cavity *When the abscess is situated anteriorly*, a rounded tender swelling may be felt in the upper part of the abdomen and the thoracic signs may be insignificant Such a swelling *should not be punctured* Should the abscess contain air as well as pus the signs of propneumothorax are present X-ray examination will prove of the greatest value in the diagnosis of a gas-containing abscess and reveals an air-containing space, separating the arched raised diaphragm above from the flat-topped shadow of pus below In simple or non-gas-containing abscesses x-ray examination is not so helpful for, as a rule all that can be seen is that the diaphragm is elevated fixed and immobile, while any *shadow* below the diaphragm cannot be distinguished from the liver shadow

Prognosis—In all cases of subdiaphragmatic abscess the outlook is grave, but more so in those cases *which contain* gas as well as pus.

Treatment—Surgical

I am indebted to Dr E W Twining honorary radiologist to the Manchester Royal Infirmary for much valuable assistance and for the radiograms reproduced on the Special Plate

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HORSESHOE KIDNEY.

A REPORT ON TWO CASES

BY

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(*With Special Plate*)

Horseshoe kidney is one of the most frequent of renal anomalies. Statistics obtained from the post-mortem room show ratios varying from 1 in 1,580 to 1 in 500 cases. The condition results from the fusion of either upper or lower poles of the two kidneys across the middle line. The fusion, in the majority of cases, is between the lower poles, and is composed either of connective tissue or of varying proportions of renal parenchyma, which usually lies anterior to the aorta and vena cava. The ureters, as a rule, are two in number, and arise from separate pelves. They pass downwards in front of the isthmus, and it is because of their unusual position and curvatures that a horseshoe kidney is said to be especially predisposed to such conditions as hydronephrosis, renal calculi, tuberculosis, and pyonephrosis.[1] Joly[2] states that stone is at least six times more common in horseshoe kidney than in normal organs.

The mere presence of a horseshoe kidney may give rise to symptoms, but these usually depend on pathological changes in the renal substance. In the first of the two cases here detailed, although extensive changes were present on one side, the condition gave rise to no symptoms whatsoever.

CASE I.

The patient was a man of 34. His medical attendant had found albuminuria during a routine examination which had been carried out prior to treatment for haemorrhoids. There was no evidence that this was of nephritic origin, and as it failed to respond to treatment he was referred to the urological clinic at the Royal Infirmary for investigation. A healthy looking man, of medium build, he would admit to no urologic symptoms. Palpation of the abdomen revealed no tumour. *X ray examination of the* urinary tract showed a large renal calculus on the right side, occupying an unusually low level. Examination of the urine showed some red blood corpuscles and epithelial cells, with scanty polymorphs in the bladder specimen. No organisms were seen on direct smear, and no growth was obtained on culture of specimens taken separately from the bladder and kidney. A bilateral pyelogram (Fig. 1) showed anomalies typical of a horseshoe kidney, with gross pathological changes in the right segment.

Description of Pyelogram (*Fig. 1*).—The two pelves lie adjacent to the vertebral column. On the right side the shadow of the calculus can be identified, lying behind the upper end of the opaque catheter at the level of the transverse process of the fourth lumbar vertebra. Above the level of the calculus is an extensively dilated pelvis. The calyces are also markedly dilated, and their axis is median instead of lateral. The ureter leaves the pelvis at the lateral, instead of the usual median, border. The pelvis of the left kidney is of an unusual truncated shape, and some of the upper and lower calyces lie median to it. The ureteropelvic junction on this side is also at the lateral border.

Operation

In November, 1928, the right kidney was exposed through a curved lumbar extraperitoneal incision. The upper pole, which appeared to be lower than normal, was separated from adhesions by blunt dissection, and delivered through the wound. On freeing the lower pole an isthmus of renal tissue could be felt extending between it and the lower pole of the left kidney in front of the great vessels. The ureter was found in front of the isthmus, and it was divided. Working from the anterior aspect, the renal vessels, which were irregular in their distribution, were cleared, divided between clamps, and ligatured. A clamp was now applied to the isthmus as near to the middle line as the incision permitted. The isthmus was then divided, immediately to the right of the clamp, and the kidney removed. A running suture was applied over the clamp and, as the latter was withdrawn, the suture was tightened and tied. A tube was brought out through the upper angle of the wound, from the region of the cut isthmus.

The entire wound, except that part through which the tube passed, healed by first intention. During convalescence there was a continuous urinary leakage along the tract of the tube, and this, to a slight degree, is still present. The patient feels very well, his urine is clear, and he is actively engaged at his employment as an engineer. An examination of the removed kidney (Fig. 2) showed that one of the calyces had been cut across in the resected portion of the isthmus.

CASE II.

A labourer, aged 34, was referred to the urological clinic at the Royal Infirmary in December, 1929, complaining of pain in the back and haematuria. The pain was felt over the dorso-lumbar vertebrae, and had troubled him for three weeks only. It was not severe, but became aggravated after about an hour's work, which at that time consisted in stoking a furnace. He stated that during the first week following the onset of his pain the urine had been intermittently red, but that for the past two weeks it had been quite clear. Chemical examination of the urine showed a trace of albumin, but was negative for blood. Palpation of the abdomen revealed no abnormality, and pressure in the lumbo-costal angle on both sides did not elicit any tenderness. Plain *x* ray examination of the urinary tract was negative. A bilateral pyelogram (*Fig. 3*) showed the anomalies associated with a horseshoe kidney, with a hydronephrosis in the left segment.

Description of Pyelogram (*Fig. 3*).—The left renal pelvis and middle calyces are extensively dilated. All the calyces, except the upper group, are directed medialwards. The ureter leaves the pelvis at about the mid-point of its lower rounded border. The right pelvis lies almost in contact with the transverse processes of the third and fourth lumbar vertebrae, and the ureteo-calicine angle is diminished. The axis of the calyces is in the normal lateral direction, and the ureteo-pelvic junction occupies the normal median position.

The hydronephrosis present was not considered sufficiently severe to demand surgical intervention. The patient reported recently for re-examination, when he still complained of suffering from back pains. He does not appear to be handicapped in any way, however, as a result.

For the carrying out of any successful surgical procedure on a horseshoe kidney a previous recognition of the existence of the renal anomaly is of distinct aid to the surgeon. The condition can seldom be recognized by abdominal palpation and Rovsing's sign, the causation of a characteristic pain by increasing the curvature of the lumbar spine or making the muscles of the back tense, which is relieved when the patient lies down, is not of much diagnostic value. The shadow obtained by the plain *x* ray examination of a fused kidney is usually too indefinite to admit of an accurate interpretation. Pyelography is generally the only method whereby fusion can be recognized. The abnormalities present in a pyelogram of a horseshoe kidney are due to failure of rotation of the renal pelvis.[3] In consequence the axis of the calyces is median or anterior instead of lateral, and the ureter leaves the pelvis from its lateral or anterior aspect.

Access to a horseshoe kidney is best obtained by the retroperitoneal route. The anterior transperitoneal route, as suggested by Rovsing, gives a good exposure of the isthmus, which is the most difficult part to deal with. A grave disadvantage of this approach, however, is the exposure of the peritoneum to infection. This is obviated by the postero-lateral incision, the anterior limb of the incision being carried further forward than usual. This gives an adequate exposure and working field. In dealing with the isthmus the division should preferably be made in a wedge-shaped manner, so that the cut surfaces can be approximated. A urinary fistula should be a rare sequel to the division of the isthmus, for the calyces are generally confined to the upper and middle portion of the renal mass. The lower calyx, however, extended into the isthmus in the patient operated on by me (Case I), and was therefore cut across in the course of the resection. Israel, according to Judd, Braasch, and Scholl,[4] reported a similar case, in which one of the calyces was cut across in the removal of the transverse bar.

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FIG 1



FIG 3.

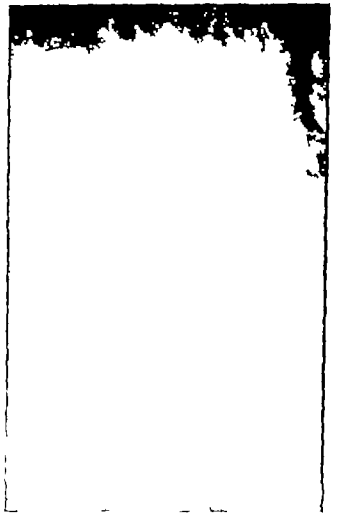


FIG 4



FIG 7

D R I ROBLRTS RLNAL CYST CONTAINING CALCULI





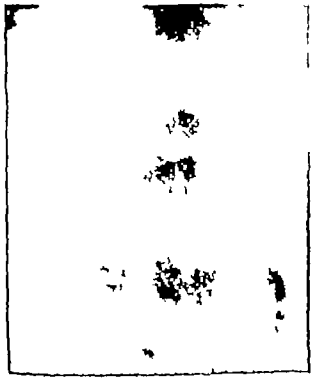


FIG 5.

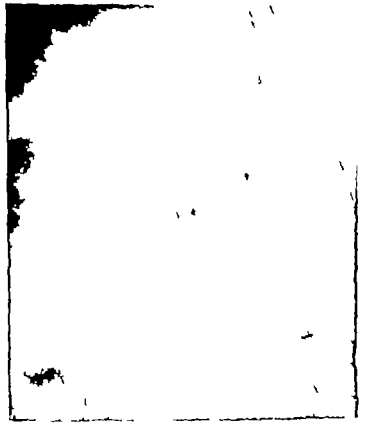


FIG 6.

ARTHUR JACOBS HORSESHOE KIDNEY



FIG 1.—Calculous hydronephrosis in the right segment of a horseshoe kidney The anomalous axis of the calyces and the relation of the ureters are shown.



FIG 2.—Resected segment of horseshoe kidney The large calculus can be seen within the dilated pelvis, the anterior wall of which has been opened



FIG 3.—Hydronephrosis in the left segment of a horseshoe kidney

J SALISBURY CRAIG AND J H SHLARETR OSTEITIS FIBROSA



FIG 1.—Pathological fracture of left humerus Areas of rarefaction in radius and ulna

I H LLOYD WILLIAMS BOXER'S THUMB



FIG 1.—Radiogram of normal thumb, showing the normal position of the bones and sesamoids



FIG 2.—Radiogram of boxer's thumb Note the space between the sesamoids and metacarpal and the subluxation of the phalanx

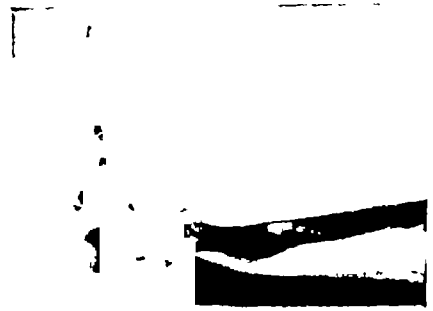


FIG 2.—Areas of rarefaction in right humerus, radius, and ulna.

ON BOXER'S THUMB

BY

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(With Special Plate.)

SUBLUXATION of the first metacarpo-phalangeal joint is a condition occurring chiefly among boxers, with whom it has attained almost the status of a stigma of the prize ring. It does, however, occur as the result of other accidents. The deformity may be either a primary condition, as with boxers, or a residual condition arising from a complete dislocation. In boxing the subluxation is produced by a blow on the distal portion of the thumb when it is not efficiently supported by the clenched fingers. The impact of a properly delivered blow should in no case directly affect the thumb, but it may be damaged by the opponent's guard.

Anatomy

The head of the first metacarpal is somewhat flatter than the head of the other metacarpals, and strong lateral *ligaments bind it to the phalanx. Crossing the palmar aspect of the joint in question are the tendons of the* adductor obliquus, opponens, and flexor brevis pollicis muscles. The first two are inserted by a common tendon into the ulnar side of the phalanx, and the short flexor into the radial side. In each tendon is a sesamoid bone provided with a separate synovial membrane for its articulation with the metacarpal. Below the sesamoids the tendons are fused together by fibro-cartilaginous tissue which is intimately attached to the anterior ligament and capsule of the joint. The capsule, which is lax in the flexed position, is drawn down during flexion and is thus prevented from being caught between the bones. Situated dorsally are the extensors and a weak ligament.

Movements

The *active* movements of the joint are flexion and extension. The *passive* movements are (1) a lateral hinge movement corresponding to adduction and abduction of the other digits, (2) a gliding movement in the horizontal plane, the base of the phalanx being displaced towards the palm of the hand. A similar gliding movement of phalanx on metacarpal can be produced in the fingers, but it is of less extent. With very long lax ligaments hyperextension and some degree of subluxation may take place normally as a result of active movements without apparent injury to the joint.

The accompanying skiagrams may be considered typical of (*a*) the normal, and (*b*) the subluxation in boxer's thumb. The subject of this particular joint had had a complete dorsal dislocation, and subluxation resulted. Note particularly a dislocation of the phalanx in the horizontal plane towards the palm and the wide gap between the sesamoids and the head of the metacarpal.

Symptoms

Immediately after the injury the patient complains of pain in the joint and of weakness, particularly as regards grip. There is not usually much swelling at the time. If left untreated, weakness continues and is accompanied by limitation of movement, both active and passive. In old-established cases the joint is almost immobile. It assumes a position of semiflexion, and becomes somewhat fusiform in shape from thickening of the capsular structures. The swelling tends to be more abrupt than in rheumatoid arthritis.

Treatment

Digital reposition of the bones is easily accomplished by manipulation in the horizontal plane, with or without traction in the long axis of the thumb. A correct position is, however, not generally maintained. The problem therefore, is not so much to reduce a dislocation as to make this reduction permanently effective.

Dislocation does not occur unless both the lateral ligaments and the capsule of the joint have been ruptured. The posterior ligament is relatively inefficient compared with the lateral and anterior ligaments. I have confirmed this by numerous experiments on the cadaver. A complete dislocation, in which the joint capsule and ligaments are ruptured, involves also a tearing of the attachments of the sesamoids to the metacarpal head. But in no case was there intervention of fibro-cartilaginous or other tissue between the articular surfaces or between the tendons and the metacarpal although I had imagined at one time that such intervention was a possible cause of failure in maintaining reduction.

Recurring or persisting deformity is caused by the unopposed traction of the short muscles of the thumb in the presence of rupture of the lateral ligaments and capsule. Treatment must therefore be directed to neutralizing this muscular pull. The first essential is a dorsal reduction of the lower end of the phalanx whereby it is brought into correct anatomical alignment, while maintaining a certain degree of flexion of the joint. This semiflexed position is best maintained by a special splint which exerts backward

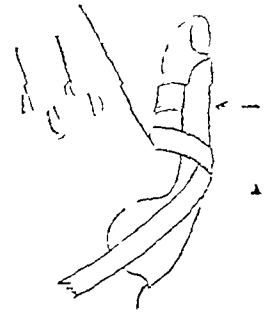


FIG. 3.—Illustration of the splint.

pressure on the lower end of the phalanx and the tension and counter-pressure both on the distal end of the phalanx and on the metacarpal. The moulded metal splint illustrated was made for me by Messrs. Lindsey and Son of Brighton. It should be worn for about fourteen days to allow the healing of the capsule and ligaments. Massage and passive movements should then be instituted, and the splint kept on for another week or fortnight.

Note.—I have tried both moulded poroplastic and strapping, but these methods have not proved satisfactory in my experience. Poroplastic does not lend itself to fine adjustment, and the essential counter-pressure producing a certain amount of flexion is not obtained by strapping.

OSTEITIS FIBROSA WITH INITIAL SYMPTOMS RESEMBLING RHEUMATIC INFECTION

REPORT OF CASE

BY

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(With Special Plate.)

THE cases of generalized osteitis fibrosa described by Wilder[1], Hunter[2] and others in 1929 presented signs of progressive weakness, loss of muscle tone, anaemia, pain in the bones, and decalcification of the skeleton which were attributable to hyperfunction of a parathyroid tumour. The following case has been considered worthy of record since it conforms in many respects to these previously noted and because it was one in which an initial clinical picture suggestive of subacute rheumatism was altered by the occurrence of a pathological fracture.

In May 1929 the patient, an unmarried woman, complained of pain over the posterior aspect of the left deltoid region and the left upper arm. The regions was then examined [illegible] dyspnoea, mild pyrexia and pain

developed in June when the patient had to be confined to bed. Although the pain in the arm and chest was persistent, her general condition improved with rest, and she was eventually able to carry out her household duties to a limited extent. In August however, while stepping on to a vehicle, she experienced a sudden severe pain in the left upper arm with a sense of "something having snapped." Examination immediately after this incident revealed subcutaneous haemorrhage along the inner aspect of the left upper arm and immobility of the affected part. A fortnight later the patient was admitted to a nursing home. A hard fusiform swelling about the size of a tangerine orange was present over the lower third of the left humerus. Crepitus and undue mobility were absent. Tenderness was slight, but movements around the left elbow joint were painful and limited. Sensations were unimpaired.

Radiograms showed a *complete oblique fracture at the lower* end of the left humerus, with the fragments in fairly good position and callus formation. The hard bone in the region of the fracture was greatly rarefied. The appearances were definitely indicative of pathological fracture (see Fig. 1). This finding was supported by the history of the case in which there had been no question of external violence. Other areas of rarefaction were present in both epicondyles of the head of the radius, and in the olecranon on the left side while the right humerus, radius and ulna (see Figs. 1 and 2) and the ribs on both sides were also involved. Although the evidence pointed to the fracture having been pathological rather than traumatic in origin, healing had not been delayed since bony union was firm. The differential diagnosis between secondary carcinoma of bone and some form of rarefying osteitis then fell to be considered.

A small nodule, about the size of a *haricot* bean, was palpable in the left mamma. The patient was examined by Mr. G. T. Mowat of the Glasgow Royal Cancer Hospital who expressed the opinion that the nodule was more likely to be associated with chronic mastitis than with carcinoma. It was subsequently removed by Mr. Mowat. Histological examination revealed dense patches of fibrous tissue with very scanty adenomatous elements, indicative of chronic mastitis. It was pronounced non-malignant.

Examination of the pelvis, the chest, *and the abdomen gave no* evidence of neoplasm. Gastric analysis, after an Ewald's test breakfast, showed a normal acidity. The blood picture was that of a secondary anaemia. The urine contained a trace of albumin. Mitral stenosis was the *only other point of note* in the general survey.

The above findings, taken in conjunction with the fact that the fracture was well healed, were considered sufficient to exclude the presence of a primary carcinoma in any of the regions from which metastases to bone usually originate, and to confirm the non-malignant nature of the disease in the bones. Furthermore, the patient's nutrition was improving on ordinary diet.

The weight of evidence, then, turned in favour of some form of *rarefying osteitis*. A metabolic experiment, in which the calcium intake and output were measured over a *period* of four days, showed however that there was no excessive decalcification. The retention of calcium was slightly positive (0·3 gram CaO per day), and the calcium content of the blood was normal (0·014 per cent. CaO).

After returning home, on October 22nd, pain became more generalized and the patient was completely confined to bed. Mild pyrexia, dyspnoea, and cough with blood-stained sputum commenced in December following upon a chill. Anorexia and vomiting, not preceded by nausea and unassociated with food, supervened, oedema of the legs developed and the patient died in January, 1930, with all the signs of cardiac failure.

Although the features of the case at one stage suggested that the pathological fracture might be associated with tumour of bone, the subsequent history as well as the clinical findings indicated that it was due to a localized or arrested *osteitis fibrosa*.

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ARTERIAL PRESSURE IN ITS CLINICAL ASPECTS*

BY

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In 1628, close upon 302 years ago, William Harvey published his observations on the circulation of the blood. The fundamental characters of his immortal discovery are *still acknowledged* to be in the main identical with those that he portrayed, without which no study of blood pressure would have been possible.

Meaning of Blood Pressure.—A certain level of blood pressure is essential for every individual in order that the circulation may be maintained. It is only when this level is too high or too low that symptoms are apt to arise. In physics blood pressure may be defined as that pressure exerted by the blood at a given instant upon a given point in the circulatory system. In physiology the term includes not only arterial, *capillary, and venous pressures*, but also *the pressure of* the blood upon the interior of the heart itself. In everyday language, however, the term is employed solely to designate arterial pressure. In its clinical aspects arterial pressure represents "a force originated by the contractions of the heart, maintained by the reaction to distension of the arterial walls, and regulated by the degree of resistance in the terminal portion of the arterial system" (Gallavardin).

Types of Sphygmomanometer.—Modern instruments used in the clinical estimation of arterial pressure are of two main types—mercurial and aneroid. The mercurial sphygmomanometer registers the height in millimetres of a column of mercury equivalent to the arterial pressure at the moment of investigation. The aneroid instrument possesses an expansile chamber, distension of which by increase of arterial pressure is magnified, and in turn transmitted to a fine needle travelling round a dial. Personally I find no instrument so generally satisfactory as an accurately constructed mercurial manometer of modern type, such as the Hill-Barnard-Baskett sphygmomanometer. Many practitioners prefer instruments of aneroid type owing to their smaller compass and greater portability. All aneroids, however, should be calibrated annually against a standard mercurial manometer, since after frequent use the aneroid chamber is liable to undergo over-distension and thus to give readings which are too low in high pressure cases.

CLINICAL ESTIMATION OF ARTERIAL PRESSURE

For the majority of cases the auditory method of estimation is the simplest, quickest, and most generally applicable. It is performed as follows. The patient, seated in a comfortable position, allows the bared arm to lie with the muscles relaxed upon a convenient support of such height that the armlet is approximately at the level of the heart. For patients confined to bed the instrument may be placed on a small adjoining table. The armlet should be evenly wrapped round the arm from within outward like a bandage, the tail being tucked in beneath the last fold. It should be applied as high as possible, so that the lower margin is well above the bend of the elbow, the middle of the pressure bag lying over the inner side of the arm, thus ensuring effective compression of the brachial artery. The patient's attention should be distracted by noting the rate and characters of the radial pulse. Apprehensiveness on the part of a sensitive patient should be allayed by explaining that the band round the arm will tighten for a minute or so, but that this temporary pressure is quite harmless. The pressure bag should be rapidly inflated until the pressure within it is above that *in the brachial artery*, over which *the bell of a stethoscope has been lightly placed* just above the bend of the elbow, to the inner side of the biceps tendon.

On decompression following pulse obliteration the first audible click denotes the level of the systolic pressure. As the external pressure in the bag is permitted gently and evenly to fall a variable murmur phase becomes audible, passing into a longer sequence of *sonorous* thuds, which gradually reach a climax of intensity before being succeeded by a series of dull and muffled sounds, the fourth auditory phase, preceding silence. The first dull sound following the last loud thud denotes the level of the diastolic pressure. By subtracting the diastolic pressure from the systolic one obtains the differential (so-called pulse) pressure. These figures, along with the pulse rate and characters, can readily be entered in the case notes, and constitute "the complete arterial pressure picture."

*An address given to the Kensington Division of the British Medical Association on March 19th, 1930.

Importance of the Diastolic Pressure.—Of the two ends of the pressure scale the diastolic is by far the more important in that it is a measure of the burden which the arterial walls and aortic valves must continually bear while the systolic represents only an intermittent and superadded load. Further, the diastolic pressure constitutes a valuable measure both of peripheral resistance and of eliminatory capacity. The differential (pulse) pressure, obtained by subtracting the diastolic from the systolic, represents the cardiac load and is almost a constant in health between the age of 20 and 50.

Physiological Factors in Arterial Pressure

Numerous physiological factors cause considerable fluctuations in systolic arterial pressure, the diastolic being much less influenced. The chief factors that bring about increase in pressure are body weight and, to a less extent, height, psychical stimuli, restless sleep and nightmares, food and alcohol, the rise being soon succeeded by a fall, tobacco in those unaccustomed to its use, muscular work, mental exertion, puberty, and the menopause. The factors which cause a fall are rest and quiet sleep, fatigue and fasting, menstruation and pregnancy cause variable effects.

Menstruation.—During the week preceding menstruation both pressures rise. With the onset of flow they fall rapidly, to reach their lowest levels at the end of the period; during the next fortnight of the intermenstrual cycle arterial pressures gradually return to the previous standard levels.

Pregnancy.—As yet there is no absolute agreement as to the levels of arterial pressure in pregnancy. Most of the figures given in the literature are too high. In primiparæ below 30 years of age one does not, as a rule, expect to find a systolic pressure greater than 95 to 115 mm. of mercury, nor a diastolic respectively greater than 50 to 75. In multiparæ the pressure tends to range slightly higher, being probably influenced by age. During the latter end of pregnancy there may be a gradual and slight rise. Nevertheless 60 per cent. of all cases are below a maximum of 125 mm. Another 25 per cent. with systolic pressures varying between 125 and 140 may be regarded as potentially toxic, and require more careful watching than is usually given. The remaining 15 per cent. with systolic pressure above 140 and diastolic correspondingly elevated may be regarded for the most part as definitely toxic. In such cases albuminuria and occasional casts are frequently met with. If the pressure still goes on rising the patient's life becomes endangered and premature termination of pregnancy may be necessitated.

Climacteric.—About the climacteric epoch a benign form of hyperpiesia may occur, most frequently in multiparæ inclined to obesity and constipation, the condition being aggravated by worry and anxiety. Faulty endocrine balance in the directions of ovarian insufficiency and adrenal hyperactivity almost certainly plays a large part in causation.

Clinical Investigation

Supposing one has in the consulting room a patient in whom some abnormality of arterial pressure is suspected, what is the best procedure to adopt? On accurate diagnosis correct prognosis and control alike depend. Hence it is well to begin with a detailed inquiry into the personal and family history. Systematic investigation of the cardio-vascular system follows, first estimating arterial pressure and pulse rate, and then noting the condition of the superficial arteries, the position and character of the apex beat, the size of the heart and of the great vessels at its base by careful percussion, together with the quality of the cardiac sounds. Inspection for the possible presence of oedema, examination of the fundi with the ophthalmoscope, and urinary and blood tests complete the special investigation.

Symptoms of High and Low Arterial Pressure

Uncomplicated high arterial pressure is usually unaccompanied by symptoms. Only in later stages in the presence of associated conditions does the patient begin to complain. Even arterio-sclerosis is not a necessary concomitant of high pressure; for about half the total number of cases exhibit standard or even low pressure. In the absence of conditions of association the subject even of a high grade of pressure may feel quite well. Indeed a dramatic feature of hyperpiesis, to which I have drawn attention, is the feeling of comfort and well-being on the part of those about to succumb to cerebral haemorrhage. If a patient with a perilously high pressure expresses himself as feeling particularly fit, then is the time to beware of sudden and desperate events. Subjective sensations may be met with in the course of high pressure in the following order of frequency: fullness, heaviness, pressure feeling, or throbbing in the head, often aggravated by mental effort, dizziness on exertion, palpitation or precordial pain amounting at times to angina, dyspnœa on exertion, drowsiness and disinclination for effort, impaired memory and concentration, irritability, insomnia, anxiety states, gradual failure of vision or sudden one-sided blindness, neuralgia, migraine, epistaxis, uræmic symptoms.

One striking fact, which I emphasized last year, is that the majority of these symptoms are identical with those found in cases of low arterial pressure, but arise from opposite circulatory causes of excess on the one hand and defect on the other.[2] Dizziness in hyperpiesis results from cerebral congestion; in the low pressure case it is postural and readily induced by sudden change from recumbency to the vertical position. Again the feeling of well-being may precede cardiac failure. A notable example is afforded in the death on March 16th, of General Primo de Rivera, the ex-Dictator of Spain. As reported in the daily press at 9 a.m. his two daughters and his son saw him sitting up in bed dealing with his correspondence. He told them that he had had a good night's rest and had never felt so well. One hour later he died of cardiac failure consequent upon influenza.

The high pressure individual is often the subject of excess metabolism and labours under the strain of acid retention with inability adequately to eliminate waste products, the low pressure individual usually suffers from faulty assimilation, the acid-base balance of the tissues being deviated to the alkaline side, and tissue destruction preponderating over repair. Now that by biochemical methods we are enabled to gain a much closer approximation to exact ideas as to how errors of metabolism may be corrected and faulty balance redressed, we can formulate measures of control with far greater certainty. It is only from a broad biological standpoint which takes cognizance of early departures from that delicate adjustment of vital functions that we term "health" that the difficult problems of both high and low pressures can be rationalized and brought under one comprehensive law, to which I have referred both of these states as opposite expressions of failure to environment in its widest application.

Diagnosis

Differentiation of Types of High Arterial Pressure

The most direct way of attacking the problem is to regard hyperpiesis as including *all* types of raised arterial pressure, whether physiological or pathological, temporary or permanent, renal or non-renal. For the sake of simplicity one now takes out of the general group the syndrome to which the late Sir Clifford Allbutt gave the name of hyperpiesia. This malady is of considerable interest and importance in that it possesses individual features. Becoming manifest between the ages of 40 and 60, heightened arterial pressures of 160 mm. or more systolic and 100 mm. or more diastolic appear as constant phenomena in conjunction with left ventricular hypertrophy and changes in the walls of the arteries recognizable at necropsy as a diffuse hyperplastic sclerosis (G. Fran[illegible]) but distinguishable on the one hand from renal sclerosis and on the other hand from senile atheroma. From renal sclerosis hyperpiesia is differentiated by its occurrence in robust and often plethoric subjects who for years may experience no disability from senile atheroma, by the existence of the high pressure. Blood urea generally within normal limits, and the urine shows a trace only traces of albumin. A heart weighing 15 oz. or 20 oz. is

a common post-mortem finding. Cerebral haemorrhage or cardiac defect are the most frequent terminal events, uraemia is uncommon.

Conditions of Association

The only effective way of studying pure hyperpiesis is to watch its manifestations in early life before degenerative processes have set in. In children and adolescents, as well as in later life, there is one association that is not degenerative. This is arterial hypertonia, which is capable of inducing either a temporary angiospasm or, when true hypertrophy of arterial muscle has developed, a permanent hyperpiesis. The real degenerative changes of association are cardio-arterio-sclerosis and nephro-sclerosis.

Tests of Renal Efficiency

In hyperpiesis the situation is controlled by the state of functional efficiency of the kidneys. For those patients whose kidney function is unimpaired one can do much, for those in whom the renal secreting substance is already gravely damaged one can do little.

Blood Tests.—The term "nephritis" in connexion with raised arterial pressure is universally taken to mean interstitial or toxaemic nephritis (chronic Bright's disease), and the order in which the non-protein constituents of the blood are affected is as follow. In the earliest stages there may be a rise of the blood uric acid above the normal 4 mg. per cent. without the other fractions being affected. The blood urea nitrogen, which in private patients does not exceed 15 mg., and in hospital patients 20 mg. per cent., is next acted upon and may rise well above 100 mg. per cent. It is, however, accepted that a figure for blood urea nitrogen of above 100 mg. per cent. persisting over a lengthy period of time denotes a prognosis of almost certain fatality within twelve months. Creatinine nitrogen is the last to be affected, as it is so easily eliminated, its normal figure is 1 to 2 mg. per cent., and a rise of over 3·5 mg. per cent. almost invariably indicates a hopeless prognosis. With regard to the alkaline reserve, this as a rule is only affected during late stages. The most common cause for a notable diminution of the CO_2 combining power of plasma (normally not below 55 c.cm. per cent.) in nephritis is an inability on the part of the kidney to excrete acid phosphates, with a consequent rise in the blood phosphorus figure (the normal inorganic phosphorus in the plasma is 4 mg. per cent.). This interferes with the buffering power of the blood, and the alkaline reserve may fall to 30 c.cm. per cent., or even lower.

Urine Tests.—Where blood examination is difficult or impracticable, MacLean's urea concentration test can be performed. It involves the taking of 15 grams of urea in 100 c.cm. of water, and the analysis of specimens passed at half-hourly intervals for urea, the concentration of which should be well above 2 grams per cent., which indicates that the kidney efficiency is uninjured.

ETIOLOGY

Hyperpiesis is probably due to a variety of causes. Hereditary and familial influences undoubtedly play a part as also do protective and mechanical factors. Many cases arise as the result of long-continued anxiety states, or of emotional shocks, which through endocrine-sympathetic influences send up arterial pressure and induce angiospasm. This hypertonia of the vessel walls, at first transitory, may pass into a state of permanent contraction, and finally end in true thickening of the muscular coats. In many cases a still further explanation is required, which in my judgement is often afforded by toxaemia, either induced by bacterial toxins or by intoxications of endogenous or exogenous nature. It is probable that such toxaemias do not become operative in raising arterial pressure unless some basic disturbance of metabolism is present.

PROGNOSIS

Uncomplicated hyperpiesis is much more amenable to control than when associated conditions of degeneration, especially of the kidney, have supervened. Endocrine-sympathetic cases, inducing angiospasm in high pressure states and hypotonia in low pressure states, can often be favourably influenced. In pressures of moderate grade a fair prognosis may be given, as at the menopause, especially in patients with endogenous obesity. Cardio-vascular defects demand a more guarded opinion. In cases of *permanently raised pressure the onset of commencing heart failure* is of the gravest import. The signs of this are a drop in pressure with dyspnoea, cyanosis, premature contractions either single or grouped, gallop rhythm, *total arrhythmia, and continuous acceleration* of the pulse rate. Any combination of these signs points to cardiac defect. A diastolic pressure continuously of 120 mm. or more frequently indicates renal involvement, and if maintained at 135 mm. or higher implies a grave outlook.

CONTROL

I prefer to speak of control rather than of treatment, since it is not in every case that treatment is required. To attempt by indiscriminate use of vaso-dilator drugs, such as the nitrites, immediately to lower a heightened pressure in the absence of indications of the cause is likely to be productive of considerable harm to the patient. Such harm may, indeed, be irreparable, so that it is wise to keep these powerful drugs only for emergencies. High arterial pressure resembles fever in that both are symptomatic of processes of reaction and defence against underlying disorder or disease. Unless either of these symptoms becomes so high as to threaten life, irrespective of the cause, it is illogical and futile to anticipate more than temporary reduction by a direct attack. A warning should also be given against too vigorous treatment by fasting or purgation. Each individual has an optimum pressure at which he or she feels most comfortable, often below standard levels in low pressure states, and above these levels in high pressure states, more especially when a fairly high head of pressure has to be maintained in order that the kidney may continue to secrete and excrete.

Although drastic attempts at reduction are to be deprecated, the opposite view that nothing can be done to relieve high pressures is equally erroneous. Having realized that the most potent causes of this condition are toxaemia, worry, and excess, first proceed to eliminate any that are obvious by a careful search for diseased tonsils, septic gums and teeth, infections of the gall-bladder, appendix, and prostate, and appropriate treatment directed to these and other like causes of focal sepsis. Intestinal stasis, with absorption into the circulation of toxins from this source, is a potent cause of both high and low pressures, hence directions should be given as to regular daily evacuation of the bowels to avoid straining.

Anxiety states should be dealt with by inculcating principles of self-control. For certain cases rest in bed at the outset may be necessary, for others it is inadvisable. Efforts should be directed to making environment less irksome and more harmonious. An occupation of steady routine is beneficial, and should be preferred to one of constant anxieties and sudden hazards. A sufficiency of rest should be enjoined. In general a minimum of eight hours should be spent in bed, and this time should be devoted as far as possible to quiet sleep. Enough relaxation and holidays should be taken in quiet, sunny, and congenial surroundings. Excesses and over-indulgence of all kinds should be checked.

Diet.—More people are killed by overeating than by overdrinking. Hence the pleasures of the table should be enjoyed in strict moderation. Meals should be varied in kind and balanced, with the inclusion of a sufficiency of vitamins in the form of fresh fruit, vegetables, milk, cream, and butter. Excess of fat is inadvisable, though olive oil may be taken well mixed with fresh salads. Similarly with carbohydrates, excess producing flatulence and digestive upsets, and tending to augment arterial pressure by causing obesity. Meat, including fish, should be taken only at one meal, and the quantity should be limited to the minimum metabolic needs of the body. When the kidneys are injured, a lacto-vegetarian diet becomes essential, since butcher's meat, spiced and seasoned dishes, and meat soups are harmful where there is difficulty in eliminating waste.

nitrogenous products. In general boiled meats, chicken and fish are preferable to roast joints. Eggs are usually admissible, but a light breakfast of wholemeal bread and butter, or toast and marmalade followed by fresh fruit is better than heavy dishes of fish or bacon, sausages and eggs. Table salt should be avoided when renal, cardiac, or cerebral complications are present, common pre-war table salt being substituted if craving is felt, consisting of ammonium hippurate 1 part, potassium nitrite 4 parts, potassium chloride 25 parts.

Drinks.—Water is the best and should be taken on an empty stomach an hour before meals and at bedtime. Where the water is hard, as in London, it may with advantage be softened by a permutit or other water softening plant. Pure English table waters are Stretton, Malvern, Bracebrough, and still saluatris which latter is distilled water passed over forest burnt wood charcoal to render it palatable. Of the French mineralized waters, Vichy, Vittel, and Contrexeville enjoy a deserved reputation in flushing out the kidneys. One pint of water for each five stones of body weight, imbibed during twenty-four hours, is a good working rule. Other drinks should be taken sparingly; China tea or tea freshly made with milk is to be preferred to Indian blends. H & G caffeine free coffee may replace the ordinary coffee. Alcohol is best not taken at all.

General Habits.—Tobacco is best avoided. Cigar smokers are more prone to arterio-sclerosis than pipe or cigarette smokers. Exercise should be well within the limits of fatigue, and elderly people should not vie with their juniors in tests of endurance. Motoring, but not at great speed, suits most, but not all. Golf should be preferred to tennis for those in whom age changes have begun to be manifest. Finally, the keynote of avoidance as well as of control of arterial pressure may be summed up in the four words of advice—moderation in all things.

Special Modes of Treatment

Deep breathing exercises, relaxation, and passive movements, resistance exercises, and massage have their appropriate uses. General massage combined with Swedish movements is a most useful therapeutic adjunct in lowering raised arterial pressure. X rays, high-frequency and diathermic currents in experienced hands yield good results. Some subjects benefit from ultra-violet radiation, which balances opposite abnormalities of arterial pressure. In emergencies, such as threatened or actual apoplexy, lumbar puncture is of timely aid, as well as in warding off or relieving uraemic convulsions or severe congestive headache. Venesection up to 500 c.cm., followed by fasting for a couple of days, gives relief to an embarrassed circulation, particularly in the presence of venous stasis.

Drug Therapy

For the toxaemia resulting from intestinal stasis, rectal injections every morning for three weeks of a pint of solution of potassium permanganate, 1 grain in water, after the method advocated by Dr. Nott, is often of great value, any constipation being at the same time corrected by tablets of lactobyl or taxol. Calomel at night, twice weekly in 2-grain doses, with a teaspoonful of equal parts of sodium and potassium sulphate on the morning following, *is useful in thinning the bile, and by inducing a* greater flow lessens intestinal putrefaction. Though it is impossible to disinfect the intestinal tract, monsol tablets or T.C.P. emulsion are at times serviceable in lessening toxic products of fermentation and putrefaction.

In the lesser grades of hyperpiesis 2-drachm doses of potassium chloride thrice daily in a tumblerful of water give encouraging results. For the cardiac types, theominal, a combination of luminal with theobromine, promotes diuresis and lowers arterial pressure. Iodides I have found of little use, greater effect being obtained from oral administration of the French tincture of iodine 5 minims in water or milk after meals with gradual increase of dosage, or by hypodermic injection of an iodine compound such as iodine. In all cases of *cardiac decompensation* there is no drug to compare with the time-honoured digitalis in standardized preparations.

More recent remedies are (1) liver extract, which often induces considerable lowering in the height of pressure, affords relief of symptoms in the majority of cases without arterio-sclerosis, offering the best prognosis. Hepatmone contains a histamine-like substance and is one of the best preparations for intramuscular injection up to 5 c.cm., (2) sodium sulphovanate, also where organic changes in the arteries are absent is useful in 5-grain tablet by the mouth. (3) choline derivatives, such as peronine, may be given in tablet form or acecoline (acetyl-choline hydrochloride) parenterally. (4) animasa, an extract of muscular coats of arteries of young animals, has been reported of benefit in sclerotic cases when long continued. (5) anabolin has given me no results which are appreciable.

I have left treatment by baths and waters till last, for these demand still further study. Effervescent carbonic acid baths exert on arterial pressure reduction or increase, depending upon the pre-existing state. They can be obtained either naturally aerated or artificially prepared at many spas, notably at Royat, Spa, and Nauheim. Manipulation baths and douche are beneficial in high pressure cases, and in those or low pressure associated with circulatory stasis.

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CEREBRAL ABSCESS FOLLOWING TONSILLAR INFECTION

BY

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THE occurrence of cerebral abscess as a direct sequel of tonsillar infection is rare, and deserves record. In the *British Medical Journal* of June 28th, 1929 (p. 1152), Houlden describes a case of cerebral abscess following acute tonsillitis and points out that there is little or no reference to such an association in the literature.

I am indebted to Dr. Francis Roberts and to Dr. T. Pearse for some of the following notes.

A boy aged 7 years suddenly became ill one afternoon with a temperature of 101·4° and was found to be suffering from severe acute tonsillitis. In addition he had old mitral disease of rheumatic origin. He was kept in bed and his temperature fell to normal in eight days, but in view of the cardiac condition he remained in bed for a further three weeks.

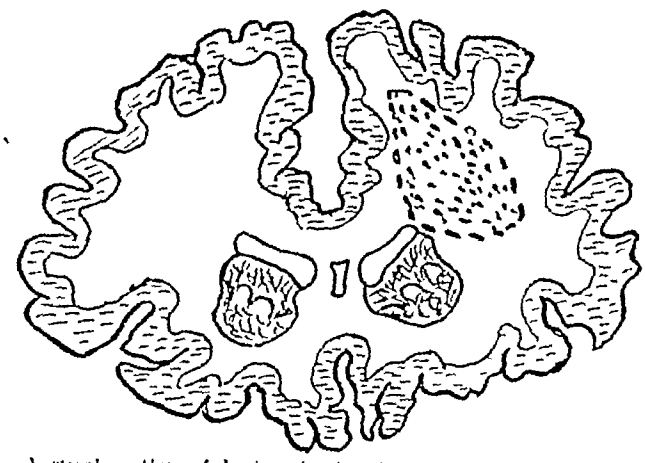
Five and a half weeks from the onset of his attack of tonsillitis the tonsils and adenoids were removed. Following this his convalescence took a normal course for five days. He then suddenly developed a sharp rise in temperature accompanied by a rigor. His chest was carefully examined at this time, but no trace of broncho-pneumonia was detected. He rapidly became seriously ill; vomiting was not a marked feature. On the day following the rigor weakness was noted in the lower part of the left side of his face; on the following day some weakness in the left arm appeared, and shortly afterwards slight weakness in the left foot. On the fifth day after the rigor this had developed into a complete left-sided hemiplegia. On the seventh day he was definitely drowsy, his temperature was 101°, and the discs were reddened and congested. On this day he was admitted to hospital.

On admission the boy was in a drowsy, almost stuporous state. The temperature was 99.2°, the pulse 68, and the respirations 32. He could however be roused, and no sensory or mental aphasia was present. There was a left-sided hemiplegia, paralysis of the face and arm being more marked than that of the leg. The tendon reflexes were brisk on the right side, and were much subdued on the left. The abdominal reflexes were equal and present; the plantar reflexes were marked, extensor on the left and faint on the left. Kernig's sign was [illegible] neck seemed slightly rigid. There was no [illegible] reacted to light and to accommodation, and no oculomotor paresis. The other cranial [illegible]. Mr. Bernard Chance reported that both [illegible] red, with some swelling in their [illegible]. On examination of the heart a murmur was heard at the apex of the heart.

the lungs nothing abnormal beyond signs of some congestion at the bases could be discovered The cervical glands on the left side were enlarged

A lumbar puncture was performed The cerebro-spinal fluid showed a slight increase in globulin and total protein, the sugar reduction was diminished the chlorides were normal, and the cell count 18 per c.mm the lymphocytes and polymorphonuclears being in equal proportions No micro-organisms were seen and the culture was sterile Blood was also taken for culture, but only staphylococci which were considered to be due to a contamination were found

The gradual "march symptoms" of a hemiplegia formed a definite indication of a cerebral abscess in this case The boy's condition was extremely grave on admission and in addition he had valvular disease of the heart However, the localization of the abscess being adequate, it was decided that the chance of operation should be given, but unfortunately he did not survive



Vertical section of brain showing location of abscess in subcortical region of right frontal lobe

A post-mortem examination was performed by Dr R T Chadwick, who reported as follows

The brain dura mater was dark in colour and congested The arachnoid and pia mater were intensely congested and opaque, the blood in the vessels was fluid No signs of emboli and no pus were discovered The convolutions on the right side were flattened and the ventricles were filled with clear cerebro-spinal fluid, the left being normal in size, the right flattened by the abscess

The abscess, which was filled with greenish red thick pneumococcal pus, was 2½ inches in diameter and circular in shape, it was situated posteriorly to the fissure of Rolando, extending downwards from the vertex about 1½ inches on the external surface and the same distance on the internal surface of the right hemisphere lying about 1/8 inch deep to the brain surface On the vertex the meninges were intensely congested and the abscess showed signs of pointing The medulla was congested, and there were no pressure marks No sign of tuberculosis or post basic meningitis was detected, but the brain substance was intensely congested generally

The tonsillar fossæ were found to be healing after the operation, and no sloughs were present The cervical glands were slightly enlarged, but there were no abscesses therein The lungs showed an early and moderately intense broncho-pneumonia, the air passages were intensely inflamed There was great right sided dilatation of the heart the mitral orifice admitting two fingers Old endocarditis was present on the mitral cusps, but the tricuspid and aortic valves were healthy There was general congestion of the alimentary system, and the mesenteric glands showed evidence of past healed tuberculosis The kidneys were greatly congested

There are two theories of the production of cerebral abscess after tonsillectomy One is that infected pulmonary emboli result from the sepsis in the tonsillar bed, the other, that septic material is inhaled while the patient is under the anæsthetic, and that the cerebral abscess is secondary to one or other of these conditions The present case—in which early broncho-pneumonia was demonstrated at the necropsy—would appear to fall into the group of the latter theory The possibility of cerebral abscess, though rarely associated with tonsillar infection, is not to be ignored

ORBITAL CELLULITIS IN CHILDREN.*

BY

E TEMPLE SMITH, F R C S Ed, D O Oxon, F C S A,

HONORARY OPHTHALMIC SURGEON TO THE ROYAL ALEXANDRA HOSPITAL FOR CHILDREN AND THE ROYAL NORTH SHORE HOSPITAL, SYDNEY, AUSTRALIA

SINCE orbital cellulitis may occur in children of a few weeks old there is no age limit The essential feature is proptosis of the eye associated with signs of inflammation Proptosis alone is not sufficient for its diagnosis Proptosis unassociated with inflammation may be caused by a cyst, a mucocele, a new growth, or what not Until one meets the combination of a congested eye and pink swollen lids with proptosis the diagnosis cannot be established Once made, a grave prognosis should be given and the help of the specialist sought

The diagnosis is not, however, always easy, as it is at times very difficult to be sure whether or not proptosis is present when chemosis of the conjunctiva and a swollen lid are the most prominent features But it is on the existence of this sign that the diagnosis will depend Proptosis is mechanically produced by congestion of, or exudation into, the orbital tissues behind the orbital fascia This is a dense and well-fitting septum separating the orbit proper from the conjunctival sac and the anterior segment and interior of the eyeball It matters not how severely infected an eye may be, orbital cellulitis, with its cardinal symptom of proptosis, will not arise unless the orbital fascia is penetrated

It is clear, then, that orbital cellulitis must not be diagnosed because oedema of the eyelid is present, or even cellulitis of the eyelid The latter is often due to the spread of infection from a hordeolum or impetiginous sore in the neighbourhood, and oedema can often be traced to a cellulitis of the scalp or face, or dacryocystitis, and is then present merely by extension, owing to the loose cellular structure of the lids

Again an intense purulent conjunctivitis, gonorrhœal or diphtheritic, may occasionally give rise to a pink and swollen lid, ocular diphtheria is frequently at first monocular The diagnosis will be established by the presence of a profuse discharge or of a membrane on the everted lids For the determination of the presence or absence of proptosis lid retractors are essential These may be improvised by the use of two hairpins bent over near the blunt end If a local cause has been discovered for the swollen lid, whether abscess, conjunctivitis, dacryocystitis, or foreign body, it will be treated on appropriate lines If none such is found and proptosis is present or strongly suspected, a grave view must be taken of the case, as it is one of orbital cellulitis

Orbital cellulitis in children has, so far as my experience goes, three chief causes

1 Skin infections, such as impetigo, hordeolum, fly-bite, boils, or any facial wound, with accidentally superadded virulent infection This is more likely to be met with in older children The temperature is generally very high, septic cavernous sinus thrombosis and general septicæmia with pneumonia are likely to supervene and they often end fatally and rapidly The infection passes by the angular vein to the cavernous sinus Fortunately such cases are rare

2 Nasal sinus infection, the commonest cause is met with in young infants as well as in older children The temperature is not usually very high and the child is not very ill The eye is pushed outwards as well as forwards This is a strong diagnostic point I will go so far as to say that if the eye is not displaced outwards the case is not nasal in origin In these cases the services of the rhinologist should be sought, he will, if he thinks necessary, open up the antrum or ethmoidal cells I believe the most usual condition is an ethmoiditis If the proptosis is only due to oedema it will gradually subside If, however, pus has formed in the orbit a counter-opening between the nose and eye may be needed Convalescence is slow but sure, and the eye is not usually in jeopardy I have seen a considerable number of cases of this type of cellulitis in the last fifteen years They are sometimes associated with the exanthemata

3 Osteomyelitis or periostitis of the orbit is a third principal cause Until about three years ago I had not seen such a case I was then asked to attend a young

*An address given to the Paediatric Section of the New South Wales Branch of the British Medical Association on April 11th 1930

infant with a high temperature and pink oedema of the eyelids of both eyes who was very ill There was no injection of the ocular conjunctiva As both eyes were affected it was difficult to say whether or not proptosis was present I believed, however, that it would be by the morrow, and that it was an early case of septic cavernous sinus thrombosis, that nothing could be done but that my rhinologist colleague should be asked to be concurred He did concur On the next day I still found no ocular injection to speak of and no definite proptosis although the lids were more pink and swollen I realized then that I had made an erroneous diagnosis, being deceived by the binocular affection which will generally point to a common origin I asked that my colleague should see the child again He found an osteomyelitis of the lower rims of both orbits Incisions were made over the malar bones and the child recovered This was not a typical case however, as it was binocular—surely a rare occurrence Furthermore although there was osteomyelitis of the malar bones, the lesion was anterior to the attachment of the orbital fascia, therefore though oedema of the lids was present, there was no orbital cellulitis

I have since seen three cases of orbital cellulitis (monocular) caused by osteomyelitis of the orbit and not apparently, associated with or due to sinus infection I am sure that these cases are metastatic They have not been coincidental with a similar lesion in the long bones and epiphyses although they are without doubt analogous The child becomes very ill indeed with a high and septic temperature Pink oedema of the lids and definite proptosis are early signs The eye is pushed forward without being pushed outwards Presumably the eye might be pushed to some extent away from the side of origin of the infection, wherever it might be, but in the early stages at any rate, when the proptosis is merely due to oedema and not to formation of pus, there is no lateral displacement This is in contradistinction to those of nasal origin In the last three cases I have seen the point of maximal swelling and tenseness of tissues has been at the lower outer side of the orbit Possibly a trauma may have been the exciting cause

In the first case I was not called in for several days as a tentative diagnosis of a nasal origin had been made and the rhinologist had explored the sinuses with an indecisive result and with no improvement in the patient I found the outer lower orbital margin tense and swollen and incised it here getting pus freely The boy had a high temperature for many weeks and was very ill Although there was free evacuation of pus the orbital oedema and proptosis persisted and in spite of all efforts the cornea sloughed and the eye had to be eviscerated Subsequently he developed a mild osteomyelitis of the facial surface of the malar bone

The next case was that of an infant seen in private with proptosis and similar symptoms I temporized for a day and then opened the orbit at the outer angle evacuating pus Again the orbital oedema was so great and persistent that the cornea sloughed and the eye had to be eviscerated though the child recovered Sequestra formed for a long time

The third case was that of a boy of 5 with the same symptoms of high temperature severe illness inflammatory central proptosis and the chief swelling at the lower outer orbital margin He had been ill two or three days This time profiting by my experience I opened the orbit within half an hour of seeing him and passed a sinus forceps through the orbital fascia down to the bony floor and rim No pus was seen but on the next day it appeared alongside the tube which had been left in The wound was kept open the proptosis went steadily down and the eye was never in danger He had a septic temperature for several weeks and had some meningeal symptoms which however subsided on lumbar puncture *Staphylococcus aureus* was found in the blood and urine so that there was evidently a very generalized infection Later he had an attack of osteomyelitis of the tibia

To recapitulate apart from cases of orbital cellulitis due to facial infection, in which the orbital condition is only an incident in a fatal septicaemia, there are two main causes The first, and the most common, is nasal sinus infection, with outward displacement of the proptosed eye and not very severe general illness Here the rhinologist can give most help, and if he is called in early incision into the orbit will probably be avoided The second is metastatic osteomyelitis or periostitis of the orbital walls, with severe illness and temperature and central proptosis The lesson I have learned from these latter cases is that early incision (as in the analogous disease of the long bones and epiphyses) is essential if the eye is to be saved When once the orbital tissues are thoroughly infiltrated and oedematous it seems to be difficult or impossible to bring about resolution before the cornea has sloughed owing to interference with its circulation as well as to exposure Our aim should be to prevent the phlegmonous condition by prompt incision down to the bones involved Hence the importance of early and accurate diagnosis In every case of a pink and swollen eyelid the general practitioner should realize the significance of proptosis if this exists In its absence he may temporize in his preference he should act with decision No case of inflammatory exophthalmos should be regarded lightly

Although I have dwelt in more detail on the important symptoms of the type of orbital cellulitis due to bone infection by the blood stream that is not because it is the commoner but because it is the graver and demands the most prompt rule in its treatment According to Poeschmore than 60 per cent of cases are due to nasal infection He is referring to adults and I think that this applies much more so to children owing to the thinness of the orbital walls In my own practice orbital cellulitis in adults is exceedingly rare whereas in children it is at least not uncommon

My aim in this short paper is twofold (1) to emphasize the importance of proptosis when associated with inflammation (2) to attempt to make clear the difference in signs and symptoms of the two main types of orbital cellulitis and the difference in outlook and treatment which each demand

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

RENAL CYST CONTAINING CALCULI

(With Special Plate)

THE following particulars of a renal case upon which I recently operated will, I think be of general interest

A man aged 62 had always had good health until many years *ago* when he noticed a swelling in his left lower abdomen He consulted a surgeon who after examination advised an operation After the operation he was told that there had apparently been a cystic condition of his left kidney the wall of which had been removed and a drain put down into the cavity He made a good recovery and had no trouble until three years ago when the swelling returned on this occasion his doctor aspirated and drew off a large quantity of fluid

A few months ago he came into my hands and I found a large mass occupying a considerable proportion of the left hypochondriac and lumbar regions of the abdomen. It was dull on percussion and its range of movement was practically nil. Examination showed a corn-cob like mass of calculi (see plate

A cystoscopy having been performed and a pyelogram taken the efficiency of the right kidney was proved good No obstruction could be made to travel more than an inch up the left ureter but on the right side there was a normally placed organ I was then decided to explore him

Operation—The old scar on the anterior abdominal wall was removed and the abdomen was opened as carefully as possible The sac of the cyst was however so adherent to the abdominal wall that it was at first punctured and a dark grumous looking fluid escaped. This being controlled the cyst was slowly separated from adhesions with which it was completely surrounded It was no easy matter since it was necessary to avoid as much as possible damaging the numerous vessels of the mesentery which ran across it Ultimately however the whole cyst was freed and taken out With the exception of the descending colon bowel was not seen throughout the whole operation we had been apparently working in a retroperitoneal position from the start enlarging kidney having pushed everything in front of it anteriorly The cavity was drained and the aperture in the mesentery closed. The patient made an uneventful recovery

Pathology—On the sac being opened a dark grumous fluid escaped The sac was found to be composed of enormously dilated kidney pelvis and calyces with numerous deep calyces The kidney proper was represented by a thin

of bright smooth, copper-coloured calculi, which on examination proved to be composed of pure triple calcium phosphate The kidney substance itself was practically non existent, being stretched in a thin layer round the surface at the back of the sac The left ureter was tightly stretched over the wall of the sac, there were no stones in it

I am indebted to my colleagues on the honorary surgical staff of the General Hospital Darlington—Mr Pridham for an excellent pyelogram, and Mr Pearson for assisting at the operation

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Honorary Assistant Surgeon Darlington General Hospital

TRAUMATIC RUPTURE OF THE SPLEEN

A case of traumatic rupture of the spleen in a girl aged 9 is perhaps sufficiently unusual to be of general interest particularly since the patient eventually recovered after delayed splenectomy

The patient, while crossing a railway line, fell on a rail hitting her abdomen with such force that she was unable to move She was lifted up and carried home where she was seen by Dr Daniel, who sent her into hospital with the provisional diagnosis of a ruptured viscus She vomited immediately on admission, and three times subsequently but there was no blood in the vomit nor was there any haematuria The bowels were moved the motion being free from blood Peristalsis was heard all over the abdomen The child complained of colicky pain but could not localize it The abdomen moved freely and there was no rigidity, the hepatic and splenic areas were examined, but no evidence of rupture could be found nor was there any sign of a collection of fluid in the abdomen The pulse was below 100, and the temperature was normal She was kept under observation for two days, when a temperature of 100° developed, and she complained of pain and tenderness on pressure over the appendix area

The abdomen was opened through the right rectus Free blood was found in the peritoneal cavity, especially in the left hypochondriac region, this was swabbed out, and a ruptured spleen became evident The pedicle was clamped and the spleen excised Recovery was uneventful except that two weeks after the operation the patient developed scarlet fever

A blood count, seven days after the operation, was as follows red cells 4,200,000 per c.mm., white cells 9,700, haemoglobin 75 per cent., colour index 0 9 The differential count was polymorphonuclear neutrophil leucocytes 52 per cent., eosinophil cells 1 per cent., basophil cells 0 5 per cent., lymphocytes 43 per cent., and large lymphocytes 3 5 per cent There was no anisocytosis nor poikilocytosis

The girl is now in good health

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Reports of Societies.

CARBON MONOXIDE POISONING

AT a meeting of the Medico-Legal Society on June 26th, *Lord RIDDELL presiding*, a lecture was delivered by Professor J S HALDANE, F R S, on carbon monoxide poisoning

Professor Haldane began by remarking that it had been known for a century that CO was a dangerous poison, and that its special danger arose from the fact that it had practically no odour or warning irritant action on the air passages The first sign of any direct physiological effects of CO was observed when the haemoglobin was about 20 per cent saturated This sign was increased shortness of breath on any considerable exertion When the saturation increased to 30 per cent there was a slight increase in the pulse rate and the breathing during rest, and such action as running upstairs was followed rapidly by distinct faintness With higher saturations these symptoms became more and more marked, and with 55 per cent saturation even a very slight exertion, such as getting up from a chair, might precipitate a fainting attack Mental deterioration of various kinds was evident in the subject to other observers, though not to the subject himself If the saturation lasted any considerable time and was fairly high it was followed by headache In some persons headache occurred with 20 or 25 per cent saturation Professor Haldane proceeded to relate observations which he had made on himself in a steel chamber, and which, he said, were limited in certain respects because they could not be pushed quite up to the point of loss of consciousness When a saturation of 30 or 40 per cent was reached certain *mental symptoms began to appear, and became more and* more prominent with increasing volume One of these symptoms was impaired memory for the most recent happenings One could, for example, count the pulse but one would immediately forget at what point the counting began The pressure in the chamber where the experiments were carried out corresponded to that found at 25,000 feet above sea-level, *and he and his companion* (a Mount Everest explorer) were unacclimatized Of one hour of this experiment he had *not the slightest memory afterwards, although*, according to his companion, who was less affected than himself he was talking all the time and answering questions Until the pressure was increased his companion thought that he (Professor Haldane) was not suffering to any degree, but at length he noticed him take up a mirror to look at the colour of his lips and found that he was looking, without being aware of it, at the back of the mirror Loss of memory by itself made the conduct of men suffering from carbon monoxide poisoning quite irresponsible He had known it take as many as six men to keep back a miner from returning to his work on an underground fire where he had fallen unconscious just previously through CO poisoning In the steel chamber experiment his companion told him afterwards that during the period of his own loss of memory he (Professor Haldane) continually asked him to keep the pressure at 320 mm., although, had he been fully conscious, and realized that he was getting worse, he would not have wished to prolong the experiment The blanks of memory were often filled in with purely imaginary events Along with failure of memory went failure of co-ordination of movement The gait became like that of a drunken man, the handwriting (of which he showed examples) became progressively irregular Sensory perception of every kind seemed to be dull Thus, it frequently happened that miners, who were by no means unconscious, received bad burns from lamps which they were carrying, *but felt no pain from the burns* He had noticed himself that he tried to grasp at objects which were some distance away under the impression that they were within his reach When normal conditions were restored everything seemed to get brighter and more distinct, sounds louder and clearer The deterioration took different forms in different persons Some people simply became more and more torpid, others became hilarious, and some became extremely ill-mannered, quarrelsome, and dangerous *But whatever* the state of the person, he remained quite confident in his own judgement, just as did a drunken man It was very easy to mistake the effects of carbon monoxide poisoning for those of drunkenness

In persons who had died from carbon monoxide poisoning the haemoglobin was about 80 per cent saturated He had, however, met with one or two cases of death which must, *from the circumstances*, have been due to carbon monoxide poisoning, but in which no CO could be found in the body The victim had evidently been gassed so badly that he died from the after-effects some hours later, having been freed in the meantime from the CO by ventilation If there were 1 per cent of CO in the air breathed, 50 per cent saturation would be reached in fifteen minutes, and 80 per cent, causing death, in twenty-three minutes If, however, the victim were exerting himself while absorbing the first part of the CO, he might be breathing four or five times as much, and reach the 50 per cent saturation within five minutes The recognition of CO *after death* presented usually no difficulty The only condition with which it was liable to be confused was poisoning by nitrite The red colour seen after death in the lips and parts of the skin was very characteristic of CO poisoning The colour of the blood and organs when the body was opened was very definite If death had been rapid, it would be found that the blood taken from the spleen was much less highly saturated than elsewhere, and in case of very rapid death the saturation on the right side of the heart would not be very high

The most common form of death from CO poisoning was suicide as a result of inhalation of the fumes of a gas stove. The number of cases of such suicide had increased very rapidly of recent years owing apparently to the spread of knowledge of its relative ease. In Great Britain cases of accidental poisoning by gas were few and did not appear to be increasing notwithstanding the great increase in gas consumption, but in the United States they were far more frequent, probably owing to the much greater proportion of carburetted water gas used there. Carburetted water gas contained about 30 per cent. CO, whereas coal gas contained usually from 7 to 10 per cent. In many English towns, however, enough water gas was mixed with coal gas to raise the percentage to 15. On the other hand, the amount which could escape from the ordinary lighting burner was much less than was formerly the case when the old black flame burners were in general use. Apart from gas suicide, perhaps the most important cause of CO poisoning was now the gas mixture which escaped from the engines of petrol-driven motor vehicles owing to imperfect combustion. On the average this contained about 7 per cent. of carbon monoxide. Many cases of partial—occasionally fatal—poisoning occurred in garages where an engine was set going to warm up the carburettor before starting, and the precaution had not been taken of opening the door wide. A formidable problem was the *ventilation of tunnels for motor traffic*. The possibility of intoxication from CO ought always to be present to the minds of police and coroners.

In the treatment of CO poisoning the first thing was to apply artificial respiration without a moment's delay. It was probable that most of the blood had not had time to become highly saturated, and in that case recovery might be rapid. The patient must be kept at rest; exertion might cause *fainting, dilatation or paralysis of the heart*. There was a rather unfortunate popular idea that, apart from artificial respiration, the most important thing in gas poisoning was the administration of pure oxygen. When pure oxygen was given in a case of CO poisoning the pressure of oxygen in the lung alveoli would be increased six or seven times, so that CO, other things being equal, would be turned out of the blood six or seven times as fast; but in the course of the poisoning far too much CO_2 had been removed from the body. The consequence was, with oxygen, a tendency to the cessation of breathing and the slowing up of circulation, and this went far to neutralize the good effect of the oxygen itself. The best result could be obtained by a mixture of oxygen in at least 5 per cent. of CO_2. An uninformed public opinion had demanded oxygen as the best remedy, and that had militated against the use of carbon dioxide in this country. American experience, however, had shown the great advantage of adding CO_2 to oxygen. CO_2 also prevented the subsequent tendency to *pneumonia*.

Sir WILLIAM WILLCOX, after paying a tribute to Professor Haldane, and to his courage in undertaking the experiments upon himself, said that a few years ago he was on a committee which sat for nearly a year considering tests for drunkenness, and a good deal of evidence was brought forward, but he did not think a single witness told the committee what had been stated that evening—namely, that carbon monoxide poisoning might show similar phenomena to alcohol intoxication. Perhaps a not unimportant point was the percentage of carbon monoxide in tobacco smoke. He believed the percentage in tobacco might be as high as 5 per cent. As Professor Haldane had pointed out, carbon monoxide poisoning was insidious in its onset. Persons became unconscious without realizing that they were affected. He had been interested to hear him advocate a mixture of oxygen and CO_2 as a respiratory stimulant because, three or four years ago, writing a little brochure on the treatment of carbon monoxide poisoning for one of the gas companies, he had advocated the use of oxygen or air mixed with CO_2. He had also emphasized the danger of any violent moving of the person suffering from the poisoning as this might entail serious damage to the heart. It had occurred to him that it would be a useful treatment for coal gas poisoning to give a solution of hydrogen peroxide mixed with normal saline intravenously. He had used this in two cases, and both did extraordinarily well and got better, but whether this was a case of *post hoc* or *propter hoc* he could not say.

Sir BERNARD SPILSBURY, taking up the reference by Professor Haldane to the controversy as to whether carbon monoxide had any direct action upon the tissues apart from the changes in the blood, by reducing the oxygen-carrying capacity, said that it had long been known that in the more chronic forms of profound anæmia very characteristic changes occurred in the body such as an extremely fatty disease of the heart muscle and the kidneys. It was not always realized how rapidly such changes could occur in a relatively short period of anæmia if the oxygen-carrying power of the blood were lowered. He had had the opportunity of investigating cases where the hæmoglobin percentage had been considerably reduced for some time, and it only required a severe anæmia of three or four days' duration to induce these fatty degenerations. If fairly tough organs like the liver and kidney could be so affected by anæmia of that duration, certainly the brain cells must be affected, and thus the profound effects of a prolonged oxygen deprivation could be accounted for. With regard to the dangers of chronic carbon monoxide poisoning to the modern community, there could be little doubt that the exhaust gases of motor vehicles constituted a serious menace in the future. He had very little doubt that many cases of chronic CO poisoning had been overlooked in the past and present. It had occurred among workers in large garages where engines were running frequently. Unless the garages were well ventilated the possibility of CO poisoning was very present. Sir Bernard Spilsbury went on to describe a case in which a doctor friend of his, having recently moved into a new house, found that all the members of the family except himself (who was frequently away from home) were suffering from some form of illness which could not be traced to any cause. His wife and children suffered from an indefinite malaise, and one of the servants who spent most of her time in the kitchen had a return of pulmonary tuberculosis from which she had suffered many years before. The drains and other parts of the house were thoroughly examined without any cause being discovered. On going over the house at the doctor's request he found that a coke stove had been installed in the kitchen for destroying refuse, and this was kept burning day and night. It was a well-made stove with a good flue, but it had the serious defect that a metal lid, which fitted quite loosely, was lifted off when it was desired to put in fresh refuse. He suggested to the doctor that he should leave a trapped mouse on the kitchen mantelpiece. Within three days he received the dead mouse and examined the blood, in which he found a considerable amount of carbon monoxide poison. The stove was removed, and all the illness disappeared from the house from that time onwards. There was no doubt that the family had been suffering from the gases formed by the slow combustion of the coke in the stove. In estimating the fatal saturations he had never obtained figures quite so high as Professor Haldane had suggested—namely, 80 per cent.; he had occasionally got 75 or 76 per cent., but in most of the fatal cases he had investigated the figures were nearer 60 to 65 per cent. as an average. In very few cases had he found death occurring with a low percentage, and there could be little doubt that while a normal person required a very high percentage for a fatal dose a person in ill health might die with a very much lower percentage in the blood. He recalled the case of a young woman who committed suicide in this way, and in her case the saturation was only 45 per cent. She had with her a child of 7 who was unconscious but survived. The woman herself was suffering from advanced chronic tuberculosis of the lungs, and he thought the low fatal dose was occasioned by the fact that she would naturally offer less resistance than a healthy person. In two other cases in which the percentage was about 50 one was an old and feeble person, and the other was suffering from cancer of the ovary. With regard to the recognition of carbon monoxide in the body at

death, the post-mortem appearances were as Professor Haldane had pointed out, extremely characteristic, so that one could often diagnose a case of carbon monoxide poisoning on sight But there was one trap which might mislead a medical man not familiar with the changes which occurred A doctor, searching through the organs of the body, might find nothing at all to indicate the reason for death, and then be suddenly struck with the fact that the blood in the organs looked bright red, so that he would jump to the conclusion that it was a case of coal gas poisoning But that bright redness was entirely due to the changes in the viscera after exposure to air The blood in the viscera was of dark colour when first exposed, but after exposure it became a bright red One other form of poisoning in which sometimes the blood and even the viscera might have rather a bright colour was cyanide poisoning He thought that was almost the only condition in which the mistake was likely to be made

Mr MASTERMAN, *of the Gas Light and Coke Company*, mentioned that his company had made some tests on the carbon monoxide in the street atmosphere They had found that at mouth level, in a London street in ordinary traffic, there were about 20 parts of carbon monoxide per million, but that when, after a traffic block, the traffic was just restarting and the engines were accelerating the proportion went up to 60 parts

Professor HALDANE said that he wished the Gas Light and Coke Company would make similar experiments during a London fog because under those conditions the proportion of carbon monoxide was likely to be greatly increased

CARBON MONOXIDE POISONING

AT a meeting of the Aberdeen Medico Chirurgical Society on June 5th, with the president, Dr CHARLES FORBES, in the chair, Dr ROBERT RICHARDS made a communication on carbon monoxide poisoning, with special reference to its medico-legal significance

Dr Richards introduced his paper by saying that the whole subject of CO poisoning was intimately bound up with the question of suicide, and that the increase in the suicide rate had been a noteworthy characteristic of recent statistics in most countries and constituted a grave social problem The war years had been marked by a decrease in the suicide rate, but since that time the rate of increase had rapidly mounted In England and Wales, for example, in 1918 there were 2,765 deaths from suicide, and in 1928, 4,872, in Scotland for the same years the figures were 190 and 474 An extraordinary change in choice of method of suicide had also taken place during that period In Scotland and England the number of coal gas suicides had increased sixfold—in Scotland from 18 to 103, and in England from 176 to 1 088 Even in Aberdeen, although the figures were small practically the same increase had been seen—from 2 cases in 1919 to 14 in 1929 There were nearly as many coal gas suicides per year in Aberdeen as there were in the whole of Scotland in 1918 The increase had been greater in the female sex, for while gas suicides amounted to 23 per cent of all cases, the percentage among males was 19 5, contrasted with 28 6 among females The rise in suicidal cases was probably even greater than these figures showed, since many doubtful cases were attributed to accident from want of convincing proof of suicide Actually the deaths arising from purely accidental inhalation of coal gas during the same period had not increased *Accidental carbon monoxide poisoning* occurred from any apparatus where incomplete combustion resulted in the production of this gas—from coke stoves, geysers, explosives and motor-car exhausts—but the main source was from the domestic gas supply The recent report of the Departmental Committee of the Board of Trade on Deaths from Gas Poisoning gave the following list of possible causes of accident turning the wrong tap where two were close together, gas supplied from a pre-payment meter being left alight and becoming exhausted while the victim slept, and coins placed in the meter by some other person, drunkenness, absence of stop-pins, taps too loose, taps turned on when articles were hung on the gas bracket or removed therefrom, taps near the floor kicked on knocked by removing furniture, kettles or saucepans boiling over and extinguishing the flame, absence of sense of smell on the part of the victim Occasionally gas entered a dwelling by percolation through the floors from a burst main Accident could only be excluded by a survey of the attendant circumstances in each case, and it was known that accidental conditions could be simulated by a murderer, as could also evidence suggesting suicide The medico-legal question of whether a case was homicide, suicide, or accident was of some importance, and was likely to assume greater importance in the future

The CO content of coal gas constituted its one important toxic element The gas supply in different places contained varying proportions from 5 or 10 per cent to as high as 30 per cent, and statistics showed that the occurrence of asphyxiation rose in direct proportion to the CO content It was not commercially practicable or economical, however, to limit this constituent of the domestic supply, and such had been the finding of the Departmental Committee It had also been found impracticable to add any substance to gas which might quickly attract attention to escapes or render suicide more repellent, since any such irritant would affect normal consumers whenever the gas was turned on and left unlighted, even for a moment It would, moreover, tend to discourage the use of gas and might cause damage to fittings The toxic action of CO was due to its union with haemoglobin, thus depriving the tissues of oxygen The attraction of the haemoglobin for this gas was from 200 to 300 times that for oxygen, so that as long as carbon monoxide was present in the atmosphere it became fixed cumulatively in the blood From 20 to 30 per cent saturation of the haemoglobin produced headache and nausea, from 40 to 50 per cent collapse with inability to use the limbs, and over 55 per cent unconsciousness and rapid death The rate of elimination of CO from the blood stream in cases of survival was comparatively rapid, but varied with the percentage saturation Where this did not exceed 40 to 50 per cent, one-half of the gas was eliminated within an hour, as had been shown by Haldane and Henderson But where the saturation was sufficient to cause first hyperpnoea and then coma the rate of elimination was slow on account of the absence of respiratory movement and reduction of tissue carbon dioxide, which normally acted as a stimulus to respiration The rate of elimination had been of importance in medico-legal cases where delayed carbon monoxide poisoning had been claimed as the cause of death

Dr Richards discussed the diagnosis of carbon monoxide poisoning from the clinical aspect, and also demonstrated the usual tests for its presence in the blood—the dilution test, Kunkel's test, and the spectroscopic test He emphasized the importance of differentiating nitric oxide haemoglobin from carboxy-haemoglobin, since the possible presence of this substance was important from the medico-legal standpoint In conclusion, he gave an outline of the modern treatment of gas poisoning The primary object was to eliminate the CO from the blood with all possible speed, so curtailing prolonged asphyxial effects and consequent tissue damage This was best achieved by the inhalation method immediately upon removal from the toxic atmosphere, and a mixture of 7 per cent carbon dioxide and 93 per cent oxygen was recommended This treatment in America had given most dramatic results in cases of rapid asphyxiation occurring in firemen and blast furnace workers, who, though so nearly dead as to require artificial respiration, had by this means sufficiently recovered within twenty minutes as to be fit to return to duty

In the discussion which followed the paper it was agreed, on the suggestion of Professor Ashley W Mackintosh, to approach the local fire brigade and ambulance associations with a view to the provision of the necessary apparatus, cylinders of carbon dioxide, and oxygen for this purpose, and of facilities for the instruction of personnel in their use

THE DICK TEST IN PREGNANCY

At a meeting of the Edinburgh Obstetrical Society with the *president* Dr H S DAVIDSON, in the chair Dr DUGALD BAIRD and ROBERT CRUICKSHANK of Glasgow contributed a paper on the value of the Dick test in pregnancy

They said that during 1929 an investigation was conducted at the Glasgow Royal Maternity and Women's Hospital into the value of the Dick test—that is the cutaneous reaction to the intradermal injection of scarlatinal streptococcic toxin—as an index of susceptibility to puerperal sepsis Because of the generally accepted view that the toxins produced by the scarlatinal and puerperal haemolytic streptococci were identical, it was thought possible that sensitiveness to the one might indicate a similar degree of susceptibility to the other and if this were so, that the test might be of value in the prophylaxis of puerperal sepsis The Dick test was performed in a series of 600 pregnant women either during labour or in the last few weeks of pregnancy Careful histories were taken on cards designed for the purpose, particular note being made of previous streptococcal infection—for example scarlet fever tonsillitis puerperal sepsis—of the obstetric history, and of the health during the current pregnancy Full particulars were obtained later regarding the mode of delivery the presence of lacerations, and the puerperium in 500 of these cases, where the puerperium was morbid even although not notifiable according to the British Medical Association standard it was classed as puerperal sepsis, care being taken to eliminate those cases of pyrexia due to other causes, such as urinary infection A number of cases with a positive Dick test which developed pyrexia in the puerperium were retested immediately after the pyrexial period to see if any change in the reaction had occurred Some of these were again tested six months later They found that 22 per cent of pregnant women gave a positive reaction to the Dick test primiparae giving a slightly higher rate than multiparae—25 per cent as compared with 21 5 per cent The reaction seemed to be more intense in primiparae, irrespective of age, than in multiparae In the latter there was a decrease in the intensity of the reaction in the older age groups, which might indicate that with each pregnancy the patient had a chance, by repeated slight infection, of becoming more immune The incidence of puerperal morbidity also became less with advancing years in multiparae but remained constant for all ages in primiparae The incidence of puerperal sepsis was so dependent on the general health of the patient and upon the type of delivery that any reliance on the Dick test as an indication of liability to sepsis would not be justifiable It appeared, however that in the present state of obstetric practice an attempt to produce a temporary immunity with a concentrated anti-scarlet fever serum in all suspect cases at the time of delivery might reduce the incidence of puerperal sepsis

The Vaginal Flora in Pregnancy

This paper was followed by another contribution on a study of the vaginal flora in pregnancy by the same workers, Drs Baird and Cruickshank This investigation which had been carried out during the past two years, and was not yet completed, had been originally intended (*a*) to identify the bacterial flora of the vagina and the reaction of the vaginal secretion and to study the changes which they undergo as pregnancy advances and (*b*) to discover whether the character of the vaginal flora had a relation to the occurrence of puerperal sepsis The physiological changes in the flora of the vagina were first reviewed, special attention being drawn to the apparently dramatic change at puberty from a sparse coccal flora and an alkaline reaction to a flora consisting entirely of Döderlein's vaginal bacillus associated with a highly acid reaction of the vaginal secretion This change had been attributed by Miura, a Japanese worker to the deposition of glycogen in the superficial vaginal epithelium when ovulation began and the bacterial fermentation of the glycogen as glucose for the production of lactic acid in such concentration as to destroy all organisms save the aciduric Döderlein's bacillus Miura also stated that in pregnant women there was an increased acidity of the vaginal secretion as pregnancy advanced

The present investigation dealt with the vaginal flora of 200 pregnant women a large proportion of whom attended at monthly intervals from the third month of pregnancy until term. Swabs were taken from the vaginal vault and smears and cultures made The *p*H of the vaginal secretion which was collected at the same time with a long handled spoon was estimated by the colorimetric method

A classification into three grades of vaginal flora was made Grade A composed entirely of Doderlein bacilli the *p*H of secretion varying only from 4·0 to 4·4 Grade B consisting of a mixture of Doderlein's bacillus and diphtheroids *p*H 4·6 to 5·2 and Grade C consisting of an abundant heterogenous flora of diphtheroids cocci rod-shaped cocci and occasionally fusiform and coliform bacilli *p*H 4·8 to 6·8 with a more common range of 5·2 to 5·6 Large epithelial cells were particularly numerous in Grade A flora

Of 200 pregnant women when first seen 55 per cent had Grade A flora 10 per cent Grade B and 35 per cent Grade C Of the women who were followed throughout pregnancy there was found a remarkable constancy in the vaginal flora and in the *p*H of the vaginal secretion in those cases with Grade A flora The women with Grade B or Grade C flora were likely to show with pus cells in the vaginal smear an abnormal amount of infection of the cervix or vagina—and a group with idiopathic Grade C flora—that is an abundant mixed bacterial flora with pus cells The flora in the former group remained Grade B or Grade C throughout but in the latter group the flora changed from Grade C to Grade A in twenty-three of 21 cases This change from the improvement occurring usually about the middle of the fourth month of pregnancy

The theory was formed that there existed some relationship between the vaginal flora and ovarian activity a Grade A flora being a reflex of actively functioning ovaries whereas hypo-ovarianism is reflected in a Grade C flora The association of an idiopathic Grade C flora with greater pain and with a tendency to repeated abortion and the change over from a Grade C to Grade A flora during pregnancy were findings which support this view No evidence had been found to indicate that a Grade C flora increased the susceptibility to puerperal sepsis but the number of women examined was still too small to allow of definite conclusion

MENSTRUATION IN SCHOOLGIRLS

At a recent meeting of the London Association of the Medical Women's Federation a report on an inquiry into menstruation in schoolgirls based on over 6 000 replies to a questionary by a committee of the association was presented to, and passed by the association The following is a summary of the information derived from the questionary

The distribution of the interval between the periods is peculiar and suggests a predilection for whole weeks—that is the frequencies recorded at 21 28 and 35 days seem exceptionally high The most frequently occurring interval is centred on 28 days

The presence or absence of pain does not seem to be sensibly correlated with length of interval

The regularity of the period is significantly but slightly related to pain the proportion recorded as regular being greater in the *no* pain group than in all others

The average duration of the period is definitely but slightly lower among girls taking full exercise throughout the period

The duration is longer (about one-third of a day) in those who suffer pain than in those who do not

Slightly more than half of the girls studied do not suffer pain or discomfort however slight at any time during the menstrual period

Of those recorded as suffering pain the majority suffer *during* the period only

The differences in the incidence of pain in the three groups of schools (high, secondary and boarding schools) when analysed separately are not very large

The distribution of the number of girls taking full exercise throughout the period in the three groups of schools [illegible] considerable differences and contrasts with the great similarity of degrees between the group of girls in respect of [illegible] pain.

Pain and exercise seem to be definitely [illegible] but from these data it is impossible to [illegible] and which is effect

The incidence of disturbed happiness [illegible] ache and constipation is [illegible] of pain the influence being [illegible] disturbed health and happiness and constipation

Absence from school is definitely related to the occurrence of pain, but regular or frequent absence is very rare at any time during adolescence

The time in the menstrual cycle at which the pain occurs is related to all the above factors The incidence of all of them increases steadily and gradually in the following order with no pain, pain before the period, during the period, after, and before, during, and after the period

Comparison of the whole series and that obtained by excluding girls with a history of one year or less suggests that at the early period of menstruation a smaller proportion of girls suffer pain than later, during the age period studied (onset to 18)

Analysis of the whole series by years shows that the rise of incidence of pain is steady and gradual throughout the menstrual histories studied The rate increase over 8 years is less than three times the original value

The incidence of disturbed general health and happiness also increases progressively with length of menstrual history

Irregularity definitely decreases in incidence with increasing length of history

The average duration of the period shows no tendency to rise or fall with increasing length of history

The details of the investigation, and a commentary on its results, will shortly be published

CANCER OF THE UTERUS

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, held in Dublin at the Royal College of Physicians, with the president, Professor A H DAVIDSON, in the chair, Dr NINIAN FALKINER demonstrated a specimen from a case of carcinoma of the cervix complicating pregnancy

The patient, aged 39, married fifteen years, having eleven children, the last in January, 1929, was admitted on January 29th, 1930, complaining of bleeding, something coming down, and frequency of micturition Menstruation had been regular, and the last period had taken place on January 15th There had been a particularly heavy bleeding on January 1st General examination revealed a wasted anaemic patient weighing 6 st 7 lb Her red blood corpuscles numbered 3,500,000, and her haemoglobin was 60 per cent On parting the labia and introitus a fungating mass could be seen arising from the cervix, no bluing was noted The uterus was enlarged, and the growth could be felt implicating the utero-sacral ligaments Carcinoma of the cervix was diagnosed, and the enlargement of the uterus was put down to pyometra At operation the uterus was seen to be enlarged, but this condition was thought to be due to pyometra, and hysterectomy was proceeded with The bladder could not be pushed down, and a total operation was done instead of the Wertheim On the fifteenth day the patient complained of difficulty in holding her water Examination revealed a vesico vaginal fistula She had deep x ray therapy and left hospital feeling well, and is to return in a few months for re examination The specimen was examined after removal and the following report was received Carcinoma of the cervix, squamous cell in type, pregnant uterus containing a three months foetus, some haemorrhage from placenta, ovary contains corpus luteum of pregnancy

Dr BETHEL SOLOMONS showed two specimens of uterine cancer

The first had been taken from a patient, aged 45, single, who had complained of a sanguineous discharge, which sometimes became offensive, for seven or eight months She was otherwise healthy, except that she had become stout Examination revealed a small, hard uterus, and, the cervix being healthy, subtotal hysterectomy was done The uterus was opened immediately, and as it was obviously malignant the cervix was removed with [illegible] had been greater [illegible] made an uninterrupted recovery

[illegible] amounted to 23 per cent of [illegible] of case brought up [illegible] both adnexa The [illegible] contrasted with 28.6 among [illegible]

Dr Solomons said that this type [illegible] the important question what was the correct treatment for a woman who desired to get well in the shortest possible time when there was doubt about the diagnosis—and in this case there was much doubt, as the uterus felt infantile He believed that the treatment he had followed was the best A preliminary curettage would have delayed matters, a total hysterectomy was unnecessary, because the cervix was normal, and the diagnosis of malignant disease was impossible until the uterus was opened

Dr Bourke's report of the specimen was as follows

Macroscopically the cervix shows a pearly, greyish mass, extending from the lumen and infiltrating the wall in a parallel line, it measures almost a quarter of an inch The cavity of the uterus presents a rugged verrucose surface The endometrium on cross section appears greyish white in colour and slightly uneven

Microscopically the cervix shows dense infiltration of the wall by solid [illegible] like masses of epithelial cells, there is no keratinization This is a solid carcinoma of low malignancy. The uterus presents a picture of massive hypertrophy of the glandular tissue, in some places the stroma is replaced by solid masses of cells similar to those seen in the cervix This is apparently an extension upwards of the malignant process originating in the cervix From this the condition is either one of adenocarcinoma of the cervix spreading upwards or of the body of the uterus spreading downwards

Adenocarcinoma of the cervix in a nulliparous unmarried woman, said Dr Solomons, was most unusual Adenocarcinoma with a uterus comparable to one of infantile type was also unusual Cervical adenocarcinoma might spread in either direction Corporeal carcinoma was most likely to make its way towards the abdominal cavity

The second specimen shown by Dr Solomons was of a uterus containing an enormous cervical carcinoma, which he had removed from a pregnant woman, aged 28—a 5-para who had had four healthy children

The patient was admitted complaining of a foul-smelling discharge, and appeared ill The foetus was about 28 weeks, and the foetal heart was audible On vaginal examination a freely bleeding cauliflower mass was discovered springing from the cervix The os was about four fingers dilated and the membranes were ruptured Believing that fatal haemorrhage would occur if the patient was delivered vaginally, Caesarean section was decided on The uterus was opened, after which it was intended to remove the infant, and then the placenta *in situ*, but as the latter presented it was speedily removed, after which a live baby weighing 2 lb 13 oz was delivered The head showed a marked caput succedaneum, caused by the definite disproportion set up by the enormous growth It was then found that the tumour was of a size larger than a clenched fist, and that it had retracted high over the head, total hysterectomy was quickly done The patient recovered from the immediate effects of the operation and left the hospital The infant has put on weight and appears likely to live The pathological report was as follows

Macroscopically the uterus is enlarged, and shows a recent operation wound on its anterior aspect, it corresponds to the post-partum uterus There is a large cauliflower like mass springing from the external os, on opening the cavity the uterus is full of blood clot, but presents no other abnormality The tumour at the cervix is white in colour, on section it is outlined from the cervical tissue

Microscopically sections show solid columns of rather large cells closely packed together and infiltrating the surrounding tissues There are no cell nests present, but from the appearance of the cells and their arrangement there can be no doubt that this growth originated from the squamous epithelium of the portio, the line of cleavage between the malignant process and the cervical tissue is well marked, and is surrounded by a zone of small round-celled infiltration The cervical tissue towards the uterus shows scattered areas of round-celled infiltration

UREA CONCENTRATION TEST

THE fourth summer meeting of the Association of Clinical Pathologists was held at the Cheltenham General and Eye Hospital on June 14th with Dr J B DAVEY in the chair Dr T C HUNT described a combination of a water excretion and urea concentration test for renal function Dr S C DYKE gave a brief preliminary report upon the phosphate concentration test of Brain and Kay for estimation of renal function, the speaker had found the test somewhat unwieldy for ordinary clinical use Dr A F S SLADDEN, discussing the importance of the urinary acid ammonia ratio as an index of renal health, pointed out that this ratio was extremely constant, and that any departure from the normal in the absence of alkali therapy was an indication of disturbed renal function Dr DYKE opened a discussion on the urea concentration test, in the course of which he asked at what stage of the test a specimen of blood for estimation of urea should be taken, opinion differed widely on this point The speaker stated that inasmuch as [illegible] solution [illegible] ink as one of the concentrating power of the [illegible] he regarded [illegible] always to take the blood kidneys, it had been his custom [illegible] the results of at the third hour Dr J B DAVEY reviewed the urea concentration test as an indication for complete prostatectomy In the course of the afternoon session demonstrations were given as follows Dr A RENSHAW a self filling burette for routine analytical work, a new type of chamber for counting the cells of the blood, and other technical devices Dr DYKE mice showing results of Zondek Aschheim test for pregnancy Dr A L TAYLOR recent additions to the pathological museum of the British General Hospital Dr E N DAVEY pathological specimens from the Gloucester General Hospital, and an unusual type of typhoid bacillus isolated from a suppurating mesenteric cyst Dr J R COLLINS, senior physician to the Cheltenham Hospital, addressed the members on the "Sins of the pathologist" In the course of the evening a party of members was shown round the baths by Mr T Holmes, senior surgeon to the hospital

Reviews.

THE CEREBRO-SPINAL FLUID

In his monograph on the cerebro spinal fluid[1] Dr Riser has summarized the work done and the results obtained by the Toulouse school of neurology during the past ten years In describing the methods adopted for obtaining access to the cerebro-spinal fluid spaces via the different avenues of approach, he has made very useful practical suggestions, which are the fruit of a large number of observations The pitfalls the complications, and the abnormal sequels of lumbar and cisternal puncture are carefully outlined The methods of biochemical examination of the fluid are only briefly mentioned, the author being more concerned to point out the clinical bearing of those experimental researches into the origin, circulation, and absorption of the fluid which have been carried on by his colleagues Observations upon experimental and acquired hydrocephalus have led him to the view that the pial capillaries cannot be credited with any contribution to the fluid this probably all comes from the choroid plexuses whose epithelium is endowed with no selective permeability He holds that there is a continuous circulation of the fluid from the ventricles to the spinal cord but that nowhere does it come into intimate contact with the cells of the central nervous system Therefore drugs which may be introduced into it, either from the blood stream or by direct injection do not reach further than the most superficial layer of the brain and spinal cord Absorption of the fluid he finds, is by the veins, and not to any noteworthy extent by the lymphatics

For the localization of spinal cord lesions associated with interruption of the intrathecal circulation, as by a tumour, Dr Riser advocates the use of a heavy lipiodol solution injected into the lumbar region After the injection the patient is placed prone upon a horizontal table which is then tipped so as to bring the head lower than the pelvis The lipiodol then flows towards the skull, and its level of arrest, when this occurs gives the lower level of the obstruction This method, he claims, has the advantage that the comparatively hazardous operations of cervical or cisternal puncture are avoided and that the lipiodol, if arrested in this up-side-down position of the patient, returns to the lumbar region when the normal erect position is regained, and does not remain as a source of irritation in contact with the obstructing mass Further, if, after a single lumbar injection of lipiodol a level of imperfect or suspected arrest is made out, the patient may be again placed in the inverted position on subsequent days and the level of arrest confirmed as often as may be desired without further injection When the lipiodol passes upwards into the base of the skull no untoward effects have been noticed, and it all returns to the lumbar region when the patient is sat up The occasional disadvantages of this technique are discussed, it has much to recommend it, and has not been as widely used as it deserves The concluding chapter gives a summary of the cerebro spinal fluid reactions in those pathological conditions in which its analysis gives most information However, the information which it does or may afford is not set down although the methods suggested for use in each case are given

What Dr Riser has to say has been said clearly and concisely It is not unnatural that local bias in favour of his fellow workers' results should show itself in places, but on the whole conflicting evidence is faithfully dealt with, and his conclusions and recommendations will be generally accepted The book is a valuable contribution to this subject

SURGICAL ASPECTS OF OTOLOGY

Otologic Surgery,[2] by Dr SAMUEL J KOPETZKY of New York, fills a useful place in the literature of otology, being directed to its purely surgical aspect It should appeal especially to those recently placed in charge of aural clinics and to those numerous general surgeons who either from necessity or choice include operations on the ear in their practice The surgical treatment of new growths and of facial paralysis are not included, and these may be regarded as on the fringe of the subject and not strictly within the scope indicated Otherwise the reader will find a modern and convincing presentation of all that relates to the surgery of the ear Dr Kopetzky lays a sound basis of surgical pathology upon which he builds the various methods of treatment so that we are presented with a book whose claims can be advocated without reserve although the value of some therapeutic details might be the subject of varied opinions

In the chapter devoted to the simple mastoid operation the pathology of acute otitis media and its extension to the mastoid process is described in a masterly fashion The author describes two types—the coalescent and haemorrhagic types of mastoiditis—which must be familiar to all aural surgeons though not always clearly recognized as separate clinical and pathological condition He traces skilfully the importance of these in relation to blood infections which are described in the chapter on otogenous pyæmic infections including sinus thrombosis Great importance is attached to examinations of the blood and in particular to estimations of the haemoglobin content The author advocates transfusion of whole blood when the haemoglobin percentage has dropped to 55, owing to blood destruction by the haemolytic streptococcus He evidently attaches even greater importance to laboratory tests than is usual in this country but he shows good reasons for this and devotes a valuable chapter at the end to this matter There is a clear description of the radical mastoid operation, with its numerous pitfalls and excellent advice in the management of these common but really difficult cases In the chapter on meningitis the Haynes-Kopetzky operation of trephining the occipital bone to drain the cisterna magna is described and advocated Although this operation presents some superficial attractions it never succeeds and we feel that it should no longer be advocated implying that something may be done for the patient Dr Kopetzky however, has made such valuable contributions to the study of meningitis that this chapter is one of the most fascinating The chapter on brain abscess gives useful information in the diagnosis and treatment of the condition, but is somehow lacks the personal authority which is conveyed elsewhere in the book at first hand

There are a few literary blemishes such as the persistent use of the word drum for the tympanic membrane instead of the tympanum but the writing on the whole makes pleasant and smooth reading The book is a valuable contribution to the literature of otology, and will repay careful study by every aural surgeon

PHYSICAL EXAMINATION OF THE LUNGS

SHOULD the diagnosis of diseases of the chest be sought for by inductive or by deductive methods Dr KRAETZER in his book *Procedure in Examination of the Lungs*[3] is emphatically in favour of induction It is very doubtful if a hard-and-fast choice of either method could be made for the whole art of diagnosis, and even the author, in his last chapter admits that in the case of pulmonary tuberculosis deductive methods must be used But as a method of learning the art of physical examination of the chest, in so far as this relates to diagnosis and for the foundation training of students in this branch of medicine Dr Kraetzer establishes his case for induction It is an excellent little book written in American rather than English which is perhaps an advantage for there is not a sentence in it that will leave the reader in doubt of what the author wishes him to learn from it At first sight the scheme of physical examination suggested seems rather muddled but only because it differs from the conventional system, and a little thought will show it to be both logical and thorough There is a refreshing personal flavour running through the whole book the student who

[1] *Le Liquide Cephalo Rachidien* Par Dr Riser Paris Masson et Cie. 1929 (6½ × 9¼ pp 250 24 figures 28 fr.)

[2] *Otologic Surgery* By Samuel J Kopetzky MD FACS Second edition, revised New York J B Hoeber Inc. 1929 (Med. Bro pp xviii + 553 104 figures 4 plates 8 dollars net)

[3] *Procedure in Examination of the Lungs* By Arthur F Kraetzer MD With a foreword by James Alexander Miller LD Oxford Medical Publications London and New York Milford Oxford University Press 1930 (5¼ × 8¼ pp xiv + 125 15 figures 6s net)

reads it will find himself in the presence of a quick-tempered and emphatic chief, a "real, sure enough, honest-to-goodness" teacher, rather scathing about the inanities that he has heard repeated year after year by his successive classes, but keenly sympathetic to real difficulty, and full of encouragement for the slow and painstaking. The book can be warmly recommended to all training schools. It may contain many conclusions with which other physicians might disagree but this is unimportant, since the foundation and main structure are exceedingly sound.

PSYCHOLOGY

A VOLUME entitled *Psychology Normal and Abnormal*,[4] by DR J. W. BRIDGES, professor of psychology in the Faculty of Medicine of McGill University, is written with special reference to the needs of the medical student and practitioner. The author observes that, while the colleges at present generally recognize the importance of psychology in the medical curriculum, no suitable textbook is yet available for a course for medical students. This book is an attempt to meet the requirements of such a course, and on the whole it would seem that Dr. Bridges has adequately carried out his by no means easy task. The subject-matter has been judiciously selected, and the book provides the student with a sufficiently concise and comprehensive outline of psychological teaching, both theoretical and applied, to meet his needs. Those who aspire to a diploma in psychological medicine, and who have had no previous grounding in the elements of psychology, will probably find this volume helpful as an introductory textbook, though it will no doubt be necessary for them to consult also more advanced and specialized works.

The Psychology of the Adolescent[5] by DR LETA HOLLINGWORTH, professor of education, Teachers College, Columbia University, is a thoughtful, admirably written, and well-balanced book, which will be studied with advantage by parents and teachers. The author writes objectively and lucidly, and does not confuse the mind of the reader by discussing the theories of the various psychological schools or by the use of unnecessary technical language. A good case is made out in this book for the desirability of educated parents making themselves acquainted with the problems of adolescence. As the writer observes, to have been an adolescent some years ago is not necessarily, or even probably, to remember what an adolescent is like. To have been an infant is not to know what an infant's problems are. Each of the developmental periods of life brings its own characteristic problems, minimizing and obscuring those which preceded. Therefore parents, being themselves engrossed with the problems peculiar to maturity, realize but dimly the adjustments through which the boy or girl in the "teens" is passing. The information conveyed in this book is certainly of a kind to assist parents and teachers to gain increased insight into the problems, aspirations, outlook, and vocational possibilities of the young people for whose guidance or education they may be responsible.

In a volume on *The Science of Living*[6] DR ALFRED ADLER endeavours to show how the psychological principles he has elaborated have a practical bearing upon the problems of the individual in relation to his work, social environment, and sex life. Here, as in his other works, the author, with considerable skill and ingenuity, though not always quite convincingly, endeavours to interpret human activities, both normal and abnormal, as a struggle against a sense of inferiority—and, conversely, as a striving to gain a position of superiority. MR PHILIPPE MAIRET writes an introductory note to this volume, in which he explains the pedagogic and social aims of the Individual Psychology Movement, of which Dr. Adler is the founder.

[4] *Psychology Normal and Abnormal.* By James Winfred Bridges, Ph.D. New York and London: D. Appleton and Co. 1930. (5½ × 8¼, pp. xxii + 552. 24 figures. 12s. 6d. net.)

[5] *The Psychology of the Adolescent.* By Leta S. Hollingworth, Ph.D. London: S. W. Partridge and Co. 1930. (Post 8vo, pp. 256. 6s. net.)

[6] *The Science of Living.* By Alfred Adler. London: G. Allen and Unwin, Ltd. 1930. (5½ × 8¼, pp. 264. 8s. 6d. net.)

AN OUTLINE OF R.A.M.C. HISTORY

A SCOTTISH member of Parliament, criticizing the manner in which history is taught, declared recently that in the pageant of events too much attention has been given to battle and sudden death, and to the pomp and circumstance surrounding the thrones of certain royal filibusters, while the passage of great social reforms and the gradual betterment of the conditions of the common folk have been largely ignored. After studying *A Short History of the Army Medical Corps*[7] the non-military reader may be inclined to think that there is something in this point of view. Colonel FRED SMITH has set out to tell the tale of the gradual development of the medical services of the British Army, from the days when there were no standing armies up to the present day. In a memorandum he carefully defines the scope of the book. It is written for the use of young soldiers of the R.A.M.C. for examination purposes, and within the compass of ten short chapters—111 pages—*the tale is acceptably told.* The various changes from one uniform to another, the alterations in the title of the Service, and the adoption of new methods of organization are carefully chronicled. These are interesting in their way, but it is doubtful whether they are of outstanding importance from an examination point of view.

A great part of the book is devoted to records of the award of the Victoria Cross and other decorations to members of the corps. It is well that these deeds of gallantry should not be forgotten, it might, however, be less confusing to the examination candidate if their record was placed in an appendix. The importance of history lies mainly in the lessons that it teaches. The devastating incidence of disease in previous campaigns and its gradual decrease with the enhanced knowledge and wider powers of the medical services should be brought to the young soldier's notice. How better could this be done than through the page of history? In the interesting account of the typhus epidemic at Wittenberg Camp the award of the D.S.O. is carefully chronicled. It should not be forgotten that the Royal College of Physicians of Edinburgh offered its Membership without fee or examination to Major Priestley and Captains Vidal and Laudor. The record of the Special Reserve and the Territorial R.A.M.C. in the great war is dismissed by Colonel Smith in three-quarters of a page. The Haldane Scheme and the activities of the Territorial Army since the war are not mentioned. Yet Territorial officers are being constantly told that in the next war the mistake of Kitchener's Army will not be repeated, and that all development will be through the auxiliary forces as at present constituted. The Army Dental Service is given half a line. So important was this service considered during the war that at least one of the oversea Dominions considered organizing a special dental department, independent of the medical services.

There is a definite demand for a book such as Colonel Fred Smith has written, and those interested in the training of R.A.M.C. soldiers in the different branches of His Majesty's Forces will welcome its appearance. With a little rearrangement, amplification here, and curtailment there, the value of this little history might be greatly increased.

NOTES ON BOOKS

A *Synopsis of Surgery*, by Professor E. W. HEY GROVES, maintains its place both as a handy work of reference for the busy practitioner and as a valuable guide to the student entering on his final examination. In preparing the ninth edition[8] the author has carefully revised the whole text and brought it up to date. It is perhaps inevitable in a work presenting so many facts that values should be neglected. The author refers, for example, to Trendelenburg's operation and to the method of multiple excision and ligature in the treatment of varicose veins, and describes briefly the treatment by injection of sclerosing fluids. But he expresses no preferences, he neither

[7] *A Short History of the Royal Army Medical Corps.* By Colonel Fred Smith, C.B., C.M.G., D.S.O., R.A.M.C. (retired pay). Aldershot: Gale and Polden, Ltd. 1930. (Cr. 8vo, pp. 111. 5 plates. Paper cover, 1s. 6d. net; cloth, 2s. 6d. net.)

[8] *A Synopsis of Surgery.* By Ernest W. Hey Groves, M.S., M.D. Bris., F.R.C.S. Ninth edition. Bristol: J. Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd. 1930. (Cr. 8vo, pp. viii + 676, 148 figures, 13 plates. 17s. 6d. net.)

evaluates the methods, nor does he present data from which the student might assess their relative merits for himself. The section on the use of radium in the treatment of malignant disease is far too brief to be helpful. Professor Hey Groves has had to face the fact that the whole of general surgery cannot be compressed into a volume of under 700 pages, but we think it a pity that in throwing overboard all except necessities he should have sacrificed a subject of such growing importance as radium therapy. From every other aspect his work, whether in the choice and arrangement of material or in the manner of presentation, is as good as a synopsis of a large subject can be.

The *Treatise on Materia Medica and Therapeutics*[9] by the late Rakhaldas Ghosh made its first appearance nearly thirty years ago, and since then it has passed through no fewer than twelve editions under the editorship in succession of the late Sir Pardey Lukis, Lieut.-Colonel J. T. Calvert, Lieut.-Colonel H. B. Deare, and Dr. B. N. Ghosh. The latest issue of this deservedly popular textbook bears evidence of careful revision, many parts have been rewritten, and almost every drug has received attention in the light of recent pharmacological research. We note, however, that in the copy received for review pages 657 to 672 inclusive are *not in their right* place, but have been bound up between pages 640 and 641.

In his little work on the Diagnosis of Acute Sore Throat[10] which forms part of the series entitled 'Médecine et chirurgie pratiques,' Professor A. B. Marfan has *two objects in view*: first, to show how by clinical examination alone it is possible to decide whether in any case of acute sore throat diphtheria antitoxin should be given at once or not; and, secondly, to revise the nosography of acute sore throat. According to Professor Marfan the groups of symptoms by which the diagnosis of the nature of an acute sore throat is established are, in order of importance, first the appearance of the throat itself, secondly the associated local phenomena such as laryngitis, discharge from the nose, and enlargement of the cervical glands, and, thirdly, the degree of constitutional disturbance. Sore throats are divided by the author into red and white according as they are merely catarrhal or show more or less deposit, as in diphtheria, scarlet fever, syphilis, tonsillitis, quinsy, and Vincent's angina. These clinical distinctions are followed by short chapters on the bacteriological diagnosis of acute sore throat.

Salvaging Old Age[11] by Dr. J. J. Martin and Mr. Claire de Gruchy, is a book of wise advice to those who are dreading enforced retirement. Dr. Martin, who is in his eightieth year, began to think on these things *when he was 40, and he holds* clinics for the benefit of those who do not enjoy their later days. The tragedy of old age is unhappiness, and out of *more than two hundred old people studied not more than three* could be called even contented. The psychological factors responsible for this unfortunate state of mind are analysed before the consideration of the *psychological methods recommended* as remedial treatment. The suggestion by relatives, children, and grandchildren that their seniors are senile must be prevented, and the conduct, well meant though it may be, of the young in assuming responsibility for their elders is deleterious. For their sake the old must school themselves in voluntary effort in observation and re-education of the memory. Dr. Martin shows that there is plenty of useful work for the old. He himself learnt to drive a motor car and obtained an operator's licence when he was 77 years old, and he holds up the more wonderful instance of a man of 95 who did the same in three days.

South America has become more and more important to the business man, the investor, and the traveller, and *The South American Handbook, 1930*[12] edited by H. D. Davies, provides information suited to the requirements of all of these. It claims to put South America in a nutshell, and certainly a vast amount of information has been compressed within its cover. It will interest medical men as investors and travellers rather than in their professional capacity, for it contains no information about the possibilities of practising their craft in these flourishing countries. The fact that the work has reached a seventh edition shows that it is meeting the needs of a great number of readers.

[9] *A Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing, Pharmacology and Administration of Drugs.* By the late Rakhaldas Ghosh. Twelfth edition by Birendra Nath Ghosh, F.R.F.P. and S. Calcutta: Hilton and Co.; London: H. K. Lewis and Co. Ltd. 1930. (Cr. 8vo, pp. xii + 765. 12s. 6d. net. Rs. 7/8 or 12s. 6d.)

[10] *Le diagnostic des anginas aiguës.* Par A. B. Marfan. *Paris: Masson et Cie.* 1929. (5¼ × 7¾, pp. 92, 7 figures. 10 fr.)

[11] *Salvaging Old Age.* By Lillian J. Martin and Claire de Gruchy. New York: The Macmillan Company; London: Macmillan and Co. Ltd. 1930. (Cr. 8vo, pp. 173. 8s. 6d.)

[12] *The South American Handbook, 1930.* Edited by H. Davies. Seventh Annual edition. London: Trade and Travel Publications. 1930. (7½ × 4¾, pp. lxxx + 746. Illustrated. 21s. 6d.)

PREPARATIONS AND APPLIANCES

Gonorrhœa in the Female Child

Dr. Harold G. Broadbridge (clinical assistant, genito-urinary department, London Hospital) sends particulars of the following apparatus for use in the treatment of gonorrhœa in female children. He writes:

The cannulæ here illustrated were designed to facilitate the local application of lotions, paints, etc., to the child's urethra and vagina—particularly in gonococcal infection.

The urethral cannula is probe-pointed at one end, while the other end receives a small nipple fitting. When the cannula is in use a piece of narrow rubber tubing, eight inches long, fitted with a male nipple, connects it with a stopcock in the tubing of an ordinary irrigation jar (Fig. 1). The cannula is introduced into the urethra *with the lotion flowing*, and the stream is maintained, while the cannula moves gently up and down the urethra. If it is desired to leave some of the lotion in the bladder, or to be retained later on, and so to flush out the urethra (a method often used in adult women), it is only necessary to pass the cannula on into the bladder—the stream of lotion being continuous.

For paints such as solutions of silver nitrate, a 1 c.cm. Record *syringe replaces the stopcock* in the rubber tubing (Fig. 2). In this case the unattached cannula is passed through the urethra until its probe point enters the bladder, as shown by the appearance of a few drops of urine at its other end. The cannula is then withdrawn into the urethra just sufficiently to prevent the escape of urine. The syringe, narrow tubing, and nipple are charged with the paint or application, and the nipple is attached to the cannula, which is already in position. As the syringe is slowly emptied the cannula is very gradually drawn along the urethra and out. The syringe must be filled with the narrow tubing attached, as otherwise the solution will simply expelled into the empty rubber tubing and only air reaches the urethra.

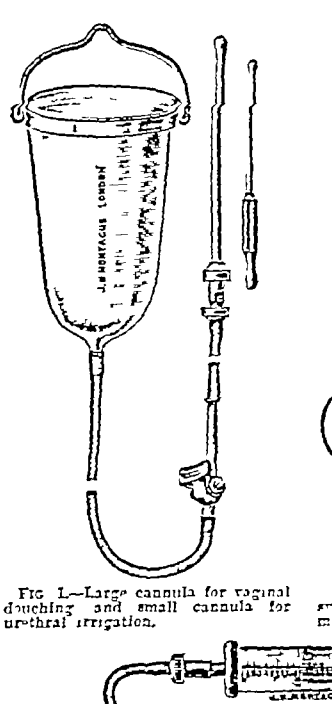


FIG. 1.—Large cannula for vaginal douching and small cannula for urethral irrigation.

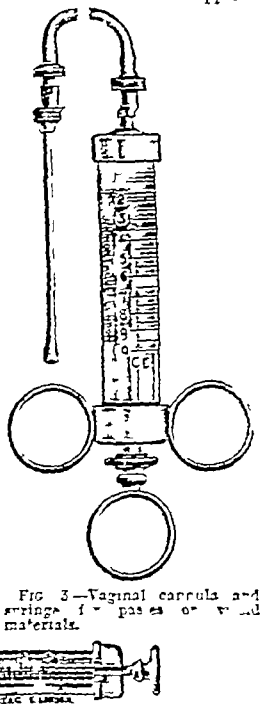


FIG. 3.—Vaginal cannula and syringe for passage of viscid materials.

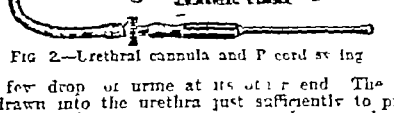


FIG. 2.—Urethral cannula and Record syringe.

The vaginal cannulæ are of two varieties: one with a spray nozzle for douching (Fig. 1), and the other with a wide-bore aperture for the introduction into the vaginal *fornices* of viscid materials—for example 2 per cent. flavine in glycerin (Fig. 3). This last cannula is connected with a 10 c.cm. syringe by narrow tubing fitted with nipples—*the nipples in this case having barbed* catches.

In using these instruments *the following* facts should be borne in mind: (1) *Eight inches of narrow tubing* allows the cannula to be a long way from the supply of lotion. (2) *The introducing* hand may be rested firmly against the buttock. Should the child make any unexpected movement the cannula narrow tubing and hand of the operator will all move *with* the buttock, thus avoiding any risk of injury. The passage of these cannulæ into the urethra or vagina of a child causes little if any discomfort, and enables a complete antiseptic treatment to be given.

My thanks are due to Mr. Hugh Lett, senior surgeon to the London Hospital and director of the genito-urinary department of the hospital for kindly allowing this work to be carried on in the department. The instruments are made by Mr. J. H. Montague of Bond Street, W., and may be obtained singly or as a complete outfit.

ROYAL SANITARY INSTITUTE CONGRESS

THE congress of the Royal Sanitary Institute at Margate, some of the earlier proceedings of which were recorded in our last issue (p. 1182), continued its sessions until June 28th.

Maternal Mortality

In the Maternity and Child Welfare Section a discussion took place on the latest scientific advances in regard to maternal mortality. DAME LOUISE MCILROY, dealing with the influence of criminal abortion on maternal mortality and morbidity, pointed out how little the medical profession could do to stop the practice owing to the oath not to reveal the confidences of a patient. The remedies she envisaged were a better moral outlook and a realization of the dangers of abortion and its effect upon life and health. Confidential notification of all cases of abortion would give some idea of the prevalence of the condition, and as all cases of septic abortion were notified already it should not be difficult to obtain notification of every abortion. Another necessary measure was the suppression of all advertisements of drugs sold for the purpose of inducing abortion no matter how they were labelled.

MR. C. S. LANE ROBERTS discussed the scope of prevention in obstetrics and the chief points to be observed in the avoidance of puerperal sepsis, and DR. LEONARD COLEBROOK followed with a paper on the bacteriological aspects of puerperal fever. He remarked that three years ago he would have said that the issue was narrowed down to one type of streptococcus—namely the haemolytic variety. But in Germany it had been found that quite a different type of streptococcus must also be taken into account—namely the anaerobic variety—and he himself was now convinced that his former scepticism was wrong, and that it was necessary to guard against both these dangerous types of organism. Unfortunately the recognition of the anaerobic streptococcus was going to add considerably to the difficulty because it was not a single well-defined type but a complex group, and several years of research would be required to learn all about the different members of the group.

Training and Employment of Midwives

In another section DR. ETHEL CASSIE, chief medical officer for maternity and child welfare, Birmingham, discussed the relations of the midwife with the public health authority, and cited experience in Holland and Denmark, where she said, midwifery results were greatly in advance of British. It was not only the fact that the midwives were much better trained, nor that every labour was attended by a midwife, it was, above all, that the midwife was recognized by the doctors as the proper person to undertake a normal delivery, while the doctors were trained almost exclusively for abnormal work. DR. J. E. SPENCE (M.O.H., Eccles) also addressed the congress on the same subject. He pointed out that about 660,000 births occurred annually in England and Wales, of which, under an adequate midwifery service, probably 500,000 would be attended by midwives. He estimated that a whole-time midwife could take 70 cases a year, which would mean that 7,000 midwives were necessary to carry on the service for the whole country. A fresh supply of 1,000 midwives would be required each year to recruit the service. In 1928 the number who entered for the examination of the Central Midwives Board was 2,811, of whom 1,730 were possessed of a general nursing training and the majority of these nurse-midwives found more attractive and lucrative occupation in nursing than in the midwifery service. The solution of the problem was to make the conditions of service in the midwifery profession more attractive and to improve the remuneration so that an efficient whole-time service could be built up.

National Health Insurance Medical Service

In a conference on this subject, DR. ALFRED COX, Medical Secretary British Medical Association, spoke on seventeen years' experience of the National Health Insurance Medical Service. He remarked that the common newspaper complaint against the service was to the effect that it was not something which it had never pretended to be. MR. LLOYD GEORGE told the profession at the outset that he was aware that his scheme was incomplete, but that half a loaf was better than no bread, and he proposed to start with a general practitioner service. Nothing much had been added to that foundation because the scheme had never yet had a really normal year, what with the war, demobilization, disastrous labour disputes, and now phenomenal unemployment. But the system had provided a general practitioner service which he believed, had been of great benefit to the community, the insured person, and the medical profession, although, like all human institutions it had its weaknesses. From a study of other national insurance systems, he was sure that the British system worked with greater ease and less complaint on the part of doctors and patients than any other compulsory insurance known to him. The politician, never particularly noticeable in the local administration of the British system, had a sinister influence in many other countries. Some hundred doctors whom he had consulted, and whose practice dated from pre-insurance days, nearly all agreed that the medical service now being given was much superior; all rejoiced in their ability to give a proper service without having to think about the bill, all agreed that insured persons resorted much more freely to the doctor in the early stages of disease, and that the prejudice against the system, very marked in the early days, had almost disappeared. With regard to the effect on the medical profession, the service had enlisted the organized profession as a vital part of its machinery, and thus had provided a valuable training ground in public service. It had caused the tendency to partnership greatly to increase, and had made for a more equitable distribution of the profession. The only serious substitute was a State medical service which would be devoid of the human touch so necessary in family practice.

The subject of the insurance practitioner was also alluded to in another paper read before the congress by MISS HESTER VINCE, who urged the extension of the system to the families of wage-earners, and that the insurance practitioner should undertake complete medical examinations of every member of the family at least three times every year, the results to be carefully recorded.

Hygiene in the Home and in Industry

SIR FRANCIS GOODENOUGH presiding over the section which dealt with hygiene in industry, drew attention to some problems of hygienic heating, especially the tendency of builders to erect small houses with one or more rooms unprovided with any flue. This was actually done by some local authorities for the purpose of encouraging the use of electric heaters, but in very many cases the cost of electric heating drove the tenant to buy an oil stove or cheap flueless gas stove, neither of which was satisfactory or even safe, while the electric heater had no ventilating effect, and only created "fug" in a flueless room.

DR. H. M. VERNON of the Industrial Research Board spoke on methods of investigating and improving the health of industrial workers, and mentioned that a scheme was under consideration for a compulsory periodical medical examination of all workers engaged in the trades which involved the inhalation of silica containing dust.

DR. MILIAIS CULPIN, in a very interesting paper described some occupational neuroses, and remarked on the erratic character of the sickness rates in different industrial establishments. He mentioned one large manufacturing firm with excellent welfare arrangements and its own medical staff, which had one of the highest sickness rates encountered—up to 16·48 days for females over 22—and of this high sick rate 14·9 per cent was due to dysmenorrhoea. On the other hand, a large retail store, where about half the staff were females had a sickness rate of only 2·6 days, and of this only 1/2 to 1 per cent was due to dysmenorrhoea. It was a curious contrast for which he defied the gynaecologists to supply a satisfactory reason. Dr. Culpin dwelt on other troubles which were purely mental phenomena—by which he did not imply that the sufferers were malingerers—and in the same group he placed other common causes of absenteeism, such as gastritis, neuritis or influenzal debility, with the reservation that cases of physical illness did occur under those designations.

Many of the other papers read to the congress had an interest from the medical point of view, including one by DR. STELLA CHURCHILL, on a critical examination of child welfare schemes, one by SIR JOHN ROBERTSON, on the slum problem, and one by COLONEL L. W. HARRISON on venereal diseases in the mercantile marine. In addition, there were many papers on sanitary engineering and inspection, veterinary science, and the hygiene of food.

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SATURDAY JULY 5TH, 1930

THE SIMON REPORT AND THE MEDICAL SERVICES OF INDIA

The publication of volume II of the Simon Commission's report briefly referred to in our last issue, makes it possible to consider the probable effect on the medical services of India in the event of the adoption of the Commissioners' unanimous recommendations on this subject. In doing so however we must not be thought to forget that the problem of the Indian Medical Service is part of a far wider whole and that its satisfactory solution is contingent upon the form and spirit of the settlement towards which the recommendations of the Simon Commission important as they are constitute but a preliminary step. We were in danger of forgetting perusal of the 700 pages of the two volumes of the report which devotes a few paragraphs only to medical services would correct the tendency. Further we believe that the medical needs of the people of India as of other countries can best be met in the long run by the development of a strong independent medical profession contributing its due quota to every branch of medicine including the public services. If therefore we emphasize the importance of recommendations designed primarily to maintaining or enhancing the attractions of the Indian Medical Service for British recruits it is because in common with the Lee Commission and the Simon Commission we regard the I.M.S. as a key service in more than one sense and the maintenance of a highly qualified European element in that service for the present at least as vital to the end which all parties should have in view. We agree with the statements in the first volume of the report that failure in recruitment of the Indian Medical Service would be a serious matter for India and that the public health of India would pay a heavy price for any failure to continue to recruit the best type of research worker with the exceptional standards and traditions of the Indian Medical Service who cannot be obtained provincially. And we look to the members of that service Indian and European to supply in the not too distant future the need in all but the best hospitals for raising the standards of medical treatment with regard to which the Commissioners state that nothing impressed them more in their journeys through India. As the Army in India will be placed directly under the Governor General and the Commander in Chief, independently of the Central Legislature both the R.A.M.C. officers and the military branch of the I.M.S. should be adequately safeguarded under the new constitution. The civil side of the Indian Medical Service however still forms its main attraction to recruits for in spite of the considerable reduction during the past decade in the number of civil posts reserved for the I.M.S., those remaining afford on the average greater scope than formerly for well qualified keen officers and now that the professional opportunities on the military side have been greatly enhanced through the provision of good equipment of the hospitals and specialist appointments under the station hospital system it is at least as easy as in former times for suitably qualified I.M.S. officers to obtain attractive civil appointments. The extracts from the first volume of the report which were published on June 21st in this *Journal* sufficed to show that the Commissioners regard the maintenance of the attractions of the civil side of the medical service as essential to the welfare of India.

The striking tribute paid to the work of the Indian Medical Service in the first volume has naturally led the Simon Commission to the important conclusion that the present position, which resulted from the report of the Lee Commission should be maintained intact to allow of the supply of an adequate reserve of European officers for military purposes and to implement the pledge of the Government of India to provide European medical attendance for the officers of other services and their families without which the Commissioners rightly judge that the recruitment of Europeans in all departments so essential to the progress of India would fail. Their main recommendation in paragraph 333 of volume II under the heading Medical Treatment for European Officers therefore reads:

> European officers of the services lay great stress on the continued provision for themselves and their families of medical treatment by European doctors. We regard this as essential: no change should be made in the present Devolution Rule 12 which gives the Secretary of State in Council power to prescribe the number of Indian Medical Service officers to be employed in the provinces and the appointments and conditions upon which they shall be employed, and no effort should be spared to secure an adequate number of European recruits for the Indian Medical Service to implement this fundamental obligation. Moreover in the next paragraph on recruitment for the All India services (which of course include the I.M.S.) we state: It is certain that the European recruits of the capacity and character required can only be obtained on terms which give them subject to the exception mentioned below the same rights privileges and safeguards as we have recommended for the present members of the services. The exception is the unlimited right of early retirement on proportionate pension which is, however qualified by powers granted to the Secretary of State for India to safeguard all officers in this respect. This exception, moreover scarcely applies to officers of the I.M.S., who already possess the right to retire on gratuities after six and twelve years service, and who obtain yearly increments of pension from seventeen years service onwards.

Speedy adoption of the unanimous recommendations of the Commission should therefore suffice to safeguard the position attained by the Indian Medical Service under the reorganization scheme of 1928 and the further concessions granted in 1929 through the good offices of the British Medical Association on the strength of which a very fair recruitment has been obtained for the service during the last two years and to restore confidence in the future of the service. Meanwhile we fear that the inevitable interval of uncertainty must tend to handicap recruitment at a time when there is a good deal of leeway to be made up owing to the practical cessation of recruiting for several years before the reorganization scheme was sanctioned. Such uncertainty is however unavoidable in the circumstances and we may hope that the unanimous recommendations of the Commission in respect to the medical services will be confirmed by the Secretary of State for India with the least possible delay in some such authoritative announcement as the Commissioners themselves seem to contemplate in the statement on page 293 of volume II. We presume that as soon as

possible after the new constitution is settled a full explanation of the changes involved and their implications for the services will be made public, and that every possible step will be taken to ensure that prospective candidates are fully informed of the conditions under which they will serve."

HEPATITIS IN BILIARY DISEASE

IN an article recently published in this *Journal* Mr E R Flint[1] discussed the difficult question of the association of inflammatory changes in the liver (hepatitis) with disease of the biliary tract This is a problem which greatly interests the physician, but it is the surgeon who has the best opportunities of investigating the data Animal experiments, which must of necessity deal with comparatively acute conditions, are of little assistance since the associated changes in the liver and biliary tract are of a chronic type requiring much time for their development Evarts Graham, the discoverer of the well known method of cholecystography, was one of the first to bring the problem before us, in his paper entitled "Hepatitis, a constant accompaniment of cholecystitis"[2] His views are further elaborated in his textbook[3] published in association with his colleagues Cole, Copher, and Moore Graham propounded the question of how the hepatitis may arise Which is the primary lesion—hepatitis due to microbic infection followed by cholangitis and cholecystitis, or primary infection of the biliary tract with subsequent hepatitis resulting from lymphatic absorption? Following Graham's work, the subject has attracted the attention of other surgeons, such as Judd[4] and Moynihan[5] It has also become recognized that the cystic lymphatic gland is infected with micro organisms very early in gall bladder disease (Wilkie and others), and this has been taken as evidence in favour of primary biliary infection with secondary lymphatic spread to the liver In reality the cystic gland involvement only proves lymphatic absorption, but does not disprove in any way the view held by some that the primary lesion is hepatic, the gall-bladder infection secondary, and the cystic gland infection tertiary

An important contribution to the subject, wider in its scope than most of the papers referred to, is the book of the Beaumont Foundation Lectures, published by Heyd, Killian, and MacNeal in 1924[6] Their work takes into consideration the effects of chronic infective abdominal disease in an area outside the biliary tract—namely, the appendix The inquiry might well be extended in future by the surgeons to the effects of chronic infections of other organs draining blood into the portal system—for example, the pancreas, the spleen, and the large and small intestine Heyd, Killian, and MacNeal examined in a variety of ways the appendix, gall-bladder, and portions of liver removed at the same operation in a series of patients Hepatitis they found to be common enough when the appendix alone was diseased, due presumably to organisms or toxins spreading directly into the portal blood They noted, however, that the hepatitis of chronic appendicitis involved only the superficial layers of the liver, just below Glisson's capsule Disease of the biliary tract, in their experience, led to a much more generalized hepatitis throughout the liver tissue, extending far away from the neighbourhood of the gall bladder, and they were disposed to favour the view of continued lymphatic absorption from the gall bladder as the cause of the hepatitis Flint has taken up the subject afresh, and has carefully studied thirty-four cases His results are particularly interesting in that he has applied, in addition to the usual bacteriological and histological methods of investigation, two tests of hepatic function—the van den Bergh reaction and the lactulose tolerance test—to his cases It is in a way unfortunate, in view of the observations by Heyd, Killian, and MacNeal on the hepatitis associated with chronic appendicitis, that Flint has used as "controls" patients with appendicitis and gastric, duodenal, and jejunal ulcer, all lesions draining the portal venous bed

It is much to be desired that Flint and others will continue to investigate this problem, for it concerns what may prove to be one of the most important causes of partial hepatic insufficiency, and of permanent ill health from interference with the function of the principal "laboratory" in the human body

[1] Flint *British Medical Journal* 1930 i, 1041
[2] Graham Evarts A *Surg Gynecol and Obstet* 1918 26 521
[3] Graham E A and others *Diseases of the Gall Bladder and Bile Ducts* 1928 Lea and Febiger Philadelphia
[4] Judd E S *Journ Amer Med Assoc* 1921 77 197
[5] Moynihan *British Medical Journal* 1928 i 1
[6] Heyd, C G Killian J A, and MacNeal W J *The Liver and its Relation to Chronic Abdominal Infection* Beaumont Foundation Lectures 1924 London, Henry Kimpton

STERILIZATION OF THE UNFIT

SOME months ago the Central Association for Mental Welfare asked the Government to appoint a Royal Commission "to make full inquiries into the causation of mental deficiency, into its relationship to other abnormal conditions and social problems, and into any measures, including both segregation and sterilization, by which it might be prevented" The Council of the British Medical Association endorsed this suggestion with the proviso that any suitable body other than a Royal Commission might be accepted for the purpose of the inquiry The Minister of Health, however, expressed the opinion that the proposal was not yet opportune, but said that the question might well be reopened at some more favourable time It is probable that this will be done in the not very distant future Meanwhile, as is proper and desirable, the discussion on these matters continues, and a useful contribution to this discussion is made by Dr Frank A Gill, medical superintendent of the Calderstones Institution for Mental Defectives, in his report to the Lancashire Asylums Board, under whose control that institution is conducted The essential thing in any controversy about the effect of sterilization is to distinguish carefully between the various purposes for which it may be advocated That it may be an appropriate measure in individual cases for personal or family reasons is scarcely in dispute as regards its medical or scientific aspects This being admitted, the questions at issue are (1) whether it is of sufficient value to be adopted as a routine measure in selected cases of mental deficiency and of recurrent insanity so that a larger number of such cases may be properly released from institutional care, and (2) whether it is of any practical value as a eugenic measure for the betterment of the race It is one of the merits of Dr Gill's report that he distinguishes between these two questions, though even here there is occasional confusion He admits, even emphasizes, the futility of sterilization for the latter purpose "The fallacy of this claim of wholesale sterilization lies in the fact—and it is a fact—that the great majority of certifiable defectives are not the progeny of mentally defective parents, but of apparently normal or subnormal yet more or less self-supporting citizens, whom no sterilization laws could touch or seek to touch The majority of victims of mental infirmity come of families who are the subject of some mental instability, whose germ cells are in some way faulty, and who may only be carriers of defect without themselves exhibiting any trace If every certifiable mental defective had been sterilized twenty or thirty

years ago it would have made little appreciable difference to the number of defectives existing to-day" As we have previously said on more than one occasion, it is clear that in order to produce any practical effect as a eugenic measure sterilization would have to be applied to a proportion of the population which would certainly not be less than one-tenth of the whole While, however, Dr Gill concludes that "a policy of wholesale sterilization of the mentally unfit is neither necessary nor desirable," he maintains that it is desirable in the recurrent insane, in certifiable women who become pregnant or are immoral, and in selected cases before release from institutions There is undoubtedly a strong case for this contention, though the extent to which institutional provision would be relieved by such measures is open to grave doubt If future discussion could be kept on these lines and directed to this thesis much would be gained This will be difficult of attainment, for Dr Gill certainly underrates the extent to which public opinion, even intelligent public opinion, is misdirected in this matter—even by certain persons and societies who might be expected to know better Dr Gill mentions the argument brought forward by opponents of sterilization "that public opinion may seize on sterilization as a cheap and economic remedy for dealing with the problem of the unfit, and so cease to make adequate provision in the way of institutions and hospitals," but is satisfied that if the problem is properly understood these arguments may be dismissed as futile But is it futile to point out the dangerous situation that may arise if the public accepts the view that sterilization can be an effective substitute for segregation, and that it can be adopted as a measure by which mental defect can be racially eradicated cheaply and relatively quickly? It is important to bear in mind that the campaign in favour of sterilization is at present being mainly carried on by these arguments, the fallacies of which have been exposed over and over again

THE FOOT AND THE SHOE.

In an article with this heading in our issue of October 12th, 1929 (p 678), we commented not very hopefully on the difficulty of persuading wearers of shoes to abandon harmful fashions in their own interests In glancing at the history of footgear we dwelt chiefly on the form of the shoe, and on the pointed toes and high heels preferred by most women We scarcely touched on the materials used by shoemakers Nevertheless, the substances used in making all parts of the shoe are not without their importance This aspect of the matter has lately been considered by the Incorporated National Federation of Boot Trades' Associations, Limited, the general secretary of which has sent us some account of an analysis of the answers to a questionary which was recently sent to two hundred medical officers of health Anything which affects the health of the individual must in the long run collectively affect the public health, so that from a general point of view no doubt the federation was well advised to consult medical officers of health We question however, whether those officials see as much of the evil effects of improper footgear as do general practitioners and orthopaedic surgeons We take it that the federation does not aspire to add to the sanitary duties of the Ministry of Health the regulation of the people's boots and shoes Legislation of that kind has been carried out in other days and in various countries, but such sumptuary laws have generally failed to attain their object King Charles V of France attempted to regulate the length of the pointed "poulaine" shoe according to the social status of its wearer, but the fashion only ceased when the swing of the pendulum brought in the broad toed Tudor shoe which in its turn soon went out of fashion We do not envy the task of the medical officer of health and his inspectors who might be charged with the duty of dictating to the women of the present or a future day what kind of shoes they should wear, or what materials the shoes should be made of The questionary of the federation has not brought to light any very startling or new facts Somewhat sweeping statements are made about the extent to which the general health is affected by footwear The recommendations that "boot and shoe makers should scrap present-day lasts in order to do away with shoes of unnatural shape and pointed toes," and that "ultra-high heels should go," seem to us counsels of perfection, unless the requisite could be enforced throughout the world If British bootmakers refused to supply "fashionable" shoes the imports from the Continent and America would become enormous The "perfect" boot or shoe, according to this report, would lessen "the ill effects on national health of rheumatism, chest troubles, heart disease common colds foot deformities, fallen arches and flat feet" As to the three last there can be little doubt but the influence of shoes on the other disorders is more problematical, although we are told that "55 per cent of the doctors said that these ailments and many others are due to the wearing of defective and unsuitable footwear" One medical officer of health is credited with the suggestion that "models or casts of feet from Greek statues, such as the Venus de Milo, giving size and shape would encourage less foolish women to buy shoes of correct shape and size" This officer is evidently an optimist As to materials, the federation and the doctors are agreed that "there's nothing like leather" Such statements as the above in the nature of things, are only the outcome of general impressions, lacking any precise statistical foundation The medical officers of health were on firmer ground in denouncing high heels and pointed toes, but neither the questioned nor their questioners made any practical suggestion as to how the female public is to be persuaded to reform its ways in the choice of its footwear Appeals to reason and common sense have hitherto failed and are likely to continue to fail, on deaf ears Nothing less than a change of heart could effect the necessary reform and to bring that about a sutorial Wesley is urgently needed who should be the apostle of broad toes and should finally extirpate the digitigrade heresy

THE ROYAL SOCIETY CONVERSAZIONE

Those who attend the conversaziones of the Royal Society have learned not to be surprised at finding side by side in the same room—as they did last week—corals from the sea bottom, photographs of a new planet, relics of prehistoric man, and a new device in gramophone recording equipment whereby at intervals the scientific atmosphere vibrated to the latest music-hall tunes, or, again such exhibits shown in contiguity, as specimens of ancient art excavated at Ur of the Chaldees, a new x-ray tube by Mr Culbert Andrews, said to be the only tube of British manufacture which incorporates its own protection (a protection equivalent to about 3½ mm of lead) and a display from the Natural History Museum illustrating parasitism in the case of certain Nigerian frogs whose eyes and lacrimal glands harbour clusters of oligochaete worms Among the many things that caught the eye was an electrical device for showing normal and abnormal heart rhythm with the aid of relaxation oscillations produced by neon tubes This model, the work of Dr van der Pol and shown by Philips Lamps Ltd, consisted of three neon resistance coupled valves representing sinus, auricles and ventricles and by means of connections of coupling (representing the bundle of His) normal rhythm or partial or complete heart-block could be obtained with electro-cardiograms of the various arrangements The National Institute of Medical Research had an exhibit illustrating a hitherto undescribed virus disease in mice The disease is recognized by the occurrence of [illegible] ing, usually on one hind leg followed by gangrene and

separation of the affected portion of the limb This has been found to be due to a virus which under certain conditions, constantly passes through filters which hold back bacteria Dr R Robison of the Lister Institute, with Dr H B Bell showed specimens indicating the development *in vitro* of the mandibular skeletal tissue and limb periosteum of the embryonic fowl, and Mr C H Waddington experiments (also shown by Dr Canti on his film) on the living embryo which had been removed from the chicken's egg soon after it was laid, and allowed to continue its differentiation *in vitro* From the Strangeways Research Laboratory Cambridge, again came an exhibit of the effects of x rays on tissues growing *in vitro* and *in vivo* The cast of the Peking skull (*Sinanthropus pekinensis*) shown by Professor G Elliot Smith claimed the largest share of attention This brain case was found in December last by the Geological Survey of China at a spot some forty miles from the Chinese capital It was described by Professor Elliot Smith as probably the most significant cranium of early man ever discovered It comes from a geographical area which hitherto has revealed no trace of ancient man The skull shows features some of which were unknown hitherto except in *Pithecanthropus*, and others only in the Piltdown skull The *Sinanthropus* is a link between these two types, and brings into correlation what hitherto have been the irreconcilable contrasts which separate them one from the other The value of the skull, according to Professor Elliot Smith is that it gives cohesion to the knowledge of the earliest human remains and makes it possible to conceive the qualities of the common ancestor of all three types—in other words the nature of the, as yet undiscovered Pliocene man The Peking skull was found not in gravels, but in the floor of a cave where the primitive man actually lived, and was in an uncrushed state and in more complete form than previous discoveries thus giving a more convincing idea of the shape of the primitive brain case and more confidence in the essential accuracy of the reconstruction of the Piltdown skull by Dr Smith Woodward in 1912 The temporal bone of the Peking skull presents features of quite exceptional interest and importance It is very much more primitive than that of the Piltdown skull, and its general morphology presents a striking resemblance to the condition of the adult anthropoid apes Professor Elliot Smith also showed a cast of the first lower molar tooth found in October, 1927 at the same place, the Lower Pleistocene cave-deposit as that in which the skull was subsequently discovered On the evidence of this tooth Professor Davidson Black postulated a new genus and species, *Sinanthropus pekinensis*, the justification for the new genus being based partly upon the unique morphological characters of the tooth, the fact that its proportions differed from all known human and simian teeth and occupied a position intermediate between them and also the remote antiquity of the tooth indicated by the geological evidence, which assigned it to the Lower Pleistocene The discovery of the tooth was followed a year later by the discovery of fragments of two jaws and later still six months ago, of the brain case

THE ORGANIZATION OF RHEUMATISM CLINICS

Now that several new clinics for the prevention and treatment of rheumatic diseases are beginning their attack on these crippling disorders, it is well to consider the best way in which the work can be done Dr R Fortescue Fox, in a recent number of the *Acta Rheumatologica*,[1] points out that the great enterprise now being undertaken is largely experimental The difficulty is, he says, that the workers are using unfamiliar tools for a job that they do not understand, and out of his forty years' experience in this subject he suggests certain lines of investigation for the rheumatic cases The important subject of causation can be studied particularly well at the new clinics, where early and chronic cases will be under continuous observation In Dr Fox's opinion there are four factors which should especially be investigated external conditions, constitutional anomaly, infection, and the skin Under the first heading come geographical and climatic incidence, housing and occupation In addition to records collected by medical officers of the rheumatism clinics it is suggested that some of the national societies for the study of rheumatism should organize inquiries on a wide scale and furnish returns The question of the constitutional anomaly is especially one for the medical officer at a clinic who is in a good position to investigate the difficult subjects of "hereditary predisposition" or "familial tendency" As Dr Fox remarks, such observations are difficult to record in a precise and statistical form, yet the longer the experience of the physician the more familiar he becomes with the importance of constitutional factors With regard to infection, the problem which calls for elucidation is whether organisms found in the search for possible foci are really operative or inoperative as infective agents, and, further, how to deal with organisms within the body The fourth factor, the skin, in Dr Fox's opinion, stands more in need of study in its relation to organs and its functional condition in chronic disease than any other medical topic Some suggested lines of inquiry for the student of rheumatism include systematic mapping out of skin temperatures *both of exposed and of covered parts* Cold areas of skin are very common in chronic diseases, and what is needed is accurate observation by rapidly acting surface thermometers The degree to which perspiration is in abeyance temporarily or permanently, also requires investigation in rheumatic disorders, and further details are needed about the peripheral circulation Dr Fox finally urges that all statistical records by national societies should be expressed in the terms proposed for provisional use by the British Ministry of Health He deplores the current tendency to premature definition which may easily confuse the issue As a temporary expedient he believes that classification on a basis of age-groups is the best to be followed Alternatively a therapeutic classification offers interesting possibilities for if one hundred cases of arthritis were submitted to the same treatment they could be usefully classified according to the reactions manifested "Only the physician at the bath side can properly recognize and interpret the complex physiological reactions to treatment" Dr Fox's forty years' experience at the bath side warrant a close study of all his suggestions

[1] *Acta Rheumatologica* No 5

THE PRICE OF RADIUM

In his recent presidential address to the Institution of Mining and Metallurgy, Professor J G Lawn referred to radium as affording the most striking example of high price in the whole history of metals It is now worth approximately £14,500 a gram There are 31·1 grams in the ounce troy so that the value of radium is more than a hundred thousand times its weight in gold, and a ton at this price represents nearly twice the national debt Professor Lawn added that radium had such valuable properties that in spite of its price there was a trade in it on a very small scale, the sales in 1928 amounting to some forty grams The only consolation to be derived from Professor Lawn's figures is that the price, high as it is, is little more than half what it was during the war In pre-war times the price of radium, obtained from Austria, was anything from £16,000 to £32 000 a gram Then, for several years, it was produced on a fairly large scale in the United States from carnotite During the war the price reached £25,000, and occasionally £27,000, afterwards becoming stabilized at £24,000, except for occasional sales of large quantities at a lower figure Later, with the discovery of new sources of high-grade radium ore in the

Belgian Congo, the cost of production was lowered to a price with which American carnotite could hardly compete, and the price was reduced from £24,000 to about its present level Professor Lawn stated that radium is fairly widely distributed, and most countries possess ores which carry it, but it occurs in such minute quantities that there seems little hope that it may be produced on a larger scale or at a cheaper rate than at present

THE BRETTAUER COLLECTION OF MEDALS

THE University of Vienna is in possession of a large and important collection of medical medals—"Medicina in Nummis"—presented by the well-known research scholar Dr Josef Brettauer of Trieste, who died in 1905 The collection comprises some 7,000 medals, among which there are many artistic and historical works of value, representing Renaissance, Baroque, and modern art It covers a wide field, and offers material of great interest to the student of medical history There are three main groups The first concerns physicians of all times and nations, the second epidemics (especially plague, small pox, cholera) and famines The third group comprises, in many subdivisions, *medals referring to healing gods and patrons of medicine, hospitals and welfare institutions, medical corporations* and congresses, nursing and ambulance, nearly all special branches of medicine and the medical auxiliary sciences, pharmacy and veterinary science, etc, besides amulets, tokens, and satirical medals The control of this precious collection was recently transferred to the Medal Cabinet of the Vienna Art-History Museum In accordance with the regulations of the foundation deed a small selection is exhibited to public view, while the remainder, housed in the exhibition room of the federal collection of medals, coins, and money-tokens, is open to all interested in this branch of science The publication of a scientific catalogue of the Brettauer Collection, *with photographs and* drawings of medals of special historical importance, is most desirable, but the cost of this cannot be covered altogether by a donation from the Austrian Government An appeal is therefore made on behalf of the committee by Professor Max Neuburger, president of the Institute of Medical History, and others, to all friends of science and art, and especially to medical historians and numismatists, and to medical faculties, associations, and societies, to send contributions to the office of the Rector of Vienna University A list of donors will be published in an appendix to the catalogue

MR J C GARNER.

OLD contributors to these columns, who have good reason to appreciate his worth, will regret to learn of the retirement of Mr J C Garner after more than twenty six years as head reader on the staff of the *British Medical Journal* When he entered our printing office in 1904 Mr Garner had already had long experience in the preparation of medical papers for the press, and Sir Dawson Williams laid upon him the duty, under Mr Louis Taylor's immediate supervision, of bringing the typographical practice of the *Journal* up to the highest standard To them and to their successors he has given loyal and unstinted service, counting no effort too great in the maintenance of accuracy and good form in printing, and the right use of scientific terms His work was not confined to proof correcting, but included the revision of copy Few medical writers and very few readers recognize their debt to such men, under whose expert hands a slovenly MS takes presentable shape, and a rough and undigested mass of figures and obscure symbols emerges as a clear and well-balanced table "It looks better in print than I expected," says the author, dimly aware that something has been done for him, and with this faint approval the skilled and conscientious worker in the background is usually content, his true reward being the knowledge that one more piece of work that matters has been done as it should be done In taking leave of Mr Garner we offer him the gratitude due to a good and faithful servant of the British Medical Association and its *Journal*

THE Lister Memorial Lecture before the Royal College of Surgeons of England will be delivered at the College, Lincoln's Inn Fields, W C, by Dr Harvey Cushing, professor of surgery, Harvard Medical School, on Wednesday, July 9th, at 5 p m The subject of the oration will be "Neuro-hypophysial mechanisms from a clinical standpoint"

ROYAL SOCIETY OF MEDICINE

ANNUAL GENERAL MEETING

THE annual general meeting of the Royal Society of Medicine took place on July 1st, with LORD DAWSON OF PENN in the chair

The first business was to elect officers and council for the session 1930–31 A motion by Dr PEACHEY to adjourn *the meeting for fourteen days on the ground that, as he* alleged, there had been some irregularity in regard to the suspension of the nominations in the library as required by the by-laws, was negatived, but the president promised that the procedure of nomination of officers and council should be reviewed by a committee when the new session started in October No counter nominations had been received to those set out in the notice, and accordingly the following were declared elected

President Dr T Watts Eden.
Treasurers Dr A M H. Gray and Mr W Girling Ball.
Hon Secretaries Mr E K. Martin and Dr George Riddoch
Hon Librarians Dr William Bulloch and Mr H. W Carson.
Hon Editors Dr Hugh Thursfield, and Mr J Swift Joly
Council Sir John Bland-Sutton Mr Zachary Cope Dr F R Fraser Mr Sampson Handley Dr Dorothy C Hare Sir Stanley Hewett Mr Hugh Lett Mr Warren Low, Lord Moynihan of Leeds Dr Bernard Myers Dr A. E Russell Sir S Clair Thomson Sir John Thomson Walker Dr H. Letheby Tidy and Dr G de Bec Turtle

The report of the council for the last session was submitted It stated that the roll of the Society included 39 Honorary Fellows, 4,047 Fellows, 193 corresponding members, 378 members of Sections, and 64 associates, the use of the Society's house by the Fellows was now greater than ever, and the time was approaching when an additional meeting room would be needed, which it was hoped to secure by building a top story The accounts revealed a total income of £21,125 and a total expenditure of £20,025 Through the kind offices of the president, the Society received during the year a sum of £2 800 from Mr Stanley Baldwin, allocated at the time he was Prime Minister, from a fund placed at his disposal by Lord Beaverbrook This gift is the subject of a special trust which will be administered by a specially appointed committee The income is to be used for purposes for which the general funds of the Society would not ordinarily be available The Society has also received from Lady Singer £500 in memory of the late Sir David Ferrier

SIR JOHN THOMSON-WALKER, in moving a vote of thanks to Lord Dawson of Penn, said that it had been a wonder to him how, with so many calls on his time he had found energy to take the interest which he had done in the Society Lord Dawson had shown endless tact, great firmness, and an anxiety to see the Society make progress

LORD DAWSON, in response, said that to have been president was a great privilege and the privilege had been rendered a delight by the consistent support and encouragement he had received from his colleagues on the council and the executive officers No man could a pire to a higher honour than to be president of the Society, which gathered together a greater number of co-ordinated activities than any other institution in the country He handed on his office to a colleague (Dr W [illegible]) who had tinguished the world over in the [illegible] belonged and known for his [illegible] counsel

RESEARCH IN ANIMAL GENETICS*

BY

SIR EDWARD SHARPEY-SCHAFER LL.D., F.R.S.E.,

PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF EDINBURGH

The Animal Breeding Research Department at Edinburgh was established some ten years back to investigate the principles which should govern the breeding of animals employed in agriculture. The first step was to select someone to carry out and direct research on the subject—no easy task, and our choice was fortunately fixed on the present director, Professor F. A. E. Crew, who had already made a name for himself as an authority on genetics. As a result the department has already become an unqualified success, not only in the objective sense, as manifested by the buildings we are assembled to inaugurate, but much more in the personnel which the director has been able to gather round him, and in the work they have already effected.

Research Problems in Animal Breeding

It might be thought that as the department was established for the encouragement of agriculture, and that the avowed object was to improve the breeds of animals used for agricultural purposes, the choice of a director would have fallen upon an agriculturist accustomed to the breeding of stock, who would surely have been best able to judge what results were required and how these could be arrived at. Those who hold this opinion would consider that in appointing a purely scientific man, with little or no experience in the breeding of farm animals, the committee made an initial mistake. But the breeding of animals, like all applied sciences, must be founded upon a basis of pure science. Moreover, it is essential that it should, like every other branch of science, be based upon experiment. Now it would be possible for experiments in breeding to be carried out on ordinary farm animals with a certain amount of success. But the length of time one has to wait for the result of experiment in animals which have a gestation period of many months greatly limits the number of experiments which can be made, and renders the progress of research very slow, moreover, from the interbreeding which has been going on for long periods in most domestic animals, the results may be uncertain. As a concrete example we may cite the Penrcuik experiments on telegony by Professor Cossar Ewart. By telegony is meant the influence exercised upon the mother by the foetus *in utero*. Not long ago every breeder in the country believed that if a female of pure breed was crossed by a male of the same species but of another breed or of no breed at all, the resulting progeny would so influence the maternal organism that this particular female would never again—even if crossed by a male of exactly the same breed—produce pure progeny, that, for example, a mare of the purest blood would be permanently ruined for stud purposes if she were in foal to a stallion which had no pedigree behind him. The circumstance was thought to be proved by the observation of Lord Morton, communicated to the Royal Society in 1820, that a mare which had produced a hybrid foal to a quagga—a species of zebra—and was afterwards crossed by an Arabian horse, happened to produce a foal which exhibited distinct stripes; these stripes were supposed to have been caused by an influence exercised upon the mother by the hybrid foal in utero. The [illegible] that several heirs of telegony was, however, definitely [illegible] ment of [illegible] quest[illegible] so far as the equidae are concerned, by Professor Ewart, settled in the negative, who crossed mares, first with zebra stallions, producing hybrids which showed distinct stripes, and subsequently with ordinary horse stallions. The progeny of the second crossing never showed signs of the zebra influence, although faint stripes were sometimes visible in the foals, but not more than [illegible] foals in which stripings are sometimes noticed [illegible] induction that the horse had at one time a striped ancestor. These experiments took years to bring to a conclusion and cost hundreds of pounds, but similar experimental results can be obtained in a comparatively short time by selecting small animals with short periods of gestation. Nor is it necessary to employ mammals alone for such experiments. For many purposes birds are even better adapted. And as the experiments of T. H. Morgan and others have shown, the laws which govern heredity and the morphological conditions which accompany and determine the transmission of bodily characters may be even more advantageously studied in certain invertebrate types, such as drosophila. Nor are these laws essentially different in the animal and vegetable kingdoms. The law of heredity discovered by Mendel was the result of experiments upon crossing varieties of sweet peas. And of late years a vast amount of work of the same kind has been carried out on different kinds of plants, which in some particulars lend themselves even better than animals to the elucidation of the principles governing heredity. It may be added that these experiments illustrate the fallacy of the saying "Natura non facit saltus." Rather would it seem that in nature frequently does work by leaps, and that intermittence is often the rule, continuousness the exception.

Application of Genetics to Man

Just as the principles of genetics are applicable to plants as well as to animals, can they equally well be applied to man. I suppose that nowadays all educated persons admit that mankind is only the highest type of animal, and therefore that all laws which regulate the lives of animals, including those which determine heredity, apply equally to him. If we were able to use the knowledge acquired in breeding animals for the improvement of our own race, we might eventually succeed in eliminating much that tends to keep the race physically and mentally far lower than is desirable. At present all that we can do is to educate the individual. Much, no doubt, can be effected in this way, but education is useless unless there is an inherent power to be educated.

But civilization has not progressed enough to permit even an endeavour to promote amelioration of the race by breeding from the highest types. All that seems possible is the prevention or breeding from the lowest types. Unfortunately there is a grave risk of an inferior type becoming established, for it happens that the reproductive faculties are better developed in mentally inferior than in superior types. It is the object of eugenics to combat this downward tendency of the race, though how this predominance of the unfit can be prevented is a difficult and controversial problem. It is, however, a problem which urgently demands solution, since the future welfare of the human race hinges upon it.

Study of Sex Hormones

The study of animal genetics depends in the main upon physiology, probably that is the chief reason why I have been asked here to-day. Particularly it concerns the physiology of the sex cells and the organs in which these are produced. The sex cells are not the only elements produced by the gonads. Both in the male and in the female there are other cells which exert a profound influence upon the organism. This influence is the chief cause of what may be termed "maleness" or "femaleness," these qualities showing themselves not only in the physical features characteristic of the respective sexes but also in the psychical attitudes which are equally sex-distinctive. One of the most interesting advances in the science of genetics has been to prove that these so-called secondary sex characters—whether corporeal or psychical—are dependent, not on the sex cells themselves, but on the other cells just mentioned. These other cells, however, do not exert their influence directly, or even through the nervous system, but they manufacture specific chemical substances which are passed into the blood and circulating throughout the organism, are brought into contact with every cell in the body. These chemical substances belong to the class known as autacoids, they either stimulate activity (hormones) or restrain activity (chalones). They are of relatively simple composition, some have been obtained in a crystalline form. The

* From an address at the opening of the Department of Animal Genetics, University of Edinburgh, on June 30th, 1930.

administration of extract of the gonads to immature animals (or to animals deprived of their gonad) is followed by the development of the special secondary sex features, both physical and psychical, characteristic of the sex from which the extract has been obtained. The substances in question are zoologically non-specific, in other words, it matters not how different the species of animal from which they have been obtained, the same results are yielded as if they had been derived from an animal of the same species as that to which they are administered. From this is it clear that genetics involves the study not merely of the structure and functions of the sex organs but also that of their chemical products: this branch of the subject is increasing in importance every day.

Genetics has, however, not merely to do with the activities of the sex organs themselves, it is concerned also with the effect upon them of the nervous system and of internal secretions other than those produced by the gonads themselves. It has been recognized from the earliest times that the nervous system exerts a profound influence upon the sex organs and is in its turn profoundly influenced by them. But it is a matter of comparatively recent observation that there are influences acting from outside upon the sex organs which are not nervous. We term such influences "humoral," indicating thereby that they are conveyed to the sex organs by the blood. In other words, they belong to the class of autacoids to which we have been alluding. Those of which I am about to speak however, are not to be confused with the autacoids producing secondary sex characters, though some are also manufactured in the gonads. For example, the ovary manufactures hormones which cause ripening and discharge of ova and changes in the uterus which are not responsible for the development of the sex characters. That autacoids related to the reproductive function should be formed in the sex organs themselves is not an altogether unexpected result: but the remarkable observation has lately been made that the pituitary body produces autacoids which are carried by the blood to the ovaries, and excite the internal secretion of those organs so as to cause a ripening and discharge of ova and the accompanying changes in the uterus even in immature animals.

The story of the pituitary body is a real romance—with the distinction that there is nothing of fiction about it. Long known to be present in all vertebrates, its functions, like those of most of the internally secreting organs, were until recently unrecognized. But the clinical observation of cases in which the gland had undergone enlargement and in which there was overgrowth of the skeleton and of the body generally suggested that it might yield an internal secretion which is concerned with growth. This could be tested by experiments on young animals—experiments involving on the one hand administration of pituitary substance, and on the other suppression of the secretion by removal of the gland or of the larger anterior part which is recognized as the part concerned with growth. If it is yielded to the blood in undue proportion growth may be so much stimulated that a giant is produced. On the other hand, if from any cause this internal secretion of the pituitary body is not passed into the blood or not in sufficient amount, growth will be arrested. Administration of this part of the pituitary has been found to increase the animals' size above normal, whereas destruction of the same part arrests growth and produces dwarfs. Whether there is also a material in the internal secretion of this or some other gland which actively prevents growth is not determined, but is not altogether improbable.

The internal secretion of the pituitary not only influences the general growth of the body, but especially the growth and maturation of the generative organs. A young animal deprived of its pituitary not only ceases to grow but remains infantile, its sex organs do not mature. On the other hand, the administration of anterior pituitary stimulates general growth, and especially the development and maturation of the gonads causing an immature animal rapidly to mature sexually. In a young female pituitary will cause the production of ripe ova, this it does by acting as a stimulus to the internal secretion of the ovary itself, causing that organ to produce those substances which in adult animals effect maturation of ova and their fixation in the uterus.

Direct evidence that the pituitary substances which thus act on the ovary are poured into the blood can be obtained. They happen to be present in larger amount during pregnancy than at other times. Their effect can then be got simply by injecting a few drops of blood from a pregnant female into a young female mouse. A short time after such injection the mouse's ovaries, which were very small and immature, become enlarged and exhibit unmistakable signs of maturation, the Graafian follicles becoming large and haemorrhagic like those which in mature animals are ready to discharge their ova. Even more remarkable is the fact that these substances do not remain in the blood of the pregnant female, but are got rid of by the kidneys being passed into the urine, in which they occur in considerable amount. So that, instead of blood a drop or two of urine injected under the skin of an immature female mouse will easily furnish unmistakable evidence of the existence of pregnancy, even at so early a stage that none of the ordinary signs of that condition is exhibited. This is known as the Zondek-Aschheim test for pregnancy.

Animal Experiment in Medicine.

Everyone can appreciate how important it may be to make an early diagnosis of pregnancy. Yet by the laws of this country, no medical man is permitted to carry out the Zondek-Aschheim test unless he has a licence to practise vivisection, and even then he may only do so in a place registered under the Act. He must also obtain from the Home Secretary a special certificate permitting him to keep a mouse alive for the few days necessary to enable the result of the experiment to be observed. It happens that the laboratory, which we are now enabled to declare open is at present the only one in the country which undertakes this duty, though strictly speaking the resources of an establishment intended to be devoted to research pure and simple should not be diverted to a routine method of diagnosis which might as well be done anywhere else and by any medical man who has been instructed in the method.

It is even still more extraordinary that hospitals should debar themselves from making such necessary observations. This applies not only to the diagnosis of pregnancy but even more to that of diseases the rapid and efficient diagnosis of which depends upon experiments involving the inoculation of animals. But even when the hospital possesses a well-equipped laboratory experiments upon living animals whether for diagnostic purposes or not are usually barred by the authorities responsible for the administration of the hospital. Samples of blood, or morbid growth, or urine must be sent away to be tested on animals: no such experiments are allowed under the same roof as the patient whose condition has to be diagnosed. The reason for such a state of affairs is only too apparent, it is due to apprehension that the subscriptions of anti-vivisectionists will cease to be forthcoming and that the revenue of the hospital will suffer. On this account hospital authorities will not permit any part of the premises to be registered under the Act, or any operations or even inoculations for diagnostic purposes, to be made on living animals. A mouse may not even receive a hypodermic injection although the operation on the mouse may lead to the cure of the man. This is not only wrong in principle it is not honest, and honesty is always the best policy. A hospital is provided for the treatment of disease for which rapid and accurate diagnosis is of major importance. Considerations of finance or misapplied sentiment should never be allowed to override this fundamental principle. The time is long past when a surgeon was bold enough to declare that no experiments on animals had ever contributed to his knowledge or influenced his surgical procedure: all declaration merely showed his ignorance of the history of medicine and of physiology on which all medicine is based. The science of medicine the operation of surgery the use of drugs, the application of preventive and curative measures to the health of the community as a whole and in with animal experimentation. Even if the State is opposed to experimen on animals it cannot choose but must permit for the to be carried on

assuming office how essential such experiments are for the progress of medical knowledge and for the public health The anti-vivisection societies have, and can have, no real influence their propaganda will never prevent a sick person from calling on the services of a doctor whose knowledge is founded on vivisection

It must be understood that all the work of this and kindred institutions is based upon vivisection Literally the word means the dissection of living animals, and therefore every surgical operation is a vivisection But technically and legally it means any experiment on a lower animal of any kind, whether by operation, or by injection, or merely by feeding This definition of vivisection is not mine, it is that given by the Act of Parliament regulating the practice No one can make any sort of experiment, whether it is painful or not, upon a vertebrate animal —even upon a fish or tadpole—without a licence from the Home Secretary That is to say, provided the experiment is made to advance knowledge and not for sport No farmer may test the effect upon his stock of a novel food without a licence, if he conducts such a test he makes an experiment for the purpose of advancing knowledge, and, if his animals suffer from the change of diet, he renders himself liable to prosecution Thousands of experiments on animals are recorded every year and reported to Parliament by the inspectors under the Vivisection Act At least 99 per cent involve no operation, they consist merely of feeding, or at the most of hypodermic injection By far the greater number are done in connexion with, and by the direction of, the Public Health Services of the country All operations which involve incision are performed, like surgical operations, under profound anaesthesia, and if an animal is kept alive after operation it is treated in exactly the same way as a hospital patient, the only difference being that if the animal appears to be suffering pain it is killed painlessly by chloroform We who experiment upon animals have every regard for the sufferings of animals, but we have a greater regard for the sufferings of humanity Very appropriate, therefore, are the words which Professor Crew has caused to be carved at the entrance of this institute, which I now formally declare to be opened: "To the advancement of science and to the service of mankind this building is dedicated"

WATER POLLUTION.

ADVISORY COMMITTEE'S REPORT

THE second report[1] of the Joint Advisory Committee on River Pollution, under the chairmanship of Mr Herbert Brooks, with Dr H. Maclean Wilson as medical member, deals with the reception of liquids from industrial and manufacturing processes into the sewers of local sanitary authorities The growing tendency of factories to settle on river banks conflicts with the necessity of conserving all sources of water supply and with efforts to safeguard the amenities of life No drastic measures are advocated by the committee Easily adopted changes are considered advisable at present, and suggestions are outlined for new legislation

General Legislation Regarding Trade Effluents

The position of local authority and trader in regard to the disposal of trade effluents is regulated to some degree by the Public Health Act of 1875 and by the Rivers Pollution Prevention Act of 1876 The first required sanitary authorities to provide sewers to drain their districts effectively, and permitted any occupier of premises within the area to allow his drains to empty into those sewers The second enacted that the sanitary authorities should afford facilities to manufacturers within the district to conduct to sewers the liquids resulting from their trade processes No authority, however, was compelled to admit fluids potent enough to injure the sewers or to cause any sanitary trouble Nor was it bound to allow these facilities if its sewers were no more than adequate to the needs of the district The two Acts were vague enough to create ambiguity as to what the trader might demand and the authority refuse Legal opinion has made it apparent that the obligations of the sanitary authorities are defined by Section 7 of the Rivers Pollution Prevention Act, with the limitations already stated But these limitations are so comprehensive that they almost cancel the general obligation, and they are so imprecisely framed that their intentions have sometimes been questioned Moreover, the powers of the local authority in regard to expenditure and the fixing of conditions are uncertain, and agreements with traders willing to pay for facilities and observe regulations are inhibited by the fact that other traders may claim admission for their effluents without promising to observe the same conditions and without payment Meanwhile other Acts of Parliament—for example, the Public Health Amendment Act of 1890—help to protect the sewers from liquids that are actually or potentially dangerous to health

Trade Effluents and Local Legislation

Local legislation and practice supplement with varying success the indications of general law In some districts the position has been clarified by special legislation Many of these local Acts cope with some special difficulty rather than deal with the general principle of right of access to sewers But corporation Acts of a comprehensive kind prevail in seven districts, including Halifax, Huddersfield, Dewsbury, and Salford The codes embodied in these statutes are evidently based on the third Report of the Royal Commission on Sewage Disposal, issued in 1903 Where they are in operation, their practical effect is to supersede Section 7 of the Rivers Pollution Prevention Act, and to substitute for it a more detailed machinery to regulate the relations of local authority and trader They give the trader a definite right to discharge his effluent into the sewers, and impart to the local authority such powers and obligations of disposal as it already possesses in regard to ordinary sewage They also authorize local authorities to co-operate with each other in the exercise of certain rights and duties None of these provisions, however, affect the existing water rights of a riparian owner This system assumes that the local sanitary authority should deal with trade effluents, and it appears to operate smoothly and effectively by working through discussion between the two parties

Recommendations for New Legislation

The committee is convinced that the general law concerning trade effluents is at present too indefinite There is marked necessity for a new code, stating precisely the rights and obligations of the trader and of the local authority, [illegible] and the organs in [illegible] enough to vary in details yielded to the [illegible] are not the [illegible] of the Huddersfield so much stimulating [illegible] suggest the kind of general law required for populous cities The central recommendation of the committee is that the local authority should everywhere accept the responsibility for the disposal of trade effluents Its standard of purification will undoubtedly be higher and less expensive than in any system arranged by an individual trader A single centre, under skilled and constant supervision, will protect the river more thoroughly than the independent control exercised by those whose interests are concerned with their products, and who can hardly afford a skilled supervisor Besides, some effluents are best disposed of when diluted with domestic sewage There are effluents, of course, which may be properly debarred from entering the sewer Rivers bordered by a line of industrial works will need exceptional consideration But no objection seems cogent enough to affect the recommendation that the local sanitary authority should receive and dispose of trade effluents as simply and as completely as it deals with domestic sewage

[1] H.M. Stationery Office 6d.

The committee is of the opinion that the conditions governing the exercise of the right of access to sewers must be fixed by locally drafted regulations, qualifications of the right must vary with regional peculiarities The flexible code of regulations should be formed by agreement between the local authority and the traders, with reference of unsettled questions to the arbitration of the Minister of Health Should the traders fail to appoint representatives the local regulations will be framed by the authority alone Either party may call for modifications at any time Among the matters to be determined by the local code are the preliminary treatment and removal of substances, the regulation of flow, financial arrangements and the inspection and taking of samples

Minor provisions directly related to the chief recommendation are detailed in the report Conflicts between different interests in the river can most, the committee thinks, be solved by a little good will The new principle must be applied tactfully, and in some districts without undue haste But the committee does not approve of the suggestion that an adoptive Act would meet the case The disquieting inclination of industry to spread itself over districts not industrialized before and the absence of initiative in securing measures for the adequate protection of many rivers, make it necessary to embody the new system in general legislation In districts where the problem does not exist, the position would not be changed In larger districts the authorities would proceed at once by calling conferences of the traders If the authority remained inert for twelve months a trader could set this machinery in motion by demanding access to the sewers

Research on Water Pollution

Some idea of the practical measures that are being undertaken to deal with this problem may be obtained from the second annual report of the Water Pollution Research Board for the year ended June 30th, 1929 issued by the Department of Scientific and Industrial Research This board was set up in June, 1927, to prepare schemes of research for the prevention of pollution of rivers and other sources of water supply by trade effluents and sewage, and to supervise the investigations authorized by the department The problems involved are of growing significance to health authorities, particularly in densely populated areas, partly on account of the more widespread adoption of modern methods of sanitation, and partly because increasing supplies of water of good quality are being required for certain industrial processes Much valuable work has been done by the department not only within the scope of its immediate inquiries, but by encouraging investigation in different parts of the country, and in co-ordinating and applying the information obtained by other Government departments and by the research committees of various organizations The department co-operates with the Joint Advisory Committee on River Pollution, established by the Minister of Health and the Minister of Agriculture and Fisheries to deal with the legislative and administrative branches of the subject, and with the Scottish Advisory Committee appointed in March, 1928 In addition, monthly summaries of current literature consisting of abstracts of scientific and technical papers have been compiled since October, 1927, to assist those who are concerned with the improvement of water supplies Arrangements have now been made to publish these summaries, beginning with the number for January, 1930 Some idea of the practical value of the work of the board in co-operating with a particular industry may be obtained from the present report, which contains a description of its experiments in regard to the purification of the waste waters of beet-sugar factories In its previous report the board recommended that such factories should attempt to re-use water in various operations, and several have already modified their procedure or adopted processes designed for reducing the amount of effluent The importance of this investigation is indicated by the fact that the daily supply of water used by a factory dealing with 1,000 tons of beet a day amounts to three or four million gallons Experiments conducted during the year appear to have shown that a high degree of purification can be effected by employing a process of biological filtration As these experiments continue to furnish accumulations of miscellaneous data their ultimate results are expected to throw much light on the treatment of other types of waste waters Part of the work of investigators has been the collection of a large variety of organisms found in the filters About 800 bacterial cultures have been obtained altogether Each strain is being tested and classified with the object of isolating pure strains of specific value Another section of the report describes a comprehensive biological, chemical, and hydrographical survey of the River Tees which has been organized by the department in co-operation with a number of local bodies The main purpose of this pioneer survey, begun in April 1929, is to find out the interaction between a typically polluted river and the various effluents that are discharged into it, so that the quantity of polluted liquid that may safely be allowed to enter a river may be accurately determined Preliminary study of the biological aspects of the activated sludge process of sewage disposal was undertaken during the year at the London School of Hygiene and Tropical Medicine

London HM Stationery Office. 1930. 9d net

BRITISH POST-GRADUATE HOSPITAL AND MEDICAL SCHOOL

Appointment of Provisional Committee

THE Minister of Health, Mr Arthur Greenwood after consultation with the London County Council and the Senate of the University of London, has appointed a Provisional Organization Committee to proceed with the action necessary to secure the establishment of the British Post-Graduate Hospital and Medical School

The terms of reference of the committee are to consider and report, in pursuance of the statement made by the Minister of Health in the House of Commons on April 9th,* upon (1) the action requisite to lead up to the planning and construction of the medical school, and (2) the form of government appropriate to the hospital and medical school, with special reference to the position of the London County Council as the local authority responsible for the hospital, and to the position of the University of London in relation to the medical school

The chairman of the committee is Viscount Chelmsford The Ministry of Health will be represented by Sir George Newman, chief medical officer, and Mr M Heseltine, an assistant secretary, the London County Council by Dr Florence Barrie Lambert, Sir William Ray, Mr Angus Scott, and Mr L Silkin, and the University of London by the Rev Dr Scott Lidgett vice-chancellor-elect Mr Sidney L Loney, chairman of convocation and deputy chairman of the court, Mr H L Eason, superintendent and senior ophthalmic surgeon, Guy's Hospital and Dr Edwin Deller, principal of the university

The other members of the committee (all of them members of the medical profession) are Mr Donald J Armour, senior surgeon West London Hospital Ladies Barrett, dean of the London (Royal Free Hospital) School of Medicine for Women Mr Comyns Berkeley, surgeon, Middlesex Hospital, Sir Robert Bolam honorary physician to the Skin Department Royal Victoria Infirmary, Newcastle-on-Tyne and past Chairman of Council British Medical Association Dr H B Brackenbury Chairman of Council British Medical Association Mr H W Carson senior surgeon Prince of Wales General Hospital,

* British Medical Journal April 12th, p 777 and 752

Tottenham, Dr H G Dain, chairman of Insurance Acts Committee, British Medical Association, the Rt Hon Lord Dawson of Penn, Physician-in-Ordinary to the King, and physician, London Hospital, Dr H R Dean, professor of pathology, Cambridge University, Sir Walter M Fletcher, secretary of the Medical Research Council, Mr G E Gask, professor of surgery, London University, and surgeon, St Bartholomew's Hospital, Sir Thomas Horder, Bt, Physician-in-Ordinary to the Prince of Wales, and physician, St Bartholomew's Hospital, Dr F N Kay Menzies, medical officer of health for the County of London, Lord Moynihan of Leeds, President of the Royal College of Surgeons of England, consulting surgeon, Leeds General Infirmary, Mr H J Paterson, senior surgeon, London Temperance Hospital, and honorary secretary, Fellowship of Medicine and Post-Graduate Association, Dr Harold Pritchard senior physician, West London Hospital, and Sir Holburt Waring, senior surgeon, St Bartholomew's Hospital

Mr Heseltine will act as secretary, and all communications on the business of the committee should be addressed to him at the Ministry of Health, Whitehall, S W 1

THE BACTERIOPHAGE IN ASIATIC CHOLERA

AN INDIAN MEMOIR

AT the invitation of the Government of India, and with the aid of a grant from the Indian Research Fund, an investigation has been undertaken into the pathology and prophylaxis of Asiatic cholera by Professor F d'Herelle of Yale University, Major R H Malone, officiating director of the Pasteur Institute at Kasauli, and Dr M N Lahiri The result of their work has now been published in the form of a memoir (No 14) as a supplement to the *Indian Journal of Medical Research* The lines followed by the investigators included a study of the clinical pathology of this infection, of the environmental factors in its etiology, and of the properties of the vibrio strains isolated, determination of their reaction to bacteriophage cultures and of the effects of administering such cultures to cholera patients, and the careful examination of epidemiological evidence

It was found that a powerful bacteriophage strain could attach itself to cholera vibrios, eventually destroying them by means of a lytic ferment, a less potent strain caused the vibrios to contract a chronic disease, transmissible to their descendants, and modifying their characters more or less profoundly The bacteriophage, which is a filterable virus, is said to be a normal inhabitant of the intestine, and to be parasitic on the intestinal flora, having the power to adapt itself more or less rapidly to such invaders as the cholera vibrios In the course of an attack of cholera in man there occurs, consequently, in the intestine a secondary stage in which both the bacteriophage and vibrios are present, from cultures made at this time colonies of "ultra-pure" strains, and mixed "mutant" strains associated with the bacteriophage, were isolated This discovery, it is suggested, offers an explanation of the instability of the virulence of the vibrio of cholera, and of its variability as regards the reduction of nitrates, haemolytic power, and agglutinability, the variations detected in these organisms recovered from the intestine were reproduced *in vitro* by treating normal virulent vibrios with the bacteriophage Attenuation and complete loss of virulence are effected (1) progressively when the vibrio remains outside man, and (2) rapidly on account of the acquisition of resistance to the bacteriophage The multiplication in the intestine of vibrios with little or no virulence produces no symptoms of cholera, the virulent forms alone can invade and multiply within the intestinal mucosa, where they secrete cell-digesting enzymes, and also haemolysins for the red cells of man The deduction was drawn that an effective curative measure for cholera would be the administration of the bacteriophage which flourishes best in a slightly alkaline medium, experimental evidence was obtained that this was a sound line of treatment It is added, however, that since acute toxic bacillary dysentery (Shiga) is sometimes confused with cholera, it might be as well to use as a general therapeutic measure a mixture of anticholera and antidysentery bacteriophages Oral administration of the bacteriophage is said to be absolutely innocuous, so that even if the diagnosis is faulty no direct harm is caused by this treatment, it could be employed, therefore, in the more remote villages by ordinary hospital attendants in the absence of medical supervision Statistical figures are cited in support of these statements, it was found that the mortality rate of patients so treated was 8 1 per cent, comparing with 62 9 per cent among the controls When administered within six hours of the appearance of the first symptoms there were no deaths, administered between six and twenty-four hours after the first symptoms the mortality rate was 10 2 per cent, and after twenty-four hours it rose to 14 3 per cent The warning is given that the bacteriophage must never be given by subcutaneous injection

Epidemiological Researches

Interesting conclusions were reached by the investigators as regards the epidemiology of cholera in relation to the bacteriophage It is stated that, in a region where cholera has not broken out for several years, no vibrios and no bacteriophage strains possessing virulence for vibrios can be demonstrated In places where cholera has not occurred for two years at least, non-agglutinating vibrios may still be found, but bacteriophages virulent for the cholera vibrio are absent, or, at any rate, very rare In areas where cholera is endemic, as well as in other areas where the disease breaks out in epidemic form, carriers of non-agglutinating vibrios are very numerous during the months which follow the disappearance of the epidemic In these carriers bacteriophage strains also exist, which have a weak virulence for pathogenic vibrios but are capable of rapid exaltation even by a single passage with pathogenic vibrios, from these carriers also can be isolated bacteriophage strains which retain the power to destroy pathogenic vibrios In a region where an epidemic has raged for some time, as, for example, in the Punjab in 1927, four months after its onset three groups of human beings may be distinguished—namely (1) those persons in whose environment no bacteriophages virulent for the vibrio are found, this group being highly susceptible to infection, (2) those residing in places where non-agglutinating vibrios and bacteriophages virulent for pathogenic vibrios are present in wells or flies, these persons being "healthy carriers" and resistant to the epidemic and (3) those living in districts where cholera has occurred in the course of an actual epidemic, including convalescent carriers and resistant persons

When an epidemic first breaks out no bacteriophage strains are found in the water of wells, but they subsequently appear, at first in the flies found in houses where convalescents live, and then in the well waters, the epidemic ends when the bacteriophage becomes generally diffused These bacteriophage strains are highly virulent to vibrios from the very outset, and are directly derived from convalescent patients A few days after the end of the epidemic they rapidly disappear, being replaced by less virulent bacteriophage strains, which can, however, become exalted by a single passage at the expense of cholera vibrios A curious corollary is that the cholera patient spreads the pathogenic vibrios, and is therefore infectious, while a carrier spreads adapted bacteriophages, and, by this means, propagates the means of resistance, protecting crowds of previously uninfected individuals

Prophylaxis

Methods of isolation, sterilization of water, and preventive vaccination are only partly effective in the prevention of cholera, especially when the drinking water is obtained from wells The conclusion is therefore reached that the deliberate propagation of the bacteriophage offers the only effective means of preventing cholera in epidemic form Instead of waiting for the bacteriophage to be carried to the wells by natural means it would be preferable to introduce cultures of potent strains directly into the water supply of any group of persons in whom cholera has broken out Experimental work is reported

by the investigators to how that such a measure is in practice highly efficacious Indications are given of the lines on which the conclusions reached in this report might be experimentally tested on a large scale

Finally the wide practical application of this remedy, though difficult is not impossible and the concluding paragraph of the *report deserves quoting in full in view* of its suggestion to make use of human suggestibility in promoting health

It must be noted however, that the inhabitants of India generally speaking object to the addition of any material whatsoever to their drinking water, and it is admitted that if a measure is to be applied with any hope of success the public must accept it voluntarily Ther may perhaps be a means of making prophylaxis by the bacteriophag attractive Hindus consider the Ganges water to be sacred A laboratory for the preparation of cultures of bacteriophage might therefore be established on the banks of this river and the culture media prepared from its water indicating this fact in vernacular on the ampoules containing the bacteriophage cultures It is probable that Hindus would be pleased to see the water of the sacred river poured into their wells some of them would perhaps attribute the beneficial action to this, what does it matter if the object be achieved and the sum total of human suffering a little diminished?

EPSOM COLLEGE

Annual General Meeting

THE seventy seventh annual general meeting of the Governors of Epsom College was held at the office 4 Bedford Square W C on June 27th under the presidency of the chairman of council Dr RAYMOND CRAWFURD

The scrutineers Sir William Hale-White Mr W Cyril Tomlinson and Dr Septimus Sunderland reported that the successful candidates for pensioner ships and foundation scholarships were as follows

	Votes
Pensioners	
*Nicholson Mrs Agnes A	6 957
†Cadman Dr Frederick R	6 137
*Greenwood Mrs Mary M	4 471
†Humphrey Dr Edward A	4 334
Foundation Scholars	
Taylor David H	5 981
Dawkins Maurice	11 509
White John H B	10,389
Bull Gerald A	9 479

* Brodie Sewell Pensioner † Ordinary Pensioner

The secretary reported that Dr Edward W Forster who was at the head of the list of unsuccessful candidates would be *appointed an ordinary pensioner under* By law 16 at the council meeting which would be held immediately after the annual general meeting a vacancy having arisen

The annual report referred to the loss sustained by the College through the death of the Earl of Pembroke its president for twenty nine years and the election of Viscount Burnham to succeed him in that office While there was a moderate surplus on the income and expenditure account for the year the council urged friends of the College to renew their efforts to obtain fresh annual subscribers to make up for the loss of many generous supporters every year Special reference was made to the support given by the British Medical Association and its Charities Committee the Medical Insurance Agency and numerous Panel Committees The council also expressed thanks to the Editors of the *British Medical Journal* and the *Lancet* for assistance by means of appeals and for publishing official notices The following reference is made to the Scholarship Fund administered as a memorial to the late Editor of the *British Medical Journal*

The Medical Insurance Agency has generously handed over a further sum of £650 for the Dawson Williams Presentation Scholarship Fund of which a sum of £500 is to be devoted to the capital required to establish in perpetuity a scholarship of £150 a year in memory of the late Sir Dawson Williams C B E. M D for the necessitous son of a medical man or woman The benefits already awarded from this fund by a joint Committee of the Medical Insurance Agency and Epsom College have been greatly appreciated and it may be added that the intention underlying the foundation of this scholarship was to help a friendless boy especially one unlikely to be able to secure election to an Epsom College Foundation Scholarship

The progress of the new *sanatorium fund* has not been so rapid as the council hoped for, contributions received during the year amounting to little more than £2,200 the sum in hand on December 31st last was £7 765 The present sanatorium, being unsuited to its purpose cannot be worked economically and a sum of not less than £25 000 will be required for the new buildings the fittings and the furniture

The report was adopted on the proposal of the chairman, and Lord Dawson of Penn G C V O Sir Milson P K C V O and Mr T Hollis Walker K C were elected vice presidents of the College in recognition of valuable services rendered A cordial vote of thanks to Dr Raymond Crawfurd concluded the business

Scotland.

Extension of Dundee Royal Infirmary

THE formal opening took place on June 20th of a new maternity hospital erected at a cost of £38 670 an extension to Dundee Royal Infirmary The hospital was built and equipped by the late Mr Robert Bower Sharp and his brother Mr Frederick Bower Sharp of Hull of Tarvit and has been endowed by the latter and his sister Miss Sharp of Fernhall Mrs F B Sharp performed the opening ceremony Mr J C Burt LL D president of the Infirmary who occupied the chair recalled the fact that about thirty years had elapsed since the benefactor of the hospital Sir James Caird, had given them the maternity hospital A much larger and more modern building was now being inaugurated Dr James Haig Ferguson, president of the Royal College of Surgeons of Edinburgh remarked that it had been well said that a hospital was a treasury to which the rich could go with their poverty and the stricken with their needs Dundee was now in possession of a well-equipped and thoroughly up-to-date maternity hospital capable of dealing adequately with the need of its district This hospital would be an incalculable boon to the city for both women and infants it would also provide training of the highest standard for doctors nurses and midwives He could not [illegible] say that he had never seen a better arranged maternity hospital nor one more wisely planned The advantages of the close association of a maternity hospital with a gynæcological department could not be too strongly emphasized at Edinburgh it was hoped that there would be a similar close co-operation in the near future Dr Ferguson considered that in view of the fall in the birth rate it was more than ever necessary from an economic standpoint to do everything possible to conserve the child life of the country and hospitals such as this were a most important factor in achieving this end The voluntary hospital was an honour to their country and to their civilization In voluntary hospitals in Scotland last year 110,000 in-patients and 360 000 out-patients received treatment Dr John Parlane Kinloch Chief Medical Officer of the Department of Health for Scotland congratulated Dundee on this valuable addition to the Infirmary Forty years ago he said such health services as they had in Scotland to-day would have been regarded as Utopian dream He thought that the voluntary hospitals must remain the real medical pivot of the health service and there should be no rivalry but co-operation Obstetricians and specialists had to discover why women died and they needed institutions like the present one to put the new knowledge into effect The hospital would be a model for Scotland for many years

The new hospital is a ferro-concrete building of three storeys and has departments for the care of in patients and an ante-natal patients a district room and inquiry office a [illegible] and a lecture theatre suite Two wards each with twelve beds have been designed to admit the maximum amount of sunlight A cot hangs at the foot of each bed and a window in each will enable patients to listen in There are also [illegible] fitted with french windows and containing two beds Separate accommodation is provided for the delivery and [illegible] potentially septic patients and rooms are [illegible] for those [illegible] maternity cases born [illegible] labour and for patients suffering from [illegible] the delivery room is the centre [illegible] room instrument sterilizing [illegible] tudents gallery The [illegible] operating theatre [illegible]

1928, xxv, pp 403–416), which received editorial comment in the columns of the *British Medical Journal* (1929, ii, 676), is of particular interest in the present discussion He emphasized the necessity of regarding medicine, equivalent in England to the use of the term pathology, as an independent science, this status being preliminary to its being elevated to the position of a university discipline He explored the situation of medicine in respect to related sciences, and suggested arguments which seemed to justify the view that medicine can and should be regarded as belonging to the category of independent sciences He described what the advantages were for the study of disease, were it investigated actually by physicians, especially by those acquainted at first hand with the phenomena of disease, and trained to their observation, since it was obvious that neither chemists, physiologists, bacteriologists, nor anatomists could be supposed to regard such phenomena as primarily or exclusively their concern He attempted to show that in a rational sense an analysis of the processes exhibited by various groups of diseases necessarily preceded an attempt to rectify these processes in the enterprise called therapeutics Conceptually, therefore, there was, he thought, an advantage in distinguishing between the study of disease and of therapeutics There existed, of course, that aspect of therapeutics, which is usually designated as "roughly empirical," which had its proper and deserved place in the armamentarium of physicians, but which obviously was different in origin and design from "rational therapeutics," a good example of which was chemotherapy On account of these various considerations he believed, as a logical inference, that a difference distinguished practical (or the practice of) medicine from the study of disease It was the pursuit of the latter which was the occasion for constituting a university department of medicine

These theoretical points of view concerning the meaning of medicine have served as the "programme" of the university clinics of the University of Chicago They appear to resemble those which Sir Thomas Lewis now premises in his new proposals His plan, similar to that followed at Chicago, will, if actualized, bring into existence in England a reform which recognizes what in any case is a fact—namely, that the study of disease and the *practice* of medicine differ Systems or types of education designed to introduce men to a knowledge of these distinct, even if related, matters must also differ So instructed, men will, depending on their purposes and desires, be in a position to choose their callings with due regard to the various opportunities which medicine offers —I am, etc,

FRANKLIN C MCLEAN,
Director of University Clinics, The University of Chicago.

June 11th

ANTIMALARIA MEASURES

SIR,—In your issue of April 12th, which has just reached me, Colonel Gill's letter contains many incorrect statements—so many that I fear the limits of space in your *Journal* force me to comment only on the two which more particularly misrepresent my own position He states that Ross, and those who, like myself, think with him, are "completely satisfied with the state of scientific knowledge attained some thirty years ago" Colonel Gill has quite evidently failed to realize that an *epoch-making discovery* like Ross's is great not only in the knowledge which it gives, but in its opening so many other lines of research To my personal knowledge Ross has always encouraged this, and, were it necessary, I think I could prove from many sources that I, too, have also encouraged progress

Had Colonel Gill read with more understanding how practical and scientific work have been combined in Malaya to produce results of the highest value, he could not possibly have written as he has done So far from scientific work being neglected there, it has been so closely associated with practical work that it is, as someone said, an extension of "experimental medicine" that would have delighted the heart of Claude Bernard himself

How carelessly Colonel Gill reads is shown by an alleged quotation from an address I gave to the Royal Society of Tropical Medicine and Hygiene in 1924 A reference to page 152 of the *Transactions* shows that I said "They [the Commission on Mian Mir] thought that the work of the immediate future lay in patient and searching investigation, and in careful and continued experiment With that I entirely agree" According to Colonel Gill, I stated before the Royal Society of Tropical Medicine in 1924 that "the time was gone 'when patient and searching investigation and careful and continuous experiments' could serve any useful purpose in connexion with malaria" Further comment on Colonel Gill's accuracy is unnecessary

In closing I should like to whisper in his ear that the time for talking of "unsubstantiated claims" and saying that "it cannot be done" is passed, and that some of the more far-seeing in his service are wondering if it is the time to say, "We have been doing it all the time"—I am, etc,

Luanshya Northern Rhodesia, May 31st MALCOLM WATSON

EXCRETION UROGRAPHY

SIR,—In a recent discussion on excretion urography at the Royal Society of Medicine one of the speakers is reported to have stated that "no local cellulitis or reaction results, even if some does leak from the vein, so that 'bad arms,' such as occasionally result from tetraiodophenolphthalein, need not be feared" Since this form of radiological investigation would appear to have a wide field of usefulness, and may be largely exploited in the future, it would be a great mistake if the profession were to be misled by this statement into a false sense of security and resulting carelessness I have recently seen an extremely severe local reaction after the use of uroselectan resulting in local cellulitis, sloughing, and deep ulceration of the arm—a far more severe reaction, in fact, than I have ever observed after the intravenous administration of tetraiodophenolphthalein—and I consider that a very careful technique should be employed which ensures thorough washing out any remains of the drug in the tissues with saline —I am, etc,

Hove, June 26th C GUY WHORLOW

STORAGE OF X-RAY FILMS

SIR,—*The fire in an x-ray film store, as related by the Duchess of Bedford in your issue of June 28th (p 1198), can cause no surprise to those who are familiar with the properties of x-ray film, or nitro-cellulose* This substance is closely allied to gun-cotton, and is prepared by treating cellulose with nitric and sulphuric acids for certain periods

It seems remarkable that hospital authorities and radiologists are still allowed to store some hundredweights of these materials in the middle of a great city without any kind of regulation or control In my own garage I am not allowed to keep more than a small quantity of petrol, while in one of my hospitals I have sufficient inflammable material unprotected to demolish the building in a few moments My protests to the committee have been in vain In some hospitals the x-ray department is an extremely popular rendezvous with the members of the staff, it is appreciated that this place is one of the few in the hospital where one may smoke without hindrance or control It *cannot be long* before a cigarette will be thrown into the nitro-glycerin store and a disaster of the first magnitude herald a stringent Board of Trade control I do not think it probable that the hospital authorities or the Ministry of Health realize the dangers which can accrue in the storing of celluloid

An interesting point arises from your correspondent's letter as to whether a lead-lined safe is sufficient protection I must answer in the negative Nitro cellulose materials decompose at a rapid rate at a temperature of 100° C, even in the absence of air, the decomposition being exothermic For this reason spontaneous combustion can occur, the oxygen being supplied by the products of combustion In the event of celluloid being heated to higher temperatures, decomposition can be so rapid as to lead to explosion Glowing cigarettes are sufficient to ignite films, and heated water pipes will produce the same effects with an increased time period The matter has been carefully considered in America, where it will be recalled a large number of patients lost their lives in an x-ray film store fire last year

The only secure manner in which x-ray films may be stored is by enclosing them in a number of fire-proof and explosion-proof safes. These should be in turn ventilated by a shaft running to the open air, the whole unit being designed and installed under the guidance of one who is competent to advise.—I am, etc.,

Leeds, W.1, June 26th. L. J. H. ROTH.

THE OCCIPITO-POSTERIOR CAST

SIR,—I was interested to read Dr. A. H. D. Smith's letter in last week's issue of the *British Medical Journal* (p. 1126). I think that probably the face presentation was produced in the process of rotation and subsequent traction with forceps. This has happened in a few of my cases, but I have been able to rectify it. Care should be taken after rotation to see that the head is flexed.

I was called in yesterday to an occipito-posterior case. I did not see the case until late, and was able with difficulty, to rotate the head. Owing to a contracted pelvis forceps were difficult to apply and kept slipping. I left the patient for a couple of hours, and on my return had no difficulty in delivering a living child. The amount of moulding was very marked, the head being cylindrical. I find leaving the case for a couple of hours very useful and in the days of motor-car, not as difficult as it used to be.

Dr. Smith was good enough to mention my name with reference to inserting the upper blade first. It seems to me to be the natural thing to do. This is the most difficult one, especially in difficult cases, and the presence of the lower adds to the. In the old days the short time available was often very limited. I find that the upper blade when introduced hangs naturally forward, and the lower is easily put in behind, whereas if the lower blade is introduced first this has to be kept well back by an assistant while the upper is introduced. It is hardly necessary to say that the lower blade must be inserted behind the upper, but I was giving an anæsthetic for a friend and subjected him to trying this method. I found him struggling to get the forceps, he had inserted the lower blade in front of the upper.—I am, etc.,

Sharrow, June 26th. JOHN D. DAVIS.

SIR,—In your issue of June 28th (p. 1126) Dr. William recommends Kielland forceps for rotating the foetal head in occipito-posterior positions. From a limited experience of this instrument I think it is an efficient substitute for, and in some respects superior to, the classical axis-traction forceps.

In many occipito-posterior cases the occiput rotates anteriorly during labour, and in cases where it fails to do so spontaneous delivery frequently occurs. If the condition is found during pregnancy, troublesome and uncertain methods of rectification should never be employed, indeed, the condition need not be definitely diagnosed during pregnancy or even during labour provided progress is satisfactory. When labour occurs the head is frequently found well down in the pelvis at an early stage; if it remains high, disproportion should be suspected. If arrest occurs in the second stage in a primigravida the diagnosis is sometimes difficult, as a large caput frequently obscures the fontanelles. In a multipara it is much easier if examination is not deferred too long. In all cases *definite* diagnosis is possible by palpation, the ear under anæsthesia prior to application of the forceps.

The classical axis-traction forceps, which can be applied either in relation to the head or the pelvis, will effect delivery in practically all cases. If traction is carefully applied a complete tear of the perineum should never occur. If Kielland's forceps is used for rotation it is applied in relation to the foetal head with the indicators pointing backwards. It can be used however, with the indicators pointing forwards, delivery being completed without rotation. For this particular complication and for apparently normal cases in which there is undue delay Kielland's instrument is simpler and safer than the classical forceps.—I am, etc.,

Ewhurst, June 30th. E. CONDON, M.B., B.Ch., B.A.O., L.M.

ENDOGENOUS PUERPERAL SEPSIS

SIR,—Most authorities believe that the main source of puerperal sepsis is the mismanaged maternity case and that sepsis is introduced from without. A minority hold that infection from within is at least as important, and that teeth and tonsils are the main source of infection. The following history of a case of sepsis recently under my care is illuminating.

Mrs. T., aged 36, a healthy-looking woman, was confined on April 20th under ideal home conditions a trained nurse being in attendance as well as *myself*. She was a 2-para. Her confinement having been normal and delivery spontaneous. Pregnancy ran a normal course and no abnormal features were noted. The confinement was short in duration, no vaginal examination was made, and there was no intervention of any kind. On the third day the patient had a rigor, the temperature rose to 104·2° F. and pyrexia followed. On *examination nothing* was found in the urine, the breasts were normal, and lochia were not offensive. The uterus was undergoing normal involution. At the *end of a week* examination revealed a mass in the left broad ligament which by the fourteenth day had become palpable on abdominal examination. The lochia had now become definitely offensive. A diagnosis of an infected hæmatoma was made and the patient was removed to a nursing home for operation.

On the fifteenth day abdominal section was performed. The left ovary, broad ligament and tube were acutely inflamed. The ovary was ten times the size of an orange and full of pus. The broad ligament was thickened with cellulitis and phlebitis which extended a considerable distance up the ovarian vein. The uterus was quite small and was well involuted. At the junction of tube and fundus on both sides there was a tense swelling the size of a walnut full of pus. The interior of the uterus was perfectly clean and smooth. The right broad ligament, tube and ovary appeared to be normal. Hysterectomy being the only possible hope, I accordingly performed a subtotal hysterectomy and inserted a tube into the left pelvic pouch. The temperature gradually settled and the patient made a good recovery. Examination of the pus showed the infecting organism to be a streptococcus.

Examination of the patient's mouth showed that her lower six incisors and bicuspids were in a very bad condition and when examined it was established that the teeth were extracted and forwarded to Dr. Loveday of Manchester for examination and report. Culture gave a copious growth of haemolytic *streptococcus longus* of three main types: (1) Predominant, a small haemolytic *Streptococcus longus*; (2) a very haemolytic large *streptococcus longus* in smooth colonies; (3) a haemolytic *Streptococcus longus* of large type in rough colonies.

The evidence in this case strongly suggests that the source of infection was the teeth via the blood stream.—I am, etc.,

Kendal, June 26th. C. M. CRAIG, M.D., D.P.H., Hon. Asst. Surgeon, Westmorland County Hospital.

ETHER CONVULSIONS

SIR,—I feel indebted as will everyone interested in the subject to Dr. Stanley Sykes for his article on ether convulsions in the *Journal* of June 21st (p. 1123). In order to help in elucidating the problem of their cause I should like to categorize all the signs and circumstances of those cases I have come into contact with, which will form an essential supplement to his summary. Before doing so I would say again that I am sure that the condition can be easily prevented, and (I am tempted to reassert) cured, provided its onset is immediately recognized.

In many administrations removal at intervals of the frame and coverings, so allowing free access of fresh air, has the effect of quieting respiration, due in part, I suppose, to lessening the carbon dioxide concentration, and in part to stopping the ether vapour. It was this effect that led me to believe that an assumed hypercapnia was the chief cause of the convulsions; but in view of Dr. Langton Hewer's statement (mentioned by Dr. Sykes) that they have occurred during endotracheal administration the theory would become untenable. I should, however, be glad to hear full particulars from Dr. Hewer. Other considerations, too, are against such a theory; but in spite of this I feel that *faulty technique in the direction of overmuch covering and a forcing of the anæsthetic at the end of the second stage of induction*, most often appears as the effective cause.

(*a*) The patients are children and young adults almost always (my first case was a middle-aged woman).

(*b*) They nearly always suffer from a bacterial toxæmia (generally acute infection) but there are quite definite exceptions.

(*c*) They usually have a pyrexia.

(*d*) Pyrexia often develops, apparently as a result of the convulsions

(*e*) In most cases ether has been the only agent used In one, in which convulsions were beginning none had been given

(*f*) History of epilepsy has not always been sought but has often been negative

(*g*) Oxygen has generally, or always been added

(*h*) As a rule if not always the face of the patient has been suffused with blood, and he has shown the sthenic appearance common during etherization Blood pressure has not been taken

(*i*) The onset usually is early during the operation when anaesthesia is fully established In many cases however, it is later

(*j*) It begins either by energetic breathing becoming irregular (especially inspiration) or in a twitching of the mouth or of the eyelids or by a flexion of the elbow, first on one side and then on the other, causing a steady rise of hand and forearm from the table (I have seen this twice as the first sign) or in a twitching of arms or shoulders Occasionally cyanosis is the first sign

(*l*) Blueness (the breathing being interfered with by the convulsions) becomes increasingly evident

(*l*) Deepening of the narcosis does more harm than good

(*m*) Convulsions are severe, sustained general, and epileptiform

(*n*) They are always typical

(*o*) Death occurs from exhaustion insufficient oxygenation persisting until the end in spite of cessation of convulsions and plentiful supply of oxygen

(*p*) It seems probable that the issue of every case would be fatal if the administration were not suspended or the method altered

(*q*) Recovery from the narcosis is delayed even after a short attack

(*r*) Two cases (I have heard of another)—all fatal—had recurrence of the convulsions later on in bed, one after an apparently complete recovery

(*s*) In one case I purposely resumed the administration of ether by the same method without ill effect

These considerations may refute all theories so far advanced but if faulty method developed in recent years be (as I feel confident) the chief factor in what way could it operate? Dr Sykes thinks the oxygen should be analysed but having regard to the case just mentioned (*s*) it could hardly throw any light on the subject—I am etc,

Victoria Park, Manchester, June 24th K B PINSON

SIR,—Dr Stanley Sykes's interesting article on ether convulsions in your issue of June 21st, and the apparent rarity of the condition prompt me to record a case which I had a few weeks ago, and which presents one or two interesting features in connexion with the various hypotheses which have been put forward to explain the etiology of this condition

The patient was a girl aged 17 who was having a fractured tibia plated The fracture had previously been compound and though the wound was clean at the time of operation the patient had been running a temperature for some time Ether and oxygen were administered by Boyle's apparatus and the anaesthetic proceeded uneventfully for over half an hour except that the patient, though not very deeply anaesthetized breathed very shallowly a fact which I attributed partly to the liberal supply of oxygen which she was having The patient then started to have clonic spasms, which increased in severity and became generalized

I must confess that at the time I was not fully aware of the serious prognosis of the condition and as the operation was by then almost over, I turned off the ether and turned the oxygen on full, with the idea of washing out any remaining ether vapour from the respiratory passages The spasms lasted for about two minutes and then became less and ceased and the patient was apparently none the worse At a previous operation three weeks previously, at which ether was used there were no spasms

This case, which must be classed as one of the "septic" type, occurring like most others, in a young adult, presents two interesting features The fact that, at a previous operation three weeks previously, no spasms occurred is strongly against the "idiosyncrasy" hypothesis, though it may be supposed that the toxaemia following the compound fracture increased the susceptibility of the patient to ether clonus The fact that the spasms ceased actually while the patient was being given oxygen "full blast" would appear to be against Mennell's "over-oxygenation" hypothesis—I am, etc,

Addenbrooke's Hospital, Cambridge, June 26th J I SAPWELL

INVASION OF THE GALL-BLADDER BY ASCARIS LUMBRICOIDES

SIR,—Drs Wood Power and Johnston (*British Medical Journal* (June 14th, p 1086) find that in man, invasion of bile ducts by *Ascaris lumbricoides* is not infrequent whereas invasion of the gall-bladder is rare In young swine *Ascaris lumbricoides* is frequently found in the small intestine whence it commonly migrates into the bile ducts, but invasion of the gall-bladder and of the pancreatic duct is, I believe, rare Two specimens in the Museum of Pathology Royal Veterinary College demonstrate very clearly migration of the worms from the duodenum up the bile ducts into the gall-bladder and hepatic ducts No A12c2 0 shows chronic cholecystitis and cholangitis with ascarids thickly packed in the distended bile duct and lying free within the gall-bladder and hepatic ducts The subject was a young adult male pig having a history of progressive emaciation terminating in refusal of food for three days when it was slaughtered There was no jaundice No A12c2 01 shows a similar invasion, but the inflammatory changes in the biliary tract are slight The subject was a male pig aged 11 weeks which was slaughtered for food as a healthy animal, there was no jaundice—I am etc,

Department of Pathology, Royal Veterinary College, N W June 23th TOM HAPE

AMPUTATION AND ARTIFICIAL LIMBS

SIR,—I was much interested in the report of the Royal Society of Medicine's discussion on amputations (*Journal*, April 12th, p 693) and as an amputee I should like to give my ideas about the subject I quite agree about the Syme amputation it has not been a success on the whole With high amputations I believe in giving all the end-bearing possible if there is not sufficient below the knee one should try to give a knee-bearing It may not look so pretty and the prosthesis is longer than the natural leg, but the patient can walk and work far better One of the best thigh amputations I know was done by Dr R B Wade about 1918 in Sydney He amputated about three inches above the knee and tacked the patella on to the end The stump is excellent and all the weight is taken on the end, with the result that the amputee can stand all day walk long distances and play a really good game of doubles tennis His weight is about 13 stone

I have seen all the fitting at the Commonwealth Artificial Limb Factory for seven years, where all the legs, arms, surgical boots, and appliances are made for the soldiers With an end-bearing stump fitting is easy as there is less weight and friction on the tissues about the ischium I have a bad stump and have to take all the weight on the ischium and in the summer, with the temperature between 75° and 95° F, and humidity anything up to 90, the skin chafes and gets sore It is most important to provide as large an area for pressure about the ischium as possible to save chafing A good ointment for rubs and pimples is yellow vaseline with 20 per cent quinine sulphate a little should be put on the sock and allowed to rub in during the day—I am etc,

Sydney, N S W May 22nd A H MOSELEY, D S O M B, Ch M, D P H

HEREDITARY FACTOR IN HAY FEVER

SIR,—There is some evidence that susceptibility to hay fever is an hereditary character It is also a character usually well marked and comparatively easy to trace among members of a family At this time of the year many medical practitioners must meet with hay fever patients whose genetical history could be discovered without difficulty Should any of your readers come across such cases and be willing to obtain records of the incidence of hay fever among members of the family over say, four generations, I would be interested to receive such records, which I am collecting—I am, etc,

Bacteriology Department, Rothamsted Experimental Station, Harpenden, June 27th H G THORNTON, D Sc

DRUG TREATMENT OF MEASLES

SIR,—I should like to endorse the remarks made by Dr H J Clutterbuck in the *British Medical Journal* of June 21st regarding the treatment of measles by the powder consisting of aceto-salicylic acid, compound ipecacuanha powder, and phenacetin The results have been most gratifying Two years ago I had the opportunity of using this method of treatment in fifty cases There was a very rapid improvement in almost every case The cough was markedly relieved and it was seldom necessary to give the powder during the night as the patient slept well All these cases occurred in boys between the ages of 10 and 18 years Up to the age of 16 the doses given were aceto-salicylic acid 2½ grains, pulv ipecac co 1½ grains phenacetin 1½ grains every four hours In patients over 16 the amounts were doubled.—I am, etc,

Hereford June 23rd A S HENDRIE, M B Ed

SPINAL ANÆSTHETICS

SIR,—Mr H H MacWilliam, in a letter published in the *Journal* of June 21st (p 1154), has pointed out a slight inaccuracy in my article on spinal anæsthesia (June 14th, p 1003) The statement that "planocain . . . is really strychnine-free spinocain" is perhaps not quite correct The planocain we used was not the same as the product usually supplied under that name by May and Baker and which Mr MacWilliam has probably used in his case These solutions have the following formulæ

No 1 Solution

Panocain (novocain)	0·2 gm
Glucin	0·0025 gm
Alcohol (5 per cent)	to 2 c.cm

No 2 Solution

Fresh drawn cerebro-spinal fluid	0·5 c.cm
Planocain	0·01 gm
Normal saline	to 1 c.cm

Recently May and Baker have issued a new product called duracaine light solution, made up in 3 c.cm and 1 c.cm. ampoules respectively The 1 c.cm ampoule has the same formula as the No 2 solution quoted above, but the 3 c.cm ampoule contains the following constituents

Planocain	0·1 gm per c.cm
Glucin	0·00325 gm per c.cm
Ethyl alcohol (15 per cent)	to 3 c.cm

We have used duracaine in the last thirty cases, and have found it the most satisfactory of any solution so far —I am, etc,

Norfolk and Norwich Hospital, June 23rd R A GRANT

JAMES MACKENZIE

SIR,—With reference to my lecture on "James Mackenzie and his message," which was published in your issue of June 7th, I should like you to correct one small error On page 1035, among several names of men associated with Mackenzie, occurs that of Cushing This, of course, should read Cushny I was referring to the late Professor Cushny, whose work on digitalis is so well known.—I am, etc,

Liverpool June 21th JOHN HAY

Medico-Legal

AUTOMATIC MACHINES FOR SALE OF DRUGS

PHARMACEUTICAL SOCIETY'S FIRST CASE

THE Pharmaceutical Society of Great Britain, which recently issued a warning on the dangers of automatic machines for the sale of drugs (*British Medical Journal*, January 18th, p 134), brought, on April 21st, a friendly action at the Wood Green County Court, against Harry Ronald Watkinson, a chemist and a member of the society, of Lord Hill Lane, Tottenham, claiming £5 penalty for breach of the Poisons and Pharmacy Act 1908

Mr Glyn Jones for the Pharmaceutical Society sought the ruling of the judge (Judge Crawford) on a new and important point arising under that Act He said that Mr Watkinson, the defendant was a loyal member of the society, and no question was cast on him as a chemist, but the society thought it undesirable that the public should have access, without the intervention of a qualified chemist, to all manner of poisons which might be offered for sale by means of automatic machines The question was whether the sale of poisons from these machines was lawful Bottles of lysol bearing a statement to the effect that they contained 50 per cent of cresol, and labelled "Poison" were bought by an inspector in the employ of the society from an automatic machine outside Watkinson's shop The point made was that the sale of these poisons was the carrying on of the business of a chemist and druggist, which must in accordance with the statute, be conducted by a qualified chemist, which an automatic machine was not He added that the use of these machines was enormously extensive and if they were contrary to law the decision of the court would be of far reaching importance

At an adjourned hearing, on May 21st Mr George Pollard representing the chemist said that his defence was that although the sale complained of fell within the range of general supervision it did not fall within the particular point of supervision required for a sale of poison for which the purchaser had to sign a book recording the sale of dangerous drugs

Judge Crawford gave a considered judgement on June 25th He found in favour of the Pharmaceutical Society for the amount claimed (£5) with costs He said that the defendant in his view, carried on the business of a chemist and druggist through the medium of an automatic machine, from which he sold to the public a dangerous poison The evidence satisfied him that any child tall enough to place a coin in the slot and take a bottle of lysol could do so without the knowledge of the defendant or any person in his employment. Beyond all question, this ought not to be allowed. A highly qualified analyst had found that the bottle contained over 47 per cent. of homologues of carbolic acid, and no supervision had been exercised over the sale of the poison The sale of such a dangerous poison as lysol certainly ought to be part of the business of a chemist and druggist rather than of any other trader

Obituary

DR CECIL WEBB JOHNSON who died in London on June 23rd, was born in 1879 at Stoke-on-Trent, where his father Dr Samuel Johnson was medical officer of health, his brother is Mr Alfred Webb-Johnson, surgeon to the Middlesex Hospital He was educated at Owens College Manchester, and the London Hospital, graduating M.B, Ch B Manch in 1903 After serving as clinical assistant at the Chelsea Hospital for Women he was appointed, in 1906, assistant medical officer to the Staffordshire County Asylum For some years before the war he had held a commission as Captain R A M C T F, and at the Annual Meeting of the British Medical Association at Aberdeen in 1914 he acted as joint honorary secretary of the Section of Naval and Military Medicine and Surgery, opening a discussion on common ailments in camp, their prevention and treatment After the outbreak of war he was sent to India, where he served with the rank of major, and held in turn the posts of civil surgeon and officer in charge of the station hospital at Dum Dum, specialist in midwifery and diseases of women and children, 8th Lucknow Division and medical officer at station hospitals in Calcutta, Lucknow, and Allahabad On returning to England in 1919 he began private practice in London, and was for some years clinical assistant at the National Hospital for Diseases of the Heart The interest he had taken while in India in dietetics and disorders of metabolism led him to write a number of popular works on diet, obesity, and kindred subjects Dr Cecil Webb-Johnson was also well known as a composer of waltz tunes and other light musical pieces

We regret to record the sudden death, on June 26th, of Dr C J B MACFADDEN of Hampstead, at the age of 59 He was educated at the University of Edinburgh, where he graduated M.B C.M. in 1894 proceeding M D four years later He held the appointments of medical officer to the Hampstead Provident Dispensary, divisional surgeon to the Metropolitan Police since 1919, and medical referee under the Workmen's Compensation Act for the district of the Marylebone County Court He was also assistant commissioner of the Prince of Wales's district of the St John Ambulance Brigade, and honorary life member, examiner,

and lecturer of the St John Ambulance Association He was a member of the executive committee of the Hampstead Division of the British Medical Association, and one of the representatives of the Division on the council of the Metropolitan Counties Branch, and was an ex-president of the Hampstead Medical Society Dr MacFadden had served as surgeon to the Cedar Lawn Military Hospital, medical officer in charge of the American Hospital, Caenwood Towers medical officer of the Officers' Recuperative Hostel, Oakhill Lodge, and surgeon to the British Red Cross Hospital, Bulgarian Relief Section in the second Balkan war, and was appointed Chevalier avec Couronne de l'Ordre du Merite Civil du Bulgarie He took great interest in local affairs and was a member of the Hampstead Borough Council for thirteen years, during which period he had served on a number of committees He was chairman of the Maternity and Child Welfare Committee for two and a half years and chairman of the Public Health Committee from 1920 to 1922 and again since 1929 On the day of his death he had been discussing with the officials a report of his committee till 5 P.M. and subsequently attended a patient At the meeting of the town council held on the evening of June 26th when the mayor announced the sudden death of Dr MacFadden the members stood in silence as a sign of respect For his services in connexion with the European war he received the decoration of O.B.E. Dr MacFadden is survived by his widow one son and one daughter

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE House of Commons gave three days this week to the committee stage of the Finance Bill A discussion on housing arose on June 30th and July 4th was set aside for the report stage of the Road Traffic Bill Consideration of the Housing Bill by a standing committee was completed on July 1st The House of Lords advanced several minor bills during the week

The Parliamentary Medical Committee met on July 1st and arranged to send a deputation to the Minister of Health next day to advocate the establishment of a central advisory committee on rheumatism clinics

On July 1st Mr R J Russell presented a bill to amend the *Food and Drugs (Adulteration) Act 1928* and to control the sale of cheese other than whole milk cheese

The Hours of Industrial Employment Bill has been withdrawn

Miners' Nystagmus

On July 1st Mr SHINWELL told Miss Lee that miner suffering from nystagmus were in the same position under the Workmen's Compensation Acts as workmen disabled by accident or other industrial disease He was aware of the difficulties to which they were exposed in obtaining re-employment particularly in the present condition of the industry and his Department was still considering with the Home Office what steps might be taken to help them in this respect Clearly the best remedy was to diminish the incidence of the disease and investigations with that object were in progress While medical opinion was by no means unanimous it was generally agreed that defective light was a contributing factor, and it was satisfactory to note that with the encouragement of his Department, improved lamps were being introduced at many collieries

Housing

In reply to Sir Kingsley Wood, on June 25th, Mr GREENWOOD stated that, during the year ended March 31st 1928, 18 slum clearance schemes had been confirmed 8 completed, and 98 were in course of execution at the end of the period During the following year 10 schemes were confirmed, 14 completed, and 91 were in execution Up to March 30th, 1930, 17 schemes had been completed and 77 were in execution The number of buildings acquired by local authorities in approved slum clearance schemes for the period between June 30th, 1929, and March 31st, 1930, was approximately 700 Mr Greenwood further said, on June 25th, that he was aware of the overcrowded condition of many tenements, but had not received specific reports relating to their verminous condition He did not propose to seek further powers under Section 46 of the Public Health Act, 1925, as local authorities had found their powers adequate, and there was no general demand for further legislation

On June 30th the House of Commons in committee discussed the vote of the Ministry of Health for housing and administration under the National Health Insurance Acts

Dr VERNON DAVIES said that of all the failures of the Government the most colossal was that in regard to housing

Viscountess ASTOR asked if the Ministry of Health had considered the question of securing sites for nursery schools She also asked what had been done in regard to the prevention of maternal mortality At present 3,000 women died every year in childbirth, and some members had a suspicion that the money which might have gone towards the work of prevention had been spent in other ways

Miss LAWRENCE replying to the debate said it was true that the Government advised local authorities to hold their hands in regard to slum clearance until the new Housing Bill had been passed The Government was proposing a shortening of procedure, and considered that the local authorities would gain by waiting for it

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National Health Insurance.—Mr GREENWOOD told Mr Albery and Sir Kingsley Wood on June 26th, that he had not received any resolution from the recent co-operative congress on the continuance of the regulations of the Ministry of Health prohibiting the payment of co-operative dividend on national health insurance prescriptions but he was aware of the discussion which took place, and the matter was receiving his attention

Silicosis in Carmarthenshire.—Mr SHINWELL replying to Mr Hopkin on July 1st said that the inquiry by the medical officer of the Mines Department into silicosis in the Cross Hands district of Carmarthenshire was proving much more laborious than had been anticipated Although a great deal of relevant data had been collected, the results on examination indicated the necessity for further inquiry

Cost of a National Maternity Service.—On July 1st Mr GREENWOOD told Mr Freeman that data required for framing even an approximate estimate of the cost of providing a national maternity service ensuring the services of doctor, midwife, and anaesthetic administration, were not yet available

Mental Hospitals.—Mr OLIVER BALDWIN asked the Minister of Health, on June 26th, to consider setting up medico-psychological departments in mental asylums, both criminal and non criminal, in order to attempt the effecting of cures Mr GREENWOOD said he could not consider the proposal without a more precise indication of the proposed department and of the necessity for its establishment, having regard to the medical services already available in mental hospitals

Private Mental Institutions.—Replying to Mr Maclean on June 26th, Mr GREENWOOD said the conditions under which patients were treated in private mental institutions were examined by the Visiting Commissioners of the Board of Control, who had a duty to inquire, among other things into the fees paid The Commissioners satisfied themselves that the fees paid were generally reasonable for the accommodation and treatment supplied He did not propose to take power to compel licensees to submit their accounts to a Government department for examination

Lunacy and Divorce.—Mr MACDONALD stated, on June 30th, that he was unable this session to grant facilities for the passage of a bill to make certified lunacy of five years and upwards a ground for divorce

Physically Defective Children.—In a reply to Mr Foot, on June 26th, Sir CHARLES TREVELYAN stated there were 557 blind children under the age of 16 not attending any school or institution on December 31st, 1929 The corresponding number of deaf children was 305 and of cripples 5,461 These figures included children below school age and those temporarily prevented from attending special schools, and there was no need for special accommodation

Prevalence of Mosquitos.—On June 24th Miss SUSAN LAWRENCE replying to Sir W Davison, said that the Minister of Health was advised that the number of mosquitos in this country fluctuated from year to year according to the climatic conditions, but did not show any general increase In the present year some species (especially the sylvan species) were unusually prevalent The Ministry of Health, in collaboration with the Natural History Museum, had given attention to this matter for some years past, and a pamphlet on *British Mosquitos and their Control* had been published, which contained advice on the best methods of combating mosquito pests The Ministry was also prepared, on request, to advise local authorities on the matter

Poisonous Liquor.—Mr ADAMSON told Mr McElwee, on July 1st, that he had received a report on "red biddy" from the chief medical officer of the Department of Health for Scotland

Medical Records of Adolescents.—On July 1st Mr HORE BELISHA asked the Minister of Health if his attention had been drawn to a recommendation of the medical officer for Plymouth, in his recent report on the health of that city that children aged 15 should immediately become insurable, so that their school medical records could be passed to panel doctors, thus avoiding the present year's gap in health supervision Mr HAYES, who replied, said that, in the event of provision being made by legislation whereby the minimum age for entry into insurance would coincide with the normal school leaving age, the question of the transfer of the relevant medical records would receive consideration

Smoke Abatement.—Mr GREENWOOD stated, on June 26th, in reply to Sir N Grattan Doyle, that 116 local authorities had made by-laws on the subject of smoke abatement This left 1,652 without by-laws, but these were largely districts where few or no manufacturing processes were found He found it unnecessary to exercise his power of forcing local authorities to make by-laws

Universities and Colleges.

UNIVERSITY OF OXFORD

At the Encaenia held on June 25th the honorary degree of D Sc was conferred on Sir Arthur Keith M D LL D F R S Conservator of the Museum of the Royal College of Surgeons of England

At a congregation held on June 26th the degree of B M was conferred on G Campbell

Osler Memorial Medal

The Osler Memorial Medal for 1930 has been awarded to Sir Wilmot F Herringham K C M G C B D M F R C P This bronze medal is awarded every five years to the Oxford medical graduate who has, in the opinion of the Board of Awarders made the most valuable contribution to the science, art, or literature of medicine and who has not previously received the medal

The Theodore Williams Scholarship for 1930 has been awarded to Mr H N Davis (University)

UNIVERSITY OF CAMBRIDGE

The Master and Fellows of Corpus Christi College have awarded the Copeman Medal for research in medical and biological sciences to Dr R Hilton, a distant physician St Bartholomew's Hospital This is the first award of the medal presented by Dr S Monckton Copeman F R S formerly a scholar of the college It was designed by Mr T H Paget and struck by the Royal Mint

The following candidates have been approved in the examinations indicated

M Chir.—A. Simpson-Smith C F Tucke

Third M B, B Chir. (*Part I Surgery Midwifery and Gynæcology*)—N W Alexander H B Bacchus W I Bain C O Barnes J H Bellby A T Blair O H B Cook H G H Butcher G F Carey H M Chappel W F Church J B Conyers O J C Cotton P M S Cree C A de Candole R M Dowdeswell N S Dyson R H Fish L D Forster H S H Gilmer C I D H Goodhart S L F Gordine A H Gurney G Hale J H Hall C J F Hamilton F P T Hancock J O Harrison W Heath T C Jamieson Fran H D B Kelly R O Lee J D McVean H Mallins J L Millington V H Reid J N H I Ridley H F W Robertson M H Saaman J G Sleigh D J R Swan F S Thorn H C Stewart J W P Thompson A W Valery C V Whitehall T D G Wilson P G Woodsmith B H Young B then J M F Smith M Sc (*Part II Principles and Practice of Public Pathology and Pharmacology*) A I Alsop C O Barker J H Bentley B M Boam F G Booker W V Borman W V Poole O J C Cowan A C Crocker H Curtis J S S Fairey R H Fish W R Forrester Wood I J Frankson Fran G Groves A S Hall F F T Hancock H J Hoffman F W Holdsworth H F Houghton L H Hudson M M Sc C Johnstone I Joe Ho R O Lee P G Lorrick A H Lister D G Macdonald S McDonald W M Mackenzie F G Malt and R W Mallin C F L Markby H L Miller L H Morris H C Nicholson V I Paxton J O Poynton C B Proctor W Radcliff T G Rees J Richardson H W Sadler J D Simpson G H G Southwell Sander R S Stacey F C Sugden C I L Toland J C G Whitelaw F S Winton Woman C H Leonard

UNIVERSITY OF LONDON

KING'S COLLEGE

Dr J H Moynihan has been appointed honorary demonstrator in anatomy

ST THOMAS'S HOSPITAL MEDICAL SCHOOL

H.R.H. the Duke of Connaught presented the prizes to the successful students of St Thomas's Hospital Medical School on June 25th In the course of his remarks he recalled the fact that he was present at the laying of the foundation stone and at the opening of the hospital of which he was president He mentioned that £570 000 was now needed for a new school and new out patient and special department Professor L S Dudgeon, dean of the school, reported that the number of students had never been at a higher level, it was anticipated that the figure might be exceeded next year The examination records were very satisfactory, as St Thomas's men showed a percentage of passes well above the average

UNIVERSITY OF DURHAM

On June 26th the honorary degree of D C L was conferred upon Lieut.-General Harold B Lawson C B C M G D S O Director General Army Medical Services

UNIVERSITY OF MANCHESTER

The following appointments are announced Lecturer in Experimental Physiology, Walker Schlapp M B Ch B, Ph D, Assistant Lecturer in Anatomy J M Yoffey, M Sc, M D Demonstrators in Anatomy, F N Marshall, M B, Ch B D Sheehan, M B Ch B, Demonstrator in Human Physiology L B Winter, M D

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A HUNTERIAN Lecture on "Hydatid disease—some interesting complications" illustrated by lantern slides will be delivered in the theatre of the College Lincoln's Inn Fields W C, by Professor Harold R Dew on Thursday, July 10th at 2.45 p.m

Medical News.

THE Queen has addressed a message of congratulation and goodwill to the National Baby Week Council on the occasion of the fourteenth National Baby Week, which began on Tuesday, July 1st

THE Fellowship of Medicine and Post Graduate Medical Association announces that from July 21st to August 3rd an *afternoon course in infants' diseases*, with special reference to dietetics and nutritional disorders, will be given at the Infants Hospital under the direction of Dr Eric Pritchard. The sessions will last from 2 to 5 o'clock, and will consist of demonstrations in the out patients department, round table consultations etc , visits will be paid to the Nursery Training School the V D centre at Thavies Inn and the United Dairies pasteurizing plant at Willesden, fee for the course 3 guineas As August is generally regarded as a vacation month it is not possible for the Fellowship to arrange for many special courses but there will be a course lasting one week at the Brompton Hospital from August 11th to 16th, when instruction will be given throughout the day from 10 a.m , and an afternoon and evening course in genito-urinary diseases at All Saints' Hospital, Vauxhall Bridge Road S W , from August 5th to 30th This course will consist of demonstrations on cases, cystoscopies, etc , fee £2 12s 6d For those not desirous of following a special course the Fellowship provides a general course admitting to the clinical practice of its associated hospitals A programme setting out the clinics under subject headings is provided, leaving the holder of the comprehensive ticket free to make out his own time table The course can be begun on any day of any week Graduates should write to the Fellowship of Medicine, 1, Wimpole Street, W 1, for all syllabuses and tickets of admission

THE nineteenth annual meeting of the British Waterworks Association will be held in Liverpool from July 9th to 11th inclusive Among the papers to be read is one by Professor J M Beattie, bacteriologist to the City and Port of Liverpool, on the value of regular systematic examination of water with special reference to the interpretation of results

MR HENRY TONKS F R C S, has just retired from the Slade Professorship of Fine Art in the University of London, which he had held since 1917 His inspiring work as a teacher at the Slade School during the past forty years and his own accomplishment as an artist in various *mediums*, formed the subject of a valedictory leading article in the *Times* of June 25th

THE results of an investigation into the reflection from road surfaces have been published by the Department of Scientific and Industrial Research The object of the inquiry was to obtain more precise data in regard to the efficacy of present systems of street lighting which generally assume that the brightness of a road surface is approximately proportional to its illumination Recent studies of the subject, particularly in America, have indicated that uniformity of illumination of a road surface does not imply a uniform brightness—a factor involving the consideration of angles of light incidence and of different lines of view Thus the driver of a vehicle is chiefly concerned with the appearance of a street a considerable distance ahead The present investigation consisted of a systematic series of measurements of the reflection factors of four different kinds of road surfaces in common use in this country In some instances where the incidence of the light was very oblique, the brightness was found to be several hundred times as great as that based on the assumption of perfect diffusion Some practical applications of the theory are given in the report, which is illustrated by graphs and diagrams Copies are obtainable at H M Stationery Office, price 6d

AT a meeting of the Paddington Medical Society to be held at 3 p.m on July 8th, at *the Great Western Hotel*, Paddington, Dr G E Oates will deliver an address on public health topics of general interest A resolution for the appointment of a section in connexion with the *National Health* Insurance Acts will be considered and reports will be received from representatives on *other bodies* Membership of the society is open to all medical practitioners *residing or* practising in the Metropolitan borough of Paddington. Particulars may be obtained from the honorary secretary, Dr J Cohen 23, *Westbourne Park Road* W 2

MESSRS GEORGE ALLEN AND UNWIN Ltd , have taken over the agency, for Great Britain, Northern Ireland, and the Crown Colonies, of League of Nations publications, hitherto held by Messrs Constable and Co Messrs Allen and Unwin will conduct all League of Nations business from 38 Great Ormond Street, W C 1 (Museum 1439) and not from 40, Museum Street The London office of the League of Nations, for all purposes except the sale of publications, remains at 16 Northumberland Avenue, W C 2.

THE tenth Belgian Congress of Neurology and Psychiatry will be held at Liège, under the presidency of MM R Titeca and B Dujardin, from July 28th to 30th, when the following subjects, among others, will be discussed Angioneurosis, by MM Rivry and Moreau, and congenital disturbances of speech, by M Ley Further information can be obtained from the general secretary, M Alphonse Leroy, 18, Rue Beckmann, Liège

THE sixth Congress of the German Society for the Study of Accidents, Insurance, and Welfare Medicine will be held at Breslau on September 26th and 27th, under the presidency of Dr P Jotthowitz The principal subject for discussion will be trauma and the vertebral column

THE fourth International Congress for Individual Psychology will be held in Berlin from September 25th to 28th, and will open with an address by Dr Alfred Adler

THE Italian Congress of Internal Medicine will be held at Rome in the first fortnight of October, when the following subjects will be discussed acute pulmonary oedema, introduced by Professor Cesare Frugoni, differential diagnosis between visceral neuroses and organic disease, introduced by Professor Nicolas Pende, diagnosis and treatment of haematuria in conjunction with the Italian Society of Surgery introduced by Professor Ferraia and Professor Gino Lusio military service and constitutional biological and pathological factors, introduced by Major Cassinis

DURING the first five months of this year there were 132 cases of trichinosis in California, as compared with only 33 in the whole of 1929 Four of the 132 cases were traced to the consumption of smoked bear's flesh

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House Tavistock Square, W C 1, on receipt of proofs

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent London*

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MEDICAL SECRETARY *Mediocera Westcent London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus, Dublin* telephone 62550 Dublin) and of the Scottish Office 7, Drumsheugh Gardens Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS.

TINNITUS AURIUM

"J. T." wishes to know the cause of singing in the ear at night with some deafness, but no pain, after driving with the window open in a saloon car What is the best treatment for this complaint?

*** The following simple suggestions may be made (1) examine meatus and membrana tympani, (2) inflate Eustachian with catheter, (3) close window of car.

INCOME TAX

Exemption of Residents Abroad

[illegible] inquires whether income tax ceases to be chargeable on [illegible] of persons leaving this country and residing abroad [illegible] in the Channel Islands—if the income is from [illegible] Government stock, if so how the exemption is obtained, the income it can be claimed

—for example, is that persons who have no residence [illegible] British Government [illegible] respect of income arising in the [illegible] and from what date [illegible] respect of other income Certain

*** The general rule [illegible] example, the 5 per cent War Loan in this country are liable [illegible] ng that income tax would United Kingdom, but not in re[illegible] T S" terminates his Government stocks, however—for Loan—were issued with the understanding not be charged on interest thereon while was resident abroad If, therefore, residential connexion with this country—prolonged annual visits might be regarded as keeping that connexion in being—and invests his capital in foreign investments or British 5 per cent War Loan, he will not be liable to British income tax thereon If the War Loan stock is held in registered or inscribed form, the interest will be paid in full, if it is in the form of bearer bonds, tax will presumably be deducted and he will have to claim repayment through the authorities at Somerset House The title to exemption will operate as from April 5th following the termination of his residential connexion with this country

LETTERS NOTES ETC

THE "COIN-CATCHER" A CORRECTION

SIR JAMES DUNDAS GRANT writes My attitude with regard to the coin catcher" and endoscopic extraction is incorrectly represented in the report of the proceedings of the Laryngological Section of the Royal Society of Medicine in the *Journal* of June 28th (p 1175) My remarks were mainly occupied with the advocacy of the employment of Killian's (or Brüning's) special small laryngoscope for children, with which I have removed a coin from a child's oesophagus when the ordinary sized instrument had, in the hands of an experienced examiner, failed to expose it.

MEDICAL RELICS OF POLAR ACHIEVEMENTS

THE makers of history in Polar exploration have been men of various nationalities—English, Scottish, Irish, Australian, Canadian, American, Norwegian, Italian—but they have all relied on British medical equipments Those who visit the Polar Exhibition which is being held at the Central Hall Westminster, from July 2nd to 15th, will find an interesting exhibit of the medicine cases of many Arctic and Antarctic explorers Among these is the medical belt of Fridtjof Nansen who attempted to drift across the North Pole Basin during 1893-96 What remains of the actual equipment of Jackson, the leader of the Jackson-Harmsworth expedition in 1896, sent to rescue Nansen, is also shown Amundsen's case, too, is on display, together with, among others, those of Scott, Shackleton, Wilkins, Mawson, Peary, the Scottish National Antarctic Expedition (Bruce), the Canadian Arctic Expedition (Stefansson) All these exhibits are the original "Tabloid" medical equipments supplied by Burroughs Wellcome and Co

A SCHOOLBOYS' CAMP ON THE BROADS

DR H J STARLING (Norwich) writes As it seems to have escaped the attention of public school boys' parents resident in the North may I ask the hospitality of your columns to explain that the Broads Cruising Association has for the last six years been running a fortnight's camp for public school boys on the Norfolk Broads at Thurne, near Acle This is a training camp which is run to give its cadet members a preliminary training in boat sailing, knotting, and splicing The number of the cadets is limited to 35 at one camp, and, together with officers and instructors, a ship's company of about 45 all told can be housed in twelve bell tents and a large marquee, which serves as a mess Eton, Winchester, Wellington, Gresham, Oundle, St Paul's, and Epsom, to mention a few schools, have been represented in the past years The camp is run on naval lines The hands, as they are termed, are allotted to divisions, and there is keen rivalry between the boats' crews for pride of place A cadet regatta will be held on August 21st, and many well known Norfolk racing yachts will be brought along to compete, when tea will be provided in the marquee for relatives and friends An assistant quartermaster, cook, and mate are engaged to do all the domestic work, so that all the available time may be spent afloat This year we shall be fortunate in having two medical men on the staff, one of whom will always accompany the fleet To those parents and boys who may be interested in this scheme, the honorary secretary, Lieut Colonel F M Tirrupp, "Sandy Bank," Oxted, Surrey, will be pleased to supply particulars on receipt of a post card

NOISE IN HARLEY STREET

DR HORACE HILL writes, Could I be allowed to register a protest against the hideous noise at the north end of Harley Street and ask if anything could be done in the matter? Apart from the impossibility of using any sort of instrument or telephone, the constant din is most bewildering and quite inhibits any concentration

"ANNALS OF MEDICAL HISTORY"

WE are informed by Messrs Baillière Tindall and Cox that the price of a volume of six numbers of the *Annals of Medical History* has been advanced to 50s, instead of 42s, as stated in our review on June 28th (p 1181)

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38 40 41, 42 43 44 45 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 7

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

1 Prophylaxis in Diphtheria.

E NASSAU (*Deut med Woch*, May 2nd, 1930, p 741) gives his experiences in a children's convalescent home, in which diphtheria was endemic in spite of rigid control of the carriers. There were 19 cases in 1926 and 11 in 1927. From January, 1928, each child on admission received an injection of the diphtheria toxin antitoxin mixture; during the year 8 cases occurred although the numbers in the home rose from 90 to 120. In 1929 each child remaining in the home for more than six weeks received two injections, and, though the number of children had now increased to 135, there were only 3 cases of diphtheria. These 3 and the 8 cases occurring in 1928 were children inoculated either during an influenza epidemic or during the incubation period of measles; it appears therefore, that the inoculation fails if the resources of the body are already being mobilized against another infection. The results obtained are, in the author's opinion, not merely coincidental because the incidence of diphtheria in the neighbourhood was unchanged, several domestic science students in the home (who were not inoculated) developed diphtheria, and did not transmit it to the children with whom they had been in contact immediately beforehand.

2. G RAMON and G I HELIE (*Amer Journ Dis Child*, April, 1930, p 685) present a brief report on the progress made in France in diphtheria prophylaxis with Ramon's anatoxin or toxoid. In 1927 the number of vaccinations was 50,000; in 1928 it had reached 300 000, and during the first six months of 1929 it was 500,000. The standard technique is still the same—namely, an injection of 0·5 c.cm. after three weeks a second injection of 1 c.cm., and two weeks later a third injection of 1·5 c.cm. In from six weeks to two months a negative Schick reaction is obtained in from 95 to 100 per cent. of the cases that showed a positive reaction before vaccination, this immunity is lasting. In cases of three to four years' duration only 1 to 2 per cent. showed reactions to the Schick test. The results from using antidiphtheria serum at the Hôpital Maritime de Berck, an institution for 1,200 patients with tuberculosis of the bone, were: in 1923, four deaths in 34 cases; in 1924, three deaths in 36 cases; and in 1925, five deaths in 67 cases. In 1926 toxoid vaccination was introduced and tried on a great many patients at this hospital; in 1927 and 1928 it was employed for all new patients. In 1928 there were only two very slight cases of diphtheria. The authors remark that even these tuberculous patients give only slight reaction to toxoid.

3. Auricular Fibrillation and the Presystolic Murmur

H. L. WALLACE (*Edinburgh Med Journ*, May 1930, p 303) discusses the occasional presence of a presystolic murmur in patients suffering from auricular fibrillation. It is generally asserted that this murmur ceases to be heard at the onset of fibrillation, since auricular contraction is no longer taking place. The author describes an instance in which the presystolic murmur was retained when this arrhythmia set in. The patient had a four year history of cardiac symptoms, and was shown by electro-cardiography to be fibrillating. The heart was not enlarged, and the rate was 60 to 80 per minute. A presystolic thrill and a loud crescendo presystolic murmur were observed at the apex. This phenomenon has previously been discussed by Eggleston and by Dressler, they assert that the crescendo character of the murmur is an auditory illusion produced by an abrupt loud first sound interrupting the rumbling diastolic murmur, and that such a bruit is never heard when the pulse rate falls below 100, or when the first sound is feeble. Wallace remarks that in his case the murmur occurred only in the latter half of diastole, and with a rate of much less than 100. He suggests that the relaxing ventricle, which exerts its maximal suction effect at the end of diastole is able in the presence of a high degree of stenosis to produce an acceleration of inflowing blood sufficient to give rise to a murmur.

4 The Spinal Cord in Enteric Fever

V. DE LAVERGNE and P. KISSEL (*Presse Méd*, January 22nd, 1930, p 97) state that the spinal cord in enteric fever, like the liver, spleen, and other organs, very frequently presents a reaction to the presence of typhoid bacilli, as is shown by exaggeration of knee jerks, knee and ankle clonus, and the presence of Babinski's sign. In a small number of cases actual myelitis occurs, or there may be an association of neuritis and myelitis.

5 Tularaemia in Canada.

H. D. L. HUDSON (*Canadian Med Assoc Journ*, May, 1930, p 678) reports a case of tularaemia in a miner, believed to be the first case of this disease which has been reported in Canada. Infection followed the skinning and dressing of two wild rabbits, and there was no history of cuts, sores, or glandular involvement. Typical symptoms of tularaemia developed, with a rather diffuse infection of the lungs of a chronic type by an organism of low grade virulence. The blood agglutination test was positive for *B. tularense* in a 1 in 40 dilution. Treatment was purely symptomatic, with the exception of intravenous injections of novarsan, and at the time of reporting the patient was recovering.

6 Gallop Rhythm in Complete Heart block.

J. J. MOZER and P. DUCHOSAL (*Arch des Mal du Cœur*, April, 1930 p 247) refer to the investigation by Gallavardin and by Laubry and Pezzi of the presystolic type of gallop rhythm. These workers established the fact that the presystolic element in each cycle is related to the auricular systole, but is also dependent upon a hypertrophic and hypertonic state of the ventricular wall. Faint regular sounds occurring between the ventricular systoles in complete heart block have been thought to represent auricular systole, and the authors have investigated two such cases by simultaneous registration of the heart sounds and the electro-cardiogram tracing. They find that these extraneous sounds are most apt to occur at the end of the ventricular diastole, and are made up of two elements neither of which synchronizes with the auricular systole. The first element is related to, but follows, the auricular systole, it is probably due to the impact of blood upon the hypotonic ventricular wall. This phenomenon has therefore by analogy been termed "galop du bloc." The second element of the sound is commonly masked by the sound of the succeeding ventricular systole; the authors suggest that it is present in the ordinary presystolic gallop and is then constantly masked. They also attribute it to the abrupt closure of the auriculo ventricular valves by a reflux of blood at the conclusion of the auricular systole.

7 Unsuspected Trichinosis

J. C. WILLETT and C. L. PFAU (*Journ Amer Med Assoc*, April 5th, 1930 p 1060) record an outbreak of 21 cases of trichinosis with one death, in 13 instances the disease resulted from eating improperly cured summer sausage, and in 8 including the fatal case, from eating raw pork sausage. Most of the patients had marked eosinophilia, but one patient in whom eosinophilia was not present died on the sixteenth day, and showed generalized peritonitis at the necropsy. In all of them pronounced symptoms of trichinosis were present before the first case was recognized twenty days after the beginning of the outbreak. In most cases a provisional diagnosis of typhoid fever or malaria had been made.

Surgery.

8. The Significance of Haematuria.

C. S. SWAN (*New England Journ Med*, May 8th, 1930 p 901) records seven cases which emphasize the serious possibilities which may be present in any case of haematuria, whether of small or great degree. He urges the importance of careful microscopic urinalysis, even in the absence of symptoms of genito-urinary pathology, in order that the patient may be referred for differential urological diagnosis if blood is present without any obvious medical and systemic causes to account for it. According to Herman and Eisendrath two-thirds of all cases of haematuria are caused by lesions of the genito-urinary tract, 70 per cent. of these affect the upper and 30 per cent. its lower portion. Swan considers that the term 'essential haematuria' should be dropped as being merely a cloak for diagnostic ignorance. The importance of an early urological examination to establish the diagnosis, and the danger of temporizing with treatment without a complete examination of all possible causes are shown by the cases quoted. The frequency with which exploratory [illegible] and appendicectomy have been performed because of [illegible] plete urinary investigation is borne out by statistics [illegible] Mayo Clinic where it was found that approximately [illegible] of the patients with stone in the ureter had had a previous appendicectomy without relief.

9 Phrenicectomy for Pulmonary Tuberculosis

L W FRANK and O O MILLER (*Annals of Surgery*, May, 1930, p 669) in reviewing 100 cases of pulmonary tuberculosis found that in these selected cases phrenicectomy was a valuable aid to treatment Although 90 per cent of these cases were far advanced, 40 per cent showed improvement, in 8 the sputum became negative for tubercle bacilli, and in 8 the cavities disappeared The method of operation used in nearly every instance was the avulsion of the phrenic nerve, the advantage of this being the removal of the nerve in its entirety, or of enough of it to break the connexions with the accessory phrenic and obtain complete diaphragmatic paralysis, in 44 per cent of cases so treated a better collapse resulted Phrenicectomy is indicated as a preliminary procedure in artificial pneumothorax, when the cavities are thin walled and situated in the infraclavicular region a subsequent pneumothorax may be rendered unnecessary The procedure is also advocated in cases of moderately advanced tuberculosis which have not improved with rest, and for patients clinically well who have a unilateral lesion and positive sputum without definite excavation It should also be tried in all lower lobe tuberculous lesions as a preliminary operation to thoracoplasty, in acute and progressive pulmonary tuberculosis, as an adjuvant in artificial pneumothorax where cavities remain uncollapsed in the presence of a satisfactory pneumothorax, in artificial pneumothorax complicated by a flexible mediastinum, and where pneumothorax is disappearing in consequence of adhesions It was found that good results of phrenicectomy did not depend on the location of the lesions, but on the retractability of the pulmonary tissue Cases with basal and mid lobe lesions profit most, and cavities above the clavicle least, although in the latter, with a marked elevation of the diaphragm, good results are obtained

10 Congenital Fistulae of the Lower Lip

E RUBALTELLI (*Arch Ital di Otol, Rinol e Laringol*, April, 1930, p 141) records his observations on a family which he was able to trace back to 1794 through five generations Of the 70 members of this family 20 died in early life, and 24 had severe congenital developmental deformities of the mouth and lips Of these 24, 11 were affected with fistulae of the lower lip, 11 had double fistulae of the lower lip only, and 2 had cleft palate only The fistulae were different in size, the larger one being situated in the mid line, and the smaller on the right half of the lip They were rounded, with a duct in the centre, the larger fistula measuring 1 to 2 cm and the smaller 1/2 to 1 cm The fistulae were lined with the ordinary mucous membrane of the lip Embryologically, they are due to defective closure of the two inferior maxillary processes Although congenital fistulae of the lower lip do not cause any functional disturbance, the aesthetic deformity calls for operation, especially in the female sex, the procedure merely consists in excising the mucous membrane of the fistulae, and suturing together the margins

11 Trauma and Organic Function

M MARCUS (*Deut Zeit f Chir*, May, 1930, p 158), who records five illustrative cases in patients aged from 12 to 35, states that it is not sufficiently realized that the effects of a shock, especially one applied to the abdomen, extend far beyond the generally recognized area for internal injuries, and may be manifested by disturbances of various organs In the mildest cases these disturbances consist in a transient depression of the functions of the organ in question, in the more severe cases there is an interruption of the function, and in the most severe the organ is partly or completely destroyed The cause of this process is to be found in a reflex or direct involvement of the vasomotor system Marcus adds that on the analogy of cerebral concussion these processes may be described as concussions of the liver, kidney, etc

12 Lipoma of the Stomach

B NEUMANN (*Zentralbl f Chir*, May 10th, 1930, p 1154), who records a personal case, illustrates the rarity of benign tumours of the stomach by the fact that Gutierrez found only 27 examples (none of which was a lipoma) among 2,168 gastric tumours which had been operated on at the Mayo Clinic Tilger, on the other hand, found two lipomas among fourteen connective tissue tumours in 3,500 necropsies The difference in these two findings is explained by the fact that benign gastric tumours are frequently not diagnosed during life owing to the dearth of symptoms Subserous tumours only become obvious when they have grown to such a size as to cause symptoms of compression, or haemorrhage, in such cases a diagnosis can be made by x ray examination Submucous tumours give rise to symptoms earlier, when situated in the pre-pyloric antrum they may produce obstruction They may also lead to ulceration of the mucous membrane, and attract attention by the haemorrhage so caused The diagnosis is most difficult when the tumour is situated in the wall of the stomach Only three previous cases of gastric lipoma have been recorded, by H Fischer, Spitzmuller, and Weicker respectively Neumann's patient was a woman, aged 65, in whom a diagnosis of carcinoma of the stomach was made before the operation Laparotomy revealed a lipoma measuring 15 by 4 cm in the anterior wall of the stomach, it was situated between the muscularis mucosae and muscular coats Resection of the stomach was performed and the patient made an uneventful recovery

Therapeutics.

13 Intracardiac Injections of Adrenaline in Severe Syncope

P. MATHIEU (*Bull et Mém Soc Nat de Chir*, May 17th, 1930, p 591) discusses two cases reported by D Percy in which severe attacks of syncope were cured by the intracardiac injection of adrenaline One of the patients, who was aged 19, collapsed under ethyl chloride anaesthesia just before an operation for paraphimosis was about to commence The patient became black, the heart beat could no longer be heard, and respiration stopped. In spite of the fact that death seemed to have occurred, adrenaline was injected into the heart, and, shortly after, the first signs of recovery were apparent, so that the operation was eventually performed The second patient was aged 69, and had fractured his left femur Spinal anaesthesia was induced, but the patient collapsed before any operative steps were taken In his case also restoration followed the injection of adrenaline, but it was an hour before the pulse became regular Mathieu remarks that these two cases emphasize the importance of intracardiac adrenaline injections in cases of syncope, particularly in view of the fact that there are no unpleasant sequels He comments on the fact in the second case that the transference of the patient in a stretcher to the operation table was apparently sufficient to induce collapse, there was also a long period of coma before recovery supervened In both cases 1 c cm of 1 in 1,000 adrenaline was injected into the heart

14 Prolonged Iodine Treatment of Exophthalmic Goitre

THOUGH the prolonged treatment of exophthalmic goitre with iodine alone has come to be regarded as a futile, if not a dangerous, procedure, cases have been reported of favourable results following the employment of this method W O THOMPSON, PHEBE K. THOMPSON, A G BRAILEY, and A C COHEN (*Arch Int Med*, April, 1930, p 481) review these cases, and record observations made during the last three years at the Massachusetts General Hospital on 24 cases (14 mild and 10 severe or moderately so), most of whom were followed closely with basal metabolism determinations while under going prolonged treatment with iodine alone Iodine was used in the form of Lugol's solution Some observers believe that small doses are less harmful during prolonged medication than are large ones Though in this series the customary dose has been comparatively small—namely, 1 drop of the solution (about 6 mg of iodine) daily—in instances in which it was administered in much larger doses, even as much as 90 drops daily, there was no proof that the increase had an adverse effect The patients were treated with iodine alone, either continuously or intermittently, for periods of from one and a half months to three years The period was a year or more in 13 cases With three exceptions (all unsatisfactory responses to iodine) the patients continued their work during the period of observation, thus eliminating the effect of rest In 9 of the mild cases the results were satisfactory the thyrotoxicosis being either completely or almost entirely kept under control and the basal metabolism kept at a normal level, in 3 the results were fairly satisfactory, inasmuch as definite improvement was shown despite tardiness or fluctuations in the response, and in only 2 were the results unsatisfactory, though the disease did not become worse In the 10 severe or moderately severe cases the results were satisfactory in only one, 4 showed no permanent improvement, and in 5 the disease became worse From these observations the authors conclude that patients with severe or moderately severe exophthalmic goitre rarely show more than temporary improvement during the prolonged administration of iodine, and frequently the disease becomes worse If the disease is mild, however, patients often respond satisfactorily, and in some cases it terminates The response appears to be determined more by the manner in which the disease is progressing spontaneously than by the iodine itself In the cases showing satisfactory results iodine may have merely held the disease in check, but, even so, it would appear to be valuable in the treatment of mild exophthalmic goitre

15 Vaccine Therapy of Urinary Infections

T CIMINO (*Arch f Urol* B 1 2 H ft 5 1930 p 3 0) records the results of his treatment in over 500 cases of urinary infections other than gonorrhœa and tuberculosis The method consists in the aseptic collection (by catheter) of a small quantity of the patient's urine this is brought momentarily to boiling point three or four times over a flame and allowed to cool A few drops (no more than five) are injected subcutaneously the first day about 0 5 c cm on the second day then 1 to 3 c cm the full course consisting of about ten injections It is claimed that the urine forms an ideal antigen and combines vaccine with protein therapy Of the acute cases (mostly *B coli* infections) 86 per cent were cured and 9 per cent improved of the subacute cases 57 per cent were cured and 31 per cent improved of the chronic cases only 7 per cent were cured and 16 per cent improved The local and general reaction following injections is said to be slight as a rule, and the procedure to be without danger

Neurology and Psychology

16. Spontaneous Meningeal Haemorrhage

T H LAMB (*Journ Lab and Clin Med* March 1930 p 530) considers that his experience with seven proved cases (which are here reported) and two probable ones of spontaneous meningeal haemorrhage in the course of years indicates that the condition is overlooked more frequently than it is diagnosed This condition must be differentiated more especially from subdural haematoma in its various stages of development and from the similar if not identical condition pseudo-membranous pachymeningitis haemorrhagica interna The clinical syndrome of spontaneous meningeal haemorrhage is the picture of severe meningeal irritation with an abrupt onset and without obvious cause prompt relief follows removal of the spinal fluid which contains blood The symptomatology of chronic subdural haemorrhage is extremely variable usually there is a history of injury a gradual onset and a final stage of hemiparesis The symptoms of intracerebral or capsular haemorrhage are well known those of spontaneous meningeal haemorrhage as revealed by the seven cases here recorded are as follows The patients, previously well were engaged in their usual occupations and a history of cranial trauma was absent The first symptom was a sudden, sharp excruciating pain in the head which was soon followed by symptoms of meningeal irritation with active delirium and partial loss of consciousness As the disease progressed the great pain continued with restlessness and cerebral impairment varying from delirium to profound coma The pupils were dilated equal and regular, they reacted to light and accommodation A definite but not marked general rigidity of the body and extremities was present but no paralysis As a group, the superficial and deep reflexes were generally diminished and influenced by the mental state The most important single finding was a cerebro-spinal fluid uniformly mixed with blood, and under increased pressure, with a slight proportional increase of leucocytes and no tendency to clotting On standing the cells settle, making up as much as one twentieth the volume of the mixture Early in the attack the supernatant fluid is colourless, but xanthochromia increases as the red cells diminish and show degeneration The presence of such a fluid is the cardinal sign of spontaneous meningeal haemorrhage In five cases where drainage of the subarachnoid fluid (lumbar puncture) was instituted early and repeated, prompt improvement and recovery followed In two cases where drainage was delayed death occurred within twenty four and thirty six hours respectively

17 Decerebrate Rigidity

DECEREBRATE rigidity was first described by Sherrington in 1896 in animals, and it was not until 1919-20 that this syndrome was first recognized in man Since that date numerous cases illustrating the phenomenon of decerebration have been reported S H EPSTEIN and P I YAKOVLEV (*Journ Neurol and Psychopathol*, April, 1930 p 295) record another case which revealed the clinical condition of decerebrate rigidity with the tonic neck reflexes of Magnus and de Kleijn, extensor rigidity, pseudo-affective reactions (hyperacusis), and tonic fits From the history and physical findings the case apparently was one of cerebral infantile tetraplegia, either of congenital origin or due to a lesion occurring during or immediately after birth A male child was admitted to hospital at the age of 2½ years and died in the same institution about six years later The main clinical features are discussed under four headings attitude and postural reactions muscle tonus fits and general and local motor reactions The attitude was one of permanent extension with retraction of the head, and, in addition the tonic neck reflexes of Magnus and de Kleijn was present These exhibited remarkable constancy they could be readily induced by passive movements of the head and were often reproduced by spontaneous movements of the head Since birth the patient had had fits not apparently all alike but of two types The first type consisted of a tonic and clonic phase with loss of consciousness and the second simply of the tonic phase without any obvious loss of consciousness The muscle tonus was increased and was equally distributed in the flexors and extensors The reaction of the antagonist muscles was exaggerated and shortening and lengthening reactions were present The pattern exhibited both general and local motor reactions when various external stimuli were applied Pathological findings in the central nervous system were microcephaly and microgyria cerebral aplasia with absence of the corpus callosum aplasia of the cerebellum medulla and basal ganglia degeneration of the red nucleus thalamus and cortico-spinal tract and diffuse gliosis

18 The Sedimentation Rate in Psychoses.

J L R CORDELA (*Arch de med cir y esp* April 19th 1930 p 516) has made a study of the sedimentation rate according to the method of Fahræus in cases of general paralysis alcoholism, epilepsy and schizophrenia and comes to the following conclusions The sedimentation rate has only a limited value in the study of psychoses, and considerable care must be taken in drawing too absolute or premature conclusions therefrom Its diagnostic value is slight being limited to a presumptive sign of organic change or of toxic phenomena The close relation existing in other morbid processes between the degree of acceleration and the intensity of the lesions is found also in organic mental diseases. The sedimentation rate may therefore form a valuable guide as regards the course and possibilities of the treatment of general paralysis Psychomotor restlessness forms a transient cause of the acceleration of the sedimentation of the red corpuscles The number of the leucocytes is one of the factors determining the sedimentation rate as is shown by the delay in the rate observed in all those processes in which there is a transient leucopenia (spontaneous or provoked epileptic attacks oculo cardiac reflex or lumbar puncture

19 Schizophrenic Reactions following Influenza.

G P KAMMAN (*Journ Amer Med Assoc*, April 26 h 1930 p 1286) who records four illustrative cases in patients aged from 17 to 31 distinguishes cases of dementia præcox which terminate in permanent dementia from borderline cases presenting similar symptoms to the latter the term schizophrenic reactions has been applied such cases differing from dementia præcox by their favourable termination Kammau points out that a schizophrenic reaction is not a specific entity due to a single causative agent but may be the sequel of a number of endogenous and exogenous causes including influenza The influenzal organism frequently produces a high degree of neuro-toxicity, and besides evoking a schizophrenic reaction may originate other mental states such as acute manias and depressions The schizophrenic reaction is the most frequent mental effect of influenza and its prognosis is much more favourable than that of true dementia præcox

Obstetrics and Gynaecology.

20 Prognosis in Uterine Cancer

W P HEALY (*New York State Journ of Med*, February 15th, 1930, p 191) emphasizes the extreme importance of early diagnosis in uterine cancer Broders of the Mayo Clinic has distinguished four groups by pathological criteria Group I cases contain highly differentiated adult epidermoid cells Group IV comprises cellular tumours with undifferentiated embryonic and anaplastic cells associated with rapid lymphatic metastasis, Groups II and III are intermediate Statistics show only 9.5 per cent of five year cures in Group IV cases treated by hysterectomy while radiation therapy results in 66 per cent The same grouping in cancer of the body of the uterus reveals that there were no five-year cures in Group IV cases treated by hysterectomy though 50 per cent cure resulted from radiation therapy The average operative mortality of Wertheim's operation being 15 per cent., advanced cases are regarded as being always unsuitable for hysterectomy In Healy's series 23 per cent of patients with advanced disease were alive five years after radiation The author adds that he has known no case of survival for five years after treatment for uterine cancer in any patient under the age of 30

21 **Rapid Manual Dilatation under Spinal Anaesthesia**

A PISTUDDI (*Ann di Ostet e Ginecol*, March, 1930, p 224) describes the trial in eleven cases of rapid manual dilatation of the cervix by the method of Delmas after the induction of spinal anaesthesia The cervix was undilated in one case, dilated to three centimetres in another, and in the rest admitted one finger without being "thinned out" The method failed in one case, which was terminated by vaginal Caesarean section, and in three cases there were difficulties in attaining full dilatation It was nevertheless easy with the method rapidly to attain two to three fingers' dilatation of the unmodified cervix, or in patients in whom labour was moderately advanced to obtain quickly a sufficient dilatation to allow of introduction of the hand within the uterus, followed by version and extraction In eleven cases there were three lacerations of the cervix and four of the perineum, in one case there was considerable bleeding before the third stage was completed It is concluded that the method of Delmas is far from removing the difficulties of rapid delivery in the uterus not yet modified by early labour pains, but that future experience may prove it to have considerable utility in certain cases of placenta praevia.

22. ACCORDING to GONNET (*Bull Soc d'Obstet et de Gynécol de Paris*, February, 1930, p 124) the procedure suggested by Delmas does not give uniform results Although he has known it to succeed perfectly in certain cases before labour, even in primiparae, he finds that cases of prolonged labour with uterine contracture and resistant cervix are refractory to dilatation under spinal anaesthesia In these cases digital dilatation under chloroform narcosis is preferable, but in general as well as in spinal anaesthesia it is wise to perform vaginal hysterotomy if the cervix proves resistant

23 LEARVIER (*ibid*, p 126) describes trial of this method in three cases—eclampsia, shoulder presentation, and placenta praevia respectively In the first patient, a primipara, who was found in coma at term with a thin, minimally dilated cervix, complete dilatation was obtained in four minutes, and a living infant weighing 6 lb was extracted after version, a cervical tear reached the fornix In the second patient, a primipara in labour at the eighth month, dilatation was difficult and only obtained at the expense of a tear of the vaginal cul de sac, delivery of the after coming head was impeded by cervical retraction, and the child was stillborn In the third patient the presentation was a breech, there was procidentia of the cord, and there had been considerable haemorrhage The mother and child ultimately did well, but a tear of the vaginal vault almost penetrated the abdominal cavity

24 A GINGLINGER (*ibid*, p 142) describes seven trials of this method with three failures He concludes that it gives good results when the cervix has to some extent been effaced initially, unimportant tears, however, may be produced When the cervix is still long the procedure is liable to fail, and may cause serious cervical lacer the dilatation obtained is sleeve like and unphysiological The method of Delmas is only indicated in cases of maternal suffering, and the decision to try it calls for considerable judgment It is specially applicable in cases of prolapse of the cord, placenta praevia in multiparae, and breech presentations in elderly primiparae

25 **Intrauterine Charcoal Treatment in Gynaecology**

THE results reported by Benthin and Geller led H NAHMMACHER (*Surg, Gynecol and Obstet*, May, 1930, p 873) to employ the intrauterine administration of charcoal in gynaecological cases, and he has obtained similarly favourable results The most important quality of medicinal charcoal is its high degree of adsorptive power, which it owes to its porous structure and consequent great surface energy, thus being enabled to fix other substances In addition to this property, the astringent action of charcoal is not inconsiderable The author remarks that the preparations of charcoal employed must be of high standard, their suitability depends not on their source (animal or vegetable), but solely on the method of treatment of the charcoal The use of charcoal, in the form of granulated pencils, is indicated in cases of infected abortion, before or after clearing out the products, according to the condition of the patient, in cases of puerperal endometritis (not before the seventh day of the puerperium), and, prophylactically, in cases of Caesarean section after rupture of the membranes The technique of this therapy, which is very simple, is described Nahmmacher states that the reported results of charcoal treatment are so favourable that they cannot be rejected Its intrauterine application is completely free from danger, the medicament is very cheap, and the period of illness is greatly shortened The symptoms are influenced at once, and never for the worse, the body responds with an immediate improvement in the general condition and in the local process, with a fall in the temperature and pulse rate A few remarks on the value of intravenous charcoal therapy are appended

Pathology.

26 **Lesions Due to the Toxin of Clostridium welchii**

M WEINBERG and N COMBIESCO (*C R Soc de Biologie*, April 4th, 1930, p 1091) injected a series of 16 guinea pigs, of 350 to 400 grams in weight, with doses of 2 5 to 12 5 mg of dried toxin of *Cl welchii*, this was diluted in distilled water and injected intravenously The lesions were numerous and diverse All the animals without exception had one or more bouts of haemoglobinuria, often followed by haematuria, and all died within ten to twenty four hours The lesions seen at necropsy, and those rendered evident by histological examination of the tissues, could be ascribed to the action of the haemolytic toxin, to the non haemolytic toxin, or to the toxin that causes a rise in blood pressure The haemolysin gave rise to a marked haemoglobinuria, and led to the deposition of pigment in the kidneys, spleen, liver, and lungs The non haemolytic toxin was responsible for focal areas of necrosis in the kidney and liver In the kidney the straight or convoluted tubules in the medullary region were most frequently affected In the liver the necrotic areas were larger, and were visible to the naked eye as greyish spots, which often extended from the capsule to the interior for a distance of 2 cm The same toxin was also responsible for the gelatinous oedema which was apparent in the axillary and inguinal subcutaneous tissue, and in the connective tissue of the mesentery and the retroperitoneal region The toxin that causes a rise in blood pressure led to the occurrence of haemorrhages in several organs Besides the kidney, haemorrhages were very severe in the spleen, the tissue of which was often completely disintegrated by the blood They occurred in the liver and in the lungs, where the blood ruptured the alveoli and passed into the bronchi and trachea In the suprarenals they were found most frequently in the zona fasciculata Sometimes they occurred in the mucosa of the stomach and uterus The muscles were rarely affected The authors regard these experiments on animals as supporting the view that haemoglobinuria, haematuria, haemoptysis, and intestinal and uterine haemorrhages observed in patients infected with *Cl welchii* are due to the toxins of this organism.

27 **Transplacental Passage of Tuberculosis**

BRINDEAU, DE BEAUFOND, P CARTIER, and POUGIN (*Bull. de l'Acad de Med*, March 25th, 1930, p 300) report a case in which a woman aged 29, 4½ months pregnant, was operated on for the removal of a tuberculous kidney She died of shock forty-eight hours later At the necropsy none of the thoracic or abdominal organs showed macroscopical signs of tuberculosis, but 20 c cm of amniotic fluid was removed aseptically through the wall of the uterus and centrifugalized, the filtrate was mixed with sterile physiological saline solution and 3 c cm. was injected into two guinea pigs The uterus was opened, and the viscera of the foetus were [illegible] and emulsified in sterile normal saline solution, emulsion was injected into a guinea pig, and 3 c cm of an extract of the placenta in sterile normal saline solution which had been injected into another guinea pig The guinea pigs with failing kidneys and the visceral and placental emulsions died received the amniotic fluid, one died from tuberculosis, the other survived large tuberculous lesions Of the two which

28. **The [illegible] Reducing Action of Br abortus and Br melitensis**

H HABS (*Zeitschr f Bakt*, March 28th, 1930, p 89) has tested the reducing power of *Br melitensis* and *Br abortus* added to a two dilution of a few strains of *Br abortus* and was then covered number of different dyes The dye was The final concentration of the organism, the broth 1 in 10,000 and 1 in 4th a layer of paraffin and incubated coloured with dye in of the dye was generally between happened, the medium 000 A control tube of sterile medium results showed that, put up, in case, as not infrequently reducing power Of itself had a reducing action The four were strongly re the whole, these organisms had little dine blue, and creasy ly one different dyes tested only powers of *Br abortus* d—thionin, methylene blue, tolui- 6 No difference in the reducing *Br melitensis* was observed

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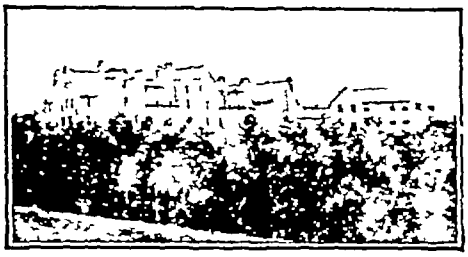
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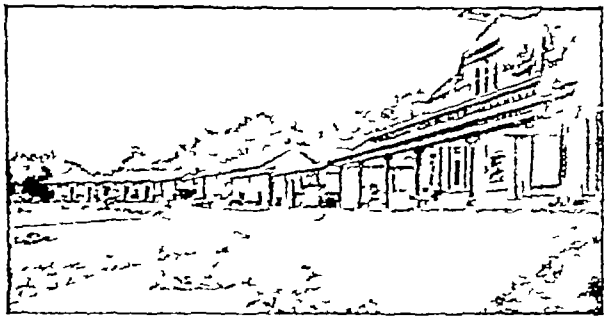
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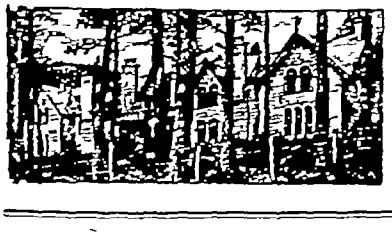
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Particulars may be obtained on application to the Dean (H WILLOUGHBY LYLE, M D F R C S) King's College Hospital Medical School Denmark Hill S E 5

EAST LONDON HOSPITAL FOR CHILDREN,

SHADWELL E 1

There will be a DEMONSTRATION of CLINICAL CASES on WEDNESDAY JULY 9th 1930 Tea at 4 p m

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N 15

The Practice of the Hospital is limited to Medical Practitioners Particulars from T H C BENIANS F R C S Dean

F R C S (Edin)

CLASSES with Museum and Anatomical Demonstrations for next Exam, will commence shortly Correspondence work at any time Particulars from CHAS WHITTAKER F R C S, Surgeons Hall Edinburgh

Prison Medical Service

Applications are invited for the post of MEDICAL OFFICER Class II in the above Service Salary £350 rising by £20 per annum to £600 with quarters or an allowance in lieu The pay is subject to a bonus which at present on a salary of £350 is £135 8s These posts are pensionable and there are prospects of promotion to higher rank

Candidates must be fully qualified and registered Preference will be given to those who have held house appointments, have had experience in Lunacy and Psychological methods, and are under the age of 30 Forms of application can be obtained from the Secretary, Staff Branch, Prison Commission Home Office, London S W 1

University of Reading

The Council will shortly appoint to the INDEPENDENT LECTURESHIP IN AGRICULTURAL BACTERIOLOGY Stipend £400 £500 per annum Full particulars may be obtained from the Registrar

Administrative County of London

The LONDON COUNTY COUNCIL invites applications for the position of DEPUTY MEDICAL SUPERINTENDENT in the PUBLIC HEALTH DEPARTMENT for duty at MILE END HOSPITAL BANCROFT ROAD, E 1 Candidates must be qualified by law to practise both Medicine and Surgery in England The provisional scale of salary attaching to the position is £600 a year with board lodging, and laundry The salary and conditions of service are subject to review

Application forms containing full details, obtainable (stamped addressed foolscap envelope necessary) from the Clerk of the Council The County Hall Westminster Bridge S E 1, to whom they must be returned by Friday, July 11th Canvassing disqualifies

MONTAGU H COX
Clerk of the London County Council

(UNIVE[illegible]

COURSES O[illegible]N General Hospital

(three months) for [illegible]20 Beds)

Medicine commence on [illegible]

6th and for the Diploma ISE SURGEON, male on January 13th and April [illegible] £125 per annum for the D T H must possess the [illegible]ations, stating University) [illegible]recent testi

For particulars apply to the Hon [illegible]ith Liverpool School of Tropical Medicine, Pembroke Place, Liverpool

All Saints' Hospital (for Genito-URINARY DISEASES

In patient Dept 91, Finchley Road, N W 8
Out patient Department and Secretary's Office 49/55 Vauxhall Bridge Road, S W 1

Applications are invited for the following post and candidates are requested to send particulars of their experience, qualifications and copies of recent testimonials, not later than July 19th

HONORARY SURGICAL REGISTRAR The appointment is tenable for a period of twelve months, with renewal up to a maximum of two years subject to the discretion of the Board of Management Applicants should be Fellows of the Royal College of Surgeons, and not be engaged in general practice

D H EADE Secretary

Bolingbroke Hospital,

Wandsworth Common, S W 11
(121 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male)

The post is that of Senior Resident Officer and the work being chiefly surgical preference will be given to candidates holding the F R C S qualification

The appointment is for twelve months

Salary £200 per annum, with board, residence and laundry

Applications stating age qualifications, and experience with copies of not more than three testimonials, should be sent to the undersigned at once

W S RANDOLPH BISS,
Secretary Superintendent

Bolingbroke Hospital

Wandsworth Common, S W 11
(121 Beds.)

HOUSE PHYSICIAN (male) required The appointment is for six months commencing on August 1st next Salary £120 per annum, with board, residence and laundry

Candidates must be fully qualified and registered

Applications stating age, qualifications and experience with copies of not more than three recent testimonials should be sent to the undersigned on or before July 9th

W S RANDOLPH BISS,
Secretary Superintendent

British Red Cross Society

CLINIC FOR RHEUMATISM
Peto Place, Marylebone Road, N W 1

There is a vacancy for a qualified MEDICAL REGISTRAR to commence duty at this Clinic on September 1st

The appointment will be for one year The remuneration is £350 a year payable quarterly Candidates must not exceed 35 years of age

Applications which should state the candidate's qualifications and experience and be accompanied by two recent testimonials, must be sent in not later than Tuesday July 15th addressed to the Secretary of the Medical Committee Clinic for Rheumatism British Red Cross Society, 14 Grosvenor Crescent, London, S W 1

Bristol Homoeopathic Hospital

(Bruce Melville Wills Memorial)

The Board of Management invite applications for the appointment of HOUSE SURGEON at a salary of from £120 to £150 per annum according to experience with board and laundry The Hospital is new with the latest equipment and a most comfortable suite of rooms is provided in the Hospital

Good Surgical and general experience

Applications should be forwarded with three copies of recent testimonials addressed to the undersigned stating the earliest date they can commence duties if appointed

H HUNTER (Lieut Colonel),
Secretary

Newark General Hospital

(50 Beds)

Wanted a fully qualified RESIDENT HOUSE SURGEON (male or female, unmarried) Salary £150 per annum, with board, residence, and laundry Appointment for six months or twelve if mutually desired For form of application apply to W T CRAMPTON, 27, Kirk Gate Newark Notts.

King George Hospital

Applications are invited for the appointment of HONORARY NEUROLOGIST to the Hospital Further particulars may be obtained from the undersigned to whom applications should be sent not later than July 20th

G AUSTIN HEMSWORTH, Secretary

City and County of Newcastle-UPON TYNE.

CITY HOSPITAL FOR INFECTIOUS DISEASES

RESIDENT MEDICAL ASSISTANT (Male)

Wanted immediately, a Resident Medical Assistant (male) who holds a registrable qualification in Medicine and Surgery (and preferably also in Public Health) and possesses a practical knowledge of Bacteriology The holding of a previous resident appointment and some experience of general practice will be considered a recommendation

Salary £350 per annum, with board, lodging, etc

Applications stating age qualifications, and previous experience to be forwarded with copies of not more than three recent testimonials to the Medical Officer of Health Town Hall, Newcastle upon Tyne

June 23rd 1930

County Borough of Rochdale

BIRCH HILL HOSPITAL

ASSISTANT RESIDENT MEDICAL OFFICER

The Health Committee invite applications from registered Medical Practitioners for the appointment of Assistant Resident Medical Officer (unmarried) at Birch Hill Hospital, Dearnley, near Rochdale (500 beds)

The salary will be at the rate of £350 per annum, together with the usual residential allowances

Forms of application and list of duties and conditions of appointment may be obtained from the Medical Officer of Health Town Hall Rochdale to whom all applications should be returned endorsed 'Assistant Resident Medical Officer' so as to be delivered at his office not later than the first post on Thursday July 10th.

WM HENRY HIGHSON,
Town Clerk

Town Hall, Rochdale June 21st 1930

Eccles and Patricroft Hospital,

PATRICROFT MANCHESTER
(62 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) The appointment is for six or twelve months Salary, commencing £175 p a, plus board, residence and laundry

Applications, stating age qualifications and experience, together with three copies of testimonials should be sent to the Secretary at the Hospital, as above

South Devon and East Cornwall HOSPITAL, PLYMOUTH

(240 Beds)

HOUSE SURGEON (male) Salary £100 per annum with board, residence and laundry Appointment is tenable for six months and subject to renewal Candidates must be registered under the Medical Acts

Applications stating age and qualifications together with copies of recent testimonials, to reach the undersigned by July 12th

Duties to commence at once

ARTHUR R CASH
July 1st 1930 Gen Supt & Secretary

Central London Ophthalmic HOSPITAL

Judd Street, St Pancras W C 1

There are vacancies for the posts of SENIOR and JUNIOR HOUSE SURGEON Salaries at the rate of £120 and £100 per annum respectively, with board and residence in the Hospital

Applications with testimonials, from duly qualified candidates, must be sent to the undersigned on or before July 7th

H R S DRUCE Secretary

The Royal Waterloo Hospital for CHILDREN AND WOMEN,

Waterloo Road, S E 1

Applications are invited from qualified male practitioners for the following post vacant on August 1st a CASUALTY OFFICER to work in the Out Patient Department on weekdays at £152 per annum lunch and tea provided Applications with copies of testimonials should be forwarded by Tuesday morning, July 22nd to the Secretary at the Hospital from whom further particulars can be obtained

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service In other respects the terms will be as detailed below

Candidates must be British subjects under 32 years of age at the time of application and must be registered under the Medical Acts in force in Great Britain and Northern Ireland

CAREERS

The Indian Medical Service offers wide opportunities of medical experience including clinical preventive specialist and research work At the beginning of his career an officer is employed on the military side which has medical charge of the Indian Army Promotion is on a time scale up to the rank of Lieutenant Colonel and by selection to the ranks of Colonel and Major General An officer may apply after two years Indian service to have his name registered for transfer to the civil side from which appointments are made to Civil Surgeoncies which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes to specialist (for example public health and bacteriological) services to research posts and to professorships at the Medical Schools

PAY

The monthly rates of pay for European officers in the Service who have a non Asiatic domicile are as follows

Rank	Service in Rank	Rate of Pay	Overseas Pay	Year of Total Service
1	2	3	4	5
		£	£	
Lieut		411	150	1st
			150	2nd
			150	3rd
Capt	(i) During first 3 years service as Captain	600	150	4th
			£15	5th
			£15	6th
	(ii) With more than 3 and less than 6 yrs service as Captain	700	£25	7th
			£25	8th
			£25	9th
—	(iii) With more than 6 years service as Captain	800	£25	10th
			£25	11th
			£30	12th
Major	(i) During first 3 years service as Major ..	900		
	(ii) With more than 3 and less than 6 years service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut Col	(i) Until completion of 23 years total service ..	1500	£30	13th and over
	(ii) During 24th and 25th years service	1600		
	(iii) After completion of 25 years total service	1 00		
	(iv) When selected for increased pay ..	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer may be counted as service for increments of pay promotion retirement and retired pay but not for gratuity

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions Past service in certain hospital appointments may also render candidates eligible for an antedate of one year Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year The maximum period of antedate secondment or antedate and secondment combined admissible under this paragraph is limited to one year

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50

PRIVATE PRACTICE

With the exception of Administrative Officers military or civil and officers holding certain special appointments officers are not debarred from taking private practice so long as it does not interfere with their proper duties

PENSIONS

The rates of pension are as follow.	Per annum
	£
After 17 years service for pension	410
18	430
19	460
20	500
21 ..	540
22	580
23	620
24	660
25	700
26	750
27	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent in all the revision being undertaken triennially With effect from July 1st 1927 a reduction of 4½ per cent has been made on this account from the amounts shown

There are additional pensions ranging from £65 to £300 per annum for officers who have held administrative appointments

PASSAGES

An officer on appointment is provided with a free passage to India The wives and families of officers who are married prior to the date of the officers embarkation on first appointment will also be provided with free passage to India subject to the payment of messing charges

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Millbank lasting approximately six months prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department India Office London, S.W.1 The Selection Committee will meet at the India Office in July and the selected candidates will be required to join a course of instruction commencing early in August, 1930 Applications should be submitted as soon as possible

EAST AFRICAN MEDICAL SERVICE.

VACANCIES at present exist for MEDICAL OFFICERS in the EAST AFRICAN MEDICAL SERVICE

Qualifications—Candidates must be British subjects of European parentage and under 35 years of age They must possess a double qualification and be on the British Medical Register Preference will be given to candidates who have held Hospital or Public Health appointments, or who have special knowledge of anaesthetics, radiology, surgery, medicine, ophthalmology, gynaecology and midwifery, diseases of the ear, nose, and throat, venereal diseases, etc

Salary—£600 per annum, rising by annual increments of £30 to £840 per annum, and thence, subject to an efficiency bar, by £40 to £920 per annum

Quarters—Free quarters are provided or an allowance is given in lieu

Passages—Free first-class passages are provided both on first appointment and when proceeding on or returning from leave A married officer will be granted an allowance towards the cost of his family s passage once each way in respect of each tour of service

Terms of Appointment—The appointments are pensionable subject to a probationary period of two years in the first instance

Length of Tour of Service—The normal tour of service is 20 to 30 months, after which leave is granted, with full salary, for 2½ to 3½ days, according to the districts in which the officer has served, for each month of service, plus the period of the voyage to England If the officer is returning to East Africa for further service, he receives a further similar amount of leave, plus the period of the voyage to East Africa

Course of Instruction in Tropical Medicine—Selected candidates will normally be required to undergo a course of instruction in Tropical Medicine and Hygiene before proceeding overseas

Duties—Though Medical Officers are appointed in the first instance for general service, there are good opportunities for work in special branches of medicine and surgery and for research

Further particulars and forms of application may be obtained on application, in writing, from the Private Secretary (Appointments), Colonial Office, 2, Richmond Terrace, Whitehall, London, S W 1

Egyptian Government

EGYPTIAN UNIVERSITY

FACULTY OF MEDICINE

Applications are invited for the newly created CHAIR OF PROFESSOR OF HYGIENE Applicants must have a University Medical qualification and at least ten years experience of Public Health work preferably in a Tropical country Candidates must have a recognized qualification in Public Health and preferably a qualification in Tropical Medicine and Hygiene They must have held a post in a recognized institute

The duties of the Professor include giving a Course of Instruction to Under Graduates and a Post Graduate Course for the Diploma of Public Health and Tropical Medicine He will also conduct Research work The language of instruction is English

The salary offered is £E 1 500 (approximately £1 538) a year and the appointment will be on contract for three years renewable The contract may be terminated by either side by three months notice in writing

One month s salary will be paid in lieu of travelling expenses if the successful applicant is resident in Europe

If an official of the Egyptian Government is selected for the post he will not receive the advertised salary unless it is sanctioned by the Financial Authorities

Applications, with copies of published Research and copies of testimonials should be addressed to the Dean of the Faculty of Medicine Egyptian University Cairo so as to be received by him not later than September 20th 1930

Further details may be secured by application to the DEAN

Derbyshire Royal Infirmary,

DERBY

(General Hospital—346 Beds)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON

Candidates must be qualified and registered under the Medical Acts

The appointment is tenable for 12 months Salary will be £150 per annum, with apartments, board etc

There are 10 beds for Ophthalmic cases and a large Out patient Department

Applications with copies of testimonials to be sent to the undersigned

WALTER BANKS
Supt & Secretary

June 23rd, 1930

Egyptian Government

EGYPTIAN UNIVERSITY

FACULTY OF MEDICINE, DENTAL SCHOOL

Applications are invited for the post of LECTURER IN DENTAL SURGERY and ASSISTANT DENTAL SURGEON in the DENTAL SCHOOL CAIRO The duties will be instructional and clinical

Preference will be given to candidates possessing the L D S R C S England

The appointment will be on contract for three years at a salary of £F 480 (approximately £492) a year and private practice is allowed

One month s salary will be paid in lieu of travelling expenses if the successful applicant is resident in Europe

Applications with details of experience and copies of recent testimonials should be addressed to the Dean of the Faculty of Medicine Kasr el Aini Cairo so as to reach him not later than September 20th 1930

University of Manitoba,

WINNIPEG, CANADA

FACULTY OF MEDICINE

The post of ASSISTANT PROFESSOR OF ANATOMY in the University of Manitoba will be vacant from October 1st 1930 Salary 3 500 dollars (200 in lieu of passage) Applications with two or three testimonials, should reach me before August 9th 1930

Medical College S W PROWSE M D,
Winnipeg Dean
Canada Faculty of Medicine

Manchester Northern Hospital

FOR WOMEN AND CHILDREN

Park Place, Cheetham Hill Road, Manchester

The Committee of Management require the services of a SENIOR HOUSE SURGEON and JUNIOR HOUSE SURGEON, both duly qualified, who are required to commence duty as soon as possible

Senior House Surgeon, salary £130 per annum with board and residence Junior House Surgeon salary £100 per annum, with board only

Applications stating age experience and date available with copies of recent testimonials to be sent to the Secretary, Mr JAMES C DANIELS 38 Barton Arcade, Manchester

City of Birmingham

SELLY OAK HOSPITAL

SURGEON

Applications are invited from fully qualified registered Medical Practitioners for the above whole time appointment

The present Hospital accommodation is 550 beds divided into General Medical General Surgical Gynaecological Obstetrical and Children s Diseases sections There are completely equipped [illegible] laboratories X ray Ultra violet Ray departments Over formed annually

Candidates for the appointment must have had good Surgical experience and be Fellows of the Royal College of Surgeons (England)

The scale of salary will be £700 rising by annual increments of £50 to a maximum of £1 000 per annum

Furnished quarters, rations laundry and attendance will be provided Alternatively, a cash allowance will be paid if the officer appointed is non resident The officer appointed will be required to account to the Council for all fees, allowances, and emoluments (other than the foregoing) received by him

The appointment will be subject to the Birmingham Corporation s Superannuation Scheme and to the candidate passing a medical [illegible] ill be subject to three [illegible] her side [illegible] of the appointment may [illegible] Medical Superintendent, R P STANLEY KELMAN Esq M B F R C S (Eng and Edin) at the Selly Oak Hospital Applications, stating age experience, and qualifications accompanied by copies of recent testimonials and endorsed 'Surgeon' should be addressed to me and delivered at my office not later than 10 a m on Wednesday July 16th

The Council House, F H C WILTSHIRE
Birmingham Town Clerk
June 1930

Lowestoft and North Suffolk

HOSPITAL, LOWESTOFT

JUNIOR HOUSE SURGEON (male) required Salary £120 per annum with board residence and laundry Duties to commence in August.

Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary 7, Drumsheugh Gardens, Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON. *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officers)*
GILFACH GOCH, GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH HOLGATE HOSPITAL *(Assistant Medical Officer)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE M.O. *(Medical Officer for Medical Aid Association)*	NORTHUMBERLAND EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE WEST RIDING COUNTY COUNCIL *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch) Savings Bank Building 21 Elizabeth St., Sydney N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments)*	Secretary South Australian Branch 20 North Terrace Adelaide	**WELLINGTON NEW ZEALAND** *(Contract Practice Appointments)*	Dr. G. F. V[illegible] (Hon. Sec. New Zealand Branch British Medical Association Private Practice Committee) New Zealand.
QUEENSLAND *(Ex officio Accredited Friendly Societies Institute)*	The Hon. Sec. Queensland Branch) British Medical Association B.M.A. Building Adelaide St. Brisbane	**VICTORIA.** *(All Institute or Medical Dispensaries)*	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices)*	Hon. Sec. Western Australian Branch British Medical Association [illegible] Chambers [illegible] George & Irwin Sts. Perth Western Australia.

July 2nd 1930 By Order of the Council ALFRED COX Medical Secretary

The Hospital for Sick Children,
Great Ormond Street London W.C.1

A MEDICAL REGISTRAR and PATHOLOGIST is required on October 1st.

Gentlemen are invited to send in their applications addressed to the Secretary with copies of not more than three testimonials written specially for the purpose before 12 o'clock on Monday July 14th.

The appointment is made for one year but may be held subject to re-election for three years.

Salary £300 per annum with luncheon and dinner when on duty and an allowance of fourteen guineas for the purpose of providing a substitute during annual leave.

Candidates must be registered Medical Men and must have held a responsible Hospital appointment, and be prepared to take up the duties on October 1st.

All candidates must be in attendance at the Hospital to appear before the Joint Committee if necessary on Wednesday July 16th at 4.45 p.m.

Forms of application and copies of the rules *for and details* of the duties of the appointment will be supplied on application to the Secretary.

By Order of the Board of Management
JAMES McKAY
June 1930 Secretary

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION
GLOUCESTER. (165 Beds.)

Applications are invited for the posts of HOUSE PHYSICIAN (male) and SECOND HOUSE SURGEON (male). Salaries £135 and £100 per annum respectively with board residence and laundry. (Four Resident Medical Officers.)

The appointments are for six months which may be extended for similar periods by re election from time to time.

Applications stating age qualifications and nationality with copies of not less than three recent testimonials must be sent to the undersigned. The elected candidates will be required to enter upon their duties at once.

F. J. SYMONS.
June 25th 1930 Secretary.

West London Hospital,
Hammersmith W.6 (234 Beds.)

Applications are invited for the post of RESIDENT ASSISTANT PHYSICIAN at the above Hospital duties to commence at once. Candidates must be unmarried and duly registered Medical Practitioners and must have held the post of House Physician at a General Hospital.

Preference will be given to candidates who hold the Diploma of M.R.C.P. As Senior Resident Officer he will be responsible for certain administrative duties and later those of Medical Registrar and such duties in connection with the Post-Graduate College as the Board may approve.

The appointment is for one year but the holder shall be eligible for re-election annually up to a maximum period of three years. Salary at the rate of £300 per annum (plus £25 p.a. for services in connection with the Venereal Diseases Department) with board and residence. The appointment may be terminated by one month's notice on either side.

Candidates are required to send to me seven copies of their application and testimonials also to send a copy to and to call upon each member of the Medical Council. Applications must reach me not later than first post on July 11th. Candidates must attend a meeting of the Medical Council at 4.30 p.m. on Friday July 18th. Selected candidates will be required to attend the Board of Management at 5 p.m. on Tuesday July 22nd when the appointment will be made.

H. A. MADGE, Secretary.

The Queen's Hospital for
CHILDREN Hackney Road, London E.2.
Telephone Bishopsgate 6305 and 2534

CLINICAL ASSISTANT required in the Orthopaedic Department. Attendance every Thursday at 1.30 p.m. Lunch provided. Honorarium of 5 per attendance to cover expenses. Applications stating age, qualifications and experience should be addressed to the Secretary at the Hospital and should be delivered by or before July 16th.

T. GLENTO KERR,
June 17th 1930 Secretary.

Evelina Hospital for Children
Southwark, S.E.1

The Committee of Management require a HOUSE SURGEON (male) for seven months from July 12th (during first three months duty in Casualty and Out-patient Department). Salary £120 per annum with board and residence. Candidates duly registered to send application giving age, qualifications (with dates) and copies of four testimonials before July 7th to the undersigned at the Hospital. Applicants will be informed if they will be interviewed by the Medical Committee. Selected candidates must attend Committee of Management. Duties commencing will be explained by and regulations and other particulars relating to the post must be obtained.

By Order of the Committee of Management,
H. C. SMITH,
June 23rd, 1930 Secretary-Superintendent.

Norfolk and Norwich Hospital,
NORWICH

Applications are invited for the [illegible] HOUSE SURGEON. Salary £120 per annum with board residence and laundry. Candidates must be registered Practitioners who have had previous Hospital appointments (male) who must possess [illegible] qualification. Applications [illegible] must be sent to the undersigned not later than Tuesday June 8th.

[illegible]
June 2nd, 1930 [illegible]

Merthyr General Hospital
MERTHYR TYDFIL.

Applications are invited for the [illegible] RESIDENT HOUSE SURGEON (male) for a period of [illegible] at the rate of £150 per annum [illegible] rooms and board.

[illegible]

Ministry of Health

The Minister of Health invites applications from registered Medical Practitioners for appointment as BACTERIOLOGIST at the GOVERNMENT LYMPH ESTABLISHMENT at Hendon

The salary commences at £700 per annum, and rises by annual increments of £25 to £1,000 per annum In addition to the salary a bonus which varies with the cost of living is payable the bonus on the minimum salary is at present £187 and is next subject to revision on September 29th

The appointment will carry the usual Civil Service conditions as to pension, holidays etc, and the bacteriologist will be required to devote his whole time to the public service

Candidates must be registered Medical Men of not less than seven years standing

Canvassing Members of Parliament or Officers of the Ministry will render the candidate liable to disqualification

Forms of application with further particulars of the appointment may be obtained from the Director of Establishments Ministry of Health, Whitehall S W 1

No application can be considered unless received on the prescribed form not later than July 14th

Ministry of Pensions

BIRMINGHAM PENSIONS HOSPITAL COMMITTEE

HIGHBURY HOSPITAL MOSELEY, BIRMINGHAM

Applications are invited for the post of RESIDENT ASSISTANT MEDICAL OFFICER at the above Hospital

The cases treated are Surgical (mainly Orthopaedic) and Medical Salary £300 per annum with lodging fuel and light The appointed candidate to be prepared to take up duty early in August

Candidates selected for interview will be required to pay their travelling expenses Applications stating age experience and war service (if any) together with copies of recent testimonials to be received not later than Tuesday July 15th addressed to Chairman of the Committee, Highbury Hospital Moseley, Birmingham

City of Manchester Education COMMITTEE

ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from fully qualified Medical Practitioners for the post of Assistant School Medical Officer

Applicants must have been qualified three years and will be required to devote their whole time to the duties of the office Preference will be given to those who have special knowledge in the diagnosis and treatment of Diseases of the Ear, and experience in the prescription of spectacles

The salary is £600 per annum rising by yearly increments of £25 to a maximum of £750 There is also a yearly allowance of £10 for travelling expenses

The person appointed will be required to contribute to the Superannuation Scheme of the Corporation

Forms of application may be obtained from the undersigned, and applications should be returned not later than Saturday July 12th

Education Offices, Deansgate Manchester
GEORGE GUEST, Acting Director of Education

Hospital for Consumption and DISEASES OF THE CHEST Brompton, S W 3

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are three vacancies) The duties include work in the Out Patient Department as well as in the Wards Applications, with copies of testimonials, must reach the undersigned not later than Saturday, July 12th The appointment is for six months commencing on August 1st with an honorarium of £50

Brompton June 28th, 1930
FREDERICK WOOD Secretary

North Ormesby Hospital, MIDDLESBROUGH (140 Beds)

HOUSE PHYSICIAN required (male and unmarried) Salary £120 per annum with board residence, and laundry There are three Resident and the successful candidate will be eligible for the post of House Surgeon in due course

Applications stating age qualifications previous experience (if any), with copies of three recent testimonials should be sent to the undersigned at once

GEORGE WATTS Secretary Superintendent

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

City of Plymouth

MEDICAL SUPERINTENDENT

(AMENDED ADVERTISEMENT)

Applications are invited from duly qualified and registered Medical Practitioners for the post of Medical Superintendent of the PLYMOUTH CITY HOSPITAL

The salary will be at the rate of £1,000 per year with an allowance of the sum of £50 in lieu of quarters etc No canvassing for this appointment is permitted and any canvassing will disqualify the applicant The appointment will be terminable by three months notice on either side

Personal experience in Hospital administration is essential The appointment is whole time and private practice is not permitted The person appointed will be an Assistant Medical Officer in the Public Health Department, and will be on the staff of the Medical Officer of Health who is the General Medical Superintendent of the Corporation Hospitals

Applications will be considered only on the forms of application which will be provided A form of application together with further details relating to the appointment, can be obtained from the undersigned on the receipt by him of a request for this accompanied by a stamped and addressed foolscap envelope Forms of application, duly completed together with copies of not more than three recent testimonials, must be returned to the undersigned not later than Saturday July 12th

A J NANKIVELL MD MRCP DPH etc
Town Hall Stonehouse Plymouth
June 21st 1930
Medical Officer of Health

Warwickshire County Council

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

Applications are invited from qualified and registered Medical Practitioners for the post of Assistant County Medical Officer of Health The duties will include Medical Inspection of School Children

The salary is at the rate of £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum and is subject to a deduction of five per cent in respect of contributions under the Local Government and Other Officers Superannuation Act, 1922 In addition, motor car allowances in accordance with the Council's scale and reasonable travelling expenses are paid The appointment is subject also to the production of a medical certificate satisfactory to the County Medical Officer of Health Preference will be given to one who holds a Diploma in Public Health

Forms of application and statement of the duties and terms of the appointment can be obtained from the undersigned

Applications (marked Assistant County Medical Officer of Health) with copies of not more than three recent testimonials, must be received by me not later than Monday, July 14th

Canvassing directly or indirectly will be considered a disqualification

42, Warwick St, Leamington June 20th 1930
L. EDGAR STEPHENS Clerk of the County Council

David Lewis Northern Hospital, LIVERPOOL

Applications are invited for the following Resident Posts for the period October 1st, 1930 to March 31st, 1931

4 HOUSE SURGEONS
2 HOUSE PHYSICIANS

Remuneration £100 per annum Applications together with testimonials to be sent to the Honorary Secretary of the Medical Board not later than July 12th

H LEVEY, Secretary Superintendent

Royal Cornwall Infirmary, TRURO (84 Beds)

HOUSE SURGEON (male) required, with experience of Anaesthetics Salary £170 per annum rooms board and washing Apply with copies of three recent testimonials to the Secretary, of whom further particulars may be obtained

Lancashire County Council

BIDDULPH GRANGE ORTHOPAEDIC HOSPITAL

The Lancashire County Council invite applications for the post of RADIOGRAPHER (Non resident) at the above Hospital

The salary to be paid is £200 per annum, together with part board Indoor uniform will also be provided after one month's service

Candidates should possess a certificate in Radiography from the Society of Radiographers or from an approved training school

The person appointed must be prepared to carry out such other duties in addition to Radiography as may be required

The person appointed will be required to pass a medical examination and to contribute towards the Council's Superannuation Scheme

The appointment will be terminable by one month's notice on either side

Applications stating age, full details of previous and present appointments and experience certificates held, etc and accompanied by copies of two recent testimonials, are to be sent to the Secretary, Biddulph Grange Orthopaedic Hospital near Stoke on Trent, not later than July 14th Envelopes should be endorsed Radiographer

Preston
J J BUTTERWORTH, County Medical Officer of Health and School Medical Officer

Royal Salop Infirmary, SHREWSBURY (150 Beds)

APPOINTMENT OF RESIDENT SURGICAL OFFICER

Applications are invited from fully qualified men for the appointment of RESIDENT SURGICAL OFFICER vacant immediately The appointment is for a period of 12 months, at a salary of £200 per annum, with board, residence, etc

The Resident Surgical Officer is Senior Resident Officer of the Hospital House Staff comprises House Physician and House Surgeon

Applications stating age, qualifications experience nationality, and accompanied by copies of three testimonials, to be sent to the undersigned

June 21st 1930
J W NOBLE Secretary Supt

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male)

Duties to commence as soon as possible

The duties include charge of four beds devoted to complicated Midwifery cases

Salary at the rate of £150 per annum, with residence board and laundry

The appointment is for six months and is renewable and the salary for the second six months will be at the rate of £175 per annum

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned

Dated this 26th day of May, 1930
ARTHUR H LIMB Secretary

Poplar Hospital for Accidents, East India Dock Road, Poplar, E 14

The Committee invites applications for the appointment of SECOND RESIDENT OFFICER at a salary at the rate of £175 per annum, all found

Candidates must have held appointments as House Surgeon at a Hospital Applications must be accompanied by a statement of the candidate's qualifications, and be forwarded to the Secretary with three recent testimonials not later than Thursday, July 10th The appointment is for a period of six months

Wrexham and East Denbighshire WAR MEMORIAL HOSPITAL (109 Beds)

Two RESIDENT HOUSE SURGEONS (male or female) required at above Hospital to commence on August 1st Appointments for a period of not less than six months Salaries £150 per annum, with board and laundry

Applications, stating age nationality experience and qualifications accompanied by copies of three recent testimonials, to be sent to the undersigned not later than Friday, July 18th.

LESLIE SPENCER, Secretary

Croydon General Hospital

A vacancy occurs on the Honorary Staff of the above Hospital for an ANAESTHETIST Candidates for the appointment are requested to send their applications and testimonials together with statements of their qualifications and experience, to me not later than first post on July 10th

June 30th 1930
GEORGE H DAMS Secretary

County Borough of Bolton

EDUCATION COMMITTEE.

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

The Education Committee invite applications for the appointment of a Male Assistant Medical Officer of Health and Assistant School Medical Officer.

The person appointed will be required to assist the School Medical Officer in carrying out the work of the Medical Examination of School Children under the Education Act 1921 and also when not required in connection with such work to assist the Medical Officer of Health in Public Health work if required so to do. He must be prepared to devote the whole of his time to the duties of the office and no practice in private practice.

Preference will be given to applicants who

(a) have had some definite experience in School Hygiene and

(b) have enjoyed special opportunities for the study of children.

The possession of a Diploma in Public Health is essential.

Salary £500 per annum rising by £25 per annum to a maximum of £700 per annum in accordance with the National Scale.

Applications (endorsed "Assistant Medical Officer") stating age qualifications and previous experience, and accompanied by not more than three recent testimonials must be sent to the undersigned not later than Saturday July 12th.

Canvassing either directly or indirectly will be a disqualification.

Education Offices, Nelson Square, Bolton, Lancs. F. WILKINSON, Director of Education.

Borough of Bromley

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the post of Assistant Medical Officer of Health and Assistant School Medical Officer at a salary at the rate of £550 rising by annual increments of £20 to £750 per annum, in accordance with the Council's Salaries and Grading Scheme.

Applicants, whose age must not exceed 40 years, must possess the Diploma of Public Health and should have had experience in Diseases of Children, Ante-Natal and Maternity work, Infectious work and Infectious Diseases.

The appointment will be a whole-time one (any private practice being prohibited) and subject to one month's notice on either side and will also be subject to the Local Government and Other Officers' Superannuation Act, 1922 and the successful candidate will be required to pass a medical examination.

Forms of application may be obtained from the Medical Officer of Health, Health Department, Municipal Offices, Bromley, Kent, to whom applications, accompanied by copies of not more than three recent testimonials, should be delivered not later than Saturday, July 19th.

Canvassing directly or indirectly will be a disqualification.

S. CRITCHLEY AUTY, Town Clerk.
Municipal Offices, Bromley, Kent.
June 30th, 1930.

Ipswich Borough Mental Hospital

APPOINTMENT OF MEDICAL SUPERINTENDENT.

The Visiting Committee invite applications for the post of Medical Superintendent of the Ipswich Borough Mental Hospital. The salary will be £700 per annum rising by £25 per annum to £750 per annum with unfurnished residence, fire and light, garden produce, milk and laundry these emoluments being valued for the purpose of the Asylum Officers Superannuation Act 1909 at £250 per annum.

An Assistant Medical Officer resides on the premises.

Candidates must be duly qualified Medical Practitioners with Mental Hospital experience and not over 40 years of age. Preference will be given to candidates who have obtained a Diploma in Psychological Medicine and who have served the office of House Surgeon or House Physician in a general hospital. Canvassing directly or indirectly will be a disqualification.

Application endorsed "Medical Superintendent Mental Hospital" stating age, qualifications and experience, and accompanied by copies of three testimonials to be sent to the undersigned not later than July 21st. The successful candidate will be required to commence his duties on September 3rd next.

Town Hall, Ipswich. W. MOFFAT, Clerk to the Visiting Committee.
June 25th, 1930.

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

Rhondda Urban District Council

ASSISTANT MEDICAL OFFICER.

The above Council invite applications from male registered Medical Practitioners to act as whole-time Assistant Medical Officer of Health and Assistant School Medical Officer under the direction supervision and control of the Council's Medical Officer of Health, at a salary of £500 rising by annual increments of £25 to £700 a year together with travelling expenses necessarily incurred in the performance of the duties.

Candidates must have had not less than three years professional experience subsequent to registration and the possession of a Diploma in Public Health is desirable.

The duties will pertain to both Public Health and School Medical Service but experience in the work of school clinics including the examination and certification of defective children, orthopaedic work, X-ray and ultra violet radiation and general anaesthesia for dental and throat operations will be considered to be of special importance.

The appointment will be subject to two calendar months' notice on either side and to the approval of the Board of Education. The officer appointed will be required to reside within the Rhondda Urban District and will not be allowed to engage in private practice.

The selected candidate may be required to pass a medical examination and should the position become a designated post under the Local Government and Other Officers' Superannuation Act, 1922 during the tenure of the successful applicant the necessary deductions will be made from the salary.

Applications are to be made on forms obtainable from the Medical Officer of Health, Tydfil House, Llewelyn Street, Pentre, Rhondda, by whom they must be received endorsed "Assistant Medical Officer" and accompanied by copies of three recent testimonials not later than the first post on Tuesday, July 8th.

The Council Offices, Pentre, Rhondda. D. J. JONES, Clerk of the Council.
June 24th, 1930.

County Council of Middlesex

ASSISTANT MEDICAL OFFICER.

The County Council invites applications for the post of an Assistant Medical Officer in the Public Health and School Medical Department. Applicants must be duly qualified registered Medical Practitioners.

The duties of the post are the medical inspection of school children, the supervision of treatment of minor ailments, the carrying out of work under the Maternity and Child Welfare Scheme and such other duties as may be required by the Council. The officer appointed must devote whole time to the duties of the post will act under the supervision and control of the County Medical Officer of Health, and may reside in such district as may be required by the County Council.

Salary at the rate of £600 per annum rising after two years' service by yearly increments of £30 to £750 (no bonus). Reasonable travelling expenses allowed.

The successful candidate will be required to contribute to the County Council's Superannuation Fund and to pass such medical examination as the County Council may direct.

The appointment will be during the pleasure of the Council and subject to one month's notice on either side.

Applications, stating (1) age, (2) qualifications and (3) previous experience together with copies of not more than three recent testimonials, must be received by the undersigned not later than July 12th. No special application form is provided. Envelopes must be endorsed "Assistant Medical Officer."

Canvassing directly or indirectly will be a disqualification.

ERNEST S. W. HART, Clerk of the County Council.
Middlesex Guildhall, Westminster, S.W.1.
June 24th, 1930.

Wanted for the Infirmary

KILMARNOCK, a RESIDENT MEDICAL OFFICER (male) to begin duties as early as possible at the rate of £150 per annum, with board and lodging. Applications to be lodged immediately with the Secretary, Kilmarnock Infirmary, Ayrshire.

Appointment of a Registered Medical Man or Woman as a Clinical Research Worker in Mental Deficiency

The MEDICAL RESEARCH COUNCIL acting through its GOVERNING BODY OF THE DARTFORD RESEARCH INSTITUTE and the COMMITTEE OF THE ROYAL EASTER COUNTIES INSTITUTION FOR THE MENTALLY DEFECTIVE at COLCHESTER jointly invite applications for the appointment of a Registered Medical Man or Woman to undertake research into Mental Deficiency.

The person appointed will be a member of the Medical Staff of the Royal Eastern Counties Institution and will be expected to take part in the Administrative Clinical and Social work of the Institution itself but the main part of the work will be an intensive study of a small number of mental defectives from the point of view of medical experts in Social Science.

The post will be approached in the first instance for a year in a resident.

Commencing salary at the rate of £ a year in a resident.

A form of application can be obtained from Miss Darwin, The Orchard, Hemingford Grey, Cambridge, which must be completed and returned to her before July 14th. Duties to commence October 1st 1930.

Salford Royal Hospital

(253 Beds.)

Applications are invited for the following vacancies in the Resident Medical Staff (male):

HOUSE PHYSICIAN. Salary at the rate of £125 per annum.

CASUALTY HOUSE SURGEON. Salary at the rate of £125 per annum.

The appointments are for a period of six months with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognized for the Membership and Fellowship (Final).

Forms of application which may be obtained from the undersigned must be delivered with delay.

By Order of the Board.
Salford Royal Hospital GEORGE UDALE, General Superintendent & Secretary.
June 30th, 1930.

The General Infirmary at Leeds

(620 Beds.)

(1) RESIDENT AURAL OFFICER.
(2) OPHTHALMIC AND AURAL HOUSE SURGEON.
(3) ASSISTANT RECEIVING ROOM OFFICER.
(4) ORTHOPAEDIC HOUSE SURGEON.

Applications are invited for the above posts with the undermentioned salaries:

(1) £150 per annum. (2) £50 per annum. (3) £50 per annum. (4) Nil.

All the above with board and lodging and Laundry.

The appointment (1) is for two years, and the others for six months. Applicants must be registered under the Medical Acts. Candidates must be duly qualified and registered.

Applications, marked "Appointment," should be sent to the undersigned not later than July 11th.

H. P. L. GILEY PEARCE, General Manager.
July 4th, 1930.

Cheltenham General and Eye Hospitals.

HOUSE SURGEON wanted—Male or Female.

The Board of Management invite applications for the post of House Surgeon. The duties will be in the Eye, Ear and Throat Department.

Candidates must be fully qualified.

Salary £200 per annum with board, residence and laundry.

Applications with copies of testimonials should be sent in as soon as possible to the undersigned as the appointment is required to commence as soon as possible.

J. CUMMING SMITH, F.C.I.S., Secretary.
General Hospital, Cheltenham. June 24th, 1930.

Beckett Hospital and Dispensary

BARNSLEY

Hunts County Council

Applications are invited for the post of SCHOOL DENTIST for the COUNTY OF HUNTINGDON The officer appointed must be a registered and qualified Dental Surgeon holding a degree or diploma granted by a competent authority in Great Britain As this is a newly created appointment the officer must have had at least two years experience as a School Dentist and will work under the direction of the County Medical Officer, who is also Chief School Medical Officer

The salary is at the rate of £600 a year in addition to which £135 a year will be paid for travelling out of which the officer must provide and maintain a car and carry the necessary equipment and dental nurse

The appointment is a whole time one, and no private practice will be permitted The appointment is terminable by three months written notice on either side

Forms of application for the post can be obtained from the Clerk to the Education Committee Walden House Huntingdon

Jessop Hospital for Women,

SHEFFIELD
(146 Beds)

GYNAECOLOGICAL AND MATERNITY DEPARTMENTS

Applications are invited for the post of REGISTRAR AND OBSTETRICAL TUTOR The appointment is whole time, non resident and includes ante natal work teaching of students together with Registrar s duties Salary £500 per annum

Applications together with copies of recent testimonials should reach the undersigned on or before July 22nd

H B SHELSWELL
Secretary

Lincoln County Hospital

Wanted a JUNIOR HOUSE SURGEON male unmarried Salary at the rate of £150 per annum rising to £200 per annum at the conclusion of six months approved service

Every candidate for the appointment must be registered under the Medical Acts

Applications stating age and other particulars with copies of testimonials (not more than three) are to be sent to the undersigned from whom further particulars may be obtained

ARTHUR MOORE
Lincoln
June 30th 1930 Secretary Superintendent

David Lewis Northern Hospital

(CLINICAL SCHOOL)

Applications are invited for the posts of
1 MEDICAL TUTOR AND REGISTRAR
2 SURGICAL TUTORS AND REGISTRARS
to the above Hospital, from October 1st 1930, to March 31st 1931 Remuneration £175 per annum

Applications with testimonials to be sent to the Honorary Secretary, Medical Board on or before July 12th

H LEVEY
Secretary Superintendent

General Hospital, Nottingham

Wanted, a HOUSE SURGEON Appointment for six months commencing about August 8th Salary at the rate of £150 a year, with board, residence and laundry

Applications stating age qualifications and experience together with copies of testimonials to be sent to the undersigned not later than Monday, July 21st

P M MacCOLL
House Governor and Secretary

Hounslow Hospital, Staines Rd,

Hounslow Middlesex (70 Beds)

Wanted August 1st, male HOUSE SURGEON Salary £200 per annum, with board residence, etc The appointment will be for six months

Applications stating qualifications age, and experience and enclosing two copies of testimonials, should be sent by July 8th (marked 'House Surgeon' top left hand of envelope), W T Ross Secretary, Hounslow Hospital, ...es Road Hounslow

...ndon and North Wilts

VICTORIA HOSPITAL.

Wanted a RESIDENT MEDICAL OFFICER (male) Salary £125 per annum with board, residence and laundry Candidates must be registered under the Medical Act Appointment for the minimum of six months Applications stating age etc and accompanied by copies of not more than three recent testimonials should be sent to the undersigned

A OAKLEY Secretary

Manchester Royal Infirmary

Central Branch,
Roby Street, Manchester

JUNIOR HOUSE SURGEON AND CASUALTY OFFICER (LADY)

The Board of Management of the Manchester Royal Infirmary Invite applications for the above appointment

Applicants must be registered, and hold a Medical and Surgical qualification

The appointment is subject to one month s notice in writing from or to the Board and is tenable for an indefinite period from August 1st

Commencing salary £100 per annum, together with board and allowance for laundry

Applicants must state age and qualifications and send twelve copies of their application and testimonials to the undersigned by 9 a m on Thursday, July 17th

By Order
FRANK G HAZELL,
General Superintendent and Secretary

North Riding Infirmary,

MIDDLESBROUGH
(General Hospital—150 Beds)

SENIOR HOUSE SURGEON (male) required to take up duties middle of July, also JUNIOR HOUSE SURGEON to take up duties as early as possible

Salary of Senior House Surgeon at the rate of £225 per annum and Junior House Surgeon £150 per annum with board residence, and laundry Three residents are employed

Appointments for not less than six months. Candidates eligible for higher posts as they become vacant

Applications stating age, nationality, and previous experience with three recent testimonials should be sent to the undersigned as soon as possible

CHARLES POSTGATE,
Secretary Superintendent

North Staffordshire Royal

INFIRMARY STOKE ON TRENT
(350 Beds)
(A recognized Training School for Nurses)

MATRON

Applications are invited for the post of Matron

Candidates must be certificated Nurses, have had experience of training of Nurses house keeping laundry supervision and administration of a Voluntary Hospital

Salary £250 per annum increasing to £300 by annual increments of £25

On receipt of a request the House Governor will give all necessary particulars

Applications for the ... to reach the undersigned not later ...

Secretar...

Northampton General Hospital

There is a vacancy immediately for an ASSISTANT HOUSE SURGEON male British nationality Salary £150 per annum, with board residence and laundry

The successful candidate will be appointed for the period ending September 30th and will be eligible for re election for a further period of six months

Candidates must be duly qualified and registered

Applications stating age, qualifications, etc., with copies of testimonials to reach the undersigned not later than first post on July 9th

H ST JOHN WOOD
May 19th 1930 Secretary Supt

Walsall General Hospital,

WALSALL

The Committee invite applications from men for the post of CASUALTY HOUSE SURGEON Salary £120 per annum

Candidates who must be registered under the Medical Acts, must produce three recent testimonials

The appointment will be for six months

The Hospital contains 100 beds and is equipped in all Special Departments

Applications stating age, qualifications and nationality, must be received by the undersigned not later than first post Tuesday, July 8th

WALTER FRANCOMBE Secretary

The Sheffield Royal Hospital

HOUSE SURGEON to the Ear Nose and Throat Department, also RESIDENT ANAESTHETIST required (males) Salary for the first six months at the rate of £80 per annum after which £100 per annum, with board residence and laundry There are twelve resident medical officers Applications should be forwarded at once to—

W H BOOTH,
Superintendent and Secretary

Peterborough and District

MEMORIAL HOSPITAL (154 Beds

TWO RESIDENT HOUSE SURGEONS required

Applications are invited from fully qualified male Practitioners for above posts

Salary £135 per annum, with board, residence, and laundry

Appointments will be for a minimum period of six months

Applications, stating age, qualifications, and experience, with copies of recent testimonials, to be sent to the undersigned from whom further particulars may be obtained

FRANK A C TAYLOR
Secretary Superintendent

Royal Halifax Infirmary

Wanted, a THIRD HOUSE SURGEON (male unmarried) Candidates must be duly qualified and registered The appointment will be for a period ending October 31st Probable promotion if satisfactory Salaries of Resident Staff are as follows Resident Surgical Officer £250 First House Surgeon £175, Second House Surgeon £150, Third House Surgeon £125 per annum with residence, board and laundry

The Hospital contains 230 beds, has a large Eye, Ear Nose and Throat Department, Maternity Ward, and Pathological Laboratory

Particulars of the duties may be obtained from the undersigned, to whom applications, with copies of testimonials, should be sent

A MIDGLEY,
June 21st 1930 Secretary

Royal Sussex County Hospital,

BRIGHTON
(237 Beds)

CASUALTY HOUSE SURGEON (male) required about August 7th Salary £120 per annum with board residence and laundry

Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts They must be unmarried and when elected under 30 years of age

Applications with copies of recent testimonials should reach the undersigned not later than July 21st

L L W LANCASTER CAVE
Secretary Superintendent

Royal Infirmary, Doncaster

(185 Beds)
OPENING NEW BUILDING

Three HOUSE SURGEONS and One HOUSE PHYSICIAN required at once New building ready for occupation The House Physician will also be House Surgeon to Ophthalmic and Ear Nose and Throat Departments

The salary of each post is £150 per annum, with board residence, and laundry

Appointments are for six months and are renewable

Applications stating age and full particulars together with copies of testimonials should be sent at once to the Secretary Superintendent

St John's Hospital, Lewisham,

S E 13

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER The appointment is for one year from August 1st Salary £250 per annum, with board residence laundry and certain fees Preference will be given to candidates with experience in Surgery Applications with copies of testimonials should reach the Secretary at the Hospital not later than Monday July 21st The Selection Committee will sit on July 22nd at 4 45 p m

St John's Hospital, Lewisham,

S E 13

Applications are invited for the appointment of HONORARY SURGEON to the Hospital The successful candidate will in addition to taking charge of beds attend the Out patient Department once weekly, and assist in the surgical lectures to nurses A residential qualification may be insisted on Applications with copies of testimonials, should reach the Secretary at the Hospital not later than Monday July 21st The Selection Committee will sit on July 22nd at 4 45 p m

St Mary's Hospitals,

MANCHESTER.

TWO HOUSE SURGEONS for the WHITWORTH STREET WEST HOSPITAL (Maternity) and two for the WHITWORTH PARK HOSPITAL (one Children s Department and one Gynaecological Department) each for a period of six months from August 1st next

Salaries at the rate of £50 per annum with board and residence. Applications with copies of three testimonials to be sent to the undersigned on or before July 16th

R RATCLIFFE, Secretary

Royal College of Surgeons of ENGLAND

ELECTION OF EXAMINER IN DENTAL SURGERY

Notice is hereby given that the Council on July 31st will proceed to the election of a Member of the Board of Examiners in Dental Surgery in the room of Mr. Evelyn Sprawson, resigned.

Every duly registered qualified dentist (see Dentists Act, 1878 and 1921) desirous of being elected shall make application in writing to the Secretary on or before Tuesday, July 15th.

S. JOHNSTON HILL,
Secretary.

July 5th, 1930.

Lancashire County Council

RADCLIFFE BRANCH OF THOLAMYRE HOSPITAL

Applications are invited for the post of JUNIOR HOUSE SURGEON (Women) at the above Hospital which has been built to meet the requirements of Mental Hospitals Regulations, 1930.

Commencing salary will be £150 per annum, rising by annual increments of £10 to £180 per annum, plus emoluments valued at £60 per annum.

Candidates must be duly registered Medical Practitioners with experience of Mental Work, preferably holding a Diploma in Psychological Medicine.

Applications, stating age, qualifications and experience, together with copies of three testimonials, should be forwarded to the undersigned not later than July 15th.

CECIL H. STRETTON,
Clerk of the County Council.

County Offices, County Hall, Preston.
June 17th, 1930.

Kensington, Fulham, and Chelsea CENTRAL HOSPITAL

and Finborough Road, Earl's Court, S.W.10.

The Board of Management invite applications from fully registered Medical Practitioners for the appointment of CASUALTY (RESIDENT) MEDICAL OFFICER to the Hospital, the Infectious Department which is provided with 20 additional beds, the Out-Patient Department, the Women and Special Out-Patient Clinics. The appointment to be dated from as soon as possible after July 21st. Salary £100 per annum. Applications and testimonials should be forwarded to the undersigned not later than July 10th.

L. JAY NORTON,
Secretary.

Rotherham County Borough

RESIDENT ASSISTANT MEDICAL OFFICER

The Public Assistance Committee invite applications for the above post at the Hospital, Moorgate Road, Rotherham. Salary £150 per annum, together with the usual emoluments.

Candidates must be single, registered Medical Practitioners, fully qualified and registered.

Applications, stating age, qualifications and experience, together with copies of three testimonials, should be sent to the Public Assistance Officer, 25, Main Street, Rotherham, not later than July 21st.

Hospital Offices, Rotherham. CHAS. L. DES FORGES, Town Clerk.

July 1st, 1930.

Royal Aberdeen Hospital for SICK CHILDREN

Wanted, One RESIDENT HOUSE PHYSICIAN and Two RESIDENT HOUSE SURGEONS (one necessarily to be a Lady) to commence duties on August 1st. The appointments are for six months, and may be continued for a further period of six months if desired and recommended by the Medical Staff. Candidates are requested to call on the Senior Member of the Honorary Medical Staff. Applications accompanied by one copy of testimonials to be lodged with the undersigned before July 9th with Mr. A. S. R. BRUCE, 12, Bon Street, Aberdeen.

Royal Aberdeen Hospital for SICK CHILDREN.

Applications are invited for the post of TEMPORARY ASSISTANT SURGEON to the EAR, NOSE, and THROAT DEPARTMENT to commence duties on August 1st. These alone with one copy of testimonial should be lodged with the Honorary Secretary, Mr. A. S. R. Bruce, 12, Bon Street, Aberdeen, on or before July 9th.

Moorfield Hospital, Maxborough, YORKS

Applications are invited for the appointment of SENIOR AND JUNIOR HOUSE SURGEONS (Ladies) at the above Hospital—84 beds (110 when required). Commencing salary £120 and £100 per annum respectively, with board, lodging, washing, etc. One month's holiday, and facilities for the applicants should be willing to commence duties on or about October 1st. Applicants will be invited to attend for interview at the undersigned's Office not later than July 18th.

DONALD WILS,
Secretary.

Stockton and Thornaby Hospital, STOCKTON-ON-TEES

(—— BEDS.)

Applications are invited for LOCUM for JUNIOR RESIDENT MEDICAL OFFICER (male). Commencing salary £—— per annum. Applications must be [illegible] Applicants must be [illegible] Appointment [illegible] Applications to be [illegible] to the undersigned [illegible]

J. WHITTINGTON, Secretary.

The Royal Gwent Hospital, NEWPORT, MON.

HOUSE PHYSICIAN

Applications are invited for the post of [illegible] Physician.

Candidates must be Registered Practitioners of a University or Royal College of Physicians or Members of the Royal College of Surgeons of England, and must be in possession of a Diploma in Psychological Medicine.

Applications, stating age, qualifications and experience, together with copies of three testimonials, should be sent to the undersigned not later than July 15th.

J. F. SHILLABEER,
Secretary and Superintendent.

June 1, 1930.

The Royal Gwent Hospital, NEWPORT, MON. (160 Beds.)

Wanted for the above Hospital a JUNIOR RESIDENT MEDICAL OFFICER (Male) as Surgical and House Physician.

Salary £150 per annum, with board, lodging and laundry. Resident Medical Staff. Election for [illegible]

Duties to commence on [illegible]

Applications, stating age and qualifications, with copies of three testimonials, to be sent to the undersigned not later than July 10th.

Applications from ladies not entertained.

J. F. SHILLABEER,
Secretary and Superintendent.

July 1st, 1930.

Miller General Hospital, Greenwich Road, S.E.10

CASUALTY OFFICER (male and unmarried). There are four other residents. Salary £120 per annum with board, residence, and laundry. Duties to commence as early in July as possible. Applications, stating age, qualifications and experience, together with copies of three testimonials to be sent to the Secretary as soon as possible.

June 24th, 1930.

The Royal Infirmary, SHEFFIELD. (290 Beds.)

Wanted, HOUSE SURGEON (male). Salary £140 per annum with board, residence and laundry.

Applications, stating age, qualifications and experience, accompanied by copies of testimonials, to be sent to the undersigned.

S. C. FRYERS,
House Governor & Secretary.

The Mount Vernon Hospital, NORTHWOOD, MIDDLESEX

The Council of Management will shortly proceed to the election of a GYNÆCOLOGIST. Candidates must be registered Fellows of the Royal College of Surgeons.

Applicants with copies of three testimonials should be addressed to the undersigned—

WILLIAM J. MORTON,
Secretary.

Offices, 20, Fitzroy Square, W.1.

Victoria Hospital for Sick CHILDREN, Park Street, HULL.

RESIDENT HOUSE PHYSICIAN (Lady) required. Experience in laboratory work desired. Salary £80 per annum. 105 beds.

Applications with copies of recent testimonials stating age, qualifications and other particulars to be sent to the Secretary not later than Thursday, July 10th.

Oldham County Borough EDUCATION COMMITTEE.

Wanted immediately ASSISTANT SCHOOL MEDICAL OFFICER (male). Salary commencing at £500 per annum in accordance with the Scale of the British Medical Association. Applicants must have had at least three years' experience since qualifying. The person appointed will not be permitted to undertake private practice.

List of duties and form of application may be obtained on receipt of a stamped addressed envelope from the undersigned.

Education Office, Oldham. W. HERSHAW,
July 1st, 1930. Secretary for Education.

National Hospital, Queen Square FOR THE RELIEF AND CURE OF DISEASES OF THE NERVOUS SYSTEM, including Paralysis and Epilepsy, W.C.1.

HOUSE PHYSICIAN

The Board of Management invite applications for the post of House Physician. Applications should be sent to the undersigned not later than Monday, June 21. The salary is £150 per annum with board and lodging.

GODFREY H. HAMILTON,
Secretary.

Hertford County Hospital

Applications are invited for the post of HOUSE PHYSICIAN (male). Salary £150 per annum with board, residence and laundry. The appointment is for six months in the first instance.

Applications with copies of three recent testimonials should be sent to the undersigned as early as possible.

PERCY G. BROOKS, Secretary.

Preston and County of Lancaster ROYAL INFIRMARY

Applications are invited from [illegible] qualified and registered medical men for the post of RESIDENT HOUSE SURGEON. Duties to commence [illegible]. Salary £150 per annum, with board and lodging.

Applications, stating age, qualifications, training, etc., together with copies of three testimonials, to be forwarded immediately to the undersigned. Canvassing disqualifies.

A. H. CRIGHTON, Superintendent and Secretary.

Royal Infirmary, Preston.

Royal Berkshire Hospital (243 Beds)

Wanted on July 9th, a CASUALTY OFFICER and a RESIDENT ANÆSTHETIST, unmarried, fully qualified and registered. The appointments are for six months and the latter at the rate of £120 per annum, with board, residence and laundry.

Applications with copies of testimonials should be addressed to the undersigned.

Reading. HEDLEY DURVEY,
July 4th, 1930. Secretary.

The Weir Hospital, Grove Road, Balham, S.W.12.

JUNIOR RESIDENT MEDICAL OFFICER (male, unmarried) required July 15th. Candidates must be fully qualified and duly registered. Salary £150 per annum with board, residence, and laundry. Applications with copies of testimonials, to be sent to the Secretary from whom further information may be obtained.

Royal United Hospital, Bath

Wanted a HOUSE PHYSICIAN. Salary £120 per annum.

The appointment will be for not less than six months and candidates must be male, unmarried and of British nationality.

Applications with three testimonials, must be addressed to the undersigned.

GERALD A. BEVAN, Asst. Secretary.

St. Thomas's Hospital

VACANCY

Applications are invited for the [illegible] JUNIOR ASSISTANT in the [illegible] DEPARTMENT at the Hospital. Salary at the rate of £250 per annum. The appointment to date from October 2nd. Applications and testimonials should be sent in to the Secretary of the Hospital on or before July 15th.

Huntingdon County Hospital

MALE HOUSE SURGEON required to commence duties on August 1st. Salary £125 with board, residence, and laundry.—Apply W. B. GLOVE, L.D.

ASSISTANCIES

Wanted immediately, Assistant, male University Graduate, with good Hospital experience Old established middle class Practice, 10 miles from Charing Cross borders of Surrey and Kent PARTNERSHIP SHARE offered to suitable man after Preliminary Assistantship —Address, No 4521, B M A House, Tavistock Square, W C 1

Wanted — Assistant, male, single abstainer indoor Midlands City Private and panel Photo Knowledge of Refractions desirable but not essential Work very light, suit newly qualified State essential parties — No 4559, B M A House, Tavistock Sq W C 1

Wanted —Assistant, with view to Partnership in new cash Surgery to be opened immediately in London suburb Young married man, preferably with a small capital Good salary and flat for first twelve months, then Partnership —Address No 4558, B M A House, Tavistock Square, W C 1

Wanted —Well-qualified Assistant with view, in West Country Seaside Resort No panel or dispensing Terms on application —Address giving full particulars No 4302, B M A House, Tavistock Sq, W C 1

Wanted by M B, Ch B Glas, 1925 ASSISTANTSHIP with view, or Partnership or Practice small deposit balance on terms Five years G P and hospital Experienced midwifery, anaesthetics surgery Scot Good references Age 30 —Address No 4505, B M A House, Tavistock Square W C 1

Wanted — Young unmarried male ASSISTANT indoor with view Industrial town, Cheshire £250, rising to £300 in six months if suitable English or Scotch Protestant —Reply, with photo No 4508, B M A. House, Tavistock Square, W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS for Country and Town Practices with and without view State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

Wanted at once, an experienced indoor male ASSISTANT, private and panel Practice Walasey Cheshire Pleasant seaside resort near Liverpool and University Salary £300/350 per annum Preferably own car or motor cycle running expenses paid —Address with full particulars and testimonials No 4527 B M A House Tavistock Square, W C 1

Wanted —Experienced Lady ASSISTANT for General Practice in West Riding town Outdoor Motorist Must dispense —Address with all essential particulars testimonials and photograph (returnable) No 4524 B M A House Tavistock Square W C 1

Wanted —Male Assistant for Cheshire town under 40 Protestant English or Scot View to suitable man Salary £350 indoor or £150 outdoor —Address No 4532, B M A House Tavistock Square, W C 1

Wanted —Assistant for 1st week August careful and conscientious for good Practice in suburb of northern University town Preferably woman with own car —Address No 4528 B M A House Tavistock Square W C 1

Wanted —Assistant, must be abstainer keen and reliable for large panel and private Practice N E Coast town Experience preferred but not essential Good salary and every encouragement given to suitable reliable man State full particulars —Address No 4531 B M A House Tavistock Square W C 1

Wanted for Panel and private Practice in West indoor male ASSISTANT British nationality Some experience essential Salary £300 —Address with references, No 4551, B M A House, Tavistock Square W C 1

Wanted —Assistantship with prospects by M B Ch B (two distinctions) English married ex H S ex Casualty Officer —) years experience G P Good references —Address No 4562 B M A House, Tavistock Square W C

Wanted, a Gentleman who will ASSIST elderly Practitioner Also place small practice comfortable home Ample time for sport or reading Very near London 100 gns plus half midwifery fees and good percentage on extra work Bond —Address No 4510, B M A House, Tavistock Square W C 1

Wanted —Experienced male ASSISTANT, with view Panel and private Practice South West England —Address enclosing photo copy of testimonials No 4557, B M A House Tavistock Square W C 1

Wanted —Outdoor Male Assistant wanted immediately Large West Riding City Motorist Some experience necessary Photo —Address No 4525, B M A House Tavistock Square W C 1

Assistants and Locum Tenens — Gentlemen immediately available for the foregoing, age 25—35, of good address, experience, and of British birth are invited to call upon THE MEDICAL AGENCY, Watergate House, 15, York Buildings, Adelphi, W C 2, between 10 30 and 4 p m

Assistant (outdoor) with post graduate Hospital experience wanted in an industrial Practice in Lancashire Good house and work not strenuous Salary £3o p a to start partnership later if desired Bond —Add, No 4553 B M A House Tavistock Square W C 1

Assistantship or Locum wanted by well qualified Woman Drives car Excellent experience Preferably country, but not essential —Address No 4566 B M A House Tavistock Square W C 1

M B, Ch B (N U I, 1922), age 32 married R C wants ASSISTANTSHIP with view to succession later, or early Partnership Well experienced in G P at present R M O large hospital Highest references —Add, No 4554 B M A House Tavistock Square W C 1

MEDICAL POSTS DISPENSERS etc.

Wanted — Fully qualified DOCTOR for service in the TROPICS Preferably ex House Surgeon or Physician Agreement for three years Salary £850, £900, £950 Renewable on higher terms Free furnished quarters and first-class passage provided Candidates must be unmarried Ladies not eligible — Address, with copies of testimonials (not returnable), No 3801, B M A House Tavistock Square, W C 1

Wanted —Nurse Companion, gentleman, must be experienced for nerve case (ex officer) not more than 45 —Address, with recent references salary, etc, No 4573, B M A House Tavistock Square W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write, wire or phone (Park 0969), Secretary, 7 Westbourne Park Road W 2

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part-time Bookkeeper Dispensers, Secretary Dispensers, Nurse Dispensers and Chauffeuse-Dispensers.—Write wire, or phone Central 3679 THE RELIANCE BUREAU FOR DISPENSERS 12 Holborn Viaduct E C 1

Doctors requiring qualified Dispensers, Nurse Dispensers Secretary Dispensers or Chauffeuse Dispensers are invited to write wire or phone Temple Bar 5858 THE DISPENSERS BUREAU, 15 Lindsay House 171 Shaftesbury Avenue London W C 2

Dispenser Book-keeper, lady, seeks RE ENGAGEMENT Hall certificate Nine years reference —Address No 4572 B M A House Tavistock Square W C 1

Lady Secretary seeks RE ENGAGEMENT—Shorthand Typing Bookkeeping French Good references —Miss PAGE Littlecote Pinksway Northwood Middx

Occasional Surgeries — Doctor studying Ray Therapy desires PART TIME WORK in RAY CLINIC, or occasional surgeries Central or Western London for remuneration —Address, No 4504, B M A House, Tavistock Square W C 1

Practitioner offers Residence in nice flat (South Kensington) at low rental to Medical Man (single) who is willing to ACT AS DEPUTY on certain evenings Service quite nominal —Address, No 4556 B M A House Tavistock Square W C 1

Practitioner will COACH FOR FINALS Moderate Terms — Address No 4568 B M A. House, Tavistock Square W C 1

The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work—Dispensers (capable of undertaking returns clerical work, etc, connected with Ministry of Health), Clerks Laboratory Assistants general hospital duties Porters, Caretakers, etc —Apply, Secretary 85 Eccleston Square S W 1

Typewriting --Expert undertakes Theses Testimonials etc. Numerous letters of appreciation from Doctors — Phone Primrose Hill 0803 or write BEATRICE RADFORD, c/o Smiths, 487, Finchley Road, N W 3

To Doctors — Chauffeuse (Doctor's sister) with or without own saloon car Some secretarial or housekeeping work undertaken if required — Address No 4576, B M A House Tavistock Square W C 1

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Telegrams REASIDE, TUBERCLE WESTRAND LONDON"

Wanted — Hospital Locum (General or Mental Hospital) by M D Edin, male aet 30, qualified 1922 Post Graduate Student, ex H S, H P, 2 years Excellent references Free July 10th —Address, No 4501 B M A House Tavistock Sq W C 1

Wanted — Reliable and experienced Practitioners (male and female) for LOCUM engagements State full particulars —BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted, Locum, 4 or 5 weeks from July 16th Three P H appointments panel 250, private practice. Suit middle aged man average 4 visits a day now —ARTHUR BOULTON, D P H, Horncastle

Wanted — Woman Doctor to act as LOCUM in Woman Doctor's Practice in exchange for [illegible] 6th till Sep ember 20th —Address No 4565 I Square W C 1

As Locum —Experienced (middle aged) Doctor had own Practice now doing some 10 locums annually desires further ENGAGEMENTS from 6 gns p w If country where car and driver available Good refs — MUNCUS c/o Pickart 24 Colville R I Bayswater W

Wanted Locum from August 5th to October 6th Must be experienced G P Car and chauffeur provided State essential particulars — Apply Dr HENRY, Seaham, co Durham

Death Vacancy — Modern mining village, county of Durham Income nearly £800 a year Wanted a LOCUM TENENS to take Charge of Practice with view to Succession —Address No 4518 B M A House Tavistock Square W C 1

Doctor having transferred his Practice desires LOCUMS, preferably in the South, August, September and October Own car if necessary —Address, No 4513 B M A House, Tavistock Square W C 1

Edinburgh — Medical Man reading for higher exam would work Resident Appointment or Assistancy in return for board and sufficient time for study August September —Address, No 4514, B M A House, Tavistock Square, W C 1

Holiday Exchange for about one month offered by G P near Weymouth (family 2) Easy Practice no midwifery Southern England preferred —Address No 4564 B M A House Tavistock Square W C 1

Locum wanted for two weeks, August Quiet country Practice at seaside near Inverness House and garden Work very light Suit C P with family —Address No 4506, B M A House, Tavistock Square W C 1

Locum required, recently qualified suitable Not sole charge Six weeks from July 25th Panel and private Practice near London Please state age references, terms indoors —Address No 4509 B M A House, Tavistock Square, W C 1.

Experienced Practitioner, assistant accustomed to and managing men would undertake LOCUM WORK etc. (outdoor or otherwise) Free from 6th to 16th or about 18th day and from Aug. 1 thereafter. Would also consider preliminary A assistantship with view to Partnership If suitable energetic and highly recommended.—No 4533 B.M.A. House Tavistock Square W.C.1

Medical man, bachelor, experienced in panel and private practice also emolus reliable evening is now free for LOCUM or ASSISTANCY. Terms six guineas per week, and travelling expenses.—Address No 4561 B.M.A. House Tavistock Square W.C.1

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER, Ltd The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals 4, ADAM ST. Strand London W.C.2.

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(Northern Branch),
33, CROSS ST., MANCHESTER
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Telephones—CENTRAL 3925 after office hours 2549 RUSHOLME.

PARTNERSHIPS

Wanted next January, by experienced Surgeon M.D. FRCSE PARTNERSHIP with prospect of Hospital appointment. Capital available.—Address No 4563 B.M.A. House Tavistock Square W.C.1

Wanted—Share worth £500 a year in a mixed Practice with good panel. Kings on or Teddington by an experienced Practitioner with his own Practice and a good appointment in same district.—Address No 4530 B.M.A. House Tavistock Square W.C.

A 2/5th share of Partnership yielding over £500 is offered in progressive Cheshire Town. Exceptional house, with garage, easy small garden and detached surgery for sale. A good man with H.P. or H.S. experience required. The incoming partner participates in valuable book debts at once. 2 years purchase is required.—Address No 4519 B.M.A. House Tavistock Square W.C.1

Experienced Practitioner, M.D., B.S., M.R.C.S. etc. aged 34 6 years G.P. experience desires join Senior Practitioner as PARTNER in first-class non panel, non-dispensing private Practice in good residential seaside town S. or S.E. coast. Would secure suitable residence in fresh part with view to expansion.—Address No 4502 B.M.A. House Tavistock Square W.C.1

Manchester — Partnership in excellent old-estab. mixed Practice. Aver. cash receipts £5,816. Panel 3,575. Good house available, 3 bedrooms. Rent £60 p.a. Premium—1/3rd share—1½ years purchase part by arrangement.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

Mediterranean —English Doctor practising in delightful sea-coast town desires PARTNER with view to succession in a few years. Work all good class. Each partner can be absent 2 or 3 months yearly. Delightful climate. Share for disposal about £750 p.a. Principal will be in London shortly for interview. No language difficulty.—Address, No 4512 B.M.A. House Tavistock Square W.C.1.

M.D., F.R.C.S. seeks Doctor to JOIN HIM in DEVELOPING PRACTICE in new West London district. Position and prospects excellent for keen individual with some capital.—Address, No 4534 B.M.A. House Tavistock Square W.C.1

Partner wanted to buy two-fifths or rather larger SHARE in PRACTICE in Wimbledon. Panel 1,500. Average receipts £2,300. Good house and lovely garden. House about £3,300 which must be bought. Splendid prospects. Ample capital essential. Population of Wimbledon about 65,000.—Address No 4507 B.M.A. House, Tavistock Square W.C.1.

Partner required for busy Branch Surgery in East End of London. HALF SHARE offered after preliminary Assistantship. No capital required. If applicant suitable. Married man or one shortly marrying preferred. Write for full particulars.—Address No 4526 B.M.A. House Tavistock Square W.C.1.

Provincial Town near Coast — ONE QUARTER SHARE is offered in sound old-established PRACTICE averaging nearly £1,000 per annum. House available. Young married man preferred.—Address No 4569 B.M.A. House Tavistock Square W.C.1

Scotland —Partnership over £400 offered at 1½ yrs. purchase with view to development for which great scope in old-established Industrial Practice with panel of 1,100.—Address No 4523 B.M.A. House Tavistock Square W.C.1

South Coast Town —Third PARTNER required immediately in old established Practice. Share commencing at £100. 2 year purchase. 3 months preliminary assistantship.—Address No 4575 B.M.A. House, Tavistock Square W.C.1

PRACTICES

A small well-established PRACTICE for Sale in seaside South Western town. Good class. Light work. Average receipts £700 (including 30 from panel). Good house for purchase or on short lease. Educational facilities good. Healthy situation. Golf, yachting, swimming. Favourable terms for immediate cash settlement. No agents.—Address No 4520 B.M.A. House Tavistock Square W.C.1

Cheshire — Pleasant district Nice house large garden garage. Receipts £700. Panel 630. Excellent expenses £60. House and Practice £2,200 or near offer part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown St.

Death Vacancy — Sheffield — Old-estab. PRACTICE. Cash receipts last year £1,600. Panel 1,020. Good house 2 reception 3 bedrooms. Garage. Rent £50 p.a. —BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

For Sale — Old-established moderate sized PRACTICE in town in South Wales. Vendor desirous of retiring. Panel 600. Appointments. Total averaging £800 a year or more. Convenient house for married man with family. Fees 10/6—5/- nothing less. No midwifery, no dispensing. Good residential locality.—Address No. 4511 B.M.A. House, Tavistock Square, W.C.1.

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised. Inform free on applic.—4 Adam St., W.C.2.

For Sale —Good Nucleus, N.W. London. Excellent opportunity. Small premium.—Address No 4570 B.M.A. House, Tavistock Square, W.C.1.

Isle of Man — Seaside Town Old-estab. PRACTICE. Receipts average £946 (including £350 from panel). Semi-detached house, 5 reception 4 bedrooms. Garden. Good schools. Premium—Practice and House—£2,000 part by arrangement.—BRITISH MEDICAL BUREAU, 33 Cross St., Manchester.

Lancs Town, near Manchester — Mixed-class PRACTICE producing £2,500 p.a. Panel 1,900. Two good houses available. Suit two friends in Partnership. Premium 1½ years purchase. Half share, view to succession considered.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

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Medical Practice in Glasgow, East End. Panel list approx. 1,300. Life vacancy. Good opportunity.—Apply PETER MUIR MACNAB, Solicitor, 163 Hope St., Glasgow, C.2.

Manchester — Residential Suburb. Old-estab. PRACTICE. Average cash receipts £1,916. Panel 1,400. Excellent house for sale. 2 reception 4 bedrooms. Garage and garden.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

Manchester — Old-established PRACTICE. Nice house, good district with gardens front and back, rent £50. Receipts (including panel £135) over £800. Great scope. Price £1,100 part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown Street.

Midlands — Old-established mixed PRACTICE. Vendor retiring. Average cash receipts £2,250. Panel 1,500. Appointments. D.P.H. an advantage. Large house, surgery attached, garage for sale or on lease. Premium—Practice—1½ yrs. purchase.—No. 4517 B.M.A. House, Tavistock Sq., W.C.1.

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Nucleus for Sale —Sea-front, popular South Coast resort.—£400 for quick sale, to include fittings, furniture, etc., as going concern. Established 2 years. Ground floor flat, rental £120 p.a. inclusive. Suit bachelor. Terms for inspection and audited but no introduction given.—Address No 4515 B.M.A. House, Tavistock Square, W.C.1.

Nucleus for Sale Established 18 months. E. London Surgery rent £1 per month. Enormous scope. New tenements being erected opposite surgery. Congested neighbourhood. Panel about 140. Good standing £600 p.a. Fees to be verified at completion. Genuine. Quick sale.—No 4560 B.M.A. House, Tavistock Sq., W.C.1.

North Wales —For immediate sale PRACTICE £600 p.a. (half panel) large scope. Industrial district. Hospital. Low rates. Healthy town. Furnished residence. Surgery. Payments on completion. Personal interview essential. Particulars by post.—No 4562 B.M.A. House, Tavistock Square, W.C.1.

Quick Sale —Growing PRACTICE in N. London. Receipts £1,500 p.a. with panel £1,200. Income £2,000. House only if required. Premium 1½ years purchase cash or offer.—Address No 4574, B.M.A. House, Tavistock Square, W.C.1.

Rome —Death Vacancy — PRACTICE among English residents and tourists. Excellent furnished suiting rent. First quarter—Easter. Must be Institute Mount Pleasant, Liverpool.

South Australia —£700 a year — Country PRACTICE. [illegible] Adelaide. Health and pleasure [illegible] fees £350. Good [illegible] first-rate [illegible] [illegible] [illegible] to England [illegible] HOWLETT & [illegible] Brighton.

South Yorks —Practice averaging £1,600 p.a. Panel [illegible] over £200 p.a. Splendid [illegible] London 2 miles. [illegible] (with tennis court). Premium—[illegible] House—£2,000 [illegible] arrangement.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

To Purchasers — Do not buy without expert advice. We [illegible] expert advice Mr PERCIVAL TURNER [illegible] all cases. Terms free and [illegible] St. Strand, W.C.2. [illegible] 90 I. Telegrams [illegible]

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Further particulars, apply Managing Agents DAVID AINSLIE & Co, 35, Lanton Street, S W 1 (Regent 2521 2)

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Doctor living just off Portland Place wishes to Let immediately, on lease to Doctor or Dentist ground floor CONSULTING ROOM, large North window fitted basin—Address No 4567 B M A House, Tavistock Square W C 1

Good Opening, Medical Practitioner, Plumpton, Sussex For sale pre-war VILLA freehold 2 rec 3 bedrooms kitchen, scullery greenhouse, large garage, well stocked garden *Near station shops P O* Telephone £900 possession on completion—OWNER, Oakdene Plumpton

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Garage to Let, Wimpole St, £45 per annum one car—Apply, HALLETT, 50, Wimpole Street

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Harewood Chambers, 74-80, Gower St W C — Just opened newly decorated and furnished Hot and cold water Phones Room and breakfast from 2 gns, with dinner 5 gns. Bed and breakfast 7/6—Museum 3941

Harley Street—14, Nottingham Place—Superior Bed sitting Rooms from 2 gns Also Furnished Self-contained Flat, with service Ground-floor large Furnished Room 3 gns Bed and breakfast 7/6—Welbeck 7585

Harley St (adjoining)—Charming well furnished BACHELOR SERVICE FLAT two rooms bath phone constant hot water Beautiful house—Write BM/BOL4, London W C

Stowmarket, Suffolk—For Sale, DOCTOR'S RESIDENCE containing 9 bed and dressing rooms bathroom 2 w c s, 3 reception rooms conservatory, consulting room dispensary and dressing room patients waiting room, and garage Pleasure garden with tennis lawn *All modern conveniences* Possession October 1st—Price and full parties from WOODWARD & WOODWARD Stowmarket

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APPOINTMENTS—Contd

Royal Infirmary, Blackburn

(240 Beds—Five Residents)

RESIDENT HOUSE PHYSICIAN (male) required at a salary of £175 per annum with board residence, laundry etc In addition to Medical Wards to be attached to Ear Nose and Throat Department To commence duties as early as possible

Applications, with copies of testimonials, stating age, nationality experience etc., to be sent at once to the undersigned

Royal Infirmary, NATHAN A SMITH
Blackburn Gen Supt. & Sec.

This Institution is recognized for the Surgical Practice required for the I R C S Final Examination

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Royal Hospital, Richmond, SURREY

JUNIOR HOUSE SURGEON (male) required to take up duties early in September Salary at the rate of £100 per annum, with board furnished apartments and washing Candidates *must* be fully qualified and registered, and single The appointment will be for six months after which the successful candidate will be eligible for the Senior post Applications, stating age experience and copies of three recent testimonials, must be forwarded to me as soon as possible

RICHARD ALLEN, Secretary

The Hospital for Women at LEEDS

(For the Treatment of Diseases peculiar to Women)

HOUSE SURGEON wanted for a period of three months from August 1st Salary at the rate of £50 per annum with board quarters and laundry Applications, with copies of testimonials should be sent immediately to the undersigned

S CLOUGH HILL, Secretary

Beckett Hospital and Dispensary, BARNSLEY

The Committee invite application for the post of HOUSE PHYSICIAN Applicants must be registered and hold a Medical and Surgical qualification, and preference will be given to applicants who have held a previous Hospital post and having Pathological experience

Salary £200 per annum with board, residence, and laundry

Applications, together with testimonials should be sent to the

July 1st, 1930 Supt

Royal Hampshire County HOSPITAL, WINCHESTER

HOUSE PHYSICIAN Applications are invited from fully qualified men for the above post Salary £150 per annum with board residence and laundry Candidates who must be of British nationality should make application at once to the undersigned, enclosing copies of three testimonials

HERBERT MASLEN, Secretary

Stroud General Hospital,
STROUD GLOS

HOUSE SURGEON required to commence duty on August 8th Salary £150 per annum with board lodging and washing The appointment is tenable for six months but application may be made for an extension of the period Candidate must be registered according to the provision of the Medical Act

Application stating age nationality etc together with copies of three recent testimonials to be sent to the undersigned

C FORD SPENCER
Secretary

The Royal Infirmary, Sheffield
(500 Beds)

The Weekly Board of Management invite application for the undermentioned posts —

TWO HOUSE SURGEONS
ONE OPHTHALMIC HOUSE SURGEON

The appointment will be made from 1st ending December 31st 1930 The salary attached to each post is £50 per annum rising after six months to £100 per annum together with board and residence

Application together with copies of testimonials to be sent to the undersigned immediately

JNO W BARNES FCIS
General Superintendent and Secretary
Royal Infirmary June 30th 1930

The Royal Infirmary of
EDINBURGH

MEDICAL REGISTRAR FOR STATISTICAL RESEARCH
Honorarium £250 per annum

The Statistical Research Committee of the Honorary Staff invite application for the office of Medical Registrar to supervise and direct work in the Statistical Research Department to be established under their direction in the Royal Infirmary

Applications stating age qualifications and experience to be forwarded to the Superintendent Royal Infirmary Edinburgh

Torbay Hospital, Torquay
(146 Beds)

HOUSE PHYSICIAN and HOUSE SURGEON wanted as soon as possible Salary £175 per annum with board residence and laundry allowance Candidates must be fully qualified registered and unmarried.

Applications stating age nationality qualifications and experience to be sent to the undersigned with copies of not more than three recent testimonial

E L GRIST
June 30th 1930 Secretary

The Guest Hospital and Eye
INFIRMARY DUDLEY
(General Hospital—104 Beds)

Applications are invited for the post of ASSISTANT HOUSE SURGEON Salary £150 per annum according to experience with furnished apartments board and laundry Candidates must be fully qualified and registered

Applications stating age qualification and experience and accompanied by copies of testimonials to be sent to the undersigned

The Guest Hospital H RAYMOND HURST
Dudley Secretary
June 30th 1930

The Royal Portsmouth Hospital,
PORTSMOUTH
(Five Resident Medical Officers.)

CASUALTY OFFICER (male qualified) required to commence on or about July 15th Salary at the rate of £100 per annum with board etc Six months appointment. Eligible on completion of term for appointment to other resident posts

Application stating age nationality etc and copies of three recent testimonials to be sent to the undersigned as soon as possible from whom all particulars can be obtained

B WAGSTAFF Secretary

West End Hospital for Nervous
DISEASES
(In-patient Department Gloucester Gate Regent's Park N W 1)

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN to start duty August 1st Salary £100 with board residence and laundry Appointment in first instance for six months Applications with copies of three testimonials must be received by the undersigned not later than July 15th.

J P WETENHALL Secretary
73 Welbeck Street W.1.

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Manchester Royal Eye Hospital

JUNIOR HOUSE SURGEON required Salary £120 per annum with residence board etc.

Applications (with copies of testimonials) endorsed "House Surgeon" to be addressed to the Chairman of the Board of Management not later than July 18th

H R NORTH Secretary

Leeds Public Dispensary

Wanted, JUNIOR RESIDENT MEDICAL OFFICER. Salary £150 per annum with board residence and four shillings weekly for laundry Separate sitting room Applications with copies of three recent testimonials to be addressed to the Secretary of the Faculty Public Dispensary North Street Leeds

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Essex Suburb — Average over £1,100 Panel £800 Very select residential district ample scope Fees 5/6 to 10/6 4 bedrooms and garage surgery &c £590

Central Wales —£1,300 Panel and appts £400 Very nice old Large house low rent Beautiful scenery &c —No 8588

London, N —£1,700 p a Panel 1300 Part principally Gentleman's type Fees up to 5/- Immediate possession House to rent —No 8588

London, S E —Woman Practice Assistantship £600 Panel 2200 Fees 3/6 to 21/- Splendid opportunity for lady doctor —No 8656

Within 45 miles of London — Old-established unopposed PRACTICE £1,000 p a Panel 1700 Appts £150 Fees 5/6 to 10/6 House 5 bedrooms garage and garden —No 8655

South Coast Resort —£6,000 p a Non-panel one fifth part share to be paid in 2 years. Fees £3,000 Commencing Income —No 8662

London, S E Suburb — About £500 Panel 550 Fees 5/- Detached house 7 rooms and bath Immediate possession £100 —No

South Devon —Average £1,600 p a Panel over 2,000 Fees 5/- Large house 7 bedrooms 3 attics 2 reception etc— 8678

Essex Suburb —Near Country — 1/2 share of £2,000 Practice Part about 1,500 Suit man or woman Good flat.—No 8619

London, N W —Nucleus About £250 p a Panel 150 Doctor provided locality improved by part sale Premises £350 —No 8667

S W County —Near Sea —Share worth £700 ample scope Very handy Visits 5/- to 7/6 Choice of Houses. Ample scope —No 8656

London, W —Electrical & X-ray —£1,500 £2,000 Fees 21/- per visit in good locality on lease Low rent —No 8664

Harrogate — Death Vacancy Practice £700 p a Panel over 600 Fees 5/6 to £2 2/- 21 Guinea subscription and Hospital £200 —No 8664

London, S W — £2,000 p a Non-panel 12 guineas up Visits 5/- mostly and up to 10/6 or over Large house and garden rent —No 8650

Cambs —Over £850 —Old-established unopposed Panel 475 Appts £90 Fees 3/6 to 7/6 Large house 5 bedrooms and garden at low rent—No 8654

S Wales — Death Vacancy — £700 p a largely colliery Panel 1700 Small house low rent or price Premium £500 or near —No 8651

Lancs Town —£2,500 p a Panel 1800 Inst £120 Two houses available with 5 bedrooms etc Good opportunity for two friends— 8645

Berks — About £1,000 p a Panel 535 Visits 5/- to 10/6 No midwifery ample Small house surgery —No 8

S W Co [illegible] side **S.** About £6 [illegible] 3/6 to 5/6 [illegible] 5 bedrooms garden

Northants [illegible] Practice [illegible] of £1,200 p a [illegible] ultimate [illegible] ferred—No 86

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Practices and Partnerships for Disposal **Full particulars sent free**

1 DEATH VACANCY —London, N W — Non dispensing PRACTICE nearly £1,700 p a, in Residential Suburb No panel Large corner residence (6/7 bedrooms) for sale or rent

2 DEATH VACANCY —South-East Coast —Good class non dispensing PRACTICE over £3,000 p a in popular Resort No panel Splendid freehold house (8 bed and dressing rooms) for sale or rent

3 HOME COUNTIES — Partnership in Practice, £2,690 p a, in growing and prosperous town Panel 950 Excellent scope Premium, one third or two fifths share, 2 years purchase

4 SURREY —Increasing Practice in developing part of residential district half an hour from London Income past year nearly £500 Small panel Modern freehold corner house (5 bedrooms), garden, and garage, for sale Good scope Premium £475

5 LONDON N W —Practice of between £1,100 and £1 200 p a in suburban district Panel 650 Corner house (4 bedrooms) for sale Scope Premium 1½ years purchase.

6 HOME COUNTIES — Partnership in Practice nearly £3,500 p a, in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi detached corner residence (6 bedrooms), garage, and garden, for sale Premium one-half share, 2 years purchase

7 CHESHIRE —Partner required in increasing better class non panel Practice in first rate residential district Cash receipts past year over £4,500 A University Graduate who must have held Resident Hospital appointments preferred One fourth share at 2 years' purchase

8 LONDON, S W —Practice about £630 in suburban district within half an hour of Charing Cross Panel about 400 House to rent on lease Very good scope Premium £900

9 LIVERPOOL — Practice in populous district Receipts, 1929, £1 850 Premium 1½ years purchase

10 MIDLANDS —Fourth Partner required in good middle class non dispensing Practice £8,000 p a in prosperous town Very small panel Small house to rent One sixth share at 2 years' purchase Partner should be aged about 30 and well qualified

11 LANCASHIRE —Practice in rapidly growing district near coast and popular resort Receipts last year £1 183 Panel 260 about Very nice compact freehold house (4 bedrooms Electric light, etc), with beautiful garden, for sale Premium for Practice £500

12 WEST MIDLANDS —Practice about £1,050 p a in residential country district Panel over 500 Excellent house (5 bedrooms) with electric light etc., garage and 3 acres land for sale or rent Premium 1½ years purchase

13 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms), garage, garden etc, for sale or rent Very good trout fishing Premium £1,250

14 LONDON, S E —Partnership in increasing middle-class Practice £4,600 p a in suburban district Panel 3 300 Premium one third or one fourth share 2 years purchase Partner aged about 30, with experience in minor surgery

15 SOUTH MIDLANDS — Practice over £1 200 p a in Market Town Panel 900 Pleasantly situated house (6 bedrooms), with good garden, for sale Scope Premium 1½ years purchase

16 SOUTH MIDLANDS — Practice of £756 p a in County Town Small panel Large freehold house (9 bedrooms), garages and garden, for sale Good hospital Premium 1½ years' purchase

17 LONDON, N —Practice about £1,700 p a in thickly populated district Panel 1 300 Corner house (2 bedrooms) to rent Considerable scope Premium £2,750

18 SOUTH COAST — Non-dispensing PRACTICE about £550 p a in popular resort Small panel House (5 bedrooms), with garage to let Plenty of scope Prem £500

19 OUTLYING EASTERN SUBURB —Cash and Panel PRACTICE averaging £800 per annum Panel 750 steadily increasing Great scope for one residing on premises Long lease. Price £650

20 LONDON, S W — Good-class non-panel PRACTICE in pleasant residential outlying suburb Receipts formerly about £1,500 p a House in good position Premium based on results

21 WEST OF ENGLAND — Easily worked better middle-class PRACTICE in Inland Health Resort Receipts 1929 £1 179 No panel Nice house (7 bed and dressing rooms) garage and garden, for sale or rent Great scope Premium £1 650 to include drugs

22 EAST COAST —Partnership in Practice in favourite watering place No panel Share of about £1 000 p a (after preliminary Assistantship) at 2 years purchase Applicant should be young and have held Hospital appointments

23 HOME COUNTIES —Country Practice over £1,200 p a in agricultural district Panel over 800 Excellent detached house (5 bedrooms) garden and paddock for sale Hunting shooting Premium 1½ years purchase

24 SOUTH-WEST OF ENGLAND - Practice averaging £1,666 p a in seaport town Panel over 2 000 House with 5 or more bedrooms, for sale Premium £2 500

25 YORKSHIRE (W R) — Practice nearly £1,500 p a in manufacturing town Panel about 750 Good house, with nice garden, to rent or purchase Premium 1½ years purchase

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Practices and Partnerships for Disposal (continued)

26 SCOTLAND — Practice averaging nearly £1,000 p.a. In small Seaport Town on South West Coast. Panel about 400. Sport. Premium £850.

27 KENT AND SURREY BORDERS —Practice about £800 p.a. in grazing and pleasant residential district. Choice of residence for sale. Good scope. Premium £1,200.

28 LONDON, W. — Good middle class non-panel PRACTICE £1,160 p.a. in Western suburb. Attractive detached house (8 bedrooms (including attics)) for sale. Consulting scope. Premium £1,150.

29 S.E. COAST — Practice of nearly £1,100 p.a. in favourite Health Resort. Panel 500. House (5 bedrooms) for sale. Good scope. Premium £1,600.

30 SOUTH-WEST OF ENGLAND —Partnership in increasing middle class Practice of about £2,500 in a sport town. Panel 650. Good furnished house (third share). 2 years purchase. Preliminary interview.

31 LONDON, W. —Rapidly increasing Practice about £600 p.a. easy access to the West End. Panel 350. House with 2 bedrooms to rent. Premium £300.

32 LONDON, S.W. —Partnership in non-dispensing Practice about £3,500 in first class residential suburb. Small select panel. Hospital. Premium one third share 2 years purchase.

33 SOUTH COAST —Practice nearly £900 in favourite watering place. Panel about 200. House (5 bedrooms) in good position for sale. Scope in all directions. Premium to effect quick sale only £600.

34 OPHTHALMIC PRACTICE in good Town 30 miles from London—Profits for the months £45 (for days a week only). Hospital. Premium £800.

35 SOUTH WALES —Seaport Town —Non-dispensing PRACTICE of £1,300 p.a. Small panel. Pleasantly situated house (5 bedrooms) garden and garage for sale or rent. Premium £1,500.

36 EASTERN COUNTIES —Country Practice £1,200 p.a. in agricultural district. Panel 485. Very nice house (6 bedrooms) electric light, garage and garden (over acre) for sale. Premium 1½ years purchase.

37 EAST MIDLANDS —Practice of £2,600 p.a. in good town. Panel 1,750. Very good house (8 bedrooms) nice garden and garage to rent. Hospital. Premium 1½ years purchase.

38 NEAR LAST —Practice, with some major Surgery if desired. Good Hospital. Two appointments. Low premium for quick sale.

39 YORKSHIRE — Partnership in Practice £2,300 p.a. in seaside town. Panel over 900. Double fronted house (8 bedrooms) for sale. Premium two-fifths or one half share 1½ years purchase.

40 SCOTLAND —Sound Practice of over £800 p.a. in large thriving Hospital Town. Small panel. Modern house with garden and garage for sale or to rent. Premium to effect prompt sale £950 to include book debts (about £250).

41 WEST OF ENGLAND —Assistant required (with view to Partnership) in busy Town and Country Practice of £1,700 p.a. Good Hospital. Two-fifths share at 1½ years purchase to suitable man (English or Scotch).

42 SOUTH COAST — Small easily worked PRACTICE of £410 p.a. in fashionable Health Resort. No night work or midwifery. Large house. Premium—house and Practice—£6,000.

43 LONDON, E. —"Lock-up" Practice averaging £875 p.a. Panel about 275. Rent recovered by sub-letting. Long lease. Premium £1,100.

44 ESSEX —Country Practice £400 [illegible], near coast. No panel. Pleasantly situated house [illegible] and garden. Ample scope. Premium—house and [illegible] Pri[illegible]

45 SOUTH AFRICA —Old-established Practice of over £1,800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5,000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1,200 or offer.

46 ESSEX —Partnership in Practice nearly £1,800 p.a. in rapidly developing neighbourhood. Panel about 500. Choice of two houses. Premium two-fifths share 1½ years pur[illegible]

47 NEAR OXFORD — Country Practice of just over £1,000 p.a. in hunting centre. Panel 700. Good house with modern sanitation, excellent garden and paddock to rent. Premium £1,500 to include drugs and fittings.

48 N.W. COAST —Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2,000.

49 WEST HAM — Practice (carried on by Medical Woman) of about £540 p.a. including small panel. No midwifery. House to rent. Premium 1½ years purchase.

50 YORKSHIRE (W.R.) —Practice averaging £1,700 p.a. in manufacturing town. Panel 1,730. House (4 bedrooms) garage and small garden for sale. Scope. Premium 1½ years purchase.

51 WEST MIDLANDS — Partnership in Practice of about £2,250 p.a. in country town. Panel 1,700. Exceptional and extremely attractive house (11 bed and dressing rooms), garages and garden for sale. Good social centre. Premium one half share 2 years purchase.

52 EAST COAST —Partnership in good-class non-dispensing Practice of £3,400 in small select Seaside Resort. Practically no panel. Very great scope. Premium one half share 2 years purchase.

53 MEDITERRANEAN RESORT —Partnership in good-class non-dispensing Practice of between £1,300/£1,400 p.a. Suitable flat to rent. Premium one half share £950 with succession to whole Practice later.

54 DEATH VACANCY —HARROGATE — Receipts about £600 p.a. Panel over 500. Well-situated house (6 bedrooms) to rent.

55 SOUTH OF ENGLAND —Practice worth £500 p.a. in a coast town. Detached house (6 bed and dressing rooms) to rent. Premium £500.

56 HOME COUNTIES —Increasing Country PRACTICE within 30 miles of London. Receipts average over £870 p.a. Panel 499. Detached house (5 bedrooms) garage and good garden to rent. Premium 1½ years purchase.

57 GLOUCESTERSHIRE —Country Practice of £550 p.a. in delightful part. Panel 450. Excellent modern house (5 bedrooms) garden and garage for sale. Premium 1½ years purchase.

58 X-RAY PRACTICE in large Town in the S.W. Receipts average £950 p.a. Vendor on Staff of Hospital. Premium £900.

59 LONDON, E. — Cash and Panel Practice (held by Medical Woman) in densely populated area. Income £360 p.a. Panel 290. Small house. Rent £50. Prem. £450.

60 ESSEX — Non-panel Practice averaging over £1,400 p.a. in populous suburban district. Detached double fronted house with good garden etc. for sale. Scope for increase. Premium £2,000.

61 SOUTH OF ENGLAND — Partnership in non-dispensing Practice £3,600 p.a. in attractive watering place. Panel about 1,900. Good scope. One-eighth share now and one-half later. Premium 2 years purchase. Good prospects. One holding the F.R.C.S.

62 SOUTH-WEST OF ENGLAND —Practice over £2,000 p.a. in small country town near the coast. Panel 1,080. House (5 bedrooms) with electric light for sale. Premium 1½ years purchase.

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[illegible] Schedule of Te[illegible]

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LONDON, E 13 —NUCLEUS working-class PRACTICE, in thickly populated locality House to rent, £60 p a (part sublet at £26 p a) Receipts £500 Panel 400 Fees 1/6 up Mids 2 to 3 gns Premium £600 or near offer

MIDDLESEX, N —NUCLEUS middle class residential PRACTICE situated in rapidly developing locality Modern house to rent or for sale (4 beds) Fees 3/6 up Mids 5 to 15 gns Receipts (average) £290 Panel 145 Excellent scope Premium £300

LONDON —Old established mixed PRACTICE situated on main thorough fare Medium sized house (freehold) for sale (5 beds.) Fees 2/6 up Mids 2½ gns up Panel 2 700 Receipts over £3,500 Premium £8,500 for house and Practice (cash) no offers

MIDDLESEX (W) —Middle and working class PRACTICE in rapidly growing district Splendid scope Medium sized house. Receipts £735 Panel 220 Fees 3/6 up Hospital Premium £1 100

CORNWALL.—Very old-established PRACTICE situated in growing seaside resort. Held by Vendor 40 years Excellent all round scope Hospital Scope for surgery Fees 5/ upwards Receipts £1,618 Panel 760 Premium £2 000

MIDDLESEX (W) —PARTNERSHIP (Junior) in growing mixed Practice, residential district *Hospital Receipts nearly £6 500 Panel 750* A 1/8 or 1/7 share with view to larger share is offered at 2 years purchase Excellent opening for young energetic man

DERBYSHIRE —PARTNERSHIP in old established non panel Practice in best part of large town Receipts approx £3,000 p a Quarter share now, with view to larger share at 2 years purchase.

BEDS —PARTNERSHIP in Town Practice Receipts approx £1 300 p a Panel 1 760 Half share for disposal with view to Succession, at 2 years purchase Preliminary assistantship entertained

LONDON S W —Well-established G P, with branch surgery situated within short distance of West End Receipts approx £1 500 Panel 1 200 House to rent on lease. Premium £3,000 for Practice and lease, or offer

LONDON, N W —NUCLEUS middle and working-class PRACTICE. House to rent Receipts £250 Panel 155 (recently started—scope). Premium £350 or near offer

BERKS —PARTNERSHIP, with view to Succession, Country Practice Receipts average £1,120 p a Panel nearly 600 House to rent Premium for half share 2 years purchase *Suitable only to single man*

LONDON N —*Working class PRACTICE in thickly populated locality* Receipts nearly £1,400 *Panel over 2 000* Very little, if any mid wifery Well located house to rent at £80 p a, on lease Premium £2 800 cash or near offer

KENT —PARTNERSHIP in old-established Country G P Receipts over £2,200 Panel about 1,200 Suitable for experienced married man about 35 Premium for half share with possible view, 2 years pur

WALES —Old-established non-dispensing Town PRACTICE with Surgical scope. Excellent house to rent on lease at £90 p a Receipts nearly £1,300 p a Panel about 400 Premium £1 500 cash

BLACKPOOL (near) —Well-established middle and working class PRACTICE Suitable 8 roomed house available with garden, garage, etc Receipts nearly £1 200 Panel (about) 250 Premium for house and Practice £3 250

LONDON, W (near Hammersmith) —*NUCLEUS G P with living accommodation for bachelor Receipts approx.* £486 10s p a. *Panel 270* Scope for increase Premium £500 cash or near offer

N WALES —DEATH VACANCY —Good-class PRACTICE, situated in Seaside Health Resort Large house for sale or to rent at £85 p a Receipts approx £1,200 p a. Small panel Premium 1 year's pur

YORKS —Well established middle and working-class Town PRACTICE Receipts approx £1,520 Panel nearly 1 700 House to rent Premium £2 250

YORKS —PARTNERSHIP in middle and working class Town Practice Receipts approx. £3 000 p a Panel over 2 000 House to rent Premium for 1/4 share 2 years purchase

LIVERPOOL (near) —Well established mixed G P Modern house available with Branch Surgery Receipts £2 500 Panel 2 600 Fees 2/6 up Scope for surgery if desired Premium 1½ years purchase

YORKSHIRE.—Middle and working class G P Medium-sized house to rent or purchase Fees 3/ up Appointments *Receipts average £2 000* p a approx Panel 795, increasing Premium 1½ years purchase or near offer Part down, balance by arrangement

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4 MIDDLESEX (*half hour from town*) —Well *estab* PRACTICE Receipts last year £735, panel 220 Rapidly developing district Premium £1,100 House to be sold with Practice Mortgage can be arranged

5 SUSSEX.—Seaside Town —Third Share of a very old-established Practice, held 29 years by Vendor, now wanting help through age Receipts £2 000 p a, panel 1,000 Premium for third share £1 400

6 WALES —Large town —Well-estab PRACTICE Receipts over £1,200 a year including fair panel Nice house on lease, rent £90 p a Premium £1 500

7 LONDON, N —Old-estab Cash and Panel PRACTICE Receipts £1,700 a year, panel 1,500 Cor

CASH.—Practice in rapidly [illegible] non-dispensing PRACTICE ing se to near coast and popular resort Receipts last year £1 18[illegible] Panel 260 about Very nice compact freehold house (4 bedrooms electric light, etc), with beautiful garden, for sale Premium for Practice £500

12 WEST MIDLANDS —Practice about £1,050 p a *in residential* country district Panel over 500 Excellent house (*6 bedrooms*) *with electric light* etc garage, and 3 acres land for sale or rent Premium 1½ years purchase

7 WEST COUNTRY —SEAPORT TOWN (Residential district) — Well-estab upper and [illegible] £1,433 p a Panel 355 Considerable scope if [illegible] with 5 or mo[illegible]

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1. KENT COAST TOWN.—Favourite Holiday Resort.—DEATH VACANCY. Very old-established General Practice, non-panel and non-dispensing. PRACTICE. Income for the immediate past year £2,500. Two hours' surgery attendance. Fees 5/- to 21/-. Large centrally situated corner house; rent £250; or for the £4,000 with large mortgage. Would suit MIDDLE-AGED recently. Premium £3,500, but substantial amount by instalments.

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3. SHEFFIELD.—Old-established mainly private and middle-class non-panel PRACTICE. Average income £700, but large scope. Appointments £160. Fees 3/-, 5/- to 15/-. Excellent house with small garden. Ground rent £9. Premium for house and Practice £1,250.

4. NEAR GLASGOW.—Prosperous old-established good middle and better class PRACTICE in prosperous town. Income £2,950 p.a., including panel of 2,350 and appointments worth £500. Fees 2/6 to 21/- and one extra. Mids from 2 gns. upward. Very good detached house, 3 reception, 5 bedrooms etc. Garden. Garage. Can be purchased or other residence secured. Premium 1½ years' purchase. £1,500 down and balance as arranged.

5. WEST OF ENGLAND.—In a small picturesquely situated town amidst beautiful surrounding country. Old-established GENERAL PRACTICE. Income approximately £1,350 p.a., including panel of 900. Visits 5/- to 21/-. Little midwifery. Very attractive detached house in own grounds of 2 acres, 3 large professional rooms (private entrance), 2 reception, 5 bedrooms, bathroom etc. Vendor's freehold. Price £2,400 (£1,800 can remain on mortgage). Premium £2,000. Good practice etc.

6. PEMBROKESHIRE.—Thriving Town.—Well-established mixed general PRACTICE. Income £1,000 p.a. Panel of over 700. Fees 3/6 to 5/-, 7/6. No midwifery. Large house with garden. Freehold price £1,600 or to rent £100 p.a. *Premium £1,500.*

7. SOUTH WEST OF ENGLAND.—PARTNERSHIP.—In a large thriving seaport town in the third half (with increase to half) of old-established rapidly increasing middle-class Practice. Income for average £2,200 p.a. (last year £2,949) including panel of 870. Very little midwifery. Suitable arrangements can be made as to house for incoming partner. Premium 2 years' purchase. Scope for surgery if desired.

8. FIFE.—DEATH VACANCY.—Unopposed mixed PRACTICE. Income £350 p.a. but good scope. Panel 500. Fees 2/6, 3/6 upwards. Small centrally situated house, 4 bedrooms etc. Rent £14 p.a. Premium £450. Locum in charge.

9. NORTH LONDON.—Old-established good mixed-class PRACTICE, producing about £1,600 p.a. Panel of 1,000 and appts. worth about £300 p.a. Fees from 2/6. No midwifery but scope if desired. Motor-rate expenses. Good corner house with 2 reception, 6 bedrooms etc. Small garden. Price for freehold £1,750 or might be rented.

10. PLEASANT CATHEDRAL CITY within 200 miles north of London.—Old-established mixed-class PRACTICE averaging £1,600 p.a. including £800 from panel and over £100 from clubs. Visits 5/- upwards (occasionally 2 gns.). Very little midwifery; from 2 to 5 gns. large attractive house with garden. Rent £80. Premium 1½ yrs. purchase.

11. ESSEX.—Unopposed PRACTICE in very pleasant agricultural district averaging £852 p.a. including panel of nearly 500 and appts. worth £140. Fees 3/6 to 10/6. Mids 3 to 6 grs. (about 12 cases). Commodious house with 2 reception, 5 bedrooms and good professional accommodation. Large garden. Garage. Rent on lease £50. Good sport and schools within reach. Premium 1½ yrs. purchase.

12. LANCS.—Pleasant Town near open country.—Well-established middle and better-class PRACTICE. Cash receipts last year over £920 including panel of 900. Visits 3/6 to 7/6 medicine extra. Mid 2 to 10 grs. (about 20 cases). Suitable house with 2 reception, 4 bedrooms etc. Price for leasehold £1,100, £600 on mortgage. Premium 1½ years' purchase, part by instalments.

13. GLOS.—COUNTRY PRACTICE.—Old-established PRACTICE in picturesque surroundings, averaging about £1,250 p.a. including panel of over 1,100. Visits from 5/-. Commodious house with 3 reception, 6 bedrooms etc. Garden. Garage. Price for freehold £1,500, £1,000 on mortgage. Premium £1,850.

14. WEST OF ENGLAND.—(Within 100 miles of London).—PLEASANT TOWN.—Old-established mixed general PRACTICE. Average income for last 2 years about £1,250 including panel of 1,200. Fees 2/6 to 5/-, and a few at 10/6. Little midwifery. Excellent house recently redecorated with ample accommodation. Garden. Garage. Good sport and schools. Premium for Practice and house £4,500.

15. NORTH LONDON.—Old-established good middle-class PRACTICE, held by Vendor 25 years. Gross cash receipts for immediate past 12 months £2,211. Selected panel of about 250. Fees from 5/- to 21/-. Mids from 7 gns. (only few cases). Very good house with basement with 3 reception, 5 bedrooms etc. Garage. Garden. Price £1,900. Premium only £3,000.

16. CORNISH RIVIERA.—Old-established professionally attractive village with practice for last 12 months £1,300.

5/- to 21/-. Excellent house facing due south with 6 bedrooms etc. Good garden. Rent on lease £56 p.a. Premium £1,800.

17. LONDON SOUTH WEST.—Very old-established non-residential PRACTICE averaging about £4,000 p.a. Panel of 1,500 but large scope for more. Fees 2/6 upwards. Suitable house or flat can easily be obtained to meet purchaser's requirements. Rent or surgery on long lease £100 p.a. Premium 1½ years' purchase.

18. LANCS.—LARGE TOWN.—Very old-established good-class industrial PRACTICE producing £2,500 p.a. including panel of 1,894 and appts. worth about £120 p.a. Fees 2/6 upwards. Very suitable for two friends in partnership as two houses available. Good sport and schools. Premium 1½ years' purchase. A one-half share will be offered with view to succession in six or twelve months if desired.

19. CHESHIRE.—Industrial Town within easy reach of Manchester.—Well-established PRACTICE producing £2,600 p.a. with panel of 2,870. Fees 2/6 to 3/6 medicine extra. Good house, with ample accommodation. Price £1,000 or would be rented at £70 p.a. Premium 1½ years' purchase: half down and balance by instalments.

20. SOUTH WEST OF SCOTLAND.—COAST TOWN.—Old-established non-dispensing good mixed PRACTICE. Income for the last year £1,400 including panel of 400 and increasing. Fees 2/6 to 2 gns. Good house with 2 reception, 5 bedrooms etc., rent on lease £42 p.a. or could be bought for £1,300. Premium £1,000.

21. SOMERSET COAST.—PARTNERSHIP.—In a small increasing seaside resort the five-twelfths share of a very old-established PRACTICE, producing last year £1,500 but offering exceptional scope. Panel 'rising' in £480 and appointments. Visits 5/- to 4 gns. Mids 4 to 6 grs. only about 12 cases yearly. Choice of 2 suitable houses (price freehold £950) with gardens. Electric light and gas. Premium 2 years' purchase.

22. SOUTH DEVON.—COUNTRY PRACTICE steadily increasing and situated in very pleasant agricultural district within easy reach of coast. Gross cash receipts for past 12 months £2,326. Panel produces with mileage about £420. Fees 3/6 to 21/-. Only about 20 cases of midwifery from 2 to 5 grs. Suitable house in main street with 2 reception, 5 bedrooms etc. Garden. Garage. Rent on lease £50 p.a. Good sport. Premium £2,800.

23. SOUTH WEST COAST.—VERY FAVOURITE RESORT.—Old-established good middle-class non-panel PRACTICE, held by Vendor (who is retiring) over 20 years. Receipts average £1,142. Fees 5/- to 10/6 and upwards. Mids 5 to 15 grs. (about 12 cases). House in an exceptionally good one in perfect order with ample accommodation, central heating, electric light. Good garden. Garage. Price for freehold £3,250. Premium 1½ years' purchase.

24. SOUTH OF ENGLAND (Thriving Seaport Town, pop. over 30,000).—Old-established mixed-class PRACTICE. Income last year £823 but offering exceptional scope. Panel of about 430 and 2 small appts. Visits 3/6 to 5/-. Very attractive residence, with professional rooms, 2 reception, 4 bedrooms, bathroom etc. Pretty garden. Garage. Rent on lease £100 p.a. Premium 1½ years' purchase.

25. PARTNERSHIP.—MIDLANDS.—COUNTY TOWN.—TWO ONE-FIFTH SHARES (suitable two friends or will be sold separately) are offered in a very old-established good mixed Practice owing to the retirement of the senior of two partners. Gross cash receipts for immediate past 12 months over £5,900, including panel of 3,400. Fees from 4/- Not much midwifery. Good house, rent on lease £75 p.a. Premium for share two years' purchase.

26. YORKS (NORTH RIDING).—In a small pleasant market town with pretty and prosperous surrounding country, very old-established mixed-class PRACTICE averaging £1,240 p.a. including appts. worth £80 and panel producing last year £356. Visits 3/6 to 25/-. One opponent. Good house facing south (3 reception, 5 bedrooms, bathroom etc.). Garden. Garage. Electric light. Vendor's freehold. Price £1,350 (£1,000 on mortgage), or would let for few years at £80 p.a. Premium £1,500. Educational and social amenities.

27. SOUTH YORKS.—GOOD TOWN.—Old-established good middle-class PRACTICE producing for last twelve months nearly £4,500. Small selected panel of 400. Fees 5/- to 10/-. Mid. 2 to 10 grs. (only about 50 cases yearly). Suitable house with 3 reception, 6 bedrooms etc. and professional rooms. Electric light. Good garden. Garage for 3 cars. Rent on lease £100 p.a. Excellent schools, sport etc. Premium £5,700.

28. KENT.—Pleasant Seaside and Residential Town (pop. 17,000).—Old-established non-dispensing middle and working-class PRACTICE, averaging for the past 3 years over £1,650 p.a. including insurance. Visits 3/6 to 20/- appt. worth about £200 and panel of 600. Fees 2/6 to 5/-. Mids 2 to 10 grs. House contains 8 rooms, kitchen, bathroom etc. Garage. Price freehold £1,500, but might be rented. New Zealand.

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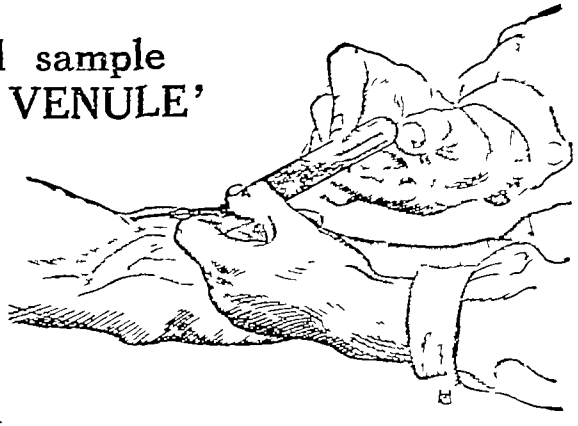
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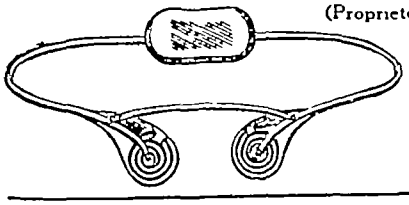
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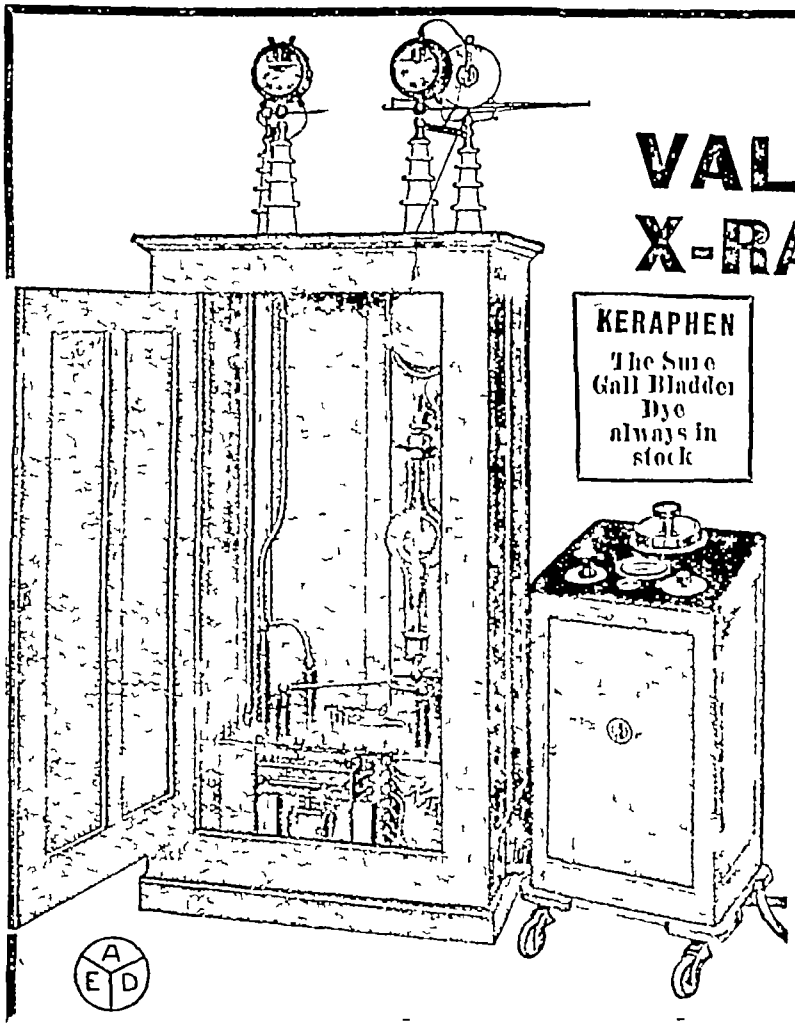
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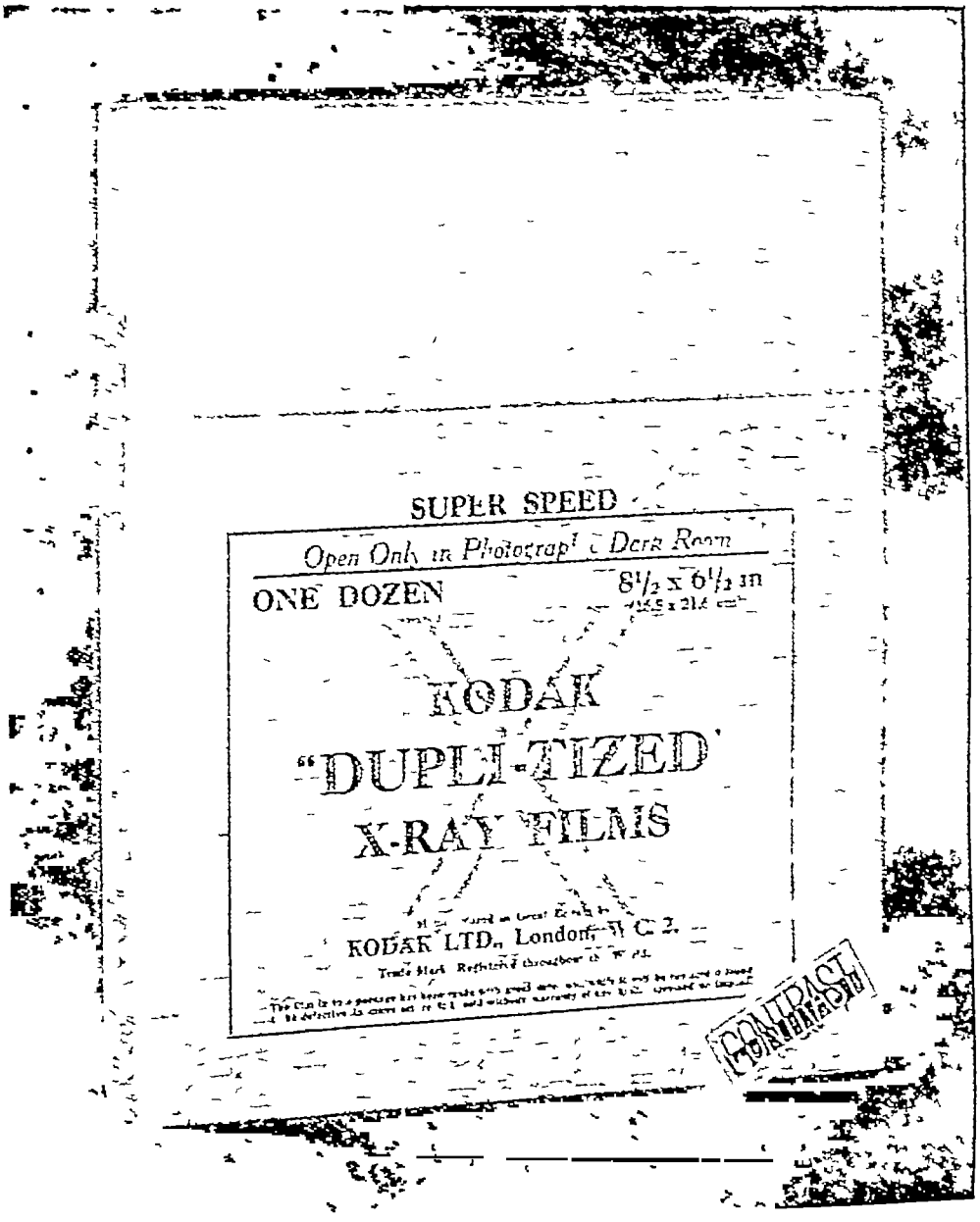
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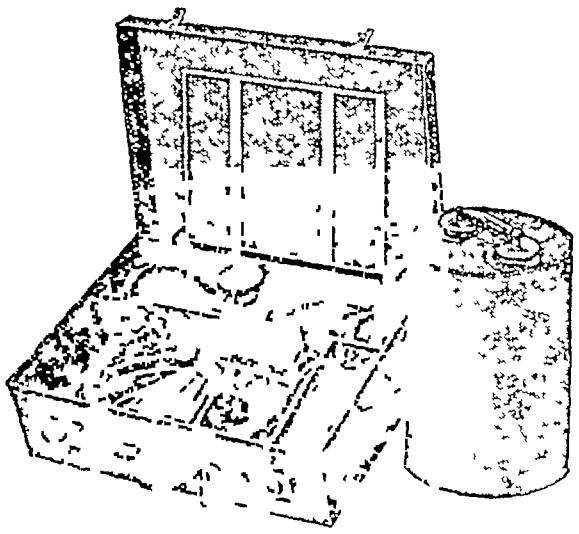


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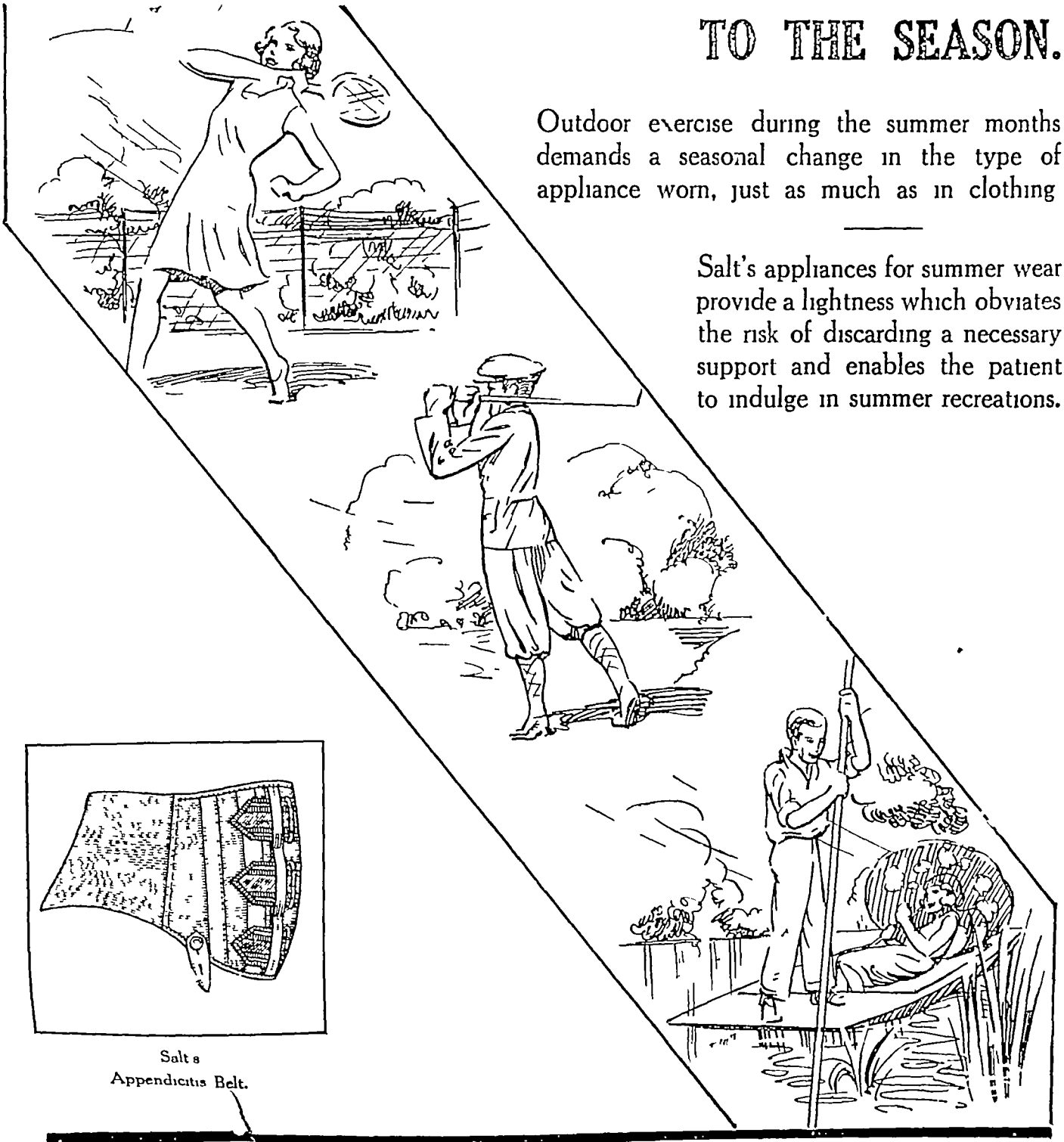
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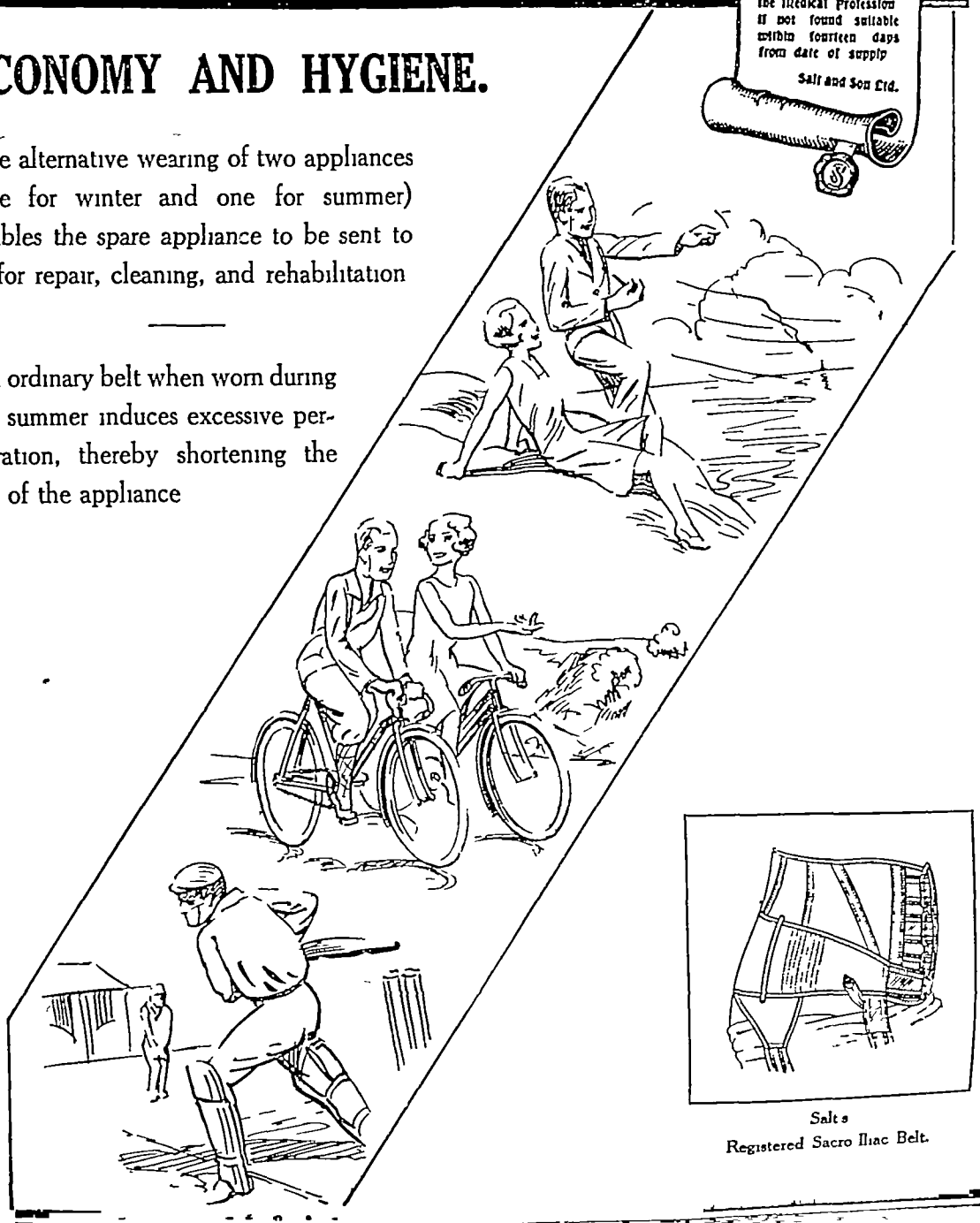
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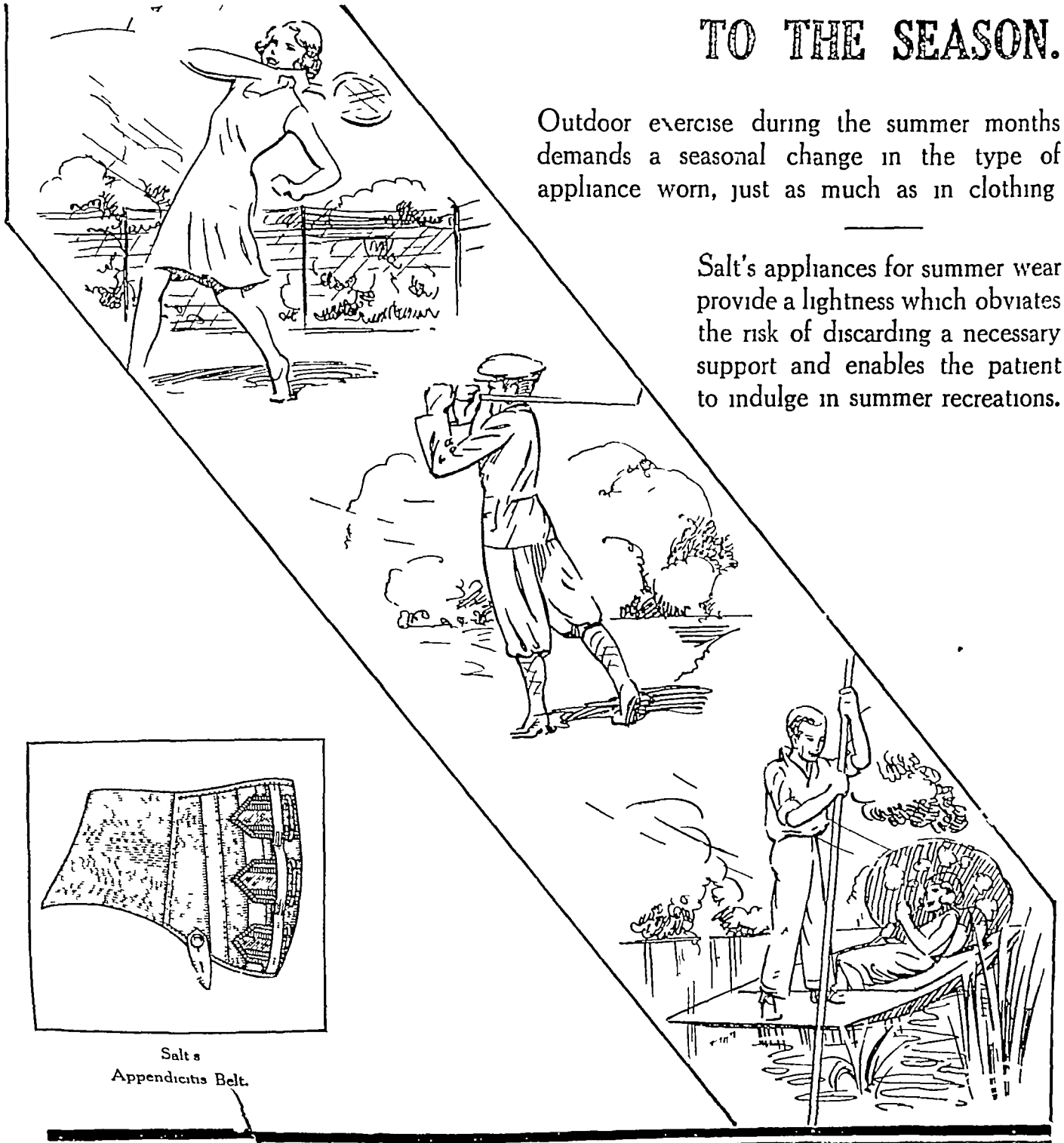
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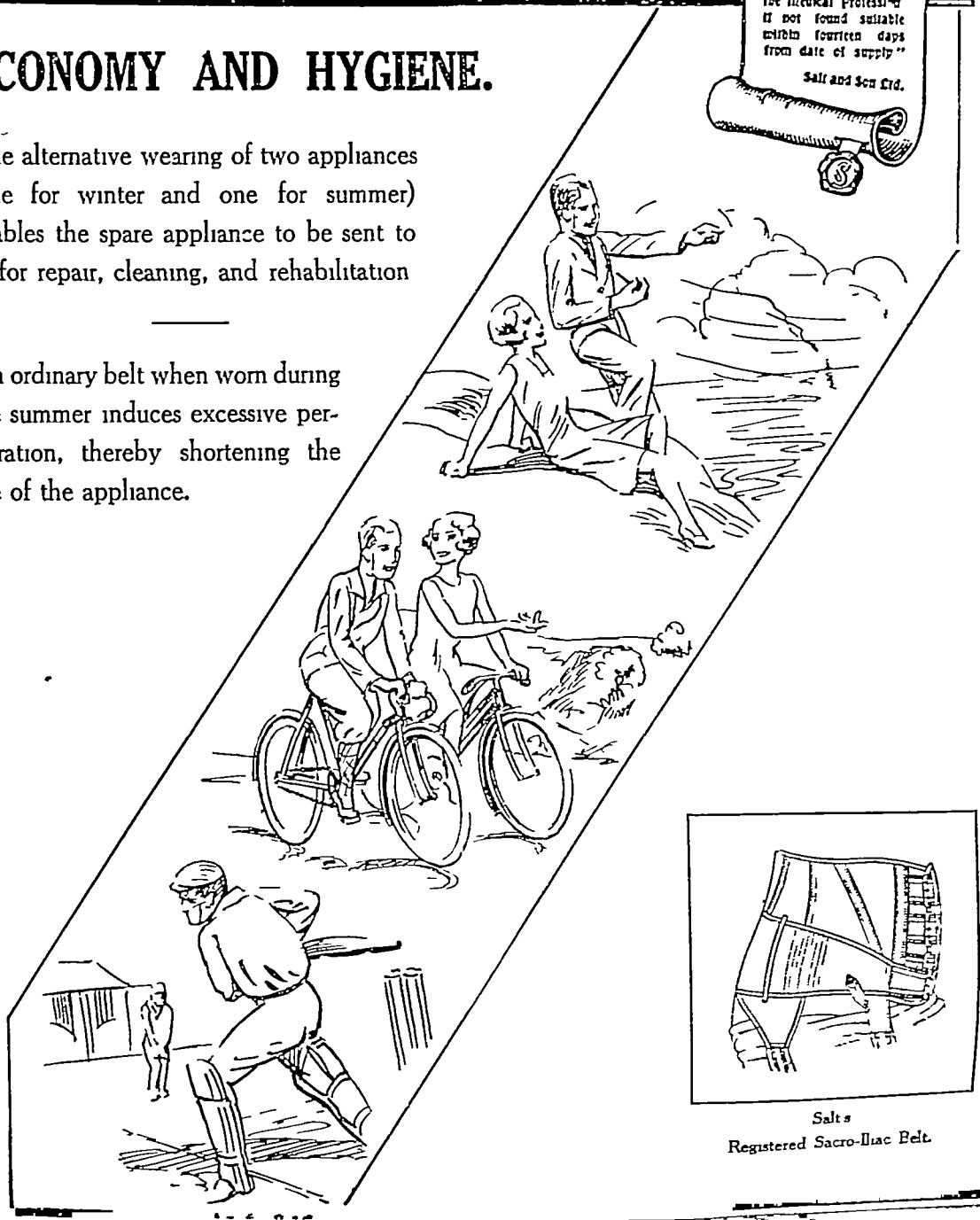
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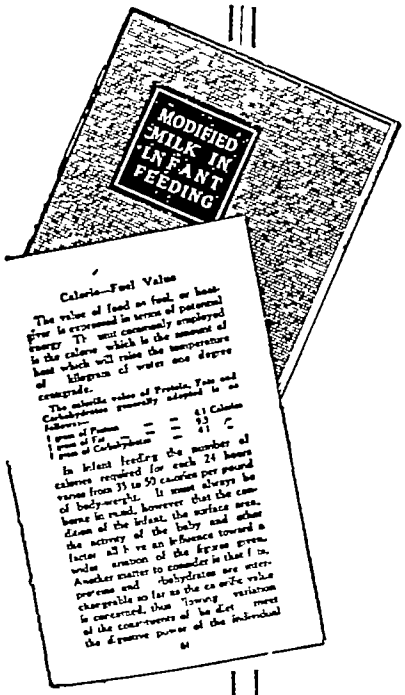
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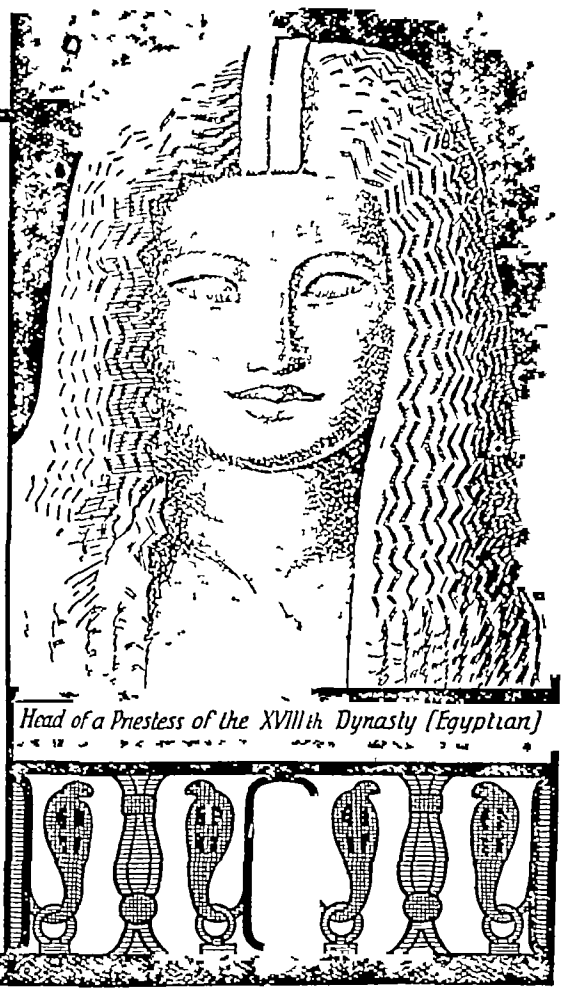
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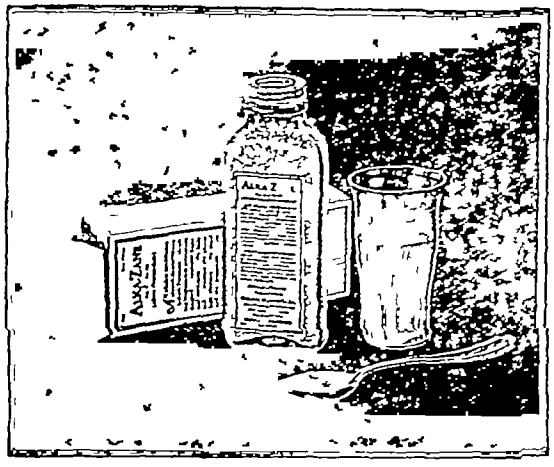
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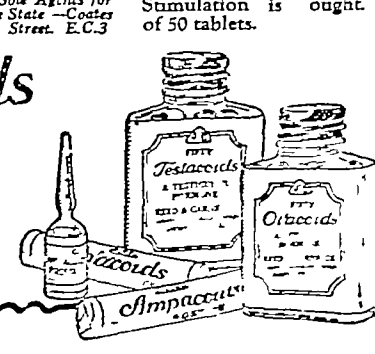
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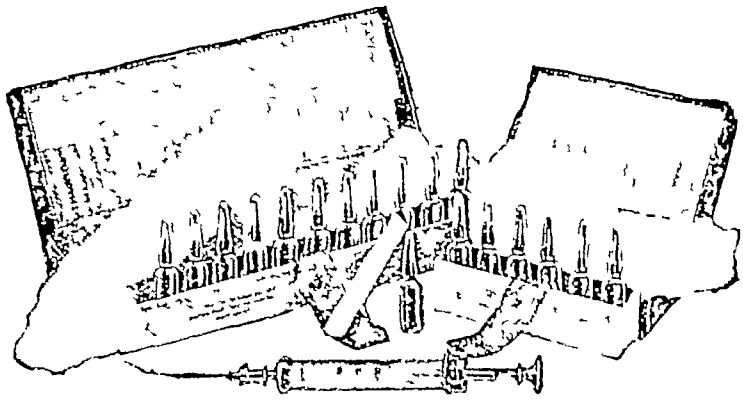
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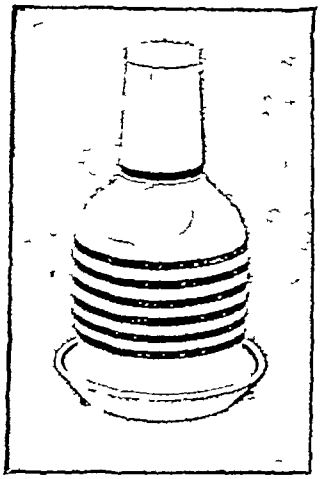
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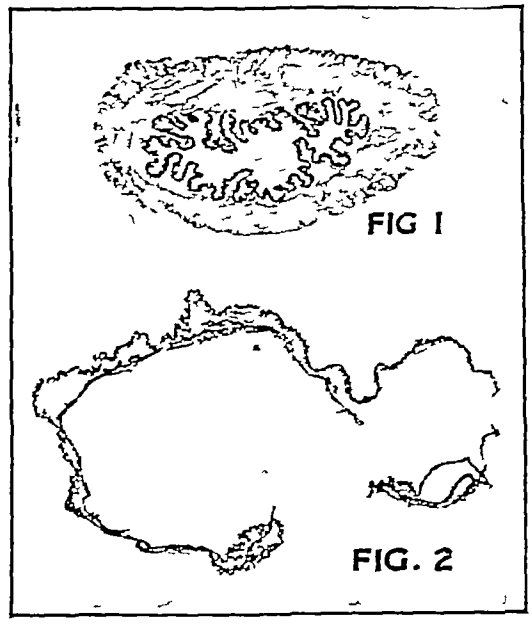
Rats were used for the test, and both the reproductions shown here are of the cardiac end of the stomach

The mucous membrane in the stomach of a rat is lined with squamous epithelium

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Fig No 1 (magnification x 10) is a photograph of a section of the cardiac end of the stomach of a "Bemax" rat showing the two muscular layers, the areolar tissue and the mucous membrane

Fig No 2 (magnification x 10) is a section of the cardiac end of the stomach of a rat which had been on the same deficiency diet for 4½ weeks It is almost incredible that by placing an animal on a complete B deficiency diet a section similar to that shown in Fig No 2 is produced in such a short time as 4½ weeks



The section in Fig 1—that of a "Bemax" stomach, on further magnification showed the mucous membrane in excellent condition, but the section in Fig 2 on further magnification disclosed marked atrophy of the external muscular layer and extreme atrophy of the inner muscular layer and mucous membrane

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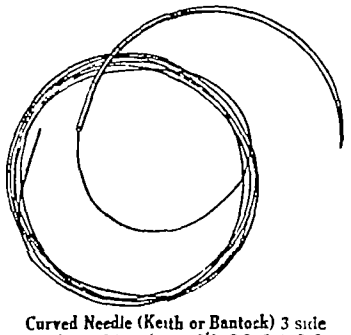
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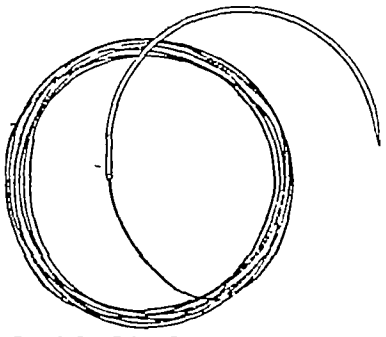
London Hospital Eyeless Needles

WITH L H CATGUT

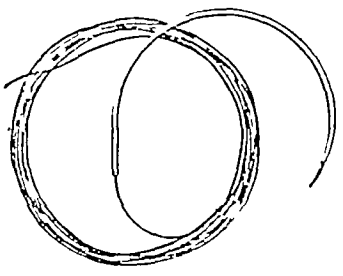
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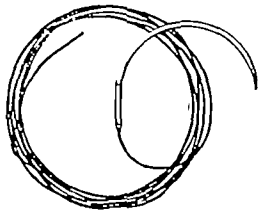
Curved Needle (Keith or Bantock) 3 side cutting edge Sizes 3/0 2 0 0 1 2 3
In boxes of 3 tubes, **4/6**



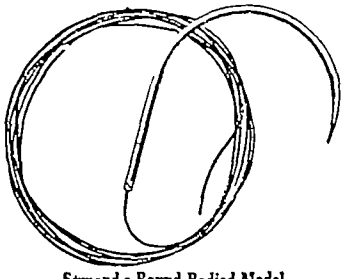
Curved Mayo Robson Stomach Needle, Sizes 4/0 /0 2/0 0 1 2, 3 In boxes of 3 tubes **4/6**



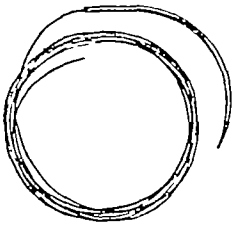
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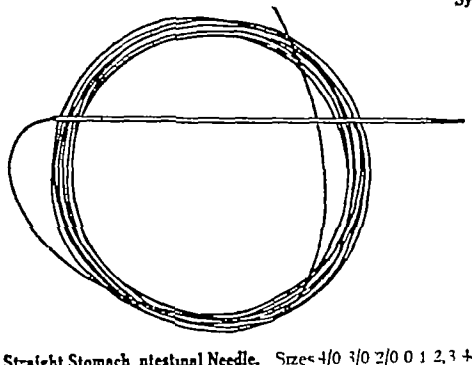
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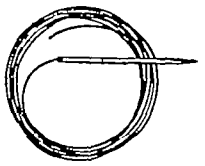
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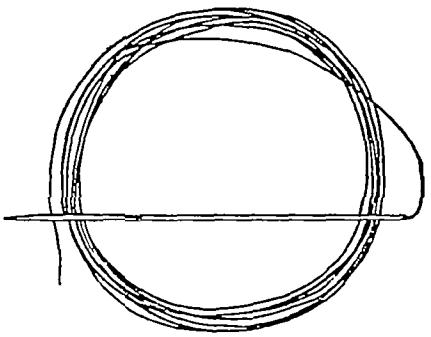
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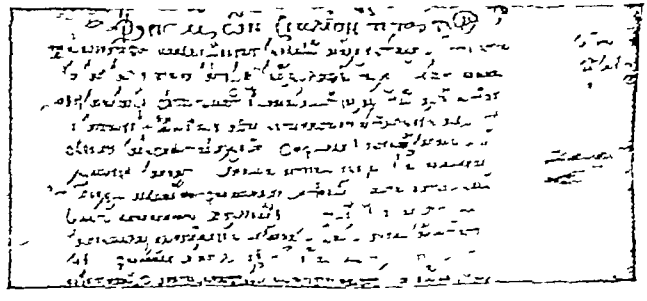
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Remarks on THE OLD MULTIPARA

THE INFLUENCE OF AGE AND PARITY UPON MATERNAL MORTALITY

BY

A. TEYLAND ROBINSON, M.D. LOND., F.R.C.S.

HONORARY SURGEON HOSPITAL FOR WOMEN LIVERPOOL, HONORARY GYNAECOLOGIST ROYAL SOUTHERN HOSPITAL LIVERPOOL, LECTURER IN OBSTETRICS AND GYNAECOLOGY UNIVERSITY OF LIVERPOOL

THE necessity for the pre-natal supervision of the primigravida is now generally recognized, but the needs of the multipara are not so clear to the public or the profession. When a woman has successfully borne several children she is considered to be an accomplished performer, and the supervision of her pregnancy is looked upon as an unnecessary and expensive luxury. The fallacy of this belief is exposed in the clinical reports of all maternity hospitals, which show the mortality risk for a woman of 40 to be three times as great as that of a primigravida of 18. Among the chief factors for this striking difference are (1) the bodily changes set up by repeated child-bearing, and (2) the physical declension due to advancing age. The significance of these two factors will be considered separately, but it should be noted that in most cases they are contemporaneous in their appearance and similar in their action. The general result of their joint effect upon the maternal mortality is shown in the following tables (slightly modified) published by Menzies [1]:

Age	15	20	25	30	35	40-45
I. *Death rate per 1,000 births (married and unmarried mothers):*						
Pre-natal	0.20	0.17	0.24	0.37	0.73	1.59
Natal	1.81	1.69	1.91	2.41	3.32	7.35
Post natal	1.97	1.01	0.94	1.10	1.42	3.32
Total	3.93	2.87	3.09	3.83	5.47	12.26
II. *Death rate per 1,000 births (married mothers only)*						
Pre-natal	0.13	0.16	0.23	0.37	0.73	1.59
Natal	1.18	1.52	1.85	2.41	3.32	7.35
Post natal	1.28	0.91	0.92	1.09	1.42	3.32
Total	2.59	2.59	3.01	3.87	5.47	12.26
III. *Estimated comparative mortality of primigravidae and multiparae*						
All confinements	2.59	2.59	3.01	3.88	5.47	12.26
First confinements	2.75	3.44	5.01	7.16	10.41	23.73
Subsequent confinements	1.58	1.72	2.51	3.58	5.21	11.86

These tables have been corrected for illegitimacy, and further adjustments have been made for the added risk that is considered to be attached to a first labour, and also for the relative frequency of first as compared with other labours. It is claimed that illegitimacy doubles the risk for the mother, and that a first labour is twice as dangerous as any other, although the author admits that his calculations are not capable of statistical proof, and must be, *to some extent, arbitrary, my own clinical experience* is in agreement with the general principle, but does not support such a high ratio. If, for example, the risk of a first labour were double that of other labours, then the low mortality figure given by Menzies for the 15–20 group, which is composed mainly of primigravidae, would not be credible, especially when the relative frequency of illegitimacy among very young girls is taken into account. Moreover, Menzies himself casts doubt on his own assessment. He quotes Coghlan to show that, the age of the patient remaining the same, the first confinement is always the most dangerous, and that the risk diminishes with the next two or three labours to rise again with each successive pregnancy after the fourth. It will be seen that Coghlan's conclusions support Menzies's principles rather than his figures.

Coghlan's Table

Children borne	Average maternal rate per 1,000 births
1	8.8
2	6.74
3	6.32
4	6.05
5	6.21
6	6.23

The broad conclusions to be drawn from these statistics are strongly supported by clinical experience, and from a consideration of both these sources of information there *emerge three generalizations of great importance. (1)* there is a special risk attached to the first labour whatever the age of the patient, (2) there is a special risk attached to age *whatever the parity of the patient. (3)* increasing parity is associated with a diminishing risk up to the fourth labour, and after that with an enhanced risk that increases *with each successive pregnancy.*

THE EFFECTS OF PARITY

The first act of parturition is associated with two special dangers: (1) a high incidence of toxaemia, and (2) certain mechanical difficulties and traumata.

Although there appears to be definite evidence of the recurrence of toxic symptoms in the subsequent pregnancies of patients who have suffered from eclampsia, eclampsia proper is almost entirely restricted to primigravidae, and the maternal mortality from eclampsia is definitely greater than that resulting from comparable toxic sequelae in multiparae. It is likewise true that the presence of a mechanical obstacle to delivery (competent to produce obstruction) is often unknown in the case of a primigravida until the onset of labour, whereas the multipara has the benefit of her past experience to guide her in the matter.

Both eclampsia and dystocia are largely amenable to pre-natal care, but even when the greatest care has been exercised (and it is doubtful whether 50 per cent. of pregnant women yet receive the necessary minimum of pre-natal supervision) there are fulminant cases of toxaemia which escape detection, and there are women in whom the mechanical relationships of mother and infant remain doubtful until the trial of labour has taken place. Even in normal cases there is the rigidity of the soft parts of the nulliparous pelvic floor to resist dilatation and lengthen labour, whilst the virginity of the birth canal renders bruising, contusion, and laceration of the tissues an almost unavoidable feature of a first labour. These traumata lead to shock, haemorrhage, and sepsis, and, taken in conjunction with the high incidence of toxaemia and dystocia, impose an obvious load on the puerperal risk of the primigravida. The multipara, on the other hand, is protected by her history, for the very fact of past difficulty will draw attention to the present need of special examination and treatment. Too much stress must not be laid on the significance of an uneventful obstetric history, for blind reliance upon a blameless past will create a sense of false security, and may lead to disaster.

It is easy to see why the two or three labours that succeed the first should be less dangerous for the mother: the peculiar difficulties of the primigravida are past: the *soft* parts are no longer a formidable barrier, and the patient is still youthful and vigorous. As parity increases, however, it brings with it certain changes that gradually increase the risk of childbirth—namely, calcium depletion, *loss of muscle tone, and a tendency to haemorrhage.*

Calcium Depletion

Calcium depletion is set up by excessive parity rendering the muscles painful and flabby and enhancing the effects due to loss of muscle tone. In advanced cases this loss of calcium may affect the bones, for although true osteomalacia is rare in this country there are minor grades of this disturbance which escape recognition. It must therefore be remembered that the repetition of parturition and

lactation, especially when combined with poverty, overwork, and underfeeding, may set up a decalcification of the pelvic bones and cause a shrinkage in the bony birth canal that may react upon the mechanism of labour

An interesting clinical commentary on this assertion is afforded by the following analysis of the age-parity grouping of a series of 200 cases of craniotomy taken consecutively from the reports of six well-known maternity hospitals

Craniotomy Table

Parity	Cases	Age	Cases
6 para	17	38	2
7-para	3	39	7
8 para	4	40	7
9 para	10	41	6
11-para	1	43	2
12 para	5	44	6
14 para	2	45	1
15 para	1	46	1
16-para	1	47	1

Of these women, 44 were 6-parae (or *plus*) and 33 were 38 years of age (or upwards) In the majority of cases the early confinements had been easy, and a general survey of the whole group shows clearly that the higher degrees of parity are associated with a special tendency towards a peculiar form of dystocia whose true significance is often missed until the indications for craniotomy have become urgent Few of these patients show any gross mechanical defect, and most of them have a deceptively innocent past history, the difficulty is essentially due to the combination of two factors, both insignificant apart from the other—the first a minor mechanical obstacle to delivery, such as a large child, an incompletely flexed head (persistent occipito-posterior), or a partially decalcified pelvis, and the second a defective musculature, which seriously interferes with the cardiac response of the patient and also reduces and misdirects the expulsive powers of the uterus Unhappily, the case may be regarded as a type of primary inertia and treated along expectant lines, as if secondary were merely an advanced stage of primary inertia

There may be a deficiency of pressor bodies in the blood of both kinds of patients, but the condition is otherwise quite different in its pathogenesis and prognosis, for, whereas primary inertia indicates nothing more than simple muscular weakness, the appearance of secondary inertia indicates the failure of the uterus to overcome a mechanical obstacle to delivery, and is therefore a definite and distinct type of obstructed labour

Loss of Tone

Loss of tone in the uterine muscle is responsible for inertia, prolonged labour, and post-partum haemorrhage, and it also produces a flaccidity of the walls of the uterus that destroys and distorts the shape of this organ This loss of shape permits malpresentations of the foetus, and is a direct cause of dystocia These changes are not restricted to the uterus, but affect the skeletal muscles, the flabby abdominal walls of the multipara resemble the flaccid uterus in their action upon the expulsive powers and their proneness to produce malpresentations (transverse lies and occipito-posterior presentations) Further, the uterus, deprived of the muscular support of the abdominal wall, is itself prone to dislocation, and may assume a position of extreme obliquity (pendulous belly) Severe displacements of this kind, unless they are spontaneously rectified or deliberately corrected by posture, manipulation, or the application of padded binders, may very adversely affect the course of labour Extreme uterine obliquity is a well-known cause of face, brow, and shoulder presentations, which are in themselves a serious menace to the mother, but there is also a deflection of the long axis of the uterus which may seriously interfere with the fixation and descent of the presenting part, and unless the normal relationship of the long axis of the uterus to the planes of the pelvis is restored the efforts of the uterus to push the presenting part into the brim may be entirely misdirected, and thereby rendered quite nugatory This kind of defective uterine action leads to exhaustion of the uterus, and is one of the underlying causes of the special form of obstruction known as secondary inertia

Haemorrhage

That parity produces a tendency to post-partum haemorrhage is a commonplace, but its relation to ante-partum haemorrhage is not so obvious There can, however, be little doubt that concealed ante-partum haemorrhage commonly attacks the old multipara who is pale and flabby and has a trace of albumin in the urine This relationship between ante-partum haemorrhage and age is clearly brought out in the well-known paper by the late Gordon Ley - Analysis of his fifty cases from the point of view of age and parity reveals the following

Age	Cases	Parity	Cases
19	2	Primigravidae	8
21–24	6	1 para	5
25–29	12	2 para	5
30–39	20	3-para	6
40–43	10	4 para	5
		5-para	3
		6-para	1
		7 para	2
		8 para	4
		9 para	7
		12 para	3
		15-para	1

When due allowance has been made for the comparative rarity of childbirth after the age of 40, and also for the relative infrequency of the higher degrees of parity this analysis suggests that concealed haemorrhage (like secondary inertia) is an important feature of obstetric old age

THE INFLUENCE OF YOUTH

The influence of extreme youth is best considered in conjunction with the rôle played by illegitimacy The latter is complex, the majority of patients are in their *first pregnancy, and therefore subject to the risks peculiar* to that state, whilst there is a high incidence of venereal disease and a general disposition towards concealment which, to be successful, involves the neglect of medical aid before, and sometimes during, the confinement As illegitimate cases include a high proportion of all pregnant women below the age of 18, the possible effect of physical *immaturity must also be taken into account*

The exact age at which the pelvic bones and organs reach their maximum development is unknown but it seems unlikely that this should occur at, or immediately after, puberty On one occasion I had an opportunity of observing the growth of the pelvis of a young girl who first came under observation when pregnant at the age of 15½ She was measured during this first pregnancy, and again at the age of 17 and 18 years, and her pelvic measurements were found to have increased *on each* occasion

The presence of a marked degree of under-development must be a source of danger, but it is a rare condition, because *there is a close, protective relationship between* the hard and soft parts of the pelvis on the one hand and the powers of conception on the other In this country, at any rate, there are few expectant mothers with a physical development so incomplete as to be infantile in type, for puberty (and with it the power of conception) does not occur until infancy has passed In Eastern countries, however, puberty comes on at a much earlier age, and pregnancy is relatively common in childhood, and here the presence of dangerous degrees of immaturity has no *doubt some effect on maternal mortality*, although the high morbidity which prevails is probably due to neglect and ignorance rather than to lack of development A clear distinction must therefore be made between the infantile pelvis of the East and the pubescent type which is sometimes found among young pregnant girls in this country It is true that this pelvis shows a certain amount of under-*development, but it is formed of incompletely ossified bones*, and its several elements are united by ligaments of great elasticity, and as a result the pelvic joints are capable of much opening out during labour These several factors produce a general resiliency, which easily compensates for a small reduction in size—in other words, the youthful pelvis is functionally bigger than its actual measurements

Menzies's tables afford an interesting commentary on this aspect of the subject, for the mortality in the 15 20 group is distinctly greater than that of the three succeeding

groups, and clearly shows that extreme youth entails a special danger for the mother At the same time it must be remembered that this group includes all the youngest patients and a very high percentage of illegitimate births and first labours The influence of these several factors cannot be ignored but their individual importance must not be exaggerated, indeed, in comparison with the mortality after 40, the death rate under 20 years of age calls for little comment beyond the obvious conclusion that the very young unmarried mother demands special care and attention before, during and after labour

THE EFFECT OF AGE

The human body may approach old age in a pathological or a physiological condition, although both these states are usually combined, since few individuals are free from some organic defect or weakness Even in the presence of perfect health advancing age causes tissue atrophy or physiological wear and tear that reduces the activity of the organs of the body and absorbs their reserve power Any such progressive impairment of function will reach a point in the course of time at which the whole of the reserve power is fully mobilized and the individual is incapable of further effort The result of these changes is well shown in the athlete whose physical perfection declines between the age of 25 and 30 and is lost five or ten years later In the same way as loss of youth unfits the athlete for great effort so does the effect of time react upon the pregnant woman and make her less fit to meet those exceptional demands of parturition which fall chiefly upon the excretory system during pregnancy and the musculature and heart during labour

The local effects vary in kind and degree with the particular organ affected, but in most women of advancing age there are definite changes in the myocardium, kidney, and uterus The general result of the whole process is to lower the resistance of the patient, to reduce her capacity for work, and to render her more sensitive to fatigue and shock

Pathological Age

The action of advancing age upon any organic defect or disease is dependent upon many factors, and especially upon the site and nature of the lesion Many diseases are progressive in character, and their disabling effects increase automatically with age In most women, therefore, the ravages of time are not only physiological, but pathological in type, and, as might be expected, the increase in puerperal mortality which sets in after the age of 35 runs to a large extent parallel with the rising mortality rate found among comparable non-pregnant women

The present communication is not concerned with the role of independent organic disease except in so far as it has a bearing upon the relationship of age and parity to parturition, but it appears to be sometimes forgotten that an organic defect or disease is no respecter of persons but affects the pregnant as well as the non pregnant woman, and therefore constitutes an important contributory cause of death during childbirth among women belonging to the older age groups Furthermore, the process of reproduction has a potent influence upon many disease, either by enhancing their effects or stimulating the development of their lesions Excessive child-bearing may therefore shorten the time required by an organic disease to arrive at its lethal stage thus both age and parity may form a close liaison with organic disease, and through this medium *exert an important if subsidiary influence upon* maternal mortality

TREATMENT

It has been shown that age and parity have an influence upon child bearing that is potent, reciprocal, and often symbiotic but it is not possible to lay down any hard-and-fast rules concerning treatment Each case must be judged on its own merits, and a careful general and local examination made due consideration must be given to the age of the patient and the amount of physiological wear and tear (physiological factor) and also to the presence of pathological lesions and the stigmata of excessive parity (pathological factor) These factors combine to form what may be termed the obstetric age of the patient which it must be remembered may differ greatly either from her actual age or the number of her pregnancies When, however obstetric old age is discovered as a result of this investigation, it is necessary to determine the character of the pregnancy before proceeding to treatment for this purpose some ante-natal classification is essential, and the following method of dividing all pregnant women into three groups is both simple and useful

Group 1 The grossly abnormal group (eclampsia tumour severe pelvic contraction, heart disease etc.)

Group 2 The apparently normal

Group 3 The doubtful.

Group 1—The treatment of the first group follows well recognized general principles that are largely independent of both age and parity

Group 2—In this group the age parity factor is of decisive importance for when a woman has once entered obstetric old age she can never be regarded as perfectly normal and hence all old multiparae who do not belong to Group 1 must be deliberately placed in Group 3

Group 3—No generalizations are permissible with regard to this group, which is often a source of anxiety and difficulty to the most experienced ante-natal physician Into this class must be put women with a minimal pelvic contraction, a slight trace of albumin and those who reveal some minor organic defect it includes others who reveal no obvious abnormality, but give an unsatisfactory history of forceps deliveries or stillbirths, and, last but not least the special type with which this paper is primarily concerned—namely, the old multipara

The treatment of this type of patient depends upon the application of the following rule that whereas one minor disability when acting alone is often harmless, the combination of two or more minor defects mechanical or otherwise, *is always potentially dangerous It produces* a symptom-complex of a gravity far beyond that of its component parts and one that demands much more drastic treatment than would at first sight appear to be justifiable

It is essential that every effort should be made to avoid a second complication in a pregnancy that is already even slightly abnormal and if this cannot be done the case must no longer be classified as doubtful, but regarded and treated as belonging to the grossly abnormal group No *class of patient affords a better example of this than the* old multipara, and the high mortality seen among these women will persist until it is generally recognized that *the symbiosis of old age and parity with other minor* defects is both powerful and dangerous, when, however the importance of this principle is conceded the treatment of the old multipara and her companions in the doubtful ante-natal group is much simplified

It should be generally known that the mortality risk increases with the age of the mother and therefore child-bearing should be undertaken in the earliest years of married life, and not postponed to some more convenient time in the future *Families should not be restricted to* one or two children, because such restrictions by relatively increasing the number of first pregnancies raise the general maternal mortality and are therefore prejudicial *to the interests of the State Four or perhaps five* children should be regarded as an ideal number but further reproduction should be discouraged on account of the increased risk that attaches to the higher degrees of parity Some of the deleterious effects of age and parity can be counteracted in a general way by improving the sociological conditions of the community with regard to food, wages and housing The provision of an efficient obstetric service that includes ante-natal supervision is capable of reducing the maternal mortality of this country a large proportion of which disappears so quickly in the presence of economic distress and indifferent midwifery

The universal application of ante-natal care is urgently *required* but it *can never replace* the need for skilful attendance during labour it can much more even be should be devoted to the post-natal period and the process of involution and lactation Unavoidable obstetric injuries should be adequately repaired and every effort made to

prevent subinvolution and the development of displacements, which not only impair the pelvic musculature, but lead to defective uterine action in subsequent labours

Under such a regime, the pathological phenomena of old age will become rare, but the old multipara will continue to bear children and to require the special attention of the midwife Much can be done by simple conservative methods to mitigate the evil effects which have already been described, the exhibition of iron and calcium combined with a suitable aperient has a most favourable effect on the muscle tone, and it may usefully be combined with 0 5 c cm of pituitrin twice a day during the last week or so of pregnancy, this not only improves the tone of the uterus, but in many cases brings on labour, to the benefit of the patient Uterine distortion and dislocation must be controlled, and the resulting malpresentations and malpositions corrected by manipulation or the application of padded binders *The induction of premature labour* before or at term is a useful prophylactic measure for women who habitually produce big children, in this connexion it is well to remember that, from the functional point of view, the pelvis gets smaller as the patient grows older

During labour the application of forceps or version in certain cases will relieve the efforts of the uterus and reduce the work of the myocardium, and the third stage must always be conducted with the greatest possible care A good deal can be done by these conservative measures to reduce the maternal risk, but the obstetrician should not hesitate to employ more heroic treatment if he believes surgical intervention to be necessary It may require a certain amount of moral courage to suggest operative delivery to a woman who has already been delivered many times *per vias naturales*, but a careful review of the situation will show the wisdom of such advice for carefully chosen cases, indeed, it is safe to predict that in a more advanced epoch the majority of 8-paras and all women of 40 will be delivered by Caesarean section

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The Morison Lectures

ON

NERVOUS SEMEIOLOGY, WITH SPECIAL REFERENCE TO EPILEPSY.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH ON JUNE 2ND, 3RD, AND 4TH, 1930,

BY

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LECTURE II —SYMPTOMS INDICATING INCREASE OF NEURAL FUNCTION

PASSING attention has already been directed to the general division of nervous symptoms, whatever their order, into those expressive of increase and decrease, respectively, of nervous function The classification is applicable as well to those of the neuro-sympathetic system as of the psychical series Possibly the term "increase" is not the most satisfactory that might be selected, it is taken to include symptoms and syndromes indicative of escape or release of function, in addition to such as presumably come into existence through stimulation or excitation

Clinical experience affirms that an extremely large part of neural semeiology is included in this first main division, but the two sets are not mutually exclusive by any means, convulsions and paralysis can occur in the same subject, not, of course, simultaneously in the same part, yet in immediate sequence, while a limb already paralysed may become convulsed the phenomenon of anaesthesia dolorosa is constituted by the synchronous combination of subjective pains or neuralgia referred to a region which is objectively anaesthetic, involuntary flexor spasms can take place in paraplegic extremities that the patient cannot voluntarily innervate Further, not a few of the semeiological concomitants of epileptic fits are substantially indicative of functional inhibition, and some varieties of seizure are considerably more inhibitory or akinetic than kinetic or excitatory Thus the question may arise whether in point of fact any symptom group is not accompanied by evidence of both one and the other physiological actions, but this is probably true only of the higher levels of the nervous system, and in the special sense that if an excitatory process is to exteriorize itself it must succeed in overcoming inhibition No escape-phenomena can accompany paralysis at the level of the lowest motor neurones, but the same affection of the highest almost inevitably entails the likelihood of release below Whether inhibition is constantly present is doubtless matter for discussion, if I become conscious of the aching of a carious tooth it is always allowable to assert that inhibitory control must be in abeyance ere impulses from dental end-organs reach the cortex to give rise to (I do not say "to be changed into") sensations, yet of the actual existence of such a mechanism, still more of its intimate nature, we are likely to remain in considerable ignorance As regards the general sensory system data suggesting the possibility of sensory inhibition have been marshalled recently by Foerster (loc cit), while in respect of the visual system some experimental work by Brouwer[1] has seemed to prove the existence of an *efferent* system accompanying the optic tract from external geniculate to occipital cortex, conceivably inhibitory in function Thus some basis is provided for the hypothesis, at any rate, we know that different functional levels of the nervous system enjoy comparatively independent life, and that those of higher are, as it were, protected against those of lower grade When we speak of centres "representing" lower units in more complex ways and of their constituting also reservoirs of energy, we should not overlook the possibility of their having inhibitory functions too Hughlings Jackson has somewhere spoken of these upper centres as forming "resisting positions", owing thereto, activities of the highest levels can proceed without interference from the environment (the life of thought would be intolerable otherwise) on the one hand, and *without effecting reactions* on it on the other It is matter of common knowledge that impulses from the periphery must in numerous instances never penetrate to the cortical level, being damped down or turned off and shunted to the efferent side through infracortical reflex arcs Muscular tone maintains the subject's erect position by impulses derived from the sensory periphery and passing over a mesencephalo-spinal circuit of which he is completely unaware Similar comment applies to the abundant activities of the neuro-sympathetic system, on rare occasions only are we consciously aware of them Protection may be justifiably assumed in respect of cortical action, and in consequence thereof it is permissible to argue that symptoms whose character partakes of increase or release of neural function must break down resistance and neutralize inhibition ere they come into being But with this proviso much in neurological semeiology consists essentially of "positive" symptoms, *signifying enhanced* or exalted activity on the part of the mechanisms involved

We may now consider one or two specially selected aspects of the most obvious type of "positive" syndrome—namely, that described in semipopular phraseology as "attacks," "seizures," or "fits"

On various previous occasions I have dealt with one or other side of this subject, though not before in the fashion now to be adopted Most neurologists are familiar with the Jacksonian conception of three physiological levels or grades in the central nervous system, spoken of by him as the highest, the middle, and the lowest respectively Of these the first he took to have its anatomical substratum in the frontal lobes, the second or middle level corresponded to that part of the cortex where are situated the Rolandic centres, the lowest was ponto-bulbar in position We need not follow Jacksonian conceptions slavishly in the present connexion, *seeing that he himself was ever willing to discard* unsubstantiated hypotheses, at the same time, and in spite of its schematic character, I shall for my present purpose utilize his theory in modified form, the highest

level I shall assume to correspond to the whole cortex outside and above anatomical projection-centres, the latter constitute the middle level, while the lowest is taken to include what may properly be regarded as the old nervous system—namely, basal ganglia brain-stem and cerebellum, and spinal cord. With this tripartite division of the neuraxis we may examine the relation of fits, however diverse and heterogeneous, to increase or escape of function in respect of each of these regions in turn.

It is, of course, necessary at this juncture at once to underline the fact that radiation of release or excitatory phenomena characterizes numerous attacks or seizures, whose manifestations are not in their totality confined to one level only. Hence *differentiation to facilitate description* can scarcely avoid becoming schematic also, though not in any sense arbitrary.

FITS AT DIFFERENT PHYSIOLOGICAL LEVELS

In accordance with what has just been suggested a theoretical division into highest, middle, and lowest level fits respectively is conceivable but can these be distinguished clinically, and, if so is the fact of any clinical value? I am of the opinion that both questions may be answered affirmatively.

HIGHEST LEVEL FITS

These must depend for their intrinsic characters on the functions of the highest level, naturally. Discarding all such question-begging terms as psychokepsy, psychical equivalents of epilepsy and analogous expressions we may assert that any kind of attack signalized by phenomena of a psychical type is *pro tanto* a highest level fit. From this standpoint every fit preceded by a definite aura must be placed in the class so far at least as that symptom is concerned for the aura is nothing more or less than a sensation or hallucination, and therefore belongs intrinsically to the psychical series. It must be regarded as the earliest component of the fit, its prelude, but not (as was formerly supposed) its cause. By no means invariably present, it practically always reproduces itself in the same form for each of the attacks of the person concerned. The aura ranges over the whole field of sensation inclusive of the special senses, and indeed of feeling memory, and other psychical elements. It may be simple and crude or complex and elaborate, or these two opposite features may occur in the same case with reference to different sensory modalities. Sometimes clear and impressive at others it is elusive, vague fleeting and difficult both to recall and to express. The question arises whether distinctions can be drawn, for any given sensory system between auras of lower and of higher grade and whether those of the former category are initiated in projection- as opposed to association-centres—that is start in regions belonging, *ex hypothesi* to the second or middle group. For that matter, fits of lowest level type if an aura is present at all, must somehow be able at the outset to influence the cortex—assuming that to be the seat of consciousness. Evidently the way must be open for impressions to ascend to the percipient region in the latter case part at least of the fit, therefore, must be of *ascending* type (a significant consideration) and when the aura seemingly starts at the middle level there must be neuronic integrity again in an ascending (transcortical) direction for its underlying impulse to reach the perceiving cortex (whatever and wherever exactly that may be taken to be). For instance, I recall the case of a child whose visual aura consisted of what she described as "twinkles" in the right visual field—crude flashing medleys more or less like coloured stars—and I contrast it with that of another patient who, as he sat in a summer-house in his garden, saw a white-robed figure pass over his garden wall on the left with back towards him, and move slowly towards the french window of the room which opened on to the lawn as the figure reached the window he lost his senses. Clinically again, an auditory aura constituted by a loud bang seems far removed from that of the patient who declared, 'I seem to hear everything that has ever been said to me in all my life,' or a sudden stench in the nostrils from 'a series of odours, as if I were passing a perfume-shop'—to quote the words of another. Are we to consider the simple crudities of the one class to represent excitation in projection-centres, the complexities of the other to stand for associational or highest level excitation? Possibly we should, but it is questionable whether such distinctions can be drawn with precision, nor from the viewpoint of cerebral physiology is it clear that projection- and association-centres for a given sense modality, are separable with any exactitude, although for anatomical reasons it may seem justifiable to consider them apart. A coarse and powerful sensation of "pins and needles" in the fingers perhaps points to excitation of projection-centre or -system, and it appears to belong to an entirely different category from the aura of the 'dreamy state'—that condition in which the patient at the oncoming of his fit experiences a series of panoramic pictures, or lives again some incident or incidents in his past life or feels as though he were in some other place than the actual one or is conscious of a *deja vu* feeling and so forth. These peculiarly interesting auras I have recently analysed and illustrated and shall not here say more of them. Often enough the elaborateness of the experience will not permit of its being explained by reference to one sense avenue only, thus a patient's aura consisted in his taking the end position of a row of twelve *men in military formation*, a superior in rank stepped forward and boxed the ears of each in turn, knocking him down while our man stood in fearfulness awaiting the inevitable termination, as his ears were boxed he lost his senses.

From the features of the aura it is proper for the clinician to endeavour to determine its approximate localization, since this may be of immediate practical value. At the same time we are not always in a position to say whether it arises in a lower centre, or in a higher centre representing the other. This applies in particular to auras *presumably of a neuro-sympathetic kind when for instance* in what for other reasons we take to be a lowest level fit the initial symptom is "pain round the heart like knives" (as in a recently observed case) does the excitation arise in the ganglionic collections of the organ itself or in viscero-sensory centres of paravertebral chain or spinal cord or in the dorsal nucleus of the vagus or at some conjectural higher spot still, re-representing the heart. The "dreamy state" whether it occurs in connexion with olfactory and gustatory hallucinations or not, suggests a disorder of function whose starting point is the *temporal cortex of one or other side spreading* probably by definite transcortical paths to the occipital lobe or occipito-parietal cortex for the visual component. We can conceive of the aura as ranging from excitation of a small portion of a sensory centre to implication of wide areas of the associational cortex the psychical stuff it is made of is one and the same, whether we are dealing with tingling in the great toe or a feeling of being back in a former existence.

Thus regarded I seek no differentiation between the auras of hysterical fits and of organic epileptic seizures. I cannot detect any physiological difference between one and the other. At the sound of Zeppelin bomb-dropping in London during the war a soldier patient hopped out of bed and pushed his pillow before him as he crawled on his stomach along the polished floor of the ward re-living graphically his experience of the trenches when seeking cover, at the end of the room the hysterical fit came. Elaborate the aura was but not different in kind from that of some temporal fits. However unfamiliar the conception may perhaps be to some it is surely proper to consider hysterical seizures as highest level fits *par excellence*—that is, fits of which the phenomena are largely confined to that level. To my mind such divergencies as exist between hysterical and epileptic seizures are explicable with facility in terms of the functions of the physiological level at which the phenomena are occurring. This is true in particular of the motor display. Every clinician who has witnessed hysterical attacks is impressed by the quasi purposive character of the movement they have a meaning they appear to be directed *towards* an end the cruciform posture *arc le cercle attitudes passionnelles*, and so forth of the hysteric reveal what in the subconscious mind. But are movements of analogous

nature foreign to the ordinary major epileptic fit? By no means. It is most important and significant to note that normal, co-ordinated movements frequently occur apart from those that are termed "convulsive", during one or other part of the fit the epileptic patient may make champing movements of his jaws, smack his lips, spit, or clutch at his throat, after the convulsive period, and while still unconscious, he may exhibit other motor phenomena such as plucking at his clothes, undressing, running, and what not. A young man once under my care, suffering from a left frontal abscess, invariably waved his right arm round and round in circles ere overwhelmed by unconsciousness. The movement was co-ordinated, and as such clearly referable to the highest motor level—that is, to a cortical region distinct from the Rolandic. It is possible that the head and eyes deviation which is a common first sign of the generalized epileptic fit is caused by implication of the corresponding centre which the experimentalist has shown is situated in the frontal lobe, separate anatomically from middle level centres in the Rolandic cortex.

Moreover, the whole motor content of some attacks of the epileptic class is not convulsive at all, but strictly co-ordinated. A patient of mine suffers from fits in which he turns very pale and loses touch with his surroundings, but never falls, he raises his closed fist and shakes it, blinks with his eyes, then looks sideways as though to see round a corner. The fit is over in about a minute. His maternal uncle suffered from major epilepsy, also a cousin. The motor phenomena of petit mal are often co-ordinated rather than convulsive, as any close observer can convince himself. In this connexion it is of interest to recall Jackson's contention that the anatomical substratum of petit mal attacks is situated in the frontal lobes.

We see, then, that among the symptoms referable to excitation or transcortical release on the highest physiological level are (1) an aura in consciousness, and (2) types of movement co-ordinated and quasi-purposive, occurring either in association with convulsive movements or by themselves. To these I now add (3) post-convulsion movements and actions of the same high level class. Known for years under the term "post-epileptic automatism," the manifestations of this phase clearly belong to the group of escape-phenomena, purposive in appearance, none the less in the strict sense they are completely involuntary, and, being such, the patient is not responsible for them in a medical or forensic sense. Their duration ranges from a disorder of a few minutes to prolonged fugues, indistinguishable from those of hysteria. Recently a patient, living at Catford in South-East London, went for an afternoon stroll to a neighbouring pond, he was next seen taking a motor bus to Croydon, from there apparently he walked right across London to Paddington station, took a ticket to Penzance in Cornwall, and "came to himself" about 4 o'clock in the morning in a Cornish express far in the West. His mind was a complete blank after he had entered the motor bus. A sufferer from inveterate petit mal, there can be no reasonable doubt that his fugue succeeded a brief attack unrecognized by any passer-by. The medico-legal import of such states is at once apparent, for the subject is to all outward appearance normal. During the war an epileptic patient boarded the London train at Brighton, it stopped on the Grosvenor bridge over the Thames, just outside Victoria station, here he opened the carriage door and walked over the metals, where he was challenged by a sentry guarding the bridge. Unable to furnish a clear account of himself, he was arrested and given six months' imprisonment. Only on appeal was the evidence of those who knew his case accepted—namely, that he must have had a fit in the train and been in a state of post-epileptic automatism when he came in contact with war regulations. An even more impressive case, because of its criminal aspect, was that of a man in early middle life who sustained a severe accident in the frontal region and thereafter on at least three occasions developed fugues of greater or less duration (in one of which he came from Wales to London consciously unaware of the fact) preceded by "attacks" in which he turned pale, his eyes became fixed and staring, and for the time he was oblivious of his surroundings and did not hear or could not answer questions addressed to him. In one of these turns he, unfortunately for himself and for the child, threw, or let drop, his infant girl, 6 months old, out of a bedroom window on to a stone-flagged yard, where it fractured its skull and was killed. After his arrest on the capital charge, I gave evidence on his behalf to the effect that he had been in a state of fugue and was irresponsible for his actions, since unconscious of them, medically speaking, and I had the satisfaction of contributing to the favourable finish of the case.

Conditions of this kind seem far removed from the crudities of an ordinary generalized epileptic seizure, but I urge the irrationality of delimiting epilepsy by its middle level semeiology and insist that for clinical and scientific purposes both ante- and post-epileptic phenomena form an integral part of the whole. These, as must clearly emerge from any adequate consideration of the matter, include symptoms on the highest physiological level of activity, frequently if not invariably. In themselves they present close resemblances to symptoms which we call "hysterical," and if this view commends itself then it seems otiose to try and formulate distinctions, for they can scarcely amount to differences. The name we give to a symptom or syndrome is of purely secondary significance, its characters and pathogenesis must guide us in coming to any conclusions as to its nature.

Finally, in this connexion, I should like to direct attention to an aspect of epileptic consciousness which provides food for thought. Now and then one comes across a case where the subject declares that his attacks have been actually pleasant, or at least have been associated with, or left in his mind the impression of exhibiting, some element of a distinctly pleasurable kind. An intelligent lady of 32 suffers from attacks which belong to the uncinate variety of so-called idiopathic epilepsy, and are characterized by a "dreamy state" aura with a strong feeling of familiarity or *déja vu*, in her own words, "I feel as if my mind and my body are coming apart", or again, "I can see myself walking in the garden as if my mind were looking at myself from afar". This peculiar mental state is accompanied by a definite feeling of pleasure, so much so that at first the patient used to welcome the sensation as a "dream of delight", the precise pleasurable element, however, she has never been able to specify. At a later stage the fits became few and far between, and confined largely to the briefest of *déja vu* auras without any pleasurable component, for nine years now she has had none at all. A more recent case is that of a young woman who has been epileptic for some ten years, up to the age of 18 the attacks seem to have been little more than a kind of prolonged petit mal, and were accompanied by a highly pleasurable feeling, "I felt that I had been away somewhere in a pleasant dream, which I was enjoying to the full". Looking back on it, she was convinced it had been delightful while it lasted, and that this was due not so much to a physical as to a mental state. Later, the fits became more severe and typically those of grand mal, and since their development (with severe post-epileptic headache and myalgia) the pleasurable element has vanished and its place been taken by a vague and ill-defined dread or apprehensiveness, experienced now as a prodrome to the attack. I may also cite the words of another patient, whose case is given in some detail elsewhere[19]: "I used to feel I had had a previous existence, and that in these sensations I stepped out of myself into the other existence. I felt as if my brain were leaving my body for the moment. I used rather to welcome it, as a not unpleasant feeling".

The explanation of the rare appearance of this pleasurable emotion in connexion with epileptic auras and states is far from easy. The common epigastric aura not infrequently brings in its train a feeling or emotion of fear or terror, as of something impending, something dreadful about to happen, although seldom does it embody any specific ideational element with which the fear is linked. From over 3,000 cases of epilepsy some 92 were collected by Gowers[20] into a group distinguished by "psychical auras" (since all auras are psychical the term is imprecise), and

of these about one third were characterized by a feeling of alarm or fright, but no allusion is made to the opposite variant Perhaps it is not a coincidence that in each of the three personal cases just quoted the pleasurable emotion occurred in connexion with "dreamy states," though I do not know how to account for it except on the speculation that by some temporo-thalamic path a thalamic element entered into the composition of the whole Nor do I understand why, if such be the case, the condition should not occur with greater frequency

Middle Level Fits

In accordance with long-established usage the term "epileptiform" convulsions should be confined rigorously to cases of Jacksonian epilepsy—that is, fits of the middle physiological level I shall limit attention at this time to one or two problems presented by what may be termed "reflex Jacksonian epilepsy"

Reflex epilepsy is an expression which has never been defined with any precision It has been employed in a general way to connote the development of fits as a sequel to peripheral irritation of one or other kind, and older treatises enumerate as examples those which have been thought consecutive to adenoids, errors of refraction, carious teeth, dyspepsia, helminthiasis, tight prepuce, and what not The phrase "secondary epilepsy" was proposed long ago by Nothnagel for rare cases in which actual injuries of peripheral nerves were followed after an interval by epileptic seizures, with or without an aura referable to the part affected It seems curious that with the wealth of peripheral nerve lesions produced by the war no such cases appear to have been recorded, so far as I am aware We may recall also in this connexion the experiments of Brown-Sequard,[21] who after various operative procedures (hemisection of cord, section of sciatic) on animals (especially guinea-pigs) found it possible to develop in them convulsive attacks by excitation of an "*epileptogenous zone*" *over face and neck* (*corresponding* in distribution to part of the fifth and to upper cervical nerves) His results were confirmed by some observers and criticized by others, in 10 of 41 guinea-pigs with cut sciatic Bramwell and Graham Brown[22] produced "fully developed" fits by stimulating the zone after some seven weeks had elapsed We may note, however, that from descriptions recorded generalized and not unilateral convulsive movements were commonly obtained It is a precarious proceeding to apply to the case of man conclusions derived from experiments on much lower animals, but from time to time instances have been published of reflex epilepsy of this kind As long ago as 1886 Hughlings Jackson[23] showed at the Medical Society of London a boy of 7 who exhibited epileptic fits whenever his head or face was touched, express mention is made of the fact that when he was aware he was going to be touched none occurred *In the discussion following this paper somewhat* analogous cases were alluded to by various physicians, of which one is of considerable interest, that of an epileptic with disease of the femur 'When dressings were applied, or when the sinus was probed, the man had severe epileptiform seizures Amputation was performed, and the man had only one epileptic attack afterwards, and that was at the first dressing, when the 'epileptogenous' area was touched" More than ten years previously, in 1874 to be exact, Dr James Dunsmure,[24] physician to the Royal Hospital for Sick Children, read before the Medico-Chirurgical Society of Edinburgh a paper on the case of a boy of 5, who suffered from attacks of what was described as "temporary loss of voluntary power" whenever anything touched his head without his foreknowledge The details of the fits suggest that they were mainly akinetic or inhibitory, although on one occasion the muscles of the right arm and leg were "slightly convulsed" Later information about the case was sent to Jackson by Dunsmure and will be found in one of the former's Neurological Fragments[5] (No 13, 1895) From it we gather that the youth eventually died of peritonitis, and that his brain was examined by the late Dr Alexander Bruce who in 1892 was pathologist to the Royal Infirmary No changes were found in pons or medulla (Jackson had believed the fits to be of lowest level type), but many of the cells of the grey matter of the cortex were vacuolated

In a paper on "Epileptic variants"[6] I have mentioned the case of a little girl whose first fit occurred when the hat-elastic under her chin slipped up and hit her nose and allude also to other kinds of reflex attack which have come under notice, inclusive of so-called acoustico-motor epilepsy

Recent practice has brought under my care two cases of what seems to be genuine *Jacksonian epilepsy of reflex origin* The first is that of a woman of 51, whose attacks began eight months before her admission to hospital towards the close of 1929 I shall quote from the records of the case made by my house-physician, Dr Denny Brown

> She began to have attacks of unconsciousness whenever anything touched her *right ear or her head just behind the ear* (for instance putting her spectacles on) These began with a twitching and tingling pain in the right side of the face and a clicking noise in the head. She remained conscious but could not say what she wanted to Weakness and numbness of the right side of the body *lasted* from one to twelve hours after each attack Six weeks ago she began to have similar attacks brought on by some stimulus to the right foot or the right leg below the knee (for example pulling a stocking over the foot) These also began with clicking in the head and a tingling pain and twitching *starting in the right foot and passing up the right leg and down* the right arm while also involving the face on that side They were followed by unconsciousness for a few minutes and by residual aphasia numbness and increased weakness of the right limbs for an hour or two
>
> Two attacks have been observed, the first produced when eliciting the knee-jerk on the right the second by pulling the bedclothes away from the right leg Both began by tonic extension followed by twitching of the right ankle knee and hip and then of the right arm and face immediately after this the whole left side at once became involved The duration of unconsciousness was about four minutes followed by aphasia and then marked perseveration with weakness of the right arm and leg and extensor plantar response on the side flexor on the left Complete recovery ensued three hours after the onset with return of all signs to those found on admission.

An exploratory operation over the left Rolandic cortex showed nothing else than a milky appearance of the arachnoid in the vicinity of the superior cerebral veins with no evidence of neoplasm There seems little doubt that the pathological basis of the condition is one or cerebral arterio-sclerosis, a very common antecedent to Jacksonian epilepsy, but the peculiar features of the case may best be examined after a note on the second

> It is that of a young man who at the age of 30 some seven years ago began to suffer from Jacksonian attacks beginning in the right thumb or in the fingers of the right hand These were usually brought on by a start on occasion spread typically over the right side and ended in unconsciousness and generalization with tongue-biting Examination yielded a negative Wassermann reaction in the blood and since nystagmus moderate in degree was occasionally present on lateral deviation in either direction while the optic discs were distinctly hyperaemic with slight blurring along the inner edges a tentative diagnosis of intracranial tumour was made or, alternatively of disseminated sclerosis.
>
> The case has been followed with the greatest closeness since 1923, during that time no material change has occurred very occasionally a right extensor plantar response has been obtained the tendon reflexes on that side are brisker than the left and the discs remain as before without atrophy

To illustrate the phenomena in this unusual case a series of incidents which have started the fits may now be described, as narrated by the patient himself

1 When he was walking along in rain with his umbrella up his right hand which was some little way up the shaft was struck by the catch slipping and the frame coming down on it

2. While he was carrying a rather heavy parcel in the arm hand the string broke and gave the limb a slight jerk aggravated by his making a quick attempt to catch the parcel with that hand as it was falling

3 As he was pressing rather heavily with a file in his right hand on an object he was working at the file suddenly broke

4 When he was holding two small articles in his hand and endeavouring to screw them together one slipped out of his grasp with some little force.

5 On two occasions lying in bed half asleep, with his right arm underneath him, "pins and needles," presumably from pressure, have commenced in the periphery of the limb

In all of these (and other) instances a direct "start" or "jolt" of the right upper limb, distally or throughout, has been the immediate precursor of the Jacksonian attack

6 He once tripped his right foot over an accumulator which he did not notice, and fell

7 On a station platform, stepping forward to take a tram, his right foot caught in an unevenness of the ground and he stumbled

In these instances it was the right leg or foot which received the shock

8 On several occasions someone has brushed past him or knocked into him unexpectedly, although not specially on the right side

9 A sudden and loud noise will initiate the sensation in the right hand it has also developed when a door was unexpectedly opened in his face as he approached it without touching him Walking with a friend the latter stumbled over a rut in the road and gave the patient a "fright" Again, in similar circumstances the friend scraped a piece of paper along the ground noisily with his stick, and this proved an excitant Sitting one day on a seat in his garden he was gazing at his cat, which suddenly jumped on to a high seat opposite, missed its footing, and fell giving him a "start"

From these latter illustrations we observe that stimuli reaching the sensorium by the avenue of sight or hearing must be added to the possible excitants of the Jacksonian attacks, and that these are not restricted to direct stimulation of either the limb or the side by which the fits invariably commence

As already remarked, some only of the seizures go so far as to become generalized and cause unconsciousness, others are of an intermediate class One which was observed was of the following nature

Whenever the aura spread up the right arm from the ball of the thumb (on this occasion) the right arm exhibited characteristic clonic twitching, breathing became laboured, and the face congested almost to cyanosis, while the legs gave way and the patient sank to the ground Twitching ceased at the shoulder though facial grimacing on the right side was in evidence, and thereafter the right arm and indeed the musculature generally was completely relaxed He began to talk "nonsense," while his eyes wandered irregularly from side to side A quarter of an hour later recovery ensued At no point in this attack was loss of consciousness absolute

The exact mechanism by which reflex Jacksonian epilepsy comes into being is by no means clear That in these two instances we are dealing with hyperexcitability of cortical reflex arcs seems obvious, and the presumption is that sensorimotor centres in the Rolandic cortex are in a state of irritability, with the corollary that transcortical inhibition is at the same time defective To my way of thinking the existence of cortical reflexes is of much significance for the understanding of many of the symptoms of neurology—reflexes on a high physiological level over which, in abnormal circumstances (such as the presence of actual local cortical lesions), what we call in our ignorance "volition" can exercise no inhibitory effect I am tempted in this connexion to quote the words of a famous teacher of the old Edinburgh school, of whom I have heard Sir Byrom Bramwell, as well as the late Sir David Ferrier, speak with deep appreciation I refer to Professor Laycock,[27] and cite from an article of his dated eighty-five years ago

Four years have elapsed since I published my opinion, supported by such facts as I could then state, that the brain, although the organ of consciousness, is subject to the laws of reflex action and that in this respect it does not differ from the other ganglia of the nervous system I was led to this conclusion by the general principle that the ganglia within the cranium, being a continuation of the spinal cord, must necessarily be regulated as to their reaction on external agencies by laws identical with those governing the spinal ganglia and their analogues in the lower animals

Observations and arguments like those satisfactorily adduced in proof of the existence of the reflex function of the spinal ganglia may be brought forward in proof that the cerebral ganglia have similar endowments

The motor area of the mono physiologist is nothing more or less than a motor or sensorimotor ganglion pushed up into the neopallium and it would of a truth be disconcerting to our ideas of neural continuity were that ganglion to prove of a completely different physiological order from those situated at a lower level Nature cannot surely make any abrupt "jump" from one class to another, for example, it would be a curious thing if what we call "mental states" were *suddenly* to make their appearance, and only at a final stage Lloyd Morgan, Parsons, McDougall, and others like the view (adumbrated long before by G H Lewes) that consciousness exists on different physiological planes, in its simplest form, according to Parsons,[28] it is a mere sentiency—the emergence of an "awareness of a change in the environment" This awareness is consciousness on the reflex plane, it is tinged with affective tone and with a minimum of cognition McDougall[29] says "It seems probable that the actions of even the lowest animals imply a vague awareness of something together with some vague forward reference, some vague anticipation of a change in this something" Carrying the idea further, and to its logical conclusion, we may affirm that at the cortical level in man reflex action may be, must be, accompanied by full awareness, by consciousness on the plane either of instinct or of intelligence, yet in itself that reflex activity may none the less exhibit all the qualities of the same when expressed through lower mechanisms

The clinical phenomena of the two cases which we have been considering demonstrate the occurrence of pure reflex response to extrinsic stimuli through arcs whose nodal point is certainly situated in the cortical grey matter, in the second example the readiness of these cells to discharge is proved by their doing so as a sequel to afferent impulses reaching them not merely along the paths belonging to the arc in a topographical sense, but also by routes from sense-organs of another series What seems to be an essential in the case is that the arc should be seized unawares, the patient remarked, apropos the incident of the paper scraped along the ground, "Had I seen it happen the fit would never have occurred" The comment suggests his capacity for inhibiting the reflex is still in being provided he is warned and therefore prepared, but in the case of the other patient the element of surprise does not appear to be a necessary factor, for she informed me when I first saw her that fits had taken place though she knew that her leg or foot was about to be handled Absence of awareness, however, also was essential in the case of the youthful patients mentioned above who suffered from attacks whenever the head was touched Be this as it may, the intimate mechanism in respect of facilitation of reflex activity owing to the immediate presence of a pathological condition (tumour, arteriopathic change, an area of sclerosis) remains obscure and this is particularly so where no organic change is in evidence Impairment of transcortical inhibition, which must also in my opinion be postulated, can be nothing else physiologically than failure of one cortical element to inhibit another—a state of affairs the "extreme likelihood" of the occurrence of which is assumed by Sherrington for various fields of cortical action When we speak of the "involuntary" movements of Jacksonian epilepsy we can mean little else than that they cannot be transcortically prevented In accordance with principles suggested for consideration in my previous lecture, it is not necessary to seek an objective lesion actually in or at the "centre" for the reflex arcs concerned the defective inhibition may conceivably be represented by change at some wide region or in some cellular layer remote enough from the spot where they are in action

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OCCURRENCE OF TYPHOID-PARATYPHOID BACILLI IN SEWAGE

SOME FURTHER OBSERVATIONS

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THE problem of the atypical mild or abortive case of enteric fever is one to which the attention of all concerned with the public health is being directed. Infections of the paratyphoid type may be extraordinarily protean in their manifestations, and it is a matter for speculation at the present time to what extent this disease is accountable for mild illness of short duration lacking all those grave features which have hitherto characterized classical enteric fever. Diagnosis of many cases ultimately recognized to be paratyphoid infection has been made only after repeated bacteriological or serological examinations, such assiduous search being prompted by a definite history of contact with a known case. Improved sanitation has led to a great diminution in the incidence of enteric fever of the severe type, and the danger exists of assuming that the disease is no longer a major factor to be reckoned with in public health work. Evidence is accumulating that such a sense of security is not altogether justified.

Scientific approach to the question is, however, difficult. The typhoid carrier rate in the general community affords one method of attack on the problem. This provides an index of the occurrence of the disease, since the danger of contact infection is always present, even when the conditions of sanitation approach the ideal. Among early attempts to arrive at an estimate of the incidence of carriers in the general population may be mentioned that of Minelli (1906),[1] who found one carrier among 250 persons examined in Strasbourg. Chapin (1916)[2] quotes the finding of organisms of the enteric group in the excreta of 3 of 986 healthy inhabitants of Washington, D.C. Welch and others (1925)[3] carried out a systematic examination of 1,076 healthy dairy workers in an area where the incidence of enteric fever had been considerable during the years preceding the examination. In reporting the high carrier rate of 5·1 per cent. they stress the importance of the repeated examination of both urine and faeces. If results had been based on a single examination of faeces alone the incidence would have been only 1 per cent. Bromberg and Comaroff (1929),[4] in a survey of 484 healthy persons in a district of Palestine which had been subject to frequent outbreaks of typhoid fever, found three carriers, giving an incidence of 0·64 per cent.

The figures show marked variation, which doubtless depends largely on the previous incidence of the disease and the thoroughness of the search. Even the lowest figure indicates that any city community in which enteric fever occurs must contain in the aggregate a very considerable number of carriers.

The work of Wilson (1928)[5] in Belfast and Gray (1929)[6] in Edinburgh suggested that examination of sewage might be a source of useful information regarding possible loci of enteric carriers. Wilson was able to demonstrate *B. typhosus* in the sewage of Belfast, and to arrive at a quantitative estimate of its numbers in the combined outfalls immediately before purification treatment commenced. Gray, in 1929, isolated *B. paratyphosus* B from the main sewer of one district of Edinburgh and proceeded to the examination of tributary sewers draining into this main. Positive results were obtained in three of seven such tributaries. It thus appeared that the method might be of value in localizing an infected district. In the absence of known cases in such districts the isolation of the organism from the sewage indicates a very active discharge either from carriers or undiagnosed cases, both of which are of considerable importance from the standpoint of public health.

The intention of the present work was to survey the main sewers of the city of Edinburgh in order to ascertain how far the findings of Gray were generally applicable. By a study of the incidence of enteric infections in the various districts of the city during the five years prior to and including, that during which the work was carried out, an attempt was made to ascertain whether any correlation existed between the localization of cases and the occurrence of specific organisms in the sewage. The examination of a considerable number of samples by different methods of selective culture provided an extended comparison of their sensitiveness, and it was thought that a standard method might be elaborated and suggested for routine use.

Methods

One sample was obtained from each main sewer and cultures were made within three hours of collection of the specimen. Three methods were employed as follows:

1. Direct plating on MacConkey's medium containing both lactose and saccharose (see Gray, 1929).

2. Ten tubes of brilliant green peptone water medium were inoculated each with a large loopful of sewage. The concentrations of brilliant green (Grübler) in these tubes ranged from 1 in 100,000 to 1 in 2,000,000. The peptone water used was standardized to *p*H 6·4. Incubation was for forty-eight hours at 37° C., when one to three loopfuls from each tube were spread on a plate of the lactose saccharose medium referred to above, the amount of the inoculum depending on the growth visible in the peptone water tube.

3. Three plates of the glucose iron bismuth sulphite brilliant green medium, as described by Wilson and Blair (1927),[7] were heavily inoculated, a glass spreader being used to distribute three to five loopfuls of sewage over the surface of each plate. After incubation for forty-eight hours suspicious colonies were subcultured on to MacConkey plates. Pale colonies from the three sets of MacConkey plates were subcultured into tubes of peptone water and incubated for forty-eight hours. At the end of that time tubes showing pigment production indicative of *B. pyocyaneus* or allied types were rejected and the indole test was carried out on the remainder, positive reactors being thus eliminated. The growth from those remaining was subcultured on a coagulated serum medium so that after incubation for forty-eight hours proteolytic organisms could be excluded. Biochemical reactions were then tested by fermentation of glucose, lactose and mannite and formation of H_2S in lead acetate glucose agar. In this way it was possible to select out possible strains of the enteric group from each sample with the use of the minimum of media. Identification was completed by biochemical reactions with a wide range of carbohydrates and the use of a high titre immune agglutinating serum.

Results

In all, 58 samples of sewage were taken, each being from a different main sewer, so that the sewage of the whole city was sampled. Of these, 7 yielded organisms identified as *B. paratyphosus* B Schottmüller by direct agglutination and agglutinin-absorption tests. From 5 of these samples the organism was isolated only by the method of brilliant green enrichment, from 2 cases by Wilson and Blair's method. In no case was a positive result obtained by both methods. The direct plating of the sewage on MacConkey's medium gave negative results throughout.

In the case of the brilliant green enrichment method it was found that the most effective concentrations were 1 in 200,000 to 1 in 400,000. In those tubes to which smaller amounts of the dye had been added coliform bacilli of the *B. lactis aerogenes* type predominated, while higher concentration tended to inhibit growth of all organisms.

The results are perhaps not a true index of the selective properties of Wilson and Blair's medium as it was found that batches made from the same constituents in apparently the same proportions showed great variation. In many cases no growth whatever appeared despite very heavy inoculation. With other batches good growth occurred, and in the two cases where positive results were obtained by this method colonies of *B. paratyphosus* B were numerous.

A further difficulty with this medium was that we were unable to determine with exactitude the typical colony appearances of the enteric organisms. Test plates inoculated respectively with pure cultures of *B. typhosus*, *B. paratyphosus* A, and *B. paratyphosus* B each yielded a variety of colony types; such variations were the cause of some confusion in dealing with the plates inoculated with sewage when subculture on to MacConkey plates of colonies presenting resemblances to these types showed a large number to be lactose fermenters.

Brilliant green enrichment with such a scheme as has been indicated for the further investigation of strains isolated appears to give the most consistent results and it is suggested for use where a single routine method is required. A series of concentrations of the dye ranging from 1 in 125,000 to 1 in 500,000 has been found to be satisfactory. It must be noted, however, that in our work, as in that of Gray (1929), positive results were obtained by other methods when brilliant green enrichment failed. The use of Wilson and Blair's plating method in addition undoubtedly increases the possibility of isolating organisms of the enteric group. Our results suggest that the methods are to some extent complementary in that factors which militate against the success of one do not appear to operate when the other is used.

Discussion

The areas drained by those sewers from which *B. paratyphosus* B was isolated could be divided into two groups. Four sewers yielding positive results were associated with adjoining districts comprising the whole port area of the city (District I). The remaining three drained part of the southern suburban area, the district being again well defined (District II).

By the courtesy of the medical officer of health for Edinburgh the incidence of cases of *B. paratyphosus* B infection in these districts was ascertained for the five-year period 1925–29 inclusive. The total number of cases notified in the city, excluding imported cases and those arising in institutions, was also available for the same period. Cases on diagnosis were, as a rule, removed at once to the City Hospital, so that recognized sufferers from the disease did not contribute to the discharge of organisms in sewage. The total number of cases arising in Districts I and II amounted to 46, while 103 cases had been notified during the same quinquennium for the whole city. Thus some 44·6 per cent. of the city cases occurred in these districts. It must, however, be noted that the population of these areas, as far as could be ascertained from available data, was approximately 30 per cent. of that of the whole city. It will thus be seen that, on a consideration of a prolonged period of time, little correlation is possible between the localization of enteric cases and the presence in the sewage of the specific organism in numbers sufficient to render isolation possible. This lack of correlation was further accentuated when the cases for the four years prior to that during which the examination was made were considered. During 1925–28 inclusive only 18·2 per cent. of the city cases originated in Districts I and II (8 out of 44 cases).

The figures for the year 1929, however, showed a more significant relationship to our findings. During this year 59 cases of *B. paratyphosus* B infection were traceable to infection within the city, and of these 38 appeared in Districts I and II. Thus approximately 30 per cent. of the city population provided 66·4 per cent. of the total number of cases. This would appear to show a marked relationship between the presence of paratyphoid bacilli in sewage and the topographical distribution of the disease.

Taking the finding in the case of each district separately further light was thrown on this subject. District I had an estimated population which was 19 per cent. of that of the whole city, 34 cases of *B. paratyphosus* B infection occurred in this district in 1929, or 57·9 per cent. of the total city cases. District II, on the other hand, representing 11 per cent. of the city population, provided only 6·7 per cent. of the total cases. Thus the two districts, from both of which specific organisms were being discharged in enormous numbers, gave widely divergent results in respect of case incidence.

The explanation of this may be in the difference between social conditions of the two population groups. District I represents a congested tenement area, while District II comprises for the most part a residential suburban area of modern construction. Probably the best index available for the expression of this factor is the population density. The most recent figures available are those of the annual report by the medical officer of health for the city for 1928. District I showed a mean density of approximately 48·8 persons per acre subdivisions varying from 35·4 to 98·1, while that for District II was 5·8 persons per acre.

It seems probable that the finding of organisms of the enteric group in sewage indicates the presence of a potential or active source of infection, but that under conditions of life as found in an upper-class residential district the habits of the people are such that spread from such foci does not arise. In an overcrowded tenement area, however, the presence of a concentration of carriers, as indicated by the possibility of demonstrating the organism in sewage, is reflected in a high incidence of cases.

The sewer from which Gray isolated the organism in 1928 drained a district in which an outbreak of the disease had occurred in 1927. At the time of the present work (1929) this sewer yielded negative results. In the same way we were unable to demonstrate the specific organism in the sewage of other districts in which outbreaks of enteric fever had occurred during previous years. These findings would suggest that the permanent or chronic carriers which might be expected to result from such outbreaks are not sufficient to account for the massive discharge necessary to ensure isolation of the organism from a main sewer.

If any conclusion is possible from the present work it is that the presence of organisms of the enteric group in sewage indicates a concentration of missed cases, convalescents, and transient contact carriers in the general population. Such a circumstance may be found in association with, or immediately following, an outbreak of the disease. From a consideration of an upper-class suburban district it is suggested that such a focus may exist without any *frank outbreak* of the disease at the time of the examination or preceding it.

Summary

1. A series of 57 specimens of sewage, which included samples from all main sewers of a city, has been examined with a view to the isolation of organisms of the enteric group.

2. By the use of three different methods of selective culture *B. paratyphosus* B Schottmuller was isolated from seven samples.

3. A simple routine method for isolating enteric organisms from sewage is indicated.

4. A comparison has been made between the incidence of *B. paratyphosus* B infection in areas drained by sewers giving positive results, and in the city as a whole.

We wish to acknowledge our indebtedness to Professor T. J. Mackie for the interest he has taken in this work, also to those of the sanitary staff of the city who have assisted in obtaining the necessary sewage samples.

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FOOD POISONING DUE TO EGGS

BY

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ONE habitually regards an egg as one of the safest and most wholesome forms of food. When the Three Musketeers had just escaped by a chance from death by the poisoned wine arranged for them by Lady Clarick, they sought safety in plain boiled eggs, and water drawn by Athos in person from the public fountain. But there is strong reason to believe that this innocence of the egg is, after all, only relative, and that, in fact, eggs are responsible for many cases of food poisoning which remain mysterious—that is, cases of severe or fatal gastro-enteritis due to salmonella infection in which none of the usually suspect articles can be incriminated. During the last three years there have been quite a number of instances of this kind, affecting both single individuals and groups of people. It has never been possible to bring absolute

proof, for this, some part of the infected egg must remain for examination and yield the specific salmonella in culture But circumstantial evidence has been so strong in most of those instances that the absolute proof becomes quite unnecessary

Let me briefly describe a few examples The first that came my way was in 1926, a solitary case, a young woman in Stepney, who died with an *aertrycke* septicaemia after thirteen days of gastro-enteritis, which began six hours after eating a fried duck's egg All the other articles of food and drink which could possibly have conveyed the infection had been shared with impunity by others In 1927 a trifle was consumed by ten out of a party of twelve in Darlington All the ten were seriously ill owing to an *aertrycke* infection, while the two who had had no trifle but had shared in all the other food remained well The cream of the trifle had been prepared by whipping the white of ducks' eggs none of it remained for examination, but another trifle made at the same time by the same person and of the same composition was found free from infection The only components not common to the two trifles were the ducks' eggs, which were whipped in separate batches

A custard made with ducks' eggs was responsible for a most violent gastro-enteritis in Portslade in the same year A family of three adults who finished the dish were so ill that they lay unable to call for help for two days one of them died with an *aertrycke* septicaemia, as usual, none of the custard could be obtained for examination

The largest outbreak in which egg is suspected occurred in 1927, in the neighbourhood of Bath It involved over 300 persons, with one death, the vehicle being ice-cream Here again, though proof is not quite complete, it seems certain that a duck's egg, infected with *B aertrycke* and used in the confection of the ice-cream, was responsible, the ice-cream contained abundant *B aertrycke*, while none of the other ingredients of the mixture, except the eggs, could be suspected

Altogether in the last three years or so there have been at least seven outbreaks in this country in which circumstantial evidence points to eggs as the cause—in each instance to ducks' eggs, there have been, in addition numerous solitary cases, often fatal, in which no particular article of food was suspected except, as I shall suggest, an egg

When I came to look into the matter of food poisoning from eggs, I found to my surprise that there was quite a literature on the subject of which I had been totally ignorant My colleague the late Dr Spencer Low had collected many references which he put at my disposal, and, in particular, he passed to me a monograph, published in 1906 in Paris by A Lecoq, on poisoning caused by whipped cream In this monograph Lecoq shows that the poisoning properties of such creams prepared by mixing cream, gelatin, and white of egg have long been known He shows that these poisonous properties appear most commonly in summer, that they are not due to metallic poisons—copper, tin, or lead dissolved from the mixing utensils—as it was once the fashion to suppose, nor are they due to putrefactive products, ptomaines, tyrotoxin, etc—the later fashionable hypothesis—but that they are due to bacterial infection of the egg albumen The method of infection which Lecoq thinks most likely is introduction of infective material into the oviduct of the hen or duck during copulation, with infection of the albumen as it is being deposited round the yolk, he recites numerous observations of foreign bodies—straws, seeds, stones, etc—found embedded in eggs and obviously introduced in this manner, and explains the greater frequency of infection of ducks' eggs by the fact that ducks "practise their amours" in ponds and ditches, where specific contamination of the water may easily be present

Another method of infection of the egg, however, is possible, and was suggested by Spencer Low in an investigation which he conducted on a food poisoning outbreak in 1913 in the Yeadon district of Yorkshire, due to cream buns Low proved conclusively that the infecting component must have been present in one or more of a batch of cooking eggs, the white of which was used to make whipped cream He discussed Lecoq's hypothesis and suggested that infection of the ovary, oviduct, and egg with salmonella could take place as part of a general infection of the bird, such as has been assumed to occur in parrot subjects of psittacosis As is now well known, the salmonella infections peculiar to fowls—namely, *B pullorum*, *B gallinarum*, and *B sanguinarium*—are, in fact, associated with specific infection of the egg though there is no case recorded where infection with these salmonellas has given rise to food poisoning in man On the other hand, Rettger and Scoville[1] in 1920 described an epizootic among ducklings resembling the *pullorum* outbreaks in chicks with transmission due to infection of the egg They isolated from the ovary of a duck among the suspected flock a salmonella which they called *B anatum*, but which is, in fact, probably *B aertrycke*

I intended to demonstrate this method of egg infection by direct experiment, but found it impossible to get ducks to lay eggs in the animal house available I feel sure it can be done under suitable conditions, and I recommend the experiment to those who have facilities

There is still another way in which eggs may become infected with a salmonella, and it is one which is easy to show experimentally Eggs, both of ducks and of hens, kept dipped in cultures of *B aertrycke* can become infected within a few days If the culture is simply allowed to dry on, infection fails, part of the shell must remain moistened for penetration to occur At first *B aertrycke* multiply rather slowly in the egg and special cultural measures are necessary to detect them, one supposes that the strong bactericidal action of fresh egg albumen is the explanation But as the infected egg becomes staler, say in a fortnight or so at room temperature, the salmonella multiplies rapidly and an egg then may come to represent an enormous dose, a loopful of albumen or yolk—for both seem to become infected—yielding countless colonies of *B aertrycke* Such an egg may appear to the sense of smell as no more than slightly stale, and might certainly be regarded by the less discriminating cook as usable

All eggs are not readily infected in this manner Some can be dipped in a culture for as long as six weeks and remain either sterile or with only the common non-lacto-fermenting bacillus which is characteristic of staleness in eggs and is non-pathogenic one out of fifteen was of this kind, resistant to the specific penetration

The question now arises, Can such infection of eggs occur in ordinary farming practice? Here again I regret to say that I have made no direct experiment, such as leaving eggs in an infected duck pen All I can say is that ducks fed with cultures of *B aertrycke* or *B enteritidis* continued to discharge these salmonellas in enormous numbers in their dejecta for at least a week During this period their bedding, allowed to remain moist, became the equivalent of a rich culture of the specific bacilli, so that an egg left in it might as readily be infected as in the more artificial conditions Domestic ducks are well known to lay in the most casual fashion, dropping eggs often in the water of the ponds and ditches in which they feed, and such eggs may be gathered and marketed after specific contamination has occurred In the case of fowls which lay in dry surroundings, this method of infection probably occurs rarely, if ever, and to account for a salmonella infection of a hen's egg one must bring in one of the other two methods, these, though possible are as a matter of fact, much less likely to occur in the hen than in the duck The duck's egg, however, has quite definite opportunities of infection in all three ways, and care should be taken in using them in any manner in which thorough cooking is not involved—for example in the making of creams, ices custards, or even lightly boiled That the risk is comparatively remote is not to be doubted it is hard to estimate what proportion of the many millions of eggs consumed each day in this country consist of ducks' eggs but it must at least, be many thousands while food poisoning from eggs is so comparatively rare that it has hardly hitherto been regarded seriously I am inclined however, to think that salmonella infections from eggs are, in reality a little more common The spectacular instances, of course, are rare, but there are many a tacks

of gastro-enteritis which are never investigated When food poisoning occurs, the usual history is that several people are attacked nearly simultaneously by severe sickness, they compare notes and decide that a certain article of food or drink or a certain dish must have been the cause Generally speaking the suspicion is found on inquiry to be justified, and, when specimens are available for bacteriological examination, it is usually possible to complete the proof by isolating one of the salmonella types both from the suspected food and from the sufferers But not uncommonly acute gastro-enteritis attacks a single individual in a household, and suspicion is not directed to food or drink as the cause, more especially as it often happens that meals have all been in common and the commensals escape illness Such cases may evade investigation entirely Occasionally, however, the person so attacked may die after an illness lasting from one to fifteen days and may become the subject of a coroner's inquest and a pathological examination The result may be that a salmonella is found in the alimentary canal and throughout the organs, exactly as in the fatal cases in a larger food-poisoning outbreak The source of infection in these solitary fatal cases almost always remains undiscovered, the sufferer may be too ill to be questioned, or suspicion may not even arise till after the fatal ending and the bacteriological report What I should like to suggest is that the cause of some of these solitary cases is an infected egg Obviously the solitary nature of the infection, no one else suffering in the family or among those sharing the same meals, indicates an unshared dish as the vehicle an egg is one of the commonest and most conspicuously unshared of such unshared dishes in ordinary life, and in spite of its notorious innocence should not escape suspicion

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THE TREATMENT OF VARICOSE VEINS BY INJECTION

BY

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THE treatment of varicose veins by injection originated over seventy-five years ago, but, although Professor Sicard of Paris treated a large number of patients by this method from 1915 onwards, it was not generally recognized in Great Britain until a few years ago It was introduced at the Waterloo Hospital in 1925 by Mr Rodney Maingot as a routine treatment, in that year the Varicose Vein Clinic was inaugurated, and the number of cases has steadily increased until we are now dealing with some thousands a year

We use an ordinary 5 c cm Record syringe with a No 16 needle As we treat a large number of patients in each clinic it is impossible to sterilize the syringe and needle by boiling After each injection the syringes and needles are washed out with distilled water and are placed in spirit, they are then ready for the next patient

The ideal position of the patient is prone upon a couch, the veins are collapsed and therefore more easily injected This is only possible, however, when the veins are large and remain very apparent even when the patient is lying down In most cases the patient is treated while sitting on an ordinary chair But in a certain number of cases neither of these courses is practicable, and it is then necessary for the patient to stand on a low stool with the weight of the body on the affected limb

The skin over the vein to be injected is sterilized with spirit It is not desirable to use a tourniquet because it produces venous engorgement, it is difficult to manage single-handed and it causes considerable pain to the patient

Three solutions are in general use at present—namely, (1) quinine urethane (quinine bihydrochloride 4 grams, urethane 2 grams, and distilled water to 30 c cm), (2) lithium salicylate 30 per cent with tutocaine 0 75 per cent and (3) sodium chloride 20 per cent with tutocaine 0 75 per cent The one in most use, as far as we are concerned, is the lithium preparation, it sclerosses well, and produces no symptoms The only practical objection to its use is that it does not keep well, as a rule after about ten days it starts to turn brown from exposure to light and heat, and has to be thrown away The sodium chloride preparation is very good for the injection of small veins, especially if they are thin-walled and the skin over them is atrophic, in these cases it is impossible to inject the other solutions, which will not be tolerated It should, however, never be used in large healthy veins From the point of view of thrombosis quinine urethane is the best preparation, but many patients cannot tolerate it, even in the smallest doses Any dose over 2 c cm is always liable to give rise to buzzing in the ears, flushes, headaches, and hypogastric pains, these occur almost immediately after injection, and may even lead to loss of consciousness Although the patient recovers quickly and the symptoms rapidly disappear they give rise to a certain amount of apprehension as to future treatment, and are also very undesirable when there are other patients in the room For this reason we have abandoned the use of quinine urethane except in cases of the "twin injection," with which I shall deal later on

The dosage is important The usual dose of lithium and sodium chloride is 4 c cm and of quinine urethane 2 c cm It is never advisable to give more than 2 c cm of quinine at one sitting, and at first 1 c cm of any solution is the most that should ever be injected It is important to see how the patient reacts, by starting with small doses, and thereby minimizing the pain, confidence is won, and larger doses can be reached without any untoward effect Injection of the full dose of 4 c cm at the first sitting might produce pain and cramp, and, in a certain number of cases, cause the patient to cease attending for further treatment

In injecting the solution into the vein it is advisable as a rule to work from below upwards The skin is sterilized, the selected vein is steadied by the left hand, and the needle is then inserted obliquely from below upwards in the line of the vein When it is felt that the vein has been entered, the plunger of the syringe is cautiously pulled out, and, if the needle is in the vein, blood will flow easily into the syringe Injection can then be performed If the operator is uncertain whether the needle is in the vein he should repeat the procedure of pulling out the plunger If an bubbles appear it is a sign that the needle has gone through the vein or that its point lies in the subcutaneous tissues He must then either alter the position of his needle until he has successfully secured re-entry, or, in any case of doubt withdraw it and try again It is always advisable to inject in one spot, if possible, and small doses in multiple punctures should be avoided During injection the point of the needle must be held perfectly steady, since the slightest deviation will probably cause complete penetration of the vein and the subsequent discharge of the solution into the surrounding tissues The solution should be injected slowly and steadily When the injection has been completed a pad of wool should be held over the site during withdrawal of the needle to prevent the leakage of blood The limb is then raised, the site of injection is wiped dry with spirit on a small piece of cotton-wool, and either ordinary plaster or "elastoplast" is fixed to the spot There is no necessity for the patient to lie up after the injection There may be a certain amount of pain or cramp persisting for a few minutes, but as a general rule patients can walk away immediately after the treatment

Immediate Local Effects—These are as follows (1) the vein may collapse or dilate after injection, (2) the vein may become hard at once, (3) there may be severe pain at the time of injection, (4) there may be external haemorrhage and/or subcutaneous bruising, (5) there may be no change, (6) thrombosis may occur and a satisfactory result ensue Thrombosis usually takes place in from six to twenty four hours

Immediate General Effects—Shock may occur, also collapse and fainting In cases of quinine injection there may be buzzing of the ears, headache, etc

Late Local Effects.—These consist principally of ecchymoses and gangrene of the vein, and ulcer of these, the most common by far is the 'injection ulcer' which is due in most cases to the deposition of the solution in the tissues round the vein. It is serious and painful, and four to six months elapse before a cure is effected. No case of injection ulcer should ever occur, it is in all cases due to carelessness in the administration of the injection. In most cases the operator has entered the vein successfully, but in the course of injection, through a momentary unsteadiness or movement of the patient, the vein has been penetrated and the solution deposited in the surrounding tissues. This should never happen if the precaution of withdrawing the plunger of the syringe in moments of doubt has been observed. The last late local effect is the complete thrombosis and gradual elimination of the vein. This takes some three to twelve months to occur, the vein gradually becoming hard and cord like to the touch. Over the bony surfaces the process is slow, but in the thigh it is much quicker, and as a general rule it may be stated that the vein should be practically obliterated in twelve months time.

There is only one important late general effect—pulmonary embolism. This is a very rare occurrence in some ten thousand cases treated at the Waterloo Hospital there has so far been no record of such a sequel. Yet there is a chance that this may occur since there are records in the medical literature of many cases.

In those cases which I have indicated above where no change takes place after injection there is one infallible method of treatment which is known as the 'twin injection.' It is generally necessary to make use of this when the veins are very large with extensive varicosity. The selected vein receives simultaneous injections of 4 c.cm. of lithium and 2 c.cm. of quinine urethane solution, the sites of injection being 3 to 5 inches apart. It is possible to do this single-handed by injecting the lithium first and the quinine immediately afterwards, but in actual practice it is much more satisfactory to have assistance for one of the injections. The quinine must never be injected first because, if this is done, when the lithium is being injected and the barrel of the syringe is being pulled out, there is a great likelihood of withdrawing some of the quinine from the vein, and this immediately causes clotting in the syringe. This 'twin injection' invariably causes clotting, but it must be emphasized again that it should not be employed unless the veins are very large.

Other solutions have been tried by us but have been abandoned for various reasons. Pure carbolic (98 per cent.) is a sticky solution, it spoils the syringe, the dose of 1–3 m. is difficult to assess owing to the stickiness, and it causes perivenitis, and, occasionally, haematuria. Alcohol (50–100 per cent.) in a dose of 1–5 m. is too painful. Sodium citrate (20–50 per cent.) has been given in doses of 0·5 to 4 c.cm., but the results proved unreliable. Sodium salicylate (20–50 per cent.) in a dose of 1–4 m. was also unreliable, about 60 per cent. of results are good if this solution is used exclusively.

In a number of hospital cases there is severe varicose vein ulceration. If the ulcer is very large the limb should always be x-rayed in order to determine whether or not there is any periostitis. Should the bone be involved the ulcer will naturally take longer to heal under treatment. In all cases a Wassermann test should be performed.

Treatment of Varicose Ulcer.

If no veins are visible Unna's paste bandage should be applied once a week. Where veins are present they should be injected weekly in addition to the use of the bandage. In severe cases the base of the ulcer should be injected with quinine urethane. Two sites are selected and into each 2–5 m. of quinine is injected at an oblique angle, the one from above the other from below. In this way a small "island" of the ulcer is cut off and heals. Our method is to attack and heal a series of "islands" until the entire surface of the ulcer is healed. In very small ulcers 2½ per cent. tannic acid solution on lint is applied to the part every four hours. This forms a crust over the surface of the ulcer and stimulates healing under the crust.

The treatment of an "injection ulcer" is as follows. For the first few days hot fomentations are applied. They are followed by pure hydrogen peroxide, and then by the application of calamine lotion. These ulcers are very painful, and the patient should be warned that a cure will not occur in less than three to six months.

The contraindications to treatment are five in number. (1) Pregnancy, the veins will probably disappear after confinement, and treatment should never be given during pregnancy. (2) Deep thrombosis. (3) Acute superficial thrombo-phlebitis. At least three months must be allowed to elapse from the time that all inflammation has disappeared before treatment is attempted. (4) Advanced heart, lung or kidney disease, diabetes, and high blood pressure. (5) If the varicose vein ulcer is very septic it is advisable to clean it up first before injection treatment is attempted.

We have found from experience that the following rules are highly important, if a satisfactory result is to be obtained in the treatment of varicose veins by this method.

Rules for Injection.

1. Never inject more than 1 c.cm. at the first sitting.
2. Never inject more than 6 c.cm. at the one sitting in one limb.
3. Never inject more than 2 c.cm. of quinine urethane at the one sitting.
4. Never inject more than 4 c.cm. of lithium or sodium chloride.
5. Inject weekly.
6. Avoid small doses and multiple punctures.
7. Work from below upwards.
8. Never inject if the veins are painful or if after the time of the introduction of the solution there is bulging of the vein.

Remarks.

An injection ulcer appears in about 1 per cent. of all cases. With quinine or lithium about 20 per cent. of cases will not "take." These 20 per cent. of cases will "take" with the twin injection. For a few days following the injection the limb may be painful, and patients should be warned of this; they should also be warned of the local and general effects. When injection is performed near the ankle some oedema of the feet nearly always results. The final results may be very good but varicose veins may form in other parts of the limb and even veins which have thrombosed as a result of the treatment may recanalize.

Provided that there are no complications or contraindications there are no cases which will not with care and time and judgement respond satisfactorily to treatment by the injection of suitable sclerosing solutions.

INTRAVENOUS SCLEROSING SOLUTIONS

BY

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It has frequently been stated that the nature of the clot, subsequent to sclerosing injections, is dependent upon the chemical used for the injection, some forming a soft friable clot, others a firm adherent one. As a matter of fact the consistency of the clot is entirely independent of the drug injected.

To elucidate this important question the following experiments have been made. They prove that (1) *the injected solution has but a very fugitive effect upon the endothelium* of the injected vein. (2) *no primary formation of a clot* is possible from the blood itself with the solutions and doses used, since the normal clotting of the blood (*in vitro*) is retarded by its admixture with them.

Withdraw from a varicose vein 2 or 3 c.cm. of blood and pour into a test tube. At first it is dark red. Leave the needle in place, adjust it to a syringe charged with 5 c.cm. of a 20 per cent. solution of NaCl and inject. When the injection is about half way done aspirate some of the blood into the syringe. At the end of the injection the piston is immediately and slowly withdrawn. Brilliant scarlet blood flows into the syringe for fourteen to forty five seconds according to the rate of the circulation in the selected vein (rapid change of colour is found in those vessels having a sufficient circulation). In all cases however within a full minute of terminating the injection the blood appears to have resumed its normal colour.

Withdraw 2 c.cm. of this mixed blood and pour into another test tube, B. It is found that this blood remains a bright scarlet for many hours and also remains liquid for some hours after the normal blood has not only coagulated but a large clot has formed.

These reactions are, of course, more marked when a considerable amount of the solution is still in the blood (large dilated ampullae) and when it is withdrawn immediately after the injection has been given. The withdrawal of this amount of medicated blood has not—in my experience in over 20 cases taken at random—prevented the veins from reacting and being cured. Further experiments might be undertaken with other drugs, so as to discover whether the desired obliteration could be accomplished by injecting followed by the immediate withdrawal of as much of the drug as possible, so that more active doses might be used and idiosyncrasy avoided.

Deductions. (1) The solution remains but for a very brief period *in loco*. (2) Addition of NaCl solutions (20 per cent.) to blood withdrawn from a vein retards its clotting *in vitro*.

Since the solution remains in the vein for something under one minute, and as we know that for about twelve hours no naked-eye or microscopical changes are discernible in the vessel walls, after which time, however, changes begin and are progressive to the formation of a blood clot, it seems only logical to deduce that this clot is the after-result of a momentary, severe, but purely local chemical reaction on the endothelium at the time of the injection. The physical properties of this clot are most likely due to the extent and degree of the reaction from the sclerosing effect of the solution, and whether or not some degree of infection was present in the vein at the time. If the vein is free from active infection and the reaction severe, the clot will be hard, adherent, and possibly extensive. Should there be any infection present the clot might soften, break down, and cause an embolism at some future date. All cases of emboli, if they are ever to be directly attributed to sclerosing solutions, as being their sole origin, must occur either during the injection itself or at least a very short time after it. A few such cases have been reported from time to time with quinine and urethane, and also with sodium salicylate, the recorded symptoms are suggestive of some embolic complication, but of a transitory nature, and the patients recover very rapidly. Other cases are on record where huge doses of drugs have been injected, doses that converted an otherwise non-productive infarct substance into an infarct-forming one, causing immediate clotting of the blood *in situ*. It is not remarkable that in such circumstances fatal cases have been recorded.

As already stated, NaCl retards coagulation, it is improbable that at any time, in normal conditions, this solution is ever capable of giving rise to an embolism. On the other hand, it has frequently been accused of always causing pain, and often very severe reactions. It sometimes causes a very intense reaction, so may quinine and sodium salicylate, but under these conditions (due entirely to the individual) there is little left to choose between them as regards the intensity of the pain and discomfort experienced by the patients, the end-results will, however, generally be excellent.

Colt, using sodium salicylate with 10 per cent. NaCl, stated some time ago that he believed it was better to use large quantities of medium strength solutions than small concentrated ones, the theory seems to be borne out by the above experiments. Gillespie and Strobel state that they, too, use large doses of 20 per cent. NaCl—10 c.cm. for one injection, up to 20 or 30 c.cm. at one time, or with 5 or 10 c.cm. three or four injections can be made at one sitting. They claim that with this solution a more adherent and extensive thrombosis, and a better end-result, is obtained than with other sclerosing solutions.

Why are NaCl solutions the most active in this form of treatment? Probably because they have a greater destructive power upon the endothelium, and because it is possible to give such large doses that the chemical effect upon the vessel wall is proportionately of longer duration than it is with other drugs used in small but concentrated solution. The reaction on the vessel is greater, more lasting and probably more penetrating, which may account in part for the transitory pain which is frequently, but not invariably, encountered. These solutions of NaCl are not necessarily painful, but only so under certain conditions due to the pathological state of the veins themselves. At all events, it may be affirmed that they retard clotting of the blood, and that therefore they are incapable of giving rise in the ordinary way to any thrombosis, either at the time of injection or subsequently; they are probably the most effectual and the safest to use at present, and will remain such until the ideal solution has been discovered.

In conclusion, mention might be made of a new and very interesting sclerosing agent—namely, sodium morrhuate, as recommended by Higgins and Kittle (*Lancet*, January 11th, 1930). I have used it in a small number of cases with good results. If time and experiments should prove it to be always reliable and safe, it will probably supersede all other sclerosing solutions now in general use.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ACUTE BRONCHITIS WITH VAGINAL BLEEDING AND ACUTE ABDOMINAL PAIN

THE following case, in which an attack of acute bronchitis with abdominal pain and vaginal bleeding simulated a ruptured ectopic pregnancy, is perhaps of sufficient interest for publication. The occurrence of bleeding per vaginam from the uterus or adnexa, when the origin cannot clinically be determined, is a puzzling feature in questions of abdominal diagnosis. Cases of such haemorrhage depending on general or local vascular disturbance have long been recognized and cannot be rare (vide Kelly's *Gynaecology*, p. 708), and no doubt many of the elect have from time to time been deceived.

A married woman, aged 40, was admitted to the Withington Hospital on October 30th, 1929, as a case of ruptured ectopic pregnancy.

Previous Medical History.—She had had two children, the second being born fifteen months previously. There was no history of abortions, and the periods were regular. No leucorrhoea was present.

Present Illness.—This started with acute abdominal pain, which was most marked in the lower abdomen, and especially on the left side. Lower abdominal hyperaesthesia and tenderness were present. Rigidity was not great, owing to a lax and obese abdominal wall. Before admission she had lost per vaginam three-quarters of a pint of blood. The temperature was 98.6°, the pulse 90, and the respirations 28.

Bimanual Examination.—The cervix was found to be closed, the uterus and adnexa were normal. A slight bogginess was felt on the right side, possibly due to constipation, since it disappeared later after an enema. Blood was deposited on the examining finger.

Lungs.—The acute bronchitis was not well established till later, but rales and rhonchi were heard in both lungs. The respiration was hurried, the facies was anxious and slightly cyanotic.

Progress.—Expectant treatment was adopted, but solely at the time on account of the lung condition. On an hourly pulse and respiration chart the pulse rate was never above 100, while the respiratory rate increased in a few hours to 40 per minute. The temperature never rose above normal. There was no more vaginal bleeding, and, following appropriate treatment, the chest condition quieted down within twenty-four hours. She was discharged apparently perfectly well ten days later.

This case clinically was without doubt one of acute bronchitis, as is especially evident in retrospect. No pelvic lesion could be demonstrated to account for the vaginal bleeding. With subsidence of the chest signs the patient improved rapidly, and on discharge was apparently perfectly well. I feel certain that laparotomy would have shown a normal uterus and adnexa.

The bleeding was due presumably to vascular congestion consequent upon the acute bronchitis, for on admission the patient was slightly cyanotic. The possibility of an adnexal tuberculous process could not be excluded, as the patient had been in a sanatorium for tuberculosis for three weeks seven years before, but this condition had apparently cleared up completely. The only reason why laparotomy was not performed was on account of the chest condition, as the diagnosis of ruptured ectopic pregnancy was foremost in our minds.

W. C. D. WALMSLEY,
Assistant Medical Officer, Withington Hospital, West Didsbury, Manchester.

ANOTHER DISEASE CAUSED BY WOMEN'S FASHIONS

DURING the last year or so I have seen an increasing number of cases of the condition about to be described among women coming under my care for other reasons, and in three or four cases I have actually been consulted with regard to the condition itself

It apparently only occurs in women of 35 years or more who have bobbed or shingled hair, and who also have the coarse, greasy type of skin with patulous sebaceous follicles It consists of a pigmented band—more or less continuous according to the shape of the head—lying horizontally across the upper part of the forehead generally about half an inch in width across the front, but usually wider and less regular at the temples In summer, and at a distance, the effect might be mistaken for that of the natural contrast between sunburnt skin and skin protected by the hat, but on close examination the lesion is seen to be composed of telangiectases, a marked deepening of the colour at the folds of the natural fine wrinkling of the skin and pigmentation of a yellowish brown colour arranged sometimes in a rough network and sometimes collected into freckles of irregular size and shape

The lesion does not disappear in winter, and in some cases forms a definite and conspicuous disfigurement It is, moreover, very difficult to remove Sufficiently vigorous application of CO_2 snow removes some of the pigmentation in rather a patchy manner and the larger telangiectases can be dealt with by electrolysis, but the lesion somehow or other seems to remain visible

The first time I noticed the condition I thought it was a limited manifestation of Civatte's poikilodermia reticularis, which it resembles very closely, but I soon had an opportunity of observing its coincidence with the red groove formed on a patient's forehead by the recent pressure of a hatband

Women, owing to the carriage of the head differing from that of men, wear their hats further back—they present in relation to their hatbands by the vertex, as opposed to men, who present by the brow The vertex, as the obstetrician knows, subtends a shape admirably adapted to slip out of such things as hatbands With the added mechanical disadvantage of the hair not being anchored at its distal end it has been necessary for hats to fit more tightly than ever

It seems probable that the seborrhoeic condition of the forehead may also have a mechanical influence in the matter For reasons which will be obvious I have not been able to study the condition histologically and I confine myself to drawing attention to the condition and its immediate cause

J H TWISTON DAVIES, M B,
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SPRUE TREATED WITH INTRAVENOUS INJECTIONS OF CALCIUM CHLORIDE

THE following clinical details of a case of sprue are interesting in view of the fact that this disease is very rare in Costa Rica, and there do not seem to be any published reports on this system of treatment

A coffee planter from Costa Rica aged 69 was first seen in August 1928 with a two months' history of loose frothy clay coloured motions associated with loss of weight and anaemia A diagnosis of sprue was made

During the subsequent eleven months some portion of which was spent in hospital he received treatment on the usual lines He was dieted strictly calcium was given both as the lactate and also in a proprietary preparation liver subcutaneous iron and arsenic injections strawberries and Batavia powder were also tried The latter controlled the diarrhoea but did not appear to affect the course of the disease and his condition deteriorated The weight dropped from his usual 10 st 6 lb to 8 st 13 lb and loss of appetite and weakness were marked In February 1929 he was admitted to hospital and put on 2 lb in weight but he was discharged some weeks later very little better

In July 1929 intravenous calcium treatment was started in conjunction with parathyroid extract but the parathyroid was omitted later as it appeared to have no effect The series of injections commenced with an initial dose of 1 c.cm which was gradually increased to 3 c.cm at intervals at first of three days which were increased to a week or longer as the patient's condition improved A total of twenty five injections was given

The general condition of the patient greatly improved His weight has increased from 9 st 1 lb to 10 st 9 lb His appetite is better and he has much more energy The looseness of the bowels has not disappeared there are still on an average or two motions daily as contrasted with the daily two to three before the intravenous therapy was employed

As an experiment for a fortnight the treatment was omitted and he was given instead 10 grains of calcium chloride three times daily No effect was produced other than heartburn and loss of appetite and the patient did not experience that sense of well being and energy which he always noticed after the intravenous administration There did now appear to be ankle oedema to the treatment For a few moments after the injection there was a sense of constriction in the throat but this soon passed off and caused no inconvenience

Lloyd[1] reports that sino-auricular heart block has been produced by 4 c.cm of 10 per cent calcium chloride solution injected intravenously, but that on the other hand, 50 c.cm of 1 per cent calcium chloride have been injected without noticeable effect Dutton recommends an initial dose of 1 grain in intravenous calcium administration for any purpose In the present case a 2 per cent solution was used

St. Leonards-on-Sea W. COVEY, M.B., B.Ch. Oxon.

Reports of Societies

SPRUE

AT the meeting of the Royal Society of Tropical Medicine and Hygiene on June 19th, with Dr. G. CARMICHAEL LOW in the chair, a paper on the applied pathology biochemistry, and treatment of sprue was read by Dr. N. HAMILTON FAIRLEY

Dr. Fairley conceived of sprue as essentially an alimentary disease, the clinical features and pathological haemolytic and biochemical findings being explained in terms of the resulting dysfunction of the gastro-intestine The pathological lesions, which were primarily inflammatory and secondarily atrophic, had a notoriously patchy distribution, and in the later stages might implicate the whole tract Involvement of the stomach was indicated by the frequency of defective acid secretion and as in pernicious anaemia, deranged gastric secretion probably underlay the megaloblastic hyperplasia of the marrow and the megalocytic anaemia so characteristic of sprue *The aplasia which the megaloblastic marrow underwent in* sprue resulted from malnutrition, and was analogous to the corresponding changes produced in the normal megaloblastic marrow of pigeons undergoing starvation Investigations on the blood chemistry of sprue showed that total as well as the ionic serum calcium was frequently reduced, and also that this reduction was not accompanied by an increase in the inorganic phosphorus The essential principles in the treatment of sprue might be summarized as (1) alimentary rest, (2) restoration of the blood to a normal condition, (3) reinforcement of lowered blood calcium and defective HCl secretion In sprue the starchy foods and the disaccharides in the gut gave rise to acid fermentation, while fat was poorly absorbed Of the fundamental foodstuffs, protein, especially in the form of minced underdone red meat, was well tolerated leaving little residue, and the author submitted that the most rational method of obtaining alimentary rest under such conditions was by the administration of a high protein low fat, low carbohydrate adequate vitamin diet *The effects of a high protein diet were very obvious* clinically since the stools showed a fall in their fat content became neutral or alkaline in reaction rapidly decreased in bulk and number, while abdominal distension and intestinal flatulence disappeared In all cases of megalocytic anaemia liver extract in full dosage was administered during a steady improvement in red cell count and percentage of haemoglobin followed Large transfusions of whole blood in cases proportional to the gravity of the anaemia response was elicited

Colonel F. P. MACKIE, I.M.S., believed sprue to be a disease *sui generis* although it was fundamentally an infective disease though what the specific infective agent was

[1] Lloyd, W. D. M., Dansey, A. Intravenous Calcium Therapy, *British Medical Journal*, April 21, 1923, i, 672.
[2] Dutton, *Intravenous Therapy*, p. 517.

Reviews

GYNAECOLOGICAL TECHNIQUE

IN his *Gynecologic Technic*,[1] Professor THOMAS H CHERRY has given a very full account of the technique which he has evolved in his gynaecological work in New York. Such a book has of necessity a limited appeal, for its main interest is for those who have the opportunity of watching and performing the operations he describes, but we know of few such works in which the steps of operative treatment are given with so much careful precision. For the English reader there lies a certain difficulty in the nomenclature of operations and instruments. He will be at a loss to identify such clamps as the Allis and the Oehsner, but with the help of the illustrations, mostly drawn by the author and all admirably clear, it is easy for anyone with a rudimentary knowledge of gynaecology to follow the steps of the operations. The chapter on radium, which in a work of this kind is naturally rather meagre, though sound and full of interest, follows the technique of the Stockholm school. In the treatment of cervical cancer Professor Cherry has discarded the Wertheim operation and replaced it with treatment by radium. He looks with disfavour upon the use of radium in cases of fibromyomata of the uterus, although in this country the method has had some success. An excellent feature of the book is the space given to the medical treatment of gynaecological conditions. Although we do not altogether share Professor Cherry's faith in such remedies as the injection of mammary gland, corpus luteum, and extract of ovary at the climacteric, in our opinion there is a great need for further teaching in the therapeutics of gynaecology. This book recognizes also the outstanding importance of treatment before and after operation, of which it gives a detailed and very illuminating account. The chapter on the taking of histories is one of the best we have seen. Professor Cherry has had excellent results in the treatment by diathermy of pelvic inflammation and chronic cervicitis. In this country we have as yet had little success in this direction, and this detailed account of American methods might be of unusual value as a means of comparison and correction.

MALIGNANT DISEASE AND ITS TREATMENT BY LEAD

THE treatment of malignant disease by lead carried out with great industry and energy by Professor W BLAIR BELL and his Liverpool colleagues has excited much interest and controversy, and those who wish to review the history and the large amount of work in connexion with this subject will naturally turn to the beautifully illustrated and bulky volume entitled *Some Aspects of the Cancer Problem*,[2] edited by its moving spirit. It is dedicated to the memory of the late R D Cohen and J G Adami, Vice-Chancellor of Liverpool University, one of whose last public appearances was at the Nottingham Meeting of the British Medical Association on July 21st, 1926, when he presented Professor Blair Bell's paper on the nature of malignant neoplasia and its treatment by lead. This publication consists of a large number of reprints of articles by the numerous members of the scientific staff of the Cancer Committee and of the Liverpool Medical Research Organization, and of extracts from such papers, linked together by a running commentary by Professor Blair Bell with the object of providing a full and connected account of the work done.

In a short and modest preface, which should disarm criticism, Professor Blair Bell points out that no one can judge his own work and that the various investigations here described cover a much larger field than that of the lead treatment of malignant disease. The nature and etiology of malignant neoplasia necessarily underlie scientific treatment, and these subjects are of course discussed. About a quarter of a century ago Professor Blair Bell regarded the chorionic villi as a normally malignant tissue, the invasive power of which is arrested at a critical period, probably when sufficient nutriment has been ensured for the developing embryo by some co-ordinating factor (*hormone*) elaborated by the embryo. Analogy then suggested that some material with the power of arresting the development of, or of destroying the chorionic villi should be tried in cancer. Lead had long been known to influence growth and to cause abortion, and the later effect when investigated experimentally was found to be not necessarily due as was generally supposed to haemorrhage in the uterus, but to a selective action on the chorionic villi causing coagulation necrosis. The action of colloidal lead on animal tumours was naturally investigated, and the changes produced by intravenous injection of colloidal lead in human tumours are described with histological illustrations. The exact way in which lead deleteriously affects the cancer cell is not dogmatically stated, but it is thought to be probably both local and *constitutional*.

Special interest must attach to the important section on chemotherapy in malignant disease with particular reference to treatment with lead in which many aspects, such as the method of preparation of the lead employed, its distribution in the tissues, and its excretion in the urine are dealt with. The toxic effects of lead are considered in great detail, and special mention should be made of the interesting account of the blood change. The last part, about a fifth of the volume, contains the records of the lead treatment of patients suffering from malignant diseases many of them in a very advanced stage. Of the 227 patients treated 152 were females and 75 males, and in 10 of these the disease was completely arrested in 31 others the disease was believed to be cured and the treatment was stopped 50 died before the treatment could be completed and 106 after treatment including two deaths from acute nephritis due to lead poisoning. The results are thus most frankly set out, and the advantage of combined lead operation and *x*-ray treatment is insisted upon thus intravenous injection of lead preparations immediately after a radical operation may prevent recurrence. The lead treatment can be employed for probably all forms of malignant disease but it is admittedly difficult to some extent dangerous, and can be safely used only by those who are thoroughly experienced in this practice and have laboratory facilities at their disposal.

VERNES'S SERO-FLOCCULATION REACTION

IN a monograph on Vernes's resorcin reaction in tuberculous infection[3] Dr ROBERT LÉVY gives an account of investigations, undertaken at Nancy, into the value of the Vernes sero-flocculation reaction in tuberculosis and includes a study of the use of B C G vaccine more particularly when given subcutaneously. The book is a small paper-covered volume of 160 pages and it includes a useful bibliography. Professor JACQUES PARISOT contributes a very fair and moderately expressed preface.

Part I gives a general account of the reaction with its technique and results. A fairly full description is given of the method of carrying out the test the various apparatus needed, and the reading of the results. The test is comparatively simple to put up but reading is carried out with a highly complicated [illegible] very expensive. Results are read off on a [illegible] 0 to 15 is considered normal [illegible] or suggestive of tuberculosis (with [illegible] tuberculosis). Figures [illegible] given of the results [illegible] and in persons with act[illegible]

[1] *Surgical and Medical Gynecologic Technic*. By Thomas H Cherry, MD, FACS. Philadelphia: T A Davis Company. 1929. (6½ × 9½; pp. xvii + 638; 538 figures; 8 dollars net.)

[2] *Some Aspects of the Cancer Problem*. An Account of Papers published into the Nature and Control of Malignant Disease Commenced in the University of Liverpool in 1905 and Continued by the Liverpool Cancer Committee Medical Research Organization (*formerly* the Liverpool Cancer Committee) together with Some of the Scientific Papers that have been published by Members of the Staff. By [illegible] MD, FRCS, London: Published for the Liverpool Cancer Committee by Messrs. Tindall and Cox. 1929. (Imp. 8vo; pp. xiv + 543; 273 figures; 90 pl. tex. 63s. net.)

[3] *Portion de Vernes à la Prophylaxie*. Par le Dr Robert Lévy. Préface de Monsieur le Professeur Jacques Parisot. (Collection [illegible]. 25 fr.) Paris: Maloine. 1929. (6½ × 9½; pp. 160.)

impression was that "if a scientist did his job and did not agitate against the State he was safe" It is perhaps not without significance that "most of the good scientific work is being done by men who 'arrived' after the Revolution," and are therefore of the right political complexion

The general impression conveyed by Mr Crowther is that there is a sense of creative effort about life under the Soviet which will unquestionably carry the country far In England he feels there is a relative "lack of the quickening spirit of creativity, there is even a lack of financial endowment," while in Soviet Russia "the proportion of the spirit of creativity to wealth is greater" He ends the book with the words "If I am right, then I do not see how in the end Soviet Russia will not become the more powerful country" We may hope that, whatever other faults our social system develops we shall never live to see the day when a university professor may have a moderately safe life at £250 a year as long as he and any enemies that he may have keep their mouths shut

NURSERY DIET

In the third edition of *The Child's Diet*[1] Dr J Sadler Curgenven repeats his earlier plea for less starch and more fat protein, and fresh food in the dietary of young children That starch in puddings and other articles of diet can be largely avoided he shows in an admirable table of recipes at the end of the book He urges that what starch is given should be in a form requiring mastication, fats may be increased in the diet by giving additional milk A brief but clear account of vitamins A B C, and D has been added, with note on the articles of diet in which they commonly occur

After reading Dr Curgenven's views one is inclined to regret that in *Nursery Cookery Book*[2] Mrs Doris B Sheridan should have included quite so many farinaceous puddings among her excellent recipes The variety of diet offered by her suggestions however solves the problem of monotonous meals, and a guarded condemnation of rice pudding should go far to relieve the gloom in many nurseries

NOTES ON BOOKS

Dr Elliot Joslin's *Diabetic Manual*[3] continues to be one of the most delightful and readable books on the subject of diabetes The fourth edition keeps fully up to the high standard of its forerunners In it the doctor will find answers to most of the questions which might perplex him or with which his patients might confront him The language and argument's are simple enough to be understood by any patient of average education and intelligence The value of this latest edition is greatly enhanced by the contributions made by some of Dr Joslin's patients The patient's own point of view is one that must help in achieving success and in prolonging life Diabetes in childhood is sometimes regarded with gloomy forebodings even with insulin at hand We recommend Joslin's illustrations and descriptions of diabetic children to parents and doctors who feel pessimistically inclined When I began treating diabetic children writes Joslin, I counted the days they lived Now I am beginning to measure their lives in decades or years No doctor who has diabetic patients in his care should omit to study Joslin's Food tables especially Table 36 giving the composition of special foods he will ponder on the credulity of the profession in recommending so many proprietary foods that contain as much starch as white bread

The *Proceedings of the Fourth Imperial Social Hygiene Congress*[4] held from July 8th to 12th 1929, present a remarkably complete survey of the world wide effort to grapple with the problem of venereal diseases These able papers and, even more, the pointed discussions to which they gave rise, should increase the general sense of the immediacy and complexity of the problem. The points stressed by those taking part in the conference were the difficulty of beginning treatment early enough and of continuing it to a complete cure the value of follow up work done by nurses and almoners the futility of controlling professional prostitutes only the danger of overlooking venereal disease among women, now decreased by treatment at maternity and welfare clinics, the failure to lower the incidence of gonorrhoea as compared with syphilis and the need for improving the social conditions of life especially by the provision of better housing

That a new edition has been called for in three years is in itself sufficient evidence of the popularity of Henderson and Gillespie's *Text Book of Psychiatry*[5] The point of view throughout is that of Adolf Meyer, in which the patient is looked upon as an organism reacting to his environment and the various mental disorders are regarded as reaction types The case reports are an admirable feature of the book but the references leave much to be desired In many places we are given only the authors names and left to imagine where the article is to be found

Dr Eicke[11] who possesses a qualification in engineering but not in medicine has written an instructive work on the organization of hospitals based on his experience of hospitals and university clinics at Frankfurt Freiburg and Heidelberg The various details of hospital administration are discussed including the admission and discharge of patients the purchase of supplies the drawing up of inventories and the working of the kitchen laundry, and system of heating as well as the arrangement of the various hospital departments a special section being devoted to hospital finance The work will be read with interest by all who are connected with the administration of hospitals

[1] *The Child's Diet* By J Sadler Curgenven M R C S., L.R.C.P Third edition. London H. K. Lewis and Co Ltd. 1929 (Cr 8vo pp viii + 119 3 net.)

[2] *Nursery Cookery Book* By Mrs Doris B Sheridan M C.A M S C Diploma. London E. Benn Ltd. 1929. (Demy 8vo pp 87 2s 6d. net.)

[3] *A Diabetic Manual* By Elliot P Joslin M D Fourth edition thoroughly revised. Philadelphia Lea and Febiger. 1930. (5½ × 8¼ pp viii + 243 48 figures 2 dollars net.)

[4] *Proceedings of the Fourth Imperial Social Hygiene Congress* London British Social Hygiene Council. 1930. (5 × 8¼ pp viii + 346 illustrated.)

[5] *A Text Book of Psychiatry* By D K. Henderson M.D F.R.F.P.S and R. D Gillespie M D M.R.C.P D.P.M. Second edition Oxford Medical Publications London Milford Oxford University Press 1930. (Demy 8vo pp x + 526 12s net.)

[11] *Die Organisation von Krankenanstalten* Von Dr Ing Eicke Leipzig G Thieme 1930 (6½ × 10 pp 111 34 figures M. 9.)

STERILIZATION OF MENTAL DEFECTIVES

MEMORANDUM BY A COMMITTEE OF THE EUGENICS SOCIETY

A CAREFULLY documented statement of the case in favour of eugenic sterilization as a measure accessory to the provision of better institutional accommodation for defectives and not as an alternative to it appears in a memorandum prepared by the Committee for Legalizing Eugenic Sterilization appointed by the Eugenic Society with Sir Bernard Mallett as its chairman and Dr C P Blacker as its secretary The committee strengthens its case by the moderation of both its claims and its proposals It neither puts forward sterilization as a panacea by which defectiveness can be eliminated from the community in a short time nor does it suggest that eugenic sterilization should be other than voluntary, making the single reservation that a defective of such low grade as to be incapable of consenting might, with the consent of his relatives, be sterilized in the unlikely event of his discharge from an institution

Statement of the Problem

The memorandum opens by stating the essentials of the problem—namely, that there are 300 000 certifiable mental defectives in England and Wales the majority of whom are the product of impaired germ cells and are liable to hand on the same defect to future generations The problem is complicated by the fact that high-grade mental *defectives and* the classes which produce them are in capable of regulating the births of their children *which* means that in future the gap between their birth rate and that of the rest of the community is likely to grow bigger and by the fact probably secondary to the former that the incidence of mental defect seem to have increased in the last twenty years and to be still increasing The committee, while approving the work of the organizations which aim at improving the lot of the defective and helping him to make the most of his limited abilities—for example the Central Association for Mental Welfare—and expressing its complete agreement with proposals for increasing institutional accommodation for existing mental defectives, states quite frankly that its own interest in

[1] Published by the Eugenics Society 20 Queen Square London W.C.1.

defective persons is chiefly concerned with limiting their propagation Society does well to make the lot of the defective as bright as possible, but it would act more wisely, and in the long run be doing the greatest kindness to defectives, by preventing them coming into existence at all The greatest weakness of proposals which aim at reducing the incidence of mental defect by a policy of wholesale sterilization is, the committee recognizes, the fact that many apparently normal persons may transmit mental defect Inevitably, therefore, the rate at which the community can be purged of its inborn defect would be comparatively slow even if defectives themselves were prevented from breeding But the question is not so much whether sterilization will abolish defect from the community, but rather whether by its means an amount of defect which might swell to unmanageable proportions will be kept within moderate limits

Inheritance of Defectiveness

Most authorities agree that mental defectiveness is inherited, though they hold divergent opinions about the method by which such inheritance takes place The views of outstanding importance are (1) that defectiveness is transmitted along Mendelian lines by a single recessive factor or by a number of different factors, (2) that it is largely produced by toxins acting upon the spermatozoon, or ovum, or early embryo, according to the law of blastophthoria The estimates of the proportion of mentally defective persons coming from neuropathic stock differ fairly widely from each other, probably, as Tredgold pointed out, owing to the different criteria adopted by investigators Tredgold himself estimates an hereditary factor in about 80 per cent of persons suffering from severe amentia Beach and Shuttleworth make a more modest estimate of 42 per cent Lidbetter, as a result of his investigations of a Poor Law area, concludes that the pauper community is comprised of two elements, one representing defect and its transmission, the other the perpetuation of low-grade stocks, not necessarily defective These two groups, he states, appear faithfully from pedigree to pedigree, revealing the distinctive characters in each group Of vital importance is the conclusion expressed by Dr E O Lewis in the report of the Mental Deficiency Committee, 1929 The incidence of low-grade deficiency was, he found, sporadic, occurring about equally in different social strata, but high-grade defectives, comprising some 75 per cent of the total of defectives, tended to spring from a subnormal and mentally retarded group, estimated as composing a tenth of the total population of the country These findings are significant in view of the fact that if it is indeed true that high-grade defectives, together with the bulk of other undesirables, tend to be born from a well-defined social group, the limits of the problem are set, and the community knows for practical purposes where are to be found the persons whose fertility is a genetic and economic menace

The committee holds that, though more information is needed about the genetic relation between defectiveness and the "*social problem group*" and about the production of defectives by the population as a whole, the known genetic facts are enough to justify society in taking all reasonable means to prevent defectives from breeding At present the relatively high fertility rate of defective persons and their lowered death rate are together operating dysgenically

The Legal Position

Having discussed the harmlessness of sterilization as carried out by vasectomy in the male and by division of the Fallopian tubes in the female—citing as an example an American series of operations for eugenic sterilization carried out on 4,517 males, with one death, and on 3,878 females, with three deaths—the committee proceeds to analyse the existing legal position in regard to sterilization whether for eugenic or other reasons Three distinct questions arise (1) Is it legal to sterilize defectives who are too defective to be able to give their consent? (2) Is voluntary eugenic sterilization legal? (3) Is voluntary therapeutic sterilization legal? Basing its conclusion largely on an opinion given by Sir Travers Humphreys in response to a specific question put by the British Medical Association[1] the committee answers the first question in the negative With regard to voluntary eugenic sterilization, the probability is that it would also be regarded as illegal, on the ground that it transgressed the law concerned with the prohibition against maiming A maim may be defined as "bodily harm whereby a man is deprived of the use of any member of his body, or of any sense which he can use in fighting, or by the loss of which he is generally and permanently weakened", and it is probable that just as castration was regarded as a serious maim because of its effect on the subject's courage, vasectomy might be held illegal on the ground that it injures the race to deprive a man of his powers of procreation On the other hand, there appears to be no doubt about the legality of voluntary therapeutic sterilization, such operations are often performed—on women, if conception would prove dangerous to health, and on men, if the operation is imperative on medical grounds

The law on the subject is obviously archaic, as unless the legal position is defined in terms of conditions prevailing to-day there is no prospect that the Board of Control would give its consent to the sterilization of defectives about to be discharged from institutional care "It is obvious to-day," states the committee, "that procreation is only a national service when the individuals procreated are capable of being socially useful When they are socially burdensome, and have to be supported out of the pockets of the useful, then procreation is a grave social disservice against which the community should be protected by suitable provisions in the law"

The Committee's Proposals

A bill, shortly to be drafted, embodying the ideas of the Committee for Legalizing Eugenic Sterilization, will consist of the three following clauses

1 A clause authorizing the medical deficiency authority or superintendent of an institution to sterilize a mental defective, subject to the consent of the parent or guardian and of the Board of Control and of the spouse if the defective is married In the case of defectives deemed capable of giving consent, sterilization will not be performed otherwise than with this consent In the case of defectives who lack the necessary intelligence to give consent, sterilization could be carried out under the safeguards above specified

2 A clause authorizing the *voluntary* sterilization of a person about to be discharged from a mental hospital for the insane as recovered provided that the further consent be obtained of the Board of Control, and of the person's parent or guardian if he be under age, or of his spouse if he be married

3 A clause legalizing voluntary sterilization, subject to appropriate safeguards, in order to prevent the transmission of hereditary defect seriously impairing physical or mental health or efficiency

The committee recognizes that the provisions of the third clause will have to be carefully safeguarded to prevent abuses by healthy persons who wish to avoid the responsibility of parenthood On the other hand, those who draft the bill will have to steer a middle course between not safeguarding enough, thereby exposing themselves to the charge of encouraging people who ought to have children to shirk the responsibility of parenthood, and of safeguarding too much, thereby incurring the reproach that they are arbitrarily, and without due cause, curtailing the liberties of responsible citizens

This memorandum deserves careful attention by all individuals and organizations concerned with the care of mentally defective persons and with the problems created in our society by their fertility It contains reasoned unpolemical statements about the inheritance of defectiveness, the fertility of the defective-producing class, and voluntary sterilization in other countries, and it analyses closely the existing means for limiting the fertility of defectives and the arguments that are brought forward against sterilization The memorandum is particularly valuable in that it shows how, in the committee's opinion, voluntary sterilization could be used as a measure complementary to segregation, how, indeed, neither sterilization nor segregation by itself can hope to offer an adequate solution of the problems arising from the inheritance of mental defect

[1] *British Medical Journal Supplement*, 1925, 1, 285

British Medical Journal.

SATURDAY, JULY 12TH, 1930

THE ADDITIONAL BENEFIT REGULATIONS

THE Ministry of Health and the Department of Health for Scotland have now issued the Regulations[1] which are to govern the administration of the additional benefits of approved societies, and, with them, a memorandum (Circular A S 273) giving an outline of the main provisions of the new Regulations These documents are of great importance to the medical profession especially to those practising as consultants or specialists The nature and degree of this importance was indicated in three leading articles published in the *British Medical Journal* in connexion with the National Health Insurance Amendment Act, 1928, under which the Regulations are now made It will be we think, worth while for those interested, and especially for members of the Council of the British Medical Association and of its Insurance Acts and Ophthalmic Committees, to refer once more to those articles[2] At that time the Council of the Association and the Representative Body thought it desirable to resolve 'that it is essential, if the medical profession is to take part in the provision of additional treatment benefits, that these, as in the case of statutory medical benefit, shall be administered in such fashion that the services of medical practitioners who elect to give advice and treatment in connexion therewith shall not be under the control of any approved society or societies', and the Council endorsed a statement of the Insurance Acts Committee that in certain circumstances it might 'be necessary to organize those members of the profession concerned in a refusal to give service, in pursuance of the well established policy of the Association" These dangers are not completely done away with by the Regulations now issued, and they cannot, in fact, be entirely avoided except by the incorporation in the statutory medical benefit of a consultant and specialist service as recommended by the Royal Commission on National Health Insurance and suggested in the Council's Proposals for a General Medical Service for the Nation[3]

The additional benefits which may be adopted by approved societies having a disposable surplus are sixteen in number Many of them relate to an increase of cash payments in connexion with, or analogous to sickness benefit Another is dental benefit which is the subject of special regulations So far as the Regulations now issued refer to these cash benefits or dental benefits they are not of direct concern to the medical profession, though it is desirable that practitioners should have some acquaintance with them Two of the remaining benefits relate to convalescent homes and nursing services, matters in which insurance practitioners have considerable interest Another relates to the supply of medical and surgical appliances (other than dental and optical), and the remainder to such additional benefits as consultant and specialist services, in patient hospital provision ophthalmic examination and treatment and treatment at approved rheumatism and other clinics For these benefits medical practitioners are necessarily the instruments, and the conditions under which they are to be given are therefore of immediate importance to the profession An approved society may not itself provide the treatment, but it may arrange or contract with some other body (even with a body which is not easily distinguishable from a combination of approved societies) to provide it and it may contribute towards its members expenses in obtaining the treatment either through such body or from other similar bodies or from suitable private practitioners The four important considerations for the medical profession are (1) that neither directly nor indirectly shall approved societies be in a position to select particular practitioners or an arbitrarily restricted number of practitioners who shall be appointed to give treatment to the exclusion of other practitioners possessing the requisite qualifications (2) that every patient shall have free choice of the agency and as far as possible of the individual practitioner, through whom the treatment may be obtained (3) that no one must be compelled to go to a clinic if he would rather go to a private practitioner, (4) that there shall be no compulsory negotiations with any approved society or with representatives of approved societies as to the terms and conditions on which medical advice and treatment will be given

The Regulations now published do not provide that all these things shall be secured The last of them is however only a remote danger which the medical profession has it easily within its power to avoid The third may be said to be reasonably secured by the honourable undertaking of the Ministry to see that the two benefits concerned—clinic and private practitioner—are always adopted together The second is to some extent safeguarded by the Regulations but the approved societies will still be in a position to put undue pressure on their members in favour of some particular scheme or practitioner and it will depend on how the Regulations are interpreted or worked as to whether further action will have to be taken to maintain the insured person's right of free choice The first consideration is secured as far as direct action is concerned, but there is a real danger of indirect selection and control by societies and the loyalty of members of the profession and especially of hospital staffs, must be relied upon to prevent this All these matters are of urgent concern in connexion with ophthalmic benefit and the work of the National Ophthalmic Treatment Board through which it is desirable that this should be given, and the Ophthalmic Committee of the British Medical Association now has the matter under consideration

In general, the Regulations (which came into operation on July 7th) make it incumbent on the committee of management of a society that each member shall be informed of the additional benefits to which he is entitled and of the procedure he must follow when applying for and obtaining the benefit that the cost of any medical certificate required must be borne by the society, and that there should be no restriction upon the member's choice of a medium through which to obtain the benefit but that the society's contribution to the cost there and by may be the maximum entailed by the most favourable terms available under its arrangements Further the Ministry must be kept fully informed of the society's arrangements, which are subject to his sanction

[1] National Health Insurance Additional Benefits Regulations 1930 London H.M. Stationery Office 6d net

British Medical Journal April 21st 1928 p 676 May 12th 1928 p 811 June 30th 1928 p 1117

[2] *Supplement* April 26th 1930 p 165.

INTERNATIONAL COLOUR VISION TESTS

IT cannot be denied that the question of adequate tests for colour blindness is becoming more and more important As transport develops in complexity and speed its safety and efficiency will depend more and more on signalling in colours This applies not only as in the past to railways and navigation, but to aviation and even to motor transport, for in many towns both in this country and abroad the tendency is becoming more widespread to control and guide street driving by coloured signal lights In these circumstances confusion and accidents can be avoided only by establishing a legal standard of normal colour sense, allowing no one to take charge of a motor vehicle whose colour sense falls short of this standard It is only proper, however, as the speed and efficiency of transport are rapidly making it international in character and regulation, that the standard of colour vision should be internationally agreed upon For these reasons the International Labour Office at Geneva, at the instigation of the Scandinavian Ophthalmological Congress, has conducted an inquiry into the conditions of colour vision testing in the transport services of the majority of European countries and in the United States of America and Japan, and an analysis of the information collected in this inquiry has been prepared by Professor Oblath of Trieste, whose conclusions are now available in a short and simply expressed pamphlet published in English [1]

The commonest test applied for the purpose is the Holmgren wools test, the chief advantage of which is that it affords a rapid method for examining a number of candidates Professor Oblath points out, however, that in view of the large size of the objects and the saturation of the colours a successful response to this test alone is not a sufficient criterion of fitness, moreover, although the test readily picks out red-green blindness and well marked cases of anomalous trichromatism, it misses the less evident defects of colour vision The colour lantern of Edridge Green, which has deservedly a considerable reputation, is a very complex piece of apparatus requiring a special method of working, but although it gives accurate results if used with competence and care it does not lend itself to the rapid examination of groups of candidates The most efficient and easily applied tests are those based on the use of confusion colours A valuable system of this type, of which a large number are available, is that in which use is made of the pseudo-isochromatic diagrams of Stilling as modified by Hertel (George Thieme, Leipzig, 1926) The use of these diagrams is based on the fact that persons with colour defect confuse certain colours with one another as well as certain shades, and such persons are therefore unable to pick out numerals marked in a background composed of coloured spots A second very valuable test —perhaps the most efficient of all—is that of Ishihara wherein advantage is taken of the fact that in a mosaic of colour spots the normal subject sees one numeral while the colour-blind person sees a different one, the figures being so distinct that the answer can be given without hesitation Among the test cards are diagrams designed to detect complete red-green blindness and to differentiate partial cases, thus, certain of the diagrams being made up of blue and violet spots, which appear brighter to persons with defective colour vision than to the normal subject fail to show any figure to the normal eye but do so to the dichromatic eye Other tests, as by means of Nagel's test card, and the diagrams of Schaaff, Wolffhin, Cohn, and others, are less efficient

On the whole, the conclusion must be reached that while the methods employed for testing candidates in whom a perfect colour sense is required are very numerous, all those so far suggested are in certain respects imperfect In doubtful cases the examiner, if he has to give a definite and incontrovertible decision about the fitness of the candidate, must make use of several methods before passing judgement In these circumstances it seems extremely desirable that some common denominator of agreement should be decided upon, and as a contribution to this end Professor Oblath's report deserves the most careful consideration

[1] International Labour Office Studies and Reports Series F (Industrial Hygiene) No 12 Colour Vision Tests By Professor Oscar Oblath Geneva 1929 Published in the United Kingdom for the International Labour Office (League of Nations Association) by P S King and Son Ltd 2s

CRIME AND THE YOUNG CRIMINAL

IT is very difficult from the data in the Home Office compilation of statistics relating to crime, criminal proceedings, and coroners' investigations for the year 1928[1] to be sure whether crime is increasing or not Taking a short view the evidence points to an increase, for in 1928 the incidence of indictable offences per million of population in England and Wales was 3,304 5, whereas in 1927 it was 3,199 4, but on a long view, crime has diminished, for the incidence per million in 1857—the first year in which criminal proceedings were published—was no less than 4,760 5 The analysis of the different types of crime suggests that while certain offences are becoming less and less prevalent, and some are remaining stationary in their incidence, others clamour for close attention, and receive it—for example, crimes against property with violence, especially breakings-in in country districts and shop raids in towns, and certain kinds of crimes against property without violence, especially obtaining by false pretences and various kinds of fraud A grave feature of the report is the indication it gives of the relatively higher incidence of convictions for certain crimes among young persons It is too early to decide whether this is a temporary phenomenon due to war and post-war conditions, or whether it must be taken to show that many members of the younger generation, failing to find, as did their predecessors, release for antisocial impulses in drunkenness vagrancy, and so forth, are turning, and are likely to continue to turn, to crime instead Whatever may be its cause this increase of crime among the younger age groups raises very serious problems, for unless it is checked the existing relatively low incidence of crime in the mature will disappear when the present juvenile offenders pass into the older age groups The factors producing the young criminal operate in infancy and childhood, long before any question of criminal misbehaviour arises at all, and the data in the report under review offer in effect a vindication of the work of the child guidance clinics, which aim at helping the nervous and maladapted child to adjust himself to his social environment Even when the youth or child places himself within the reach of the law the modern practice is to try the effect of a warning or of probation before resorting to detention At present advantage is being taken of the Borstal institutions, but the report questions whether due use is being made of the opportunities afforded by the reformatory schools for the training and reformation of children who might otherwise follow courses which later would necessitate their committal to a Borstal institution In assessing the significance of the statistics embodied in this report Mr Arthur Locke, assistant secretary in charge of the Home Office Criminal Division, suggests that whereas the community's efforts to deal with offenders leniently and yet

[1] Home Office Criminal Statistics England and Wales 1928 Statistics relating to Crime Criminal Proceedings and Coroners' Investigations for the year 1928 Cmd 3581 H M Stationery Office 1930 4s net

with discrimination have succeeded with the older generation, there is still doubt if the same or similar methods will be effective with the generation now growing up "The natural gulf between old and young," he writes, "has been widened and deepened by the removal, during the war, of many in the prime of their lives, and also by the changed outlook caused by the very fact of the war Possibly it is worth while considering whether the younger element among the general population should not be recruited more freely for work in every field of social effort connected with the relations between the community and the offender, so that the new generation may the sooner play its due part in tackling those problems which, if they are not properly handled, will add to the troubles of that generation when it in turn grows old" We are glad to note on page lii of the introductory note that "the women of 1928 showed better in the annals of all kinds of proceedings than the women of 1911", and that "nothing has occurred in this country to suggest the same close and far-reaching connexion between criminality and the use of drugs that is suggested occasionally in the literature of some other countries"

PREVENTION OF MILK FEVER

It is well known that distension of the mammary gland either by gaseous inflation or by the injection of fluid is a specific treatment for milk fever in cattle Recently Dr J Russell Greig director of the Animal Diseases Research Institute, Moredun, Edinburgh, in a study of fifteen cases has found that this procedure brings about a rise in the blood calcium values, which occurs in direct relation to the disappearance of the symptoms He found, furthermore, in a study of eighty-two consecutive cases, that milk fever is invariably associated with a very low blood calcium content On this evidence, Dr Greig suggests that the essential cause of milk fever is acute calcium deficiency brought about by a failure of the parathyroid regulating mechanism to replace the calcium that is rapidly transferred from the blood to the milk at the onset of free lactation Assuming the truth of this concept, it follows that milk fever should be prevented by ensuring a high concentration of calcium in the blood during the first forty-eight hours after calving, when the susceptibility to attack is greatest Dr Greig in considering prophylaxis by inclusion of calcium in the diet, points out that many cows with milk fever have in fact received an abundance of calcium in their food, while, therefore it is probable that the disease may be partly controlled in this manner the calcium so administered may be lost to the animal because of a highly alkaline condition of its intestinal contents The injection of an extract of parathyroid gland, with a view to converting the deposited calcium in bone into an ionized and readily assimilable form, is found in practice to be an inadequate method of treatment The phase of increased concentration of blood calcium is transient, and liable to be followed by a phase of hypocalcaemia with definite relapse It is possible, says Dr Greig, that the simultaneous injection of a readily assimilable salt of calcium, such as the gluconate, with parathyroid extract may prove a practicable measure The method, long practised by dairymen, of allowing the udder to remain firmly distended with milk for the seventy-two hours succeeding calving, owes its success to the fact that it prevents the *sudden* transference of large quantities of calcium from the blood to the milk Unfortunately, its adoption is not uncommonly followed by a decreased milk yield More hopeful than any of the other methods discussed is the stabilization of calcium in the tissues by administering massive doses of vitamin D by the mouth Experiments conducted by Dr Greig have shown that it is difficult to produce a sustained hypercalcaemia by this method, but that by administering vitamin D for about five days before calving, the period in which the animal is most susceptible to attack may coincide with that in which the blood calcium is tending to rise It might reasonably be expected that the disease would be prevented if it were possible to maintain a high concentration of blood calcium by the repeated injection of a readily assimilable salt into the blood during the first seventy-two hours after calving As, however, the increased blood calcium concentration which follows intravenous injection is transient it has been found to be more practicable to give subcutaneous injections, which, being absorbed slowly and continuously help to maintain an increased blood calcium concentration for longer periods The critical period is passed safely in cows which have received an appropriate subcutaneous dose of calcium gluconate immediately after calving and then another after an interval of twenty-four hours

ROYAL MEDICO PSYCHOLOGICAL ASSOCIATION AT OXFORD

THE Royal Medico-Psychological Association enjoyed the hospitality of Oxford for its annual meeting during the first four days of July It is rather odd that the association, now in its ninetieth year, should not previously have visited Oxford—a progressive place from the point of view of mental treatment—since 1848 Dr T Saxty Good of Oxford was elected president, and Dr R R Leeper of Dublin vice-president The meeting had an international character, among the visitors being psychiatrists from Austria, Czechoslovakia, Denmark, Germany, Poland, and Switzerland, as well as from the British Dominions and the United States In his presidential address Dr Good traced the history and progress of Littlemore Hospital (Oxford County and City Mental Hospital) of which he is medical superintendent and in the grounds of which following the address, a reception was held He said that the hospital was opened in 1847 and even in its early days was marked by a progressive spirit The staff for example appreciated the importance of a sympathetic attitude in dealing with the insane, and also of occupation therapy During the war a group at Littlemore did a great deal of experimental work with shell-shock cases, using hypnosis and other methods In 1918 association with the Radcliffe Infirmary—a general hospital—began, and later resulted in the establishment of an out-patient clinic for nervous disorders at the infirmary Dr Good mentioned that at present the population of the mental hospital was declining while the out-patient department at the Radcliffe was expanding, this suggested that prevention was being found to be better than cure On the morning of each of the following days of the meeting papers were read and discussed Dr G A Gibson dealt with the mental changes in cardiac disease Dr F W Spielmeyer honorary professor of psychiatry at Munich, assessed the influence of circulatory changes on the central nervous system Professor Andrew Gunn commented on the use of sedatives Dr John Rickman discussed mental contact with the insane Dr D K Henderson and Miss Sarah Maclachlan reported on Alzheimer's disease and Professor C G Seligman described the relation of temperament and insanity in the Far East Professor Seligman gave an interesting interpretation of the psychology of the Japanese and Chinese and incidentally exploded the theory of [illegible] ability of the Celestial The Chinese he [illegible] their noisier and more excitable than Western [illegible] family quarrels induced [illegible] of suicides The set discussion of the [illegible] out-patient clinic which was opened by Professor [illegible] Robertson of Edinburgh [illegible] by Dr H Crichton Miller Dr William Brown Dr R D Gillespie and others At the annual dinner [illegible]

Christ Church Hall, Dr Nathan Raw, the immediate past-president, proposed the toast of "The City of Oxford," to which the mayor responded The health of "The University" was proposed by Mr Arthur Greenwood, Minister of Health, who congratulated Oxford on its accomplishment of the extremely difficult task of keeping alive the old learning without being oblivious of the new Sir Farquhar Buzzard, Regius Professor of Medicine, in responding, welcomed the Minister as a prospective health visitor, from whom, he hoped, Oxford might expect frequent visits and sympathetic after-care Dr J Greig Soutar proposed the health of "The Guests," and there were responses from Sir William Morris (whose motor works were visited during the meeting), Professor August Wimmer, professor of psychiatry at Copenhagen, and Mr L G Brock, chairman of the Board of Control Mr Brock remarked that the Board set a very high value on the work of the association He complimented Dr Good on his pioneer work in Oxford, where he had blazed a trail (in establishing association between the mental and the general hospital) which he hoped many other medical superintendents would follow The toast of "The Association" was proposed by Sir Humphry Rolleston, who also complimented Dr Good Other interesting events of an enjoyable meeting were a luncheon in New College Hall, at the invitation of the Warden and Fellows, garden parties at Newnham Park, with Viscountess Harcourt as hostess, and at Wadham College, a civic reception at the Town Hall by the mayor, and an "At Home" at Magdalen, when the Regius Professor of Medicine and Lady Buzzard received the guests

PREVENTION OF BLINDNESS

A NEW body, the International Association for the Prevention of Blindness, was formed last September, at the International Ophthalmological Congress, to study the factors, direct and indirect, which may result in blindness or impaired vision, and an English version of its first report[1] has now been issued under the auspices of the League of Red Cross Societies This lengthy document gives a very fair *summary* of a large amount of literature on the causes of blindness which has been published of recent years Much use is made of the report by the Departmental Committee on the Causes and Prevention of Blindness, appointed by Dr Addison when Minister of Health in 1920, which appeared in 1922 There are also summaries of reports from other countries It is shown that whereas there has been a considerable, indeed amazing, reduction in the communicable eye diseases in Western countries, there is a belt encircling the world in tropical and subtropical countries where eye disease and blindness take a serious toll of the economic efficiency of the peoples The heavy incidence of various forms of conjunctivitis in Egypt is an example of this, and it may be paralleled in China, Tunis, Asia Minor, and to some extent in India The report shows that much is being done to educate public opinion to the recognition that blindness can be prevented in the great majority of cases There is also evidence that where there has been a campaign of intelligent propaganda in any country the measures suggested have been welcomed by the population The report issued will form a useful document for reference, and it will be of interest to note whether this new society, born under such favourable auspices, will be able to stimulate active measures for the prevention of blindness In regard to etiology much is now known The great need is for propaganda calculated to enlighten the people themselves in the innumerable small villages scattered throughout the countries where eye disease and blindness are most prevalent A small pamphlet issued by the All-India Blind Relief Association,[1] whose patron is Sir Frederick Sykes, Governor of Bombay, deals with endeavours to improve the state of the inhabitants of the villages in the districts around Bombay The effort is small, but from the statements in this publication they would appear to be on satisfactory lines, and it is evident that the Government is taking an effective hand in the work It would be an advantage if such local reports contained a map of the district under review, and the lengthy quotations from well-known writings might be reduced, for they tend to obscure the records of the work done by the individual society

[1] The Prevention of Blindness Report by the League of Red Cross Societies Minutes of the International Association for the Prevention of Blindness Paris 1929 pp 112.

THE ORIGIN OF SYPHILIS

THE question of the time and place of the origin of syphilis has been long debated and is still unsettled Evidence of some weight has been adduced to show that the disease was imported into Spain and Portugal from the West Indies by the sailors who returned with Columbus in 1493 On the other hand, it has been urged that the description of this disease is not definite enough to enable us to be sure that it was syphilis, and that there are on record in the writings of the ancient physicians references to a disease or diseases which have been identified by some modern authorities as venereal Professor Sudhoff, after careful study of contemporary writings, came to the conclusion that syphilis must have been known in Europe before the siege of Naples in 1495 Two recent papers on this subject have lately come before us The one by Captain C S Butler and Lieutenant V Hernandez of the Medical Corps of the U S Navy[2] roundly characterizes the doctrine of the American origin as a fallacy, the other is a translation with commentary of one of the earliest papers on syphilis, that of Coradinus Gilinus (1497), by Mr Cyril C Barnard of the London School of Hygiene and Tropical Medicine[3] One of the chief difficulties in trying to come to some conclusion on this subject lies in the very vague and unsatisfactory descriptions of disease left to us by the fathers of medicine and their disciples down to comparatively recent times This difficulty seems insuperable It is as impossible to decide whether the disease which afflicted the returned sailors of Columbus was venereal as it is to identify the *ignis persicus* of Galen, under which name Gilinus classified the *morbus Gallicus*, but at least its venereal character is established by the statement "About this French disease, however, there are three things to be considered—firstly, the pustules, secondly, the pains in the joints, and thirdly, why it begins in the pudenda, such as the testicles, anus, vulva, and male organ or penis", and further, "this disease is contagious wherefore I again and again warn men on no account to lie with women who are suffering from this pernicious sickness or those who have had intercourse with men rendered dangerous thereby" The one fact which stands out most prominent in the history of venereal disease is the sudden and widespreading outbreak which occurred at and immediately after the invasion of Italy by the French in 1494-95 The authors of the American paper take a tone which suggests a feeling that to harbour a belief in the American origin of syphilis is an insult to America, and their paper consequently *smacks somewhat of advocacy*, but they and others make a very strong point indeed in urging the great

[1] The Work of Blindness Prevention The All India Blind Relief Association Bombay 1930 (Pp 29 8 annas)

[2] Our Inheritance of Fallacy from Chapter XIV of Oviedo's Historia General y Natural By Captain C S Butler and Lieutenant Vincent Hernandez Washington, D C *Southern Medical Journal*, Birmingham, Alabama, vol xxii, No 12, December, 1929

[3] The De Morbo Quem Gallicum Nuncupant [1497] of Coradinus Gilinus, by Cyril C Barnard Reprinted from *Janus*, vol xxvii

improbability of such a rapid spread from the Atlantic coast of Spain to Italy, as is postulated by the theory of American origin As they point out, there were no Spanish troops in the French Army, and those who served on the other side must have arrived in Italy too late to have caused the outbreak Besides recognizing that the disease was spread by sexual intercourse with infected persons, Gilinus (or Ghilino) distinguished it from leprosy, with which it had been confounded, and recommended the use of mercurial inunction in its cure His identification of it with the *ignis persicus* of the ancients would be of more weight did we know exactly what the last-named disease was like This pamphlet, while not the first publication on the subject, was among the earliest, as will be seen by a perusal of Mr Barnard's excellent bibliography, which gives the titles of two publications in 1495 and six in 1496 The exact date of publication of Ghilino's treatise in 1497 is unknown Much ink has been expended in the discussion of this question, and no doubt much more will still be used, and yet no incontrovertible decision will be arrived at, unless some wholly fresh evidence is discovered

SIR ARTHUR CONAN DOYLE M D

THE death of Sir Arthur Conan Doyle, on July 7th, at the age of 71 is regretted by all He was one of many writers who have started out to make a career in medicine, and then under the impulse of the creative spirit abandoned practice for the life of letters As a medical student at Edinburgh he came under the influence of a remarkable teacher, Joseph Bell, surgeon to the Royal Infirmary, whose gift of quick perception and rapid deductive reasoning from small observations he turned to good account later in delineating the character of Sherlock Holmes Bell was for ever impressing upon his pupils by example and by precept the importance of small distinctions and the *endless significance of trifles* Of Doyle he said in after years "I always regarded him as one of the best students I ever had He was exceedingly interested in anything connected with diagnosis, and he was never tired of trying to discover those little details that one looks for" After graduating M B, C M at the University of Edinburgh Doyle saw something of the world as ship surgeon in Arctic waters and on a small vessel trading to West Africa Then from 1882 to 1890 he practised obscurely at Southsea storing in his memory many scenes of medical life, both grave and gay, which he worked up afterwards into the material of fiction, in the *Stark Munro Letters* and *Round the Red Lamp* They were lean years at Southsea, he went there as a stranger, without capital or influence In the dull interludes of shabby-genteel practice he polished up his talent for writing and from time to time short stories from his pen would be accepted by editors of magazines It was in 1886, when his fortunes were at a low ebb, that Arthur Conan Doyle hit on the idea of an amateur detective who should apply the methods of Joseph Bell to the unravelling of mysteries, with a sort of medical Boswell as foil and showman *A Study in Scarlet*—the first of the Sherlock Holmes tales—was followed by a good historical novel and several romances Then on the advice of Sir Malcolm Morris he took a course in diseases of the eye at Vienna, and came to London in the hope of making a name in that specialty, but no patients knocked at the door of the house in Montagu Street, Portman Square, and the would-be ophthalmologist filled his time by writing further adventures of Sherlock Holmes for the *Strand Magazine* This was the turning point, and, apart from service during the South African war as physician to the Langman Field Hospital, he never practised again The subsequent career of this large-hearted and many-sided man is familiar to every newspaper reader

LES JOURNÉES MÉDICALES DE BELGIQUE.

THE tenth session of the well-known Belgian congress, termed "Les Journées Medicales," and organized by the *Bruxelles-Medical*, was held in Brussels at the end of June It attracted more than 20,000 visitors from forty-seven nations, including 36 Government delegates and 120 representatives of universities or scientific bodies Professor Bordet was the president and the King and Queen of the Belgians attended the opening meeting Considerable interest was aroused by a lecture by Professor J L Faure, entitled "Science et conscience en chirurgie" He emphasized the vital importance in many cases of an early operation, and remarked that even failures had their value, since they pointed the way to improvements in technique Operations were performed at various hospitals during the congress, not only by Belgian surgeons, but also by distinguished representatives from other countries, some of whom had even brought with them their assistants and *patients Besides communications on various medical* subjects, a number of practical demonstrations were arranged Special attention was paid to the entertainment of the delegates, many of whom took part in an excursion to Liege, with which the congress terminated An elaborate exhibition illustrating the application of art and science to medicine surgery, pharmacy, and public health had been prepared, and proved to be very popular Among those who were present from Great Britain were Dr Alfred Cox, Medical Secretary of the British Medical Association, and Professor G H F Nuttall from Cambridge The majority of the papers read will be published in full in coming numbers of the *Bruxelles Médical*, which, in its issue of July 6th, gives a short description of the congress

CLINICAL ADDRESSES AT WINNIPEG

IN connexion with the Annual Meeting of the British Medical Association at Winnipeg a series of special clinical addresses will be delivered at 2 p m at the Winter Club On Wednesday, August 27th, Sir William Wheeler (Dublin) will speak on "The significance of surgical recoil in visceral decompression" and Dr H C Cameron (London) will discuss Child psychology" The addresses on Thursday, August 28th, will be given by Sir Lenthal Cheatle (London) on "The primary tumour in carcinoma of the breast," and by Professor W E Dixon (Cambridge) on Drug addiction" The clinical address on Friday, August 29th, will be given by Sir E Farquhar Buzzard, who will speak on "Rest, work, and play in health and disease" The Listerian Oration by Lord Moynihan of Leeds will be delivered at the Winnipeg Winter Club on Friday, August 29th, at 9 p m

THE Metropolitan Water Board has unanimously decided to retain the services of Sir Alexander Houston D Sc, M B, Director of Water Examination after he has reached the retiring age His researches, which he will continue, have led to the solution of many problems of protection of supply sources and water purification, with advantage not only to the Board, but to the other water authorities throughout the world

THE Association of Surgeons of Great Britain and Ireland invites applications for a surgical scholarship of the value of £350, to be held for one year The object of the scholarship is to enable the holder to pursue a definite line of research or to study in specified clinics either at home or abroad Candidates in their applications are required to state the line of research or study that they intend to pursue and also to give a résumé of their past careers No testimonials should be sent, but each candidate is required to provide letters of recommendation to be forwarded under separate cover from two sponsors The election will be made in November, 1930 and applications must be forwarded by September 30th to the honorary secretary of the association Mr E C Hughes 1F, Wimpole Street, W 1.

ANNUAL TUBERCULOSIS CONFERENCE

EFFECT OF LOCAL GOVERNMENT ACT ON TREATMENT AND PREVENTION

THE sixteenth annual conference of the National Association for the Prevention of Tuberculosis was held in the Great Hall of the House of the British Medical Association, London, on July 3rd and 4th, SIR ARTHUR STANLEY and SIR ROBERT PHILIP presided over the different sessions The principal subject for discussion was the effect of the Local Government Act, 1929, on the antituberculosis campaign, and on institutional treatment and after-care The conference was largely attended by representatives of local authorities and voluntary bodies A complaint was voiced at the close that the views of the layman had not been sufficiently heard, and that the prearranged papers, mostly by professional people, had taken up an undue amount of time SIR ARTHUR STANLEY promised that this should be remembered when the programme for the next conference was framed

The Minister of Health's Inaugural Speech

MR ARTHUR GREENWOOD, M P , opening the conference, warmly congratulated the association on its educational and practical work, which had, he believed, been a large contributory factor in the decline of the disease The Local Government Act, which was to form the principal matter of deliberation, was a great step forward It conferred a larger measure of freedom and responsibility on local authorities, who would now be able to look at their various health services as a piece of co-ordinated machinery Tuberculosis work would be brought into close relation with all other local public health activities, and, indeed, he hoped, with many activities outside those of public health narrowly so called It was well, however, always to bear in mind that the Minister had considerable powers in the way of reducing State grants where services fell below normal standard, a power which he hoped it would not be necessary to use For the sake of economy, if for no other reason, he thought that all local authorities would address themselves to the problem of after-care, but beyond economy there was a larger goal of improvement in the quality of the life of the people

New Legislation and the Tuberculosis Campaign

SIR GEORGE NEWMAN addressed the conference on the effects of the Local Government Act on the tuberculosis campaign The death rate from pulmonary tuberculosis in England and Wales had fallen from 3,000 per million persons in 1847 to 700 per million last year, but still more remarkable was the decline in mortality from non-pulmonary tuberculosis, which had been halved since 1917 Factors which had brought about the decrease were social betterment and sanitary and housing improvement, special measures, such as institutional segregation, were also concerned, and credit was attributable to biological forces, such as the restriction of the field of infection (for example, the reduction of tuberculous milk, and the avoidance of personal contagion), and probably to the natural immunization of a tuberculized population The Local Government Act made possible a wiser and more effective organization of these varied means of attack and defence In all counties and county boroughs effective co-ordination was now possible The medical officer of health was adviser both to the public health and to the public assistance committee, and so could co-ordinate the two services The remedial and preventive aspects of the services were brought together under a single health authority The dispensary (as diagnosis station and general clearing house) could be conjoined with the institutions Schemes of after-care and education were now uniformly applicable to all cases of tuberculosis within the area of the authority The tuberculosis service, established some twenty years ago had no doubt restrictions and imperfections, but it had abundantly justified itself, and had proved essential in the national campaign against tuberculosis The new Act extended its opportunity of utility, as Bentham would have said, for the greatest good of the greatest number, if only the local authorities and an enlightened public opinion would use it wisely

DR J P KINLOCH, Chief Medical Officer to the Department of Health for Scotland, dealt with those aspects of the new legislation which had a special Scottish significance The vital hospital clauses of the Scottish Act, bringing the whole institutional provision for general diseases within the domain of the new health authorities, had already given impetus to the development of regional schemes of health administration which had been in course of growth for several years A new spirit of accommodation had arisen between the universities, the voluntary hospitals, and the statutory health authorities which, in the near future, would result in the pooling of experience, outlook, and service for the common good

The Effect on Institutional Treatment

DR J A WILSON, assistant medical officer of health for Glasgow, discussed the effect of the Act on institutional treatment It restored tuberculosis to the realm of general medicine, and promoted the development of an ordered scheme for its administrative control An inquiry carried out in Glasgow showed that, of 2,500 patients, 55 per cent were in an advanced stage of the disease when notified, 35 per cent in an intermediate stage, and only 10 per cent were early cases Of these patients, 64 per cent died within six months and 87 per cent within two years of coming under observation Tuberculosis, therefore, as it occurred in an industrial city, was to a large extent a hospital rather than a sanatorium disease From this survey it appeared that one bed was required for every five registered cases, and the proportion of hospital to sanatorium beds was seven to one

MR ACTON DAVIS, consulting orthopaedic surgeon to the London County Council, considered the effect of the Act on the treatment of non-pulmonary tuberculosis, and pointed out some differences in the problem as it concerned children and as it concerned adults His view was that the voluntary hospital was not the place for the treatment of tuberculosis, there was too much pressure on the beds to allow the necessary patience to be exercised, with the result that conservative treatment did not receive its full trial This was particularly the case with glandular and genito-urinary tuberculosis

The General Practitioner in the Treatment of Tuberculosis

DR G LISSANT COX, central tuberculosis officer for Lancashire, introducing this subject, said that the general practitioner should play an important part in treatment and prevention He did not do nearly as much as he might, owing to the conditions under which he worked, and his training as a student In Lancashire there was excellent co-operation, the proof being that 86 per cent of the new cases of tuberculosis were sent by general practitioners for an opinion as to diagnosis before statutory notification If the general practitioner was to do better work he must have time to examine the cases, many mistakes occurred because the time factor was inadequate Medical students, at least in England, were badly trained in the diagnosis of tuberculosis Persons suffering from tuberculosis were rarely sent to general hospitals, and the student might hardly ever see an early case A closer co-operation was required between the tuberculosis dispensaries and the general hospitals if medical men were to know the signs and symptoms

DR J COHEN, from the standpoint of a general practitioner, said it was often complained that notification was too late, but it should be remembered that patients frequently did not come to the practitioner until the disease was well advanced The dispensary was of the greatest use to the general practitioner, if it was regarded as a consultative centre, and for the sorting out of patients into categories according as they required sanatorium, hospital, or domiciliary treatment Practitioners should be invited to take an active part in the work of the dispensaries, possibly even taking turns at dispensary duty DR WILLIAM BRAND, tuberculosis officer for Camberwell, declared that the general practitioner could not stand alone in his treatment of the domiciliary patient without risk of

doing the patient an injustice, the reason being that, together with domiciliary treatment, each local authority made concurrent provision for other forms of treatment Any of these might be required in the course of the domiciliary treatment, and could be supplied through the tuberculosis officer acting on behalf of the local authority General practitioners and tuberculosis officers should by acting together be able to simplify a difficult problem

Dr B T J GLOVER, chief assistant tuberculosis officer, Liverpool, described a domiciliary treatment scheme in Liverpool in which the general practitioner was enlisted The general practitioners treating the cases rendered a quarterly report, and were paid at the rate of 3s per attendance, whether they went to see the patient or the patient to see them The chemists were remunerated for dispensing the doctors' prescriptions on the same basis as under the Insurance Act Under this arrangement the number of non-insured persons receiving domiciliary treatment by general practitioners at any time was about one thousand Dr S VERE PEARSON (Mundesley Sanatorium) desired to see more general practitioners at sanatoriums He also referred to the difficulty, in the case of patients who had had artificial pneumothorax, of getting reliable periodical refills by general practitioners after the patients' discharge from the institution Dr J G MCCUTCHEON (Glasgow) said that the great difficulty in practice was the making of early diagnosis, it would help matters if there were competent nurses visiting frequently at patients' homes to record the temperature and pulse rate, and so on Mr W TAYLOR (mayor of Deptford) was emphatically against employing the general practitioner, and in favour of the tuberculosis officer, the more of whom, he said, the better He did not want tuberculosis to fall into the hands of insurance practitioners, who could not give the necessary full attention owing to the number of patients on their lists Dr MORTLOCK-BROWN complained of the neglect of preventive aspects, and gave some instances of how the public were deprived of air, light, and space

Tuberculosis and the Young Child

The subject of tuberculosis in relation to education was introduced by Dr W L BURGESS (M O H Dundee), who gave instances of ways in which the new Act, if freely interpreted, might have a great influence on the future of education Dr GEORGE MACDONALD discussed the open-air school He had not found that attendance at a special school for tuberculous children had proved to be a handicap afterwards in obtaining employment Mrs LEAH MANNING described the open-air school at Cambridge, of which she was head mistress, and said how much it owed to the encouragement of the medical officer of health for the borough, and the county tuberculosis officer The Rachel McMillan open-air nursery school at Deptford was the subject of papers by Miss MARGARET MCMILLAN and by Dr O'CONNOR, the school's medical officer Finally, Dr GERALD LEIGHTON, of the Department of Health for Scotland, discussed the feeding of school children He deplored the insufficiency of the amount of milk consumed per head of population (one-third of a pint a day) In speaking of tubercle-free herds, he mentioned that there were many herds, in Scotland at least, ready to supply on demand raw milk guaranteed free from tuberculosis, and many more which could quickly reach that standard

The Block Grant and Tuberculosis Schemes

The conference was opened on the second day by Dr WALTER ELLIOT, M P, who was Parliamentary Under Secretary for Scotland in the last Government He said that it was not yet clear what the repercussions of the Local Government Act, 1919, were going to be, and it was still important that public opinion should continue to apply the steady moulding pressure by which alone permanent advances in public health or in any other sphere were brought about The underlying philosophy of the Act was that the great local authorities had now reached a stage at which it was reasonable to suppose they did not need the constant guiding and at times admonitory hand of the central authority They were advanced to a stage of equality and partnership Any system could be worked, given good will and the pressure of public opinion and the only question regarding the general aspects of the Act was whether it gave to such good will and enlightened public opinion the greatest possible scope Public health expenditure was one of the most remunerative investments a local authority could make Enlargement of the use of the public health service was more than overdue, as was also the amalgamation of the Poor Law services and the bringing into the current of public health of those pools of hospital accommodation which existed here and there in the country

Dr F E FREMANTLE, M P dealt with the effect of the change from percentage to block grant on the efficient development of tuberculosis schemes Under the old system the industrial, and to a large extent impoverished areas received the least help The new system afforded an opportunity for dealing with the problem comprehensively The block grant afforded security to the local authorities whereby they could establish their scheme over a period of years It was based on the definite principle of need The factors concerned were the size of the population, rateable value, and unemployment as measures of poverty, ratio of children to population as a measure of public health need, and, affecting rural areas, mileage The advantages of the new system were the pooling of institutions, co-operation between adjacent authorities, the possibility of providing on a large scale for complete medical and nursing services and the assistance of voluntary associations

Dr F J COUTTS, late senior medical officer, Ministry of Health, said that apprehension had been expressed lest the abolition of percentage grants should lead to serious interference with the efficiency of certain public health services This view was put forward at an early stage in a leading article in the *British Medical Journal* of December 1st, 1928 In the case of many probably most authorities the change in form of Exchequer contribution would make little difference the greater elasticity, and the freedom from the somewhat irritating central control of details of expenditure, would be welcomed The danger to be feared was the arrested development of schemes A tuberculosis service might need expansion, possibly by the provision of new dispensaries the appointment of additional tuberculosis officers or the provision of further beds for residential treatment In such cases what would be the effect of the knowledge that increased expenditure would not be accompanied by an increased grant It might be to defer desirable extensions of the scheme

Continuous Care and Social Aspects

Dr W ALLEN DALEY (London County Council) spoke optimistically of the effects of the Act on the problem of continuous care Now that the cost of out-relief came from the same pocket as supplied the money for the anti-tuberculosis scheme of the area it would no doubt be realized that it was better to subsidize an ex sanatorium patient to continue at suitable work or to train him for work than to pay him out-relief indefinitely, or to help him to pay the rent of a better house where he could keep fit than to allow him to live under conditions where he was liable to break down again Sir WILLIAM E WHYTE (Lanarkshire) described the position in Scotland

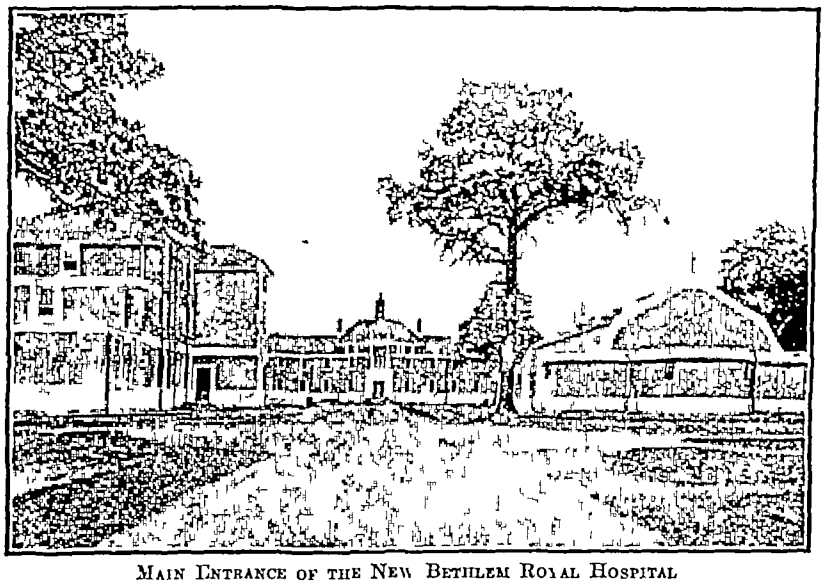
At the final session of the conference papers were forthcoming from a number of social workers on such matters as care committees, district nurses health visitors, and other health agencies Dr T W NAYLOR-BIRLOW speaking from an experience of thirty years as a medical officer of health, said that he found it difficult to ascribe the fall in the incidence of tuberculosis to what might be called direct attack, save perhaps in respect to the examination of contacts A good deal of the fall was due to the greater sobriety of the nation also to the improvement in the milk supply, and the amelioration of housing and home conditions

After the close of the conference the annual meeting of the National Association for the Prevention of Tuberculosis was held Sir ARTHUR STANLEY from the chair, submitted the annual report which was seconded by Sir ROBERT PHILIP Dr HARLEY WILLIAMS medical commissioner of the association gave a brief address on educational activities

THE NEW BETHLEM HOSPITAL.

OPENING BY HER MAJESTY THE QUEEN

THE new buildings and grounds of Bethlem Royal Hospital, at Monks Orchard, Eden Park, near Beckenham, in Kent, were opened by the Queen on Wednesday, July 9th. A distinguished assembly in a specially erected marquee awaited Her Majesty's arrival. After a welcome had been tendered by Lord Wakefield of Hythe, president of the hospital, the Queen declared the building open. A brief religious service was held, conducted by the Ven. E. N. Sharpe, Archdeacon of London, it included dedicatory prayers and the singing of the hymn, "Thou to whom the sick and dying." A memento of the occasion presented by the architects to Her Majesty consisted of an antique carved coloured ivory opium pot. On behalf of the governors, Sir William Waterlow, Lord Mayor of London, representative of the City under whose auspices Bethlem has flourished for centuries, thanked Her Majesty, and Mr. Arthur Greenwood, Minister of Health, offered to the Queen the thanks of those engaged throughout the country in the work of institutions for mental and nervous disorders for so kindly taking this opportunity of recognizing their work. Several presentations were made, after which the Queen made a tour of inspection.



MAIN ENTRANCE OF THE NEW BETHLEM ROYAL HOSPITAL
Nurses' Home on left, Administrative Block in middle, Lady Wakefield Chapel on right

For more than a hundred years Bethlem Hospital has been housed at Lambeth (or, more strictly, St. George's Fields, Southwark) in the big building under Smirke's dome. Actually that building was the third in the history of this royal foundation. The first was erected in Bishopsgate Without in the thirteenth century, originally serving as a priory and hospice, the earliest known date of its use as an asylum for the insane is 1377. The second building was in Moorfields, erected in 1676. The third was the one in St. George's Fields, opened in 1815. Six years ago the court of governors agreed that arrangements should be made for the continuance of the work of Bethlem Hospital on a larger site and amid rural amenities. The Bethlem Hospital Bill received the royal assent in 1926, and in 1928 Prince Arthur of Connaught laid the foundation stone of the new hospital in Kent. An account of the hospital in recent times and of its approaching removal appeared in the *British Medical Journal* of June 4th, 1927 (p. 1017).

The site on which the hospital buildings are placed is a beautiful park of some 200 acres, with much pleasant woodland, about ten miles from Charing Cross. In laying out the hospital the modern system of separate residential blocks for different classes of patients has been adopted, and the appearance of the buildings and their setting represents a complete emancipation from the barrack-like structures of the past.

On entering the estate the main drive leads past the house of the physician-superintendent and of the principal assistant physician, to the administration building. This building contains offices for the physician-superintendent and other members of the staff, waiting rooms for patients and their friends, the board room, and accommodation for the steward, the matron, and the head male nurse. At the rear is the Sir Edward Cooper recreation hall, built by Lady Cooper in memory of her husband, a former Lord Mayor. It accommodates 250 persons, and is equipped for all entertainment purposes.

From this point the roadway runs through clearings in the woodlands to a wide range of buildings to be known as Tyson House. This is for "restless patients," and includes sections for men and for women, accommodating eighty-four in all, with hydrotherapeutic and other treatment equipment in each section. This two-storied unit, pleasant in its immediate surroundings, is well isolated from the rest of the hospital by trees. Along another main avenue, at right angles to the principal drive, are two other two-storied blocks—Fitz-Mary House, for sixty-four women, and Gresham House, for sixty-two men. Fitz-Mary was the name of the founder of the original priory in 1247, and Gresham, of course, is a name famous in the records of old-time City philanthropy. Each of the stories in these houses is entirely self-contained, with its own dining room, day rooms, and small service kitchen, so as to separate the patients into two sections in each unit as desired by the Board of Control. Ample bed verandahs are to be provided, and the entire scheme is planned to give as much sunlight and air as possible to all rooms. A short distance away is Witley House, a convalescent unit, accommodating twenty-five men in one wing, and thirty-five women in the other, and with its own dining room, kitchen, and lounge, and recreation rooms. Here every obvious suggestion of a mental hospital has been eliminated as far as possible.

A very important block consists of the science and treatment laboratories, named after Lord Wakefield of Hythe, who has defrayed the cost of their erection and equipment. The laboratories are central to the whole design. They contain accommodation for hydrotherapy, massage, electrical, x-ray, and other physical treatments, also the central dispensary for the hospital, an operating theatre, and well-equipped research laboratories, with library and museum. The idea in designing this building has been to secure a continuance of the recognition, accorded at Lambeth, as a medical school by the University of London. It is intended to develop the Bethlem Royal Hospital as a special study centre.

Returning to the main drive, we find a very pleasant home for the nurses. It consists of three floors, giving bedroom accommodation for ninety nurses and servants, and the building, though it stands in the grounds, is amply detached from the hospital environment. In addition to the dining, recreation, and reading rooms, there are lecture and demonstration rooms. The most conspicuous of the group of buildings are the power house and associated workshops, with the kitchen and stores adjacent. Boilers are installed for the generating of high pressure steam, and the generating plant supplies electricity for general lighting and power purposes and for electrical treatment. In every respect, such as intercommunication telephones, a fire alarm system, and synchronized electric clocks, the hospital is on the most up-to-date lines. The chapel, a beautiful building, is the gift of Lady Wakefield.

In the course of some information circulated by the governors among members of the press it was suggested that any reference to the old contraction of the name of the hospital to "Bedlam" should be avoided. But, in fact, the old unfortunate associations of Bethlem, when the wards, full of misery, were a public spectacle, "the entertainment of raw minds," only give greater significance to the new Bethlem, incorporating as it does the most progressive and humane psychiatric ideas. Bethlem for many

centuries was practically the only recognized institution dealing with mental disease, and therefore it had to suffer the odium which nowadays rightly attaches to the old harsh methods prevailing in former times But to-day, in this new environment, with everything that modern psychiatric science and the new compassion for and understanding of the mentally afflicted can suggest, it is worth while to recall the past for the sake of contrast And Bethlem itself was always in advance of its time always in the front rank of mental hospitals the world over, and by its good work redounding to the honour of the City of London

Certainly at Eden Park it is still a pioneer What can be more conducive to mental recovery than the spreading grounds in which it is set, with abundant opportunities for exercise and recreation, or the residential blocks furnished after the manner of good private houses, with, by the way a single bedroom for every patient, except for some small four- or five-bed wards for special purposes, or the sunny day rooms and exercise corridors?

On the matter of finance, the annual expenses of Bethlem in the past have been met to the extent of about 75 per cent of the total from the income of the charity, and the balance from payments by friends of patients The cost of running the new hospital is difficult to forecast, but it is the hope of the governors that the additional demand they may have to make in the form of contributions for patients will be of a moderate nature and that they may be able to continue the magnificent contribution by the charity upon the same level as in the past The financing of the present enterprise has been greatly helped by the generous response, amounting to nearly £50,000 to the appeal for donations and in addition there have been the munificent gifts of Lord and Lady Wakefield, Lady Cooper, and others In the planning of what must be described as the estate, those concerned have looked thirty years ahead, to a time when it may be necessary to provide additional accommodation for patients, and they have so arranged that such expansion can take place without undue expenditure

Scotland

Resignation of Glasgow Professor

At a meeting of the University Court of Glasgow University, held on July 3rd, a letter was read from Dr Leonard Findlay, professor of medical paediatrics at Glasgow University, stating that he wished to resign his chair as from September 30th next It was agreed that the secretary of the University should be empowered to take the necessary steps to advertise for applications for the chair in order that these might be considered at the next meeting of the Court Professor Findlay, after graduating M B, Ch B at Glasgow in 1900, proceeded to the degree of M D in 1904 and that of D Sc in 1912 In 1919 he became university lecturer on the diseases of infancy and childhood, a post which had been instituted that year For a time he also acted as assistant to the professor of practice of medicine in the University In 1924 he was appointed the first holder of the Samson Gemmell chair of medical paediatrics at Glasgow University, and he has been for many years visiting physician to the Royal Hospital for Sick Children, a post which he is also resigning.

Department of Animal Genetics at Edinburgh

The new department of animal genetics of the University of Edinburgh was opened on June 30th by Sir Edward Sharpey Schafer, F R S, under the presidency of Principal Sir Thomas Holland Sir Edward Sharpey-Schafer, before declaring the buildings open, gave the address of which an abridged version appeared in last week's *British Medical Journal* (p 39) Professor F A E Crew, in presenting Sir Edward with a key to perform the opening ceremony referred to the important work of Professor Cossar Ewart, who, he said, was fortunately present that day Professor Ewart might well regard this department as his own creation and the realization of his dreams The ceremony also included the conferment of the honorary degree of LL D upon Mr Thomas Bassett Macaulay, president of the Sun Life Assurance Company of Canada, who had made a series of gifts to the department In presenting him the dean of the faculty of law mentioned that Lord Macaulay, the present recipient of the degree was descended from the Macaulays of Uig in the Island of Lewis His father had emigrated to Canada where their guest had built up one of the foremost insurance corporations in the world After the degree had been conferred Mr Macaulay said that the study of endocrinology had been one of his hobbies for at least twenty five years This might seem a strange recreation for a layman but his object had not been the acquisition of knowledge of merely theoretical value Medical science had made marvellous progress during the last two generations in combating disease, chiefly in improved sanitation and in the knowledge of the nature of infection, but he thought that most of the great problems of non-infectious degenerative diseases of the latter third of life still remained unsolved Great advances he felt reasonably certain would be made in the understanding of the endocrine glands during the next twenty five years He had been deeply interested in the splendid work that was being done in the animal genetics department of Edinburgh University, and he was pleased that the biochemical department of M Gill University, Montreal, was now actively co-operating with Edinburgh He congratulated the University of Edinburgh on the part it was taking in the great work of the future At a luncheon which followed the ceremony in the Library Hall of the Old University, Sir Thomas Holland mentioned that during the past two years Mr Macaulay had given to the genetics department of the University contributions which amounted in all to £67 000 the University he said, would endeavour to justify the confidence he had shown in its work

The new buildings of the animal breeding research department of Edinburgh University are situated at West Mains Road The original idea of this department conceived before the war, formed part of the plans of the development commissioners After the war the plans were reconsidered but shortage of money prevented development of the work on a large scale In 1920 Dr F A E Crew, who was an assistant in the zoology department of the university, was asked by Sir Edward Sharpey Schafer, then chairman of the joint committee, to take charge of the embryo department, and a few rooms in the Old Infirmary buildings were devoted to its work Here some sound scientific work was done Studies on wool began in 1923 and studies on pigs in 1927, other subjects of agricultural importance being taken up later In 1928, as the result of a gift of £30,000 from the International Education Board and of £10,000 from Lord Woolavington, the department was reorganized, and Dr Crew was appointed to the newly founded chair of animal genetics The buildings which have just been opened were then started Their purpose is to provide facilities for work of a purely scientific nature which is expected to have an important effect upon agriculture in about fifteen or twenty years' time At present inquiries are being undertaken into the inheritance of milk yield in cows, and into the ideal type of bacon-yielding pig

Edinburgh University Graduation

The summer graduation in arts and sciences was held on July 3rd in the McEwan Hall, Edinburgh Principal Sir Thomas Holland presided and conferred about five hundred ordinary degrees Along with these the honorary degree of Doctor of Laws was conferred upon Sir Thomas Barlow, Bt, Physician Extraordinary to the King Mr Max Beerbohm Sir Otto Beit, founder of the medical and scientific research fellowships which bear his family name Professor Baldwin Brown Sir Andrew Grierson, Sir William B Hardy, F R S, Director of Food Investigation, M Jean Jusserand, Dr Abbott Lawrence Lowell, Emeritus Professor Otto Schlapp, Sir David Wallace, Consulting Surgeon to the Royal Infirmary of Edinburgh, Professor W W Watts, and Dr K F Wenckebach, Emeritus Professor of Medicine, University of Vienna.

Medical Services in Fifeshire

At a meeting of the Public Health Committee of Fife County Council held on July 1st a letter was read from the Fife Branch of the British Medical Association referring to the arrangements for medical services which would fall to be made under the Local Government (Scotland) Act. The letter disclaimed any intention of even appearing to interfere with the discretion of the county council in the formulation of its schemes, but stated that there was a desire that the knowledge and experience in medical affairs which the members of the Association possessed should be placed at the disposal of the county council. It was suggested, further, that any scheme adopted by the council for carrying on the medical services of the county should meantime be regarded as of a temporary character, pending an attempt to secure unanimity and co-operation. The council's attention was further drawn to the fact that a scheme had been drafted by the British Medical Association of the lines along which it considered that the medical services of the country should be developed, and that this scheme would be made public after it had been considered by the Annual Representative Meeting of the Association this month. It was agreed by the Fife County Council to set up a subcommittee to meet a subcommittee of the Fife Branch of the British Medical Association in order to discuss this matter.

Problems of Nutrition

An address was delivered on June 26th by Dr. Chalmers Watson to the Scottish Chamber of Agriculture at Fentonbarns, East Lothian, on the subject of vitamins in relation to agriculture. Dr. Watson said that there was room for the judicious education of the farmer, the doctor, and the layman in regard to the remarkable advances that had been made in physical science during the past thirty years, and for the intelligent application of that knowledge to their work. He pointed out that after twenty years of assiduous research no vitamin had ever been isolated. There was good ground for the opinion that vitamins were specific vital forces imparted to food through the agency of the sun and other influences in the ether. The study of the interaction that took place in the soil, in the plant, and in animal tissues under their influence would prove of immense value in solving both medical and agricultural problems. Many modern foods had a deleterious effect through their having become largely devitalized at some stage of their production or manufacture, and similarly in agriculture from alterations in the vitality of the soil through excessive fertilization with artificial manures lacking in certain vital properties. He thought that chemistry was still exercising too great a role in modern agricultural and medical research. The adoption of the electron theory of matter and the knowledge gained regarding the sun as the source of all energy, had revealed the limitations of chemistry as a final guide, yet the lessons to be drawn from the work of the physicist in the past twenty years had not yet been brought adequately to bear either on agriculture or on medicine. The vital forces at work in the production of grain and root crops with maximum nutritive properties might be studied in association with the influence of irradiation in increasing the special nutritive properties of milk. Similarly many disturbances of human nutrition could be usefully studied from the same angle. A practical application of this idea was found in the increasing attention now being paid to ascertaining the degree of curative influence exerted by radium in malignant disease. He thought that the work of the skilled farmer would prove to be of an importance similar to that of the skilled doctor in the maintenance of the nation's health.

Work on Diseases of Animals

The annual distribution of prizes in the Royal (Dick) Veterinary College at Edinburgh was held on July 2nd. Sir Thomas Beare, chairman of the Board of Governors, presided, and Lord Provost T. B. Whitson presented the prizes. Sir Thomas referred to the institution of a diploma in tropical veterinary medicine, for which the classes are to open next October. He considered that this would be a most important development in giving post-graduate training to men who held appointments abroad, or who were about to take up appointments in colonial dependencies, because many difficult problems of veterinary science were to be solved there. The annual meeting of the Animal Diseases Research Association was held in the Moredun Institute, Gilmerton, Edinburgh, on the same day. It was intimated that success had been achieved by the director of the Institute and his fellow workers in their work on milk fever in cows. Its essential nature had been determined, and its identity with lambing sickness in ewes had been established. Research was also being carried out on the diseases known as louping ill and grass sickness. In regard to the latter disease, a new conception of its origin was being investigated along what was regarded as a promising line of inquiry.

The County of Lanark

A comprehensive and closely detailed account of health conditions in the county of Lanark in 1929 is supplied by the reports of Dr. J. Hume Patterson, county and district medical officer of health, and of the district sanitary inspectors. Nearly 600 pages of records and statistics give evidence of a vigilant application of the laws of social hygiene within an area of peculiar difficulty. Measures of public health, particularly in purifying the food, air, and water of the community, are carefully considered, each section being supplemented by appropriate data collected in bacteriological and chemical laboratories, hospitals, clinics, and artificial sunlight centres. Steady watch was kept on the pollution of rivers and collieries, and preventive methods were suggested in numerous instances with favourable results. A special investigation into the milk supply of the county is described, with minute analysis of the reasons for deficiency in particular cases. The results of this inquiry, which extended over a period of a year, are summarized in six tables. In addition to statistics of prevalent diseases, the survey incorporates the medical and sanitary reports of the three county districts each of which is an exhaustive record of work done during the year in every department of public health. A concluding section is contributed by the veterinary inspector, whose observations are mainly concerned with the administration of the various Acts to ensure a milk supply free from infection.

Ireland.

School Medical Inspection in Northern Ireland

At a recent meeting of the Armagh Education Committee the report was read of a subcommittee appointed to interview the Ministry of Home Affairs in regard to school medical inspection. The subcommittee conveyed the opinion of the education authority—namely, that the formulation of a scheme should be deferred pending legislation outlined in the recent report of the commission appointed to inquire into the administration of local government services in Northern Ireland. It was pointed out, however, on behalf of the Ministry, that under Part XIII of the Education Act of 1923 it was mandatory on education authorities to provide for the medical inspection of children attending public elementary schools within their area, and that the Ministry could no longer permit the county education authority to postpone action in the matter. The subcommittee stated that it was still of the opinion that it would be better to defer the formulation of a scheme until the Government had decided the nature of the forthcoming legislation in regard to medical services in Northern Ireland generally, and that the money provided for the purposes of Part VIII of the Act in the committee's approved provisional scheme could be spent to greater advantage in the provision of improved sanitary accommodation at transferred public elementary schools. In view, however, of the attitude of the Ministry, the subcommittee could not advise the education committee to postpone action under Part VIII of the Act. The subcommittee recommends the appointment of a school medical officer for a period of one year, at a salary of £600, inclusive of travelling and other expenses, and of a school nurse for a similar period.

Tuberculosis Death Rate in the Irish Free State.

At the June meeting of the Statistical and Social Inquiry Society of Ireland, Mr R C Geary M Sc, read a paper embodying a statistical study of the mortality from tuberculosis in the Irish Free State His paper is now available in pamphlet form The death rate from tuberculosis in the Saorstat in 1927 was, he said, the ninth worst in a list of twenty-four countries After reaching a high peak in the early part of the present century it began to fall, the decline had ceased during the years of the European war, but recommenced in 1919, though more slowly Mr Geary calls attention to the fact that in the Free State the mortality due to tuberculosis is at its highest in young adults, a feature which contrasts with the position in other countries, including England and Wales, Scotland, France, and the United States Two distinct types of pulmonary tuberculosis appear to exist according to whether the patients dwell in country or urban areas An analysis of the rates in the various Irish counties during the past few years would seem to indicate that in the eastern zone the rates are high, in the northern and southern zones they are medium while in the midland and western zones the rates are low The ravages of tuberculosis are worse in Wexford than in any other county of the Free State, and evidence is adduced suggesting that the marl areas in that county are an important factor in the local prevalence of the disease In Dublin city and in the surrounding urban districts a close correlation was traceable between housing conditions and tuberculosis, but in other towns this is less marked Though the decline in the mortality has been manifest in the various social classes, there is said to be a great disparity between the mortality rates in the richest and poorest sections of the population Mr Geary recommends the institution of an exhaustive inquiry into occupational mortality covering the whole of the Free State, this inquiry, he remarks, should extend over a sufficient period of years in order to obtain significant results

Lunacy Certification.

Last week, before Mr Justice Sullivan, an action was heard in which Patrick Moore of Clonee, co Meath, claimed damages against Dr Michael S Walsh of North Frederick Street Dublin, for alleged negligence in issuing a certificate on May 6th, 1927, to Mr Charles Kenny, District Justice, at the Dublin district court, certifying that the plaintiff was a dangerous lunatic The defendant denied that there was any negligence in the issuing of the certificate or that the plaintiff had suffered any injury The plaintiff, in evidence, stated that he had been examined by Dr Walsh, when, as he alleged, he was falsely charged in the Dublin district court with attempting to commit suicide at Dun Laoghaire Harbour on May 5th, 1927 In consequence, he said, he had been confined in Grangegorman Mental Home until June, 1927, and was transferred later to Hampstead Mental Home by order of the Chief Justice and placed under the care of Dr Eustace He was afterwards transferred to Carlow Mental Home by direction of the Chief Justice On cross-examination he declared that he had heard wireless messages warning him that he was being pursued by assassins He had no wireless set, but he could still hear messages, and he had driven his car to co Lough to escape He had gone to Dun Laoghaire to seek the protection of a British man-of-war He admitted having been convicted at Trim Circuit Court of drawing a loaded revolver upon Martin Dwyer in 1924 In support of his case the plaintiff called Dr Donelan and Dr Eustace, both of whom stated that at the time of his detention in their homes he was suffering from delusional insanity Dr Walsh, examined by Mr M Maguire, K C, said that he was requested by the district justice to examine the plaintiff, and did so in a private room at the district court on May 6th, 1927 He had the charge sheet before him, stating that the plaintiff had attempted to commit suicide at Dun Laoghaire on May 5th He made a thorough examination of the plaintiff, and asked him a number of questions As a result he was satisfied that the plaintiff, as he had certified was suffering from delusional insanity The jury, without leaving the box returned a verdict that there was no negligence on the part of the defendant, and judgement was entered for Dr Walsh accordingly

Complaint Against a Dispensary Doctor

At a recent meeting of the County Wexford Board of Health a letter was read from the secretary of Local Government and Public Health stating that he had received the report of Dr Sterling Berry, medical inspector on the sworn inquiry held by him into a complaint by *William Staunton, Ballybrack, Foulksmills*, as to the attendance of Dr P W O'Connor, Carrigbyrne Dispensary district, on Mrs Staunton After dealing with the evidence, the letter stated

> A misunderstanding appears to have arisen on this occasion, and it is possible that Dr O Connor was not aware that the messenger was sent specially to request his attendance at the patient's house Dr O Connor described Mrs Staunton's condition as chronic and stated that he told her on January 26th that her only chance was to go into hospital He had attended her several times at the dispensary and at her house twice during the twelve months previous to her death Having regard to the nature of Mrs Staunton's illness chronic Bright's disease and to the misunderstanding referred to the Minister does not consider that any action on his part is called for '

Correspondence.

"DISEASE" OR "TISSUE REACTION"?

SIR,—Dr Kinnier Wilson, in his first Morison Lecture, published in your issue of July 5th, has done medicine a service in reminding us of the general laxity of thought and speech among medical men when they speak of diseases and pathological lesions, and relate symptoms to morbid anatomy With his main argument I am quite in agreement At the same time the presentation of a subject in a strictly philosophical manner raises certain difficulties which are avoided by the use of conventional phraseology We therefore speak of "lesions" rather than of "reactions," of "diseases" rather than of "clinico-pathological syndromes", and in relating symptoms to localized lesions side track the train of thought which is necessary when we attempt to visualize their exact relationship to one another The pathogenesis of symptoms is a subject which has received much attention of recent years, and the neurologist has not lagged behind the cardiologist and the gastro-intestinal specialist in this fundamental part of medical thought But when he finds himself in so vast a *terra incognita* as the cerebrum he may be excused if he falls back on conventional phraseology, and speaks of a lesion in a certain situation "causing" a certain group of symptoms

As an example of this laxity of language and, as he appears to consider, of thought, Dr Wilson has quoted a phrase from an article which I recently published on acute disseminated encephalomyelitis following influenza Taken out of its context it would appear that I have, in Dr Wilson's words, erected "a mere tissue reaction [perivascular demyelination] into a disease" I was however at some pains to show in this and other articles on the same subject, not only that the clinical aspects of various cases of the "disease" agreed as closely as did their pathological lesions, but also that these lesions differed in certain important respects from those of other diseases in which perivascular demyelination was a prominent and characteristic feature I do not accept his dictum that before we use the term 'disease" we must know the etiology of the condition On that basis carcinoma is only a tissue reaction, which as we know may be brought on by at least two irritants, tar and x rays But until we understand its etiology better we are probably justified in thinking of it as a "disease" rather than as a stage of inflammation.

My thesis was that the clinical and pathological picture named "acute disseminated encephalomyelitis" was one

and the same whether it came on after small-pox, vaccination, measles or influenza, and that it was not merely a part of those "diseases" In this sense it is a "disease *per se*," just as *acute miliary tuberculosis is a disease per se* whether it comes on after measles, whooping-cough, or influenza We now know that acute miliary tuberculosis is only one among many forms of disease caused by the tubercle bacillus, but as at present we have no knowledge of the etiological agent of acute disseminated encephalomyelitis or of the other demyelinating diseases of the nervous system, we cannot do more than collect them into a group, and form subgroups for such well-defined conditions as disseminated sclerosis and Schilder's encephalitis, which for the moment we dignify with the title of "diseases"

It seems to me that this method, far from confusing our thoughts, clarifies them No doubt it can be carried too *far, but I may remind Dr Wilson that it formed the* basis of our knowledge of all the infectious exanthemata, and still forms the basis of our diagnosis and prophylaxis in many of these "diseases"—I am, etc,

J G GREENFIELD

Pathological Laboratory National Hospital, *Queen Square, W C, July 8th*

TREATMENT OF EYE DISEASE BY TUBERCULIN

SIR,—In the evening of my life it is refreshing to read a kindly recognition of my life's work by Dr Stobie (June 28th, p 1195), who speaks as the official head of the tuberculosis department in one of the chief centres of learning in the Empire May I at once set at rest his anxiety about my views upon the character of a positive test with tuberculin? In every case the *focal reaction* must play a dominant part in the diagnosis of active tuberculosis What is a focal reaction? *It means more* than a definite, sudden inflammatory response, perifocal in its nature and range, because it produces after-effects—diminution of redness, mitigation of pain, lessened swelling (tension), lessened exudate, and subsequent betterment of function—which imply not merely the nature of the cause, *but (of greater importance still) successful treatment*

Entering upon a new field of inquiry, in which I had no help from previous workers, I was prudent enough to use extra care to avoid severe focal reactions in such a small and delicate organ as the eye Perhaps I paid too much respect to the prevalent notion that a severe focal reaction might impair vision, or might be dangerous by causing generalization For more than ten years I have been using tuberculin in the diagnosis and treatment of tuberculous conditions of the eye in isolated cases, but I was specially careful not to produce a severe focal reaction In my early cases with eye specialists a single severe "flare up" in cases of iritis or iridocyclitis or retinitis might have been the doom of my investigations in search of truth Therefore, in these early cases, I used the intracutaneous method for the first test in order to determine the degree of allergy in each case, and thus I was able to avoid severe focal reactions by choosing further test doses according to the title of immunity In the few cases reported, which are merely an advance guard, anyone reading between the lines will recognize evidence of a focal reaction

If Dr Stobie would come once to the tuberculin dispensary, where practically all this work was carried on, he would see in the [illegible] that the focal reactions occur [illegible] exerted in each case Quite apart from [illegible] thought that the work [illegible], a focal reaction in the [illegible] be of an importance [illegible] sorption of inflammatory [illegible] once but [illegible] the maintenance of [illegible] reaction [illegible] any time [illegible] specially [illegible] severe inflammatory disturbance [illegible] form of disappearance of pain [illegible] products and improved vision is [illegible] my diagnostician or physician could desire [illegible] hitherto to the disease had been slowly [illegible] in spite of all the physicians [illegible] Stobie will see from [illegible] various other records [illegible] either [illegible] his [illegible]

Diseases of Animals

[illegible] prizes in the Royal Dover, [illegible] was held on July , and [illegible] the Board of Governe not [illegible] Whitson presented deed, [illegible] stitution of a duty "in [illegible] classes eye [illegible] and can do good" I have not been over-hasty in publishing an interim report on cases which I have watched for three years

After many years' experience I have submitted definite results so that I may obtain further material for observation and study I would seriously invite Dr Stobie to take up this work with eye specialists at the ophthalmological department, Oxford He will be abundantly repaid, if he will start afresh on new lines He will soon give up his non-specific antigen, which is a contradiction of terms, but he must not expect tuberculin to be "rapid in action", "slow and sure" are the ways of tuberculin There is not space or time to discuss the idea of "shock tactics" in tuberculin treatment In my judgement "shock" plays no part in tuberculin treatment unless by accident an *intravenous* injection has been given instead of a subcutaneous—I am, etc

London, W July 6th W CYRIL WILKINSON

PERSISTENT FOETAL BLOOD SINUSES

SIR,—I was much interested to read in the *British Medical Journal* for June 28th (p 1173) of Mr E Watson-Williams's *encounter with the petro-squamous sinus* Little more than a year ago, when curetting the Eustachian tube in the course of the radical mastoid operation, I accidentally fractured a rather thinned-out roof of the tube, and opened into a still persisting foetal sinus—the accessory blood sinus of Kelch The case had a rapid fatal termination, from a secondary cavernous sinus thrombosis, the organism isolated at the post-mortem examination from the thrombosed sinus being the *Staphylococcus aureus* This striking case led me to publish a paper called "The persistence of foetal blood sinuses and their relation to the middle-ear spaces" in the *Archives of Otolaryngology*, September, 1929

Apparently, when infection of these sinuses takes place, the result is often fatal Vermeuve reported three fatal cases of septic thrombosis of the petro-squamosal sinus in the *Revue de Laryngologie* in 1921 My own view is that these foetal sinuses are often present in the fully developed temporal bone, and that they play a very important part in *transmitting infection from the middle-ear cavities to* the interior of the skull—I am, etc,

J P STEWART, M D, F R C S Ed

Edinburgh, June 28th.

THE OCCIPITO-POSTERIOR CASE

SIR,—I have read with interest Dr A H D Smith's letter in the *British Medical Journal* of June 28th (p 1185), in which he mentions three cases of face presentation occurring with manual rotation of occipito-posterior presentations, and subsequent application of forceps He states that he can find no reference to the occurrence in the literature Permit me to make a suggestion which may be of use by way of explanation

In some textbooks casual reference is made to the secondary development of a face presentation in cases where a primary occipito-posterior existed During my assistant mastership at the Rotunda Hospital I can recall some half-dozen cases of face deliveries in which *primary occipito-posterior positions existed, without,* however, any manipulation having produced the change from occipito-posterior to face In Tweedy's *Practice of Obstetrics*, under the diagnosis of occipito-posterior presentations per vaginam, it is stated that the concavity of the sacrum even at a late stage in labour is found relatively empty, so that the examining finger can be pressed well into this region of the pelvis In two of Dr Smith's cases this possibility may have some relation to the eventual production of a face presentation

At the period when manual rotation is usually attempted—that is, when, as Dr Smith says, the os is fully dilated—*the forehead of the foetus is impinging against* the upper and back part of the pubes, whilst the nape of the foetal neck is in contact with the promontory As each succeeding uterine contraction occurs contact of the forehead against the pubes increases flexion, and advance continues to be slow until release of the *forehead takes* place, and with it a sudden and partial extension of the

head, so that the occiput suddenly fills the hitherto empty sacral concavity

The actual mode of delivery will depend on the integrity of the pelvic floor and the size of the pelvis

1 If the pelvic floor is intact reflexion will occur and delivery follow as R O A or L O A

2. If the pelvis is small or the foetus unduly large or if the uterus tires the posterior position will persist, or at best become one of deep transverse arrest

3 If the pelvic floor is damaged the posterior position will likewise persist but the configuration of the head immediately after delivery will be normal

4 If the momentary extension which I have said is necessary to bring the head through the brim is maintained (multipara) the second mechanism of delivery of occipito-posterior is prone to occur—that is in which the glabella hitches under the pubic arch and delivery is as a brow

5 If the foetus is below average size and the pelvis either average or roomy the extension referred to may become complete, and a mento anterior face presentation result

May I suggest that in performing the manual rotation the writer released the forehead from behind the pubes thereby allowing the occiput to make full use of the empty sacrum, and with the application of forceps rendered the extension of the head complete

I cannot speak with any experience of manual rotation, having never found it necessary or advisable I am fully aware of its efficacy in the case of a multipara with relaxed soft parts but I have always been at a loss to understand the obstetrics of performing a movement of the foetal head in a manner altogether contrary to that by which Nature effects it Rotation only begins with the initial contact of the head with the pelvic floor, and is completed when the head is so far through the vulva that spontaneous delivery can be effected by expression of the chin

May I in conclusion, suggest that a number of the successful results claimed to-day for manual rotation in occipito-posterior cases are due to the simple stimulation of the maternal passages with the hand (and this in primigravidæ must be considerable) while Nature completes the manœuvre in her own time, and in her own immaculate way —I am, etc,

WENTWORTH TAYLOR, M D, F R C S I

Cardiff June 30th.

AORTIC ANEURYSM SIMULATING BRONCHITIS

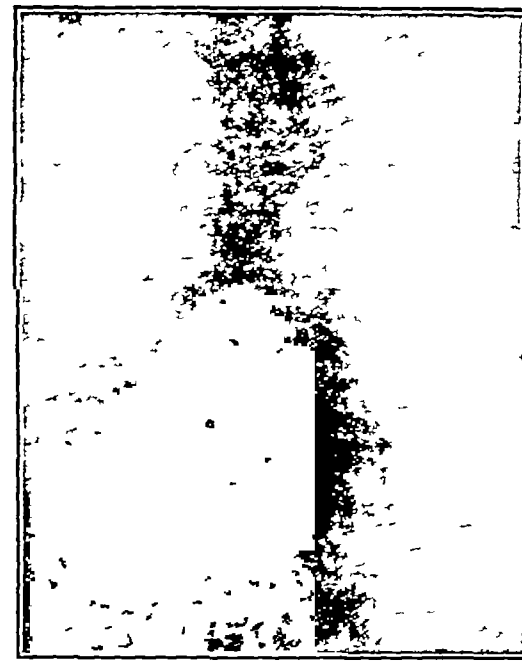
SIR,—On page 1048 of your issue of June 7th Dr L G Hill reported a case of aortic aneurysm simulating bronchial asthma which moved Dr F William Cock (June 14th p 1118) to comment upon a similar case of which he had unearthed the record In each of these instances the condition was first demonstrated at the necropsy and a period of no less than eighty-four years separates the two, so I feel justified in bringing to your notice the following case which has just come under mine

A gardener aged 50 otherwise apparently a healthy subject consulted his medical adviser early in April 1930 on account of cough and rawness of the chest of about two weeks duration On treatment the rawness was relieved but the cough accompanied by the production of a fair quantity of tough phlegm, did not entirely disappear and towards the end of the month he began to observe some shortness of breath he did not, however find it necessary to discontinue his normal work

On June 11th, at 11 p m. Dr S S Nicholson was called to see the patient and found him in a state of acute respiratory collapse with marked dyspnœa and cyanosis a pulse rate of over 120 and a subnormal temperature Adrenaline and morphine having been administered hypodermically the patient was removed to Worthing Hospital where he was placed under the care of Dr Bernard Haigh On the passing of the initial acute attack the patient assumed the appearance of a case of advanced asthma with typical exacerbation separated by periods of partial relief Orthopnœa was pronounced respiratory spasm was high inspiratory and expiratory and cough was irritating and productive of tenacious sputum

Adrenaline and morphine continued to be given at nights and an expectorant potassium iodide mixture with occasional hominis aspirated the cough and soothed the chest but on June 14th the temperature commenced to swing between 99 and 101° F On the two following days the swing continued the temperature going as high as 103° F and a dull patch was recognized at the base of the right lung where the air entry became affected, for which reason I was asked, on June 16th, to report on the chest condition from a radiological point of view

A radiopaque zone was evident at the right base but the patient's condition precluded anything but the most rapid examination, and I was unable to say more than that it appeared to be due to blockage of a basal bronchus or pulmonary to bronchiectasis On the other hand I was able to demonstrate very definitely the presence of a large aneurysm of the first part of the arch of the aorta of which I enclose a reproduction of one view The oblique view which had to be taken with the film at some distance from the patient is probably not suitable for reproduction in reduced form but I hope to



have the opportunity later of making a more exhaustive examination as there is a suggestion in that view of vertebral erosion A history has been elicited of an attack six years ago of precordial pain of a stabbing character shooting towards the right and sometimes to the back this attack followed a strain sustained while at work and apparently settled down sufficiently to be classed as neuritis

There is a popular saying of the origin and exact wording of which I am not cognizant, that events of an unusual nature are apt to occur in threes, I do not put this forward as the actual third case, but I think it worth recording to complete the present triad It would appear that either the condition is sufficiently rare to warrant its publication, or, alternatively, it is less uncommon than is usually suspected for this case despite the radiological evidence, is still clinically one of bronchial asthma with an added lesion at the right base the physical signs of the aneurysm being masked by those of the lung condition while the remote evidences refuse to manifest themselves in convincing fashion

I am indebted to Drs Haigh and Nicholson for permission to publish this early account of the case while particulars of those in your issue of June 7th and 14th are still fresh in the mind of readers who may be able or disposed to advance further view on the subject —I am, etc

R BOULTON MYLES

Worthing June 23rd

TREATMENT OF PRURITUS ANI AND ANAL FISSURE AND SPASM

SIR —Dr Howitt's interesting article (June 28th, p 1163) illustrates the old saying that there are more ways of killing a dog than by hanging I have no doubt that cases of anal fissure and consequent spasm resulting from operations on haemorrhoids can be relieved by dial ether administered in the way Dr Howitt describes Personally the method sounds unpleasant from the patient's point of view,

Applications should reach the War Office not later than July 20th All information as to conditions of service and emoluments may be obtained from the Under Secretary of State, the War Office (A M D 1), Whitehall, London, S W 1

Surgeon Captain F S Dudley, R N , has been appointed to succeed Surgeon Captain J S Dudding, R N , as Director of Medical Studies and Professor of Hygiene at the Medical School, R N College, Greenwich

DEATHS IN THE SERVICES

Surgeon Charles James Seddon Kelsall, R N (ret), died at Hove on June 12th He was educated at King's College Hospital, took the M R C S and L R C P Lond in 1886, and, after filling the post of house surgeon at King's College Hospital, entered the Navy as surgeon on February 21st, 1889, but retired after a few years' service

Lieut Colonel Ernest Reinhold Rost, O B E , Madras Medical Service (ret), died at Putney on June 23rd, aged 57 He was born at Ealing on August 22nd, 1872, the son of Dr Reinhold Rost, the famous Pali scholar and librarian to the India Office, and was educated at Highgate School and at St Mary's After taking the M R C S and L R C P Lond in 1895, he entered the I M S as surgeon lieutenant on January 29th, 1896, became lieutenant colonel on July 29th, 1915, was placed on the selected list for promotion on August 23rd, 1919, and retired on September 3rd, 1922 Most of his service was spent in civil employ in Burma, where he became civil surgeon, Rangoon, and took a large part in the foundation of the Rangoon Medical School, of which he was superintendent, as well as lecturer in surgery During the war of 1914–19 he served in East Africa, and on the North West Frontier of India during the Afghan war of 1919 After his retirement he practised in Putney, and also worked as specialist in tropical diseases under the Ministry of Pensions His special subject was leprosy, on which disease he had conducted important investigations He received the Kaisar i Hind medal, first class, on January 1st, 1913, and the O B E on June 3rd, 1918 During his service in Burma he became a convert to the Buddhist faith, and after his retirement took a prominent part in the work and propaganda of the British Buddhist Society

Obituary.

ANDREW RUTHERFORD, M B , B Sc , F R C P Ed ,

Assistant Physician to the Royal Infirmary, Edinburgh

THE death took place with startling suddenness at his residence in Palmerston Place, Edinburgh, on July 4th, of Dr A Rutherford He had carried out his ordinary duties on the day prior to his death, which was completely unexpected

Andrew Rutherford was a native of Hawick, where he was born in 1890, and a nephew of the late Professor William Rutherford of Edinburgh University After graduating M B , Ch B at Edinburgh in 1912, he acted as resident physician in Chalmers's Hospital, Edinburgh, and later for a year as an assistant in general practice in his native town, afterwards taking up the study of public health and graduating B Sc (Public Health) in 1915 For many years he acted as medical officer of health to the burgh of Hawick, and took a great deal of interest in the general problems of preventive medicine Joining the Royal College of Physicians as a member in 1921, he proceeded to the Fellowship in 1924, and shortly thereafter was elected an assistant physician to the Royal Infirmary of Edinburgh

Dr Rutherford held various posts in connexion with the Edinburgh Medical School, being for a time pathologist to Chalmers's Hospital and Deaconess Hospital, as well as assistant pathologist to the Royal Infirmary and assistant in the University department of pathology For several years before his death he conducted an extra-academical class in pathology, to which he always managed to attract students in large numbers During the war he held a commission in the R A M C from 1915 to 1919, seeing service especially in the East Among the work performed by him in this connexion was the organization of laboratory and research work in two large hospital bases Here he wrote two reports for the Government of India, one of which embodied an important investigation of epidemic jaundice in the North-West Frontier Field Force during 1917 Numerous contributions to current medical literature issued from his pen, especially after his return from the war, one of which, entitled "Fifteen cases of liver atrophy," was published in the *British Medical Journal* in 1920, and afterwards expanded in the *Quarterly Journal of Medicine* in 1923 He was joint author of an article on cardiac ball thrombus, which appeared in the *Lancet* in 1920, and also wrote on lupus erythematosus in the *British Journal of Dermatology and Syphilis* in 1920, on food poisoning and preservatives, and on the treatment of dysentery

Dr Rutherford was one of the most successful of the younger teachers in the Edinburgh Medical School in clinical medicine and in pathology In an epoch when the knowledge of younger physicians is too apt to be derived mainly from laboratory practice, Dr Rutherford's sage experience, drawn from the study of clinical and preventive medicine, was highly valued by his colleagues His wide scientific attainments, together with his kindly and sympathetic disposition, had gained for him a high place in the estimation of his medical confreres, students, and patients His death is not only a severe blow to his immediate circle of friends, but will be also a great loss to the Edinburgh Medical School

Many readers will learn with regret of the death of Dr JAMES METCALFE, on July 1st, after a long illness, which caused his retirement from active practice two years ago He was born in December, 1863, at Tongue, in Sutherlandshire, and studied medicine at the University of Edinburgh After taking the L R C P and L R C S Ed diplomas in 1886 he went to Bradford as resident medical officer of the Royal Infirmary, and afterwards settled there in general practice In 1896 he graduated M D with honours at the University of Brussels For some years he held the appointment of honorary surgeon to St Catherine's Home for Cancer and Incurables at Bradford At that time he took a very active part in the work of the British Medical Association He was a member of the Central Council from 1911 to 1913, and spoke in many of the debates on national insurance at the Representative Meetings held during those troublous times When the Association held its Annual Meeting at Newcastle in 1921 he acted as joint honorary secretary of the Section of Radiology and Electro-therapeutics This was a subject to which he had applied himself more and more when in practice at Bradford, and shortly before the war he migrated to London, setting up practice as a consulting radiologist in Harley Street For a time he was medical officer in charge of the x-ray department of the German Hospital at Dalston, and was later appointed physician in charge of the x-ray and electrical departments of the Prince of Wales's Hospital, Tottenham, and lecturer at the North-East London Post-Graduate College During the war he served on the staff of the Edmonton Military Hospital, and afterwards held the post of radiologist to the North Middlesex Hospital Dr Metcalfe published a number of papers on x-ray diagnosis and treatment, and had been an active member of the Roentgen Society and of the Electro-Therapeutic Section of the Royal Society of Medicine, he was also a Fellow of the American Electro-Therapeutic Association

News has been received from South Rhodesia of the sudden death, at the age of 52, of Dr FRANCIS HEYGATE ELLIS, senior Government medical officer at Bulawayo and medical superintendent of the Bulawayo Hospital and Asylum He received his medical education at St Bartholomew's Hospital, obtaining the M R C S and L R C P diplomas in 1902, after which he served in turn as house surgeon to the Seamen's Hospital, Greenwich, and house-physician, registrar, and pathologist to the City of London Hospital for Diseases of the Chest He went to Rhodesia in the autumn of 1905 as medical officer in the British South African Police In 1906 he was made director of the Pasteur Institute, Salisbury, and two

years later was transferred to the medical director's department as additional health officer After a period of service as acting assistant medical director and district surgeon at Bulawayo he was promoted medical inspector and chief compound inspector at Salisbury Dr Ellis's war service revealed the same strong sense of duty that characterized his work as Government medical officer During the East African campaign he was several times mentioned in despatches for gallantry and distinguished conduct and was awarded the Military Cross In 1917 he accompanied the 2nd Rhodesia Regiment overseas, he was given a commission in the R A M C and reached the rank of major, serving until 1919 in France After the war he resumed his post at Salisbury and in 1925 was appointed senior Government medical officer at Bulawayo, where he threw himself heart and soul into the work of the memorial hospital lately taken over by the Government In the British Medical Association Dr Ellis had been honorary secretary of the Mashonaland Division and of the Rhodesian Branch, and from 1926 to 1929, was chairman of the Matabeleland Division Last year he was appointed a member of the Rhodesia Medical Council He leaves a widow and three children

Universities and Colleges

UNIVERSITY OF OXFORD

THE following awards have been made Theodore Williams Scholarship in Human Anatomy 1930 to H N Davis, Theodore Williams Scholarship in Physiology 1930 to T M Williams Welsh Prize 1930 for excellence in anatomical drawing, to M C Chapman and L H Leach (equal)

The following candidates have been approved at the examination indicated

FINAL B M B CH—A D C Bell W D T Brearley J H Chitty T M Davie J A Eddy A J Gibbs, A Guirdham R. D Harding E Harvey F Hawking K N Irvine W H McMenemy W I S Merrett C N Milner J N O'Reilly T R Plummer Amy C E Clarke Victoria M Robinson *Forensic Medicine and Public Hygiene* A D C Bell I M Bell A J Gibbs H C Harley E. Harvey M A Hatt, N L Rusby J A Scott Winifred Mercer *Pathology* G Ashton D S Bateman J H B Beal R A Beaver J M L Burtenshaw T M Davie M S Good I H Gosset W H Greany A L Jacobs R. Kempthorne R. C. MacKeith R M Marshall M W C Oldfield, R. Pakenham Walsh W G Rees J R Robertson N L Rusby R B Scott, J H C White *Materia Medica* A D G Bell I M Bell F Bicknell R H. Bolton R R Bomford E Braithwaite, A Carling C C. Cobb H G N Cooper J P Dewsbery M S Good L H Gosset A J Grace C E. Greenwood C F Hamilton Turner N Heath R. Kempthorne M Mandelstan I J W Milligan C N Milner H B Morris H F Moseley H Owen R Pakenham-Walsh J F G Pear on W H A Picton T W H Porter J R Robertson A E Scott. F M Trefusis F G Ward J H C White L J Williams

UNIVERSITY OF LONDON

Dr L J Witts has been recognized as a teacher of medicine at Guy's Hospital Medical School, and Mr G D Robertson as a teacher in laryngology at St Mary's Hospital Medical School

The new premises of the University Union in Torrington Square were opened by the Chancellor Earl Beauchamp, on June 12th

Applications are invited for the William Julius Mickle Fellowship of the value of at least £200 It is awarded annually to the man or woman being resident in London and a graduate of the University has in the opinion of the Senate done most to advance medical art or science within the preceding five years and has therein shown conspicuous merit Full particulars can be obtained from the Academic Registrar

A Paul Phillip Reitlinger prize of £30 will be awarded on December 3rd 1930 provided there be a candidate of sufficient merit It is granted for the best essay embodying the result of some research work on a medical subject carried out by the candidate Regulations for the award of the prize can be obtained from the Academic Registrar

It has been arranged to pay to Miss Kathleen E Chevasseut, M Sc £25 *in respect of 1929 out of the Thomas Smyth Hughes* Medical Research Fund

Diploma in Psychological Medicine

Regulation 4, Part B (ii) for the diploma in psychological medicine is to be amended to read as follows

(ii) Psychological Medicine (two papers and a clinical and oral examination) In order that candidates may have the option of showing either (*a*) a higher knowledge of mental diseases (psychiatry) and a less advanced knowledge of mental deficiency or (*b*) a higher knowledge of mental deficiency and a less advanced knowledge of mental diseases (psychiatry) Paper I will be a general paper to test the candidate's knowledge of both mental diseases (psychiatry) and mental deficiency and Paper II will be special and will consist of two separate alternative sections, the first section relating to mental diseases (psychiatry) and the second section to mental deficiency The oral and clinical examination will be designed to test (as in Paper I) the candidate's knowledge of both psychiatry and mental deficiency Candidates will be permitted to take only one of the two sections of Paper II at one and the same examination and each candidate must state at the time of entry which of the two sections he will take

University College Hospital Medical School

The annual report of the Graham Legacy Committee for 1929–30 records that the activities of the laboratories continue along the usual line Grants amounting to £160 were made to the following six workers who have been engaged in inquiries (1) Dr C Bolt on gastric secretion (2) Professor W E Boycott breeding experiments with Limnaea (3) *Dr G R Cameron experimental calcification* (4) Dr A G Levy the effect of ultra violet light on sensitized animals (5) Dr J W McNee the metabolism of bile especially in relation to the spleen (6) Dr F H Teale immunity *in vivo* and *in vitro*

Dr G R Cameron continues to hold the Graham scholarship Professor Boycott has been reappointed Director of Research under the Charles Graham Research Scheme for one year from September 1st 1930

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The following candidates have been approved at the examination indicated

ACADEMIC DIPLOMA IN PUBLIC HEALTH (*Part I*)—R Behari Hilda M I Bond Sarah Loyle Annie C Easterbrook, Lilian M. Griffiths C Harbans Lal Marjorie H James W P Jones S Lerner D Magrath B. J Muzumdar Edith A. Straker Helen B Sutherland Irene Yates

UNIVERSITY OF BIRMINGHAM

AT the congregation held on July 5th the following medical degrees were conferred

M B CH.B—†A C Dawes J C Rutter *K S William T D Allen Price G R Bashford R V S Cooper A L d'Abreu F Donovan A Elliott A Ingham C R Kenchington J P F Lloyd I T Merlin R L Moiser Harriet T Stephens T C. Wilson W E. Wimberger Barbara E Woodhead

* With *second-class honours*
† Distinction in midwifery and diseases of women
‡ Distinction in medicine

The following scholarships and prizes have been awarded

Richard Fenwick Post-Graduate Scholarship G H Knight Queen's Scholarships Third year C S Whitehouse fourth year A H Barber fifth year A G W Whitfield final year (divided) A C Dawes and J C Rutter Ingleby Scholarships final year A C Dawes W E Wimberger Arthur Foxwell Memorial Medal final year L. C Rutter Sampson Gamgee Memorial Medal for Surgery final year R L Moiser Priestley Smith Prize in Ophthalmology final year K S Williams Rudall Memorial Prize J C Rutter Peter Thompson Prize in Anatomy third year C S Whitehouse

UNIVERSITY OF MANCHESTER

THE following candidates have been approved at the examinations indicated

FINAL M B., CH B—‡W W Kay * A. L Kenyon B Barnes A Bigham A. P L. Blakely Barbara E. Bleasdale Edith M Casasola †Winifred Dean F G Elwell Margaret M. Ferguson, C D Leflaive §G M Lendrum J C. Nicholson G J Phillips D A Richards E Riley B Sandler §M. W Smith H W Thompson C Verity N S Walls. (*New Regulations*) *Part I Forensic Medicine and Hygiene and Preventive Medicine* M M Barritt, H J Beard Margaret M Bodoano G B Carter Nancy N Carter H B Craigie P M Crowe Jane Druker B Dunkerly F P Gillet, Jessie Godstone W Hall T S Heslop F Livesey Edith A Long on J P Longworth G Maizels S Mills Catherine O Connor G Ramage, W S Ramsden Constance M Rostron J Scully J C Smith, G G F Smyth Alice Speight, C Starkie E Stone L Sutton K Todd C H T Wade

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—N Gebbie, H. C Mulholland B Reid

* Second-class honours ‡ Distinction in surgery
† Distinction in forensic medicine § Distinction in medicine

UNIVERSITY OF DUBLIN

AT the later summer commencements held on July 4th, the following degrees were conferred

M D—J E Wells C de L Shortt.
M CH.—H L W Woodroffe
M B B CH B A O—T H Bouchier Hayes R Bowesman, W J Chapman J A. Dowds, J M Gibbon N S. Klass D G M Cavilly R I M Garrigle S H Moore, A. H O'Malley P L. O'Neill A Rakoff J T Robinson A. H Thompson E S Tweedy

SCHOOL OF PHYSIC, TRINITY COLLEGE.

The following candidates have been approved at the examinations indicated

FINAL M B—*Part I Materia Medica and Therapeutics Medical Jurisprudence and Hygiene Pathology and Bacteriology* L. L Neligan J L. du Preez, T F O'Donnell A Pollitt S Bress A L Pearce father E W West P P Murphy C de V Shortt L G McIntyre L Lambinon P H Stone M A Shapiro R M Neilly *Part II Medicine* S H Moore N A. Skinner A. H Thompson J T Robinson T A. Bouchier Hayes W A Robinson E S Tweedy H W Dalton J M Gibbon R Bowesman J B Scott, E. S Tweedy H W Dalton J M Gibbon R Bowesman J B Scott, E. S Tweedy H W Dalton R D Scott Ruth R Armstrong J E. R Revell A A Linney *Surgery* S H Moore J T Robinson A. H Thompson J A Dowds T H Dockrell T N Bouchier Hayes W J Chapman N S. Klass. A H O'Malley P L. O'Neill A Rakoff *Midwifery* J C Cosgrove R. P M Garrigle D G M Cavilly Lilian Alice N Cunningham G F Ennis, C Bowesman A D Lain Alice N Cunningham G F Ennis, C Bowesman A D Lain Alice N Cunningham A. J O'Connor H St C Smith D C Kennedy P H Peacock

D.P.H—*Part I Chemistry Bacteriology and Parasitology Physics Meteorology and Climatology* J H Brewer P J Vaughan *Part II Sanitation* P Blair *Health Administration Hygiene and Epidemiology Sanitary Law and Vital Statistics* J H Brewer P J Maguire W H Stone D H F Hill O'Leary F M Carthy

Passed on high mark.

UNIVERSITY COLLEGE, GALWAY

THE following candidates have been approved at the examination indicated

M D—J V O Sullivan
M B B CH. B A O—J M Moran
D P H (*Part I*)—L Kean, F J Power

ROYAL COLLEGE OF SURGEONS OF ENGLAND

ELECTION TO THE COUNCIL

ON July 3rd three Fellows, retiring in rotation, were re elected to the Council for the full period of eight years The election was uncontested, and the result of the poll was as follows

	Votes	Plumpers
Sir PERCY SARGENT	521	43
VICTOR BONNEY	514	52
ROBERT PUGH ROWLANDS	497	33

In all 629 Fellows voted, including 110 Fellows resident out of the United Kingdom, in addition, 8 votes were found to be invalid

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

THE following candidates, having passed the final examination of the Irish Conjoint Scheme have been admitted Licentiates in Medicine and Midwifery L H C Earl, J A Finegan, J McCurdy

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE House of Commons has this week passed the Housing (No 2) Bill through the report stage and third reading, and has considered in committee new clauses proposed to be added to the Finance Bill. A standing committee has examined and amended the Workmen's Compensation (Silicosis) Bill The Lords' amendments to the Coal Mines Bill were also down for reconsideration by the House of Commons

Rheumatism Clinics

On July 2nd Mr Greenwood received a deputation from the Parliamentary Medical Committee, which argued in favour of a central advisory committee to guide and correlate the work of rheumatism clinics throughout the country Mr Greenwood was accompanied by Sir Walter Kinnear and Sir George Newman After discussion, Mr GREENWOOD suggested that the deputation should confer with the full Parliamentary Medical Committee to ascertain whether medical members of Parliament would approve of an advisory body on rheumatism consisting of independent experts working in touch with the Ministry of Health in a manner analogous to the Cancer Council A memorandum submitted to the Minister by the deputation ran thus

"It is stated that one-sixth of the total invalidity for which insurance benefit is received is due to 'rheumatic diseases,' and that approximately one-half of this is due to rheumatic arthritis The cost of benefit paid for invalidity due to rheumatic disease in 1922 was approximately £1,000 000

"Rheumatism must no longer be considered an incurable disease A considerable proportion, especially of early cases, can now be permanently and completely cured, and many more can be markedly relieved by treatment

"Much remains to be learned regarding the causation and prevention of rheumatism Problems of this nature can only be successfully worked out where cases are collected together for study and investigation

"In view of the above facts centres for the treatment of rheumatic disease have been springing up in this and other countries Several are now in course of erection, and more are under consideration

"The systematized investigation and treatment of rheumatic disease is a relatively new subject, and the experience of other countries shows that serious mistakes are liable to occur unless full advantage is taken of the latest knowledge and experience

"Accordingly it is suggested that a small standing consultative committee be founded, composed of medical men engaged in the active practice of the methods of treatment adopted in rheumatic centres Such men should have knowledge of the trend of current British and Continental opinion and practice, in the investigation and treatment of rheumatic diseases

'All bodies public and private that propose the formation of centres for the treatment of rheumatic disease should be invited to consult this committee and submit schemes and plans to them for suggestions and advice

By the help of such a committee the co-ordination of centres which will shortly be springing up in many towns might be made possible and overlapping prevented Moreover, if each centre were encouraged to send in an annual report to the committee the experiences of all could be pooled"

Mr GREENWOOD stated in the House of Commons, in reply to Mr Graham White on May 3rd, that he was following with interest the progress of the clinic for the treatment of rheumatism established by the British Red Cross Society He understood it was now open for the treatment of all forms of chronic rheumatic diseases, and that there was an increasing attendance of patients

Road Traffic Bill

When the House of Commons considered the Road Traffic Bill on July 4th Dr SALTER moved to amend Clause 10, which deals with the rate of speed by inserting a maximum legal speed of 35 miles an hour He said he had been asked to move this amendment on behalf of the London County Council, as well as by the Pedestrians Association and the National Cyclists' Union Many urban district councils and borough councils were anxious that a speed limit should remain Fatalities on the road were increasing, and a principal cause was excessive speed by many motorists He pointed out that the bill did not provide tests of physical fitness or eyesight tests for motorists, nor any examination in the rules of the road Pedestrians were endangered while on the footpath, and at least three persons were killed each day while walking or standing there The introduction of the present bill, with the intimation that the speed limit was to be abolished had resulted in an increase of road accidents The number of cars on the road was increasing by 7 per cent per annum but the number of accidents by 15 per cent per annum, and the abolition of the speed limit would tend to make things worse

Mr HERBERT MORRISON, the Minister of Transport, said that Dr Salter's speech proved that the speed limit arrangements had broken down Speed was a factor in danger, but Dr Salter's amendment, if accepted, would cause it to be regarded as the only factor By the inculcation of a standard of good conduct among motorists more would be done than by setting up a standard of 35 miles an hour The Ministry of Transport proposed to encourage police authorities to provide a mobile police force mounted on motor cycles or in motor cars, and a contribution would be proposed for that purpose out of the Road Fund A highway code would be published to educate both motorists and pedestrians in good conduct

Dr Salter's amendment was defeated by 99 to 180, and further discussion of the bill was adjourned

Slum Clearance.

The Housing (No 2) Bill, the Government's measure dealing with slum clearance and the resettlement of slum dwellers, was before a Standing Committee of the House of Commons on July 1st, when its consideration was completed A general discussion arose on Clause 44—provisions with respect to official representations This provides that 'official representation" shall mean, in the case of any local authority, a representation made by a medical officer

Sir PHILIP PILDITCH argued that representations with regard to single houses and on smaller matters could properly be made by the sanitary inspector He pointed out that sanitary inspectors were full time officers, while last year there were 1,216 part time medical officers of health in England and Wales and only 358 whole time medical officers

Dr VERNON DAVIES said these part-time medical officers attended their offices every day of the week except Sunday The sanitary inspector was directly under the control and orders of the medical officer of health To make it possible for the sanitary inspector to present suggestions to the local authority over the head of the medical officer of health would cause difficulty between the two

Mr MCSHANE said no conflict of control had arisen from the Housing Act, 1925, which recognized the sanitary inspector

Mr GREENWOOD said the object of the bill was not to improve the status of sanitary inspectors

Further discussion then arose on the relations between the district and the county medical officer Dr VERNON DAVIES said the two officers always met as man to man The bill would cause friction by proposing that the county medical officer, after looking round a district, could report directly to the county council instead of seeing the district medical officer He moved an amendment providing that in urban districts with more than 10,000 of a population (against the 20,000 provided for in the bill) the county medical officer should not make representations to the local authority without consulting the district medical officer The Urban District Councils Association felt strongly that there should be no invidious distinction between urban districts and non-county boroughs in this matter

Miss LAWRENCE accepted the amendment, which was agreed to

The bill was reported to the House Subsequently, on July 8th, it passed through report and third reading

Silicosis—Mr CLYNES, replying on July 8th to Mr Jenkins, said that certain cases in which hardship was alleged to have been caused by the limitation of the scheme for compensation to miners suffering from silicosis to rocks containing more than 50 per cent of free silica had been brought to his notice Those cases were the subject of special inquiry arranged by the Mines

results of that investigation were available The returns so far received showed that there were twelve cases from coal mines in 1929 in which compensation was paid for silicosis He could not give the number of claims refused or the reasons for refusal

B C G Fatality at Lübeck.—Mrs LAWRENCE told Mr Freeman on July 8th that she could not state the result of the inquiries of the representatives of the Medical Research Council into the death of twenty infants in Lübeck Germany following the Calmette prophylactic treatment The Minister of Health however understood that a report to the Medical Research Council on the subject of those inquiries was in preparation

Experiments on Animals.—Replying to Mr Freeman on July 3rd Mr CURTIS stated that the number of experiments performed by vivisection during 1929 was 403 141 Experiments performed on dogs and cats under Certificates E and F E numbered 2 523 Inspectors were present during 157 cases involving operative procedure but these formed only a very small proportion of the whole number and the inspectors in the course of their visits saw and examined many animals under experiment

Status of Osteopaths.—Answering Mr Freeman on July 3rd, Mr GREENWOOD said he did not propose to introduce legislation to amend the Medical Act 1858 so as to procure recognition and independent regulation of osteopathy and give its qualified practitioners a legal status equivalent to that enjoyed by recognized professions

Neglect of a Schoolboy's Eyesight.—Replying to Mr Freeman on July 3rd Sir CHARLES TREVELYAN gave the facts concerning the case of a child at Broad Street School Bromley Kent who was alleged to have received forcible treatment for his eyes at school from a representative of the school medical officer and *without the consent of the parents* Sir Charles said that the boy was found on medical inspection to be suffering from a severe defect of the eyes and subsequently with the full knowledge of his parents attended the school clinic for a more thorough examination Drops were put in the boy's eyes to make examination possible but no treatment was given The parents were then advised that the boy needed spectacles but they refused to allow them to be provided In the last resort the National Society for the Prevention of Cruelty to Children initiated police court proceedings which resulted in the imposition of a fine for neglect (See *British Medical Journal* June 21st, p 1156)

Infectious Disease in Merchant Seamen.—Mr GREENWOOD, replying to Mr Lawrie on July 7th said that from 1890 to 1899 the yearly average of deaths (including non-civilians) from malaria dysentery and tuberculosis among British seamen in the mercantile marine was 7,648 and from 1900 to 1909 6 599 From 1911 to 1919 49,844 cases (excluding non-civilians) were notified and there were 4,922 deaths. From 1920 to 1929 54 484 cases were notified and there were 3 488 deaths. The first complete record of notifications of infectious diseases in England and Wales was for 1911.

Notes in Brief

The population of England and Wales on January 1st 1914, 1920 and 1930 was 37 770 000 37 379 000 and 39 653 0000 respectively

Mr Greenwood states that the Ministry of Health does not financially assist voluntary organizations dealing with functional nervous disorders in children or adults

Pending actuarial investigation of the position of asylum officers under the Asylum Officers Superannuation Act 1909 Mr Greenwood is unable to make any statement concerning amendment of that Act

Medical News.

PRINCESS MARY Countess of Harewood, will open Queen Mary's Hospital, Sidcup (formerly known as Queen's Hospital), at 3 p m on Monday, July 21st This is the first hospital to be acquired by the London County Council under the powers conferred upon it by the Local Government Act, 1929 it will be used as an auxiliary or recovery home for patients recovering from severe illness after treatment in the hospitals recently transferred to the Council

THE twelfth annual meeting of the Mental Hospitals Association will be held in the Council Chamber of the Guildhall, London, on Wednesday, July 16th, at 11 a m Papers will be read by Dr F R P Taylor, on after-care, by Dr P K McCowan, on out patient clinics, and by Dr W Robinson, *on a tour of the Scottish mental hospitals* In its report on the Mental Treatment Bill to be presented to the meeting the executive committee states 'While the measure does not meet with our entire approval, we nevertheless welcome it as a distinct endeavour to give effect to the recommendation of the Royal Commission on Lunacy and Mental Disorder that facilities should be provided for the early treatment of mental illness" Other subjects for discussion will be the registration of mental nurses and salaries of assistant medical officers to mental hospitals

FOUNDER'S DAY at Epsom College will be celebrated on Saturday, July 26th the second day of the annual cricket match between the College and Old Boys At noon there will be a service in chapel, and at 2.45 p m Viscount Burnham will present the prizes in the Big School After tea on the cricket ground there will be an assault at arms and in the evening a performance of "The Gondoliers by the Choral Society

THE Fellowship of Medicine announces that on Monday, July 14th Mr Mortimer Woolf will give a demonstration in the wards and out patient department of Queen Mary's Hospital, Stratford at 1 30 p m On Tuesday, July 15th at 2 p m Dr G Bourne will give a demonstration on children's diseases at the East London Hospital for Children No fees are charged for these demonstrations From July 21st to August 3rd a course in diseases of infants will be held at the Infants Hospital, Vincent Square, in the afternoons it will consist of lectures and demonstrations An all day course will be held at the Brompton Hospital from August 11th to 16th and another course at All Saints Hospital Vauxhall Bridge Road, will occupy the afternoons and early evenings from August 5th to 30th Apart from the special courses there is the general course of work, consisting of attendance at the ordinary clinical practice of some fifty London hospitals associated with the Fellowship it continues throughout the year and may be begun at any time Full particulars of all courses syllabuses, and specimen copies of the *Post Graduate Medical Journal* (published monthly 6s per annum, post free) may be obtained from the secretary of the Fellowship 1 Wimpole Street, W 1

THE London Temperance Hospital has now commenced building its new extension in Hampstead Road It is intended to erect a new wing for the pathological electrical, massage, and sunlight departments, and also to provide additional accommodation for the nursing staff and for private patients The carrying out of this work has been made possible by the *children grandchildren, and great grandchildren of the late* Mr and Mrs Samuel Insull, sen , who were associated with the hospital in its early days and took an active part in its work, together with their daughter, the late Miss Emma H. Insull

THE following members of the medical profession were called to the Bar on July 2nd Dr W S Russell Thomas (Lincoln's Inn), Dr F Baillie (Inner Temple), and Dr Peter K. McCowan (Gray's Inn)

THE Council of the Royal Institute of Public Health has accepted an invitation from the German Government the municipality of the City of Frankfurt, and the university of that city, to hold its congress in May, 1931, in Frankfurt The Marquess of Reading will preside

THE Board of Governors of the Hebrew University of Jerusalem announces that the children of Mr Felix and Mrs Frieda Warburg have established at the university a Fellowship in Public Health in the name of their parents The Fellowship (value L P 120) will be awarded annually to a young investigator who will be expected to devote his full time to research in the department of hygiene on a public health problem of special importance to Palestine Applications, stating references subject of investigation etc should be addressed to the Director Department of Hygiene, Hebrew University of Jerusalem, not later than August 31st

THE thirty fourth Congress of French speaking Alienists and Neurologists will be held at Lille from July 21st to 26th, under the presidency of Professor Abadie of Bordeaux when the following subjects will be discussed the cerebro-spinal fluid in mental disease, introduced by Dr Lamache of Paris, the elementary reflexes of posture introduced by Dr Delmas-Marselet, and the application of the insurance law to patients with mental disease, introduced by Dr Calmettes of Limoges

THE first International Congress of Microbiology will be held at the Institut Pasteur, Paris from July 20 h to 25th, under the presidency of Professor Bordet with Dr Roux as president of honour There will be three sections, devoted respectively to medical and veterinary microbiology ecology and immunology, and botany and parasitology The subscription is 100 francs which should be paid to the treasurer, 120, Boulevard St Germain, Paris Abstracts of communications should be sent to the general secretary Dr R Dujarric de la Rivière, Institut Pasteur, Rue Dutot 26 Paris XV

THE sixth International Medical Congress on Industrial Accidents and Diseases will be held in Geneva during August, 1931. All information may be obtained from the secretary of the British National Committee for this Congress, Mr G L Perry, Industrial Welfare Society (Incorporated) 51, Palace Street, Westminster S W 1

ACCORDING to the *Journal of the American Medical Association* the typhoid incidence and mortality in the United States continue to decline Not only was the typhoid death rate for 1929 in a city population of approximately 34 millions as low as 1 56 per 100 000 but the actual number of typhoid deaths in this population was lower than half the corresponding number in 1925 The number of diphtheria deaths reported in 1929 (2,648 for 81 cities with a population of about 34 millions) was also considerably lower than it has been for some years

THE annual sum allotted by the Reichstag for combating alcoholism and the dangers still connected therewith has been raised from 400 000 to 1 800 000 marks

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W C 1, on receipt of proofs

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9561, 9562, 9563,* and *9564* (internal exchange, four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Attiology Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westcent, London*

MEDICAL SECRETARY, *Mediocera Westcent, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

BROMIDROSIS

"R B C" asks for suggestions as to the treatment of a public school boy, aged 14, who suffers from profuse perspiration of the feet, with a persistent objectionable odour, in spite of one or two baths daily

TREATMENT OF HAEMORRHOIDS BY INJECTIONS OF SODIUM MORRHUATE

DR A STANLEY ROSS (Edinburgh) asks for information about the treatment of haemorrhoids by the injection of sodium morrhuate 'I have used this preparation for injecting varicose veins in several cases recently with very good results I have also treated two cases of haemorrhoids of a severe type with it, with apparent relief'

TREATMENT OF JELLY-FISH STINGS

M B (Wales), while bathing last summer, was stung by a jelly-fish, the irritation was intolerable for hours afterwards Since he is going on holiday to the same resort this year suggestions for treatment would be acceptable

TREATMENT OF PRURITUS ANI

M R C S writes As a sufferer on several occasions my experience may be of service The patient should take neither wine nor malt liquor, but a little whisky, with plenty of water, is harmless Avoid spinach and greens and all fruits, except cooked apples and bananas, potatoes may be taken After defaecation wash with sponge and cold water, dry with Turkey twill towel and apply carbolized vaseline (1 in 5) every second or third day For the irritation the best thing is ung sorbefacions applied every two or three hours, it may be obtained from Thos Christy and Co, and contains menthol and boric acid in a basis of lanoline Better than a sanitary towel to avoid staining is an old silk handkerchief attached to a band round the body

SOLIDIFICATION OF MILK IN HOT WEATHER.

'LOWLANDER' writes On several occasions lately a patient of mine on heating milk in a cup placed in a saucepan has found that after a few minutes heating the milk goes almost semisolid and quite stringy" He changed his dairy but the same thing recurred *I should be grateful for an explanation of this phenomenon*

*** The phenomenon described is probably due to the rapid multiplication of organisms that occurs in milk during hot weather Within a few hours an originally good specimen of milk may contain ten or more million organisms per cubic centimetre Many of these organisms produce lactic acid, and in the presence of lactic acid very little heat is liable to produce clotting

CLOTHES MOTHS

H G writes I should be grateful if one of your readers would tell me of a remedy for the devastation to clothes, etc, caused by a plague of moths My flat is situated between shops which have a considerable amount of litter in the attached yards *We have tried the usual methods suggested but cannot keep down the number of moths, nor prevent the damage done,* although woollens clothing, etc, are frequently turned out, and then wrapped up in paper

*** Some correspondence on this subject in the pages of *Nature* was summarized in a note in our issue of December 8th, 1923 (p 1126) Some authorities threw doubt on the efficacy of camphor and naphthalene on the other hand, Mr James Ritchie of the Royal Scottish Museum, Edinburgh, gave references to the work carried out at the United States Department of Agriculture, which led to the conclusion that *naphthalene in* good condition is "one of the safest and best materials for protecting fabrics against moth injury" It must, however, be used in moderately tight receptacles, so that the fabrics remain in a naphthalene permeated atmosphere Mr Ritchie added *that camphor* used in the same way was said to be almost as effective, its fumes killing all stages of clothes moths

INCOME TAX

Charge for Clerical Work

"ARGENT" asks, "What is a reasonable salary to charge for my daughter, who does my clerical work?' The charge he proposes is £78 per annum, but the inspector of taxes will agree to £39 only

*** It is impossible to say definitely without knowing all the circumstances, but the answer, in general terms, seems to be the amount which "Argent would find it necessary to pay to a competent person willing to take on the work and reasonably anxious to earn money in that way We are assuming that the amount of clerical work is sufficient to make the employment of someone reasonably desirable to free "Argent" for actual work in the practice

LETTERS NOTES, ETC

VACATION EMPLOYMENT FOR UNDERGRADUATES

THE EARL OF DERBY writes [illegible] each summer [illegible] paid work to [illegible] and Canada the student who earns enough during the summer to contribute substantially towards his living expenses during the rest of the year is as often the rule as the exception In England, however, there is no tradition in favour of such employment, *and now that many students from the middle and working* classes find it necessary that they should make some contribution to the family exchequer, the difficulties in the way of their obtaining temporary paid posts are almost insuperable Partly this is the result of bad economic conditions and of the fact that students have no desire to displace ordinary labour The students' difficulties, however, are at least in part due to the reluctance of employers to employ undergraduates in a way with which the last generation was not familiar, and I feel that if more were known of the students seeking such employment, it would be found that there are many temporary posts which they could suitably occupy *In the present summer* many hundreds of students are looking for vacation work as secretaries, salesmen and saleswomen, farm workers, assistant engineers, guides, coaches, governesses and so on The National Union of Students, 3, Endsleigh Street, London, W C 1, is in a position to introduce suitable students to any employer who will apply to the secretary

OSTEITIS FIBROSA

DR J TERTIUS CLARKE (Harrow) writes In the *Journal* of July 5th (p 9) is a description by Drs J Salisbury Craig and James H Sheater of a case of osteitis fibrosa 'with initial symptoms resembling rheumatic infection I shall be much obliged if the authors will explain why it was considered that the initial symptoms resembled rheumatic infection

THE FOOT IN CLASSICAL SCULPTURE

DR GEORGE JONES (Lewisham) writes Apropos of the annotation on 'The foot and the shoe' (July 5th p 27), a cast from the Venus de Milo would show only the toes of the right foot A photograph of the statue is before me as I write, and a bronze over *3ft high is in the next room* The two *agree the left leg* and foot are entirely hidden by the drapery, which covers all but just the end of the right foot Perhaps the medical officer of health was thinking of the Medicean Venus in the octagonal room at Florence, generally known as the Tribuna, where there are, or were, two life size nudes There is a very fine but little known, collection of casts in the basement of the *British* Museum The way down to it is through the gallery on the ground floor, past the portrait statues of the Caesars

PATRICK MANSON HOUSE

MISS MILDRED WENYON secretary of the Royal Society of Tropical Medicine and Hygiene, writes. His Royal Highness the Prince of Wales has sent to our president a donation towards the memorial to Sir Patrick Manson, to which the Duke of York has already subscribed Some time ago you very kindly reminded your readers of this *plan to perpetuate the memory of* the Father of Modern Tropical Medicine, to whom we are all, directly or indirectly, so much indebted Just over £8,200 has been received, and further donations will be very gratefully acknowledged by the president of the Royal Society of Tropical Medicine and Hygiene, 11, Chandos St, Cavendish Square, W 1

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48 49, 50, 51, 52 53 54 55 59 and 60 of our advertisement columns, *and advertisements as to partnerships,* assistantships and locumtenencies at pages 56 and 57

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *16*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

29 Typhoid Fever in Infancy

A A WEECH and K T CHEN (*Amer Journ Dis Child*, November, 1929, p 1044), who record an illustrative case state that of 417 cases of typhoid fever up to the age of 2½ years, collected by Griffith and Ostheimer in 1902, 23 were congenital and 139 others occurred in the first year of life The course of the disease is much more variable in infants than in older children and adults Evidence of intestinal infection may be entirely lacking and the disease may present only the characters of a general blood infection Other cases, however may be of the usual type, with diarrhoea splenic tumour, and rose spots, and all kinds of complications including perforation and peritonitis The prognosis is generally regarded as more severe than when the infection occurs in later years Of the 139 cases collected by Griffith and Ostheimer, 77 patients died, 28 recovered and in 34 the result was not recorded The present case was that of a male Chinese infant aged 3 weeks, breast fed by his mother, who was suffering from typhoid fever, to the age of 6 days, after which he was suckled by a wet nurse The diagnosis was established by blood cultures, which were positive for *B typhosus* on two occasions The disease ran an extremely mild course failure to gain weight being the principal symptom The additional features were fever of only twenty four hours duration, slight splenic tumour an atypical eruption a lymphocytic leucocytosis, and a persistently negative Widal reaction

30 Pulmonary Asbestosis

W E COOKE and C F HILL (*Journ Roy Microsc Soc*, 1930 vol 1 p 15) refer to the first published case of pulmonary asbestosis recorded by Cooke in the *British Medical Journal* (1924 ii, 147), and state that the history of the condition dates from 1900, when asbestos spicules were found in a lung by Montague Murray, although the manufacture of cloth from asbestos had been an industry 2 500 years before that time In addition to fine black granular dust much of which is carbonaceous, and larger fragments of asbestos the lungs in pulmonary asbestosis show curious bodies in the alveoli, bronchioles, the fibrous and necrotic areas, and the phagocytes The larger bodies measure from 20 to 100 microns or more in length, they are of a golden brown colour and present the appearance of elongated dumb bells, filaments, or discs Investigation showed that the bodies consisted of central nuclei of asbestos spicules upon which colloidal aggregates of blood proteins, with, possibly, soluble fractions of asbestos (and in the case of chrysotile workers an iron salt), had been adsorbed and moulded by currents in the bronchi and alveoli The authors hold that these bodies if found in any numbers, are pathognomonic of pulmonary asbestosis

31 Normal Blood Pressure in Essential Hypertension

ESSEX TIAL hypertension is usually defined as a disease characterized chiefly by a persistent elevation of the blood pressure without known organic cause It is not generally realized that the condition may exist even though a normal blood pressure has been noted at one visit D AYLMAN (*Journ Amer Med Assoc*, April 19th 1930 p 1214) discusses the cause, frequency, and practical significance of normal blood pressure readings in essential hypertension A clear understanding of any blood pressure study necessitates a knowledge of the normal standards of the pressure and of its variability In the present study a blood pressure of from 120 to 135 systolic and from 80 to 89 diastolic between the ages of 20 and 60 was considered as the average normal a variation of more than 10 mm of mercury above these figures was taken as pathological The variability (called also fluctuation, lability, and instability) of the blood pressure is regarded by Kylin and Fahrenkamp as the outstanding characteristic of essential hypertension Ayman found that the instability of the blood pressure in essential hypertension will often lead to normal readings if the patient sits quietly for five to twenty minutes, this occurs even in patients with widespread vascular changes This finding was exhibited in 56 per cent of 76 unselected untreated cases Therefore, hypertension may apparently exist with normal blood pressure A wide range of circumstances such as physical and psychical rest tend to lower an elevated blood pressure From the ages of 30 to 60 the incidence of hypertension rises from 10 to 40 per cent and consequently from the age of 30 onwards search should be made for early hypertension In all young patients with signs or symptoms of vasomotor instability, especially with a family history of hypertensive disease, repeated examinations are necessary to detect the development of hypertension

32. Experimental Hypoglycaemia in Normal Individuals

A NORDSTED, A NORGAARD and T E HESS THAYSEN (*Acta Med Scand*, April 28th, 1930 p 125) record their observations on the hypoglycaemic symptoms in 20 normal individuals after the intravenous injection of 12 units of insulin The most prominent symptoms were the rise of the systolic and fall of the diastolic blood pressure, and an increase in the pulse rate The maximal changes in the blood pressure and pulse rate were found at the time when the hypoglycaemia ceased and the blood sugar concentration began to rise During the fall of the blood sugar curve the following symptoms were observed dizziness pallor fibrillary twitchings, fatigue drowsiness, general indisposition sweating, and occasionally motor excitement The sensation of hunger did not appear until the blood sugar curve began to rise The authors think that certain symptoms—namely, the pallor, changes in blood pressure, and acceleration of the pulse—are not directly caused by the hypoglycaemia, but mainly by increased suprarenal activity brought on by the hypoglycaemia Other endocrine glands, especially the hypophysis may also play a part in the production of the symptoms The term "insulinism" therefore, is preferable to "hyperglycaemic symptoms"

33. Alopecia Areata and Acute Infectious Diseases

S K ROSENTHAL (*Derm Woch*, May 3rd, 1930, p 612) records six cases, in men aged from 18 to 28 who developed alopecia areata after influenza, scarlet fever, tonsillitis, and typhoid fever respectively While some authorities hold that the cause of alopecia areata is to be found in disturbance of the central nervous system or of the endocrine vegetative apparatus others consider the affection as of parasitic origin Rosenthal on the other hand suggests that alopecia areata is an independent infection similar to herpes zoster or erythema nodosum, all three of which may appear in epidemic or sporadic form and as the sequel of various infectious diseases

Surgery.

34 Malignant Tumours of the Nail Bed

IN malignant tumours arising in the nail bed, according to R H JAFFE (*Surg, Gynecol and Obstet*, May, 1930, p 847) the early stages are often masked by a harmless appearance and insignificant symptoms, so that they may be overlooked This is well illustrated by a pigmented tumour which arises at the border of or beneath the nail Located between the nail and bone where there is very little soft tissue to permit its expansion the tumour destroys the nail and is often still small even when the regional lymph glands or distant organs have become invaded with metastases From a review of the literature it is concluded that melanotic tumours of the nail bed are rare, the majority were found on the fingers, and especially on the thumb These tumours are very malignant and usually come under observation after metastasis has occurred A case of a characteristic subungual melanoblastoma of the great toe and one of squamous celled carcinoma of the nail bed of the little toe are here recorded Malignant tumours of the nail bed can be easily distinguished from benign growths, because the latter do not break through the nail In distinguishing melanoblastoma from benign granulomata and carcinoma the demonstration of pigmented areas, which may be very small is of great importance in this situation carcinoma presents a dry waxy surface Malignant tumours of the nail bed occur at advanced ages no case has been reported under 35 and most patients are in the sixties or seventies In about half the cases trauma has preceded the neoplasm by an interval of one and a half to five years The prognosis is grave and the absence of local metastases does not exclude the involvement of internal organs The average length of life after the diagnosis is made is 14 months The treatment is an early radical operation x rays or radium are contraindicated Jaffé advises that ulcerative lesions of the nail bed in elderly persons which do not show any tendency to heal should be carefully examined for possible malignancy

35 Vasostomy in Acute Urethritis

F KIDD (*Brit Journ Vener Dis*, April, 1930, p 79) advocates vasostomy for early acute urethritis, and gives notes of five cases in which this procedure resulted in more rapid cure than would have been expected from prostatic massage and irrigation, and with almost dramatic rapidity in some instances The operation of incising the vas deferens can be performed under local anæsthesia, but until technical familiarity has been attained a general anæsthetic is held to be preferable Lavage of the vesiculæ with 5 per cent colloid silver is effective, and seems to eradicate the gono coccus better than any other antiseptic After the operation the patient is kept in bed for three or four days, during which time a daily posterior irrigation with weak per manganate solution is advisable, in most cases no further irrigation treatment is required While the operation is not to be advocated for universal use in early cases, since most clear up by irrigation treatment alone, it is useful for patients in whom irrigation causes haemorrhage, pain, and increased discharge, and in those cases where for marital reasons a rapid cure is essential It has also been found useful as a quick method of clearing up cases of intractable arthritis which do not react in a week or ten days to daily prostatic massage, posterior irrigations, and S U P 36 injections The author suggests that the method would prove particularly valuable in war time His technique consists in exposing the vas, washing out the vesiculæ, and stitching up the wound rather than leaving the vas exposed, he adds that if the hole in the vas is carefully closed the risk of sterility is very small, some surgeons, however, avoid cutting it, puncturing it instead with a needle

36 Cancer of the Ileo-cæcal Valve

P CARNOT (*Paris Méd*, April 5th, 1930, p 308) classifies this condition according as it involves the ileal or cæcal aspects of the valve In ileo valvular cancer there is generally a stenosis at the lower end of the ileum, with dilatation of the small intestine, narrowing of the large intestine, and a tendency to invagination of the small intestine into the large The stenosis may be progressive and slow, with alternate constipation and diarrhœa Koenig's syndrome is apparent in these cases, it consists of violent colicky pain, associated with waves of peristalsis, and terminating in borborygmi caused by the passage of fluids and gas through the narrowed orifice False ascites may be observed, due to accumulation of fluid and gas in the distended coils of the small intestine Central ballooning and tympanism of the abdomen, due to gas in the distended small bowel, with a surrounding area of dullness caused by the empty large bowel, is stated by the author to be diagnostic of stenosis of the lower end of the ileum When a radiological examination is made without barium the characteristic horizontal layers of fluid and gas are observed After the ingestion of barium considerably dilated coils of the small intestine come into view, with arrest of the barium at the valve, and very little escape into the large bowel After a barium enema the colon may appear distended from loss of tone, but no obstruction is observed in the colon or cæcum until the valve is reached There may be acute abdominal obstruction from spasm, from a foreign body engaging in the stenosis, from an enlargement of the neoplasm, and especially from an invagination of the ileum into the cæcum Immediate surgical intervention is indicated Cæco valvular cancer is characterized by the presence of a palpable tumour, with haemorrhage, gangrene, and anæmia, but no tendency to acute or chronic obstruction This type may be associated with ileo valvular carcinoma

37 Sympathetic Ramisection for Spastic Paralysis

R B WADE (*Journ of the Coll of Surg of Australasia*, March 1930 p 406) relates his experience of the operation of ramisection in 35 cases of spastic paralysis In 32 cases paralysis had occurred at or before birth, one patient had a post encephalitic condition with a Parkinsonian syndrome, and two had paralysis from gunshot wounds in the head Of the 35 cases, 12 had hemiplegia, 16 had paraplegia and 7 had more than two limbs affected The aim of the operation is to lessen the rigidity caused by the spastic paralysis, and in every one of the cases under review this was accomplished Full functional use of the limb cannot be obtained, but the greater range of movement gained is held to justify the operation Inco ordination is improved, but the spasm is not altered an operation is consequently, not recommended for a patient with a predominance of spasm For the relief of co ntractures or quasi contractures the treatment should con sist of tenotomy of the groups of contracted muscles followed by ramisection and re education In most cases there is some mental disorder, and in the low grades of intelligence no treatment should be undertaken, although in most cases definite mental improvement follows physical relief Better results are obtained in the lower limbs, since such fine co ordination is not needed as in the upper limbs, after rami section the lower limb is sometimes so improved as to be adequate for the normal daily routine, whereas in the case of the hand the improvement is seldom sufficient to enable a living to be earned The operation should be performed at the earliest possible age, before overaction by groups of muscles has arisen, and before bony deformities have occurred or habits of spasm developed In spastic paralysis the opera tion is confined to the sympathetic system in the cervical and lumbar regions As a result of reviewing the 35 cases the conclusion was reached that the operation of rami section, with tenotomy and re education, should be the operation of choice in cases of spastic paralysis

Therapeutics.

38 Salicylate Administration as a Cause of Acidosis

TOXIC symptoms following the administration of salicylates have for long been attributed to acidosis, and C C JOHNSON (*Journ Amer Med Assoc*, March 15th, 1930, p 784) has there fore investigated the occurrence of this condition by animal experiments Sodium and ammonium salicylates and acetyl salicylic acid in doses corresponding to the full therapeutic equivalents (1 gram per kg body weight) were given orally to the unanæsthetized animals and hypodermically to those anæsthetized, the latter method being used to correct any irregularities which might arise in gastric absorption Averages of all the data on all functions during each hour were tabulated on a percentage basis The control animals received 50 c cm of water by the mouth, or 5 c cm of physio logical saline solution hypodermically It was found that such administration of salicylates caused definite respiratory stimulation with depletion of the alkali reserve of the blood The hydrogen ion concentration remained unaltered, and acetone was not detectable in the urine These changes pointed to a fixed acid acidosis compensated by loss of carbon dioxide In four of eight cats which received sodium salicy late in full therapeutic doses definite increases in the lactic acid content of the blood lactate were correlated with signifi cant decreases in alkali reserve and respiratory stimulation, the other four cats showed no evidences of acidosis Johnson concludes, therefore, that in rheumatic fever there is every justification for combining twice the dose of sodium bicar bonate with the salicylates administered; in poisoning from any salicyl compound symptoms of acidosis may be expected, and treatment with sodium bicarbonate is rationally indicated The fact that no effects were produced by methyl salicylate and by cinchophen points, he believes, to a peculiarity of the salicylates in causing acidosis Except when single small doses are given, as in the case of a headache, an alkaline bicarbonate should be simultaneously administered to prevent local gastric irritation as well as to guard against acidosis

39 Complications in the Arsenical Treatment of Syphilis.

N BLACK (*Canadian Med Assoc Journ*, May, 1930, p 673) reports an unusual reaction in the course of the arsenical treatment of a case of syphilis A woman, aged 28, with a strongly positive Wassermann reaction received weekly injections of a salvarsan derivative for five weeks, the total amounting to about 3 grams Bruises then appeared on the shoulder and hip, and, later, petechial spots were seen elsewhere Sodium thiosulphate was administered, and one injection of mercury followed, but thirty six hours after it severe bleeding from the nose started, the gums, which were already sore, began to bleed, and there was blood in the stools Improvement followed transfusion, but a few days later the haemorrhage returned The patient was readmitted to hospital and the transfusion treatment con tinued, but the red and white cells rapidly diminished, together with the haemoglobin percentage, pyrexia was present and marked, mental dullness developed, and eventually she died from broncho pneumonia Black asks whether this is to be considered a case of benzol poisoning, or whether the condition is attributable to the mercury or arsenic There was no evidence of renal disease, which contraindicates mercurial poisoning, and chemists asserted that it was impossible in the case of this compound (neo salvarsan) for the benzol ring to have been split off and become free He therefore regards the condition as having been arsenical poisoning, although the usual signs were absent, and calls attention to the fact that there was a rather indefinite family history of disease of the blood forming organs While admitting the rarity of such an occurrence, the author comments on the danger of severe reactions occurring during or following the use of arsenical preparations

40 Treatment of Psychoses by Hypnotics

H WAGNEROVÁ and J PROKOP (*Bratislavské Lekarské Listy*, April 1930, p 246) report a series of 50 women suffering from psychoses who were treated with somnifen a solution of the diethylamine salts of allyl isopropyl barbituric acid and veronal 35 of these patients received intramuscular injections of the drug combined with morphine and scopolamine The injections were given every twenty four hours for two to fourteen days with the view of obtaining prolonged sleep or a condition of drowsiness The total dose of somnifen never exceeded 45 c cm and that of morphine scopolamine 10 c cm of a 1 per cent solution The series of injections was repeated when necessary The authors found that this treatment was particularly beneficial in psychoses accompanied by agitation but it was ineffective in depressive psychoses progressive schizophrenia and melancholia Somnifen produced no ill effects even in patients suffering from heart and kidney disease *The drug appeared to be useful also in certain cases* of acute psychosis when given by the mouth in doses of 15 to 30 drops twice daily

Laryngology and Otology

41 Trichloracetic Acid in Laryngeal Tuberculosis

CITING the good results obtained by STILL BOVIE SYSCHOW, and others with trichloracetic acid in laryngeal tuberculosis, B KATZ (*Amer Rev of Tuberculosis* May 1930 p 636) remarks that during twenty years of personal experience he has noticed the necessity of having an exact way of introducing the crystals into the larynx in order to avoid burns of the pharynx and healthy parts of the larynx By using an instrument devised by himself the drug can be applied to the affected part after anæsthetizing the larynx with a 10 per cent solution of cocaine This technique does not damage the healthy tissues, and the patient can attend to his business the treatments being repeated every fourth or fifth day Trichloracetic acid has a crystalline structure and melts very easily on exposure to the air Upon application to the tissue a white slough is formed which comes off in one or two days The advantages of this acid in laryngeal tuberculosis are its ease of application, the absence of inflammatory reaction, and the invariably good results in cases which are not hopeless from a general point of view It can be easily applied to those points of the larynx no easily reached with an electrocautery Control of the dysphagia and of oedema due to ulceration or ordinary oedema can be achieved with a few treatments Katz thinks that, in *pharyngeal and laryngeal tuberculosis trichloracetic acid* must be considered as a specific When tuberculomata are present in the larynx they should be gradually removed by repeated electrocauterization with subsequent applications of the acid The author emphasizes the fact that laryngeal tuberculosis is secondary to pulmonary tuberculosis reflecting the primary disease in its manifestations If, therefore, the *pulmonary condition is becoming progressively worse the* treatment of the laryngeal lesions is not encouraging whatever method is employed, though pain can be relieved with trichloracetic acid even when cure is out of the question In favourable cases it requires two to six months to arrest the disease depending on the individual degree of involvement In some cases with positive sputum relapses occur, and the treatment must be repeated

42 Otitis Media and Mastoiditis

I 1927 H I LILLIE (*Journ Amer Med Assoc* February 22nd, 1930 p 531) reported four cases in which early involvement of the blood stream from otitic and mastoid disease was treated by relatively conservative surgical measures without interfering with the sigmoid sinus or jugular vein, five further cases are now recorded in which the same measures were adopted In order to recognize early involvement of the blood stream in otitis media the patient must be observed carefully from the onset of the disease since the involvement may occur early Infection or the products of infection of suppurative *disease of the temporal bone may extend to the* venous sinuses by one of several methods direct absorption of the infection through the small vessels in the diseased mastoid sometimes without visible changes in the sinus wall, development of phlebitis of the sinus, without parasinous abscess, by continuity from the infected bone of the sinus groove direct extension into the sinus because of breaking down of the wall of the sinus by a parasinous abscess breaking down of the intima of the sinus by the disease process and onset of mural thrombosis or septic breaking down of obliterating thrombosis within the sinus It was assumed that in certain early cases even those in which septicæmia could be demonstrated by blood culture, the disease could be controlled by a complete mastoid operation and thorough exposure of the sigmoid sinus to eliminate the earliest stage of phlebitis from contact with the diseased bone The sinus plate may appear quite normal but its removal may reveal early visible changes in the sinus wall The tendency of the sinus to force itself into the smoothed edges of bone was not interfered with and the wound was packed lightly so as not to impede the formation of the natural barrier Lillie maintains that whether or not the sinus is to be ablated, and the jugular vein tied in cases where infection of the blood is found at the time of the original mastoid operation, depends on the type of the disease the general condition of the patient, and the pathological process encountered He believes that while no indicated in all cases early mastoid operation will prove a satisfactory measure in well chosen ones

43 Delayed Meningitis following Fracture of the Labyrinth.

F R NAGEP (*Rev de Laryngol d Otol et de Rhinol* February 15th 1930 p 107) comments on the importance of realizing that a patient may develop meningitis many months after having sustained a fracture of the skull involving the petrous portion of the temporal bone From microscopical investigations which he had made the author came to the conclusion that the danger of late meningitis only existed in those cases of fractured skull where there was a true fracture of the labyrinth which injury is only rarely followed by haemorrhage into the ear *Healing of such lesions is only observed* in those portions of the skull which are developed in cartilage and never in the membrane bones It is through this unhealed area that infection can find its way to the meninges from an otitis media which of course, may occur at any period It is now possible to diagnose these fractures by means of stereoscopic radiograms, and from the clinical syndrome of deafness and loss of vestibular function The treatment recommended is the radical mastoid operation with opening of the labyrinth at the earliest possible moment after signs of meningitis have become manifest

44 The Basal Metabolism in Ozæna

G CALOGERO (*Arch Ital di Otol, Rinol e Laringol* February 1930 p 89) examined the basal metabolism in twelve patients suffering from ozæna whose ages ranged from 11 to 35 Only three showed a lowering of the rate, indicating a condition of impaired function of the thyroid There was no relation between the severity of the ozæna and the metabolism rate, inasmuch as cases in which the rate was affected did not present a more severe form of ozæna than the others Nor was any close relationship found to exist between genital disturbances and changes in the basal metabolism In view of the frequency of ovarian disturbance in cases of ozæna and the comparative infrequency with which changes in the basal metabolism were observed, Calogero comes to the conclusion that ozæna has little or no influence on basal metabolism

Obstetrics and Gynaecology.

45 Carcinoma of the Body of the Uterus

IN an analysis of 100 cases of cancer of the body of the uterus W P HEALY and M CUTLER (*Amer Journ Obstet and Gynecol*, April 1930, p 457) discuss the relationship between histological structure and prognosis, and the comparative value of radiation and operation in the treatment of these tumours This condition is most common between the ages of 50 and 60 25 per cent of the cases occurring in nulliparæ Vaginal bleeding and discharge are the outstanding clinical symptoms Excluding adeno-acanthoma and adenomyocarcinoma four histological grades of carcinoma of the fundus can be defined, representing four degrees of potential malignancy Superficial papillary adenoma malignum (Grade I) is the most benign histological and clinical type Curetting and adequate intrauterine irradiation followed promptly by high voltage x ray therapy is the treatment of choice and offers an excellent prognosis in this group Adenoma malignum (Grade II) is the next in degree of malignancy 65 per cent cures result from radiation with or without hysterectomy The average duration of symptoms in this group was 19 months Adenocarcinoma (Grade III) is a more fatal disease than the preceding only 13 per cent of the cases being curable and the average duration of symptoms being thirteen months Diffuse or anaplastic carcinoma (Grade IV) is the most malignant type and the most radio-sensitive Only six patients several with advanced lesions were cured by radiation and combined radiation and hysterectomy Since no cures by surgery alone have been reported in this type, hysterectomy alone is distinctly contraindicated in this

group Adenocarcinoma is a more rapidly growing tumour than adenoma malignum, the difference in prognosis may therefore be explained by the difference in degree of malignancy as indicated by the rate of growth With the exception of Grade IV, fundus cancer is moderately radio resistant, radiation to be of benefit must therefore be supplied in an adequate amount The results obtained demonstrate the practical importance of adopting a suitable method of treatment in each type The prognosis following a primitive hysterectomy may be rendered more favourable by prompt irradiation of the cervical stump Inoperable cases, including those in which the operation presents technical difficulty, are best treated by radiation alone Intrauterine radiation is the method of choice in Grade I tumours, in the other three types radiation alone and combined radiation and hysterectomy have yielded approximately similar results The combined results in 82 operable cases, which show 58 5 per cent cures, compare favourably with the best surgical statistics The choice between radiation and operation in operable fundus carcinoma must for the present depend on each individual case, taking into account such factors as the histological type, technical operability, stage of disease, and the constitutional and local complications

46 Eclamptic Amaurosis

ACCORDING to F LOOSE and C SCHROEDER (*Zentralbl f Gynak*, April 19th, 1930, p 967), German opinion is divided as to the nature and significance of eclamptic amaurosis According to the older conception the sudden onset, the absence of visible lesions of the fundus oculi, and the preservation of the pupillary reflex prove that the blindness is of cerebral origin, residual organic lesions are never found Lindgren, however, in 1921 described cases of eclamptic amaurosis in patients who, although not having had an antecedent retinitis gravidarum, showed with the onset of their blindness morbid lesions of the retina demonstrable ophthalmoscopically More recently ophthalmologists have recorded retinal haemorrhages, occurring in about 10 per cent of cases of eclamptic amaurosis, as a sign of serious prognostic import Loose and Schroeder describe the case of a 7-para aged 32, previously healthy, who became suddenly blind eight to ten days before term Oedema of the legs and abdominal wall was present, the urine contained 12 5 per cent of albumin and numerous red blood cells, and the blood pressure was 110/190 mm Perception of light was present, and both pupils reacted normally, the fundi showed peripapillary oedema, arterial narrowing, and two retinal haemorrhages in the right eye Vaginal Caesarean section was performed two hours later, a left retinal haemorrhage followed, but the ophthalmoscopic appearances had returned to normal two months later Operative delivery in this case was undertaken chiefly on ophthalmological grounds, extensive and irreparable retinal damage, it was felt, was likely to occur during conservative treatment of the eclamptic toxicosis At the same time the retinal haemorrhages and the haematuria, together with the high blood pressure, indicated that the toxin had already damaged the blood vessels seriously, and those of the brain were likely to have been implicated soon

47 Complete Lacerations of the Perineum

DESPITE the general improvement in obstetrical practice, lacerations of the perineum through the sphincter ani and the rectum still occur L E PHANEUF (*Med Journ and Record*, April 16th, 1930, p 410) states that, in order to avoid these, one of three methods should be employed at the time of delivery perineotomy, episiotomy, and manual dilatation of the perineum and vagina Perineotomy, or median perineal incision, is recommended when the disproportion between the presenting part and vaginal outlet is not too great Episiotomy, or lateral perineal incision, should be employed when much room is required, as in difficult forceps operations Manual dilatation of the perineum and vagina, which should be performed slowly, systematically, and gently, is ideal for preparing the birth canal before version and extraction operations A complete laceration of the perineum should be repaired after the expulsion of the placenta, unless maternal complications render this inadvisable If the patient is not seen soon after delivery, at least three months should elapse before operating At this time involution has taken place, the oedema has disappeared, scar tissue has formed between the torn edges, and better results are obtained than when the operation is attempted a few days after labour Phaneuf's operative technique includes the following procedures The pelvic floor is opened by an H shaped incision, a flap of posterior vaginal wall is then raised and bluntly dissected from the levatores ani muscles The anterior rectal wall is picked up, stretched, and the torn edges united by interrupted sutures of linen thread the knots being tied within the bowel lumen The perirectal tissues are approximated over the first suture line by a continuous mattress suture of chromic catgut, and also by figure of eight sutures of the same material The rectal wound is thus closed in three layers, the torn ends of the sphincter ani muscles are dissected from the scar tissue, and united with a figure of eight suture The excess of the vaginal flap is resected, the levatores ani with their fascia are united by three interrupted sutures, and the external perineum is closed by interrupted sutures A carefully planned course of convalescent treatment, including dietetic and medical measures, is essential for satisfactory end results.

Pathology.

48 Immunity of the Newborn to Scarlet Fever

J PAUNZ and E OSOMA (*Jahrb f Kinderheilk.*, January, 1930, p 181) examined the blood in the umbilical cord of the newborn, and particularly those infants who had not taken any breast milk, so that immunity acquired by lactation could be excluded Three mothers with a negative Dick reaction were first examined for the antitoxin content of their blood serum, which was found to exceed one fifth of a unit per cubic centimetre, the blood in the umbilical cord of their newborn children also showed the same amount of antitoxin present The blood of three Dick positive mothers and their newborn infants was then examined, and none showed such an amount of antitoxin The conclusion is that the newborn children of immune mothers inherit a large quantity of antitoxin, while the children of mothers susceptible to scarlet fever do not Further evidence of the placental transmission of immunity to scarlet fever is that the amounts of antitoxin required for immunity are found in the newborn infants who have not been breast fed, and in whom, therefore, immunity as the result of lactation can be excluded In a second series of experiments the infants of Dick positive mothers were put to the breast of immune nurses or fed with their colostrum Examination showed that the small degree of antitoxin present in the infants' blood before being fed was not affected by the administration of breast milk or colostrum. The immunity of the newborn infant to scarlet fever is therefore entirely transmitted by the placental route

49 A Solid Anti-coagulant

O NEUBAUER and H LAMPERT (*Munch med Woch*, April 4th, 1930, p 582), in searching for a substance which should have the anti coagulating properties of paraffined glass, without its disadvantages, investigated the properties of various substances in relation to their tendency to hasten or delay the coagulation of the blood They found that the degree to which a substance is moistened by watery fluids, such as water, blood, and serum, was, with few exceptions, in inverse ratio to the coagulation time of the blood in contact with it, they describe an exact method of measuring the degree of wetting In a series of tested substances it was found that glass and quartz became most wet and caused the most rapid clotting, whereas paraffin and soot were least moistened and delayed coagulation longest Polished metals, such as nickel, steel, and gold, were intermediate The ideal substance for practical use where clotting is to be avoided should have the properties of paraffin in this respect, but should also be suitable for making into flasks, syringes, etc It must therefore be hard, durable, transparent, sterilizable, and not too costly Such a substance Lampert claims to have found in a condensation product of phenol and formaldehyde, which he calls "athrombit", it is not so breakable as glass, is resistant to acids (but not alkalis), and is alkali free Using the same method and volume of blood in each case, the coagulation time at room temperature in glass was fifteen minutes, in athrombit forty minutes, in paraffin forty two to forty three minutes The authors describe a method for the transfusion of unaltered blood by means of vessels made from this substance and its use for the estimation of the coagulation time

50 Bacteriology of an Influenza Epidemic

E F TRAUT and R D. HERROLD (*Arch Int Med.*, March, 1930, p 412) found that cultures from the nasopharynx and sputum in the influenza epidemic of 1928 almost unfailingly gave a predominating growth of green producing streptococci associated with Gram negative diplococci The streptococci were pathogenic for mice and produced a toxin, skin tests with which suggested a means of detecting susceptible persons Vaccines made from these streptococci seemed to have the power of conferring immunity against the influenza infection The green producing streptococci for the most part reacted similarly in fermentation and bile stability tests The authors were unable to identify the *Bacterium pneumosintes* of Olitsky and Gates in any of their cultures, and in only one were they able to find Pfeiffer's bacillus.

NATURALLY RICH



IN VITAMIN "D"

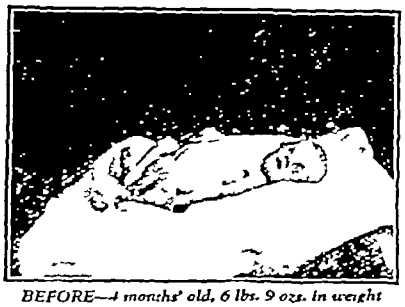
A "RESURRECTION"

THE mother of Baby "H" wrote to our Motherhood Bureau when he was 4 months' old (weight only 6 lbs 9 ozs) suffering from Marasmus following Whooping Cough complicated by Double Pneumonia The infant was put on to *LACIDAC* (Separated) with a small quantity of *BRESTOL* and immediately made steady progress.

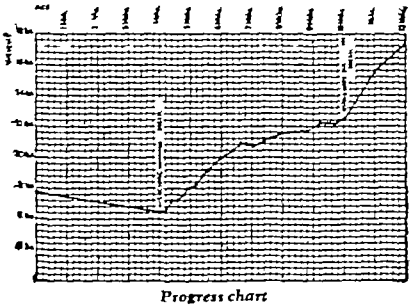
At 6 months he had gained 3 lbs 7 ozs and by the end of another 4 months his weight was 12 lbs 6 ozs., and progress was so good that it was possible to change him gradually on to Cow & Gate Full Cream and Brestol

He has now cut teeth quite successfully and at the age of 10 months is taking normally to mixed feeding and is a happy, lively baby

His Doctor considers him a '*Resurrection.*'



BEFORE—4 months' old, 6 lbs. 9 ozs. in weight



Progress chart



AFTER—10 months old 12 lbs 6 ozs. in weight

June, 1930 Baby 'H' has now won a prize in a Baby Show!

Write for literature and clinical samples of Lacidac and Brestol

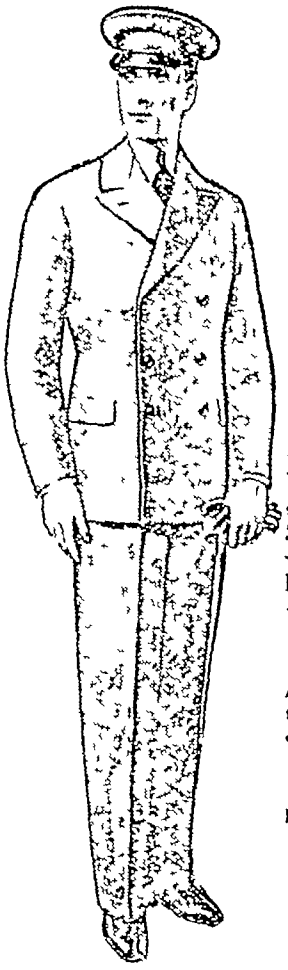
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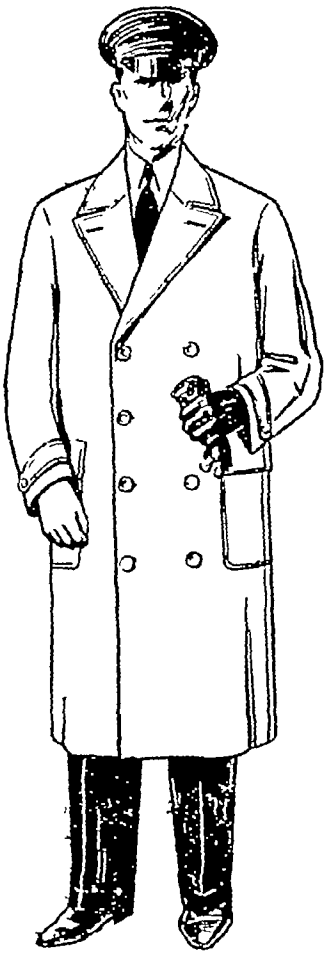
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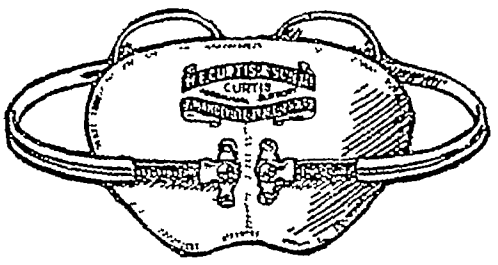


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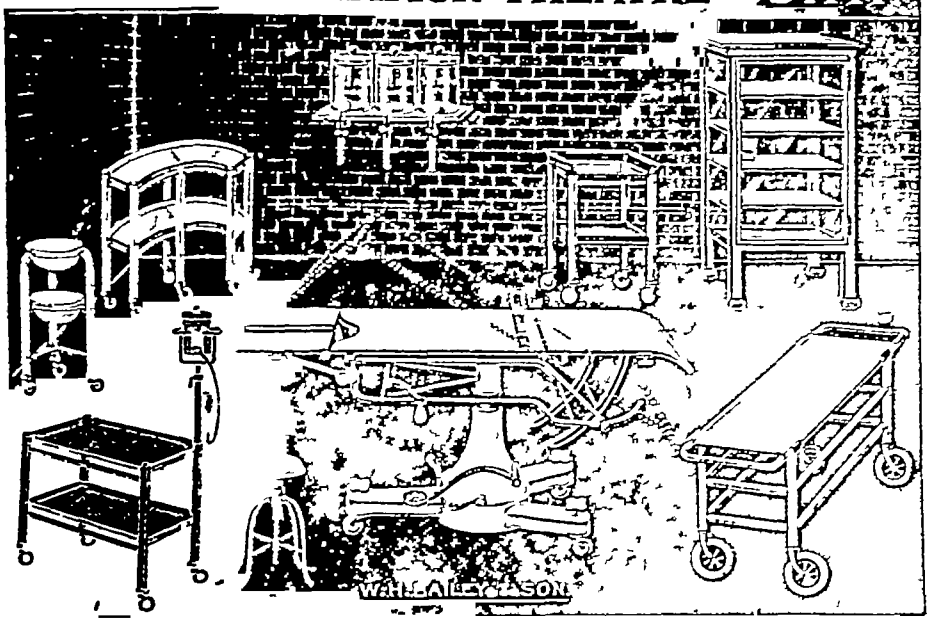
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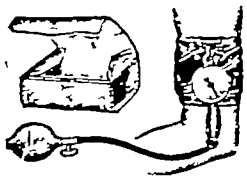
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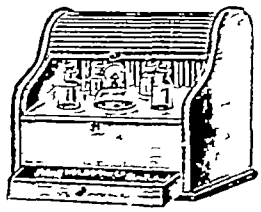
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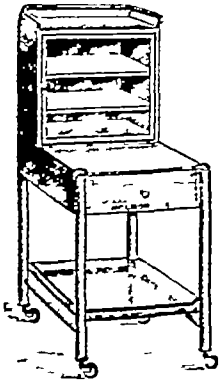
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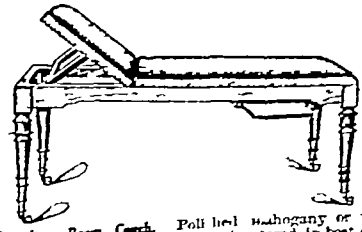
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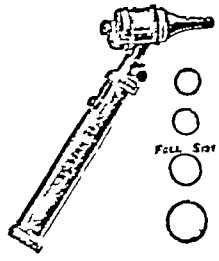
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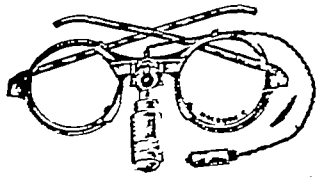


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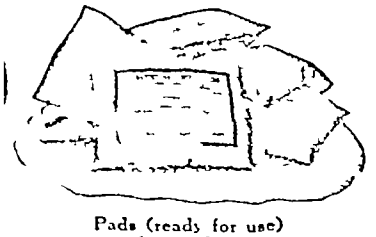
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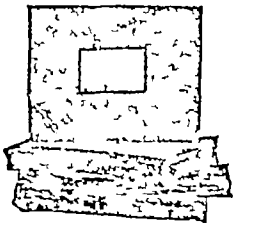
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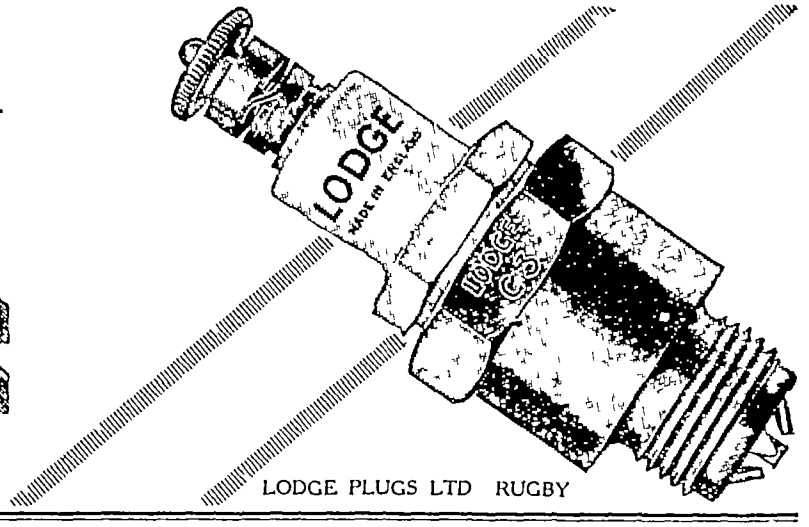
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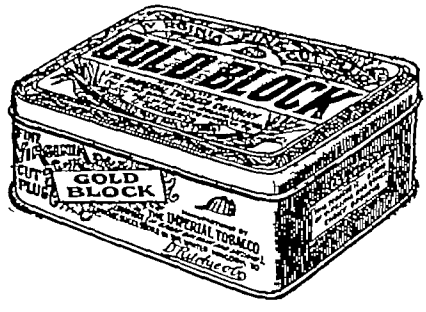
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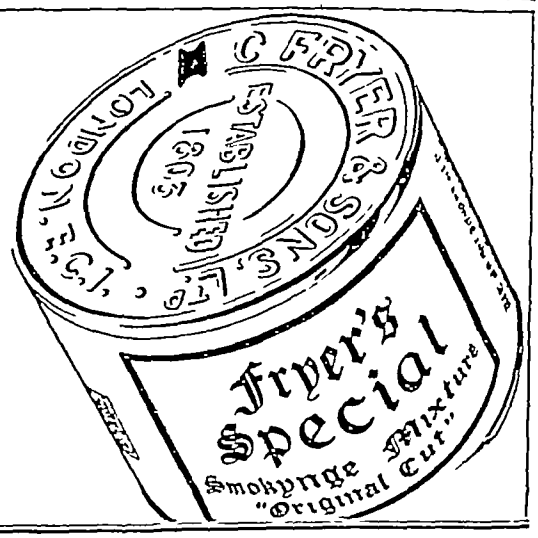
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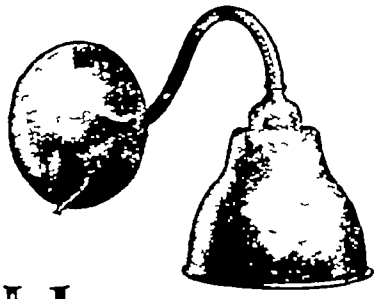
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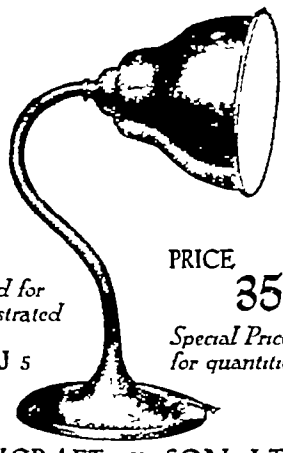




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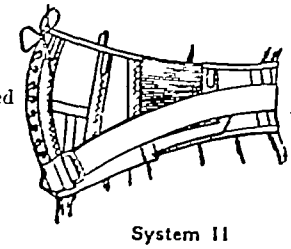
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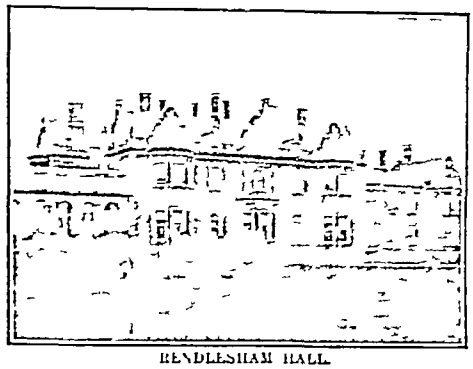
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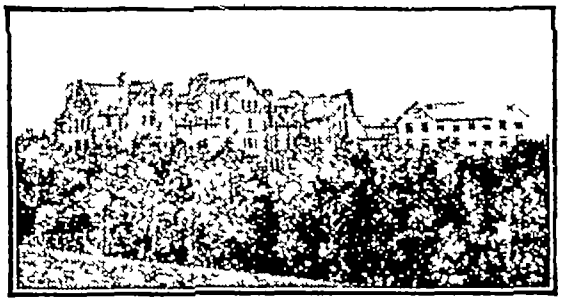
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10 miles from Basle on the railway line Zürich Basel Famous for its vigorous brine containing 31% salt and for its Kaiseriner spring a highly diuretic calcium and boric acid well and for its Magdalena spring containing sulphates of calcium sodium and magnesium 8 bath establishments with up-to-date installations Treatments brine baths carbonic acid brine baths drinking mud packs Mutterlauge packs inhalation massage gymnastics all varieties of electric treatment dietetic treatment Recommended for gout rheumatism arthritis women's diseases sterility obesity children's diseases arterial hypertension diseases of the heart affections of muscles bones and joints convalescence
Any information and detailed booklet gladly supplied by Enquiry Office Rheinfelden Switzerland.

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Railway connections Basle-Brugg Zürich, and Berne Brugg Zürich. The hot springs of Schinznach were in use in Roman times and belong to the strongest radio-active sulphur wells on the Continent. Newly equipped comfortable baths and inhalation room Treatments baths drinking sulphur mud and sulphur water packs irrigations inhalatorium massage X rays Recommended for gout rheumatism affections of bones and joints non tuberculous catarrhs of the air passages arterio-sclerosis diseases of the skin diseases of women children's diseases
Season May to October
For information apply to Spa Director Schinznach Bad Switzerland

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The chief spa of the Lower Engadine. Glauber salts wells The advantage of this spa lies in the combination of the curative properties of the waters with the alpine air and sun
10 mineral springs of various composition Up-to-date equipment for drinking and baths air and sun baths swimming baths Zander hall X ray institute diet. Recommended for affections of the digestive organs metabolic ailments nervous troubles affections of the organs of circulation of the organs of respiration of the genito-urinary system malaria.
Information supplied by General Manager Kurhaus Tarasp

For information and the booklet Swiss Spas and their Mineral Springs (sent gratis) please apply to the Office of the Swiss Federal Railways 11b Regent Street London S W 1

Telegrams ABERNANT LLANWRTYD *Telephone* No 13.

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The University of Liverpool

JOHNSTON CHAIR OF BIO-CHEMISTRY

The Council of the University of Liverpool will have under consideration in the Autumn Term an appointment to the Johnston Chair of Bio-Chemistry vacant by the resignation of Professor W Ramsden Particulars with regard to the conditions and terms of appointment may be obtained on application before September 30th, 1930 to the Registrar of the University of Liverpool.

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Boys are regularly prepared for the First M B Examination University Scholarships in Chemistry Biology etc.
Special facilities are offered for the teaching of Chemistry Physics Botany and Zoology
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Prospectus from Head Master

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL

(University of London)

Advanced Courses in Medicine and Surgery will commence in September

Particulars may be obtained on application to the Dean (H WILLOUGHBY LYLE, M D., F.R.C.S.) King's College Hospital Medical School Denmark Hill S E 5

F R C S (Edin)

A TUTORIAL CLASS with Museum Demonstrations for the next Examination will commence shortly Correspondence tuition if desired —FRED GRAHAM M D F.R.C.S (Edin.), Surgeons Hall Edinburgh

F R C S (Edin)

CLASSES with Museum and Anatomical Demonstrations for next Exam will commence shortly Correspondence work at any time Particulars from CHAS WHITTAKER, F.R.C.S., Surgeons Hall Edinburgh.

ST MARY'S HOSPITAL MEDICAL SCHOOL, W 2

(University of London)

PRIMARY F R C S COURSE

A Course of Instruction for the DECEMBER EXAMINATION will begin on MONDAY SEPTEMBER 1st 1930 and will be conducted as follows
ANATOMY AND EMBRYOLOGY —Prof J Ernest Frazer F R C S (Professor of Anatomy in the University of London)
PHYSIOLOGY AND HISTOLOGY (with Practical Classes)—Prof B J Collingwood, O B E. M D (Professor of Physiology in the University of London).
Fee for the Course 16 gns or 9 gns for either section separately This fee includes membership of the Students Club during the period covered by the Course.
For further particulars apply to the School Secretary

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd (Candidates for the D T H must possess the D T M of this University)
For particulars apply to the Hon Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool

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University of Reading

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Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a m to 4 p m —Post-Graduates may enrol at any time for any period from 1 week to 3 months —Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners"—Anæsthetic Courses —Clinical Assistantships —Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6

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DIPLOMA IN PUBLIC HEALTH.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London)

The course of study, covering a period of twelve calendar months, will commence on September 29th, 1930, and is so designed that students wishing to do so can proceed to the new academic Diploma instituted by the University of London

The inclusive fee of 54 guineas will cover the cost, not only of the ordinary lectures and demonstrations, but also of the necessary practical work in public health departments and instruction in infectious diseases, etc

Enquiries should be addressed to the Secretary, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, London, W C 1

PREPARATORY SCHOOL for GIRLS.

Sound modern education and healthy home life at moderate cost offered by preparatory school for daughters of professional men Ages 5 to 14 years South Coast. Medical references Arrangements for holidays if required —Apply Miss LAWRENCE, The Haven School Parkstone Dorset

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F R C S (Edin)

CLASSES or POSTAL TUITION —Full Preparatory Classes with DEMONSTRATIONS will commence shortly CORRESPONDENCE COURSE for Sept and later Exams. should begin now — H C ORRIN F R C S Surgeons Hall, Edinburgh

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Dean - Sir CUTHBERT WALLACE, K C M G , C B , F R C S

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, October 6th, 1930 Full particulars will be published later

The Course will be repeated on subsequent dates

Applications for copies of the syllabus, etc , may be made at once, and these will be forwarded as soon as available

The Dean will be glad to see prospective entrants by appointment

THOS A GARNER Secretary

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL, LONDON, W 1

(UNIVERSITY OF LONDON)

Two Entrance Scholarships of the value of £100 each, one in Arts and one in Science, will be offered for competition

Two Scholarships of the value of £90 and £60 respectively, are open to students of the Universities of Oxford and Cambridge who have completed the curriculum for or passed the Examinations in Anatomy and Physiology

The Examination will take place on July 29th 30th, and 31st 1930

The successful candidates will be required to become general students of the School

Winter Session opens on October 1st

Application forms and last year's papers can be obtained from the Secretary, Middlesex Hospital Medical School Mortimer Street W 1

CITY OF LONDON MATERNITY HOSPITAL,

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MIDWIFERY TRAINING SCHOOL

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery, and Obstetrical complications Monthly or Fortnightly Courses

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Qualified Medical Women are admitted to **The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E 5** for practical fortnightly Courses in Midwifery These include delivery of normal cases attendances at all abnormal cases operations ward rounds of visiting staff V D clinics and ante natal clinics For further particulars fees etc , apply to EDGAR DINDE , the Secretary

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Name ...
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Examination in which interested ...

Society of Apothecaries of London

MASTERY OF MIDWIFERY EXAMINATION

The next Examination will take place on Monday November 17th 1930 and following days For regulations apply to

FRANK TAYLOR Secretary

University of Aberdeen and Aberdeen Royal Infirmary

MCROBERT PROFESSORSHIP OF MEDICINE AND DISEASES OF RADIUM OFFICER AT THE ABERDEEN ROYAL INFIRMARY

The University Court will in due course proceed to the appointment of a McRobert Professorship of Medicine and Diseases of Radium

Applicants should be Medical Graduates with experience of the use of Radium in the treatment of Malignant Disease The duties of the Lecturer will include the use of Radium Officer at the Aberdeen National Radium Centre at the Aberdeen Royal Infirmary and also in instruction and research in the treatment of malignant disease by radium therapy The Lecturer will be expected to devote part of his time to experimental investigation of malignant disease

The salary proposed is £800

Applications should be lodged with the undersigned

H J BUTCHART Secretary

The University Aberdeen

Glasgow Post-Graduate Medical Association

The following arrangements have been made for Post Graduate Teaching in Glasgow during the summer of 1930

(a) A GENERAL MEDICAL AND SURGICAL COURSE from August 18th to September 12th Fee £10 10 or £6 6 for first or second fortnight

(b) CLINICAL ASSISTANTSHIPS in General and Special Hospital

Syllabuses and any other information may be had on application to the Secretary Post Graduate Medical Association The University Glasgow

Preliminary Examinations

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June September and December For Regulations apply to the Secretary College of Preceptors Bloomsbury Square London W C 1

British Red Cross Society

CLINIC FOR RHEUMATISM
Peto Place Marylebone Road N W 1

The British Red Cross Society invite applications for the following Honorary Appointments to the Clinic for Rheumatism Peto Place Marylebone Road N W 1 HONORARY CONSULTING SURGEON HONORARY PAEDIC SURGEON

qualifications and be sent in not later than Tuesday July 15th addressed to the Secretary of the Medical Committee Clinic for Rheumatism British Red Cross Society 14 Grosvenor Crescent S W 1

Countess of Dufferin's Fund

WOMEN'S MEDICAL SERVICE FOR INDIA

Medical Woman required as RADIOLOGIST to the LADY HARDINGE MEDICAL COLLEGE AND HOSPITAL, DELHI INDIA Emoluments Rs 750 p m rising furnished quarters Provident Fund travelling allowance

Applications on prescribed form (sent on written request) with copies of three recent testimonials should reach the Honorary Secretary U K Branch Dufferin Fund c/o Major General Sir Leonard Rogers India Office Whitehall S W 1 not later than July 17th

Peamount Sanatorium, Newcastle Co Dublin

ASSISTANT RESIDENT MEDICAL SUPERINTENDENT

The Committee of Management of Peamount Sanatorium invite applications for the position of Assistant Resident Medical Superintendent at Peamount Particulars of salary etc to be obtained from the Hon Secretary 9 Ely Place, Dublin Experience in Village Settlement work essential.

Hong Kong

A vacancy at present exists for a SECRETARY in the MEDICAL DEPARTMENT Hong Kong Candidates who shall not be under 35 years of age must have a sound knowledge of general business principles keeping accountancy and must have Experience of the working of a large hospital infirmary is essential Salary £650 per annum rising by annual increments £25 to £1 000 per annum Partly furnished quarters if available are provided at a rental not exceeding 7 per cent of salary or allowance is given in lieu Free passages are provided The selected candidate will be required on a probationary agreement for a period of three years At the end of that period the officer may at the discretion of the Government be appointed to the permanent establishment or may be required to retire on such terms and at such period as may be mutually agreed

Further particulars and forms of application may be obtained on application in writing from the Private Secretary (Appointments) Colonial Office 2 Richmond Terrace Whitehall London S W 1

Completed applications must reach the Private Secretary not later than June 2nd 1930

The Royal Earlswood Institution, Redhill Surrey

(Under Mental Deficiency Act 1913-27)

JUNIOR ASSISTANT MEDICAL OFFICER REQUIRED

Applicants must be registered practitioners resident unmarried and willing to take part in games and amusements

The appointment is for six months in the first place In the first salary at the rate of £250 per annum with board residence and washing Good facilities for Post Graduate Study Class and Examinations.

Applications stating age religion and qualifications with names of three referees of recent date and to reach not later than July 24th to the Medical Superintendent at the Institution The appointment will be subject to the usual Medical Certificate

H STEPHENS
Jul 7th 1930 Secretary

David Lewis Northern Hospital (Clinical School)

Applications are invited for the following posts for the period October 1st 1930 to September 30th 1931

1 MEDICAL TUTOR AND REGISTRAR
2 SURGICAL TUTORS AND REGISTRARS

Remuneration £175 per annum Applications to be made to be sent to the Honorary Secretary of the Medical Board not later than Saturday July 19th

H LEVEY
Secretary Superintendent

The Royal Gwent Hospital, Newport Mon

HONORARY RADIOLOGIST

Applications are invited for the post of Honorary Radiologist.

Candidates must be Graduates of a University or Fellows of a Royal College of Surgeons or Fellow or Member of a Royal College of Physicians and must be in possession of a Diploma in Radiology

Applications should be in writing and sent immediately to the undersigned

J K MILLWARD
July 8th 1930 Secretary Superintendent

Royal Halifax Infirmary

Wanted a THIRD HOUSE SURGEON (male unmarried) Candidates must be duly qualified and registered The appointment will be for a period ending October 31st Probable promotion if satisfactory Salaries of Resident Staff are as follows Resident Surgical Officer £250 Fifth House Surgeon £175 Second House Surgeon £125 per annum with residence board and laundry Surgeon £150 Third House Surgeon £125 per annum with residence board and laundry The Hospital contains 230 beds has a large Ear Nose and Throat Department Major Ear Nose and Throat Surgical Laboratory Military Ward and Pathological Laboratory Particulars of the duties may be obtained from the undersigned to whom applications with copies of testimonials should be sent

A MIDGLEY
June 21st 1930 Secretary

Darlington General Hospital (120 Beds.)

Wanted, JUNIOR HOUSE SURGEON male fully qualified British. Salary £125 per annum board residence etc. Application stating experience with copies of two recent testimonials to be addressed to me forthwith.

A IDDLE, Secretary

ROYAL ARMY MEDICAL CORPS.

TWENTY-FIVE permanent COMMISSIONS in the ROYAL ARMY MEDICAL CORPS will be offered in July, 1930 Applications should reach the War Office not later than July 20th

Candidates will be selected for Commissions without competitive examination, and will be required to present themselves in London for interview and medical examination towards the end of July They must be under 28 years of age on August 1st, 1930, and registered under the Medical Acts

Officers of the R A M C are liable to serve in any part of the world where British Troops are quartered

Ample opportunities exist in the Army for clinical professional work, both Medical and Surgical, as well as for the study and practice of Hygiene, Pathology, and all the special branches

The cost of Post-Graduate study, which is compulsory, is met from Army Funds

Pay and Allowances.—From £500 to £2,000 a year according to rank and length of service

Gratuities on Retirement.—After 7 years' service £1,000
„ 15 „ „ £2,800
„ 18 „ „ £3,500

Current rates of retired pay range from £368 10s per annum, normally earned by a Major after 20 years' service, to £930 per annum, the maximum for which a Major-General is eligible The rates of pay and retired pay are subject to periodical variation consequent on fluctuation in the cost of living

Outfit Grant.—An officer on joining receives £50 as outfit allowance

Marriage Allowance —Officers of 30 years of age and over who are married are entitled to draw special rates of allowances

A Voluntary Widows' and Orphans' Fund exists for officers of the Corps

A certain number of temporary Commissions will also be offered at the same time under the same conditions as regards age and qualifications as those required of candidates for permanent Commissions

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All particulars may be obtained by application, in writing or personally, to the Under Secretary of State, The War Office (A.M.D.I.), Whitehall, London, S.W.1.

ROYAL NAVAL MEDICAL SERVICE.

VACANCIES EXIST FOR MEDICAL OFFICERS IN THE ROYAL NAVY.

Candidates will be entered as Short Service Medical Officers and will be considered for transfer to the Permanent Service after 6 months' service They must be registered under the Medical Acts and be under 30 years of age on date of entry

Medical Officers, R N, are liable to serve in Naval Hospitals or Ships in any part of the world

Excellent opportunities exist for clinical professional work both medical and surgical, as well as for study and practice of Hygiene, Pathology, Ophthalmology, and other specialist branches

Adequate provision is made for Post-Graduate Study

OUTFIT ALLOWANCE of £50 is paid on joining

PAY—Pay from approximately £450 to £2 325 a year, according to length of service

ALLOWANCES—When in charge of **Hospitals** and **Sick Quarters**, 10*s* and 5*s* a day

60 Specialists Allowances of 5*s* a day

Flag Allowances 5*s* and 2*s* 6*d* a day

N.B.—*About a quarter of the total number of Naval Medical Officers are in receipt of the above allowances.*

Provision Allowance and Lodging Allowance are paid when victualling and accommodation are not provided Servants allowance is also payable in certain appointments

PROMOTION—To Surgeon Lieutenant Commander after 6 years' service, to Surgeon Commander after a total of 12 years' service Promotion to Surgeon Captain, Surgeon Rear-Admiral, and Surgeon Vice-Admiral is by selection

Ante date of seniority on account of civil hospital appointments and accelerated promotion can be gained

RETIREMENT—Gratuities are paid as follows—

Short Service Officers, after 3 years' service	£300
Permanent Officers, after 4 years' service	£400
,, 8 ,, ,,	£1,000
,, 12 ,, ,,	£1,500
,, 16 ,, ,,	£2,250

Rates of Pension range from approximately £538 a year, *normally earned* after about 25 years' service, to £1,112 a year, the maximum earned by a Surgeon Vice-Admiral

Copies of the Regulations and Particulars as to Conditions of Service and Emoluments may be obtained on written or personal application to the Medical Director-General of the Navy, Queen Anne's Chambers, Tothill Street, London, S W 1

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H M's Indian Medical Service The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service In other respects the terms will be as detailed below

Candidates must be British subjects under 32 years of age at the time of application and must be registered under the Medical Acts in force in Great Britain and Northern Ireland

CAREERS

The Indian Medical Service offers wide opportunities of medical experience, including clinical preventive, specialist, and research work At the beginning of his career an officer is employed on the military side, which has medical charge of the Indian Army Promotion is on a time scale up to the rank of Lieutenant-Colonel, and by selection to the ranks of Colonel and Major-General An officer may apply after two years Indian service to have his name registered for transfer to the civil side, from which appointments are made to Civil Surgeoncies, which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes, to specialist (for example, public health and bacteriological) services, to research posts, and to professorships at the Medical Schools

PAY

The monthly rates of pay for European officers in the Service who have a "non-Asiatic" domicile are as follows

Rank	Service in Rank	Basic Pay	Overseas Pay	Year of Total Service
1	2	3	4	5
		Rs	Rs	
		500	150	1st
Lieut			150	2nd
			1 0	3rd
Capt	(i) During first 3 years service as Captain	650	150	4th
			£15	5th
			£15	6th
	(ii) With more than 3 and less than 6 yrs service as Captain	750	£20	7th
			£20	8th
			£20	9th
	(iii) With more than 6 years service as Captain	850	£20	10th
			£20	11th
			£30	12th
Major	(i) During first 3 years service as Major	950		
	(ii) With more than 3 and less than 6 years service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut Col	(i) Until completion of 23 years total service	1500	£30	13th and over
	(ii) During 24th and 25th years service	1600		
	(iii) After completion of 25 years total service	1700		
	(iv) When selected for increased pay	1850		

EXTRAS —In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer may be counted as service for increments of pay promotion retirement and retired pay, but not for gratuity

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions Past service in certain hospital appointments may also render candidates eligible for an antedate of one year Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year The maximum period of antedate, secondment or antedate and secondment combined admissible under this paragraph, is limited to one year

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50

PRIVATE PRACTICE

With the exception of Administrative Officers, military or civil, and officers holding certain special appointments, officers are not debarred from taking private practice, so long as it does not interfere with their proper duties

PENSIONS

The rates of pension are as follows	Per annum
	£
After 17 years service for pension	400
,, 18 ,, ,, ,,	430
,, 19 ,, ,, ,,	460
,, 20 ,, ,, ,,	500
,, 21 ,, ,, ,,	540
,, 22 ,, ,, ,,	580
,, 23 ,, ,, ,,	620
,, 24 ,, ,, ,,	660
,, 25 ,, ,, ,,	700
,, 26 ,, ,, ,,	750
,, 27 ,, ,, ,,	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent in all, the revision being undertaken triennially With effect from July 1st, 1927, a reduction of 4½ per cent has been made on this account from the amounts shown

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments

PASSAGES

An officer on appointment is provided with a free passage to India The wives and families of officers who are married prior to the date of the officers embarkation on first appointment will also be provided with free passage to India, subject to the payment of messing charges

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot lasting approximately six months, prior to their embarkation for India on first appointment

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S W 1 The Selection Committee will meet at the India Office in July, and the selected candidates will be required to join a course of instruction commencing early in August, 1930 Applications should be submitted as soon as possible

WEST AFRICAN MEDICAL STAFF.

Vacancies at present exist for MEDICAL OFFICERS in the WEST AFRICAN MEDICAL STAFF

Qualifications Candidates must be British subjects of European parentage and under 35 years of age. They must possess a double qualification and be on the British Medical Register Preference will be given to candidates who have held Hospital or Public Health appointments, or who have special knowledge of anæsthetics, radiology, surgery, medicine, ophthalmology, gynæcology and midwifery, diseases of the ear, nose, and throat, venereal diseases, etc

Salary £660 per annum, rising by annual increments of £30 per annum to £720 per annum, and then, on confirmation, £720 per annum, rising by annual increments of £40 to £960 per annum, together with a seniority allowance (payable only in West Africa) at the rate of £72 per annum After three years service on £960, the salary may be raised to the scale of £1,000 per annum, rising by annual increments of £50 to £1,150 per annum, together with a seniority allowance at the rate of £100 per annum

Quarters Free quarters are provided or an allowance is given in lieu

Outfit Allowance An outfit allowance of £60 is granted on first appointment

Passages Free first-class passages are provided for the officer only both on first appointment and when proceeding on or returning from leave A married officer will, in certain circumstances, be granted half the cost of his wife's passages to and from West Africa

Terms of Appointment The appointments are pensionable, subject to a probationary period of three years in the first instance

Tour of Service The normal tour of service in West Africa is approximately 18 months, though vacation leave may be granted by the Governor after 12 months, and is followed by leave at the rate of one week for each completed month of residential service, plus the time necessarily spent in the voyages to and from England

Course of Instruction in Tropical Medicine Selected candidates will normally be required to attend a course of instruction in Tropical Medicine and Hygiene before proceeding overseas

Duties Though Medical Officers are appointed in the first instance for general service, there are good opportunities for work in special branches of medicine and surgery and for research

Further particulars and forms of application may be obtained on application in writing from the Private Secretary (Appointments) Colonial Office 2 Richmond Terrace Whitehall London S W 1

Egyptian Government

EGYPTIAN UNIVERSITY

FACULTY OF MEDICINE.

Applications are invited for the newly created CHAIR OF PROFESSOR OF HYGIENE. Applicants must have a University Medical qualification and at least ten years experience of Public Health work preferably in a Tropical country. Candidates must have a recognized qualification in Public Health and preferably a qualification in Tropical Medicine and Hygiene. They must have held a post in a recognized institute.

The duties of the Professor include giving a Course of Instruction to Undergraduates and a Post-Graduate Course for the Diploma of Public Health and Tropical Medicine. He will also conduct Research work. The language of instruction is English.

The salary offered is £E.1 500 (approximately £1 538) a year and the appointment will be on contract for three years renewable. The contract may be terminated by either side by three months notice in writing.

One month's salary will be paid in lieu of travelling expenses if the successful applicant is resident in Europe.

If an official of the Egyptian Government is elected for the post he will not receive the advertised salary unless it is sanctioned by the Financial Authorities.

Applications with copies of published Research and copies of testimonials, should be addressed to the Dean of the Faculty of Medicine Egyptian University Cairo so as to be received by him not later than September 20th 1930

Further details may be secured by application to the DEAN

West End Hospital for Nervous Diseases

(Inpatient Department Gloucester Gate Regent's Park N W 1)

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN to start duty August 1st Salary £100 with board residence and laundry Appointment in first instance for six months Applications with copies of three testimonials must be received by the undersigned not later than July 15th

J P WETENHALL Secretary

73 Welbeck Street W.1

Egyptian Government

EGYPTIAN UNIVERSITY

FACULTY OF MEDICINE DENTAL SCHOOL

Applications are invited for the post of LECTURER IN DENTAL SURGERY and ASSISTANT DENTAL SURGEON in the DENTAL SCHOOL CAIRO. The duties will be Instructional and clinical.

Preference will be given to candidates possessing the L.D.S.R.C.S England

The appointment will be on contract for three years at a salary of £E.480 (approximately £492) a year and private practice is allowed

One month's salary will be paid in lieu of travelling expenses if the successful applicant is resident in Europe

Applications with detail of experience and copies of recent testimonials should be addressed to the Dean of the Faculty of Medicine Kasr el Aini Cairo so as to reach him not later than September 20th 1930

University of Manitoba,

WINNIPEG CANADA

FACULTY OF MEDICINE.

The post of ASSISTANT PROFESSOR OF ANATOMY in the University of Manitoba will be vacant from October 1st 1930 Salary 3 500 dollars (200 in lieu of pass age) Applications with two or three testimonials should reach me before August 9th 1930

Medical College Winnipeg Canada. S W PROWSE, M.D Dean Faculty of Medicine

Manchester Northern Hospital

FOR WOMEN AND CHILDREN

Park Place Cheetham Hill Road *Manchester*

The Committee of Management require the services of a SENIOR HOUSE SURGEON and JUNIOR HOUSE SURGEON both duly qualified who are required to commence duty as soon as possible.

Senior House Surgeon salary £150 per annum with board and residence *Junior House Surgeon* salary £100 per annum with board and residence

Applications stating age experience and date of qualification to be sent to the Secretary Mr JAMES C DANIELS Letters to be addressed to the Secretary at the Hospital 38 Barton Arcade Manchester

City of Birmingham

SELLY OAK HOSPITAL.

SURGEON

Applications are invited from fully qualified registered Medical Practitioners for the above whole time appointment.

The present Hospital accommodation is 550 beds divided into General Medical General Surgical Gynæcological Obstetrical and Children's Diseases sections There are complete equipped Pathological and Biochemical laboratories X ray Electro-therapeutic Massage, Ultra violet Ray and Electro-cardiographic Departments Over 3 000 operations are performed annually

Candidates for the appointment must have had good Surgical experience and be Fellows of the Royal College of Surgeons (England)

The scale of salary will be £700 rising by annual increments of £50 to a maximum of £1 000 per annum.

Furnished quarters rations, laundry and attendance will be provided. Alternatively a cash allowance will be paid if the officer appointed is non resident The officer appointed will be required to account to the Council for all fees allowances and emoluments (other than the foregoing) received by him.

The appointment is subject to the passing of a Superannuation examination and will be subject to a passing a medical examination and will be subject to three months notice on either side

Further particulars of the appointment may be obtained from the *Medical Superintendent* at the Selly Oak Hospital. R P STANLEY KELLAS Esq M.B. F.R.C.S (Eng and Edin) *at the Selly Oak Hospital* (Eng and Edin) Applications stating age experience and qualifications accompanied by not more than four testimonials must be delivered to me and endorsed Surgeon Appointment addressed to me and delivered at my office later than 10 a.m. on Wednesday July 23rd 1930

The Council House Birmingham. F H C WILTSHIRE Town Clerk.

June 1930

Lowestoft and North Suffolk

HOSPITAL, LOWESTOFT

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board, residence and Laundry Duties to commence in August.

Applications (no other will be considered) with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

County Borough of Doncaster.

PUBLIC HEALTH DEPARTMENT

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

Applications for the above position are invited from duly qualified Medical Practitioners (male) not exceeding 40 years of age

Applicants must be medical men holding a special qualification in State Medicine or a Diploma in Public Health, and must have had three years experience of the practice of medicine since obtaining their medical qualification

Preference will be given to applicants who—

(1) Have had some definite experience of school medical work
(2) Have enjoyed special opportunities for the study of diseases in children
(3) Have had experience in infectious diseases
(4) Have held one or more resident hospital appointments

The person appointed will be required to devote the whole of his time to the duties of the office

The salary will be £600 per annum, rising by £25 to £700

Applications stating age experience, qualifications and whether married or single accompanied by copies of three recent testimonials should be forwarded so as to reach me not later than August 1st

D TECHMERF ANDERSON
Public Health Office, Wood Street, Doncaster — Medical Officer of Health

Rotherham County Borough

RESIDENT ASSISTANT MEDICAL OFFICER.

The Public Assistance Committee invite applications for the above post at the Hospital Alma Road Rotherham Salary £150 per annum together with the usual residential allowances

Candidates must be single not exceeding 30 years of age fully qualified and registered

Applications stating age qualifications, etc, together with copies of three testimonials to be sent to the Public Assistance Officer, 26 Moorgate Street Rotherham not later than July 21st

Municipal Offices, Rotherham
July 1st, 1930
CHAS L DES FORGES, Town Clerk

Royal Victoria Infirmary,

NEWCASTLE UPON TYNE

Applications are invited from registered Medical Practitioners for the post of JUNIOR ASSISTANT in the Pathological Departments of the Royal Victoria Infirmary and the University of Durham College of Medicine Newcastle upon Tyne

Salary is at the rate of £300 per annum

Applications stating previous experience with copies of three recent testimonials must be forwarded on or before July 23rd to the House Governor and Secretary Royal Victoria Infirmary Newcastle upon Tyne from whom further particulars may be obtained

S DUNSTAN
House Governor and Secretary
July 5th 1930

Peterborough and District

MEMORIAL HOSPITAL (154 Beds)

TWO RESIDENT HOUSE SURGEONS required

Applications are invited from fully qualified male Practitioners for above posts

Salary £135 per annum, with board residence and laundry

Appointments will be for a minimum period of six months

Applications stating age, qualifications and experience with copies of recent testimonials, to be sent to the undersigned from whom further particulars may be obtained

FRANK A C TAYLOR
Secretary Superintendent

Queen's Hospital, Burmingham

Applications are invited for the following posts

(1) HOUSE SURGEON to the Ear Nose, and Throat Department
(2) ORTHOPAEDIC HOUSE SURGEON AND RESIDENT ANAESTHETIST

Duties to commence at once appointment for six months Salary £70 p.a. together with board apartments and laundry

Applications and testimonials to be sent to the undersigned at once

C HEPPOPD
House Governor
July 4th 1930

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

Borough of Bromley

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

Applications are invited from duly qualified Medical Practitioners for the post of Assistant Medical Officer of Health and Assistant School Medical Officer at a salary at the rate of £550 rising by annual increments of £20 to £750 per annum, in accordance with the Council's Salaries and Grading Scheme

Applicants, whose age must not exceed 40 years, must possess the Diploma of Public Health and should have had experience in Diseases of Children, Ante-Natal and Maternity work Refraction work and Infectious Diseases

The appointment will be a whole time one (any private practice being prohibited) and subject to one month's notice on either side, and will also be subject to the Local Government and Other Officers Superannuation Act, 1922 and the successful candidate will be required to pass a medical examination

Forms of application may be obtained from the Medical Officer of Health Health Department Municipal Offices Bromley, Kent to whom applications, accompanied by copies of not more than three recent testimonials should be delivered not later than Saturday July 19th

Canvassing directly or indirectly, will be a disqualification

S CRITCHLEY AUTY
Municipal Offices, Bromley Kent
June 30th 1930
Town Clerk

Ipswich Borough Mental Hospital

APPOINTMENT OF MEDICAL SUPERINTENDENT

The Visiting Committee invite applications for the post of Medical Superintendent of the Ipswich Borough Mental Hospital The salary will be £700 per annum rising by £25 per annum to £750 per annum with unfurnished residence fire and light garden produce, milk and laundry these emoluments being valued for the purpose of the Asylum Officers Superannuation Act, 1909 at £200 per annum

An Assistant Medical Officer resides on the premises

Candidates must be duly qualified Medical Practitioners with Mental Hospital experience, and not over 40 years of age Preference will be given to candidates who have obtained a Diploma in Psychological Medicine, and who have served the office of House Surgeon or House Physician in a general hospital Canvassing directly or indirectly will be a disqualification

Applications endorsed 'Medical Superintendent, Mental Hospital,' stating age, qualifications and experience and accompanied by copies of three testimonials, to be sent to the undersigned not later than July 21st The successful candidate will be required to commence his duties on September 3rd next

Town Hall, Ipswich
June 26th 1930
V MOFFAT, Clerk to the Visiting Committee

Hospital for Consumption and DISEASES OF THE CHEST

Mount Pleasant LIVERPOOL

The Committee of the Hospital invite applications for the post of ASSISTANT MEDICAL OFFICER AND PATHOLOGIST Salary £150 per annum (non-resident) with liberty to private practice Duties Daily attendance to Outdoor Patients Department and Wards 12 to 2 p.m. and other duties as may be assigned to him Candidates must be Graduates of a British or Irish University or Members of one of the Royal Colleges of Physicians Applications with copies of three recent testimonials to be sent in, endorsed 'Assistant Medical Officer' not later than July 26th to the Secretary, Mount Pleasant

North Devon Infirmary,

BARNSTAPLE.
(60 Beds)

Wanted end of July, duly qualified RESIDENT MEDICAL OFFICER (male) Salary £150 per annum, with board apartments and laundry Appointment to be for not less than six months Applications stating age qualifications with copies of recent testimonials to be sent forthwith to the Honorary Secretary

County of Roxburgh

APPOINTMENT OF COUNTY MEDICAL OFFICER OF HEALTH

The County Council of Roxburgh invite applications from duly qualified persons for the appointment of County Medical Officer of Health for the County of Roxburgh

The salary of the appointment will be at the rate of £1,000 per annum, rising by annual increments of £50 to the maximum of £1,250

The conditions of the appointment may be obtained on application to the subscriber, and applications accompanied by 25 copies of not more than three recent testimonials, should be lodged with the subscriber on or before Saturday July 26th

Canvassing will disqualify

County Offices, Newtown St Boswells
July 5th 1930
GEORGE J SHERRIFF, County Clerk

County Mental Hospital,

LANCASTER

Wanted immediately TEMPORARY ASSISTANT MEDICAL OFFICER (male) for about three months Salary 7 guineas per week with board, apartments, laundry, and attendance Application with testimonials and full particulars, stating when at liberty, to be sent to the Medical Superintendent

Jessop Hospital for Women,

SHEFFIELD
(146 Beds)

GYNAECOLOGICAL AND MATERNITY DEPARTMENTS

Applications are invited for the post of REGISTRAR AND OBSTETRICAL TUTOR The appointment is whole time, non resident and includes ante natal work, teaching of students together with Registrar's duties Salary £500 per annum

Applications together with copies of recent testimonials should reach the undersigned on or before July 22nd

H B SHELSWELL
Secretary

The Jessop Hospital for Women,

SHEFFIELD
(146 Beds)

GYNAECOLOGICAL AND MATERNITY DEPARTMENTS

Applications are invited for the post of ASSISTANT HOUSE SURGEON for six months appointment

Salary £100 per annum, together with board, residence and laundry

Applications stating age together with copies of recent testimonials should be addressed at once to the undersigned

H B SHELSWELL
Secretary

St John's Hospital, Lewisham,

S E 13

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER The appointment is for one year from August 1st Salary £250 per annum with board residence laundry and certain fees Preference will be given to candidates with experience in Surgery Applications with copies of testimonials should reach the Secretary at the Hospital not later than Monday, July 21st The Selection Committee will sit on July 22nd at 4 45 p.m.

St John's Hospital, Lewisham,

S E 13

Applications are invited for the appointment of HONORARY SURGEON to the Hospital The successful candidate will in addition to taking charge of beds attend the Out patient Department once weekly and assist in the surgical lectures to nurses A residential qualification may be insisted on Applications with copies of testimonials should reach the Secretary at the Hospital not later than Monday July 21st The Selection Committee will sit on July 22nd at 4 45 p.m.

Hull Royal Infirmary

(270 Beds)

Applications are invited for the following resident posts (male)

ASSISTANT HOUSE PHYSICIAN Vacant July 31st
CASUALTY HOUSE SURGEON Vacant July 23rd

Salary for each post £130 per annum, including board residence and laundry

Applications should be addressed to the undersigned.

R J CARLESS
House Governor
July 5th 1930

City of Aberdeen

PUBLIC HEALTH DEPARTMENT

The Town Council of Aberdeen are prepared to receive applications for the post of ASSISTANT MEDICAL OFFICER OF HEALTH (male) for School Medical Service. Salary £600 (£50) by annual increments of £25 to £750 on approval, more initial placing in that scale to be determined by qualifications and experience. Age not to exceed 45 years.

A Memorandum of Duties and Form of application may be had from the Town Clerk. Applications must be received not later than five days after publication of this advertisement, and must possess the Diploma in Public Health or its equivalent.

The office is an established post under the Local Government and Other Officers' Superannuation Act 1922, and the successful candidate will be required to pass a medical examination.

Application, accompanied by twenty copies of testimonials, and stating whether related to any Member of the Council or Chief Officer of the Corporation, to be delivered by me not later than July 21st.

Town House, Aberdeen. CHAS. FRASER, Town Clerk.

July 2nd 1930

Aberystwyth Infirmary and CARDIGANSHIRE GENERAL HOSPITAL

HOUSE SURGEON required (male). Salary £200 per annum with board, residence, and Laundry.

Candidates must be fully qualified and have had Experience in Anæsthetics and X-ray work essential.

Applications, stating age and qualifications, together with three recent testimonials, to be sent to the undersigned not later than July 29th to the Secretary, The Infirmary, Aberystwyth.

Duties to commence September 1st.

Bristol Royal Hospital for Sick CHILDREN AND WOMEN

St. Michael's Hill

Applications are invited for the position of HOUSE SURGEON. Salary £125 per annum with board and room, attendance and laundry.

Applicants should state age, qualifications, experience and testimonials to the undersigned not later than July 18th.

REGINALD C. THOMAS, Secretary.

Bath, Somerset, and Wilts CENTRAL CHILDREN'S ORTHOPÆDIC HOSPITAL, Combe Park, BATH

Applications are invited for the post of HOUSE SURGEON.

The appointment will be for six months, with salary at the rate of £120 per annum, together with quarter's board and laundry.

Candidates must have had special experience in administering anæsthetics.

Applications, with copies of three recent testimonials, should be forwarded at once to the undersigned.

HAROLD J. FRICKER, Secretary.

Cheltenham General and Eye HOSPITALS

HOUSE PHYSICIAN required for holiday duty during August and September.

Salary £5 5s. a week, with board, residence and laundry.

Must be qualified to give anæsthetics.

Applications, with copies of testimonials, to be sent to—

J. CUMMING SMITH, Secretary.

General Hospital, Cheltenham.

Eccles and Patricroft Hospital

(62 Beds)

Wanted immediately SENIOR RESIDENT MEDICAL OFFICER for six or twelve months engagement. Commencing salary £175-£200. Also JUNIOR RESIDENT MEDICAL OFFICER (or House Surgeon). Commencing salary £125-£150. Board, residence, etc. Apply with references to Secretary, Eccles and Patricroft Hospital, Patricroft, Manchester.

Huddersfield Royal Infirmary

(200 Beds)

MALE HOUSE SURGEON required to commence duty July 20th. Salary £150 per annum with board, residence and laundry. Appointment terminates December 31st, but is subject to renewal for further three or six months. Application, with copies of testimonials, to be addressed to the Secretary immediately.

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

Evelina Hospital for Children,

Southwark, S.E.1

The Committee of Management requires a HOUSE PHYSICIAN (male) for six months from August 12th (during first four months duty in Casualty and Out-patient Department). Salary £120 per annum with board and residence. Candidates' duly registered applications, giving age, qualifications (with dates), and copies of four testimonials, to the undersigned at the Hospital, before July 28th. Applicants will be informed if they will be interviewed by the Medical Committee. Selected candidates must attend Committee of Management. Date of meeting will be notified, and travelling expenses refunded.

By Order of the Committee of Management,
H. C. S. SMITH,
July 7th 1930 Secretary Supt.

East Ham Memorial Hospital,

Shrewsbury Road, London, E.7

(100 Beds)

Applications are invited for the post of HOUSE PHYSICIAN for six months, commencing August 1st. Salary at the rate of £150 per annum, with board, residence and laundry.

Applications, stating age, experience and full particulars, together with copies of testimonials, are to be in the hands of the undersigned later than Friday, July 18th.

REGINALD LEPRY, Secretary.

East Ham Memorial Hospital,

Shrewsbury Road, London, E.7

(100 Beds)

Applications are invited for the post of HOUSE SURGEON TO SPECIAL DEPARTMENTS AND CASUALTY OFFICER for six months, commencing August 1st. Salary at the rate of £120 per annum, with board, residence and laundry.

Applications, stating age, experience and full particulars, together with copies of testimonials, are to be in the hands of the undersigned later than Friday, July 18th.

REGINALD LEPRY, Secretary.

General Hospital, Nottingham

Wanted a HOUSE SURGEON. Appointment for six months, commencing about August 8th. Salary at the rate of £150 a year, with board, residence and laundry.

Application, stating age, qualifications and experience, together with copies of testimonials, to be sent to the undersigned not later than Monday, July 21st.

P. M. MACCOLL, Hon. Secretary and Governor.

Jewish Maternity Hospital,

Underwood Street, Wallace Road, N.1

(34 Beds)

A RESIDENT MEDICAL OFFICER is required for the above Institution. Appointment for six months, commencing September 1st. Salary at the rate of £50 per annum. Application, together with copies of three testimonials, to be sent to the undersigned not later than July 23th.

ALICE MODEL, Hon. Organising Secretary.

Harrogate Infirmary

Applications are invited from British subjects (male) for the post of JUNIOR HOUSE SURGEON now vacant. Applications to be made on official form to be had from the undersigned.

GEO. BALLANTYNE, *Secretary.*

Royal Cornwall Infirmary,

TRURO

(84 Beds.)

HOUSE SURGEON (male) required, with experience of anæsthetics. Salary £170 per annum, rooms, board, and washing. Apply with copies of three recent testimonials to the Secretary, of whom further particulars may be obtained.

Kensington, Fulham, and Chelsea

GENERAL HOSPITAL,
194 Fulborough Road, Earl's Court, S.W.10

The Board of Management invite applications from fully qualified practitioners for the post of CASUALTY (RESIDENT) MEDICAL OFFICER. This Hospital, the In-patient Department of which is in process of rebuilding, has an extensive Out-Patient Department, treating General and Special Out-Patient Clinics. The appointment to be held for six months from July 21st. Salary £100 per annum. Applications, accompanied by copies of three testimonials, should be forwarded to the undersigned not later than July 10th.

L. MAY SPOTO, Superintendent.

Lincoln County Hospital

Wanted a JUNIOR HOUSE SURGEON (male) for a term of six months. Salary at the rate of £150 per annum for the first six months, approved service.

Every candidate for this appointment must be registered under the Medical Acts.

Applications, stating age, and other particulars with copies of testimonials (not more than three), are to be sent to the undersigned from whom further particulars may be obtained.

Lincoln. ARTHUR MOORE,
June 30th 1930. Secretary-Superintendent.

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Duties to commence as soon as possible.

The duties include charge of four beds devoted to complicated Midwifery cases.

Salary at the rate of £150 per annum with residence, board and laundry.

The appointment is for six months, and is renewable, and the salary for the second six months will be at the rate of £175 per annum.

Applications accompanied by not more than three recent testimonials to be sent to the undersigned.

Dated this 26th day of May 1930.

ARTHUR H. LIMB, Secretary.

Miller General Hospital,

Greenwich Road, S.E.10

CASUALTY OFFICER (male and unmarried) required. There are four other resident Salary £150 per annum with board, residence and laundry. Duties to commence as early in July as possible. Applications, stating age, nationality, qualifications and experience, accompanied by copies of not more than three recent testimonials to be sent to the Secretary as soon as possible.

June 24th 1930.

Margate and District New GENERAL HOSPITAL

(80 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) to commence duties as soon as possible.

Salary £125 per annum, with board and laundry.

Application, accompanied by copies of testimonial, should be sent to the Secretary, Margate General Hospital, as early as possible.

Midland Hospital

(FOR HOMŒOPATHIC AND GENERAL TREATMENT)
Easy Row, BIRMINGHAM

A vacancy occurs for the post of HOUSE SURGEON at the above Hospital on August 6th. Salary £150 with board, residence and laundry.

Applications, stating age and qualifications, accompanied by recent testimonials, will be forwarded at once to

JAMES O. AYRES, Secretary.

Royal Sussex County Hospital,

BRIGHTON

(235 Beds.)

CASUALTY HOUSE SURGEON (male) required about August 7th. Salary £120 per annum with board, residence and laundry.

Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts. They must be unmarried and when elected under 30 years of age.

Application, with copies of recent testimonials, should reach the undersigned not later than July 21st.

L. L. W. LANCASTER-CAVE,
Secretary, Superintendent.

Dudley Road Hospital

JUNIOR ASSISTANT MEDICAL OFFICERS (MALE)

Applications are invited from fully qualified Medical Practitioners for appointments as Junior Assistant Medical Officers (male) at the Dudley Road Hospital, Birmingham

The Hospital accommodation is fixed at 926 beds divided into Medical, Surgical Children's Infectious Maternity, Gynaecological, and Obstetrical Sections There are completely equipped Pathological and Bio-chemical Laboratories Deep Therapy, X Ray Electrical, Massage, Sunlight, and Dental Departments Approximately 5,000 operations are performed annually

The appointments will be for a period of six months in the first instance but may be extended at the end of that period

The persons appointed will be required to assist at operations to administer anaesthetics, and undertake casualty work and such other duties as may be assigned to them by the Medical Superintendent

The salaries attached to the appointments will be at the rate of £200 per annum, together with full residential emoluments (rations, apartments laundry, and attendance)

The officer appointed will be required to pay to the Council all fees, allowances and emoluments (other than the foregoing) received by him

Further particulars of the appointments may be obtained from the Medical Superintendent, F W ELLIS Esq M D F R C S, Dudley Road Hospital, Birmingham, to whom applications, stating age experience and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Thursday, July 24th

F H C WILTSHIRE,
The Council House, Town Clerk
Birmingham

North Ormesby Hospital,

MIDDLESBROUGH
(140 Beds.)

HOUSE PHYSICIAN required (male and unmarried) Salary £120 per annum, with board, residence and laundry There are three residents and the successful candidate will be eligible for the post of House Surgeon in due course

Applications stating age qualifications, previous experience (if any) with copies of three recent testimonials, should be sent to the undersigned at once

GEORGE WATTS,
Secretary Superintendent

National Hospital, Queen Square,

for the Relief and Cure of Diseases of the Nervous System, including Paralysis and Epilepsy, W C 1

HOUSE PHYSICIAN

The Board of Management invite applications for the post of House Physician, which should be sent to the undersigned accompanied by copies of three recent testimonials, not later than Monday July 21st The salary is £150 per annum with board and lodging

GODFREY H HAMILTON,
Secretary

North Riding Infirmary,

MIDDLESBROUGH
(General Hospital—150 Beds.)

SENIOR HOUSE SURGEON (male) required to take up duties at an early date

Appointment for a minimum of six months, renewable Salary at the rate of £225 per annum with board, residence, and laundry Three Residents are employed

Applications stating age nationality and previous experience, with three recent testimonials should be sent to the undersigned as soon as possible

CHARLES POSTGATE,
Secretary Superintendent

Leicester Royal Infirmary

CASUALTY HOUSE SURGEON

A vacancy has arisen for a Casualty House Surgeon Applicants must have held a resident Hospital post or had similar experience in Hospital work Salary at the rate of £125 per annum for a six months appointment Applications to the House Governor and Secretary July 7th 1930

Liverpool Heart Hospital

HOUSE PHYSICIAN (male or female) wanted immediately Salary £52 per annum with board and residence Applications to Miss LEWIS Secretary 14 Cook Street Liverpool

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

Royal Infirmary, Blackburn

(240 Beds—Five Residents)

RESIDENT HOUSE PHYSICIAN (male) required at a salary of £175 per annum, with board, residence, laundry etc. In addition to Medical Wards to be attached to Eye, Ear, Nose, and Throat Department To commence duties as early as possible

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned

Royal Infirmary, NATHAN A SMITH,
Blackburn Gen Supt. & Sec.

This Institution is recognized for the Surgical Practice required for the F R C S Final Examination

Royal Infirmary, Doncaster

(185 Beds)
OPENING NEW BUILDING

Three HOUSE SURGEONS and One HOUSE PHYSICIAN required at once. New building ready for occupation The House Physician will also be House Surgeon to Ophthalmic, and Ear, Nose, and Throat Departments

The salary of each post is £200 per annum, with board residence, and laundry

Appointments are for six months and are renewable

Applications, stating age and full particulars together with copies of testimonials, should be sent at once to the Secretary Superintendent

Royal West Sussex Hospital,

CHICHESTER
(111 Beds.)

The Board of Management invite application for the post of SENIOR HOUSE SURGEON, to commence early in August Salary £200 per annum with board, residence and laundry

Also for JUNIOR HOUSE SURGEON Salary £125 per annum, with board, residence, and laundry

Applications stating age, with three recent testimonials, should reach the undersigned not later than July 18th

HERBERT S AYLMORE,
Secretary

Royal West Sussex Hospital,

CHICHESTER

Applications are invited for the appointment of HONORARY SURGEON to the Hospital (the present Honorary Assistant Surgeon is an applicant for the post)

Applications should be sent to me not later than Tuesday, July 15th

HERBERT S AYLMORE,
Secretary

Royal Hampshire County

HOSPITAL, WINCHESTER

HOUSE PHYSICIAN Applications are invited from fully qualified men for the above post Good opportunity for Maternity Work Salary £150 per annum, with board residence, and laundry Candidates who must be of British nationality should make application at once to the undersigned enclosing copies of three testimonials

HERBERT MASLEN Secretary

St Mary's Hospitals,

MANCHESTER.

TWO HOUSE SURGEONS for the WHITWORTH STREET WEST HOSPITAL (Maternity) and two for the WHITWORTH PARK HOSPITAL (one Children's Department and one Gynaecological Department) each for a period of six months from August 1st next

Salaries at the rate of £50 per annum with board and residence. Applications with copies of three testimonials to be sent to the undersigned on or before July 16th

R RATCLIFFE Secretary

Leeds Public Dispensary

Wanted, JUNIOR RESIDENT MEDICAL OFFICER Salary £150 per annum, with board residence and four shillings weekly for laundry Separate sitting room Applications with copies of three recent testimonials to be addressed to the Secretary of the Faculty Public Dispensary North Street Leeds

Beckett Hospital and Dispensary,

BARNSLEY

The Committee invite applications for the post of HOUSE PHYSICIAN Applicants must be registered and hold a Medical and Surgical qualification, and preference will be given to applicants who have held a previous hospital post and having Pathological experience

Salary £200 per annum, with board, residence, and laundry

Applications together with testimonials, should be sent to the undersigned immediately

ARTHUR L BOURNE
Secretary Superintendent

Norfolk and Norwich Hospital,

NORWICH

Applications are invited for the post of HOUSE SURGEON Salary £120 per annum, with board residence, and laundry Preference will be given to a candidate who has held a previous Hospital appointment Candidates (male), who must possess registered qualifications, should forward applications stating age, nationality, etc together with copies of testimonials, to the undersigned, not later than Tuesday, July 15th

FRANK INCH
July 8th, 1930 House Gov and Sec

Oldham Royal Infirmary

TWO HOUSE SURGEONS required immediately, one for Male Wards and one for Out Patient and Special Departments Appointments tenable until December 31st Successful applicants will be eligible for reappointment Salary at the rate of £175 per annum, with board, residence and laundry Applications to be submitted forthwith, together with copies of three recent testimonials to the undersigned

CHARLES D DRAKE
General Superintendent

Princess Louise Kensington

HOSPITAL FOR CHILDREN,
North Kensington (50 Beds)

HOUSE SURGEON (woman) required for six months from August 1st The House Surgeon's salary is at the rate of £75 a year, should she at the expiration of three months be appointed Senior Resident (of two) the salary would be at the rate of £100 a year with board residence, and laundry in each case Applications, together with copies of three testimonials, must be submitted on a form to be obtained from the Secretary, Princess Louise Kensington Hospital for Children, St Quintin Avenue, W 10 Applications must reach the Secretary not later than Wednesday, July 23rd

Royal Albert Hospital and Eye

INFIRMARY, DEVONPORT

The post of SENIOR HOUSE SURGEON will be vacant on July 30th Applicants must be fully qualified, registered and unmarried Salary £150 per annum, with apartments, board, and laundry free.

Applications, together with copies of not more than three testimonials addressed to the Chairman of the Selection Committee must reach the undersigned not later than Saturday, July 19th

FRANK ROWE,
July 7th, 1930 Secretary

Royal Hospital, Richmond,

SURREY

The Committee of Management invite applications for the following appointments

1 HONORARY SURGEON IN CHARGE OF OUT PATIENTS
2 HONORARY ASSISTANT PHYSICIAN TO OUT PATIENTS
3 HONORARY ASSISTANT OPHTHALMIC SURGEON
4 HONORARY ASSISTANT RADIOLOGIST (male)

Applications, together with particulars as to age, qualifications, and previous experience *with copies of testimonials should be forwarded* to the undersigned by July 19th

RICHARD ALLEN
Secretary

Royal Northern Hospital,

Holloway, N 7

Applications are invited for the post of RESIDENT OUT PATIENT CASUALTY OFFICER AND ANAESTHETIST for six months vacant on September 15th Salary at the rate of £70 per annum with board residence and laundry

Applications with copies of testimonials should be sent by July 19th to the undersigned from whom forms of application and rules can be obtained

GILBERT C PAYNTER
Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1 (in the case of Scottish appointments with the Scottish Medical Secretary 7, Drumsheugh Gardens, Edinburgh)

(a) British Islands

Town or District	Town or District	Town or District
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd)*	**PUBLIC HEALTH**
PENYWAE, MO *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
CILFYNYDD GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH A D DISTRICT *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE MO *(Medical Officer for Medical Aid Association)*	NORTHSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Panel for Albany Medical Aid Society)* *(Workmen's Medical Scheme)*	OLDHAM WEST RIDING COUNTY COUNCIL *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch) Savings Bank Building, 21 Elizabeth St. Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments)*	Secretary South Australian Branch, 207 North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND** *(Contract Practice Appointments)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch, British Medical Association), P.O. Box 156, Wellington, New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec., Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries)*	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch) British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices)*	Hon. Sec., Western Australian Branch, British Medical Association, c/o Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

July 9th 1930 By Order of the Council ALFRED COX, Medical Secretary

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The Hospital for Sick Children,
Great Ormond Street, London, W.C.1

A MEDICAL REGISTRAR and PATHOLOGIST is required on October 1st.

Gentlemen are invited to send in their applications addressed to the Secretary with copies of not more than three testimonials written specially for the purpose, before 12 o'clock on Monday, July 14th.

The appointment is made for one year, but may be held subject to re-election for three years.

Salary £300 per annum with luncheon and dinner when on duty, and an allowance of eighteen guineas for the purpose of providing a substitute during annual leave.

Candidates must be registered Medical Men and must have held a responsible Hospital appointment and be prepared to take up the duties on October 1st.

All candidates must be in attendance at the Hospital to appear before the Joint Committee if necessary on Wednesday, July 16th, at 4.45 p.m.

Forms of application and copies of the rules for and details of the duties of the appointment will be supplied on application to the Secretary.

By Order of the Board of Management
JAMES McKAY, Secretary

June, 1930

British Red Cross Society

CLINIC FOR RHEUMATISM
Peto Place, Marylebone Road, N.W.1

There is a vacancy for a qualified MEDICAL REGISTRAR to commence duty at this Clinic on 8 September 1st.

The appointment will be for one year. The remuneration is £350 a year payable quarterly. Candidates must not exceed 35 years of age.

Applications which should state the candidate's qualifications and experience, and be accompanied by two recent testimonials must be sent in not later than Tuesday, July 15th addressed to the Secretary of the Medical Committee, Clinic for Rheumatism, British Red Cross Society, 14 Grosvenor Crescent, London, S.W.1.

All Saints' Hospital (for Genito-Urinary Diseases)

In-patient Dept., 91 Finchley Road, N.W.8.
Out-patient Department and Secretary's Office, 49/55 Vauxhall Bridge Road, S.W.1.

Applications are invited for the following post and candidates are requested to send particulars of their experience, qualifications, and copies of recent testimonials not later than July 19th.

HONORARY SURGICAL REGISTRAR. The appointment is tenable for a period of twelve months with renewal up to a maximum of two years subject to the discretion of the Board of Management. Applicants should be Fellows of the Royal College of Surgeons and not be engaged in general practice.

D. H. EADE, Secretary.

The Royal Infirmary, Sheffield
(500 Beds.)

The Weekly Board of Management invite applications for the undermentioned posts —

TWO SURGEONS
O.E.
The appointments for a period ending December 31st, 1930. The salary attached to each post is £80 per annum rising after six months' service to £100 per annum together with board and residence.

Applications together with copies of testimonials to be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.
General Superintendent and Secretary.
Board Room, June 30th, 1930.

The Royal Waterloo Hospital for Children and Women
Waterloo Road, S.E.1.

Applications are invited from qualified male practitioners for the following post vacant on August 1st; a CASUALTY OFFICER to work in the Out-Patient Department on weekdays at £152 per annum, lunch and tea provided. Applications with copies of testimonial should be forwarded by Tuesday morning, July 22nd, to the Secretary at the Hospital, from whom further particulars can be obtained.

Merthyr General Hospital,
MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital (male) for a period of six months. Salary at the rate of £150 per annum with board, rooms and laundry.

Applicants must have had experience in administration of anæsthetics.

Applications, stating age and qualifications and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

Wrexham and East Denbighshire War Memorial Hospital
(109 Beds.)

Two RESIDENT HOUSE SURGEONS (male or female) required at above Hospital to commence on August 1st. Appointments for a period of not less than six months. Salaries £150 per annum with board and laundry.

Applications, stating age, nationality, experience and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned not later than Friday, July 18th.

LESLIE SPENCER, Secretary.

Newark General Hospital
(50 Beds.)

Wanted a fully qualified RESIDENT HOUSE SURGEON (male or female, unmarried). Salary £150 per annum with board, residence, and laundry. Appointment for six months or twelve if mutually desired. For form of application apply to W. T. CRAMPTON, 2, Elm Grove, Newark, Notts.

York County Hospital

The post of RESIDENT ANÆSTHETIST AND ASSISTANT HOUSE SURGEON will shortly become vacant. Salary £150 a year with board, residence, etc. Duties commence August 1st. Applications stating age and experience together with copies of not more than three recent testimonials to be sent to the Secretary not later than July 22nd.

(Appointments continued on p. 59.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1
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ASSISTANCIES

Wanted, Male Assistant, ex-H.S. preferred Manchester, panel and industrial Salary £400 p.a. plus commission, and *advance in a short time to a suitable man* Free house unfurnished, for married man or house, furnished, and attendance for single man Vacancy end of month Usual bond Please give full references.—Address, No. 4710, B.M.A. House, Tavistock Square, W.C.1

Wanted Shortly — Assistant, outdoor in an industrial district in North Staffs Salary £350 plus an allowance for a motor Coal gas light and heat found Sign usual bond Must have some previous experience.—Address, *No.* 4720, B.M.A. *House*, Tavistock Sq., W.C.1

Wanted.—Well-qualified Assistant with view, in West Country Seaside Resort No panel or dispensing Terms on application.—Address, giving full particulars, No. 4302, B.M.A. House, Tavistock Sq., W.C.1

Wanted immediately — Indoor *and Outdoor ASSISTANTS for Country* and Town Practices with and without view State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted, keen Lady Assistant, indoor, very comfortable modern home, *work light, ample time reading*, usual bond Give full essential particulars.—Dr. BRIGGS, 20, St. Heller Avenue, Morden, Surrey (Mitcham 2328)

Wanted — Young unmarried male ASSISTANT indoor, with view *Industrial town Cheshire £250, rising to* £300 in six months if suitable. English or Scotch Protestant.—Reply with photo, No. 4508, B.M.A. House, Tavistock Square, W.C.1

Wanted.—Male Assistant (indoor) for panel and private Practice *British nationality. Some experience of general* practice essential Salary £310.—Address with references No. 4801 B.M.A. House Tavistock Square, W.C.1

Wanted.—Unmarried male ASSISTANT, outdoor Cyclist Private and panel Practice Midland town Salary £380 with rooms and attendance £20 petrol allowance if own car Dispenser kept.—Address No. 4731 B.M.A. House Tavistock Square, W.C.1

Wanted — Assistant, indoor, young, male Protestant English or Scot Panel and private Practice with or without view Send testimonials and photo Salary according to experience from £300 50 miles London.—Address No. 4734 B.M.A. House Tavistock Square, W.C.1

Wanted — Assistant, with or without view for nice middle working and panel Practice Camberwell London Live in at surgery Salary £250 to £300 according to experience State age, experience and refs.—Address No. 4803 B.M.A. House Tavistock Square, W.C.1

Wanted — Assistant, male, by Indian General Practitioner Light work Time for study Reply with full essential particulars.—Address No. 4724, B.M.A. House Tavistock Square, W.C.1

Wanted — Assistantship, with view preferred by M.B., B.Ch. ex H.S. and H.P. male single 28 years Four years G.P. Well received Motorist Interview.—Address, No. 4732 B.M.A. House Tavistock Square, W.C.

Wanted — Well-qualified ASSISTANT country Practice East Anglia, from August 1st No dispensing Own car preferable.—Address, No. 4720, B.M.A. House, Tavistock Square, W.C.1

Wanted—Gloucestershire — Indoor ASSISTANT Private and panel Practice July or early August £300 per annum Motor cycle provided.—Address No. 4802 B.M.A. House Tavistock Square, W.C.1

Wanted.—Experienced male ASSISTANT with view Panel and private Practice, South West England.—Address enclosing photo, copy of testimonials No. 4557, B.M.A. House Tavistock Square, W.C.1

Wanted immediately in East London Practice male outdoor ASSISTANT unmarried and under thirty years of age Salary £440.—Address No. 4736 B.M.A. House Tavistock Square, W.C.1

Wanted in Colliery Practice, Glamorgan, outdoor ASSISTANT Salary £400 and rooms etc.—Address, No. 4813, B.M.A. House, Tavistock Square, W.C.1

Assistants and Locum Tenens — *Gentlemen immediately available for the* foregoing, age 25—35 of good address experience, and of British birth, are invited to call upon THE MEDICAL AGENCY, Watergate House 15 York Buildings, Adelphi, W.C.2, between *10.30 and 4 p.m.*

Assistantship or Locum wanted by Woman experienced in general practice and P.H. appointments Own car.—Address No. 4727 B.M.A. House Tavistock Square, W.C.1

Part-time Assistant (with or without view to early succession) offered residence and small salary in mixed panel and private practice in N.W. London suburb Suit Post grad Large corner house, pleasant garden.—No. 4705, B.M.A. House, Tavistock Sq., W.C.1

Urgent.—In a Partnership in Cornwall doing over £5,000 p.a., with a panel over 2,000, a young and energetic ASSISTANT wanted immediately Preferably married and preferably with a view to partnership, but not necessarily so Hospital of over 50 beds Salary to be arranged.—Address, No. 4708, B.M.A. House, Tavistock Square, W.C.1

MEDICAL POSTS, DISPENSERS, etc.

Wanted — Fully qualified DOCTOR for service in the TROPICS Preferably ex House Surgeon or Physician Agreement for three years Salary £850, £900, £950 Renewable on higher terms Free furnished quarters and first-class passage provided Candidates must be unmarried Ladies not eligible — Address, with copies of testimonials (not returnable), No. 3801, B.M.A. House Tavistock Square, W.C.1

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in *Bacteriological Laboratories of the* LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7 Westbourne Park Road, W.2

British West Indies.—Medical OFFICER required to commence duties not later than October 1st Commencing salary £900 p.a. Board residence provided at inclusive charge of £7 per month or furnished bungalow at £5 per month Applicants should be under 40 years of age, and have had tropical experience or taken course in tropical medicine.—Apply, BRITISH MEDICAL BUREAU, 12, *Stratford Place Oxford Street, London*, W.1

Bookkeeper, Lady, wanted by four Doctors Must have dispensing qualification for occasional help to Lady Dispenser.—Dr. C. B. THOMSON, Romansleigh, Wimborne, Dorset

Dispenser (Hall), Nurse- Secretary desires POST Experienced in minor operations dental work, dispensing and typing Seven years in present post In or near London preferred Available for interview Free mid Aug.—No. 4733 B.M.A. House, Tavistock Sq., W.C.1

Dispensers supplied to Doctors at short notice, without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers, Secretary Dispensers, Nurse Dispensers and Chauffeuse Dispensers.—Write, wire, or phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1

Doctors requiring qualified Dispensers, Nurse Dispensers, Secretary Dispensers or Chauffeuse Dispensers are invited to write, wire, or phone Temple Bar 6858, THE DISPENSERS BUREAU, 15 Lindsay House 171 *Shaftesbury Avenue London*, W.C.2

Lady Secretary seeks RE ENGAGEMENT.—Shorthand, Typing, Bookkeeping French Good references.—Miss PAGE 'Littlecote, Linksway Northwood Middx

Practitioner offers Residence in nice flat (South Kensington) at low rental *to Medical Man (single) who is willing to* ACT AS DEPUTY on certain evenings Service quite nominal.—Address No. 4556, B.M.A. House, Tavistock Square, W.C.1

Post required as Temporary HOUSEKEEPER or COOK Trustworthy State salary.—Address *No.* 4725 B.M.A. House, Tavistock Square, W.C.1

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION.—Pathologists and Bacteriologists requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are *invited to communicate with* H. GOODING Hon. Sec., Moelfre 10, Holbeck Grove Victoria Park Manchester No fees

The Royal Army Medical Corps *ASSOCIATION — If you require men* trained in all branches of hospital work—Dispensers (capable of undertaking returns, clerical work, etc. connected with Ministry of Health) Clerks Laboratory Assistants general *hospital duties, Porters Caretakers, etc.*—Apply, Secretary 85 Eccleston Square, S.W.1

Typewriting.—Expert undertakes Theses Testimonials etc. Numerous letters of appreciation from Doctors.—Phone Primrose Hill 0803 or write BEATRICE RADFORD c/o Smith's 487 Finchley Road, N.W.3

LOCUMS

FOR LOCUM TENENS APPLY TO
Mr. PERCIVAL TURNER, Ltd.
The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals
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Wanted — Reliable and experienced *Practitioners (male and female)* for LOCUM engagements State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

Wanted.—Woman Locum TENENS July 19th for three weeks Seven guineas per week and expenses With own car preferred, but not essential.—Address No. 4804 B.M.A. House Tavistock Sq., W.C.1

Wanted—Hospitality Locum (Lady) Aug. 7th—Sept. 24th for small Practice in pleasant Scotch-county town.—Address *No.* 4713, B.M.A. House Tavistock Square, W.C.1

Wanted.—Locum work by St. Bart's man Qual. 1907 Accustomed to good class patients Experienced and reliable Recent references Free July 25 h Non car driver.—*Apply, stating terms Locum c/o Dr* Stephen 51 Sussex Place Bristol

Wanted.—Locum from end of July till end of third week September £5 per week all found Work very light.—Address No. 4723 B.M.A. House Tavistock Square, W.C.1

Locum Tenens required for August and September £7 7s. per week, with board, lodging and washing.—Apply to the MEDICAL SUPERINTENDENT County Mental Hospital, Whitecroft, Newport, Isle of Wight

Middle-aged Practitioner requires LOCUMS Experienced in private and panel work *South preferred.*—*Address No.* 4716 B.M.A. House, Tavistock Square, W.C.1

HOLIDAY LOCUMS

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THE MEDICAL AGENCY

(WILLIAM H. GRANT)

WATERGATE HOUSE, 15 YORK BUILDINGS ADELPHI W.C.2 *Tel* { TEMPLE BAR 1054 RIVERSIDE 1254 (*Night Calls*)

Telegrams

REASIDE, TUBERCLE, WESTRAND, LONDON

As Locum—Experienced (mid-thirties) Doctor had own Practice now doing some 10 locums annually, desires further ENGAGEMENTS from 6 gns. p.w. If country where can run 1 driver available. Good refs.—MERIT, c/o Poolacre, 24 Colville Rd., Bayswater, W.

Indian, M.B., B.S., L.R.C.P., M.R.C.S. desires LOCUM or ASSISTANTSHIP preferably in London. Experienced in panel and private practice. Young energetic abstainer. Free end of July.—Address, No. 4816 B.M.A. House, Tavistock Square, W.C.1.

Recently retired Doctor, living near Belsize Park will do an occasional LOCUM Friday afternoon to Monday night, living a home own car, telephone for 6 gns.—Apply Primrose 6060.

Woman Locum wanted about August 14th for about three weeks. Good opportunity of nice outdoor assistantship in pleasant district. Send photo and essential particulars.—Address No. 4704 B.M.A. House, Tavistock Square, W.C.1.

PARTNERSHIPS

Wanted — Partnership in most Practice by energetic well-to-do Scotch M.B., Ch.B. abstainer, ex H.S. 8 years' panel; has £1,000 to return; buy Practice in south; prefer London. Premium part down, balance to be income or payment on agreed price. Interview London July.—No. 4812 B.M.A. House, Tavistock Square, W.C.1.

Wanted by experienced 1926 Graduate, age 27, PARTNERSHIP worth about £1,000, preferably in country town. Has held hospital appointments. Experienced surgery, anæsthetics and midwifery. Capital available.—No. 4807 B.M.A. House, Tavistock Sq., W.C.1.

Wanted—by two friends, 32 and 24 years (qual. M.A. Camb., M.R.C.S., F.R.C.S. Ed., and M.B., D.P.H. Camb., both married), SHARE IN PARTNERSHIP non-dil. pens., preferably non-panel; scope for surgery; essential to live in town or country. Capital available.—Address No. 4720 B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.B., B.S., young, sound general experience, PARTNERSHIP offering Medical scope. No agents.—Address No. 4820 B.M.A. House, Tavistock Square, W.C.1.

A Partner is urgently required in a Partnership in Cornwall doing over £5,000 p.a.; with a panel of over 2,000. Hospital of over 50 beds. One-fifth share for disposal at 12½ years' purchase; slightly less to prompt buyer. Full details on application.—Address No. 4709, B.M.A. House, Tavistock Square, W.C.1.

North Manchester.—Partnership in excellent PRACTICE. Cash receipts 1929 £3,457. Panel 3,200. Excellent house, 2 reception, 6 bedrooms, large garage and garden (with tennis court). Rent £48 p.a. Premium half share 1½ years' purchase.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

Partner wanted to buy two-fifths or rather larger SHARE in PRACTICE in Wimbledon. Panel 1,300. Average receipts £2,300. Good house and lovely garden. House about £3,300 which must be bought. Splendid prospects. Ample capital essential. Population of Wimbledon about 65,000.—Address No. 4507 B.M.A. House, Tavistock Square, W.C.1.

Partnership — An opportunity occurs of joining a firm of three Partners in a large mixed Practice in a rapidly growing town within 20 miles of London. Applicant must be well qualified, a keen worker, have had Surgical experience and held house appointments. Commencing share about £1,000, two years' premium.—Address, No. 4711, B.M.A. House, Tavistock Square, W.C.1.

Provincial Town near Coast — ONE QUARTER SHARE is offered in sound old-established PRACTICE averaging nearly £3,000 per annum. House available. Young married man preferred.—Address No. 4569, B.M.A. House, Tavistock Square, W.C.

Rheumatic Clinic, Centre West End—latest installation. Pyretic bath. Colonic Irrigation. Fistany Mud and other treatments—needs PARTNER, Medical Man or Woman or Hospital Sister with rheumatic clientele and some capital to enlarge scope of work.—Address with fullest particulars No. 4815 B.M.A. House, Tavistock Square, W.C.1.

Vacancy for a salaried PARTNER in a high-class Nerve Home near London. Capital required £5,000. Principals only need apply.—BM/BSL, London, W.C.1.

Young Partner wanted to join a Medical Practitioner retiring. Early succession. Practice near London. Small scope for increase. Moderate premium, easy payments.—Address No. 4735 B.M.A. House, Tavistock Square, W.C.1.

PRACTICES

Wanted—Practice, receipts £700—£1,000 approximate, in country town or district in or around Home Counties. Small house with modern conveniences preferably to rent. All inquiries strictly confidential.—Address No. 4717 B.M.A. House, Tavistock Square, W.C.1.

Wanted, Practice with large panel, 3,000 upwards; suitable for two partners. Income £2,500 upwards. House with long lease required. London or Suburbs essential. Cash available.—Address No. 4808 B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately PRACTICE in South of England. Small town near Coast preferred. Advertiser prepared to pay two years' purchase for suitable practice. Particulars in confidence.—Address No. 4805 B.M.A. House, Tavistock Square, W.C.1.

Wanted by M.B., Panel and private PRACTICE in London. Income about £1,600 p.a. Ample cash available.—Address No. 4814 B.M.A. House, Tavistock Square, W.C.1.

A small well-established Practice for Sale in seaside South Western town. Good class Light work. Average receipts £750 (including £300 from panel). Good house for purchase or on short lease. Educational facilities good. Healthy situation. Golf, yachting, swimming. Favourable terms for immediate cash settlement. No agents.—Address No. 4719 B.M.A. House, Tavistock Square, W.C.1.

Bristol Practice or Partnership wanted. Ample capital available. Advertiser can wait so please keep for reference.—Address No. 4712 B.M.A. House, Tavistock Square, W.C.1.

Cash, Panel (72) —Shop and 5 rooms etc., main road, tram stop. Lease 18 years to run. Rent £2 inc. p.w. Visits 3/6, cons. 2/. Income £160 p.a. Scope if full time given. Premium for lease, practice, and drug £200.—Address E. W. 445, York Road, Wandsworth, S.W.18.

Death Vacancy — Sheffield — Old-estab. PRACTICE. Cash receipts last year £1,600. Panel 1,720. Good house, 2 reception, 7 bedrooms, Garage. Rent £50 p.a.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

Dental Practice, Liverpool — Well-established neighbourhood rapidly extending. Gross 1929 £1,850. Two surgeries. Mod. equipment. Sale or partnership.—Address No. 4809 B.M.A. House, Tavistock Square, W.C.1.

For Disposal —A good Practice is not always to be had directly but Mr. PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised. Inform free on application.—4 Adam St., W.C.2.

For Sale —26 miles London, convenient trains. Old-established increasing unopposed Village PRACTICE in growing [illegible] nearby. Average receipts £600 [illegible] years to end. Garage [illegible] House and garden on lease [illegible] Tavistock Sq., W.C.1.

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For Sale —Pre-war established Country PRACTICE, on border of growing Industrial neighbourhood. Gross earnings average last 2 years £1,100 per annum. Liberal terms. Premium 1½ years' purchase.—Apply GLOVER & Co., Incorporated Accountants, 167 High Street, Scunthorpe.

For Sale —East Anglia — Country PRACTICE. Pleasant district. Receipts £900. House for sale or to let. Preliminary arrangements if desired.—Address No. 4730 B.M.A. House, Tavistock Square, W.C.1.

Isle of Man —Seaside Town Old-estab. PRACTICE. Receipts average £946 (including £350 from panel). Semi-detached house, 3 reception, 4 bedroom. Garden. Good schools. Premium—Practice and House—£2,000, part by arrangement.—BRITISH MEDICAL BUREAU, 33 Cross St., Manchester.

London, N. —Old-established Cash and Panel PRACTICE. Receipts £1,700 a year, panel 1,300. Corner house, rent £85 p.a., 18 years lease to run. Premium £2,750. Very few rivals. Change of district.—Apply PEACOCK & HADLEY, Ltd., 19 Craven Street, Strand, W.C.2.

Lancs Town —Old-established —Nice house, rapidly growing area, garden, garage, price £1,100 or rent with option. Income £1,200. Panel 900. Opposition poor. Price 1st year purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown St.

Lancs —Large town —Old-established PRACTICE. Receipts £1,200 p.a. including 900 panel. Nice house can be had on lease. Practically no immediate opposition. Premium 1 years' purchase.—Apply PEACOCK & HADLEY, Ltd., 19 Craven Street, Strand, W.C.2.

Liverpool —Average receipts £1,600 p.a. Panel 1,200. House on lease. Premium 1½ years.—Write BOX L.211, LEE & NEWINGALE, Liverpool.

Medical Practice, panel and private wanted, town or suburban.—Apply CRAWFORD, HERRON & CALLEON, Writers, 25 West George Street, Glasgow.

Manchester — Old-established good district. New house, garden front and back. £53. Receipts (with panel) over £600, excellent scope. Price £1,100 including goodwill £600, good fitting, drugs, etc.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown Street.

Nucleus for Sale Established 18 months. E. London. Surgery rent £. Enormous scope. New tenements being erected, opp. prem. Congested neighbourhood. Panel about 700. Gross takings £300 p.a. Fees 2 to 5. Very exceptional lease. Good reasons. Quick sale.—No. 4560 B.M.A. House, Tavistock Sq., W.C.1.

Practice or Nucleus wanted in six months' time. Tunbridge Wells neighbourhood or Bournemouth preferred. Confidential. No agencies.—Address No. 4217 B.M.A. House, Tavistock Square, W.C.1.

South Yorkshire —Practice averaging £1,900 p.a. Panel 800. Appointments over £200 p.a. Scope for surgery. Excellent house, 2 reception, 4 bedrooms, garage, garden (with tennis court). Premium. Practice and house £3,000. £500 down, balance by arrangement.—BRITISH MEDICAL BUREAU, 3 Cross Street, Manchester.

South Wales — Old-established country PRACTICE. Receipts over £1,000 per annum. Panel about 400. Excellent scope for energetic man. Premium 1½ yrs. purchase. Must be Welsh-speaking. House to rent.—Address No. 4818 B.M.A. House, Tavistock Sq., W.C.1.

To Purchasers — *Do not buy* without expert assistance. With 40 yrs. experience Mr. PERCIVAL TURNER can advise in all cases. Terms free on applicat. on to 4 Adam St., Strand, W.C.2. Telephone, Temple Bar 9031. Telegrams, Epsomian, London.

Wanted to purchase, Practice of about £1,000 p.a. in London W. or S.W. chiefly panel, but with scope for midwifery. Cash available. Good house (with garden) to rent essential. Particulars in confidence.—Address No. 4707, B.M.A. House, Tavistock Square, W.C.1.

Wales —Large town —Well-established PRACTICE. Receipts over £1,200 a year, including fair panel. Nice house on lease, rent £80 p.a. Premium £1,500.—Apply PEACOCK & HADLEY, Ltd., 19 Craven Street, Strand, W.C.2.

Welsh Border — Unopposed Country PRACTICE Average cash receipts £1 100 Panel over 700 Appointments (transferable) £264 Scope Excellent house 4 bedrooms garage and large garden Rent £70 p a, or would sell for £1 250 (freehold). Premium 1½ years purchase —BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

X-Ray Practice — For Sale owing to ill health Receipts average £950 Low price for quick sale Vendor holds honorary Hospital appointment —Address No 4703, B M A House, Tavistock Square W C 1

Yorkshire (W R) —Old- estab PRACTICE Average cash receipts £1 535 p a Appointments £250 p a Panel 750 Good house 2 reception 5 bedrooms garden and garage to rent or purchase Premium 1½ years purchase — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Adjoining Harley Street —Part- TIME USE of CONSULTING ROOM available with name plate on door Good service Also residential suite of rooms if desired — Address No 4503, B M A House, Tavistock Square W C 1

A beautifully constructed free- hold HOUSE in the best part of Bournemouth suitable for resident patients to be sold with or without Practice Separate professional suite 8 bedrooms billiard room —Dr SNELL Bournemouth

Bournemouth —Detached well- built corner RESIDENCE near Lansdowne Road and Bournemouth Central Station admirably suitable for a Medical Man South aspect spacious entrance hall (oak floor) three reception rooms seven bedrooms dressing room bath (h and c) large kitchen and scullery and rooms offices Capital covered accommodation area nearly half acre secluded well laid-out grounds Electric light bells gas and water Leasehold 99 years from June 1890 ground rent £11 11s per annum Price £2 400 View by appointment —OWNER Littlecot, Newton Road Swanage

Bridport, Dorset — For Sale, freehold delightful HOUSE ideal for doctor 3 recep 6 bed servants quarters modern conveniences garage tennis court extensive gardens all walled 3 acres or less land Growing district splendid opening central position —COMPTON Allington Bridport

Corner House for Sale (new, detached) with garage near Oakleigh Pk Station and Great North Road 2 recep rooms (can be extended) kitchen and scullery 4 beds (2 with h and c water) bath etc 2 w c s Gardens laid out, tennis lawn Solid brick built in a first-class growing neighbourhood Splendid opportunity for a professional man Price £1 500 or £1 750 freehold Apply of Builders F G WHITE & SONS The Maples Woodside Grove N 12 Phone Hillside 0701

Consulting Room Wanted — Large room on ground floor Harley Street Wimpole Street or Devonshire Place Particulars to FLOOD & Co 10 Henrietta Street Cavendish Square W 1 Langham 2601

Doctor living just off Portland Place wishes to Let immediately on Lease to Doctor or Dentist ground floor CONSULTING ROOM large North window fitted basin — Address No 4811 B M A House Tavistock Square W C 1

For Sale, in a rapidly growing Essex village of over 2 000 inhabitants, in which there is no resident medical man, well built DETACHED HOUSE with 3 reception and 6 bedrooms good garden and garage most suitable for a doctor Price £1 900 or near offer —Address No 4701 B M A House Tavistock Square W C 1

Freehold House, good position nice garden to be sold £1 400 12 miles Kings Cross Wonderful opportunity for Doctor Golfer growing district No resident Medical Man — R 12 Exmoor Street W 10

HOVE CHATSWORTH 15, NEW CHURCH ROAD

Exceptionally delightful Free- HOLD RESIDENCE of moderate size Eminently suited for Doctor standing in beautiful matured grounds Will be offered for SALE BY AUCTION at the Old Ship Hotel, Brighton on Friday July 25th 1930 at 3 o'clock, by Messrs WINKWORTHS F A I 188 Church Road Hove (and at Brighton) from whom full particulars may be obtained

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Hendon — Opposite the Golf Course About a mile from railway station Close to bus service To be SOLD a COMFORTABLE HOUSE occupying a commanding position and enjoying a fine view The accommodation comprises hall 4 reception 2 staircases 12 bed and dressing rooms usual offices Company's supplies Garage Lodge Also additional accommodation in annexe Charming garden with tennis and other lawns flower and kitchen gardens In all about 2¾ acres Strongly recommended by the joint Sole Agents P H EDWARDS Ltd 237 Golders Green Road N W 11 or HAMPTON & SONS 20 St James's Sq S W 1

Harewood Chambers, 74-80, Gower St W C — Just opened newly decorated and furnished Hot and cold water Phones Room and breakfast from 2 gns, with dinner 3 gns Bed and breakfast 7/6 — Museum 3941

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Large Consulting Room, half- time with plate and attendance Nottingham Place £75 per annum —Address No 4810 B M A House Tavistock Square W C 1

Queen Anne Street — Dental CONSULTING ROOM available shortly for part time use Magnificently fitted with all the latest dental appliances Rent £100 per annum to include door plate attendance and every convenience —Address No 4706 B M A House, Tavistock Square W C 1

Stowmarket, Suffolk —For Sale, DOCTOR'S RESIDENCE containing 9 bed and dressing rooms bathroom 2 w c s 3 reception rooms conservatory, consulting room dispensary and dressing room patients' waiting room and garage Pleasure garden with tennis lawn All modern conveniences To session October 1st —Price and full particulars from WOODWARD & WOODWARD Stowmarket

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Two Rooms, with use of Waiting Room and service in Dental Surgeon's house in Upper Brook Street. Resident housekeeper —Apply by telephone Mayfair 1171

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For Sale — Consulting Room COUCH and INSPECTION LAMP unused Total cost £12 7s 6d What offers —Address No 4821 B M A House Tavistock Sq, W C 1

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Bristol Royal Infirmary

Applications are invited for the following resident appointments for the six months commencing September 1st

2 HOUSE PHYSICIANS
4 HOUSE SURGEONS
1 *HOUSE PHYSICIAN TO THE CANCER RESEARCH DEPARTMENT*
1 HOUSE SURGEON TO THE EAR NOSE AND THROAT DEPARTMENT
1 HOUSE SURGEON TO THE GYNAECOLOGICAL AND *OPHTHALMIC DEPARTMENTS.*
1 OBSTETRIC HOUSE PHYSICIAN
1 CASUALTY *HOUSE SURGEON*
1 ASSISTANT HOUSE SURGEON AND HOUSE SURGEON TO THE DERMATOLOGICAL DEPARTMENT

Salaries at the rate of £60 per annum with board, apartments and laundry except in the case of the Casualty House Surgeon whose salary will be at the rate of £80 per annum with board apartments and laundry

1 DENTAL HOUSE SURGEON

Resident salary at the rate of £60 per annum but if non resident salary at the rate of £116 per annum with board

Candidates who must be duly qualified to send in their application stating age together with copies of not more than three testimonials to the undersigned on or before Monday July 28th.

ELLIS C SMITH FCIS
Secretary and House Governor

Cardiff Royal Infirmary

(Associated with the Welsh National School of Medicine)

Applications are invited for the post of HOUSE SURGEON TO THE OPHTHALMIC DEPARTMENT of the above Institution. The post is tenable for six months but may be extended for a further six months. This post is open to ladies.

Salary is at the rate of £75 per annum with board residence. Candidates must have experience of refractions.

Application forms may be obtained from the undersigned and should be returned completed with copies of recent testimonial at the earliest possible date as the appointment commences immediately

R. ARMSTRONG
July 8th 1930 *Medical Superintendent*

Cardiff Royal Infirmary

(Associated with the Welsh National School of Medicine)

Application are invited for the undermentioned posts

TWO HOUSE SURGEONS
ONE HOUSE SURGEON (SURGICAL UNIT)
TWO HOUSE PHYSICIANS
ONE HOUSE PHYSICIAN (MEDICAL UNIT)
ONE HOUSE SURGEON—GYNAECOLOGICAL.

Salary at the rate of £50 per annum with board and lodging. Appointments are for six months commencing August 20th

Form of application can be obtained from the undersigned and should be returned with copies of three recent testimonials on or before August 2nd.

R ARMSTRONG
July 8th 1930 Medical Superintendent

Chesterfield and North Derbyshire Royal Hospital.

(190 Surgical and Medical Beds.)

HOUSE SURGEONS

Applications are invited from fully qualified men for the above posts which become vacant on July 31st.

The appointments are for six months

Salary is from £100 to £175 per annum according to experience, with board apartments and laundry

Applications stating age, together with copies of three recent testimonials should be sent to the undersigned without delay

G SUNNUCK
July 8th 1930 Supt and Secretary

The Willesden General Hospital

(Incorporated) NW 10
(106 Beds.)

APPOINTMENT OF HOUSE SURGEON AND HOUSE PHYSICIAN

Applications are invited from fully qualified and registered candidates male or female for the appointments of *Resident House Surgeon* and Resident House Physician

Candidates must be unmarried

Salary.—*House Surgeon* £110 per annum
House Physician £100 per annum

Detailed applications with copies of testimonials *should be sent at once addressed to* the Secretary Willesden General Hospital NW 10

July 7th 1930

Administrative County of LONDON

The London County Council invites applications for the position of SECOND ASSISTANT MEDICAL OFFICER in its Public Health Department for duty at PINEWOOD SANATORIUM, WOKINGHAM, BERKSHIRE. Applicant must have had previous pulmonary tuberculous experience

The provisional commencing salary which is subject to review will be £550 a year

A bungalow (unfurnished) in the Sanatorium grounds with accommodation for a married man will be provided the rent of which will be £36 a year excluding rates

Application forms returnable by July 21st may be obtained from the Medical Officer of Health (Staff Division) The County Hall Westminster Bridge S.E.1 Canvassing disqualifies

MONTAGUE HARCOURT
Clerk of the London County Council

The Royal Hospital, WOLVERHAMPTON

(Incorporated under Charter)

Wanted at once HOUSE PHYSICIAN

The Hospital contains 240 beds the usual special departments *and is recognized by the* various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice Certificates must be registered under the Medical Act

The appointment is for six months with a salary at the rate of £150 per annum Board furnished rooms and laundry provided Applications with copies of testimonials to the undersigned

W H HARPER
House Governor and Secretary

Wolverhampton July 8th 1930

The Royal Hospital, WOLVERHAMPTON

(Incorporated under Charter)

CASUALTY OFFICER AND HOUSE SURGEON to Ear Throat and Nose Department (male) required Duties to commence forthwith The Hospital contains 240 beds contains the usual special departments and is recognized by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice

Candidates must be registered under the Medical Act and unmarried

The appointment is for six months with eligibility for further appointment for six months as House Surgeon to in patient

Salary at the rate of £120 per annum Board furnished rooms and laundry provided

Applications with copies of testimonial to be forwarded to the undersigned

W H HARPER
House Governor and Secretary

July 7th 1930

The Children's Hospital, BIRMINGHAM.

(230 Beds)

HOUSE SURGEON

Applications are *invited for the post of* House Surgeon

Salary is at the rate of £75 per annum with board residence and laundry

The appointment is tenable for six months and the officer is required at once.

Applications should be sent to the undersigned as soon as possible

HAROLD F SHRIMPTON
July 4th 1930 House Governor

Torbay Hospital, Torquay

(147 Beds.)

A *HOUSE PHYSICIAN* and a HOUSE SURGEON are required as soon as possible

The salary for each appointment is £175 per annum with *board residence* and laundry allowance Candidates must be fully qualified registered and unmarried.

Applications stating age nationality qualifications and experience, to be sent to the undersigned with copies of not more than three recent testimonials

E. L. GRIST
July 7th 1930 Secretary

Warrington Infirmary and DISPENSARY

The Board of Management invite application for the post of JUNIOR HOUSE SURGEON (male unmarried). Vacant *owing* to promotion of present occupant. *Applicants* who must be of British nationality must be duly qualified Medical Practitioners.

Salary £175 per annum *with board* apartments and laundry Applications stating age *with copies of three recent testimonials should be sent in not later than July 15th.*

By Order
HENRY L. BOOT
Superintendent and Secretary

July 7th 1930

Royal London Ophthalmic HOSPITAL

(MOORFIELDS EYE HOSPITAL)
City Road London E.C.1.

TWO OUT PATIENT OFFICERS

Applications are invited for the post of Out patient Officer to attend on two mornings *each week as follows*

Tuesdays and Fridays
Wednesdays and Saturdays

Candidates must be registered Medical Practitioners Salary at the rate of £100 per annum The Out patient Officers will be appointed for a period of one year and will be eligible for reappointment

Copies of regulations governing the appointment can be obtained on application

Application with testimonials stating age and qualification must be received not later than July 19th by

ARTHUR J. M. TAPRAY
Secretary

Royal United Hospital, Bath

Wanted a HOUSE PHYSICIAN Salary £120 per annum

The appointment will be for not less than six months and candidates must be male unmarried and of British nationality

Applications with three testimonials must be addressed to the undersigned.

J LAWRENCE BEARS
Secretary Superintendent

Royal United Hospital, Bath

Wanted at once an ASSISTANT HOUSE SURGEON Salary £120 per annum

The appointment will be for not less than six months and candidate must be male unmarried, and of British nationality

Applications with three testimonials must be addressed to the undersigned.

J LAWRENCE BEARS
Secretary Superintendent

Free Eye Hospital, Southampton

The Committee require the services of a duly qualified HOUSE SURGEON to enter [illegible] immediately Salary £150 per annum board residence and laundry Applicants must have had Post Graduate experience in ophthalmology Application with three recent testimonial to reach the Secretary by Wednesday July 16th.

Darlington General Hospital

(120 Beds.)

Wanted, LOCUM HOUSE SURGEON qualified male Applications with copies of two recent testimonial to be addressed to the undersigned forthwith

A PIDDLE Secretary

Royal Infirmary, Wigan

(180 Beds.)

HOUSE SURGEON required for a period of six months Salary £150 per annum with board residence and laundry Application stating age qualifications etc together with copies of three recent *testimonials* to be forwarded immediately to the undersigned.

A STANLEY BRUNT
July 8th 1930 Gen Supt Secretary

The Royal Infirmary, SUNDERLAND (290 Beds.)

Wanted HOUSE SURGEON (male) Salary £140 per annum with board residence and laundry

Applications, stating age qualifications and accompanied by copies of testimonials to be sent to the undersigned

S. C. FFYERS
House Governor & Secretary

The Sheffield Royal Hospital

HOUSE SURGEON to the Ear Nose and Throat Department *also RESIDENT ANAESTHETIST required (males).* Salary for the first six months at the rate of £80 per annum afterwards £100 per annum with board residence which £100 per annum with board residence and laundry There are twelve resident medical officers Applications should be forwarded to the undersigned

W H BOOTH
Superintendent and Secretary

Warneford General Hospital, LEAMINGTON SPA

RESIDENT HOUSE PHYSICIAN required on August 1st Salary at the rate of £165 per annum with board and laundry Applicants and copies of testimonials from qualified and registered practitioners should reach the undersigned by July 22nd

W RUSSELL TODALL
House Governor and Secretary

St Bartholomew's Hospital,
ROCHESTER
(126 Beds)
Rochester, Chatham, Gillingham, & District

The House and Finance Committee invite applications for the post of HOUSE PHYSICIAN, vacant on October 1st
Candidates must be unmarried, qualified and registered medical men The appointment is for six months, and the salary is at the rate of £175 per annum, with board residence, and laundry The officer appointed will have charge of the medical beds Some knowledge of Ophthalmic work is desirable
Applications, stating age qualifications and experience accompanied by copies of three recent testimonials to be sent to the Secretary not later than July 24th Canvassing the Honorary Staff will disqualify

St Bartholomew's Hospital,
ROCHESTER.
(126 Beds)
Rochester Chatham, Gillingham, & District

The House and Finance Committee invite applications for the post of THIRD RESIDENT MEDICAL OFFICER to act as Casualty House Surgeon and who will assist the Orthopaedic Surgeon which will become vacant on September 1st
Candidates must be unmarried, qualified and registered medical men The appointment is for six months. Salary at the rate of £175 per annum with board residence, and laundry
Applications stating age, qualifications experience etc accompanied by copies of three recent testimonials must be received by the Secretary not later than July 24th Canvassing the Honorary Staff will disqualify

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION,
GLOUCESTER
(153 Beds)

Applications are invited for the post of RESIDENT SURGICAL OFFICER Good opportunity for practical surgery Salary £175 per annum, with board residence, and laundry Also for HOUSE PHYSICIAN, salary £135 per annum There are four residents
The appointments are for six months which may be extended for similar periods by re election from time to time
Applications, stating age qualifications and nationality with copies of not less than three recent testimonials should be sent to the undersigned at once

F J SYMONS
July 3rd 1930 Secretary

Stockton and Thornaby Hospital,
STOCKTON ON TEES
(140 Beds)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months Duties to commence on or about August 1st
Salary £150 with board residence and laundry Candidates must be duly qualified, and unmarried
Applications stating age nationality and experience together with copies of three recent testimonials to be sent to the undersigned

J WILKINSON Secretary

Stroud General Hospital,
STROUD GLOS

HOUSE SURGEON required to commence duty on August 8th Salary £150 per annum with board lodging and washing The appointment is tenable for six months, but application may be made for an extension of this period Candidates must be registered according to the provisions of the Medical Act
Applications stating age nationality etc together with copies of three recent testimonials to be sent to the undersigned

C LORD SPENCER
Secretary

Swindon and North Wilts
VICTORIA HOSPITAL

Wanted a RESIDENT MEDICAL OFFICER (male) Salary £125 per annum with board, residence and laundry Candidates must be registered under the Medical Act Appointment for the minimum of six months Applications, stating age etc and accompanied by copies of not more than three recent testimonials should be sent to the undersigned

A OAKLEY Secretary

Huntingdon County Hospital

MALE HOUSE SURGEON required at once Salary £125 with board residence and laundry MRS W R CROSS MD

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Rochdale Infirmary and
DISPENSARY
(110 Beds)

Wanted JUNIOR HOUSE SURGEON (male), Salary £175 per annum, including board residence and laundry Applications stating age, nationality etc, together with copies of three recent testimonials, to be sent to the Secretary endorsed "House Surgeon" Conditions of appointment may be had on application to the Secretary

Infirmary Office Rochdale Lancs W WYNNE Secretary

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Western Australia — Coast town £700 p a Ample scope for surgery, which Vendor has refused Good house, 4 bed, garden, etc —No 8693

Essex Suburb — Average over £1 100 Panel 800 Very little mid wifery, ample scope Fees 3/6 to 7/6 House, 4 bed etc, and separate surgery —No 8690

Central Wales —£1,300 Panel and appts £400 Very little mid Large house, low rent Beautiful scenery —No 8689

London, N —£1,700 p a Panel 1 300 Densely populated area Great scope Fees up to 5/ Prominent but small house to rent —No 8688

London, S E —Woman's Practice About £600 Panel 220 Fees 5/6 to 21/ Scope for midwifery and increase Ground floor flat —No 8686

Within 45 miles of London — Old estab unopp PRACTICE About £1 000 p a Panel 700 Appts £130 Fees 3/6 to 10/6 House 5 bed, tennis, good garden, to rent —No 8685

South Coast Resort —£6,000 p a Non panel One fifth share increasing to one third in 2 years Fees 7/6 to 21/ Choice of houses —No 8682

London, S E Suburb — About £350 Panel 50 Fees 3/6 to 7/6 Detached house in own grounds over half acre Rent only £100 on long lease —No 8681

S Devon —Average £1,600 p a Panel over 2 000 Fees 3/6 to 5/ Large house in residential locality, 5 bed, 3 attics, 2 recep, etc —No 8678

Essex Suburb —Near Country — 1/2 share of £2 500 Great scope Panel about 1 550 Suit man or woman. House or flat —No 8619

London, N W —Nucleus About £250 p a. Panel 150 Densely populated locality 10 roomed house, part sublet Premium £350 —No 8667

S W County —Near Sea —Share worth £700 ample scope Very little mid Visits 5/ to 4 gns Choice of houses Ample scope —No 8666

London, W —Electrical & X-ray —£1 500/£2 000 Fees 21/ up House in good locality on lease Low prem —No 8665

Harrogate — Death Vacancy About £700 p a Panel over 500 Clubs, etc about £80 Fees 3/6 to 21/ Good house, 5 bed etc Practice and house £1 250 — No 8664

London, S W — £2,000 p a Non panel 12 mids 5 gns up Visits 5/ mostly, and up to 10/6 or over Large house and garden to rent —No 8655

Cambs —Over £800 —Old-estab unopposed Panel 475 Appts. £90 Fees 3/6 to 7/6 Large house 5 bed and garden at low rent —No 8654

S Wales — Death Vacancy — £700 p a, largely colliery Panel 700 Small house low rent or price Premium £500 or near —No 8651

Lancs Town —£2,500 p a Panel 1,800 Ins £120 Two houses available with 5 bed etc Good opportunity for two friends —No 8645

Berks — About £1,000 p a Panel 555 Visits 5/ to 10/6 or more No mids, ample scope Small house, with surgery —No 8641

S W County — Seaside Resort About £600 p a Panel about 600 Fees 3/6 to 5/6 and up Good house 2 recep 5 bed garden garage etc to rent —No 8638

Northants County —Partner or Assistantship with early view 1/2 share of £1 200 p a Panel over 550 Unusual scope and ultimate succession Single man preferred —No 8622

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants

Full particulars on application to Mr Percival Turner

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LONDON S W —Well established growing PRACTICE with scope. Situated on main road House to rent on lease Branch. Receipts over £600 Panel nearly 400 Premium 1½ years purchase

LIVERPOOL—Middle and working-class rapidly growing PRACTICE situated in centre of city Rec ipts £1,150 Panel 1 600 Fees 1/6 to 5/ Mid 2 gns up Premium £1 600 cash

NORTH WALES PRACTICE.—ASSISTANTSHIP with view to purcha e Salary £250 (indoor) Receipts over £700 I nel £300 I a Appointment Hospital House to rent Nice country sp rt of all kinds Welsh not essential. Premium £800 Terms consid r d

KENT COAST —PARTNERSHIP in old-established non-dispensing non panel Practice Fees 5/ to 1 gn Suitable house available Receipts nearly £3 500 One third share for disposal with view to half at 2 years purchase. Suitable only to well-qualified man of sound experience and good address

SOMERSET —PARTNERSHIP in well-establi hed Country Practice on D von Borders with excellent scope. Highly suitable for experienced man fond of country life Sport of all kinds. Guaranteed share worth £750 at 2 years purcha e.

SOMERSET N —Seaside Resort.—Well-established NUCLEUS PRACTICE. House to r nt or for sale (5 bedrooms) large gard n and garage. Receipts £500 Panel 800 (increasing) Premium £750 or n ar offer

SURREY —Within easy distance of London Middle-class PRACTICE Fo sell at hou e for sale or rental. Receipts £570 Panel over 200 Pr mium £900

LONDON N —NUCLEUS G.P situated in residential locality Excellent scope. Receipts £500 Panel over 100 House for sale or rental. Pr mium £700

LONDON S E.—PARTNERSHIP in growing middle and working-class G P Suitable hou e available for rent Earnings approximately £4 600 Panel 3 400 One third share is offered at 2 years purchase

LONDON S W —Old-established middle-class G P Corner house with accommodation to rent at £115 p a. on leas Panel 360 Re ipts £1 060 Premium 1½ years purchase or near offer Scope

LONDON E —Middle and working-class locality Co fair d house to rent on lease Branch surgery Receipts average £1 350 Pan l 676 Premium 1½ years purchase.

LANCS —Good-class non panel G P situat d in residential di trict. Receipts over £1,500 (average £1 179) Suitable hous available to rent or for sale Scope for surgery especially Eyes and E N and T work Suitable for a F R C S Premium £1 200 cash

GLOS —Well established non-dispensing G P situated in good sized town Receipts £820 Panel 550 Hou e to rent or for sal Prem m £1 050 A long Partnership in reduction would be con ide ed. Suitable for either sex.

YORKS —Spa Town Well-establi hed G P with choice of two re den s to rent. Receipts approx £600 p a. Panel 500 Several appointments Premium £1 050

NORFOLK (Cathedral City) —PARTNERSHIP in good-class non panel G P Receipts over £4 400 per annum. One-fourth share now off red with view to larger share at 2 years purchase. Suitable to a Physician young and preferably single.

GLOS —Well-established middle and working-class PRACTICE. Medium sized freehold house with grounds Receipts average £1,270 p.a. Panel 1 100 Fees 2/6 up Premium for house and Practice £2 500

LONDON S.E.—Middle and working-class G P in residential locality House to rent. Receipts approx £1 100 Panel 600 Premium £1 500 cash.

KENT —Favourite Seaside Resort —DEATH VACANCY —Old-establi hed good-class non panel and non-dispensing PRACTICE Fees 5 to 1 gn Prominent house to rent or for sale (7 beds.) Receipts average £3 030 Premium £3 500 or offer

LONDON E.13 —NUCLEUS working-class PRACTICE, in thickly popu lated locality House to rent £60 p.a. (part sublet at £25 p.a.) Receipts £500 Panel 400 Fees 1/6 up Mid 2 to 3 gns Premium £600 or near offer

MIDDLESEX, N.—NUCLEUS middle-class residential PRACTICE situated in rapidly developing locality Modern house to rent or for sale (4 beds) Fees 3/6 up Mids 5 to 15 gns Receipts (average) £290 Panel 145 Excellent scope. Premium £300

MIDDLESEX (W) —Middle and working-class PRACTICE in rapidly growing district. Splendid scope. Medium-sized h use. Receip s £735 Panel 220 Fees 3/6 up Hospital. Premium £1,100

MIDDLESEX (W) —PARTNERSHIP (Junior) in growing mixed Practice resid ntial district Hospital Receipts nearly £6 500 Pan l 750 A 1/8 or 1/7 share with view to larger share is off red at 2 years purchase. Excell nt opening for young energ tic man

BEDS —PARTNERSHIP in Town Practice Receipts approx £1,300 p a Panel 1 760 Half share for disposal with view to Succession at 2 years pur hase Preliminary a sistantship entertained

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No Charge to Purchasers All Business receives Mr NEEDES personal attention

1. SURREY —Good-class PRACTICE of £1 800 p.a. in an attractive Riverside Suburb Panel and appts. £600 Very desirable house and gardens on long lease at £120 Vendor retiring after many years will give three months' introd. Premium to include lease £3,500
2. ORTHERN HEIGHTS —PRACTICE estab 25 yrs in pleasant residential locality for sale owing to ill health Average over £600 Can be extended Panel 250 Well built corner house with all conveniences, gard n and garage. Leasehold for sale. Premium for Practice £900
3. HANTS —Unopposed PRACTICE of over £700 with panel and appts situate in a good social and sporting district Pleasant old world residence with central heating electric, garden garage etc Fhold £2 000 Goodwill £1 000 Personally known
4. LANCS —Good middle-class PRACTICE in Town of 45 000 and worth £1 200 with panel of 900 House in residential area slightly opposed with garage. Price £1,100 or might be rented. Premium 1½ years
5. LONDON N W —Very old-estab PRACTICE at present run as a Lock up returning with 3 hours daily attendance £700 a year mostly panel Capital house in excellent main road (freehold) for sale. Capable of great extension by resident man
6. IN A CHARMING Country Town within 30 miles old-estab PRACTICE, returning last year £800 incl panel of 500 Held over 30 years Good society Suitable residence available. Scope for younger man of ability
7. Near MANCHESTER—Est 9 months Pop 28 000 Private £322. Panel about 350 House on main road with acre of garden and garage rent £52 Price only £300
8. REQUIRED —PARTNERSHIP or PRACTICE returning £1 000 upwards in or around London or Town on South Coast
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1. MANCHESTER (Suburb) —Lock up Surgery Industrial PRACTICE. Receipts £350 Panel 600 and increasing
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3. LANCASHIRE. — Well-estab middle and better-class PRACTICE. Receipts £988 panel 900, both increasing Appt £30 p.a. transferable. Good house and garage.
4. MONMOUTHSHIRE.—Well-estab progressive middle and working-class PRACTICE. Receipts £751 Panel 700 Good house garage and garden
5. WEST MIDLANDS.—Well-estab PRACTICE in market town and agricultural district Receipts £1,572. Panel 500 Appts. worth £118 Good house. Garage and all conv
6. YORKSHIRE.—Large County Borough.— Well-estab working and middle-class PRACTICE. Receipts over £1,500 p.a. and steadily increasing Panel about 1 700 Good house to rent.
7. WEST COUNTRY —SEAPORT TOWN (Residential district) — Well-estab. upper and middle-class non-dispensing PRACTICE. Receipts average £1 433 p.a. Panel 353 not encouraged but considerable scope if desired. Good fees and house.
8. DEATH VACANCY —NORTH WALES COAST Good-class PRACTICE. Estab 2 years. Receipts £1,200 and increasing Small panel not encouraged but scope. Good modern house to rent or purchase.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

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MENTION B M J

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(FOUNDED 1880)

12, Stratford Place,

Oxford Street, W.1.

Tele Address Triform Wesdo—London

Telephone Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION has every confidence in recommending its members to consult Mr A V STOREY, the General Manager, in all transactions requiring the services of a Medical Agent

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The business undertaken by the British Medical Bureau is divided under the following heads —

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partnership unopposed PRACTICE to negotiate the business through the British Medical Bureau Vendors may depend upon Panel 700 Appts intro ductions only to eligible and bona-fide purchasers All information is treated in 5 bed, tennis, garage.

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t Resort —£6,000

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RESIDENT PATIENTS

Medical Men wishing to receive Resident Patients should enrol their names on the Registers of the British Medical Bureau A large number of Patients are placed yearly through this medi Fees lists

ACCOUNTANCY

The British Medical Bureau has its own staff of fully qualified Accountants wholly Engaged on medical work—i e , Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc

Practices and Partnerships for Disposal — **Full particulars sent free**

1 ISLE OF MAN —Non-dispensing Practice in small Seaside Town Receipts average £946 (including £350 from panel) Small compact house (5 bedrooms), with nice garden for sale Sport. Premium—Practice and house—£2 000

2 SOUTH OF ENGLAND —Partnership in good class non-dispensing Practice, £6,000 p a , in attractive watering place No panel. House (3/4 bedrooms), garage and garden to rent One-fifth or one-fourth share at 2 years purchase Partner should be 35 40 years of age and hold F R C S England.

3 MIDLANDS —Practice, over £1,700 p a , in important City Panel 1,570 Centrally situated house (7 bed and dressing rooms) with garage and garden, for sale. Scope for increase Premium £2 250

4 S W OF ENGLAND —Country Practice near the Coast Receipts £1,628 p a. Panel 400 Very attractive (modernised) house (6 bed and dressing rooms) in grounds of 4 acres electric light for sale Cottage Hospital Premium £2 400 to include drugs etc , etc

5 LONDON, S E —Partnership in Practice £6 600 p a in outlying Suburban District Panel 2 000 Premium one-sixth share 2 years purchase

6 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London Good house (6 bedrooms) to let Share worth about £1 500 p a for disposal Partner should be aged 35 40 and married

7 MIDLANDS — Partnership in Practice over £4 100 p a in flourishing town Panel nearly 3 000 House (3 bedrooms) to rent One fifth share 2 years purchase Preliminary assistantship Applicant must be married or about to be

8 MIDLANDS —Partnership in Practice in Market Town Partner should be *young and unmarried*, and preferably keen on radiology and the biochemical side of medicine. Share worth about £800 p a at 2 years purchase

9 HOME COUNTIES — Partnership in Practice £2 690 p a , in growing and prosperous town Panel 950 Excellent scope Premium, one third or two-fifths share, 2 years purchase

10 SURREY —Increasing Practice in developing part of residential district half an hour from London Income past year nearly £500 Small panel Modern freehold corner house (5 bedrooms) garden and garage, for sale Good scope Premium £475

11 LONDON N W —Practice of between £1 100 and £1 200 p a in suburban district Panel 650 Corner house (4 bedrooms) for sale Scope Premium 1½ years purchase

12 HOME COUNTIES — Partnership in Practice nearly £3 500 p a., in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi detached corner residence (6 bedrooms) garage and garden, for sale. Premium one-half share, 2 years purchase.

13 CHESHIRE —Partner required in increasing better class non panel Practice in first-rate residential district Cash receipts past year over £4,500 A University Graduate who must have held Resident Hospital appointments preferred One fourth share at 2 years purchase.

14 LONDON, S W —Practice about £630 in suburban district within half an hour of Charing Cross Panel about 400 House to rent on lease Very good scope Premium £900

15 LIVERPOOL — Practice in populous district Receipts, 1929, £1 850 Premium 1½ years purchase

16 MIDLANDS —Fourth Partner required in good middle-class non-dispensing Practice £8 000 p a in prosperous town Very small panel Small house to rent One sixth share at 2 years' purchase Partner should be aged about 30 and well qualified.

17 LANCASHIRE —Practice in rapidly growing district near coast and popular resort Receipts last year £1 183 Panel 260 about Very nice compact freehold house (4 bedrooms, electric light, etc.), *with beautiful garden for sale.* Premium for Practice £500

18 WEST MIDLANDS --Practice about £1,050 p a in residential country district Panel over 600 Excellent house (5 bedrooms) with electric light etc garage and 3 acres land for sale or rent Premium 1½ years purchase

19 YORKSHIRE (N R) —Practice £920 p a in small attractive *Country Town* Panel 450 Good house (5 bedrooms) garage garden etc., for sale or rent Very good trout fishing Premium £1 250

20 LONDON, S E —Partnership in increasing middle class Practice £4 600 p a. in suburban district Panel 3 300 Premium one third or one-fourth share 2 years purchase Partner aged about 30 with experience in minor surgery

21 SOUTH MIDLANDS — Practice over £1 200 p a in Market Town Panel 900 Pleasantly situated house (6 bedrooms) with good garden, for sale Scope Premium 1½ years purchase

22 SOUTH MIDLANDS — Practice of £756 p.a. in County Town Small panel Large freehold house (9 bedrooms) garages, and garden, for sale Good hospital Premium 1½ years' purchase.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880)

12, Stratford Place,
Oxford Street, W.1

Tele. Address Triform Wesdo—London
Telephone Mayfair 1782 1783

Practices and Partnerships for Disposal (continued)

23 LONDON, N.—Practice about £1,700 p.a. in thickly populated district. Panel 1,300. Corner house (2 bed rooms) to rent. Considerable scope. Premium 1½ years purchase.

24 SOUTH COAST.—Non-dispensing Practice about £550 p.a. in popular resort. Small panel. House (5 bedrooms) with garage to let. Plenty of scope. Prem. £500.

25 LONDON, S.W.—Good-class non-panel PRACTICE in pleasant residential outlying suburb. Receipts formerly about £1,500 p.a. House in good position. Premium based on results.

26 HOME COUNTIES.—Country Practice over £1,200 p.a. in agricultural district. Panel over 800. Excellent detached house (5 bedrooms) garden and paddock for sale. Hunting, shooting. Premium 1½ years purchase.

27 SOUTH-WEST OF ENGLAND.—Practice averaging £1,666 p.a. in export town. Panel over 2,000. House with 5 or more bedrooms for sale. Premium £2,500.

28 YORKSHIRE (W.R.).—Practice nearly £1,500 p.a. in manufacturing town. Panel about 750. Good house with nice garden to rent or purchase. Premium 1½ years purchase.

29 KENT AND SURREY BORDERS.—Practice about £800 p.a. in growing and pleasant residential district. Choice of residence for sale. Good scope. Premium £1,200.

30 LONDON, W.—Good middle-class non-panel PRACTICE £1,160 p.a. in Western suburb. Attractive detached house (8 bedrooms including attics) for sale. Considerable scope. Premium £1,150.

31 S.E. COAST.—Practice of nearly £1,100 p.a. in favourite Health Resort. Panel 500. House (5 bedrooms) for sale. Good scope. Premium £1,500.

32 SOUTH-WEST OF ENGLAND.—Partnership in increasing middle-class Practice of about £2,500 in seaport town. Panel 870. One-fourth or one-third share at 2 years purchase. Preliminary Assistantship.

33 LONDON, S.W.—Partnership in non-dispensing Practice about £3,300 in first-rate residential suburb. Small select panel. Hospital. Premium one-third share 2 years purchase.

34 SOUTH COAST.—Practice nearly £900 in favourite watering-place. Panel about 200. House (5 bedrooms) in good position for sale. Scope in all directions. Premium to effect quick sale only £600.

35 OPHTHALMIC PRACTICE in good Town 30 miles from London.—Receipts past twelve months £407 (one day a week only). Hospital. Premium £800.

36 SOUTH WALES.—Seaport Town.—Non-dispensing PRACTICE of £1,300 p.a. Small panel. Pleasantly situated house (5 bedrooms) garden and garage for sale or rent. Premium £1,500.

37 EASTERN COUNTIES.—Country Practice £1,200 p.a. in agricultural district. Panel 485. Very nice house (6 bedrooms) electric light, garage and garden (over acre) for sale. Premium 1½ years purchase.

38 EAST MIDLANDS.—Practice of £2,600 p.a. in good town. Panel 1,750. Very good house (8 bedrooms) nice garden and garage to rent. Hospital. Premium 1½ years purchase.

39 NEAR EAST.—Practice, with some major Surgery if desired. Good Hospital. Two appointments. Low premium for quick sale.

40 YORKSHIRE.—Partnership in Practice £2,300 p.a. in seaside town. Panel over 900. Double-fronted house (8 bedrooms) for sale. Premium two-fifths or one-half share 1½ years purchase.

41 WEST OF ENGLAND.—Assistant required (with view to Partnership) in busy Town and Country Practice of £1,700 p.a. Good Hospital. Two-fifths share at 1½ years purchase to suitable man (English or Scotch).

42 SOUTH COAST.—Small easily worked PRACTICE of £410 p.a. in fashionable Health Resort. No night work or midwifery. Large house. Premium—house and Practice—£6,000.

43 LONDON, E.—"Lock-up" Practice averaging £876 p.a. Panel about 275. Rent recovered by sub-letting. Long lease. Premium £1,100.

44 ESSEX.—Country Practice £400 p.a., near coast, no panel. Pleasantly situated house, garage and garden. Ample scope. Premium—house and Practice—£1,100.

45 SOUTH AFRICA.—Old-established Practice of over £1,800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5,000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1,200 or offer.

46 ESSEX.—Partnership in Practice nearly £1,800 p.a. in rapidly developing neighbourhood. Panel about 500. Choice of two houses. Prem. two-fifths share 1½ years purchase.

47 NEAR OXFORD.—Country Practice of just over £1,000 p.a. in hunting centre. Panel 1,700. Good house with modern sanitation, excellent garden and paddock to rent. Premium £1,500 to include drugs and fittings.

48 WEST HAM.—Practice (carried on by Medical Woman) of about £540 p.a. including small panel. Midwifery. House to rent. Premium 1½ years' purchase.

49 YORKSHIRE (W.R.).—Practice averaging £1,700 p.a. in manufacturing town. Panel 1,750. House (4 bedrooms) garage and small garden for sale. Scope. Premium 1½ years purchase.

50 WEST MIDLANDS.—Partnership in Practice of about £2,850 p.a. in country town. Panel 1,700. Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre. Premium one-half share 2 years purchase.

51 MEDITERRANEAN RESORT.—Partnership in good-class non-dispensing Practice of between £1,300/£1,400 p.a. Suitable flat to rent. Premium one-half share £960 with succession to whole Practice later.

52 DEATH VACANCY.—HARROGATE.—Receipts about £600 p.a. Panel over 500. Well-situated house (6 bedrooms) to rent.

53 CHANNEL ISLANDS.—Practice worth £300 p.a. in a coast town. Detached house (6 bed and dressing rooms) to rent. Premium £500.

54 HOME COUNTIES.—Increasing Country PRACTICE within 30 miles of London. Receipts average over £870 p.a. Panel 493. Detached house (5 bedrooms) garage, and good garden to rent. Premium 1½ years purchase.

55 GLOUCESTERSHIRE.—Country Practice of £550 p.a. in delightful part. Panel 450. Excellent modern house (5 bedrooms) garden and garage for sale. Premium 1½ years purchase.

56 X-RAY PRACTICE in large Town in the S.W. Receipts average £950 p.a. Vendor on Staff of Hospital. Premium £900.

57 LONDON, E.—Cash and Panel Practice (held by Medical Woman) in densely populated area. Receipts £360 p.a. Panel 290. Small house. Rent £50. Prem. £450.

58 ESSEX.—Non-panel Practice averaging over £1,400 p.a. in populous suburban district. Detached double-fronted house with good garden etc. for sale. Scope for increase. Premium £2,000.

59 SOUTH OF ENGLAND.—Partnership in non-dispensing Practice £3,600 p.a. in attractive watering place. Panel about 1,870. Great scope. One-fourth share now and up to one-half later. Premium 2 years purchase. Good prospects for one holding the F.R.C.S.

60 SOUTH-WEST OF ENGLAND.—Practice over £2,000 p.a. in small country town near the coast. Panel 1,080. House (5 bedrooms) with electric light, for sale. Premium 1½ years purchase.

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ALDINE HOUSE,

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Telegrams BOVMEDICAL, WESTRAND-LONDON Telephone TEMPLE BAR 1616 (3 Lines)

Under the personal directorship of Dr J FIELD HALL and J C NEEDES

who have both had many years experience as Medical Transfer Agents

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50)

No charge is made to Principals for the introduction of Locum Tenens or Assistants
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges

1 DEATH VACANCY —SUSSEX COAST —PARTNERSHIP —A one fifth share is for disposal owing to the death of the senior of three partners in a very old established good mixed class PRACTICE the average net income of which (after deducting expenses) is approximately £5 200 p a Panel of 2,000 and good appts produce over £2 000 p a Fees 5/6 to 21/ Good house, with 3 reception 7 bed rooms etc freehold for sale or on lease or smaller house could be obtained Sport of all kinds Premium 2 years purchase

2 NEAR HERTFORDSHIRE BORDER —HOSPITAL TOWN —Old established mainly good class non dispensing PRACTICE averaging about £1 200 p a Panel of 500-600 Fees 5/- to 10/6 Nice house in centre of town Price for freehold £1 200 part on mortgage Premium £1 800 £1 300 down and balance by instalments Up to date Cottage Hospital and good scope for surgery

3 YORKS —PARTNERSHIP —Within a few miles of large residential town the HALF SHARE of old-established unopposed country PRACTICE owing to retirement of senior partner through age and in different health Cash receipts for past three years average over £2 500 p a, including appointments and panel of 1,200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on. Price freehold £1,200, part on mortgage Premium 2 years purchase

4 SHEFFIELD —Old established mainly better and middle-class non panel PRACTICE Average income £700, but large scope Appointment of £160 Fees 3/, 5/ to 15/ Excellent house with small garden Ground rent £9 Premium for house and Practice, £1,250

5 WEST OF ENGLAND —In a small pleasantly situated town amidst beautiful surrounding country, old established PRACTICE. Income nearly £1 350 p a, including panel of 900 Visits 5/ to 21/ Little midwifery Very attractive house in own grounds of 2 acres, 3 large professional rooms (separate entrance), 2 reception 5 bed rooms, bathroom, etc. Vendor's freehold Price £2 400 (£1 800 can remain on mortgage) Premium £2 000 Good society, etc.

6 PEMBROKESHIRE.—Prosperous Town —Well-established mixed general PRACTICE Income £1 000 p a Panel of over 700 Fees 3/6, 5/, 7/6 No midwifery Large house with garden Freehold price £1,600, or to rent £100 p a Premium £1 500

7 SOUTH WEST OF ENGLAND —PARTNERSHIP —In a large thriving seaport town the third share (with increase to half later) of old established rapidly increasing middle-class Practice Receipts average £2,272 p a (last year £2 549), including panel of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase Scope for surgery

8 YORKSHIRE —GOOD TOWN —PARTNERSHIP —A one half share (guaranteed to produce £2 000 p a in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4,000 Small selected panel of 430 One appointment worth nearly £650 p.a. Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years' purchase

9 BEDS —DEATH VACANCY —Unopposed mixed PRACTICE Income £350 p a but good scope Panel of 500 Fees 2/6 3/6 upwards Small centrally situated house 4 bedrooms, etc Rent £14 p a Premium £350 Locum in charge

10 NORTH LONDON —Old established good mixed-class PRACTICE producing about £1 600 p a Panel of 1 000 and appts worth about £300 p a Fees from 2/6 No midwifery but scope if desired Moderate expenses Good corner house with 2 reception 5 bedrooms, etc Small garden Price for freehold £1,750, or might be rented Premium 1½ years purchase

11 PLEASANT CATHEDRAL CITY, within 200 miles North of London — Old established mixed-class PRACTICE averaging £1 600 p a including £800 from panel and over £100 from clubs Visits 5/ up wards (occasionally 2 gns) Very little midwifery from 2 to 5 gns large attractive house with garden Rent £80 Prem 1½ yrs pur

12 ESSEX —Unopposed PRACTICE in very pleasant agricultural district, averaging £872 p a including panel of nearly 500 and appts worth £140 Fees 3/6 to 10/6 Mid 3 to 6 gns (about 12 cases) Commodious house with 2 reception 5 bedrooms and good professional accommodation Large garden Garage Rent on lease £60 Good sport and schools within reach Premium 1½ yrs pur

13 LANCS —Pleasant Town near open country —Well established middle and better-class PRACTICE Cash receipts last year over £980 including panel of 900 Visits 3/6 to 7/6 medicine extra Mid 2 to 10 gns (about 20 cases) Suitable house with 2 reception 4 bed rooms etc Price for leasehold £1 100, £600 on mortgage Premium 1½ years purchase part by instalments

14 CLOS — COUNTRY PRACTICE — Old-established PRACTICE in picturesque surroundings averaging about £1 250 p a including panel of over 1 100 Visits from 3/ Commodious house with 3 reception 6 bedrooms etc Garden Garage Price for freehold £1 500 £1 000 on mortgage. Premium £1,850

15 WEST OF ENGLAND—(Within 100 miles of London)—PLEASANT TOWN —Old-established mixed general PRACTICE Average income for last 2 years about £1 250 including panel of 1 200 Fees 2/6 to 6/ and a few at 10/6 Little midwifery Excellent house recently redecorated with ample accommodation Garden Garage Good sport and schools Premium for Practice and house £4 500

16 NORTH LONDON —Old-established good middle class PRACTICE held by Vendor 25 years Gross cash receipts for immediate past twelve months £2,311 Selected panel of about 250 Fees from 5/ upwards Mids. from 7 gns (only few cases) Very good corner house non basement with 3 reception, 5 bedrooms, etc Price for leasehold £1,800 Premium only £3 000

17 CORNISH RIVIERA —Old established good mixed PRACTICE in exceptionally attractive village which is steadily increasing Receipts for last 12 months £1 300 including panel of over 400 Visits 5/ to 21/ Excellent house facing due south with 6 bedrooms, etc Good garden Rent on lease £56 p a. Premium £1 800

18 LONDON, SOUTH WEST —Very old established non residential PRACTICE, averaging about £4,000 p a Panel of 1,500, but large scope for more Fees 2/6 upwards. Suitable house or flat can easily be obtained to meet purchaser's requirements Rent of surgery on long lease £100 p a. Premium 1½ years purchase

19 LANCS —LARGE TOWN —Very old-established good industrial class PRACTICE, producing £2 600 p a. including panel of 1 804, and appts worth about £120 p a. Fees 2/6 upwards Very suitable for two friends in partnership as two houses available Good sport and schools Premium 1½ years purchase A one-half share will be offered with view to succession in six or twelve months if desired

20 CHESHIRE.—Industrial Town within easy reach of Manchester — Well established PRACTICE producing £2 600 p a. with panel of 2,870 Fees 2/6 to 3/6, medicine extra. Good house, with ample accommodation Price £1 000 or would be rented at £70 p a Premium 1½ years purchase half down and balance by instalments

21 SOUTH WEST OF SCOTLAND —COAST TOWN —Old established non dispensing, good mixed PRACTICE. Income for the last year £1,100, including panel of 400 and increasing Fees 2/6 to 2 gns Good house, with 2 reception, 5 bedrooms, etc, rent on lease £42 p a, or could be bought for £1 300 Premium £1 000

22 SOMERSET COAST —PARTNERSHIP —In a small increasing seaside resort, the five twelfths share of a very old-established PRACTICE, producing last year £1,600, but offering exceptional scope Panel brings in £480, and appointments Visits 5/ to 4 gns. Mid 4 to 6 gns only about 12 cases yearly Choice of 2 suitable houses (price freehold £950), with gardens Electric light and gas Premium 2 years purchase

23 SOUTH DEVON —COUNTRY PRACTICE, steadily increasing and situated in very pleasant agricultural district, within easy reach of coast Gross cash receipts for past 12 months £2 326 Panel produces with mileage about £420 Fees 3/6 to 21/ Only about 20 cases of midwifery from 2 to 5 gns Suitable house, in main street, with 2 reception, 5 bedrooms etc Garden Garage Rent on lease £50 p a Good sport Premium £2 800

24 SOUTH OF ENGLAND (Thriving Seaport Town pop over 30,000) — Old established mixed class PRACTICE Income last year £623 but offering exceptional scope Panel of about 430 and 2 small appts Visits 3/6 to 5/ Very attractive residence, with professional rooms, 2 reception, 4 bedrooms, bathroom, etc Pretty garden Garage. Rent on lease £100 p a Premium 1½ years purchase

25 PARTNERSHIP —MIDLANDS —COUNTY TOWN —TWO ONE FIFTH SHARES (suitable two friends or will be sold separately) are offered in a very old established good mixed Practice owing to the retirement of the senior of wo partners Gross cash receipts for immediate past 12 months over £6,900 including panel of 3,400 Fees from 4/ Not much midwifery Good house, rent on lease £75 p a Premium for share two years' purchase

26 YORKS (NORTH RIDING) —In a small pleasant market town with pretty and prosperous surrounding country very old-established mixed class PRACTICE averaging £1 247 p a, including appts worth £80 and panel producing last year £366 Visits 3/6 to 25/ One opponent Good house facing south (3 reception 5 bedrooms bathroom etc) Garden. Garage Electric light. Vendor's freehold Price £1 350 (£1 000 on mortgage) or would let for few years at £80 p a. Premium £1,500 Educational and social amenities

27 KENT —Pleasant Seaside and Residential Town (pop 17 000) —Old estab non dispensing middle and working-class PRACTICE averaging for the past 3 years over £1 050 p a including transferable appt worth about £200 and panel of 500 Visits 3/6 to 10/6 House contains 8 rooms kitchen bathroom etc Garden Garage Price freehold £1 500 but might be rented Premium £1 500

28 MANCHESTER —PRACTICE is situated in a growing district offering very large scope Income about £1 700 p a including panel producing £430 Fees 3/6 upwards Excellent detached house well situated with 3 reception 5 bedrooms etc. all in good order Price £1 800 Premium 1½ years' purchase

29 BORDERS OF BERKS AND HANTS —In a delightful district, an old established mixed-class PRACTICE averaging for the past three years £904 p a (last year £973), including panel of 400 Visits 5/ to 12/6 medicine extra (3/6) Very little midwifery One opponent House contains ample accommodation (2 sitting rooms, 7 bedrooms bathroom etc.) Large garden and garage Water laid on and gas plant installed Rent £50 p a Premium £1 400 Excellent sport

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EXCERPT FROM WRITINGS OF THE BYZANTINE GREEK PHYSICIAN, ALEXANDER OF TRALLES —Alexander's work influenced the development of medicine and bears evidence of a truly pioneer spirit in an age of mental stagnation and slavish acceptance of authority His medical writings are based upon Galen, whom he always calls "most divine Nevertheless he supplements and even criticises the treatment prescribed by this high authority when his own wide practical experience forces him to differ In the extract here reproduced he differs from Galen, who in certain cases prescribed 'drying' and 'heating" medicines, such as mithridate theriaca, etc even while he admitted that all the patients thus treated had died Remaining adamant in his opinion Alexander thus apologises for contradicting his master 'Herein is illustrated the truth of the word once spoken by Galen himself of Archigenes, 'He was a man and it is therefore difficult to assume that he never erred

μέμνηται δε και ο θειοτατος Γαληνος ου λιθου ανατμητικου τινος, αλλα γαλαζιου, παραλησια και αλλων τινων αναπτυσσοντων εσπιστα γαρ τη χροα και θερμαζω, πως αυτος ουκ ειπ των εμπυγοντων ηδυνηθη χρησασθαι, αλλα τουτοις μεν εχρησατο μαλλον τη θερμαντικη χυμωτη — τουτο γαρ — Μοσχιωνειος αυτοις παρειχον, ως αυτος — και την αθυμιαν και την επι μαλλον ξηραινειν — συναμενην θηριακην — και πασαις ταις αλλαις απιδιοτοις ταις προ του, ασθματικους αναγεγραμμεναις δια θριμεων τινων και επισπαστων συγκειμεναις φαρμακων ου μονον εφ ενος, ανδρος, αλλα και επι πλειστων εωρακεναι αυτα φησιν ουδενα δε ξυνηθουντα — των τοιουτων παθων, — εκφυγειν τον θανατον, αλλα παντα, απ εσθοι ολιγω πλειονα χρονον η ελαττονα διαρκεσαι ξυνηθεντας αλλ ουτω, αληθες, εστιν εκεινο το λεγθεν υπο αυτου Αρχιγενους, 'ανηρ ην γαρ ανθρωπος και ουτω μη και διαμαρτανειν εν πολλοις, τα μεν ειλως αρτησαντα, τα δε καλως τριψαντα

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JULY 19TH, 1930

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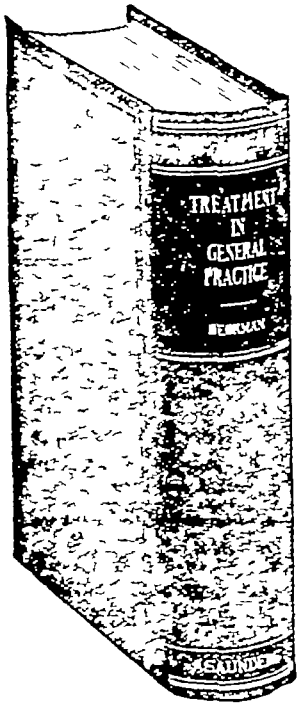
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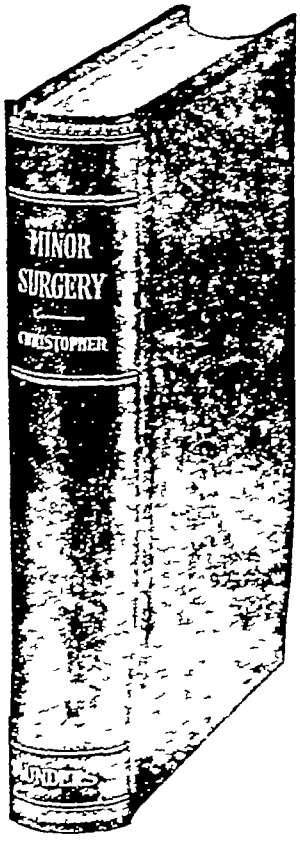
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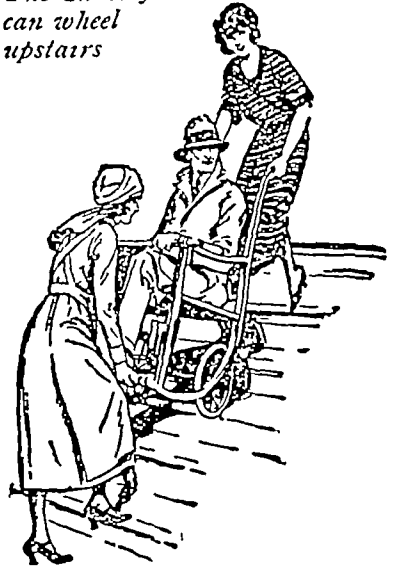
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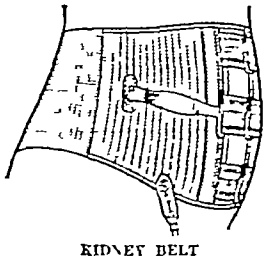
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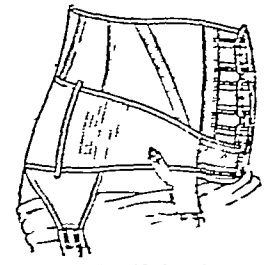
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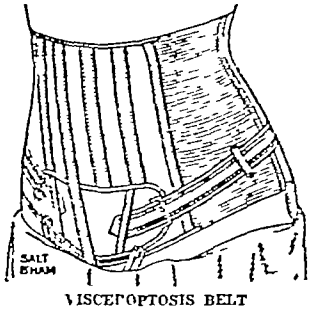
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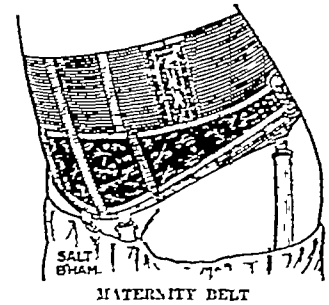
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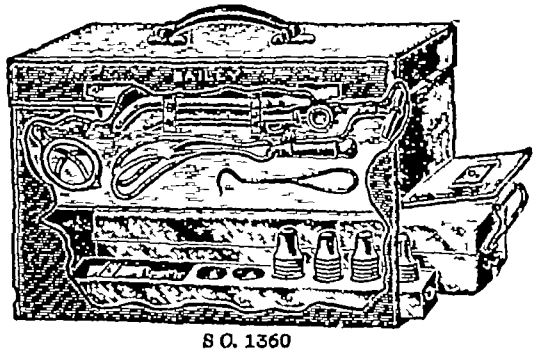
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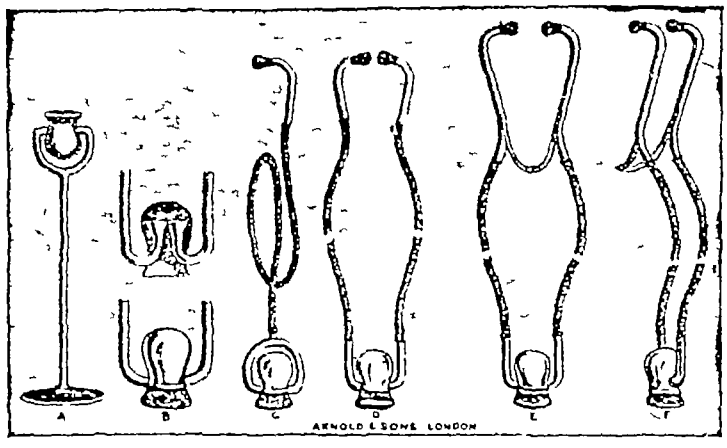


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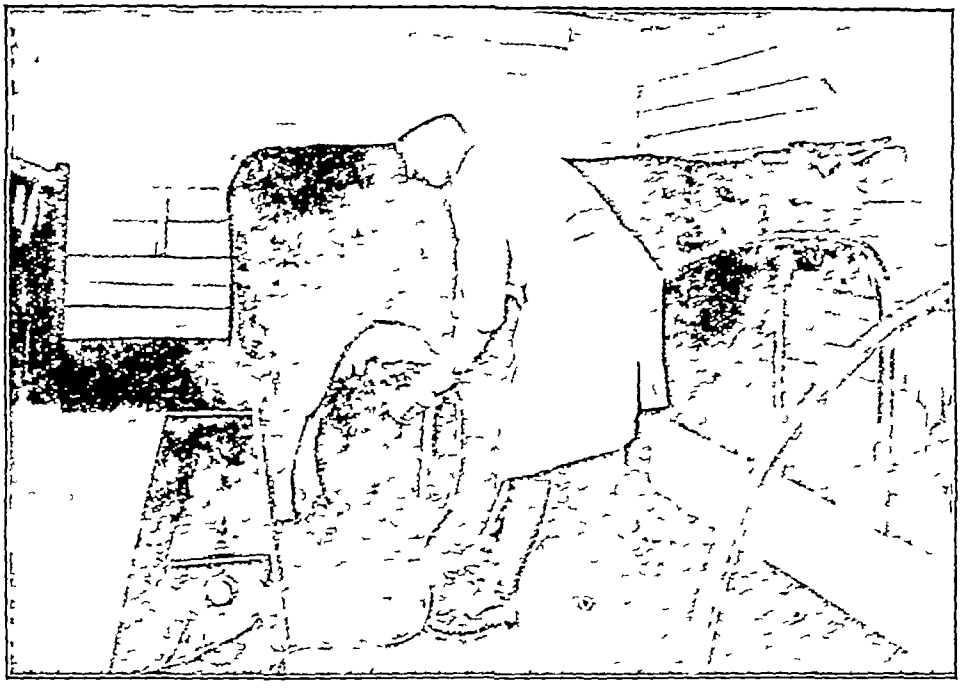
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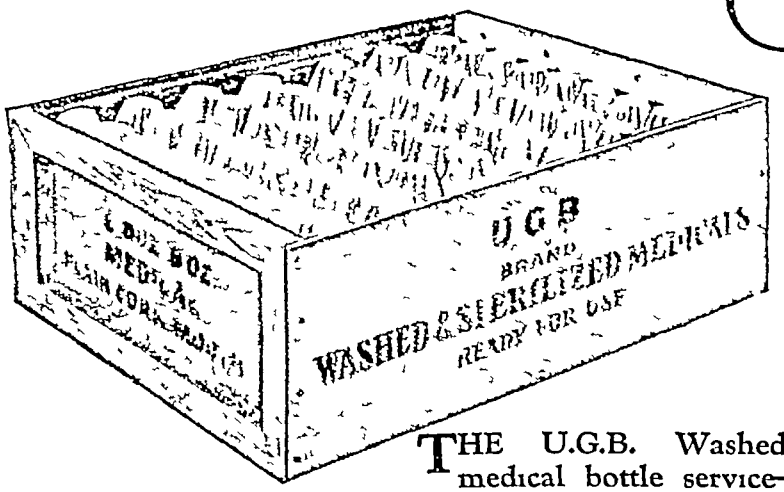
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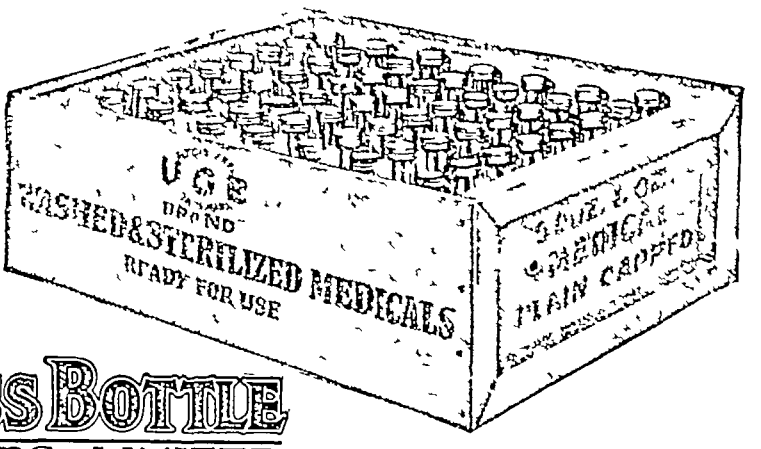
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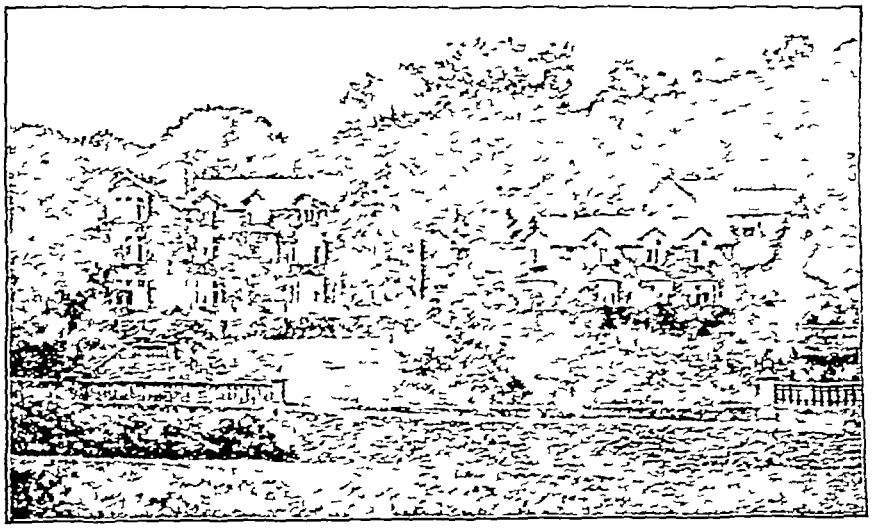
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1 7 in 6-lb Bottles

Aurant @ 2/4 lb
Aurant. Co @ 2/2 lb
Columbæ @ 1/3 lb
Cinchon Acid @ 2/6 lb
Gentianæ @ 1/6 lb
Rhei @ 2/6 lb
Senegæ @ 4/6 lb.

Lassar s Paste 14 lb. @ 1/2 lb. 1 lb @ 1/4 lb
Lin. Belladon Meth. 5 lb @ 2/2 lb 1 lb @ 2/6
Liq Æther Nitros (Sp Æther Nit. Substitute) 5 lb @ 2/3 lb
*Liq Ammon Acet Conc. (1 ") 6 lb @ 1/ lb.
" Aromat. 6 lb @ 1/ lb
Petroleum Jelly Flav B P " lb @ 7½d. lb
Bismuth Carb 3 lb @ 11/11 lb
Chloroform Pur 8 lb @ 3/4 lb
Pot Bromide 7 lb. @ 2/1½ lb
Quinine Sulph 4 oz. @ 2/2 oz.

PILLS TASTELESS COATED

Potass. Iodid B.P 3 lb @ 18/6 lb
Sod. Sulph Feathery cryst 7 lb. @ 3d. lb
Sp Æther Nit. B P., 4½ lb @ 4/6 lb 1 lb 4/10
Sp Ammon Aromat. B.P 5 lb @ 3/6 lb
Syr Cascara Aromat B.P 6 lb @ 2/9 lb
Glycero-Phosp Co 6 lb @ 1/9 lb.

SYRUPS

Aurant. B P 7 lb @ 1/10 lb
Easton s B P 7 lb @ 1/6 lb.
Ferri Iodid B P " lb @ 1/10 lb
Ferri Phosp Co 7 lb @ 8d lb
Hypophosph. Co. B I C 7 lb @ 1/ lb.
Pruni Virg B P., 7 lb @ 1/ lb
Rhamni 7 lb @ 1/2 lb
Rhei B.P., 7 lb @ 1/1 lb.
Scillæ B P 7 lb @ 8d. lb
Sennæ B P., 7 lb @ 1/2 lb
Tolut. B P 7 lb. @ 10½d. lb

TABLETS COMPRESSED

We can supply smaller quantities at slightly increased rates

	Per 1,000
Blaud s (Sugar-coated) gr 5... ...	... 3/10
Nitroglycerin B P gr 1-50th ...	... 5/
Perchloride of Mercury (Coloured)	... 15/
One Tablet in 1 pint of water is equivalent to 1 in 1 000	
Thyroid Gland gr 5	.. 12/6

We endeavour to adhere to prices quoted but as same fluctuate from day to day they must be considered as subject to change without notice

TINCTURES
in 5-lb Bottles

	B.P	Aquos.		B P	Aquos.
Belladon.	... 4/3	1/6	Hyoscyam.	... 4/3	2/-
Benzoin Co.	.. 4/7	—	Nucis Vom.	3/10	1/4
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Card. Co.	... 2/6	1/6	Quin Ammon.	3/3	—
Gentianæ Co.	2/8	1/6	Rhei Co.	.. 2/8	1/9

Ung Acid Boric. B P 28 lb pail @ 11d. lb.
Hydrarg B P 7 lb @ 4/6 lb.
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Minimum quantity at these prices Home Trade 3 Export 12 Winchester Quarts assorted. We can supply smaller quantities than advertised at slightly increased rates.



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It seems highly probable that these substances are the "pressor" substances, such as epinephrine, which are developed by putrefactive bacteria in the intestine Assuming the truth of this likely hypothesis, the treatment in part should obviously consist in adequate intestinal disinfection

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Composition —Ext Cascaræ, Ext Rhei, Jalapin, Podophyllin, Cocainæ Hydrochlor., 1-20th gr in each fluid drachm

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THIS excellent compound has now become a popular remedy in that class of cases spoken of as Chronic Bilious-ness in Catarrhal Jaundice, and in the Jaundice of simple Hepatic Torpor In passive or habitual Congestion of the Liver, so frequently met with, it has been used with marked benefit In the treatment of acute or temporary constipation, frequently met with in the convalescence from acute disease and in pregnancy or in the constipation due to sedentary habits the mixture can be prescribed with wonderful effect The Dose is from 10 to 60 minims according to the age and condition of the patient One drachm is a direct aperient and is not accompanied by griping or tenesmus

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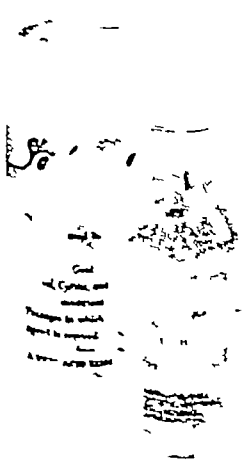
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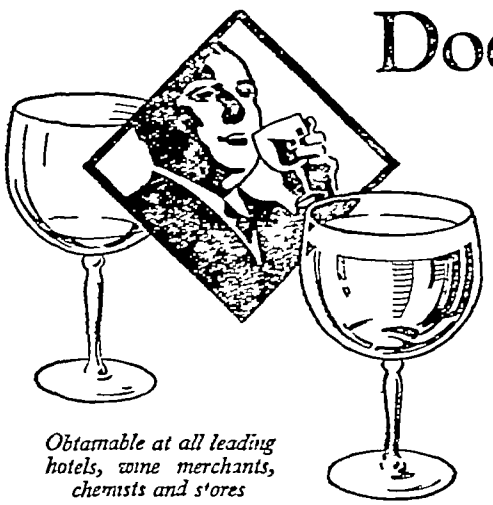
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(1) By immediate contact with the mucous membrane of the stomach and alimentary canal, allaying pains and spasms in these organs, and stimulating the digestive organs into activity

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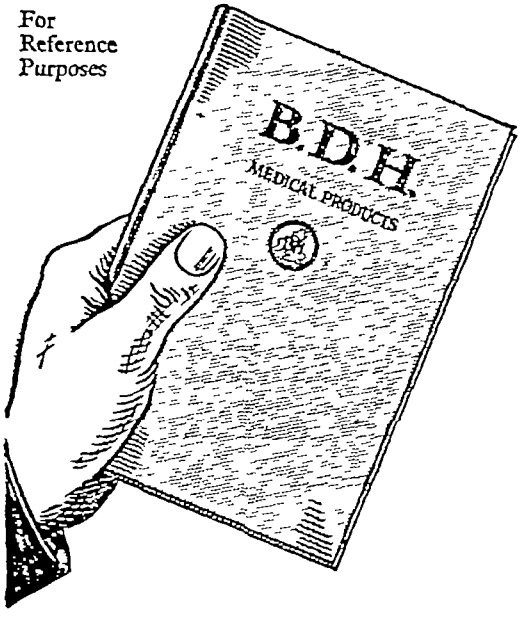
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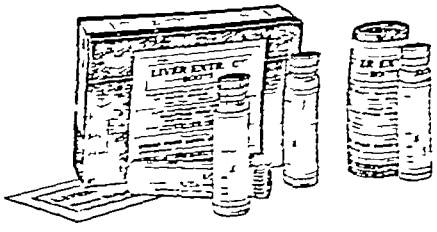
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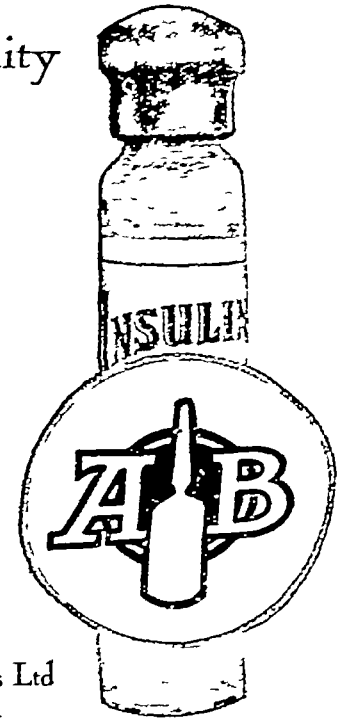
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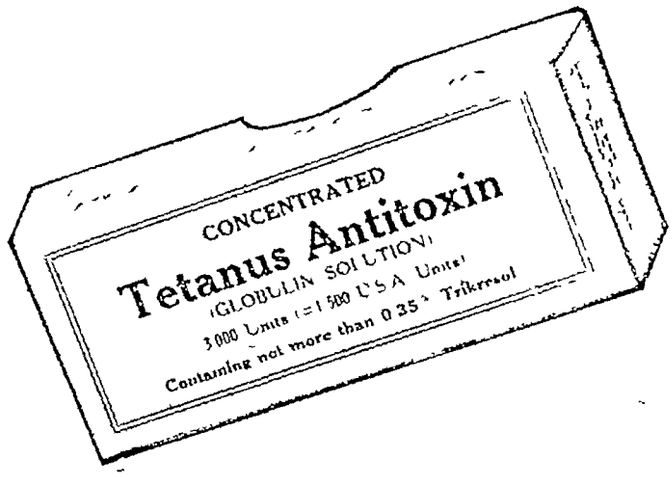
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Compound Catarrhal Vaccine In phials containing 235, 470, 940 and 1,880 million organisms per c c
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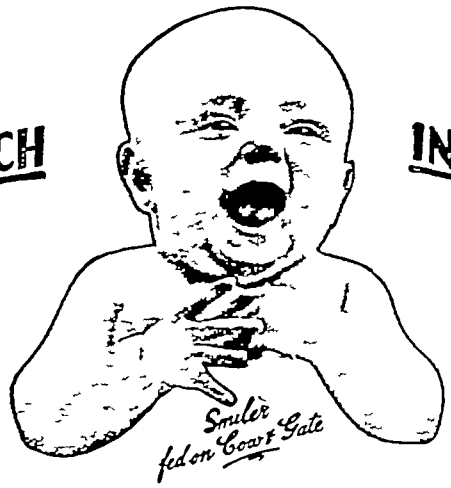
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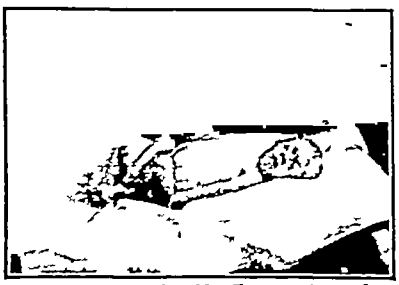
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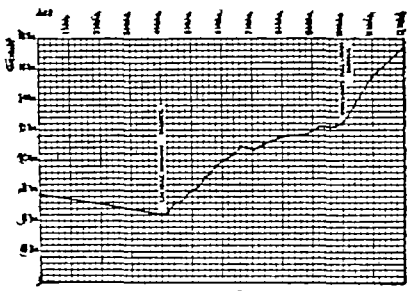
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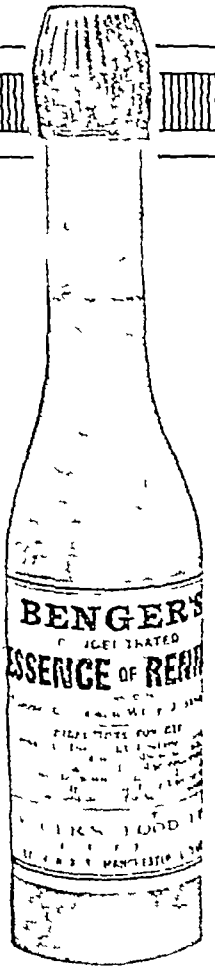
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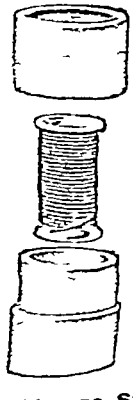
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ACTION ON THE HUMAN UTERUS OF ANAESTHETICS AND OTHER DRUGS COMMONLY USED IN LABOUR

BY

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(From Queen Charlotte's Hospital.)

We have previously described[1] a simple apparatus for recording graphically the changes in the intrauterine pressure taking place during labour. It consists of a disc-shaped rubber bag attached to the end of a gum-elastic catheter, and connected by a long rubber tube to a mercury manometer. When the bag and the tube are filled with water small changes of pressure exerted on the bag are accurately transmitted to the manometer and recorded on the surface of a slowly moving drum. The bag with attached catheter, carefully sterilized, is inserted with full aseptic precautions through the os uteri so that the bag comes to lie between the membranes and the wall of the uterus in a position well past the head of the foetus. For the insertion it is necessary that the patient has begun labour and that the os is dilated to a diameter of about one inch. By the aid of this apparatus we have previously obtained some evidence[2] about the dose of pituitary extract, measured in units, which may safely be administered before the birth of the child, and have also investigated the action of the alkaloids of ergot, and of the separated principles of pituitary extract, oxytocin, and vasopressin.[2]

We now describe records showing the effect of the anaesthetics chloroform, ether, nitrous oxide, and stovaine, of morphine, and of atropine, and finally of quinine.

THE ACTION OF ANAESTHETICS

The value of anaesthetics in labour has been much discussed in recent years, but in none of the discussions has there been any reference to the action of anaesthetics on the behaviour of the uterus itself. It seems elementary that for any final decision on the part which should be played by them in labour there should be a clear mental picture of what this action is.

Chloroform

Figure 1 is a record showing the effect of administering chloroform on an open mask to a patient in the first stage

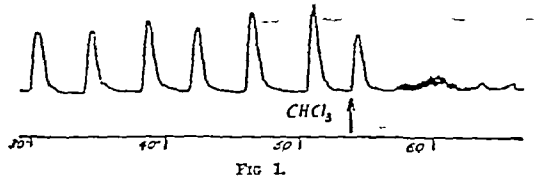


FIG. 1.

of labour. In the record the uterine contractions, shown as a rise and fall of the writing point, were proceeding regularly during a period of about twenty-five minutes. Chloroform was administered at the arrow, it is seen that the contraction which began at the first moment of administration was less than the others in height and that thereafter there were no contractions at all during the remaining twelve minutes of the record. It is evident that chloroform caused complete arrest of the pains. Now to see that so powerful an inhibitory action is not peculiar to the first stage of labour the result in Figure 2 may be examined. The record shows the characteristic rises of pressure within the uterus which are so different from those of the first stage. Superimposed on the rise due to the uterine contraction itself are further rises due to increased intra-abdominal pressure. Since some teachers state that these "bearing down" pains are voluntary, it may be as well to point out here why this is most unlikely. In our experience of a total of nearly fifty patients, the superimposed rise has only very occasionally been seen during the first stage of labour, it begins sharply with the second stage and is then seen with every pain until delivery. It is inconceivable that a voluntary effort could be distributed in this way. Cook[3] has shown, moreover, that in the fully anaesthetized rabbit at term the entrance of the presenting pole of the foetus into the vagina is accompanied by a very powerful contraction of the diaphragm and abdominal muscles. It seems likely that the superimposed rises of pressure in the human tracings are similarly due to reflex diaphragmatic contractions initiated by the passage of the foetal head down the vagina.

In Figure 2 the administration of chloroform on an open mask during a fully developed second stage at once slowed

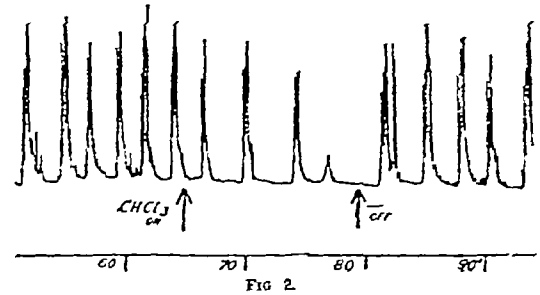


FIG. 2.

the frequency of the pains and reduced their height. During the last five of the fifteen minutes' administration there were no contractions at all. At this time the patient was not yet in full surgical anaesthesia, for there was considerable rigidity. Perhaps the most noteworthy feature of the tracing was the rapid recommencement of the contractions when the mask was removed, after about two minutes' delay a series of contractions was recorded almost as great in height and rate as at first.

Ether

There is a belief among some that ether is a stimulant to the uterus. The picture of its action given in Figure 3 shows that the belief has no foundation. The patient was in the first stage of labour, and the administration of ether, like that of chloroform, at once diminished the frequency and force of the contractions, when the anaesthetic was discontinued they rapidly resumed their previous size.

The action of both chloroform and ether is most probably not a direct action on the uterus, for it is too rapid. In

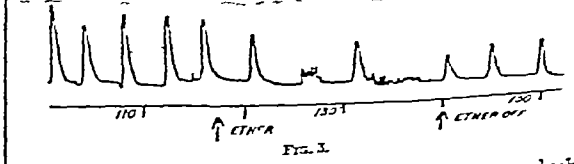


FIG. 3.

our opinion it is due to sympathetic stimulation which during labour is *inhibitory*. As evidence for this we point out that emotion arrests labour, and that, as we have already shown, an intravenous injection of adrenaline causes prompt cessation of the pains.[1]

Our evidence shows that the relief given in labour by a few breaths of chloroform or ether is not due only to the anaesthetic action, but at least as much to a diminution in the force of uterine contractions. Chloroform or ether is an ideal agent whenever a temporary brake on too powerful or too painful expulsive forces is required.

Nitrous Oxide and Oxygen

Figure 4 shows the record of a patient in whom anaesthesia with nitrous oxide and oxygen was induced during twenty minutes The contractions in this patient were not so regular in height and frequency as they commonly are, but nevertheless the complete absence of any effect of the anaesthetic on the contractions is evident "Gas and

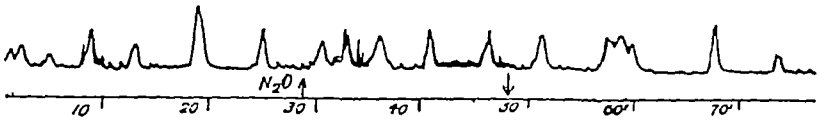


FIG 4

oxygen," therefore, is an anaesthetic which anaesthetizes without interfering with the progress of labour, in this important respect it stands in complete contrast to chloroform and ether

Spinal Anaesthesia

Spinal anaesthesia is not much used in this country, but is greatly used in some parts of the Continent, where very successful results are claimed In some women it produces a squint, but this is stated to be temporary and never permanent Whitehouse and Featherstone[3] some years ago described the effect of injecting tropacocaine into the spinal canal They said that "when the lumbar cord is paralysed by the drug the uterus always contracts, and it does not relax until the drug ceases to act" Further, they pointed out that "the lower uterine segment and cervix also appear to be involved in the increased uterine tone" More recently Metzger[4] has stated that the intraspinal injection of 0 7 c cm of a ten per cent solution of stovaine provokes a hypertonus of the uterus and that very rapid dilatation occurs On the other hand, Cheval[5] says that spinal anaesthesia delays labour, for the os will not dilate by itself We have examined the effect of stovaine in one patient, and the record obtained suggests the explanation of the statements made The dose injected was 0 05 gram Figure 5 shows that while the rhythm of the main uterine contractions was not perceptibly altered, there was a maintained rise of pressure in between each contraction A line has been drawn through the base of the record before the stovaine was administered, and it can be seen that the continuation of this line is appreciably below all points on the line recording the pressure afterwards In this respect the action of the stovaine resembles that of ergotamine, the normal process, which is contraction followed by complete relaxation, is interfered with, and relaxation is never complete

Hence our experience agrees with that of Whitehouse nd Featherstone, our method of recording the intrauterine pressure enabling us to analyse the effect more closely It is clear that if stovaine be injected early in the first stage before dilatation has advanced very far, this contraction of the lower segment will hamper further dilatation, as Cheval has found On the other hand, if the dilatation is complete, the "hypertonus" described by Metzger will be apparent, and delivery will be hastened

Morphine

In Figure 6 is shown a record of a patient to whom an injection of 1/4 grain of morphine was given during the first stage of labour During the first quarter of an hour after the injection there was no change in the contractions, but thereafter there were two important differences In the first place, the relaxation of the uterus after each contraction was much slower, and in the second place, the frequency of the contractions was less than before It is readily understandable that the first of these changes, both of which were observed in a second patient in similar circumstances, may be of considerable value in accelerating the progress of labour, for if the relaxation from each contraction be slower, it follows that the time during which useful work in dilating the os is performed must be considerably increased Yet the continuous pain to which such a prolongation of the contraction must ordinarily give rise is precisely the type of pain from which morphine gives relief Hence morphine is an agent which, by prolonging the duration of contractions, may accelerate the progress of labour, and yet not add to the embarrassment of the patient in doing so

Though we have had the same result in two patients, clinical experience indicates that the action of morphine is not always the same How far a difference in the action on the central nervous system of different patients is correlated with a difference in the action on the uterus, we are unable to say

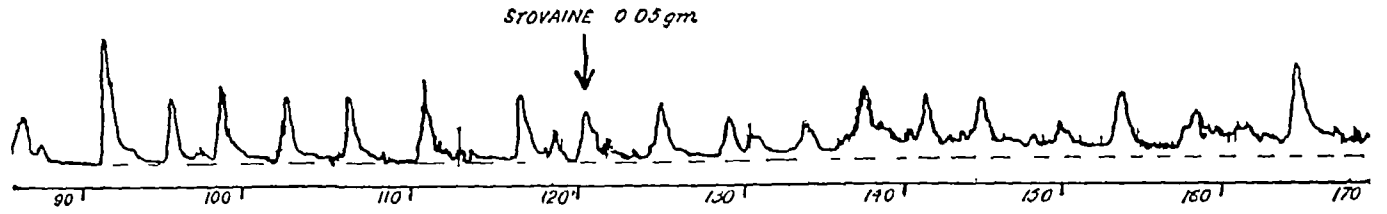


FIG 5

Atropine

The view has been expressed that atropine should not be used as a prelude to anaesthesia in parturition, because it may produce an inhibition of the uterus This opinion would be more reasonable if it had ever been shown that the uterus has a nerve supply by way of the sacral autonomic fibres for the transmission of motor impulses A paralysis of uterine contraction could then occur from the paralysis of the nerve endings which atropine would produce No such motor nerve supply has been found, nevertheless it remained a matter of interest to determine whether atropine in ordinary dosage had any action in



FIG 6

labour Figure 7 shows the effect of the administration of 1/100 grain To our surprise the record showed an increase in the height of the contractions characteristic of the passage from the first to the second stage of labour It is perhaps unwise to conclude from this single instance that the increased height was really due to the atropine, for the injection may by chance have coincided with a change which would have taken place anyhow It is, however, quite safe to say that atropine, in the dose given, displayed no trace of an inhibitory action

Quinine

Quinine is largely used when it is hoped to induce labour, but few obstetricians appear to find it useful Rubsamen[6]

actually investigated its action by the use of a recording system attached to the abdomen of patients in labour, and concluded that whereas it had little effect before labour had begun, it reinforced the pains afterwards Our own experience has been more depressing than this, for results obtained on two patients both show very little

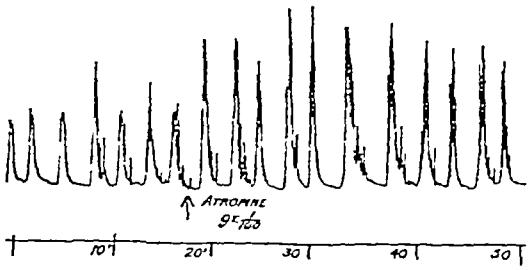


FIG 7

effect of a kind calculated to hasten delivery In Figure 8, 10 grains of quinine bihydrochloride were injected into the *gluteal muscles of a patient* in the first stage The main effect of the injection appeared to be that the periods of relaxation between pains became shorter, so that contractions were more frequent, but that the height of each contraction was less than before It was surprising that there was no clear indication of a stimulation of the uterus by the quinine in the same way as there is when a small dose of pituitary extract or a large dose of histamine is injected It is evident that the powerful action of quinine on isolated portions of smooth muscle when suspended in a bath is little guide to its effect on the uterus in labour, *and that its action on the parturient human uterus* has been much overstressed

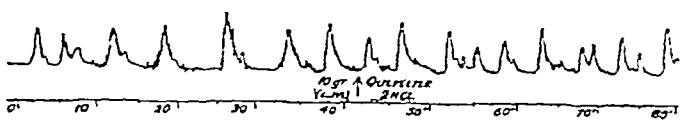


FIG 8

DISCUSSION

The importance of a knowledge of the effects of anaesthetics both on the uterine action and on the patient's general state is considerable, especially at present when much attention is being devoted to the problem of alleviating the pain of labour

We will first recapitulate the advantages and disadvantages which are agreed to attach to chloroform, ether, and gas and oxygen respectively as general anaesthetics Chloroform produces its effect in the smallest concentration Attending its use there is a risk of sudden death from cardiac fibrillation, and a more important risk of delayed chloroform poisoning We understand that in the United States it is now very little used at all Ether has the disadvantage of inducing infections of the pulmonary tract Both chloroform and ether cause damage to the circulation by producing a degree of capillary paralysis proportional to the length of time they are administered, as was shown by Dale [7] Gas and oxygen has none of these drawbacks, but it is expensive, its administration requires much more skill and attention, and it cannot ordinarily produce a full degree of surgical anaesthesia

These are the points involved in considering the production of general anaesthesia In midwifery, however, different varieties of anaesthesia are required Light anaesthesia is most commonly wanted for the end of the second stage, secondly, prolonged light anaesthesia may be wanted throughout the whole of the second stage finally, full surgical anaesthesia may be required For light anaesthesia at the end of the second stage the arguments given above relating to general anaesthesia do not apply, and we think that chloroform or ether is suitable The amount of chloroform which needs to be given is very small, and the reduction in the efficiency of the contraction which it causes is often of benefit in avoiding perineal tears Experience at Queen Charlotte's Hospital since this form of anaesthesia has been used in normal labours shows that there has been no appreciable prolongation of the second stage, nor increased incidence in the forceps rate In a series of 562 cases there has been no increase in the incidence of post-partum haemorrhage when compared with a previous series of the same number without anaesthetics and there has been no case of chest complication or delayed chloroform poisoning The condition of the infants was materially the same whether anaesthetics were used or not

For prolonged light anaesthesia, throughout the whole of the second stage, the use of chloroform or ether is open to more objection Boyle [8] has recently made a strong plea for the use of gas and oxygen in place of chloroform, for he says that patients are far less exhausted and that the pains are not slowed The question seems to us to depend on the amount of chloroform to be used, and we think that in many circumstances Boyle is right But in domiciliary practice, at any rate, the weight and expense of the necessary apparatus render gas and oxygen very difficult for routine use

When full surgical anaesthesia is required, we think that whenever possible ether should be substituted for chloroform, combining the ether with the hypodermic injection of atropine It is to be remembered, however, that ether is highly inflammable, and the risk of explosion in an ill-ventilated room with an open gas fire may be considerable But from the point of view of the patient there seems little doubt that the use of chloroform is not in keeping with modern enlightenment

SUMMARY

1 Records of intrauterine pressure have been obtained showing the effect of anaesthetics and other drugs on the contractions during labour

2 The administration of chloroform or ether on an open mask at once arrests the contractions in the first stage, and diminishes their force and frequency in the second stage The effect comes on rapidly, and passes off rapidly when the administration is discontinued The action of ether is the same as that of chloroform

3 The administration of gas and oxygen has no effect on the contractions during labour

4 The intraspinal injection of stovaine does not inhibit the contractions, but interferes with full relaxation between the pains This appears to be due to continuous contraction of the lower segment, and if stovaine be given early in the first stage dilatation will be delayed

5 Morphine lessens the frequency of uterine contractions, but the pains pass off more slowly, so that the work done by the uterus is probably as great as or greater than before, despite the lessened frequency

6 Atropine appears to stimulate the contractions of the uterus It certainly has no inhibitory action

7 The stimulant action of quinine during *labour* is very small

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1 Bourne and Burn *Journ. Obstet and Gynaecol of the British Empire* 1927 34, p 249
Idem *Lancet* 1928, p. 694.
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The Morison Lectures

ON

NERVOUS SEMEIOLOGY, WITH SPECIAL REFERENCE TO EPILEPSY

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH ON JUNE 2ND, 3RD, AND 4TH, 1930,

BY

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NEUROLOGIST AND LECTURER IN NEUROLOGY, KING'S COLLEGE HOSPITAL, SENIOR PHYSICIAN TO OUT-PATIENTS, NATIONAL HOSPITAL, QUEEN SQUARE

LECTURE III.—SYMPTOMS INDICATING INCREASE OF NEURAL FUNCTION (*continued*)

LOWEST LEVEL FITS

As already explained, this term is taken in a wider sense than that given it by Hughlings Jackson, and made synonymous with "infracortical fits."

The question whether the neural site of *general* epileptic seizures is of necessity always the same has received some attention, and been examined by myself elsewhere (ref. 19, Lecture II). Briefly, it amounts to this: can then motor phenomena be produced at other (lower) levels than the cortical? The experimentalist has shown that in the decorticate or decerebrate animal fits of a general kind can in point of fact be made to develop by resort to convulsants such as absinthe or thujone, and the distinction sometimes still advanced by the clinico-anatomist, that the clonic element in fits is of cortical origin, the tonic of infracortical, cannot be upheld in its entirety. Both tonic and clonic convulsions have been produced by Pike and Elsberg[30] in animals deprived bilaterally of the cortical motor areas, an interval of time sufficient for the return of "good locomotor reactions" being allowed to elapse after operative intervention; Dandy,[31] it is true, claims to have proved that in the dog the cortex is required for the clonic component. In full decerebration, with only pons, medulla, and cord left, convulsions of a more or less general kind may develop during the respiratory sinking that presages the death of the preparation. But whether these are identical *in all respects* with those occurring experimentally in the intact animal can be settled only by precise observation, and so far as I am aware this has not yet been forthcoming. In regard to man the evidence undoubtedly points to important differences between fits of higher and of lower origin, as we shall see.

Taking our stand on the position that fits of any kind are fundamentally expressive of the functions of the part or parts affected, we must at once allow for the greatest diversity and heterogeneousness. A major attack ranges from a disturbance on the highest plane (the aura) to phenomena of a visceromotor kind, through the whole scale of semeiology, and fits ostensibly caused by disorder in infracortical mechanisms cannot do otherwise than reveal the functions which these possess. The clinician tries to deduce the localization of a given attack by scrutiny of its functional features, correlating what he observes with knowledge otherwise derived. Facts compel us to admit that the property of uncontrolled discharge is common to all nerve-cell groups on occasion, even though we draw a distinction between permanent instability in a diseased tissue and occasional instability in a healthy tissue, and it stands to reason that if this generalization is accepted we may expect such syndromes as are specific for mechanisms of a given level. But one of the difficulties immediately encountered is to decide whether the observed phenomena partake of the general nature of a "fit." I confess this interpretative question becomes almost impossible to answer in any completely satisfactory fashion. The expression "genuine" epilepsy is little short of meaningless, such epilepsies as grand and petit mal are usually recognizable—the Jacksonian variety too—but clinical manifestations of analogous release or excitation in other divisions of the nervous system do not always convince the observer of their right of admission to the general category. Sometimes I envy the man in the street, who can talk of his symptom as a "turn," a "go," a "do," non-committally yet graphically, whereas science compels the neurologist at least to try to give it a local habitation and a name in conformity with its physiology and nosology. As neural semeiology consists simply of hyper- and hypo-activity it is open to the clinician to claim any temporary, disorderly, paroxysmal, recurrent, uncontrolled manifestation of either motor or sensory processes as in essence a "fit," and this on any physiological plane. Does not common parlance permit the phrases "a fit of the blues," "a fit of temper," "a fit of laughter," and so forth? Then why not a fit of neuralgia, of tachycardia, of polyuria? Unfamiliar and possibly bizarre though such conceptions may seem, they do not differ integrally from "a fit of asthma" or "a fit of sneezing," which some will concede are allowable. Provided the phenomena partake of the general nature of a "fit" as just mentioned, with a substratum of physiological escape, it will be difficult to deny their intrinsic likeness to each other however protean their external aspects.

Such general comments are apposite to the question now before us, which can be approached by discussion of various infracortical groups.

"Striatal Epilepsy"

Within recent years the term "striatal epilepsy" seems to be enjoying a certain vogue. In 1925 Professor August Wimmer[32] of Copenhagen recorded the case of a patient whose symptoms commenced by attacks of unilateral tonic spasm, lasting a few seconds, unattended by loss of consciousness, and recurring many times a day. Later they became generalized, and an eventual diagnosis of epilepsy was made. At a subsequent period involuntary movements of an athetoid type made their appearance, and finally the clinical picture became one of typical torsion-spasm. Because of the possibility of the latter condition having a striatal basis, Wimmer designated the tonic attacks and (more or less tonic) generalized fits "striatal epilepsy," supporting his contention by reference to a case observed by Steitz,[33] in which generalized seizures preceded the development of torsion-spasm and the lesions discovered post mortem were confined to lenticular and caudate nuclei. He also found substantiation for his argument, as he maintained, in the occurrence of epileptic attacks along with post-encephalitic Parkinsonism. Preferring the expression "subcortical epilepsy," Spiller[34] published in 1927 two cases of attacks of brief tonic spasm—in one, affecting both hands and a lower limb, in the other, the arm and leg on the same side. These spasms (no clonic element was in evidence) were brought on by voluntary movement of the limbs concerned in both instances, and in one could also be elicited by passive manipulation, further, the muscular contractions were painful and accompanied by a thermal dysaesthesia of "heat" or "burning" in the lower limb unaffected by the spasm. Because of a concomitant cervical sympathetic palsy in the case that ended fatally (no necropsy being allowed) Spiller suggested a lesion in the regio subthalamica, possibly haemorrhagic (there had been evidence of meningeal bleeding in the case at an earlier stage). Still another term, "extrapyramidal epilepsy," has been proposed, by Sterling,[35] for cases of spastic contractions in the course of post-encephalitis or during a more acute period, distinguished by painful spasms of fingers or toes, limbs or segments of limbs, and inclusive of facial and torticollic movement, brief or prolonged, the muscular phenomena are essentially intermittent and often paroxysmal, and their frequently "tetanoid" or "tetaniform" character is stressed in the title of his paper.

This plausible association of tonic spasms or painful spasmodic contractions with destructive lesions of the corpus striatum must, however, be examined under very considerable reserve. Naturally I accept any view ascribing tonic spasm to the group of the epilepsies in a general way, provided it occurs in "bouts" or "fits," so to say, but when the element of pain enters prominently into the motor contractions the case is somewhat altered. Clinically speaking, not a few of the examples cited, more especially by Sterling, can be fairly assigned to that class of painful cramps, and it seems inadvisable to widen the horizon of the epilepsies, almost limitless though that may appear to

be, by inclusion of a clinical category of such distinctiveness, equally well might we place the phenomena of intermittent claudication in the same collection By common consent tetanus and tetany remain outside the epileptic *rails, yet one of Sterling's examples of "extrapyramidal* epilepsy" presented contractions of the hands and fingers, occurring daily for nine days and lasting two to three hours, exactly like those of tetany Similarly, in the peculiar cases we owe to Spiller the facts that the muscular contractions themselves were dolorous and (in particular) that they arose in consequence of active, voluntary movement, in my opinion render their ascription to any of the epilepsies, as ordinarily understood, more than a little dubious Painful reflex spasmodic phenomena occur under a variety of different circumstances the cramps of cholera are etiologically distinct from those of ballet dancers or swimmers, which ensue on voluntary movement, and each from those of encephalitis, but they are clinically alike in the elements of paroxysmal painful tetanic muscular contraction, and we should proceed warily in the matter of regional allocation I share Spiller's own clearly expressed hesitation as to the precise nature of the symptom-complex in his cases and his unwillingness to accept a striatal origin for them

Further, on previous occasions I have animadverted on the irrational attribution of motor phenomena to affection of the corpus striatum merely because of their occurrence in the course of epidemic encephalitis, and I take the opportunity of underlining again this *non sequitur* Implication of the pyramidal system for spasmodic syndromes is not excluded because Parkinsonism and its rigidity may be indirectly due to striatal lesions So far as I have noticed, the obvious comment has not been given any consideration, that such tonic spasms, being release or excitatory symptoms, cannot result from outfall of striatal cells Neither the generalized fits nor the torsion-spasm of Stertz's case can have been *caused* by the destructive lesions of the caudate and lenticular nuclei found on microscopical examination by Spielmeyer It is immediately plain that the actual mechanisms involved in the production of these tonic movements must have occupied an extrastriatal position

There is no novelty whatever except its proposed name in this conception of "striatal epilepsy" Reference to the old descriptions of Ormerod and Gowers in respect of their cases of lenticular degeneration (quoted in my monograph[34] on the subject) shows that "tonic spasms" were even then recognized as forming a part of the clinical picture Gowers employed the epithet "tetanoid" for the contractions in his cases, and said of the first that "the muscles of the neck, trunk, and limbs were all involved, in varying degree, in the generalized tonic spasm", and, again, "the spasmodic contractions of the musculature became intensified," etc The value of this old clinical evidence of the development of tonic contractions in the course of a striatal affection is in no sense diminished by our inability to attribute them directly to striatal cell-fibre systems I have myself from time to time observed analogous cases, though they have never been reported One may be selected for illustrative purposes the patient came under my care in 1923, two years before the publication of Wimmer's interesting paper

A boy 5 years old noticed to have been more or less fidgety since birth but with no previous illness except German measles began to suffer from indefinite involuntary movements with a propensity to affect the left limbs and side They offered some resemblance to choreo-athetosis without being quite characteristic of either subgroup After a year or two it was observed that following any insignificant jar knock, fright, or excitement the boy lost power down the left side for two or three minutes the left leg inverted and assumed an equinus position while the left arm flexed at the elbow and was held in front Unable to speak he did not lose consciousness The attack was very often (not it appeared invariably) preceded by a sensation of pain starting in the left foot and passing up the trunk to the shoulder and then coming down the left arm to the hand When the sole of the left foot was stimulated (as in testing the plantar response) an inversion spasm of the limb took place while pain was experienced and shot up as high as the left shoulder

On minute examination however no definite objective sign of organic nervous disease was discovered.

The boy has been under my continuous observation now for more than seven years and I have seen a number of the tonic attacks, which can be thus succinctly described the left foot extends and becomes inverted the left leg is *in tonic extension*, the head is bent over to the left and the trunk arched slightly, with concavity to that side the arm is flexed at elbow somewhat abducted at shoulder and stiff throughout, while the fingers are commonly flexed Some spasm of the left orbicularis oris is observable, but the mouth is not drawn over Consciousness is preserved the boy does not drop anything he holds in the affected hand, yet does not answer questions while the attack is on Its duration has gradually become shorter, now lasting no more than thirty seconds By 1929, at length signs of change apart from the fits made their appearance, in the form of enduring rigidity and some weakness of the left leg, and at the present time the facies and ensemble are indicative of a mixed pyramidal and extrapyramidal affection—a slight unilateral paresis and equally slight suggestion of Parkinsonism

On purely theoretical grounds this unusual case can be represented as one of *reflex unilateral tonic epilepsy* and feasibly be thought infracortical in origin mainly, no doubt, because of its tonic type, but I do not myself consider the symptoms can be attributed to excitation of striatal arcs The aura follows a physiological "march" corresponding to the arrangement of centres in the post-Rolandic cortex, while the extension and equino-varus postures of the left leg are of pyramidal type Pain of cortical derivation is not unknown, and the reflex nature of many of the fits rather favours a similar site for them, as I think at least, the element of conscious perception of the stimulus is not excluded from acoustico-motor and other reflex epilepsies adjudged by some to develop at lower levels But still, the absence of the clonic element impresses, even if strict proof is awanting of the striatal or extrapyramidal locus of the spasms In this connexion we do well to remember that when in Jacksonian epilepsy the "second side" becomes implicated, its contractions are sometimes tonic rather than phasic, and take the whole side much more quickly than in the case of the one first involved I have had under care recently a little girl whose epileptic attacks throw the left limbs and face into clonic spasms, with head and eyes deviated to the left, but the right arm and leg remain in tonic extension, and the abdominal muscles of the two sides are boarded in *strong tonic contraction equally, without twitches* Until further study enlightens us it is premature, in view of what has already been said by way of criticism of the "striatal" conception, to assign tonic manifestations to activity of the basal ganglia when we know they can also develop in other ways, as is now to be discussed

Tonic ("Cerebellar") Fits

The occurrence of general tonic seizures (leaving aside the mainly segmental and unilateral tonic spasms to which some attention has been given above) has long been a neurological commonplace Described by Hughlings Jackson as 'tetanus-like seizures," sometimes as 'cerebellar fits," in their essence they consist of tonic contraction of extensor groups of trunk and limbs, with temporary head retraction and opisthotonos occasionally the upper extremities are flexed rather than extended and emprosthotonos may take the place of the other *A full description* of a number of such cases was published in my paper entitled "Decerebrate rigidity in man and the occurrence of tonic fits" (1920) and various others gathered from a somewhat sparse literature were referred to Since that time more have come under personal observation while from his wide experience Foerster[35] has collected a series of the same kind Martin," too has published an interesting quartette of cases of pure tonic fits in association with syringomyelia, attributing them with some plausibility to rise of intracranial pressure and internal hydrocephalus—no uncommon finding in the disease

Speaking generally haemorrhage, abscess or tumour of the cerebellum or of pons, medulla and cerebral peduncles, haemorrhage or rupture of an abscess into the ventricular system, meningitis, and other basal conditions calculated

to interfere with fluid circulation between that system and external arachnoid spaces, are among the pathological conditions apt to be causative of generalized tonic fits Their association with a state of decerebrate rigidity is far from infrequent, in such cases they occur as temporary exacerbations, accentuating and exaggerating the background of tonic posture in extension Again speaking generally, it can be shown that fits distinguished by the assumption of tonic attitudes and the appearance of tonic contractions are most likely to develop when the lesions of the case dissociate physiologically the cerebral hemispheres from cerebello-mesencephalo-pontine levels, and when, therefore, striatal function also is in complete abeyance An instructive case which bears out this statement indirectly has been recorded by Reynolds[40], it is that of a girl of 15 whose grand mal attacks, before any operation, consisted of "(1) tonic emprosthotonos, in which she remained rigidly anteflexed and silent for about twenty seconds, (2) as the trunk relaxed, the head and eyes commenced to jerk clonically to the right and the right hand entered into clonus Then (3) the movements became slower and ceased, and she wept as if frightened," etc He was able, by operating and draining the cerebral cortex above the tentorium, to dispel the clonic element altogether and leave only the basal tonic element, at this stage the fits continued as purely tonic and emprosthotonic in character for two weeks, after some twenty of these, bilateral suboccipital drainage of the arachnoid space immediately and permanently dispelled this residuum, and neither type of fit has recurred since

In their elaborated form the picture is unmistakable, especially when evidence of coexisting organic nervous disease of one or other type as alluded to above is at hand But brief tonic fits, not much more than a rather elaborate petit mal seizure, also occur, and deserve mention because of their unusual features A recent case is that of a girl of 14, whose so-called "menstrual epilepsy" is as follows a sudden inspiratory cry is succeeded by stretching out rigid arms in front while neck and back are contracted in powerful opisthotonos and she falls back with a crash, legs extended and stiff, cyanosis at once sets in, and involuntary micturition takes place With almost equal abruptness the musculature relaxes, consciousness returns, and violent vomiting ends the attack No clonic movement of any kind has ever been seen

The close resemblance of the fits in this case to those of the patient of Wimmer (mentioned above) should not be overlooked, the latter comprised initial cry, generalized tonic contractions with loss of consciousness, cyanosis and tongue-biting, without, however, sphincter relaxation Yet Wimmer, who himself diagnosed ordinary epilepsy at first, was influenced by the subsequent development of torsion-spasm and called the condition "striate epilepsy" accordingly Since variants of this kind are encountered by themselves, "idiopathically," with undiscoverable causation, it appears to me improper, and for the reasons already advanced unjustifiable, to allot them any such topical designation

At this point, too, another aspect of the question of tonic fits may not be out of place The neurologist is aware that convulsive hysterical seizures no longer constitute a clinical banality Nothing should appear to any thoughtful mind more evident than that hysteria follows the scientific movements of the day and adapts itself to progress in medicine Hysterical fits in the grand manner are out of fashion Years have elapsed since last I saw a typical case of the *arc de cercle*, and I remember that Babinski showed at a medical congress a cinematograph record of all the phases of the attack because he considered it would ere long become of purely historical interest! Now while hystero-epilepsy may assume any form, as it were, undoubtedly one special class of fit is distinguished by the patient's musculature becoming contracted in rigid extension, head retracted, back curved, arms extended and hyperpronated, legs extended, and feet inverted Here I am interested not in the possible psychogenesis of the attack, but in its physiology For there can be no doubt that it offers intimate affinities from the standpoint of *form* with what obtains in fully developed tonic fits attended by physiological decerebration We commit ourselves to no theory of hysterical etiology in underlining the fact that the neurosis can have at its disposal only the existing sensorimotor processes of the individual patient, and it is legitimate to stress the symptomatological analogies between the two types when the *mechanism of production* of the symptoms is concerned I well remember a hysterical patient who, when she entered the out-patient clinic, fell on her back in rigid extension, crushing her hat under the back of her head on the floor, toes down-pointed, arms straight out and pronated till the backs of her hands touched Investigation revealed a wretched history of incest and psychical trauma, but the *form* of the attack is not explained thereby The physiology of hysteria is one of many matters in neurology which call for serious research I confess my ignorance of why convulsive hysterical manifestations partake so frequently of a tonic character, the once-debated question of the reality or otherwise of hysterical Jacksonian epilepsy seems now to be forgotten, presumably because it is thought to have been "decided" in the negative, but why then this mimicry of organic tonic fits?

Periventricular Epilepsy

A final grouping of lowest level or infracortical fits includes those in which symptoms of an affective and viscero-sensorimotor kind predominate Everyone who has made a study of epilepsy knows with what frequency symptoms referable to the neuro-sympathetic system are in evidence, momentary arrest of the heart's action, pallor, sialorrhoea, sphincter relaxation, and other analogous phenomena occur to the mind in this connexion As the "discharging lesion" sweeps over different physiological levels or implicates a succession of physiological centres it does not appear in major cases to exercise any selectivity Whether this is through representation of visceral activities at the highest physiological level need not at present detain our discussion, anatomically speaking, we know of sympathetic centres in the brain representing lower nervous arrangements, but so far they have not been traced with certainty to the cortex itself We shall therefore take the attacks to be now considered as indicative of functional activity on an infracortical plane

In the spinal cord a general division of cell-fibre groups into four systems or columns is obvious—namely, somatic sensory, somatic motor, viscero-sensory, and viscero-motor respectively These are readily recognizable at prespinal levels—namely, in medulla and pons—and the point of interest to which attention is directed resides in the relation of the visceral and somatic-sensory columns, particularly, to the ventricles of the cerebrum At the level of both medulla and pons they fringe the margins of the fourth ventricle, the thalami are lined by the third, and researches of recent years have thrown a great deal of light on the various visceral ganglionic collections skirting the floor and lower sides of the same third ventricle, as far back as the commencement of the aqueduct That the major portion of these centres, concerned with *la vie affective* and *la vie vegetative*, is situated round the ventricular system cannot be without significance It is therefore permissible to speak in general terms of "periventricular epilepsy," by which may be designated cases remarkable for localization of the disorder in neuro-sympathetic centres, at least in major degree, to the exclusion (absolute or relative) of sensorimotor phenomena of somatic type

The actual nucleus or focus of the "nerve-storm"—the "storm centre"—cannot perhaps be determined with any nicety, for if we are to conceive of the sympathetic system as an anatomical continuum (in accordance with the conclusions of Philip Stohr[41] and others) it becomes difficult to ascertain whether peripheral or central cells form the starting-point, besides, as has been remarked in a previous lecture, we must postulate an open way between the focus and the percipient cortex, since in few of the seizures to be described is consciousness ever lost, on the contrary, the subject is only too acutely aware of some violent disorder referred to his viscera, and equally incapable of inhibiting it The assumption must be that abnormal impulses *ascend*

to the cortex and are there interpreted as accurately or (for most instances) as imperfectly as may be in accordance with previous experience or with want of it

1 Prominent in the general category of affective or visceral epilepsies come the "fits known (after Gowers) as "vaso-vagal attacks,' or pseudo-angina,' or popularly as "nerve storms", in their physical concomitants they are akin to what the psychiatrist is nowadays in the habit of designating "anxiet neurosis" Cases exhibiting the syndrome to be described immediately have interested me for many years and I have collected a large number from private and hospital practice and in an article[12] on 'epileptic variants" the subject has been given attention and analysis

Briefly to quote from that paper "the patient complains of attacks of palpitation at the heart difficulty in breathing, a suffocating sensation in the throat, hot flushes icy coldness, sweating shivering and trembling nausea and other epigastric sensations and often, also an indescribably distressing feeling of impending trouble of fear even of imminent dissolution' The symptoms of the vaso-vagal attack point in a general way to temporary functional disturbance referred to organs supplied by the pneumogastric nerve presumably initiated in the vagal nuclei of the floor of the fourth ventricle and in the neighbouring vasomotor nucleus But radiation along neuro-sympathetic paths therefrom is usual enough in particular polyuria and pollakiuria are very common at the close One or two hitherto unpublished clinical cases will serve for purposes of illustration

A. C B male aged 58 suffers from fits commencing with flatulence and eructations followed after a time by a sinking sensation at the epigastrium throbbing heart's action vertigo nausea clammy sweating and trembling of the body and limbs an agonizing dread of something unpleasant about to happen develops when the attack is in full swing Its duration is perhaps from fifteen or twenty minutes to two hours during which (if it is rather prolonged) he will pass water freely quite six times or even more It may amount to a pint of clear limpid urine the first time but subsequent quantities are on a smaller scale

This patient has a persistently low body temperature, ranging from 95° to 97 4° F on none of the various occasions when it has been taken by a medical man has it been higher

Interesting features distinguish another case of the same class

G N male aged 47 has attacks in series four to six a day for five or six days with an interval of weeks thereafter Lasting for about thirty seconds, they begin with a sudden "jump' at the heart ' as though it were coming into my mouth and to this succeed a peculiar feeling in the finger-tips which seem oily and smooth icy coldness (even the inspired air seems somehow for the time colder than usual) giddiness pallor, trembling and inability to speak As the attack finishes an overpowering 'nightmare of depression seizes him, making him feel frankly suicidal. Every hour (for hours at a time) when the serial fits develop he voids clear watery urine in quantity

Especially worthy of note is the fact that in this case the "turns," which have continued for some twelve years were at first invariably heralded by an unpleasant, "rotten" taste in the mouth, bringing with it a strong feeling of familiarity ("I have tasted this somewhere before"), and a peculiar dreamy sensation (in itself not unpleasant) "exactly as if I were going under gas" For the last two years, however, this uncinate aura has not recurred To the student of the subject its association with periventricular epilepsy must appear highly informative, for in the first place the fact that a "visceral" or "affective" attack follows stamps the latter with the epileptic seal and justifies its acceptance as an epileptic variant, and, in the second the radiation from temporo-sphenoidal to ventricular locus exemplifies an unusual line taken by physiological excitation or release, and suggests the possibility of still others

Another instructive association is illustrated by the next case

Mrs B aged 59 exhibits an old left juvenile cerebral hemiplegia dating from the age of 12. For the last year she has suffered almost daily from attacks which commence with a sensation of something moving or fluttering in the stomach this 'something passes up the body into the left arm where it becomes a burning crawling feeling" "as if my arm were being gripped round with red hot wires the sensation extends to the tips of the left fingers and is described as if something stinging were trying to get out through the skin At the same time palpitation starts linked to a vague fear of impending evil the patient feel sick and giddy shivers all over (I can't keep a nerve still) and perspires clammily but solely in the left upper limb arm and hand never on the right Immediately after the fit she passes a large amount of clear urine every half-hour for usually three or four times

The interest of this case consists mainly in the peculiar connexion of visceral and somatic sensory auras, the initial vagal aura (stomach and heart) radiates over to a cortical sensory area—presumably a *locus minoris resistentiae*—whence in consciousness is experienced a definite Jacksonian sensory aura confined to the affected left arm The fact of the sweating being restricted to that somatically involved limb is equally noteworthy Within the neurone impulses can spread by unexpected and unsuspected routes in particular circumstances Several clinical examples of the association of migraine for instance, which is not supposed to be of periventricular origin with these visceral attacks have come under observation, and one may be cited

D B female aged 35 unmarried has suffered from sick headaches for years These take a more or less classical form with persistent vomiting visual phenomena (not however teichopsia) unbearable headache tenderness of scalp photophobia etc They last usually for forty-eight hours In the course of the migraine (which is always preceded by a day or two of pronounced physical and mental euthonia) the patient's hands and feet become icy cold and the head hot palpitation and anxiety develop and a mild degree of sweating At this stage she invariably keeps passing water at short intervals up to as many as twelve times in succession

Though just an episodic syndrome, an epiphenomenon of the migraine its interest resides in the linking together of cerebral centres by paths not commonly open to traverse

Finally in this connexion I must allude to a recent case which illustrates still another of these combinations, and that along distinctly unusual lines

C C male aged 23 unmarried has suffered from peculiar attacks for six years at irregular interval They commence by a sensation at the heart (as if it were moving round in a circle to the accompaniment of painful pricks) and in the stomach (the organ seems to turn right over) and the usual sequence of giddiness shaking hot waves etc is experienced in rather severe degree Thereafter the patient feels extremely sleepy and sometimes actually falls fast asleep He has often observed that the fits are brought on by unrestrained laughter and sometimes too by his being tickled at such a moment he is suddenly seized by the pain at the heart and the syndrome forthwith unrolls itself

To my mind the case is deeply significant, no similar instance of the provocation of the vaso-vagal fit by the emotion which causes laughter has hitherto come under my notice Clearly it furnishes a link on the one hand with narcoleptic semeiology, in the association of laughing and sleep, but while there is no evidence of cataplexy on the other, yet the production of a periventricular fit by a stimulus which in other circumstances gives rise to the cataplectic attack undoubtedly narrows the gap between narcolepsy and epilepsy I have seen two cases of epilepsy in which the aura was one of motiveless and compulsive laughter, and there are instances on record of epileptic fits having been induced by that act itself resulting from tickling the soles of the feet (Feré[13] quotes those of van Swieten, Esquirol and Reynolds) Since in by far the greater number of cases of vaso-vagal fits the manifestations are attended by a feeling of apprehension, anxiety, or even of terror, it is curious to observe their origination in an emotion of a pleasurable kind The mechanisms of 'let go by the act of laughter deserve physiological study its visceral concomitants include dilatation of capillaries (the skin reddens and glows), glandular secretion (the eyes sparkle we laugh "till we cry") vulgarly, also we laugh until sphincter relaxation is imminent We nearly "die of laughing", we are "tickled to death" Is this seeming clinical novelty, then akin to the last of these? The patient laughs or is tickled into laughter, till suddenly affected by a paralysing disorder of his cardiac

and respiratory mechanisms I confess I find his case of peculiar scientific interest, but am content at present to sketch it in outline

2 Less definite in constituent features, but equally suggestive of periventricular dysfunction, are cases distinguished, *inter alia*, by yawning One may be taken from a previous communication[12] by way of example

C L, male, aged 25, has had peculiar fits for about one year, recurring on an average at fortnightly intervals They are constituted by continual yawning with constant voiding of urine, and are followed by violent giddiness, headache, and occasional vomiting A family history of epilepsy has been obtained, but no organic signs have been seen on repeated examination

One may perhaps hazard the speculation that these phenomena represent some disorder of periventricular visceral centres concerned in the regulation of sleep and of fluid interchange, with radiation to other visceral centres situated in the floor of the fourth ventricle

3 Another rather unusual but interesting visceral association is provided by those cases of ordinary epilepsy which appear to have as a regular accompaniment *rise of temperature* I do not here refer to the fever which develops when repeated severe general fits occur, as in status epilepticus, but to individual attacks, separated it may be by long intervals, in which elevation of temperature is found Doubtless some such cases are simply explained by the temporary occurrence of some intestinal toxaemia accountable for both the fit and the fever, yet in other instances the question arises whether the latter may not be of neural origin I have in mind the case of a schoolboy of 16, who for two years had had an occasional epileptic fit, in each instance associated with muscular effort (wrestling, swimming, running, and in the gymnasium), the attack consists of brief loss of consciousness, pallor, and involuntary micturition, without any convulsive movements (tonic or clonic) being in evidence On each occasion the temperature has shot up after the attack to 103° or 104° F, coming down the same day, or the next, as suddenly as it has run up No ready explanation for this occurrence has been discovered, even with the most careful search over the somatic systems At the most, a severe generalized fit will not raise body heat more than half a degree For the above and one or two somewhat similar instances it seems conceivable that a neural (neuro-sympathetic) mechanism is implicated

4 When the semeiology of still other epileptic varieties is carefully scrutinized the fact that they appear to consist of little else than *isolated neuro-sympathetic disturbance* must be allowed The remark is clearly apposite in respect of many examples of petit mal, so-called Cases which the clinician has great difficulty in classifying, the choice lying between "faint" and "fit," belong here Syncopal attacks are in essence visceral, and often indistinguishable from forms of fit, if of circulatory etiology they are considered "faints", if of neural, they are "fits" But here, too, we may be labouring a distinction without a difference An elderly gentleman has suffered from rare major epileptic fits for many years, since he has become slightly arterio-sclerotic they have ceased, but what he calls "sensations" have taken their place These recur nearly every day He was seated in my consulting room and my blood pressure instrument was on his left arm, asked a question about his old school, to my surprise he vouchsafed no reply, grasping the table with his left hand, and the arm of the chair with his right, he sat motionless, turned a greyish colour, and his respiration immediately accelerated in a rapidly rising series of ever shorter and quicker breaths, becoming slower again in about half a minute and the arrhythmia ending with a deep sigh He immediately remarked, "Oh, I was at such and such a school," form, it as though he had not been aware of the fits distinguished thus passed Petit mal, of course, is contracted in rigid epithet but neurally considered, the arms extended and in the case was surely limited to the inverted Here I the floor of the fourth ventricle psychogenesis of the (whether vascular or neural I know there can be no doubt train that transient clouding of from the standpoint of an absence epileptique" Isolated tonic fits attended analogous kinds represents on occasion all that there is of epileptic semeiology

If we could but discover the secret of inhibition and of de-inhibition, if we had some scientific means of reinforcing the former at the moment when escape from control is imminent, could we but determine that switching off of the current which in some patients can be effected by potent stimuli aroused through other channels at the crucial moment, our treatment of epileptic episodes would not be so nugatory as it often proves to be

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STREPTOCOCCAL SEPTICAEMIA AND APLASTIC ANAEMIA

CASE REPORT

BY

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THE patient whose case we record was a girl aged 18, she had never been robust, though she had enjoyed moderately good health The tonsils had been under suspicion owing to a tendency to sore throat On the evening of November 13th, 1929, there occurred pain over the left costal margin The temperature was 104° This kept up and was of the high remittent type when seen by two of us (A W R and A G G) on November 16th Nose bleeding and ulceration of both tonsils had occurred on the 15th She was a well-made girl, well nourished, coughing up blood, which apparently came from the nose She was not unduly anaemic The left cheek had a slightly bluish tinge The pulse was 118, respirations 20, the fingers were not clubbed, the skin was normal in texture and clear of blemish or petechiae, there were no glands to be felt in the neck, axillae, or groins In the chest there was a slight diminution of breath sounds towards the left base behind, but no interference with movement and no signs of fluid There was nothing definite on examination of the abdomen On November 19th the urine contained albumin, blood, and a few casts, with a moderate number of long streptococci The signs in the left side of the chest were unaltered, but the left lumbar region was tender, and, though it was difficult to feel, the kidney appeared to be enlarged The epistaxis continued until November 21st, and the albumin in the urine persisted

On November 25th the temperature was of the high remittent type at the 102° level, and the patient was markedly anaemic The sclerotics were greenish, as was the tint of the skin The left lumbar and hypogastric region was tender, and one small petechial haemorrhage was noticed under the left breast There were no signs of infective endocarditis nor of severe renal disease, and the blood in the urine had disappeared, leaving a trace of albumin only The fever persisted, she became extremely ill with low muttering delirium at times, restlessness, and a return of the epistaxis on November 27th and 30th She was treated by iron (Blaud's pill) and antistreptococcal serum subcutaneous injections each of 10 c.cm., four of which were concentrated serums) on every second day and adrenaline mixture daily On December 5th she was given a

transfusion of blood, 1½ pints, which she stood well though she had a rigor afterwards She vomited on this and the previous day

The progress, despite the transfusion was downward, and on December 10th towards the evening the patient was breathless, anxious, restless, and in the early stages of cardiac failure Adrenaline, which had been given in doses of 10 minims daily since November 27th subcutaneously, was injected every three hours, and Praisse's ferruginous ampoule 1 c.cm was given intramuscularly, the following day the patient was slightly better, though she vomited three times and could not retain enemata of glucose with brandy It was then noticed that she had a number of petechial haemorrhages over the chest Some days before this, on December 4th, the right lobe of thyroid had become enlarged and was slightly painful, but the gland was well defined at this spot and showed no infiltration nor any external signs of haemorrhage On the morning of December 12th her condition was extremely critical She was semiconscious and restless, the respirations were rapid, and she complained of cramp like pains in the legs There was a large ecchymosis under the skin of each heel, surrounded by a flushed area, which looked like incipient gangrene, and there were areas of anaesthesia over the shins As the patient appeared to be dying of anoxaemia a second transfusion was given of 1½ pints of Group II blood

The result of this transfusion was a striking improvement for the following day she had a boiled egg for her breakfast and enjoyed fish for dinner, whereas the previous day (December 11th) she could retain nothing given by the mouth and very little given per rectum The temperature following this transfusion did not rise above 100° and fell to normal by December 27th

On December 24th the thyroidal swelling, which had become general and harder, pointed on the right side, and a fair quantity of pus containing streptococci was evacuated under gas The wound gradually healed under treatment by fomentation

After the second transfusion her colour became natural, though her general aspect was anaemic. From this time on she was given adrenaline and iron, and made progress Rheumatic pains affecting both feet were present in the early days of January On January 7th there was nausea, and on the 8th it persisted and the patient became drowsy Pain appeared in the left loin on January 10th, and continued with rheumatic pains in the leg and knee for several days Nausea also persisted Fever again became evident on January 8th There was tenderness in the left loin, and the left kidney was suspected of causing this tenderness On January 9th the urine contained a trace of albumin, in the deposit were pus cells and others from a transitional membrane, together with some long-chain streptococci On January 21st the urine contained albumose as well as a slight amount of albumin Pain on that day had appeared in the left knee On January 24th she had a bout of pain in the loin, called for the bedpan, and after what appeared to be a spasm passed two small masses of membrane, yellowish in colour, one 2 inches long and 1/3 inch broad, the other elongated, with striations on the surface 1/2 inch by 1/2 inch by 1/8 inch The membrane had the ordinary structure of a pyogenic membrane and contained numerous streptococci, the urine following this attack contained pus The temperature fell to normal on the next day (January 25th), and the pain ceased Frequency of micturition was marked on the 25th and 26th, and the appetite returned on the 27th From that date she made good improvement, the pus and albumin in the urine persisted for nearly a fortnight, but all signs of abnormality, including albumose, had disappeared by February 20th

The Blood Condition

The following are the blood counts made at different stages throughout the illness

			Total No. per c.mm.
November 26th 1929			
Red blood cells 1 450 000	Polymorphs	17%	909
Haemoglobin 24 per cent	S lymphocytes	3·5%	819
Colour index 0.85	L lymphocytes	49%	2621
White blood cells 5 350			

			Total No. per c.mm.
December 5th			
Red blood cells 850 000	Polymorphs	20%	222
Haemoglobin 18 per cent	Lymphocytes	5·5%	663
Colour index 1.1	Endothelials	17%	178
White blood cells 1 040	Mast cells	5%	

Blood platelets very few Nucleated reds present Blood film shows a degree of anisocytosis No gross poikilocytosis or polychromasia Size of red cells 7.32 microns (Eve)

December 5th blood transfusion

December 10th			
Red blood cells 1 170 000	Polymorphs	30%	50
Haemoglobin 24 per cent	Lymphocytes	52%	760
Colour index 1.03	Endothelials	11%	165
White blood cells 1 500	Mast cells	1%	
	Eosinophils	1%	
	Myelocytes	2%	

Four nucleated red cells seen There was little alteration in shape and none in colour of the red cells Platelets were extremely rare

December 12th, second transfusion

December 16th			
Red blood cells 1,330 000	Polymorphs	29%	430
Haemoglobin 30 per cent	Lymphocytes	63%	787
Colour index 1.1	Endothelials	7%	
White blood cells 1 250	Mast cells	1%	

Size of red cells 7.4 microns Slight polychromasia Two nucleated reds per 100 white cells

December 23rd			
Red blood cells 1 640 000	Polymorphs	35%	450
Haemoglobin 32 per cent	Lymphocytes	57%	934
Colour index 1.0	Endothelials	6%	
White blood cells 1 640	Mast cells	1%	

Anisocytosis and poikilocytosis moderate No polychromasia or punctate basophilia seen Platelets present in small numbers One normoblast seen

December 30th.			
Red blood cells 1 900 000	Polymorphs	52%	952
Haemoglobin 40 per cent	Lymphocytes	41%	787
Colour index 1.0	Endothelials	6%	
White blood cells 1 850	Mast cells	1%	

Slight polychromasia and anisocytosis Red cells 7.8 microns

January 5th 1930			
Red blood cells 2 060 000	Polymorphs	35%	937
Haemoglobin 54 per cent	Lymphocytes	50%	1425
Colour index 1.3	Endothelials	14%	793
White blood cells 2 850	Eosinophils	1%	

Size of red cells 7.7 microns Anisocytosis but no poikilocytosis or polychromasia Platelets very few

January 13th			
Red blood cells 2 250,000	Polymorphs	68.5%	2733
Haemoglobin 50 per cent	Lymphocytes	25.5%	1359
Colour index 1.1	Endothelials	5.0%	
White blood cells 5 450	Mast cells	0.5%	
	Myelocytes	0.5%	

Size of red cells 8.30 microns Morphology normal.

January 20th			
Red blood cells 2 620 000	Polymorphs	47%	2209
Haemoglobin 52 per cent	Lymphocytes	31%	1457
Colour index 1.0	Endothelials	21%	987
White blood cells 4 700	Eosinophils	1%	

Size of red cells 7.64 microns

January 27th			
Red blood cells 2,240 000	Polymorphs	52%	
Haemoglobin 50 per cent	Lymphocytes	44%	
Colour index 1.1	Endothelials	4%	
White blood cells 5 200			

Size of red cells 7.64 microns Some poikilocytosis and anisocytosis

February 3rd			
Red blood cells 2,960 000	Polymorphs	48%	2134
Haemoglobin 54 per cent	Lymphocytes	45%	2182
Colour index 1.2	Endothelials	9%	
White blood cells 4 850	Eosinophils	1%	
	Mast cells	1%	

Size of red cells 7.64 microns Some poikilocytosis and anisocytosis

February 10th			1252
Red blood cells 2,900 000	Polymorphs	28%	2584
Haemoglobin 56 per cent	Lymphocytes	61%	
Colour index 0.94	Endothelials	8%	
White blood cells 4 400	Eosinophils	2%	
	Mast cells	1%	

Size of red cells 7.64 microns Slight degree of anisocytosis and poikilocytosis

February 17th.			
Red blood cells 2,620 000	Polymorphs	47%	2115
Haemoglobin 60 per cent	Lymphocytes	44%	1980
Colour index 1.1	Endothelials	9%	
White blood cells 4,500			

Size of red cells 7.64 microns Still slight anisocytosis and polychromasia

			Total No per c mm
February 24th			
Red blood cells 3,240,000	Polymorphs	16%	296
Haemoglobin 68 per cent	Lymphocytes	66%	1221
Colour index 1 0	Endothelials	16%	296
White blood cells 1,850	Eosinophils	1%	
	Mast cells	1%	
Size of red cells, 7 81 microns			
March 3rd			
Red blood cells 3,910,000	Polymorphs	12%	264
Haemoglobin 72 per cent	Lymphocytes	80%	1760
Colour index 0 92	Endothelials	8%	
White blood cells 2,200			

Red cells almost normal in appearance and by Eve's halometer 7 48 microns (normal)

It will be seen that throughout there was a very grave anaemia with a high colour index, reaching on January 5th the figure 1 3 The white count in the most serious part of the illness was very low, and the total polymorph count extremely so The size of the red cells was never enlarged as determined by Eve's halometer, except on one occasion (January 13th), when it was increased and in the pernicious zone The whole gives a picture of serious interference with the bone marrow, but with some evidence of activity of that tissue The interpretation of these counts is that the patient suffered from an aplastic type of anaemia (agranulocytic anaemia) The last blood count, though the patient was apparently convalescent, showed a moderate degree of anaemia of this type

The Cardio-vascular System

The pulse from the early stage of the illness was fast, and was seldom recorded below 100 When the anaemia was most marked in the early days of December it varied about 120 It appeared to be higher after the first transfusion On December 11th the pulse was recorded up to 152, on this day the patient appeared to be dying, she was extremely pale, was breathless (respirations 48), and orthopnoeic Injections of adrenaline chloride 1/1000 of 0 5 c cm at three-hourly intervals caused great relief to the breathing and a lowering of the pulse rate Subsequent to this the injections were repeated thrice daily until December 30th, when they were reduced to two a day It was reduced to once a day on January 7th and discontinued on February 7th

Remarks

The case in one aspect was one of streptococcal septicaemia The illness began with a sore throat Fever persisted altogether in the first instance for twenty-nine days at a high level Though no blood culture was made streptococci were identified as the causal agent of the renal haemorrhage on November 18th Streptococci were the cause of the thyroidal abscess which was opened on December 24th, the same organism was found in the sloughs passed in the urine on January 24th The damage so obvious in the kidney and the thyroid appeared also in the bone marrow, as shown by the nature of the anaemia, the rheumatic pains, and the presence of albumose in the urine

In the matter of therapy only the most important drugs and measures are mentioned The first blood transfusion appeared to have some effect, but the second following the increased dose of adrenaline appeared to act in a marvellous way The action of the adrenaline appeared to serve more as a cardiac stimulant than as a haemopoietic, such as appears to be so clear in a previously published case [1]

As convalescence was established the patient returned to [illegible] home and ceased to be under our observation The [illegible] count, it will be seen, was not normal, and as the [illegible]t is young there is room for hope that some, if not [illegible]te restoration of function of the bone marrow may [illegible]mately ensue It may be mentioned, however, that the patient in the case previously described by one of us [1] still retains the blood count of an aplastic anaemia

Since the above was written the patient, after leading a normal life again suffered from a severe tonsillitis and died after a short illness

REFERENCE

1 Colson A C *Lancet* 1926 ii 948

THE DIRECT COMPARATIVE DIFFRACTION METHOD OF DEMONSTRATING MEGALOCYTOSIS

BY

J H MALLOY, M B , Ch B ,

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Two noteworthy articles by Pijper [1] and Eve [2] appeared in the literature of the past year describing instruments for the practical application of the diffraction phenomenon to the diagnosis of pernicious anaemia Both instruments show advance in the direction of simplification of necessary apparatus for convenience in clinical use Edwards [3] has described a modification of Pijper's instrument with a simpler form of illumination

The "direct comparative diffraction" method is a further simplification Exhaustive examination of blood films fails to show that it sacrifices efficiency for simplicity For the practical diagnosis and control of the treatment of pernicious anaemia, I have found that the results compare advantageously with those obtained by either Eve's halometer or Edwards's modification of Pijper's "diffraction micrometer" My personal observations have been *controlled and verified by the untutored observation* and discrimination of a large number of individuals of varying intelligence, who merely described what they saw in complete ignorance of the significance of their findings

The only *essential* apparatus is a normal blood film with which to compare films taken from cases suspected of suffering from the disease Any source of artificial light may be used, but candle light is probably best on account of its softness The flame of any small cigarette lighter with an exposed wick gives excellent results and is easily carried

Principle of the Method

The method depends on the following facts If a light is observed through a blood film held close to the eye a diffraction halo is seen which varies in intensity with the thickness of the film and the size, quality, and distance of the light The halo consists of two zones, the inner of which is a yellow disc surrounded by an orange ring The outer zone consists of concentric coloured circles of red, orange, yellow, green, blue, indigo, and violet, from without inwards Interposed between the two zones and actually belonging to the inner one is a red ring, which mingles to a varying degree with the orange and violet For the test this red ring is taken as the dividing line between the two zones

If the light is observed through two blood films one in front of each eye like spectacle lenses, actually only one halo is seen In reality it consists of the superimposed haloes of the two films The production of diplopia separates the haloes and presents them side by side for comparison as to size The haloes for the corresponding films are on the same side as the films The diplopia can be produced by a voluntary internal squint or by placing a prism, such as is found in refraction test cases, in front of one eye with the base to the inner side

The inner zone is the one chosen for comparison By comparison with the halometer and modified micrometer I have found that the central disc varies in size inversely with the average size of the red blood corpuscles It is possible to note variations of 0 1 degree according to Eve's scale The greater the degree of megalocytosis the more accurate is the discrimination Comparatively speaking, the difference in the size of the haloes which would give readings of 4 7 and 4 1 degrees respectively by Eve's scale might be taken as the difference between a halfpenny and a sixpenny piece, 4 3 and 4 1 degrees as the difference between a florin and a halfpenny

Making of Films

Wash the slides with soap and water, rinse thoroughly, dry with a towel and polish with a piece of silk To obtain a drop of blood, pierce the lobe of the ear, which need not be sterilized, with a sterile medium sized surgical needle Squeezing the lobe does not affect the test Take the drop on one end of the slide, allow it to spread along

the edge of another slide, and with the latter push it rapidly towards the other end This gives a film which tapers off in thickness, a condition ideal for the test

To obtain a standard film take drops of blood from several known healthy persons and compare the size of the central zones of their diffraction haloes If no difference in size can be noticed between any of them, any one may be taken as standard

Technique of Test

Hold the standard film between the finger and thumb of one hand and the unknown film in the other Examine the source of light through both separately to find the spot where the halo is seen most clearly Having done this, hold both films close to the eyes with the upper ends of the slides resting against the eyebrows Produce diplopia, and compare the size of the central discs of the separated haloes If a prism is used, fix it to the front of the slide with the finger and thumb, with the base inward , and examine by the method I have described Make sure first that the prism will produce diplopia Whatever method is used the observations should be checked by transposing the slides

Two fallacies may arise which are easily avoided *provided the possibility of their existence is recognized They* only cause confusion when examining slides whose corresponding haloes are practically equal Prolonged gazing at a bright light may cause a variation in the size of the haloes from irritation of the retina It may even be found that the smaller halo remains on the same side when the slides are transposed The remedy is to use a soft light and to carry out the examination as expeditiously as is compatible with accuracy The soft light of a candle is best, and I always use it in finally deciding doubtful cases

If the voluntary internal squint is used, too long continuance of it may result in changes in the size of the haloes This is due to unequal spasm of accommodation, and is most likely to occur if the light is brilliant and the operator unpractised Only those who can produce diplopia readily should use the squint method To correct the error rest the eyes for a few moments and examine the film again If in doubt use candle-light

Value of the Test

According to the observations of Price-Jones and Hurst an increase in the size of the red blood corpuscles is a constant feature of pernicious anaemia The "direct comparative diffraction" method shows this change, if present, by allowing of the comparison of unknown blood films with normal blood films The accuracy of the test depends on the finding of A. Pijper that the diffraction halo produced by passing a beam of light through a blood film varies in size inversely with the average diameter of the red blood corpuscles

Application of the Method

The presence of symptoms suggestive of pernicious anaemia and spinal cord degeneration calls for its use, as also do the symptoms classified under pre-pernicious anaemia described by Eve Marked positive results are diagnostic Negative results accompanied by strongly suggestive symptoms of "pre-pernicious anaemia" must be followed by very thorough physical examination, including a test meal for achlorhydria, examination of stools for occult blood, ova, etc Failure to follow this *last rule suggests a compromise between a desire for early* diagnosis and a disinclination to follow the desire to a logical conclusion

Prophylaxis

The inclusion of "pre pernicious anaemia"[2] with pernicious anaemia under the heading of "megalocytic anaemia" appears to me confusing Pre-pernicious anaemia by its very definition is not accompanied by anaemia Also from the point of view of the pathogenesis of the condition the term as applied by Eve is misleading Hurst[4] has shown that the primary condition is achlorhydria, which allows of infection of the duodenum by a haemolytic streptococcus This appears to be the starting point from which the toxin is produced Absorption of this toxin eventually results in the changes in the body which are recognized as pernicious anaemia It would seem to be more helpful to call the interval between infection and the onset of anaemia the incubation period of pernicious anaemia

If this view is taken the scope of prophylaxis is extended *A negative result of examination for megalocytosis*, if accompanied by achlorhydria should be followed by removal of all septic foci and treatment by hydrochloric acid The patient should be told of the possibilities of the condition and instructed to attend every month for blood examination I am at present treating a patient on these lines with very satisfactory results I have impressed on her the importance of seeking advice immediately on the reappearance of symptoms If megalocytosis is found, liver treatment must be given

Control of Treatment

Once treatment has been commenced this method may be used as a check on any improvement Blood films should be taken every fortnight and marked with name and date Each new blood film should be compared with the standard and as many of the previous films as are necessary to check whether the condition is stationary improving, or retrogressing The slides can be safely kept between succeeding folds of white paper

Comparison with Other Methods

The disadvantages of this method are more numerous in theory than they are real in actual practice It might be argued that slight differences in the average diameter of the red blood corpuscles—say 0 05 μ—would not produce differences in the size of the haloes easily discernible to the eye Even if this is literally true, it by no means diminishes the value of the method On the contrary it enhances it because the absence of a sharp dividing line between normocytosis and megalocytosis renders such delicate differentiations valueless and misleading in diagnosis

With regard to delicacy of differentiation in the observation of any increase or decrease in the size of the corpuscles it compares very favourably with Eve's halometer I have not found that different observers, even with practice get constant results with the same slides in the use of this instrument This is due to the fact that as the haloes are approximated the arcs in the red circle cut off by the green circles of the overlapping outer zones become more and more indistinct, making the points of contact, to say the least arbitrary This is easily made out by pushing the knob along the slide till the red circles are almost in contact and comparing the clearness of the red at the inner and outer poles

The modification of Pijper's diffraction micrometer described by Edwards is open to several objections Very slight faults in construction—for example, errors in alignment of the partition—give erroneous results The flash-lamp bulbs which may be used for the light may give distorted haloes, so much do they vary in their filaments and in the shape of their glass bulbs Slight variations in the focusing of the lenses may result in the formation of incomplete semicircles which are useless for differentiation Films which can easily be differentiated by the "direct comparative diffraction" method, may give results with this instrument the interpretation of which is largely open to questions of opinion

The method I have described possesses the *following* advantages The necessary impedimenta are *easily carried* They consist of three glass slides one with a standard blood film, one glass prism, unnecessary if the user can produce voluntary diplopia easily one small pocket cigarette lighter, also unnecessary as the candle is ubiquitous, one medium-sized surgical needle a small piece of cotton-wool to stop bleeding if necessary All these can be carried in a small cigarette case Mechanical breakdown is impossible There are none of the difficulties which are constantly associated with electric lighting

If it is remembered that (1) variations in size of the haloes which might be considered equivocal constitute a negative result, (2) equivocal observations must be followed by a test meal if the suspicions of pernicious anaemia in any of its stages are strong, this method has nothing to lose by comparison with instrumental methods of measuring megalocytosis

			Total No per c mm
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Red blood cells 3,240,000	Polymorphs	16%	236
Haemoglobin 68 per cent	Lymphocytes	66%	1221
Colour index 1 0	Endothelials	16%	296
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Size of red cells, 7 81 microns			
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REFERENCE

1 Cabot, A G *Lancet* 1926 ii 948

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The presence of symptoms suggestive of pernicious anaemia and spinal cord degeneration calls for its use, as also do the symptoms classified under pre-pernicious anaemia described by Eve Marked positive results are diagnostic Negative results accompanied by strongly suggestive symptoms of "pre-pernicious anaemia" must be followed by very thorough physical examination, including a test meal for achlorhydria, examination of stools for occult blood, ova, etc Failure to follow this last rule suggests a compromise between a desire for early diagnosis and a disinclination to follow the desire to a logical conclusion

Prophylaxis

The inclusion of "pre-pernicious anaemia"[2] with pernicious anaemia under the heading of "megalocytic anaemia" appears to me confusing Pre-pernicious anaemia by its very definition is not accompanied by anaemia Also from the point of view of the pathogenesis of the condition the term as applied by Eve is misleading Hurst[4] has shown that the primary condition is achlorhydria, which allows of infection of the duodenum by a haemolytic streptococcus This appears to be the starting point from which the toxin is produced Absorption of this toxin eventually results in the changes in the body which are recognized as pernicious anaemia It would seem to be more helpful to call the interval between infection and the onset of anaemia the incubation period of pernicious anaemia

If this view is taken the scope of prophylaxis is extended A negative result of examination for megalocytosis, if accompanied by achlorhydria should be followed by removal of all septic foci and treatment by hydrochloric acid The patient should be told of the possibilities of the condition and instructed to attend every month for blood examination I am at present treating a patient on these lines with very satisfactory results I have impressed on her the importance of seeking advice immediately on the reappearance of symptoms If megalocytosis is found, liver treatment must be given

Control of Treatment

Once treatment has been commenced this method may be used as a check on any improvement Blood films should be taken every fortnight and marked with name and date Each new blood film should be compared with the standard and as many of the previous films as are necessary to check whether the condition is stationary improving, or retrogressing The slides can be safely kept between succeeding folds of white paper

Comparison with Other Methods

The disadvantages of this method are more numerous in theory than they are real in actual practice It might be argued that slight differences in the average diameter of the red blood corpuscles—say 0·05 μ—would not produce differences in the size of the haloes easily discernible to the eye Even if this is literally true, it by no means diminishes the value of the method On the contrary it enhances it because the absence of a sharp dividing line between normocytosis and megalocytosis renders such delicate differentiations valueless and misleading in diagnosis

With regard to delicacy of differentiation in the observation of any increase or decrease in the size of the corpuscles it compares very favourably with Eve's halometer I have not found that different observers, even with practice, get constant results with the same slides in the use of this instrument This is due to the fact that as the haloes are approximated the arcs in the red circle cut off by the green circles of the overlapping outer zones become more and more indistinct, making the points of contact, to say the least arbitrary This is easily made out by pushing the knob along the slide till the red circles are almost in contact and comparing the clearness of the red at the inner and outer poles

The modification of Pijper's diffraction micrometer described by Edwards is open to several objections Very slight faults in construction—for example, errors in alignment of the partition—give erroneous results The flash-lamp bulbs which may be used for the light may give distorted haloes, so much do they vary in their filaments and in the shape of their glass bulbs Slight variations in the focusing of the lenses may result in the formation of incomplete semicircles which are useless for differentiation Films which can easily be differentiated by the "direct comparative diffraction" method, may give results with this instrument the interpretation of which is largely open to questions of opinion.

The method I have described possesses the following advantages The necessary impedimenta are easily carried They consist of three glass slides, one with a standard blood film, one glass prism, unnecessary if the user can produce voluntary diplopia easily, one small pocket cigarette lighter, also unnecessary as the candle is ubiquitous, one medium-sized surgical needle a small piece of cotton-wool to stop bleeding if necessary All these can be carried in a small cigarette case Mechanical breakdown is impossible There are none of the difficulties which are constantly associated with electric lighting

If it is remembered that (1) variations in size of the haloes which might be considered equivocal constitute a negative result, (2) equivocal observations must be followed by a test meal if the suspicions of pernicious anaemia in any of its stages are strong, this method has nothing to lose by comparison with instrumental methods of measuring megalocytosis

Conclusion

Since no fixed boundary line can be determined between normal and abnormal size of the red blood corpuscles for any given individual, I think that the regular comparison of blood films in suspicious cases of pernicious anaemia is of much greater value than attempting to fix a definite point judged by any scale on any instrument Therefore I submit as worthy of consideration the value of the "direct comparative diffraction" method of observing the onset and progress of any increase in the size of the red blood corpuscles, which has been shown to be diagnostic of pernicious anaemia and the blood changes of subacute combined degeneration of the spinal cord

REFERENCES

[1] *British Medical Journal* April 6th 1929, p 635 [2] Ibid July 13th 1929 p 48 [3] Ibid October 26th 1929, p 785 [4] Price's *Textbook of the Practice of Medicine*

MEASUREMENT OF THE DISTRIBUTION OF GAMMA RAYS AROUND A FOUR-GRAM MASS OF RADIUM

REPORT FROM THE PHYSICS DEPARTMENT, WESTMINSTER HOSPITAL,

BY

H T FLINT, D Sc, PH D, M R C S, L R C P,

AND

L G GRIMMETT, B Sc

THIS paper describes an attempt to measure accurately the gamma radiation field, in air, of the radium "bomb" in use at Westminster Hospital Annexe The bomb is shown, in section only, in Fig 3, four separate grams of

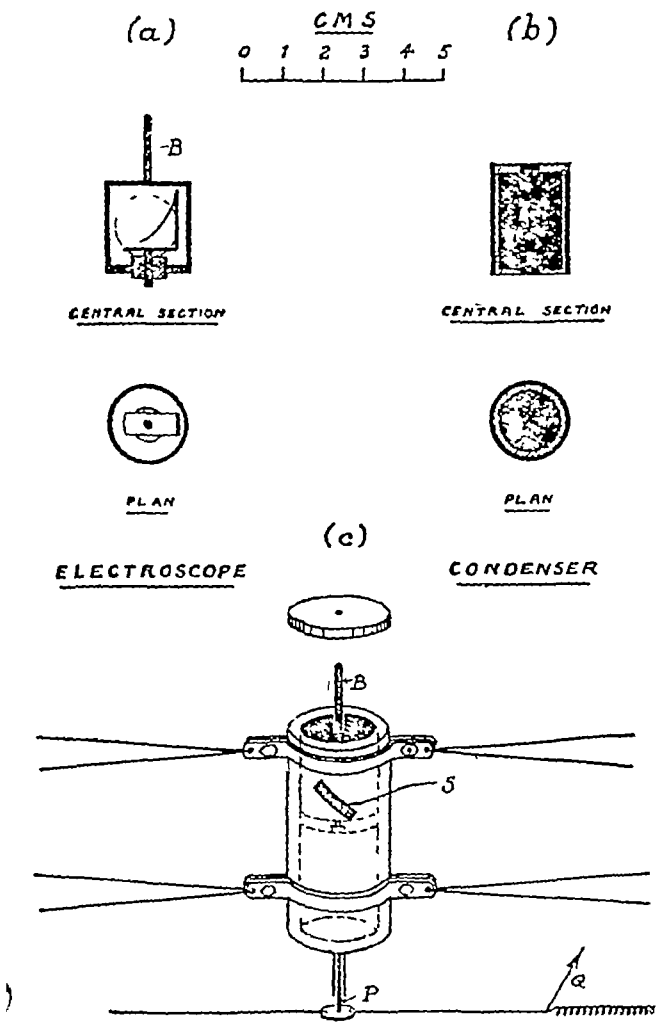


FIG 1

radium were placed one at each corner of a 4 inch horizontal square and so disposed in a lead container* that the issuing radiation was confined to two fairly narrow beams one above and the other below the container

An ionization method was chosen for investigating the field A few preliminary trials with the usual type of apparatus—namely, a small exploring ionization chamber connected by a long wire to a distant electroscope—led us to believe that many difficulties would be avoided at the outset by combining ionization chamber and electroscope into one small instrument, thereby dispensing with connecting leads altogether It is, for example, impracticable to use lead screening to prevent ionization losses from the connecting wire on account of the thickness required the alternative plan of embedding the wire in paraffin wax gives trouble from the static charging-up of the insulation immediately round the wire when exposed to the radiations The capacity of such a connexion also becomes undesirably large compared with that of the ionization chamber

Accordingly, a tiny gold leaf electroscope was made up as shown in Fig 1 (*a*) The leaf was attached to a brass plate 15 by 6 mm, which was mounted on a sulphur plug, and encased by a thin brass cylinder of radius 10 mm and length 20 mm, furnished with a transparent circular window back and front To slow down the movements of the gold leaf to a measurable rate in the intense fields which were being dealt with it was found necessary to add in parallel with the electroscope a small condenser consisting of two co-axial brass cylinders separated by a thin film of sealing-wax (Fig 1 (*b*)), whose electrostatic capacity was of the same order as that of the electroscope itself

To ward off stray beta rays the electroscope and con-

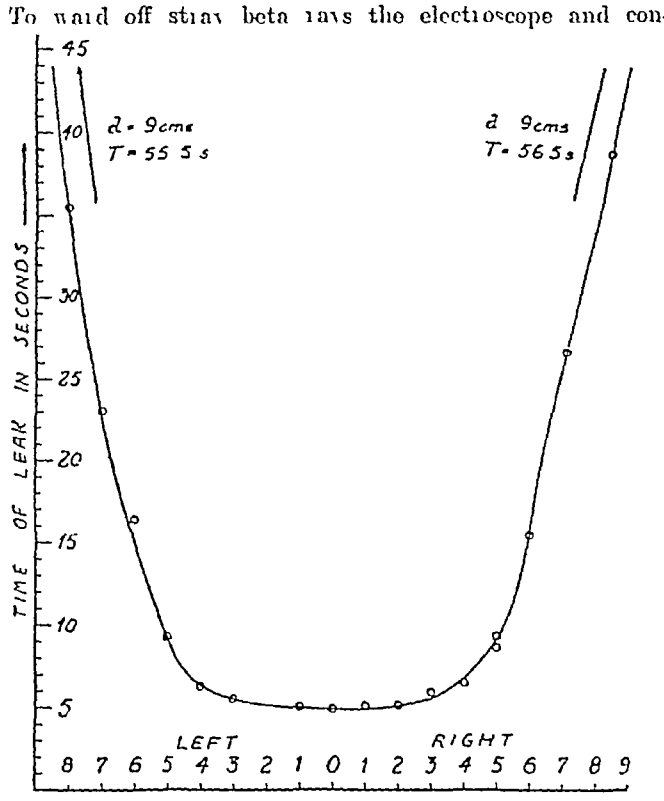


FIG 2.

denser were assembled one above the other in a cylindrical lead sheath 3 mm thick (Fig 1 (*c*)) which was closed by a circular disc of lead 3 mm thick this was located in position by the spike B fixed to the top of the electroscope, the spike also served to indicate the middle of the instrument The only beta rays which could enter the ionization chamber directly were those which passed in through the narrow diagonal viewing slots S

In order that scattered radiation from the electroscope supports might be reduced to a minimum, the lead sheath

* For a complete account of the bomb see an article on Radium Therapy by Ernest Rock Carling in the *British Medical Journal* of February 8th 1930 (p 232)

and contents were slung on thin steel wires at the centre of an opening 1 metre square, in a light wooden framework, braced with steel wires, which carried at one end a lamp for illuminating the leaf and at the other a telescope for viewing the leaf at a safe distance of 2 metres

The radium container was too heavy to move about with ease, therefore wheels were fitted to the framework so that it would run on a horizontal rail at each end, each rail being adjustable for height The electroscope could thus be placed in any desired part of the field and its position recorded by means of horizontal and vertical scales attached to the framework

The gold leaf system could be connected to a battery of 230 volts by lifting the metal plunger P into contact with the condenser by pulling on a string Q at the operator's end The plunger was earthed to the electroscope case during measurements

The relative gamma-ray intensities at various points were determined by timing the fall of the gold leaf over a fixed interval in the eye-piece scale, which corresponded to a potential change in leaf and condenser of from 228 to 142 volts The accompanying table gives a typical set of readings taken along a horizontal line 4 cm below the bomb, and intersecting its vertical axis Fig 2 shows the same data in graphic form.

Distance (in cm) to left of centre	9	8	7	6	5	4	3	1	0
Time of leak (seconds)	55.5	35.5	23.0	16.3	9.2	6.2	5.-	4.9	4.3

Distance (in cm.) to right of centre	1	2	3	4	5	6	7	8	9
Time of leak (seconds)	5 0	5 0	5 8	6 4	8.5	15.3	25.6	3 7	56.5

Further series of measurements were taken at different levels, in all about 500 readings, covering a vertical area 25 by 20 cm each series giving a curve of the same general character as that of Fig 2

The strongest field observed corresponding to a time of leak of 5 seconds, was taken as 100 in arbitrary units of intensity The isometric lines (curves of equal times of leak, "isodoses") for 100, 95, 90, etc, arbitrary units were drawn by linking up the points on the various levels for which the times of leak were 5 sec, 5 26 sec 5 55 sec, etc, these numbers being inversely proportional to 100, 95, 90, etc Fig 3 shows, on a reduced scale, the gamma-ray isometrics taken in a vertical diametral plane parallel to the bomb supports, it is accurate on the whole to within 5 per cent The chart enables skin doses to be read off in arbitrary units

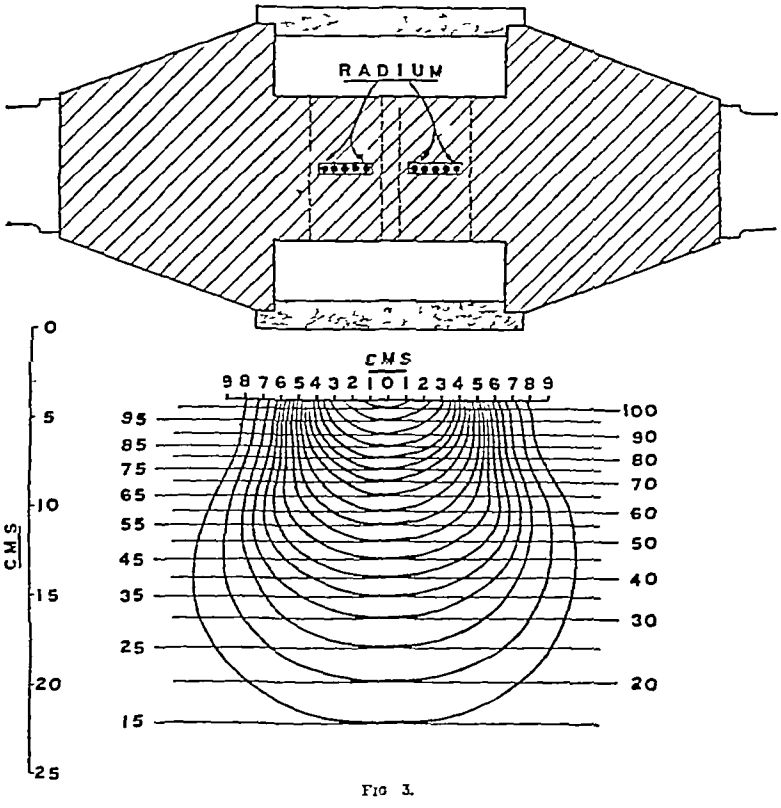


FIG 3.

At the present time there is no general agreement as to the best absolute unit to be used in connexion with the measurement of dosage in gamma-ray therapy Various units have been employed in radiation therapy, and two of these which could be applied to this work are the international R unit and the absorption unit (energy absorbed per cubic centimetre per milligram hour) The calculation of the dose in terms of these units is not without difficulty, especially in the case of the R unit The electrostatic capacity of our measuring instrument has been determined by direct substitution in an oscillating circuit, which completes the data required for computing the total charge set free per second in the ionization chamber but in order to separate the wall effect from the true gas ionization effect by means of which the R unit is defined much further research is necessary

The arbitrary units adopted here form the basis of an accurate measurement of the dose given in any case, and it will be possible to convert them to whatever scientific unit is ultimately adopted in work of this kind The depth dose in the tissue may be expected to differ somewhat from that indicated on the chart by reason of scattering and absorption

It is interesting to note in passing how clearly the lateral bulges of the isometrics mark the boundary of the geometrical shadow cast by the lead tunnels which confine the radium Evidently the spreading of the field may be controlled by altering the depth of the lead channel

LATEST MODIFICATION OF WESTMINSTER TELETHERAPY APPARATUS

BY

FRANCIS ROCK CARLING, B Sc,

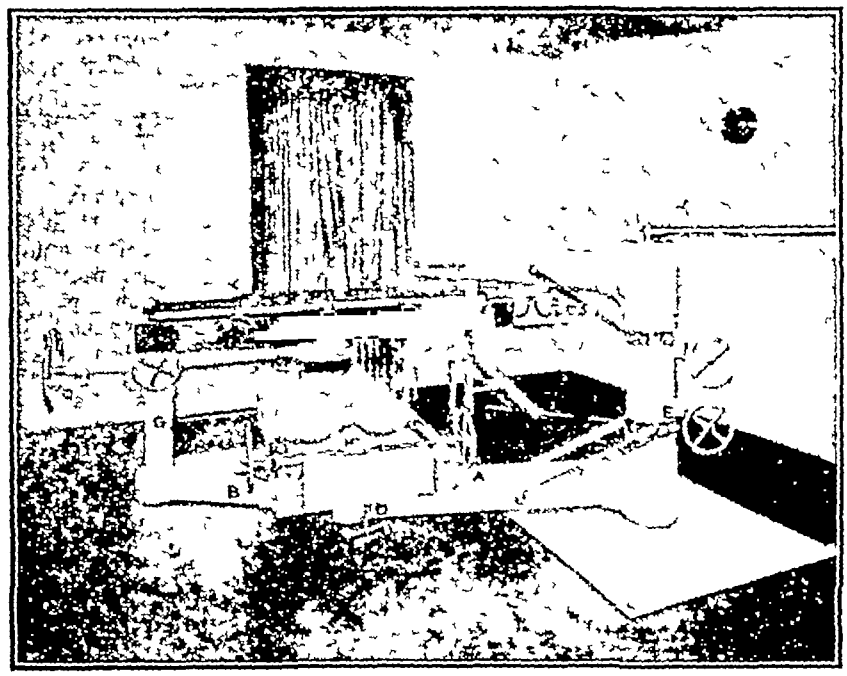
LATE TECHNICAL ADVISER RADIUM DEPARTMENT WESTMINSTER HOSPITAL.

THE apparatus to be described was designed to enable those engaged in the treatment of patients to perform their work more safely and easily

Two patients can be treated simultaneously, one above the radium, the other beneath it The bomb itself is designed to tilt only about one axis, so placed that the direct radiation cannot enter the main building, the directions being either towards the sky and ground, or the garden and the road which are safe by reason of distance Thus the necessity for protecting the main building is largely removed In order, however, to err on the side of over-precaution, barium plaster was added to a 24-inch wall Each stretcher can be so approached to the bomb that the axis of tilt of the latter is either parallel to the stretcher or at right angles to it Each stretcher can also be raised or lowered, tilted about its long axis, and traversed longitudinally or laterally Thus the radiation from the bomb can be brought to any position on a patient with the minimum of inconvenience All the movements

can be accomplished with but slight physical effort The controls are placed at the end of the stretcher, which is remote from the radium, so that the operator may adjust the patients, while himself being not only out of the field of radiation but at a considerable distance from it In the same way the bomb controls are placed sufficiently far from the radium for adjustment to be effected without exposure to the radium

It may be mentioned for the sake of those who are interested in technicalities of design that, in spite of the substantial appearance, the maximum stress normally occurring in the hollow wooden beams of the stretchers amounts to 500 lb to the square inch in tension and 300 lb in compression The maximum normal stresses in the steelwork are 10,000 lb to the square inch, in the non-corrosive aluminium castings 5,000 lb, and the maximum bronze-bearing pressures 1,000 lb to the square inch In the case of a suddenly applied load (patient) these stresses may be momentarily doubled



The procedure in putting a patient into position is as follows The appropriate stretcher is pushed round until it occupies a position near the door (in the photograph this is near the foreground) Here the patient is either lifted on to the stretcher or, if able, mounts into position by a convenient pair of steps Then the patient is made comfortable and the exact situation of the lesion located The stretcher is then pushed into the approximately correct position The height is adjusted by the wheel A, the tilt by the wheel B Longitudinal and lateral adjustment requires only a slight pressure of the hand to push the stretcher as desired The position can then be fixed by adjusting the clamps D and E The desired tilt of the bomb is effected by the wheel C Once the patient is correctly adjusted the radium is moved from its shielded position into its working position by means of the lever F

The bomb itself consists of a circular lead block some 17 inches in diameter and 5 inches in thickness It is slung in an aluminium casting round its circumference, which is in turn attached to the steel beam supporting it The beam rotates in ball bearings in the head of the stand G In the centre of the lead is a hole passing through it some 8 inches in diameter Into this from either side are screwed lead annuli of desired dimensions, so that an opening from 4 to 6 inches in diameter can be obtained The radium, in 20 tubes, can be moved radially into this hole by means of a Bowden cable terminating in the handle F Thus the tubes are always disposed in a circle, the diameter of which can be varied at will An investigation of the field from this arrangement of radium is now in the process of being performed The preceding article by Dr Flint and Mr Grimmett describes the field from the "bomb" illustrated in the *Journal* of February 8th, 1930

FATAL DERMATITIS FOLLOWING THE USE OF IODINE SPIRIT SOLUTION

BY

R CHARLES ALEXANDER, M B, CH B, F R C S ED,

SURGEON, ROYAL INFIRMARY DUNDEE, LECTURER IN CLINICAL SURGERY, UNIVERSITY OF ST ANDREWS

For some twenty years solutions of iodine in spirit of varying strength up to 5 per cent have been in use for the preparation of the skin preliminary to surgical operation While a certain amount of skin irritation has been noted in a few cases, there would seem to be no record of a fatality occurring from the use of such a solution, and an account of the course of a case where death followed its use seems worthy of publication

A married woman, aged 37 was admitted to my wards in Dundee Royal Infirmary, on the recommendation of Dr G F Whyte, for the radical cure of a femoral hernia There was nothing unusual in the clinical features of the case, or in the account given by the patient of her previous health Fifteen years previously she had been operated on by another surgeon for acute appendicitis but no information is available as to the method of skin preparation employed at that time

The routine skin preparation then employed in my clinic was that on the day previous to operation the skin of the operation area was shaved the part was washed with ethereal soap and water, dried with a sterile towel painted with surgical spirit, and when that had dried it was painted with a 2½ per cent solution of iodine in spirit When this had dried the part was covered with a sterile dressing retained in place by a bandage, this preparatory dressing being removed on the operating table after anæsthesia had been induced and just before the final preparation of the operation area, which in a clean case, consists of the application of a single coat of the 2½ per cent iodine solution with a gauze pad held in forceps by the surgeon or assistant The solution kept in the theatre for this purpose is stored in a coloured glass bottle with a glass stopper, sufficient for use in each case is poured into a sterile enamel dish a fresh supply being employed for each patient, and no other iodine solution being kept in the theatre At the conclusion of the operation the area is again painted with the solution, a sterile dressing of gauze and cotton wool is applied and retained in place with a domette bandage

The solution used is a 2½ per cent solution of *resublimed* iodine in pure industrial alcohol A small quantity of chloroform, in the proportion of one fluid drachm to four fluid ounces, is added to the iodine solution to prevent the evolution of the irritating iodine vapour so common to alcoholic solutions of iodine Industrial alcohol (the industrial methylated spirits supplied for hospital and special pharmaceutical purposes) is a mixture of plain spirit with 5 per cent of its volume of methyl alcohol, and is preferable to the mineralized spirit since it contains no pyridine or methyl violet and less methyl alcohol

In the case under review nothing unusual was observed in the appearance of the skin at the time of operation The solution employed in the wards and in the theatre for the preparation of the patient was used in several other cases without untoward effects

The first sign of anything being amiss was observed on the day following the operation, when the patient complained of an intense irritation in the region of the wound On examination the whole area prepared for the operation was found covered with an erythema with a few pustular spots A mild boric dressing was applied, and, since this failed to give relief the application of 10 per cent ichthyol in glycerin was tried On the following day the temperature rose to 103°, the erythema being intense and almost plum-coloured, with white spots scattered over the whole area The pulse rate was 140, and the heart was found to be slightly enlarged with soft systolic bruits in all areas There were no abnormal physical signs in the lungs or abdomen, urine was freely passed, and the bowels moved normally There was

slight delirium The white blood cell count was 12 800 per c.mm On the third day after the operation delirium was well established and the pulse became imperceptible On the advice of Dr F M Milne dermatologist to the Infirmary sodium thiosulphate in 5 per cent aqueous solution was applied to the affected area, with the result that the erythema disappeared in a few hours The patient died seventy two hours after the operation with cardiac failure and delirium as the terminal features

Since the certificate of death stated that the cause was 'iodine poisoning' the case had to be reported to the Procurator Fiscal for inquiry The authorities accepted our medical report as fully explaining the reason for the patient's death and did not order a post mortem examination and, as we were unable to obtain permission from the relatives the exact pathological changes could not be determined

Comment

It comes as a shock to a surgeon when any commonly practised procedure has an unexpected fatal issue, and a careful investigation followed into the circumstances of the case Inquiry was made as to possible idiosyncrasy, and it appeared that there were grounds for suspecting this, in that, when on holiday in Aberdeen at one time, the patient had been supplied by a chemist with iodine (in what strength of solution we could not ascertain) for the treatment of an abrasion on the toe, and that its application was followed by a severe local reaction The actual solutions used in the preparation of this patient were used for other patients without ill effect, and there was no departure from the routine preparation already described It was possible that the strength of iodine solution standing in an open vessel in the warm atmosphere of an operating theatre might have been increased by evaporation This had been guarded against by the use in each case of a supply freshly poured from a stoppered bottle Milder forms of dermatitis appear sometimes to be caused by the use of water to clean e blood from the skin surrounding the area of the wound after the completion of the operation Aqueous solutions of iodine are more irritant to the tissues than alcoholic solutions, this being noted when catgut prepared in aqueous iodine solution is used for ligatures, as it seems to favour the production of serum in the wounds Should any cleansing of the skin round the wound be required after operation spirit or ether should be employed

It would appear, therefore, that in this case there was a definite and pronounced individual idiosyncrasy to iodine The actual cause of death was apparently analogous to that in superficial burns from the absorption of toxic products of skin destruction An interesting feature of the case was the immediate relief to the irritation given by the application of sodium thiosulphate

Even an exceptional case like this has caused me to review the method of skin preparation preliminary to operation, and I have adopted with success a 1 per cent solution of iodine in carbon tetrachloride Over a period of some months only one patient has shown any trace of skin irritation For many years I used a 3 per cent solution of picric acid in spirit and its penetrating power appeared to be great, but the occurrence of dermatitis in a series of cases led me to abandon it

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

EMBOLISM OF THE ABDOMINAL AORTA

In view of a case recently published in the *British Medical Journal* (November 30th, 1929, p 1002) I think the following one of a very similar nature is worthy of publication

A widow, aged 54 had suffered from chorea at the age of 10 Beyond this no other details are available. For many years she had suffered from rheumatism but had had no acute attacks In time she complained of shortness of breath and had been treated for auricular fibrillation and myocarditis for some years For the past six months she had had attacks of acute pain over the precordium radiating to the left shoulder and arm With treatment these attacks gradually subsided and I did not see her for about two months. She then sent for me complaining of acute pain in the lower central abdomen radiating down both thighs to a little below the knees The onset had been sudden and was associated with loss of power and coldness in both lower extremities When I saw her three hours after the onset she was sitting up in bed very distressed, cyanosed gasping for breath and continually clutching at her legs Her heart was fibrillating, with an apical rate of 110 per minute and there was a systolic apical murmur Her feet were cold but the legs were still warm, and very pale as were also the thighs No peripheral pulse could be felt. She could then bend her knees, but had no movement at the ankle-joint Power at the hip-joint was still present and she could raise her knees off the bed The plantar reflexes and knee-jerks were feebly elicited, but no ankle reflexes could be obtained.

She was given 15 grains of potassium bromide and 15 minims of digitalis every four hours, while the legs were well wrapped up in warm coverings. The next morning she felt more comfortable but still complained of pain in the thighs and had lost all power below the knees as well as all reflexes and sensation Three days from the onset she had an anginal attack, and her breathing became rattly while the chest was filled with moist sounds She was given morphine 1/4 grain atropine 1/100 grain and digitaline 1/50 grain Two hours later she felt much more comfortable By this time she had lost all power in her legs and thighs, the skin of which had assumed the blue mottling seen post mortem and no reflexes or sensation could be elicited apart from a small area on both thighs extending downwards for about two inches below Poupart's ligament, and running round the thigh rising somewhat posteriorly

The morning after the anginal attack following a restless night her colour had much improved though the heart was still fibrillating Her legs were in the same condition and micturition had by now become automatic. She remained in this state till the same evening (four days from the onset) when she had some severe convulsions in both arms Her bronchi became choked with mucus, and she died No post mortem examination could be obtained

The diagnosis appeared obvious at the first visit—embolism of the abdominal aorta—and, apart from palliative treatment, nothing could be done, as the patient would not consider removal to hospital

Two points are of interest (1) The reflexes and sensation, as also the muscular power, did not disappear for about fifteen hours from the onset (2) The small area where there was still warmth and sensation, the skin of which must have obtained blood from a collateral source

Hull. T STIRLING EDDIE, M B , B S Melb

TAENIA SAGINATA INFECTION

INFECTION by tapeworm does not appear to be very common in these days of strict control of slaughterhouses and meat inspection, so that the following case, which presented some unusual features, may be of interest

A Jewess, aged 56, had complained of severe pain in the epigastrium for over six weeks, with occasional vomiting after meals The usual gastric sedatives had no effect An examination of the stools for occult blood revealed the ova of *T saginata*, but no history of the passage of proglottides could be obtained A drachm and a half dose of the extract of male fern was given on an empty stomach the morning after the discovery of the ova Within ten minutes the patient collapsed and fell into coma, with twitching of the muscles of the face Ether was injected intravenously, and the patient vomited some of the drug shortly afterwards. She remained, however, in a stuporous condition for about two hours. The bowels then moved, and she gradually recovered consciousness A fully matured specimen of *T saginata* was passed later and the patient made an uninterrupted recovery No castor oil was taken by the patient for the expulsion of the worm, but I learnt later that she was in the habit of taking a dose of olive oil every night before retiring

I beg to thank Professor R T Leiper for his kindness in identifying the [illegible] tapeworm in this case.

Nottingham. [illegible] DENHAM, M.B , D.P H , D T.M.

Reports of Societies.

DELIRIUM TREMENS CAUSATION AND TREATMENT

AT a meeting of the Society for the Study of Inebriety on July 3rd, with Mr W McADAM ECCLES, president, in the chair, a discussion took place on the causation, prevention, and treatment of delirium tremens

Dr E F WILLS (resident medical superintendent, Rendlesham Hall, Suffolk), in an opening paper, first drew attention to certain points in causation The delirium was almost unknown in those who had only recently become immoderate drinkers, in other words, it was not in those who had periodic bouts at comparatively long intervals, but in the habitual soaker, that delirium tremens most commonly occurred It was possible that some intercurrent disease, such as an infection of the nature of influenza, might act as a determining factor in the immoderate drinker The vexed question of the onset being due to the sudden withdrawal of the usual excessive amount of alcohol taken demanded some further investigation The experience of those who had to deal with persons admitted into institutions for the treatment of inebriety was that the delirium was more likely to show itself when alcohol was suddenly discontinued to those who had been allowing themselves large quantities right up to admission This was confirmed by the fact that delirium was less likely to occur when there was a process of tapering the amount taken, even if the tapering under careful observation were fairly rapid In treatment Dr Wills laid it down that the alcohol should be tapered, as far as possible, in strict accord with the actual amount taken before the onset of delirium It was essential to obtain some sleep, probably hyoscine, or hyoscine combined with morphine, was the best method He urged that the functions of the liver in delirium tremens should be the subject of investigation Acidosis and acetonuria, both of hepatic origin, had been noticed in cases, ketones had also appeared in the urine, and this matter was really not understood Finally, it was pleasant to know that the number of cases of delirium tremens was on the decline, and a day might be expected when the disorder would have vanished altogether

Dr G B GRIFFITHS (a member of the Prison Commission) said that formerly, as a prison medical officer, he saw a good deal of delirium tremens Many cases came to prison hospital, perhaps a little stupid, and in the course of twenty-four hours developed the delirium His practice had always been not to taper the alcohol, but to cut it off straight away Years ago the number of cases seen in prisons was greater than now, but it was never very large He used to put the patients in a quiet, airy room, where they were under skilled observation, they were given eggs and milk, and so forth, with purges, and he never lost a case, nor did he remember a patient who suffered unduly The medical officers of London prisons, with whom he had been lately in touch, all declared that delirium tremens did not now exist One of them said that he had not seen a case for eight years Between 1920 and 1923, when statistics were gathered for the Board of Liquor Control, there were only four to six cases per annum in the prisons of the country Asked by the PRESIDENT whether he thought the cutting off of alcohol induced the onset of delirium tremens in some cases, Dr GRIFFITHS said that he did not think so, though he agreed that the shock of incarceration might have that effect, acting in the same way as the fracture of a limb had been known to do in such subject He had asked the prison medical officers if delirium tremens had diminished, and they suggested increased price of liquor, the diminution of alcoholic content also the general rise in intelligence and the multiplication of wholesome interests

Dr J D ROLLESTON said that when he first joined the staff of a fever hospital delirium tremens was certainly much more prevalent than at present This was very evident in the severe epidemic of small-pox in 1901–2, when a large number of the patients were men addicted to alcohol Of recent years, and particularly since the war, the occurrence of delirium tremens had been very slight indeed Among the 4,000 admissions yearly at the Western Hospital it was rare to see more than one case a year His practice had been to treat the cases without alcohol Alcohol had been cut off altogether, with beneficial results

Dr T STACEY WILSON said that he had seen very little delirium tremens in practice, though in his student days at the Edinburgh Royal Infirmary there was a delirium tremens ward In those days the cases were treated by cutting off alcohol straight away, and the treatment was by digitalis, chloral, and bromide—20 minims of tincture of digitalis, 20 grains of chloral, and 20 grains of bromide—given every two hours until the patient slept It was rare to have to give more than two or three doses before the patient slept and woke up recovered In cases of alcohol addiction he had found coramine—a synthetic camphor—very useful

Dr H T P YOUNG (Parkhurst) said that he had seen no case of delirium tremens for seven years, although he had had many thousands of prisoners passing through his hands During the last week, however, a case of the pre-delirium type had come under his observation, and had been treated on the lines he always adopted in these cases, so far with satisfactory results His plan was to cut off alcohol at once This man had a history of marked and prolonged alcoholic addiction, and on being admitted to the prison hospital became slightly tremulous, his urine was found to contain a large amount of albumin, and the skin was rather moist He was given an ordinary purgative, and put upon digitalis and diaphoretics, with a milk diet During a week no further symptoms pointing to delirium tremens had developed, and the condition was subsiding Digitalis was given for its diuretic effect

Dr W G PRIDMORE believed in tapering He could recall several cases of heavy drinkers coming to hospital—really good old soakers—and on their alcohol being stopped completely they developed symptoms, and on the resumption of alcohol they got right On the other hand, when dealing with drug addiction, he cut off the drug entirely

Dr C W J BRASHER recalled the case of a ship steward, who came to the out-patient department with severe scalding He refused to become an in-patient, but a few days later he was admitted with broncho-pneumonia, and almost immediately developed delirium tremens He was put on a certain quantity of alcohol, and continued for six weeks in an extremely hallucinated condition, and eventually had to be sent for a time to a mental hospital

Dr J H MORTON (medical officer, Holloway Prison) said that he had been brought up to believe that the way to treat delirium tremens was by tapering It was not until he entered the prison service, and saw cases of delirium tremens frequently, that he changed his views entirely In a hospital in Dublin of which he had had some experience, these people were put on a bottle of stout a day—stout being the liquor to which they had been used—and, perhaps as a consequence, they always had to have one male attendant Later, when he came upon these cases in prison, he cut alcohol off entirely The people were put on milk diet and on salines, and after a sleep of sixteen or twenty hours they got over their attack They were given practically no sedatives, though if the pulse was bad they would be given a hypodermic injection of strychnine, but they did extremely well without any alcohol The drug-takers needed more watching, but the same principle was followed in nearly all those cases also In the women's prison hospital for which he was responsible very few cases of delirium tremens were seen

Mr McADAM ECCLES, from the chair, in summing up the discussion, said that he was a little disappointed that no speaker had thrown more light on the question of causation It would be a slur upon the medical profession of this generation if delirium tremens disappeared as it might, without its real cause having been discovered As the result of the report of the present meeting perhaps some biochemist would be interested enough to take up this subject and carry out investigations If any such would get into touch with Dr Kelynack or himself, an endeavour would be made to place them in the way of getting material He was of opinion himself that something circulating in the blood, other than the alcohol, was the cause of delirium tremens

Reviews

RADIOGRAPHY OF PEPTIC ULCER

Peptic Ulcer,[1] by JACOB BUCKSTEIN, is the tenth volume of a series of monographic atlases published in the United States of America under the general heading Annals of Roentgenology. The editor of the series points out that the advances in radiology are so great as to make it almost impossible even for specialists in the subject to be familiar with all the appearances they are likely to be called on to interpret in the course of daily practice. The aim of the editor and publisher has been, therefore, to present a conspectus of standard radiograms prepared by leading authorities in special fields of x-ray diagnosis. The present volume on peptic ulcer ably fulfils these requirements. Dr. Buckstein is the specialist on gastro-intestinal roentgenology at *Cornell University and the Bellevue* Hospital, and his beautifully illustrated and fully documented book will be welcomed as a means of study and comparison by all who are interested in x-ray work on the alimentary tract.

The book opens with a short description of the anatomy and pathology of the stomach. This is followed by a concise account of the history and development of the application of radiology to the study of the normal and diseased stomach. Reiche in 1909 described the x-ray appearances of a chronic gastric ulcer verified at necropsy, and in the following year Haudek clearly indicated the diagnostic value of the presence of a niche, often containing opaque material after the rest of the stomach is empty, and of disturbances of motility of the stomach wall. Carman later described three types of spasm which may be associated with gastric ulcer: (1) an incisura due to spastic contraction of the circular muscle fibres in the plane of the ulcer; (2) a diffuse gastro-spasm, and (3) spasm of the pyloric segment, leading to retention of stomach contents. It is in ulcers in the neighbourhood of the pylorus, where the motor function is inhibited through direct involvement of the pyloric ring, either as the result of spasm or organic cicatricial contraction, that retention and gradual gastric enlargement characteristically occur, but retention for many hours may be present with ulcer of the pars media in cases where the pylorus is found to be normal. Further results of cicatrization of gastric ulcers may lead to hour-glass contraction of the stomach which is invariably secondary to organic disease (Moynihan), or an indrawing or shortening of the lesser curvature on each side of the ulcer, or to coronal radiation of the rugae of the mucous membrane round the ulcer. Of these appearances, however, the presence of a niche is the only absolute diagnostic criterion. Buckstein recommends the double meal favoured by Continental radiologists (cf. Haudek, *British Medical Journal*, 1929, ii, p. 173). Two ounces of barium sulphate are given with some cereal breakfast food six hours before the examination in order to observe the motility. After determining the state of the preliminary meal a further four ounces of barium sulphate suspended in a glass of water are given and the examination of the oesophagus, stomach, and duodenum is continued. Screening results are supplemented by films, which form both a permanent record and a control of the observations made on the screen. Since the important thing is to demonstrate a niche if present, it is essential to observe the stomach from all angles in order to secure profile. The normal stomach shows a fair variation in size and shape and more particularly in position, but shows no deformity of contour, no break in continuity or interruption in the course of the peristaltic waves of the lesser and greater curvatures.

The author emphasizes the deceptive appearances that may be given by a single film, and refers to the differential diagnosis of deformation of the greater curvature by gas in the splenic flexure, and of the superimposed duodeno-jejunal flexure or of a diverticulum. Two of the pitfalls illustrated, however, are inherent in the double-meal method—namely, superimposed barium in haustrations of the colon from rapid passage of the first meal and superimposed calculus in the left kidney. British radiologists usually prefer to screen the patient empty for opacities in the abdomen, and then to give a single meal, watching the emptying of the stomach at intervals to obtain a serial picture. Malignant disease of the stomach favours the greater curvature, and is characterized by a filling defect, but early indication of the rigidity of infiltrated stomach wall is given by absence of peristalsis in an area observed when serial films are superimposed. In healing gastric ulcer the disappearance of the niche is studied, it is only much later that normal peristalsis in the area involved is resumed. Duodenal ulcer is stated to be six times as frequent as gastric ulcer. In duodenal ulcer a niche is found (it occurred in 19 per cent. of the Bellevue Hospital series), but persistent characteristic deformity of the duodenal bulb is the essential diagnostic feature. Tenderness of the duodenal bulb when it is visualized on the screen is an important aid. With duodenal ulcer there is often exaggerated gastric peristalsis and in some cases retention of the preliminary meal obscures the duodenal lesion. Complications of gastro-enterostomy, jejunal ulcer and gastro-colic fistula are fully illustrated.

Dr. Buckstein's book is a pleasure to handle, and may be recommended for study and reference to clinicians and radiologists alike.

FRENCH VIEWS ON CANCER

THE second volume of Part V of Roger, Widal, and Teissier's great treatise on medicine[2] is concerned solely with the subject of malignant disease. It has been written by Professor ROUSSY in collaboration with Professor LEROUX and Dr. MAURICE WOLF, and may be taken to represent the orthodox conception of cancer as held in France at the present time.

Recent researches have vastly extended the scope of the subject, which has now passed beyond the limits of medicine and definitely taken its place as a branch of general biology. Accepting this extended view the authors have found it necessary to recast the previous edition completely, and in addition to providing the usual information demanded by those engaged in the practice of medicine and surgery, have entered very fully into such questions as the pathological physiology of the cancer cell and cancer tissue, the experimental production of cancer, the disease as met with in the lower animals, tumours of plants, tissue culture, the action of x rays, radium, and chemical substances on malignant growths, the geographical distribution of cancer, and the various organizations which have been established in different countries to combat the disease. These subjects, which, as the authors state, would require several volumes for their adequate treatment, are dealt with as fully as the limited space of eight hundred pages permits.

With regard to the etiology of cancer, the authors distinguish several theories—namely, the theory of simple bacterial infection, the theory of a virus associated with a chemical factor, the theory of cell disease developed mainly by Carrel by the method of tissue culture, the glycolytic theory of Warburg, and the mitotic theory of Boveri and Masson. The essential cause of cancer remains unknown, but the authors consider that recent work on the subject points to some physico-chemical action rather than to bacterial infection. It is agreeable to find that the authors have in the main adhered to the orthodox classification which has the advantage of being universally understood. The inconvenience of a multiplicity of new names is keenly felt at the present time, and the prevailing custom of conferring unfamiliar names on familiar tumours is a mere darkening of counsel with words which leads to confusion. The accounts of the several types of tumour follow in the main the classical descriptions, in one or two particulars however the accounts differ from those adopted in this country. For example, English pathologists will experience some difficulty in accepting the view that mixed

[1] *Annals of Roentgenology*. Vol. x. *Peptic Ulcer*. By JACOB BUCKSTEIN, M.D. New York: P. B. Hoeber, Inc. 1930. (8 × 10½ in. xxiii + 337 pp. 237 figures. 12 dollars.)

[2] *Nouveau Traité de Médecine*. Par C. H. ROGER, FERNAND WIDAL, P. J. TEISSIER. Fascicule V (Tome IV). *Le Cancer*. Par GUSTAV ROUSSY avec la collaboration de MM. LEROUX et MAURICE WOLF. Deuxième édition entièrement refondue. Paris: Masson et Cie. 1929. (Sur roy. 8vo, pp. 843, 238 figures, 19 pl[illegible]. 100 fr.)

tumours of the parotid are cancers, though they will admit that a malignant transformation is occasionally met with The tumour has always presented a difficulty, especially the question of its endothelial or epithelial nature, and indeed the whole subject of endothelioma is still obscure The authors have avoided some of the difficulties by confining the term to tumours of the serous membranes, distributing the remaining growths which usually pass under the name among the sarcomas and epitheliomas Another tumour, benign in character, which has given rise to differences of opinion, is that affecting the extremities of the long bones and known in this country as myeloma The authors apparently do not regard it as a tumour, they recognize a malignant growth in that situation—a myelosarcoma—but the very similar bulky enlargements which are still more common and lack the characters of malignancy they apparently regard as inflammatory products The subject, however, is dismissed in a few lines An excellent account is given of tumours of the meninges, and the theories of Cushing and Oberling are discussed with discrimination Paget's disease of the nipple is classified under the keratoses or dyskeratoses, the change in the epithelium being considered to start in the cutaneous surface, in the ducts, or in the depth of the gland, and terminating, as may occur in keratoses elsewhere, in the formation of cancer It may be remarked in passing that the illustrations to the section dealing with the pathological anatomy possess the artistic qualities which are generally a prominent feature in French works

The authors conclude their account of the experimental work done on cancer with a summary of the results obtained This line of inquiry has proved a relation between certain parasites and cancer, as in Fibiger's experiments with spiroptera, an individual predisposition has been shown to exist in some cases, both individual and local, in the form of precancerous conditions, a prolonged period of latency has been shown to characterize the development of the growth, important information has been obtained with regard to the local reaction to the presence of cancer tissue, and, as regards grafted cancer, a natural immunity has been shown to exist, together with the possibility of inducing an artificial immunity Experiments relating to immunity to spontaneous growths are at present scanty An extensive account is given of the treatment of cancer by means of x rays and radium, and brief general indications of treatment are summarized as follows radium treatment is the method of choice, in the opinion of the authors, in cancer of the skin, buccal cavity, and cervix uteri, x rays are preferable in cancer of the larynx, oesophagus, and pharynx, surgical excision is the method of choice in cancer of the breast, rectum, body of uterus, and certain sarcomas, and in cancer of the internal organs

PHARMACODYNAMY

ELEMENTS of General Pharmacodynamy,[3] by Professor E ZUNZ of Brussels, is a very interesting book, in which the author has attempted to describe the general laws regulating the action of drugs on organisms The need for a volume dealing with these problems has long been felt, but no one hitherto has had the courage to try and cover this very difficult ground The author deals with such problems as the absorption of drugs, the alterations they undergo in the body, and the laws governing the excretion and cumulation of drugs, and idiosyncrasy and tolerance to drugs

Pharmacology is one of the youngest of the medical sciences, and of necessity started as a descriptive science The first stage was analysis of the actions produced on the functions of animals by administration of the drugs that were in common use in medicine The development of chemotherapy led to extensive studies of the relation between the chemical structure and the pharmacological action of numerous series of drugs, while the introduction of biological standardization directed attention to the laws governing the relation between dosage and action The literature dealing with these problems is exceptionally difficult to master for it is of great bulk, and is scattered through a wide variety of journals Moreover, it presents a vast mass of detail linked by very few established general principles Consequently the production of the volume under review must have been a very laborious task

The author points out in his preface that most of the laws of general pharmacology cannot be established until chemistry, physics, physical chemistry, and general physiology have reached a fuller stage of development His volume is therefore of a provisional nature, and probably many of the tentative conclusions will require modification in the future Professor Zunz is, however, to be congratulated on his courage in having attempted to tackle this difficult problem He has brought together into a single volume a great mass of information, and although the evidence available is at present inadequate for the formulation of many general laws, yet this collection of data greatly facilitates the study of the problems involved, and should stimulate future research in this important but neglected field

IMMUNOLOGY OF PARASITIC INFECTIONS

THE study of immunology has for so long been associated with bacteriology that there is a tendency to consider it as a part of that science rather than as a part of pathology The appearance of Professor TALIAFERRO'S *Immunology of Parasitic Infections*[4] is accordingly the more welcome in drawing attention to the part played by animal parasites in the causation of reactions in the host This volume is the first comprehensive survey of the immunological work that has been done on the infections with animal parasites It is excellently planned, clearly and lucidly written, and is a contribution of the greatest importance to our knowledge of the processes of disease

The book is divided into nine chapters, each a complete review of its own aspect of the subject Chapter 1 deals with concepts of parasitism, infection, and immunity reactions, Chapter 2 with the various serological reactions used in diagnosis—for example, complement fixation, formation of precipitins, and agglutination—with special reference to such conditions as leishmaniasis, trypanosomiasis, malaria, schistosomiasis, hydatid disease, and trichinosis, Chapters 3 and 4 with lysins and reproduction-inhibiting antibodies in relation to the types of infections in trypanosomiasis and malaria, and to the protective and curative effect of immune serums, Chapter 5 with hypersensitiveness and the cutaneous diagnosis tests, Chapter 6 with the production of symptoms by parasites, and with toxins, endotoxins, and hypersensitiveness, Chapters 7 and 8 with the cellular basis of immunity and the nature and production of immunity, and the last chapter with serological and immunological reactions used in the classification of parasites Each chapter is provided with a useful summary, but the references are collected together at the end of the book, there being over a thousand titles in this part The volume concludes with a full index

Professor Taliaferro's book would be a useful addition to the library of the parasitologist and the pathologist if only because it is the first on its subject But the author has treated the immunology of parasitic infections so exhaustively, lucidly, and systematically that it is sure of a permanent place in all medical libraries

TREATMENT OF CHILDREN'S DISEASES

DR S A LEVINSOHN'S translation of the sixth German edition of Professor F LUST'S authoritative textbook on *The Treatment of Children's Diseases*[5] is very welcome, for since the first appearance of the work in German twelve years ago it has been increasingly recognized as a valuable guide for all paediatricians Dr Levinsohn has done more than translate, he has revised and annotated the book, and when once the early irritation caused by interpolated paragraphs in small print is got over the reader will find the translator's notes sensible and helpful

[3] *Elements de Pharmacodynamie Générale* Par Edgard Zunz Paris: Masson et Cie 1930 (6½ × 10 pp 488 78 figures 75 [illegible])

[4] *The Immunology of Parasitic Infections* By William H Taliaferro Ph D The Century Biological Series New York The Century Company, London J Bale, Sons and Danielsson, Ltd 1929 (6 × 9, pp xv + 414 28 figures 20s net)

[5] *The Treatment of Children's Diseases* By Professor Dr F Lust Authorized translation of the sixth German edition, with additions by Sandor A Levinsohn, M D London J B Lippincott Company 1930 (Med 8vo pp xii + 513 30s net)

Part I of the book deals with the diseases of childhood, each introduced by a short diagnostic summary followed by details of treatment, while Part II contains an admirable account of drugs and formulae useful in the treatment of children, including directions for preparing most of the foods used for infants

A small monograph by Drs F LESNÉ and R CLÉMENT on Diets for Infants[6] might well be read in conjunction with Professor Lust's textbook, for the well-known Gallic enthusiasm for the good things of the table has obviously served as a stimulus for the production of many interesting menus for the infant in health and disease Sections dealing with broths, with vegetables, cheese, meat, fish, eggs, etc, contain many practical points for doctors, mothers, and cooks Incidentally these French authors know how to spell Sir Thomas Barlow's name, and thus have the advantage of Dr Levinsohn

NOTES ON BOOKS

DRS. W *Russell Brain and* E B STRAUSS faced with the necessity of revising *Recent Advances in Neurology*[7] about a year after the publication of the first edition which was reviewed in our issue of April 6th, 1929 have had to rewrite a number of sections completely to make substantial additions to others, and to add a considerable amount of new material Between the publication of one edition of a formal textbook and the next it is usual to allow a decent interval, but only by piling edition swiftly upon edition can the authors of a work purporting to embody recent advances in a growing subject eliminate material that has gone stale and keep pace with the mass of new observations and discoveries a representative selection of which must be included if the book is to live up to its name New material in the work under review includes sections on the angiomatous malformations and blood vessel tumours of the brain measles encephalitis, and the treatment of subacute combined degeneration The section on acute disseminated encephalomyelitis has been rewritten, and the sections dealing with post vaccinal encephalitis, serum treatment of anterior poliomyelitis, and the malarial treatment of general paralysis have been revised and enlarged All the subjects treated in *Recent Advances in Neurology* have a clinical bearing, and their presentation is admirable

DR HARRY STURGEON CROSSEN'S well known textbook on *Diseases of Women*[8] has again been thoroughly revised this time with the help of Dr ROBERT JAMES CROSSEN whose name appears as co author on the title page Dr Ehrenfest has completely rewritten the chapter on internal secretions in relation to gynaecology, and attempted to present a guide to rational endocrine therapy in this field, Dr R J Crossen has revised the chapters dealing with bladder and ureteral affections and Dr H S Brookes jun has contributed a new chapter on the lower intestinal tract Like its predecessors the present edition is attractively printed illustrated and produced, and the authors may be congratulated on their skill in increasing the scope of the work while diminishing its bulk by about 150 pages.

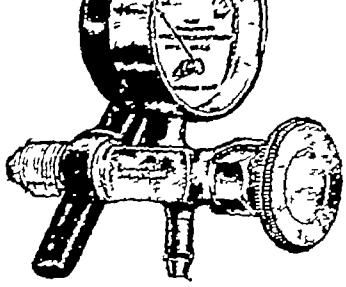
The third edition of Orthopaedy in Childhood,[9] by those distinguished orthopaedic surgeons Professor HANS SPITZY of Vienna and Professor FRITZ LANGE of Munich does credit to its authors and publishers. The book is intended for paediatrists and general practitioners, but specialists will find a comprehensive bibliography at the end of each section In his preface Professor Spitzy pleads for a separation of the orthopaedic disorders of childhood from the surgical diseases, not merely because of the great development of surgical technique in the last decade and the simultaneous advance of the orthopaedic specialty but because in orthopaedics operative treatment, which takes the first place in general surgery is only one of many forms of treatment, in many conditions mechanical and bloodless methods being more important. The introductory chapter deals with orthopaedics and physical training taking into account the development of the erect position, gymnastics and sport The body of the work is then divided into sections under the following headings congenital deformities disturbances of post foetal development tuberculosis of bones and joints paralytic injuries plaster-of-Paris technique and physical therapy Spitzy and Lange's textbook is an excellent guide to the subject of orthopaedics and can be recommended to all who read German It is well illustrated

In his Notes on the History of Surgery in Venezuela,[10] which form d the thesis for his admission to the Venezuelan Academy of Medicine, Dr P D RODRIQUEZ PIVERO gives an interesting description of the progress of surgery in Venezuela from pre-Columbian times down to the present day Special attention is given to the work of the three outstanding surgical personalities of Venezuela of the nineteenth century—namely, Jose Vargas, who founded the chairs of anatomy, surgery and chemistry at the University of Caracas Guillermo Michelena a brilliant operator teacher and writer, and Acosta Ortiz, described as the prototype of the modern surgeon

PREPARATIONS AND APPLIANCES

FINE ADJUSTMENT OXYGEN VALVE

DR. K. B PRYSON (anaesthetist to the Manchester Royal Infirmary) writes I have made some improvements in the fine adjustment oxygen valve manufactured by the Manchester Machine and Instrument Manufacturing Co Ltd (2 Booth Street Manchester) particularly with regard to the pressure gauge which indicates the quantity of gas left in the cylinder



The gauge shown in the accompanying illustration has now an improved movement which obviates back lash of the pointer and is also cheaper in production It is also built as an integral part of the valve which does away with the comparatively expensive union between gauge and valve—a union, too which was rather liable to develop leaks if accidentally knocked or tampered with.

A CARBOHYDRATE FOR DIABETICS

Sionon (Bayer Products Ltd.) is a preparation of sorbit which is a glucohexite introduced by Thannhauser for the purpose of supplying to the diabetic a carbohydrate which can be metabolized more easily than glucose Sionon has a sweet taste and has a calorific value practically equivalent to glucose Like other carbohydrates it is slightly laxative, but quantities up to 3 oz a day rarely produce diarrhoea. It has been reported on favourably by various well-known German clinicians, and appears to deserve trial in the dietetic treatment of diabetes.

LACTOSE IN MINERAL OIL

Colactin (E. H. Spicer and Co Ltd Watford) is a suspension of lactose (40 per cent.) in pure mineral oil (56 per cent.) The preparation is intended for the treatment of alimentary toxaemia The mineral oil acts as a laxative and checks the digestion and absorption of lactose in the small intestine Hence the lactose reaches the colon, and there encourages the growth of the harmless *B acidophilus* thus tending to inhibit the reproduction of putrefactive organisms The makers recommend the combined administration of colactin with *B acidophilus* emulsion.

CALCIUM THERAPY

Calcumint is a palatable preparation of calcium salts The distributors in this country (Messrs Coates and Cooper 61 Great Tower Street E.C.3) inform us that it contains the following salts calcium lactate calcium carbonate, calcium formate calcium glycero-phosphate and calcium phosphate. Calcium salts have been recommended for a very wide variety of diseases and it is claimed that this is a palatable preparation easily absorbed when given by the mouth

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[6] Les Regimes du Nourrisson Par E. Lesné et Robert Clément. Monographies de Pédiatrie et de Puériculture Paris Gauthier Villars et Cie 1930 (5½ × 7¾ in 172 25 fr.)

[7] *Recent Advances in Neurology* By W Russell Brain D M Oxon M R C P Lond., and E B Strauss B M B Ch Oxon M R C P Lond Second edition London J and A Churchill 1930. (5½ × 8½ in 429 29 figures. 12s 6d.)

[8] *Diseases of Women* By Harry Sturgeon Crossen M D F A C S and Robert James Crossen M.D Seventh edition revised and enlarged London H Kimpton. 1930. (Sup roy 8vo pp xxxi + 1000 924 figures, 2 plates 50s net.)

[9] *Orthopädie im Kindesalter* Von Hofrat Prof ssor Dr Hans Spitzy Unter mitwirkung von Geh Hofrat Professor Dr Fritz Lange 3 völlig umgearbeitete und vermehrte Auflage Leipzig F C W Vogel. 1929 (7¼ × 10¼ pp vi + 534 253 figures. M 45.)

[10] *Apuntaciones para la Historia de la Cirurgia en Venezuela* Por Dr J D Rodriguez Pivero Caracas Editorial Sur America. 1930. (9½ × 9½ pp 123.)

OXFORD OPHTHALMOLOGICAL CONGRESS

THE twentieth annual meeting of the Oxford Ophthalmological Congress, founded by the late Robert Doyne in 1910, was held at Oxford on July 10th, 11th, and 12th, the members meeting informally at dinner on July 9th in the Hall of Keble College, which again offered hospitality, as in former years Each member was accommodated in the College, and the consequent facility for social intercourse was much appreciated The proceedings of the Congress were conducted in the Department of Human Anatomy of the University, kindly made available by Professor Arthur Thomson, to whom the Congress is under a deep debt of gratitude In addition to the scientific museums a commercial exhibition was arranged, numerous well-known firms of ophthalmic instrument makers displaying the latest forms of apparatus and instruments Included in the large number of foreign members and others resident abroad who attended the Congress this year were Professor Gonin of Lausanne, Professor Schuller of Vienna, Dr Harry Friedenwald of Baltimore, Professor Curran of Kansas City, Drs Bernard Samuels and Tyson of New York, Dr Derrick T Vail, jun, of Cincinnati, Dr van Heuven of Utrecht, and Dr André Patry of Geneva

Toxic Amblyopia

The proceedings opened on Thursday, July 10th, with a short address of welcome by the Master of the Congress, Mr A BERNARD CRIDLAND Immediately afterwards Dr TRAQUAIR introduced, from the ophthalmological standpoint, a symposium on toxic amblyopia, including retrobulbar neuritis He was followed by Sir Farquhar Buzzard, who discussed the matter from the point of view of the physician, and Professor J A Gunn amplified the subject from the pharmacological aspect Dr TRAQUAIR said that to the clinical ophthalmologist retrobulbar neuritis presented itself as a visual defect in the form of a central or paracentral scotoma, not explained by the visible ophthalmoscopic changes in the macular region He commented on the rapid onset and gradual recovery, which was often complete, the defect varying from slight visual loss to complete blindness The characters of the scotoma were the predominant involvement of the area of the crossed fibres, and the importance of the detection of quadratic or hemianopic features was emphasized The appearance of the optic disc might vary from the normal to that of a choked disc, or there might be pallor The clinical picture varied considerably, irrespective of the different causes, but certain forms showed features which were to some extent distinctive In retrobulbar neuritis with myelitis the visual defect was bilateral, and might exhibit quadratic features indicating a chiasmal site There was also gross swelling of the optic discs The scotoma in Leber's disease was bilateral, with a less pronounced tendency to recovery In acute retrobulbar neuritis the defect was unilateral, and the tendency to recovery was very pronounced The pathological basis of the disease was the formation of plaques in the optic nerve, which had a special inclination to affect the papillo-macular fibres As regards its etiology, retrobulbar neuritis might be regarded as a manifestation of disease elsewhere rather than as a primary disease of the optic nerve, the cause must therefore be sought elsewhere in the body Differences of opinion existed as to the relative importance of certain causes, such as multiple sclerosis, paranasal sinusitis, and dental and tonsillar infections The true lesion might not be manifest for a long time The diagnosis of the cause was based on the study of the eye symptoms and on general physical examination, together with that of the visual fields and the detection of quadratic or hemianopic features in the scotoma Radiograms were very useful, the tendency to neglect the eye symptoms in favour of a search for a septic focus was to be deprecated The prognosis was good in the acute form, and usually favourable in others Complete blindness, even of one eye was a rare result The expression "toxic amblyopia" referred to partial blindness due to toxins in the circulation, but no distinct boundary existed between toxic amblyopia and retrobulbar neuritis, the pathological lesion had been found by Roenne to be the same in both In tobacco amblyopia, as an example, blindness was never produced, and the influence of the physical condition of the patient should always be borne in mind In quinine amblyopia the visual defect was due to direct toxic action on the nerve elements rather than to retinal ischaemia

Sir FARQUHAR BUZZARD, approaching the question from the point of view of the physician, quoted a passage in a paper written by his father in the last century, emphasizing the importance of these ocular symptoms in certain nervous diseases He discussed the clinical aspects of these conditions from a neurological and general medical viewpoint Professor GUNN dwelt on the pharmacological considerations in these diseases, and suggested much closer co-operation between the pharmacologist and the ophthalmic surgeon, the laboratory worker and the clinician should work hand in hand The subject of quinine amblyopia was also raised The discussion was continued by Dr LEIGHTON DAVIES, who referred especially to the contraction of the visual fields in certain conditions Other speakers were Mr GRAY CLEGG, Mr ADAMS, Drs ROSA FORD and ANDRÉ PATRY, Mr MONTAGU HARSTON, Professor SCHULLER, Messrs JOSEPH, BROWNING, HARRISON BUTLER, GREENE, CYRIL WALKER, YOUNG, GIRI, GALLOWAY, HAYCRAFT, and Drs TYSON, PRIMROSE, and THAKORE Dr BERNARD SAMUELS subsequently read a paper on opacities in the vitreous, he showed some beautiful drawings, and fully described their appearances and general character

The Nature of Light

In the afternoon Sir OLIVER LODGE, F R S, delivered a most interesting and lucid lecture entitled "Modern theories on the nature of light" to a large audience He prefaced his remarks by saying that he did not know how much his hearers knew, and expressed the hope that his address would not be too elementary—a humorous quip which appealed to those present He first gave a short sketch of the corpuscular and wave theories, and the reasons why the wave theory must be true He then proceeded to develop the argument that the corpuscular theory must also be true Modern attempts at the unification of these two theories were then fully described, and a probable theory of the nature of vision was defined The interaction of matter and radiation was fully dealt with, and its consequences were described At the conclusion a vote of thanks, proposed by Mr LESLIE PATON, president of the Ophthalmological Society of the United Kingdom, and seconded by Mr CYRIL WALKER, was carried with acclamation

The Doyne Memorial Lecture

The Doyne Memorial Lecture this year was delivered by Dr H FRIEDENWALD of Baltimore, who took for his subject the pathological changes in the retinal blood vessels in arterio-sclerosis and hypertension The lecturer gave a most minute and careful description of the alterations in the eyes in these conditions, illustrating them clearly by means of a number of lantern slides This important address does not lend itself to abstracting, and will well repay being studied in the original Mr P ADAMS, the deputy master, and Dr TRAQUAIR, who proposed and seconded respectively the vote of thanks to the lecturer, expressed the gratitude of the large audience and its appreciation of a contribution of remarkable merit to the eminent series of Doyne Lectures

Miscellaneous Papers

On Friday morning an address was given by Professor SCHÜLLER of Vienna, on recent developments in radiology associated with ophthalmology He first described in much detail the normal variations of the sphenoid, and then passed on to an account of the inflammatory conditions and neoplasms of its sinus Infiltrating processes were next discussed, and the destruction of the bone by intracranial tumours Sinuscele of the sphenoid was illustrated, and the deformities found in neuro-fibromatosis

were described Professor Schüller who spoke for an hour in faultless English without notes, was listened to with rapt attention, and at its conclusion was accorded an ovation by his large audience The paper was discussed by Dr BOWIE Mr EDMUND JONES, Dr TRAQUAIR, and Mr FOSTER MOORE

On Friday afternoon an address was given by Professor JULES GONIN of Lausanne on detachment of the retina and its treatment He related how he had recognized the truth of Leber's theory that acute detachment was due to vitreous fluid passing through a retinal tear into the subretinal space and how he had been led by further research to complete that theory and to extend it to all so-called spontaneous or myopic detachments In all these forms, the tear being the determining cause of the detachment and hindering it from healing the most certain way to a definite cure was to close the hole by scarring with a thermo-cautery when possible He stated that in all recent cases when the hole had been closed, cure was immediate and permanent relapse of the detachment showed that the tear had not been sealed If the retinal tears were large or multiple treatment took long and might be impossible The author illustrated by means of drawings his procedure for localizing the retinal tear and the method of operating *also the ophthalmoscopic appearances of the detached retina* before and after the thermo-puncture The following members joined in the discussion Messrs ORMOND CUTLER JULER HAY RIDLEY Sir WILLIAM LISTER Messrs HAY RAFT, GRAY CLEGG, CIRI HARRISON BUTLER, and LINDSAY REA

On Saturday morning Mr HARRISON BUTLER read a paper on keratoconus posterior or a hitherto undescribed condition *discovered by the aid of the slit-lamp* This was discussed by Dr MARION CULPHIST, Miss MANN, Dr TRAQUAIR, and Mr GRAY CLEGG

Dr TRAQUAIR read notes on new instrument and technique in cataract extraction his report was discussed by Mr GRAY CLEGG, Dr DERRICK VAIL jun and Messrs CRITENT, CHAVASSE STEWART, Professor CURRAN and Dr GIRI

Dr DE COURCY contributed a paper on interstitial keratitis in workmen's compensation cases This in creasing medico-legal pronouncement attracted much attention, and was discussed by Messrs HARRISON BUTLER, BICKERTON, YORKE JACQUES PRITCHARD, KENDALL, HAY, ALABASTER, and the MASTER

Dr VAN HEUVEN of Utrecht gave a short account of recurrent chronic uveitis which was illustrated by many excellent lantern slides and was discussed by Dr CHAVASSE.

Demonstrations

During the afternoon of Thursday July 10th, various demonstrations were given in the Scientific Museum Mr *BURDON-COOPER demonstrated the orthogon test* Mr ARTHUR GREENE showed a specimen of ciliary growth causing glaucoma Dr TRAQUAIR exhibited a model of a field of vision, and Mr ALABASTER a stereoscope useful in fusion training Mr TUDOR THOMAS gave a demonstration of live rabbits with transparent corneal grafts Mr ERNEST MADDOX showed a hand attachment for the ring test, together with a stereoscope

Social Events

In the afternoon of July 10th tea was provided for members and their friends at Worcester College where they were received by the Provost, Mrs LYS, and Mrs Bernard Cridland

In the evening the annual dinner of the Congress was held in the Hall of Keble College, under the presidency of the Master Among the guests present were Lady Airedale, Sir Farquhar Buzzard, Professor and Mrs Schüller, Professor Conin, and Dr Evans The dinner was the largest ever held in connexion with the Congress 142 members and guests being present The Master in the course of his speech stated that it was the twenty first year of their history, although only the twenty th meeting In 1926 there was no Congress owing to the English Speaking Ophthalmological Congress which was held in London that year He read a letter from the American Ambassador regretting that absence abroad made it impossible for him to be present A letter from the president of the Röntgenological Society of Vienna was also read, congratulating the Congress on being the first one of that specialty to place radiographic diagnosis in the forefront of their programme Mr CYRIL WALKER proposed the toast of "The Guests," and Professor SCHULLER replied. At the conclusion of the speeches Mr GRAY CLEGG presented Mr Cridland on behalf of the members of the Congress with a gold watch and a set of table silver as a memento of his woman services for fourteen years as secretary of the Congress Mr Greene presented the Master and Council with a badge of office to be worn on official occasions by the Master in the future He reported that subscriptions had come in from all over the world for the testimonial which showed how much Mr Cridland's strenuous efforts *during so many years had been appreciated* Mr Cridland, who was obviously much affected by this recognition of his work, replied in a charming little speech of thanks

The proceedings closed on Saturday, July 12th at midday, and it was the unanimous opinion that it was the most successful meeting in the history of the Congress Indeed, the number of members present—namely, 149—greatly exceeded any previous record and severely taxed the capacity of the University Anatomy Theatre and the executive staff of the Congress

BRITISH EMPIRE CANCER CAMPAIGN

ANNUAL GENERAL MEETING

THE DUKE OF YORK, who presided over the annual general meeting of the British Empire Cancer Campaign at the House of Lords on July 14th, said that medical science had achieved much in recent times towards attaining supreme victory over cancer, but very much more remained to be done The Campaign had always encouraged every form of cancer research, both at home and abroad Its recent work included the formation of provincial councils in Great Britain, thus establishing new research centres The International Conference of 1928 was still an outstanding landmark in the medical records of all nations, its immediate result the launching of the National Radium Fund was now an accomplished fact, and treatment centres had been brought into existence but the usefulness of these centres might be extended still further if some form of organization was set up to help poor patients to attend for treatment, especially those who lived at long distances His Royal Highness congratulated the Grand Council on its decision to issue, early in the autumn, a book bearing the title, *The Truth about Cancer* He also commended the annual report (summarized below), which contained the record of nearly every research centre in the country and was a most interesting document

THE MARQUESS OF READING moved a vote of thanks to the Duke of York for his continued interest in the Campaign, and this was heartily carried On the motion of Mr STANFORD CADE, the members of the *Grand Council* were re-elected

Sir CHARLES GORDON-WATSON, *proposing the adoption* of the annual report, said that the policy adopted by the Campaign of pooling all resources both financial and scientific, was steadily being justified Cancer research was no longer the independent and unco-ordinated function of a number of different institutions A study of the annual reports must convince the most sceptical that there was no avenue which was not being explored Given financial facilities to continue cancer research under the direction of the Campaign and of sister Campaigns in other countries it seemed hardly conceivable that the problem could wade solution for much longer Thanks to the creation of the National Radium Fund research centres were now fairly well supplied with radium. In the treatment of cancer in one or two regions of the body *radium had almost supplanted* surgery and might supplant it, but in the present state of knowledge more harm than good was likely to arise if radium were exploited by those

inexperienced in its use. *With regard to x rays*, physicists recently had been able to shorten the wave-length so as to bring this agent in close competition with radium. It was possible now to construct *x*-ray tubes to stand up to 500,000 volts, and thus a weapon of equal potency to radium, but of far greater flexibility, was being forged. In the research for the cause of cancer the Campaign had spent large sums on investigation into serum reactions. He himself believed in the ultimate possibility of the immunization of the body against cancer.

SIR RICHARD GARTON *seconded the adoption of the* report, and pointed out the need for increased financial support if the requests expected to be received for the subsidy of approved research work were not to be refused.

With the adoption of the annual report and the re-appointment of the auditors, the proceedings concluded, but the quarterly meeting of the Grand Council followed, under the chairmanship of Lord READING, His Royal Highness remaining. On the motion of SIR JOHN BLAND-SUTTON, seconded by Sir THOMAS HORDER, Lord Reading was re-elected chairman of the council. *Several grants* were approved, including one of £680 for the maintenance of the radon centre at Middlesex Hospital for one year, and one of £300 to Westminster Hospital to carry out the physical part of a scheme of cancer research which had been submitted.

Mr LOCKHART-MUMMERY said that it was hoped that as a result of the forthcoming visit of the two vice-presidents, Lord Dawson of Penn and Sir John Bland-Sutton, to Canada in connexion with the Annual Meeting of the British Medical Association, some steps might be taken towards the formation of a federal council. In the meantime he proposed that assent be given to an application by the Cancer Service of the Government of Saskatchewan to become a branch of the Campaign, this was approved. He also moved that, in order to prevent overlapping of research work, provincial councils of the Campaign should be asked to furnish details to the Grand Council of all researches they proposed to subsidize before such subsidies were finally decided. This was adopted, as was a further motion by Mr SAMPSON HANDLEY for the affiliation to the Campaign of the Anti-Cancer Campaign of the University of Adelaide.

THE SEVENTH ANNUAL REPORT

In presenting its seventh annual report the Grand Council indicates broadly the advances made since the Campaign began. At that time research and treatment were conducted by individuals and small bands of workers with very little co-ordination of effort. There is now a headquarters staff, an intelligence department, and a system of co-ordination by which waste of effort is reduced and workers can learn what others are doing, the fruit of research in one area being made available at once in others. An immense mass of material has become available as a result of the fact that cancer of the skin and breast can now be produced experimentally in mice with almost absolute certainty. Causes of cancer formerly scarcely suspected have been discovered in this way, and the *conditions which govern the growth of* tumours are being diligently worked out. Treatment of various kinds is being tried, and the ground has been cleared in a most valuable way. The British Empire Cancer Campaign, which has been in close touch with the National Radium Commission since its formation, has co-operated with it in devising forms of record to be used in all cases treated by radium—a matter of very great importance. During the year under review a prize consisting of a medal and £500 has been offered for the best essay on the early diagnosis of cancer. The Campaign is about to issue a popular account of cancer for laymen, explaining its nature and indicating what has been discovered about its origin, course, and treatment. More than £28 000 has been expended during the year, and an appeal is made for still more generous subscriptions. The bulk of the report consists of statements by institutions and individuals in receipt of grants, and certain general conclusions are summarized.

Treatment by Radium

Several of these statements deal with radium treatment and with research work on the action of gamma rays upon normal and malignant cells. There is a general tendency now to employ smaller doses with increased screening for longer periods, since better results are being obtained as regards the disappearance of growths and increased interference *with normal tissues*. A popular method is interstitial needling of the base and edges of the growth, combined with the use of radium in surface applicators held in position by wax shields. The best results have been obtained in cancer of the cervix, mouth, tongue, and pharynx, and therefore the benefit of this treatment should soon become evident in a substantial reduction of the annual cancer mortality figures when early cases are dealt with in still larger numbers. The statements relating to treatment of cancer of the rectum in this way are rather more favourable than those of last year. Emphasis is laid on the importance of careful technique, in view of the variable sensitivity of some growths to radium and the varying resistance of different kinds of *neoplasmata*. In lesions of the skin, cervix, and the floor of the mouth the sequels of treatment by radium are actually better than those of surgical operation. Reference is made to the bomb consisting of 4 grams of radium element lent by the Radium Commission to the Westminster Hospital, the method of employment of which is referred to again in this issue at page 98.

X-Ray Therapy

Research continues on the use of hard x rays in the treatment of cancer, an important and authoritative report has now been issued, based on work done during the past five years. As in the case of radium some tumours have proved to be more resistant than others, and the findings of investigators of this phenomenon are being studied with great care in view of the important relation of this resistance to treatment.

Serological and Cytological Researches

The possibilities of serum immunization against cancer are being explored in rats and mice with special reference to tumours arising spontaneously, the more resistant type of malignancy. A strain of mice has been obtained from America in which such tumours are very common, and this particular line of research has thus been rendered easier. Some evidence is available that the livers of rats affected by cancer acquire an enhanced immunizing power. Work is continuing on the artificial development of "tissue immunity" to cells of neutral salts, such as strontium chloride and calcium chloride. Mercury has been found to be the most potent heavy metal in stimulating cell proliferation, with silver next, and copper in the third place. It has been deduced that electro-kinetic processes are involved in the cellular reaction, and that possibly a precipitation of the colloids of the cell membrane is an essential phase in the sequence of changes which culminate in cell division. It is now recognized that there is an excessive formation of lactic acid in the growth of cancer cells, as compared with that of normal cells, and also a high ability in the former to produce this acid from dextrose in the presence or absence of oxygen. Pancreatic extracts appear to stop this production of lactic acid, and it is possible that a new practical method of attacking cancer may be evolved. Suggestions have been made that cancer is caused by a poison naturally soluble in fat, and present in the body for a long period before it begins to act, attention is being directed to the possibility of isolating this toxin.

Carcinogenic Agents

A step forward seems to have been taken in the research for the cancer-producing element by the discovery that substances readily active in this way have a characteristic fluorescence spectrum. Mention is made of the important anti-carcinogenic properties of mustard gas.

British Medical Journal.

SATURDAY, JULY 19TH, 1930

THE WINNIPEG PROGRAMME

On August 22nd, five weeks hence the Canadian Medical Association begins the business of its sixty-first annual session at Winnipeg under the presidency of Professor W Harvey Smith, and three days later members of the British Medical Association from this country and other parts of the Empire assemble in that city as guests of our Manitoba colleagues, for the ninety eighth Annual Meeting of the B M A On August 26th they will be welcomed by the Prime Minister of Canada and the Mayor of Winnipeg and Professor Harvey Smith after installation as our President for 1930-31 at the hands of Professor Burgess, will deliver his inaugural address The Association has only met twice before outside the British Isles and each time in the Dominion of Canada—at Montreal in 1897, and at Toronto in 1906 On this occasion something more than friendship and common ties will unite visitors and hosts because since the year 1924 the two professional bodies by accepting formal affiliation, have come into close organic touch on matters of mutual concern The Winnipeg meeting of 1930 is thus a landmark in Association history Those who are fortunate enough to take part in it will have done something to strengthen the links between the profession at home and the profession overseas and to show that the British Medical Association is Empire wide in its outlook

The revised programme of work for the scientific sections, with a good deal of other information about the arrangements for the meeting appears in our *Supplement* this week Brief particulars of the journey by sea and land and some useful hints for travellers, are also given, but any member proposing to go to Winnipeg should apply at once to the Financial Secretary for a copy of the booklet containing full details of the various tours In general the programme for the Annual Meeting of 1930 follows fairly closely the pattern with which we are familiar on this side of the Atlantic except that all medico political business will already have been disposed of at the Annual Representative Meeting which opens to day at the Association s Headquarters in London The fourteen Sections are to meet on the mornings of August 27th, 28th and 29th, and a very varied and interesting list of subjects, both clinical and scientific, has been drawn up for consideration While the number of set debates is larger than usual and several Sections will combine to discuss borderline topics the occasional paper has not been elbowed out altogether, and (as an example of how hard it is to draw a clear cut line) the subject chosen for the joint meeting of the Sections of Surgery and Tuberculosis is so wide that its discussion might almost as well be described as a series of independent papers, each concerned with a different aspect of thoracic surgery

Some of the social events of the week—they include a skating carnival and an Indian pageant—have a very agreeable air of novelty to English eyes A break with tradition will be perceived also in the announcement of five clinical addresses to be delivered at special afternoon sessions When our brethren in Canada travel long distances to take part in a medical congress they mean business and the chance of hearing an authority from these Islands speak to them on his own subject is in their opinion too good to be missed They expect some fun but work comes first Hence Sir William Wheeler, Dr H C Cameron, Sir Lenthal Cheatle, Professor W E Dixon, and Sir Farquhar Buzzard (whose subject, perhaps chosen in a spirit of gentle irony, is Rest Work, and Play ") may be sure of large and appreciative audiences in the Winter Club on summer afternoons For like reasons, we may suppose, Lord Dawson and Dr Robert Hutchison have been persuaded by the local executive to address a public meeting on the night of August 27th, and the week's proceedings will fittingly close with the delivery of Lord Moynihan s Listerian Oration under the chairmanship of Professor John Stewart of Halifax, a veteran surgeon who was Lister s pupil and friend in Edinburgh and is one of the most admired and respected personalities in the Canadian medical profession

A very warm welcome awaits every member who visits Canada next month Those on this side who have been in constant touch with them during the past two years and more know that the President elect and his immediate local colleagues, Dr J D Adamson, Dr C A Mackenzie and Dr Ross Mitchell are determined to make the Winnipeg meeting memorable in the annals of the British Medical Association and that the Canadian Medical Association, through its general secretary, Dr T C Routley, and its acting-editor, Dr A G Nicholls is co operating in the fullest measure If hard work, enthusiasm, and foresight can ensure success then the ambition of Professor Harvey Smith and company will be realized Canada is very good at organizing affairs, large or small Almost the only thing they cannot guarantee without our help is an attendance from the British Isles worthy of the occasion and of their efforts

THE INCREASE OF MORTALITY FROM CANCER

More than a generation has passed since the late Dr E F Bashford, Mr George King Sir Arthur Newsholme, and others raised the question whether the increase of recorded mortality from cancer were not explicable along lines very different from those which attract the sensation loving journalist How far was a mere ageing of the population, due to falling birth rates and death rates, responsible? What was the part played by improved means of diagnosis? These and similar questions were asked and the official statisticians of many countries have since provided relevant data It may be permitted to an Englishman, in these days of national pessimism, to take some pride in the fact that the contribution made by his own General Register Office has been of first rate importance For twenty years point to point comparison of rates of mortality from malignant disease in narrow age groups has been possible—the best way of assessing the importance of the factor of age—and the useful summarizing figures known as standardized rates have been available Classification by sites has been established and finally, by the application of the method of standardization to these site rates it has become possible for the most casual reader to see at a glance what increase of mortality in each of more than 20 site rates since 1901–10, has occurred independently of the age factor The probable effect of changes in medical knowledge has been examined from various aspects, notably in the

masterly essay which formed part of Dr T H C Stevenson's review of the vital statistics of 1917 Again, the influence of civil state upon mortality from cancer of the breast, ovary, and uterus was examined by Dr Stevenson as long ago as 1913, and in the report of the League of Nations Committee upon this interesting problem the contribution made by the English General Register Office was substantial

The English General Register Office has had two great advantages over most other countries—the absolute bulk of its data and the patient sagacity of the great statistician who sits in Farr's seat But other countries have made progress, and it is gratifying to note that the Registrar-General of the sister kingdom has just published a valuable analysis of Scottish data[1] Dr J C Dunlop set out to assess the shares of (1) ageing of the population, and (2) increasing facilities of diagnosis, in the absolute increase of mortality To assess the age factor, Dr Dunlop has taken the percentage ratio of the sum of the numbers of actually recorded deaths in seven age groups for the year under examination to the sum which would have been recorded had the age-group death rates of 1911 remained applicable This ratio will not in general be the same as the ratio of the death rates for the years compared, standardized by applying them to a fixed set of age groups, but, for technical reasons, the difference is rarely of importance Each method of statement has its own advantages and disadvantages Dr Dunlop finds that about two-thirds of the increase of mortality among males and four-fifths of the increase among females of mortality from cancer between 1911 and 1928 is directly attributable to the ageing of the population Of the residue not so attributable a considerable proportion—he is disposed to think perhaps the whole—*other than that due to cancer of the breast*, may be due to better recognition, and therefore may afford no evidence that cancer is, in the popular sense of the term, increasing In general, the English data, which Dr Dunlop has tabulated in a comparable way, agree with the Scottish, although there are certain interesting divergencies Thus in Scotland cancers of the stomach and intestine show net increases of 13 3 and 21 2 per cent respectively, while the corresponding changes in England are much larger—namely, 22 8 and 46 8 per cent Cancers of the rectum have increased in England by 17 9 per cent , in Scotland only 6 7 per cent Having regard to the rather striking results brought out in the recent English analysis of the site distribution of cancer tabulated by social class, it would be interesting to make a similar study of Scottish data, but the smaller absolute bulk of the data might make this impossible

Dr Dunlop's arguments for attributing rather greater importance to the factor of improved diagnosis than most medical men have been inclined to do are cogent He thinks that *x* ray examination is responsible for the increased recorded incidence of cancer of the lung and histological examination for the increased frequency of cancer of the prostate and ovary There is already a considerable literature dealing with the alleged increase of cancer of the lung, and the opinions of pathologists are divergent There is however a logical difficulty, which Dr Stevenson pointed out in other words thirteen years ago It is this One 'explains' the increase of mortality from cancer of sites *a*, *b*, and *c* by pointing out that, in respect of these sites improved means of diagnosis have become available But then one finds that the rate of mortality from cancer at a site easy of recognition—to quote Dr Dunlop, "it is almost inconceivable that death can be caused by cancer of the breast without the condition being recognized"—has increased quite appreciably, 11 6 per cent in Scotland in 1928, 22 7 per cent in England in 1927 more than can be accounted for by ageing of the population The devil's advocate will certainly say that as the diagnostic explanation will not hold here, perhaps its apparent value in the other cases is only an appearance None of the participants in the discussion on Dr Dunlop's paper seemed to be aware that the statistics of cancer of the breast and uterus have been the object of a special international inquiry Obviously, if we could explain the increase of cancer of the breast and the decrease of cancer of the uterus wholly in terms of measurable differences in sexual activity, then the logical difficulty would disappear, and we should have no qualms over the apparent exception Since the rates of mortality from cancer of the breast are strikingly different in different countries the problem looked a simple one Actually, it proved to be impossible to explain international differences in terms of variations in the proportions of married women There is no doubt whatever that the rate of mortality from cancer of the breast is, age for age, higher among unmarried women than among married women—and Dr Dunlop's figures are no exception to the rule But it does not seem probable that the increase of mortality from cancer of the breast can be satisfactorily explained by any increase in the proportion of spinsters in the female population, although (so far as we are aware) no complete statistical verification has been provided—for example, by standardization for civil state as well as age over a long series of years Hence the difficulty remains We cannot be quite sure that the diagnostic factor is so important as we should like to believe It is to be hoped that Dr Dunlop's paper will stimulate discussion and investigation

[1] *The Registrar-General's Decennial Supplement, Scotland, 1921–30. Part I. The Natural Cancer Death Rate and its Causation.* By J. C. Dunlop, M.D., F.R.C.P.E. *Edin. Med. Journ.* July.

PLACENTAL HORMONES

PROFESSOR COLLIP[1] has published some further information respecting the preparation from placenta of a hormone causing the onset of puberty in immature rats A description is given of the method of preparation which depends on the solubility of the hormone in alcohol or acetone, its relatively small solubility in water and its insolubility in ether A subsidiary method of purification is also described, which consists essentially in adsorption by a colloidal precipitate of calcium phosphate, the active material being recovered by alcoholic extraction The hormone is neither destroyed by boiling for a short time in acid solution, nor by pepsin or trypsin It does not when purified, produce any luteinization of the ovary when injected into rats, thus differing in its action from pregnant urine or implants of anterior pituitary substance There is evidence nevertheless, that crude placental extracts made with acid, and the residue after extraction with alcohol, do produce luteinization in addition to accelerating the onset of puberty thus confirming the suggestion of Wiesner that there are two hormones at least to be extracted from placenta which are similar in action, respectively, to the acid and alkali extracts of anterior pituitary worked with by Evans and his collaborators Collip, however, still inclines to the view that the hormone he has worked with is distinct from the substance which is present in Evans's acid extracts of pituitary and which has a similar action because he finds that the placental preparations are not destroyed by digestive enzymes and are effective when

[1] *Canadian Medical Association Journal*, 1929, xxii, 761

given by mouth, and that extracts of anterior lobe of the pituitary are inactive He is not, however, dogmatic on this point, for there are pitfalls in arriving at conclusions in connexion with this type of research The following table gives a condensed summary of some of the more important results of the injection of various preparations

	Premature Puberty	Formation of Luteal Tissue in Ovary	Production of Gigantism
Anterior pituitary grafts	−	+	+
Acid extracts of anterior pituitary	+	+	−
Alkaline extracts of anterior pituitary	−	+	+
Collip's placental extract			
Pure...	+	−	?
Crude	+	+	?
Residue after alcohol extraction	−	+	?
Urine of pregnancy	+	+	−

Collip proposes the name "emmenin" for the placental hormone that produces premature puberty

FOOD INVESTIGATIONS

UNDER modern conditions foods are seldom consumed at their time or place of origin, and their storage or transport in good condition is not only of hygienic interest, but also, where large quantities are concerned, of the first economic importance It is pointed out in the Report of the Food Investigation Board for 1929[1] that production, transport by sea and land, storage, the wholesale market, and the retail market, are all stages through which much of the food supply of this country has to pass in its progress to the consumer The food industry is not one but many, and its diversity is well reflected in the variety of the problems which have engaged the attention of the Board's investigators during the year One inquiry was carried out in order to ascertain the causes of the loss of bloom during the transport of New Zealand frozen mutton and lamb Thirty one Border Leicester-Southdown cross lambs were slaughtered under supervision, and the carcasses were divided into three lots, covered with stockinette wraps, and frozen at −10° C The first lot were further wrapped in wax paper to reproduce conditions of high humidity, the second lot were left covered by the stockinette wrap only, the third, also covered with stockinette only, were taken out of store to "sweat" at intervals When the three lots, after eighteen weeks' storage at −9·7° C, were sent to Smithfield for the opinion of the trade, the first lot were classed as showing perfect bloom, the second lot as slightly dull in appearance, and the third as most unsatisfactory The first lot realized ½d per lb more than the third The conclusion was drawn that the deficiencies of the second and third lots were entirely due to excessive drying of the muscle Reference is made to previous experiments conducted under the auspices of the Board on the palatability —which includes tenderness, flavour, juiciness, colour, and texture—of frozen beef The tests had suggested that the process of freezing had little injurious effect on palatability, but that the unpopularity of imported frozen beef was largely due to its poor initial quality These views have been confirmed by an experiment organized by the Commonwealth Council for Scientific and Industrial Research, in the course of which quarters of particularly prime Australian beef were frozen in Australia and sent to England for comparison with other samples in respect of palatability, when hot and cold, under cooking tests The Australian quarters were excelled only by prime Scotch home-killed beef, they were found to be better than Argentine chilled, and much superior to ordinary Australian frozen beef Preliminary experiments were carried out during the year on the micro-flora of cold stores In one such store, at 19° F, the air contained only three organisms per litre, and the water melted from the ice round the brine pipes contained only six organisms per cubic centimetre, suggesting that the bacterial contamination of carcasses from aerial sources is under such conditions negligible In the counts the genus Actinomyces was largely represented, though the manner in which it gained access to the store was not apparent Biochemical studies on the action of bacteria on meat at different temperatures added weight to the suggestion, made on other grounds, that it is good practice to cool carcasses immediately after slaughter to a temperature near zero Not only will the growth of any bacteria present be slowed down by the low temperature, but the retardation of autolysis will check the production of the soluble proteolytic derivatives required for bacterial nourishment Studies of the effect of climatic conditions on the storage life of apples revealed no obvious correlation between the complete growing season and the life of the fruit in storage, but good keeping quality was associated with warm dry weather during the few weeks preceding the date of gathering An interesting by-product of the work of the Board's investigators was the disclosure of the fact that a low concentration of acetaldehyde in the atmosphere is useful in fruit storage, inhibiting or killing fungal spores without ill effects upon the fruit itself Another inquiry dealt with the losses of fruit which result from rotting following the invasion of the cut stalks by moulds, with special reference to the suggestion that the treatment of the cut stalks with a fungicide or equivalent preparation would serve as a prophylactic Some thirty substances, including well-known disinfectants, tried in course of the inquiry were found to give no control or to be objectionable on account of their odour Complete success was attained by dipping the ends of the cut stalks in molten paraffin wax The report also contains accounts of investigations on the temperature and wastage of fruit during overseas transport, the freezing and storage of mild-cured bacon, the rate of evaporation from eggs, the corrosion of tin-plate in canning, the refrigeration of fish, and the thermo-physical properties of refrigerants A description is given of a small refrigerating plant for road and rail transport, using a methyl chloride evaporator and potassium chromate brine, which worked well on railway runs between London and Aberdeen The concluding section relates to researches conducted for the Director of Food Investigation by the Imperial College of Science and Technology The whole report is of outstanding interest from the public health point of view

[1] Report of the Food Investigation Board for the Year 1929. London: H.M. Stationery Office. 1930 2s. 6d. net.

NOISE IN NEW YORK

WE learn from a communiqué issued by Dr Shirley W Wynne, health commissioner for New York, that the Noise Abatement Committee, appointed by him last November to inquire into the complex noise situation in New York City has now presented the first part of its report After a study of the data so far made available through research the committee is satisfied that the continual pressure of strident sound to which New Yorkers are subjected tends to produce impairment of hearing to introduce harmful strain upon the nervous system leading to neurasthenic and psychasthenic states to cause loss of efficiency of workers and thinkers, and finally to interfere so gravely with sound refreshing sleep that rest is difficult and in some cases impossible ' It appears that a medical subcommittee has found definite proof that noise produces undue pressure on the brain, affects metabolism, produces partial or total deafness (upon long exposure), prevents concentration, retards learning both in children and in adults, and interferes

seriously with the normal development of infants and young children As to the effect of noise on efficiency, an investigation carried out by Dr J B Morgan and others showed serious retardation in the productiveness of office workers "The necessity of putting forth extra effort to overcome noise creates a continual strain on the nervous system, which must ultimately show itself in reduced capacity for sustained work, clear thinking, and energetic action, the mainstays of civilized life" In regard to impairment of hearing the report says "The structure of the ear makes it continuously adaptable provided the sounds merge and maintain a more or less uniform level In traffic and many other city noises this is not the case Consequently the portion of the ear which controls adaptation gets no rest After a time the muscles of accommodation, wearied by continual efforts to adjust the hearing to the various thumps, rattles, blasts, and hoots of sound which punctuate the undertone of street noise, fail to react This lack of function leaves a breach in the protection of the ear, opening the way for occupational deafness and causing additional fatigue and other harmful results Here in New York this observation can easily be substantiated Our automobile and taxi drivers are becoming hard of hearing, and the same is known to be the case among boiler workers and other labourers or mechanics exposed to a constant riveting noise" In regard to disturbance of sleep the report declares that a partial abatement of noise during the night will not meet the need of a city as large and diverse as New York the whole chorus of sound must be decreased at all hours "The effects of noise have been described by research workers as 'emotional' Long before the emotions are actively disturbed there are undoubtedly disturbances expressed in heightened pulse rates, increased blood pressure, irregularities in heart rhythm, and, most important of all, in the increase of pressure on the brain Emotion is only the end-product of the process, the undoubted effect of constant noise is a disturbance of the blood vessel apparatus and an increase in the degenerative processes of the heart and arteries" The committee regards the work it has so far accomplished as merely a preliminary to the abatement of noise Nevertheless Dr Wynne is able to report some progress in the direction of actual abatement Following a conference with representatives of the principal steamship and railroad interests and federal and municipal officials, to consider the problem of unnecessary whistling and other noises attendant upon traffic in New York Harbour, the tugboat and steamship companies and others connected with shipping have agreed to take part in the campaign to diminish din from these sources, and officials in charge of fleets of trucks have undertaken to discourage promiscuous horn-blowing by their drivers The nuisance arising from radio loudspeakers is being brought under control by local legislation Henceforward no sound-producing apparatus will be allowed to disturb the quiet or repose of persons in its vicinity, and the use of loudspeakers or other amplifying devices is forbidden in any public street or place without a permit from the police commissioner, or in any case within 250 feet of a school, court house, church, or hospital during the hours when these institutions are [illegible] In addition to these definite steps interest in [illegible] problem of noise in general has been aroused among [illegible] and technical men toward the production of less [illegible] machinery and vehicles, and we have gained the interest and co-operation of newspapers, magazines, and other avenues of publicity Through these channels a general public realization of the costliness danger, and needlessness of increasing city noise has been brought about In making its preliminary survey the committee found that the noise nuisance in cities was by no means a [illegible] through the clamour of modern machinery and [illegible] In other cities particularly in Europe, have made recent studies of the problem, Dr Shirley Wynne takes pardonable credit for the fact that the body set up by him in New York is the first to apply scientific methods to its investigation and to consider the problem as a whole

WAR PSYCHOSES

WAR psychoses, it is generally held, do not conform to specific types differing in their manifestations and origins from the psychoses of civil life They develop in reaction to stresses which differ in appearance but not in essence from the stresses of ordinary life extremes of fatigue and bodily discomfort, constant exposure to danger, to wounds and disease, and to alarming sights and sounds, separation from wife and children, and uncertainty for the future These conditions are known to favour the production of psychoses, the man on active service may be subjected to all of them, and the longer the war lasts the more would their effects accumulate Dr Rodiet and Professor Fribourg-Blanc, from their survey[1] of the psychoses that occurred in the French Army as a result of the great war, reach the conclusion that, though war-time psychoses fall within the usual groups, they differ in some respects from the psychoses of peace-time War has given them, so to speak, a special colouring, and war psychotics show a more intense reaction than the psychotics of civil life The survey in question was undertaken at the instigation of the French Army Parliamentary Committee, charged with the duty of accounting for the country's total losses by reason of death, wounds, mental affliction, and other causes, and though Dr Rodiet and Professor Fribourg-Blanc, after years of painstaking investigation, were unable to make a complete statistical analysis of their allotted field, they have reached a number of valuable conclusions from their study of 25,000 case records collected by the medical staff of the Val-de-Grâce Psychiatrical Centre during and after the war One of their subjects of study was the relative importance of constitutional factors and of conditions which may be directly ascribed to active service in the production of war psychoses Among constitutional factors they instance psychopathic inheritance, mental instability, degenerative states, alcoholism, and syphilis and various organic disorders of the nervous system In the other group they place emotional and "commotional" shocks, extreme fatigue, wounds, and debilitating diseases resulting from war service They do not find themselves in agreement with those who believe that underlying most war psychoses was a constitutional tendency, they hold that factors in both groups were responsible for the production of mental disorder Another matter to which they devote considerable attention is the recruitment of psychopathic persons in time of war In their book they cite numerous instances of magnificent courage displayed in the trenches by soldiers in the early stages of general paralysis, mania, or melancholia When such patients became so severely affected as to render them incapable of further service they were, of course, sent to hospital, but till then they were able to give excellent service

TUBERCULOSIS CONFERENCES AT OSLO AND HAMBURG

THE seventh conference of the International Union against Tuberculosis is to be held this year at Oslo for three days, commencing on August 13th in the Great Hall of the University The formal agenda of the meetings includes three main questions of great interest to tuberculosis workers all over the world The first topic—namely, B C G

[1] *La Folie et la Guerre de 1914–1918* Par A Rodiet et A Fribourg Blanc Paris I Alcan 1930 (Fr 30)

vaccination against tuberculosis—will be introduced by Professor A Calmette of Paris The morning session will be devoted to the principal paper and speeches by Drs William H Park, Maragliano, and others, and the afternoon will be available for general discussion This procedure will be followed in the case of the other subjects The chief speaker on the second subject, thoracoplasty in the treatment of pulmonary tuberculosis, will be Professor P Bull of Oslo, followed by Dr Gravesen of Denmark, Mr Morriston Davies representing Great Britain, Dr Sauerbruch of Germany, and other On the last day the conference will discuss the teaching of tuberculosis to medical students and physicians Professor W His of Berlin will read the first paper, and contributions will be made by Sir Robert Philip, Drs Leon Bernard, Willard B Soper, and representatives of other countries The afternoon is available for general speeches from members of the conference During the week, Dr Heitmann of Oslo will read a paper on antituberculosis work in Norway The proceedings will be conducted in English and French Apart from the intrinsic interest of the formal agenda, there are most attractive motor and railway tours to Lillehammer, Molde, and other beautiful localities where the traveller interested in tuberculosis may sail down solemn fjords and visit ancient churches, tarrying here and there at some well known sanatorium For a minimum of £6, it will be possible, after the close of the conference, to spend a week in this delightful way, substantial railway and steamship concessions being offered to members Further particulars may be obtained from the secretary of the National Association for the Prevention of Tuberculosis, Tavistock House North, Tavistock Square, London, W C 1, to whom application for membership should be addressed On the way to Oslo those who are interested will have a unique opportunity of attending a prior gathering in the Eppendorf Hospital, Hamburg, on August 7th and 8th, which is organized by the North-West German Tuberculosis Association Professor Ziegler of Hanover will be the chairman on the first day, and discussions will take place on nutritional therapy in tuberculosis, the manifestations assumed by tuberculosis during its development, and various aspects of pulmonary disease On the second day, a meeting of the German Research Institution for Tuberculosis will be held, and the topics include the variations in the development of the tubercle bacillus, the surgical treatment of non-tuberculous pulmonary disease, and asthma During the week there will be demonstrations for small groups on respirational physiology, and blood gas analysis Opportunities will be given to visit various sanatoriums and institutions near Hamburg, and modern welfare methods will be demonstrated by the Hamburg Board of Health Applications for membership of this meeting should be addressed to Professor Brauer, Eppendorf Hospital, Hamburg

CONGRESS FOR SEX RESEARCH

THE programme for the second International Congress for Sex Research, to be held in London at the House of the British Medical Association from August 3rd to 9th, is now nearing completion The British organizing committee has endeavoured to provide opportunities not only for consideration of newly established facts, but also for discussion of the bearings of these on modern therapy At the opening session, on August 4th, Professor F A E Crew will give an address on puberty and maturity, and in the afternoon papers relating to this subject will be presented Tuesday morning will be devoted to papers on the biology of testicular and ovarian function by representatives of the Strasbourg and Chicago schools, including Professors Bouin, Koch, Carl Moore, and Gallagher and these will be discussed in the afternoon On Wednesday morning papers on hormone therapy will be presented by members of the Breslau and Kiel schools, including Professors Frankl, Fels, and Schroder On Thursday morning, it is proposed to discuss the subject of psychology and biology Friday morning will be devoted to papers on the biological and therapeutical aspects of the control of human fertility, and reviews of the work that is being done in various countries in this field The subjects of papers to be presented to sectional meetings include the Aschheim Zondek test for pregnancy, by Professor Aschheim of Berlin the corpus luteum hormone, by Dr Clauberg of Kiel, biological tests of the female hormone (menformone), by assistants from Professor Laqueur's institute in Amsterdam, the channels and significance of excretion of the female sex hormone, by Professor R T Frank of New York, the male sex hormone, by Professor S Loewe of Mannheim, evidence for the metabolic basis of sexuality, by Dr Oscar Riddle, and human hybrids, by Professor C G Seligman An attempt has been made so to plan this programme that there shall be in it much that should interest the medical practitioner Membership of the congress is restricted to professional biologists engaged in research or teaching in accredited institutes of anatomy, anthropology, botany, medicine, physiology, psychology, sociology, veterinary science, or zoology, and to members of the medical profession Those who wish to become members should communicate with the congress secretariat, King's Buildings, the University, Edinburgh, until July 26th, and thereafter at the House of the British Medical Association, Tavistock Square, London, W C 1.

THE UNIFORM OF NAVAL MEDICAL OFFICERS

IT is well known that a uniform dress for commissioned officers of His Majesty's Navy was authorized in the year 1748 It is perhaps less well known that the service had a narrow escape from being clad in a combination of grey and red instead of the famous blue and white The regulations of 1748 did not apply to medical officers who were appointed by Admiralty warrant and it was not till 1787 that the *London Gazette* specified for the first time a uniform for "warrant officers and masters' mates" This document is referred to in the April number of the *Mariners' Mirror* (the organ of the Society for Nautical Research, published by the Cambridge University Press) It was not, however, until 1805 that definite rules were promulgated Upon a proposal from the Commissioners for Sick and Wounded Seamen, the Admiralty obtained an Order in Council, dated January 23rd, 1805, revising their rates of pay, etc The Admiralty memorial contains the following "And the Commissioners having further submitted to us the propriety of allowing the medical officers to wear a distinguishing uniform during the time of their being actually employed, and of giving them a comparative rank in the service suitable to their situation to which consideration it is believed they attach much importance, especially as the regimental surgeons are allowed to rank with captains" The Scheme of Uniform put forward by the Commissioners was accepted by the Admiralty in May, 1805 It specified full-dress and undress for physicians, surgeons, dispensers of hospital, assistant surgeons and hospital mates All medical officers to wear the word established for officers of the Navy It is to be noted that only physicians were allowed gold lace half an inch wide round the cuffs and collar There is no description of the hat but that is not remarkable because it is on record that years later no colour was specified for a post-captain's hat and that excellent but eccentric officer Sir John Phillimore (died 1840) once visited My Lords of Whitehall in a white one, in order to emphasize the omission

NEURO-HYPOPHYSEAL MECHANISMS FROM A CLINICAL STANDPOINT.

LISTER MEMORIAL LECTURE

THE Lister Memorial Lecture was delivered by Professor HARVEY CUSHING at the Royal College of Surgeons of England on July 9th, with the President, LORD MOYNIHAN, *in the chair*

Professor Cushing said that Lister was that rare combination, a surgeon and a savant, the high esteem in which science was held at the Royal College was indicated by the true savants who, from Richard Owen to Arthur Keith, had been conservators of the Museum

The central nervous system lay within a bony case, protected by tough membranes and the pituitary body, *like a nugget in a series of Chinese boxes*, had a special membranous and bony case of its own Why had Nature thus safeguarded it? Galen had thought it to be a filter for the escape of pituitary humours to the nose Willis, *in the seventeenth century*, said that "the blood before it is let into the cerebrum takes some part of the superfluous serum of the pituitary gland," but later this conception was swept away by the belief that the organ was a vestigial remnant It was not until it was discovered that acromegaly and gigantism were usually associated with an hypophyseal tumour that interest in the gland revived Of late years French and American workers had stimulated interest in the interbrain, and some symptoms formerly thought to be due to lesions of the pituitary were now said to depend on lesions of the hypothalamic region He wished to bring these divergent views into association

The adenomata of the pituitary, in the first place, were of three types, and of these, two were associated with evidence of glandular hypersecretion Adenomata in general, long regarded as curiosities, were proving to be of disturbing physiological significance Cases of cystic degeneration of bones were being found to depend on adenomata of the parathyroids Adenomata of the islet cells of the pancreas led to a condition resembling overdosage with insulin The two common types of pituitary adenomata arising from the anterior lobe were the chromophil cell type, associated with acromegaly, and the chromophobe cell type, associated with arrest of growth and adiposity—the reverse syndrome to gigantism But both these syndromes were associated with reduction of the reproductive function, which at first sight seemed unreasonable It had been demonstrated by Evans of California, however, that an emulsion made from the anterior lobe and injected into female rats interrupted the reproductive cycle, and later it was demonstrated that two hormones were obtainable from this portion of the gland one which was concerned with growth, and one with reproduction The basophil cells of the anterior lobe were responsible for the reproductive secretion, and were, of course, compressed and destroyed by either of the foregoing adenomata arising within the sella turcica An adenoma of these basophil cells, however, gave rise to the condition of virilism

The recent researches on the hypothalamus had rather overshadowed theories of the function of the posterior lobe of the gland, but he would attempt to restore some of its interest In any case it was probably intimately associated with the diencephalon in relation to the haemodynamic, oxytocic antidiuretic, pigmentary, antipyretic, and sudorific functions Experimental results obtained by extirpation of the posterior lobe had been attributed to accidental injury of the hypothalamus during the operation, and it had even been doubted whether the destruction of the hypophysis had anything whatever to do with these results In the rat, however, it was possible to approach the pituitary without injuring the brain, owing to the existence of a diaphragm similar to that covering the sella turcica in man P E Smith had taken advantage of this fact to show that lesions of the pituitary alone gave rise to interference with growth and sexual development, but that injuries to the tuber gave rise to adiposity Richter had shown that a stab wound just anterior to the hypophysis in the rat gave rise to persistent polyuria

But though this would seem to give a definite hypothalamic as opposed to an hypophyseal syndrome, it should be remembered that from the supraoptic and paraventricular nuclei of the diencephalon non-medullated nerve fibres passed down the infundibulum to ramify in the posterior pituitary lobe and its epithelial investment It was impossible to speak of diencephalic lesions as separate from the pituitary Herring described, in 1908, the invasion of the posterior lobe by cells from the pars intermedia and the transformation of these cells into hyaline bodies which appeared to pass towards the ventricle, mechanical obstruction of the hypophyseal stalk led to a damming back of this hyaline material There was evidence that this material represented a secretory principle which possibly affected the nerve centres of the hypothalamus It had been found that a small silver clip placed on the infundibular stalk, without inflicting injury on other structures, led to a persistent polyuria *which lasted until the animal was sacrificed two years* later Polyurias produced by injuries to the hypothalamic region could be counteracted by the injection of extract of the posterior lobe, suggesting that this portion of the gland lay under the control of the nerve centres injured

Deposition of fat was more marked after injuries to the diencephalon than after extirpation of the posterior lobe, but occurred in both cases

Temporary glycosuria might be produced both by hypophysectomy and by hypothalamic injuries The glycosuria provoked by Bernard's piqûre depended only on the injury in the fourth ventricle of a relay station for glycogenolytic impulses originating higher up In the glycosuria of acromegaly possibly the neural portion of the gland was activated, giving rise to hyperglycaemia and glycosuria Injuries to the hypothalamus might also produce dystrophia adiposo genitalis, possibly a functional discharge in this region normally acted on the anterior lobe of the gland to free the reproductive secretion Temperature regulation was disturbed by hypothalamic injuries Sleep appeared to be controlled by the diencephalic centres, as Hess had shown by inducing sleep in cats on stimulation of a certain hypothalamic area Encephalitis lethargica which struck chiefly at this region, led to disturbances of sleep, but somnolence was also associated with deficiency *adenomata of the anterior lobe*, when the diencephalon appeared to have escaped injury

The diencephalon represented the primitive emotional region Removal of the upper parts of the hemispheres in a dog led to a complete change of character the animal became extremely irritable, and exhibited bursts of "sham rage," in which the blood pressure rose and blood sugar was increased The primitive emotional mechanism was here acting uncontrolled by the higher centres The pituitary body was developed from a downgrowth of this most primitive part of the brain—a part which existed in any organism which could be said to have a brain at all—and from an upgrowth of the buccal epithelium If, in the tadpole, the buccal portion was removed at an early stage, pigmentation disappeared, the fat organ persisted, and metamorphosis did not occur the infundibular portion of the gland failed to develop, it required to come into *contact with the buccal epithelium before its normal* growth would take place Furthermore, if the buccal portion was transplanted it did not develop unless a part of the nervous tissue were included with it

Only occasionally did pituitary tumours evoke a definite march of symptoms This had been observed in the case of a girl 13 years of age, who suffered first from an oculomotor palsy and subsequently from blindness of her right eye A radiograph suggested suprasellar tumour, and on inquiry a history of polydipsia, polyuria, temporary adiposity, and somnolence was discovered Vision later became impaired in the other eye and was followed by a progressive change in personality, the child becoming uncontrollable Persistent fever, ranging from 101° to 104°, arose and persisted for ten weeks At operation a malignant glioblastoma was found, involving the chiasma

and spreading into the ventricle She died forty-eight hours later in a state of hyperthermia with a rectal temperature of 108°

After summarizing his points Professor Harvey Cushing concluded by saying that though information might be gained by study of the independent parts of the diencephalo-hypophyseal mechanism, it could only be properly interpreted, philosophically at least, when looked on as a whole and in relation to the entire organism He quoted Thomas Willis, who said of the rete mirabile "There is no thing in the whole fabric of an animal body more worthy of admiration nothing can be conceived as more skillful and nothing which argues more forcefully the providence of a highest author"

BACTERIOLOGICAL CONTROL OF WATER SUPPLIES

PROFESSOR J M BEATTIE'S ADDRESS TO THE BRITISH WATERWORKS ASSOCIATION

AT the nineteenth annual meeting of the British Waterworks Association, which was opened at Liverpool on July 9th, Professor J M BEATTIE, M D, professor of bacteriology, Liverpool University, and bacteriologist to the city and port of Liverpool, read a paper on the value of regular and systematic examination of water and the interpretation of results

The practice at Liverpool, as Professor Beattie explained, is to examine daily the water as supplied to the city, and to examine monthly the water from the storage reservoirs at Prescott and from the deep wells Samples are taken at less regular intervals from various parts of Lake Vyrnwy, the artificial reservoir in Montgomeryshire for the water supply of Liverpool, also from the principal feeders of the lake, from several points along the course of the pipe line from Vyrnwy to Oswestry, where are the filter beds, and at Oswestry from both the unfiltered and the filtered water It was in 1887 that the first arrangements were made for a systematic examination of the bacteria in Liverpool water, and at that time a routine daily examination was not practised in any other large British city

Professor Beattie addressed himself to the question whether this method of investigation was really necessary and afforded any important information

Multiplication of Bacteria in Water

The main object of the examination, he said, was to determine whether the water had been subjected to faecal contamination, and, in consequence, whether it was possible that various disease producing organisms, such as those of enteric fever, dysentery, and cholera, were being distributed over the area of supply Another factor of importance was that bacteria flourished best in water which contained organic impurities, thus a bacterial count might give important indications as to the amount of such impurity If the amount was considerable the water became a more favourable medium for bacterial growth, and if, by chance, the water in this condition became contaminated with faecal organisms, their growth would be more active and their multiplication more extensive On the other hand, if the organic impurity was small in amount, the chances of disease-producing organisms multiplying would be considerably lessened, and the risk of infection correspondingly diminished A systematic examination, therefore, enabled the water to be kept at "the minimum point of risk"—that is to say, in such a condition that the disease-producing bacteria, if they gained access, had little chance of surviving or multiplying

Some American investigations were cited in the paper, showing how important a part was played by food materials (organic matter) in the multiplication of bacteria in water Temperature was another factor to be considered but its effect varied with the amount of organic matter present A rise of temperature favoured bacterial growth if the water contained an ample food supply but when the organic matter was small in quantity a rise of temperature actually caused a diminution in the number of organisms Regular information regarding the total bacterial count of a water supply was thus a very important indication to the water engineer, not merely as to the immediate purity of his supply, but as to the capability of the water for dealing with a chance contamination of disease-producing organisms

Sporadic Infection Due to Water Supply

Granted that epidemic disease from water supply was a rare occurrence, this was not to say that contamination with disease-producing bacteria was also uncommon It might be that these organisms occurred in water supply more commonly than was thought, but if the supply was a really satisfactory one, no epidemic would follow, owing to the difficulty of the organisms in surviving or multiplying It was very common in any city to find isolated cases of typhoid or paratyphoid in which no cause of infection could be traced Could a clear verdict be given that the water supply was not responsible? In a properly controlled water supply these pathogenic organisms would be few in number and not uniformly distributed, so that, unless the contamination was marked, they were likely to give rise only to isolated cases of infection Even a universal agent like the water supply might be the channel of sporadic infections while still not giving rise to any epidemic. No system of bacteriological examination could prevent isolated cases of infection, but in the absence of regular examination such a source of infection would remain undiscovered and isolated cases go on indefinitely

In one city, in 1924, as many as twenty-four cases of paratyphoid were notified, as compared with sixteen for the five preceding years. The occurrences suggested that the agent responsible was something widely used, but not heavily infected The cases occurred during the early part of the year, and in the latter part of the previous year the *B coli* content of the water had been high and remained so This led to investigation in which organisms of the paratyphoid type were isolated Probably these organisms were the causal factor of the outbreak, but the search for them was wholly dependent on the regular examination of the water and the finding of excessive numbers of *B coli* continually over a period If a medium were available by which pathogenic bacteria could be isolated from water an enormous advance would be possible, a single examination in such a case being sufficient, but although there was a medium useful for the isolation of *B typhosus* from the stools and from ordinary sewage, its value in bacteriological examination of water was not established

Standards of Purity

Professor Beattie complained of medical officers of health that too often they had a notion that the presence of *B coli* in less than 100 c cm of water was a serious matter It was said that this was "Houston's standard," overlooking the fact that Houston had always asserted that the standard was only tentative, and to be controlled by knowledge of local conditions One American bacteriologist had declared that the discovery of a colon bacillus in 50 c cm of water, or even occasionally in 5 c cm, afforded no reasonable ground for casting suspicion on the character of the water The possibility of contamination with colon bacillus derived not from man but from domestic animals and birds had to be borne in mind A commission appointed in the United States had established the standard that "not more than one out of five 10 c cm of any sample examined show the presence of *B coli*" In Professor Beattie's view, this was quite a good working basis if used with an intelligent knowledge of local condition and particularly if the conditions were more or less constant for a few days

Filtration Action of Ultra-violet Rays

Passing to some other points Professor Beattie said that ordinary sand filtration not only removed large quantities of bacteria but also much of the organic material whereon the bacteria lived Houston had shown that sand filtration, after storage of the water for thirty days, removed 98 per cent of the residual bacteria But filtration must not be taken as a certain means of getting a pure supply It was

only after the filter had been in use for a short time that it reached its maximum efficiency, and, further, this efficiency was not of very long duration

As to the claim that ultra-violet radiation from the sun played an effective part in destroying bacteria in water, Professor Beattie said that that view had been supported by laboratory experiments, in which, however, the water was exposed in shallow vessels In nature these conditions did not obtain The opacity of the water prevented penetration of the rays In open storage reservoirs where the water was clear and the rays of the sun penetrated a distance probably of three or four feet, there was a certain amount of effect, but the sun in Britain could not be regarded as a serious agent for bacterial purification of water supplies

In conclusion, Professor Beattie repeated that the real object of a bacteriological examination of water was to ensure a supply free from disease-producing intestinal organisms For many years typhoid was the disease against which it was specially desired to guard, more recently the paratyphoid fevers had taken its place Dysentery, particularly the bacillary form, had become much more common within the last few years, and some food-poisoning organisms—for example, Gaertner's bacilli, which were not uncommon in the lower animals, such as mice and birds—had been found in the water supply Regular and thorough examination was essential, but the interpretation of the results called for special care and experience

Ireland.

New Lectureship at Trinity College, Dublin

THE Board of Trinity College, Dublin, has received from Miss Sarah H Purser a sum of money to bring in £100 per annum in order to found, as a permanent memorial to her brother, the late Professor John Mallet Purser, a lectureship in connexion with the School of Physic A lecture will be delivered each year, dealing with some scientific subject in which he was interested Dr Purser occupied the chair of the institutes of medicine (physiology and histology) in the School of Physic for twenty-seven years, and for eight years was Regius Professor of Physic He organized the first instruction in practical pathology which was given in Dublin, and his lectures and clinical teaching are still remembered with gratitude by his former pupils Several years ago he made a gift of £10,000 for the advancement of medical and scientific education in the University, and the interest on this sum has been the means of providing additional apparatus for teaching in those departments which undertake practical courses The Purser Medal, which was founded in the year 1899 by his former pupils, and is awarded annually in the subject of physiology, bears on the obverse an excellent likeness of the late Regius Professor

Public Health Conference in Dublin

On the invitation of the Minister for Local Government and Public Health (General R Mulcahy) representatives from all the County Health Boards in the Irish Free State met recently at a conference in Dublin The Chief Medical Officer, Dr E F Stephenson, was present, as well as the county medical officers of health of the Irish Free State General Mulcahy, who presided, said, in the course of his address, that it was the first occasion on which representatives of all public health authorities in the country had assembled at such a conference, and he hoped that it would be the forerunner of many more Since the opening of the present century a marked decrease had taken place in the number of deaths caused by preventable disease Some of the diseases that formerly ravaged the country had almost disappeared, the mortality caused by others had been enormously reduced Small-pox, which was responsible for over 6 000 deaths in Ireland from 1870 to 1880, had not appeared in the mortality returns for twenty-three years Typhus, enteric, and scarlet fever had been greatly diminished Pulmonary tuberculosis had been definitely on the down grade for over twenty-five years The general death rate had fallen from 18 per 1,000 in 1871 to 1880 to 14 per 1,000 in 1928, and the census revealed that the expectation of life, which had remained almost stationary between 1870 and 1900, was greater at all ages and for both sexes in the first quarter of the present century This record, said General Mulcahy, encouraged the hope that many of the diseases that still afflicted the community would be mastered in time Progress could not be attributed to any single cause Better housing, purer food, more widespread knowledge of the laws of healthy living, better organization of public health work, had all played a part in the advance, side by side with the increased knowledge that medical science had placed at their service They should not, however, look back too complacently, for the Registrar-General's returns showed that tuberculosis, heart disease, influenza, bronchitis, and pneumonia still carried off thousands every year The mortality figures did not indicate the amount of invalidism, disability, and physical defect that reduced and destroyed the happiness and well-being of thousands, or the economic loss of avoidable physical impairment Public health involved more than the promotion of water and sewerage schemes, and the isolation of infective disease. These activities were as important as ever, but communal activities must also be directed towards improving the health and well-being of the individual Prevention was better and cheaper than cure The wise development of the preventive side of public health was more of an investment than an outlay Under the child welfare schemes, and in the school, the medical side of the public health service did most valuable work in discovering conditions that brought about ill-health in adult life

Dr. J C Saunders, medical officer of health for the City of Cork, read a paper on health education and the methods by which it could be promoted He said that the greatest stumbling-block to the promotion of health education was the fact that health legislation was generally years ahead of public opinion Prevention of disease, he said, was only now taking hold of the people, but it was becoming of greater importance every day Attention to the smaller ailments of children, such as enlarged tonsils, adenoids, defective teeth, and other ills, would go a long way towards preventing disease in later life Parents still objected to vaccination and to sending their children to an isolation hospital Although vaccination had been proved to be the greatest preventive of disease, yet there were people who objected to it Comparison of the outbreaks of small-pox in Ireland and England, where only 30 per cent of the children were vaccinated, showed what vaccination had done for the health of the Free State Communal hygiene, he contended, should be national rather than local, and should be put into effect by a central organization Dr B O'Beirne, medical officer of health, Galway, said that *infectious disease* cost the ratepayers of Galway over £3,000 a year Insurance companies had a lot of money in hand, and if they expended less on benefits through improvement in public health they ought to be prepared to lend money for this purpose to the authorities concerned, at a low rate of interest Dr R Condy, medical officer of health for Cork County, in the course of a discussion on county health administration, advocated the replacement of the present part-time office of subsanitary officer by a fully trained whole-time service He realized the difficulty of a county medical officer of health taking over the functions of an executive sanitary officer, although this was desirable in some respects Dr Condy referred to the proper production and handling of milk, meat, and other foods which directly concerned the county medical officer in the protection of the health of the people Where the circumstances of the area made it possible, as in urban areas and large towns, by-laws providing for a system of inspection and stamping of all meat before sale should be introduced, urban powers being obtained when necessary Inspection at the time of slaughter was of special importance, and in the absence of public abattoirs could best be carried out by the mutual co operation of the veterinary officers and victuallers The employment of untrained sub officers for milk inspection was unsatisfactory Special training and experience was necessary for this work, which should preferably be in the hands of qualified veterinary surgeons in order to gain the confidence and co operation

of the farmer The annual report of the county medical officer of health should be the chief medium for giving public information about the Health Department and about the character and extent of the health work done over a given period

Dr Harbison medical officer of health, Kildare, said that the county medical officer of health should be the book keeper and auditor of the health of his community He must report fully to his board, and through it to the community, the vital statistics indicating preventable wastage of life and the results of the efforts to improve health and save life The medical officer had also a vital part to play in the health education of the people The expense was only a secondary thing if they could wipe out disease in the country The generous financial aid given towards housing by the Government was doing a lot to eliminate the white plague, and he hoped that housing grants would be made in an even more generous way in the future Dr M Russell medical officer of health, Dublin, Dr T F Higgins, medical officer of health, Meath, and Dr McDonnell of the Public Health Department, also took part in the discussion Dr M M O'Leary, school medical officer, Dublin, in a paper on the health of the school child said that the hygiene of the growing child was scientifically of more importance to the nation than that of the adult Owing to the large school population (between 50,000 and 60,000) and the small staff of two medical officers engaged in the work, the system so far adopted in Dublin had been in the nature of a general survey All children with any defects, obvious to parents or teachers, were examined irrespective of age In addition, all apparently normal children were examined in three routine age groups—entrants aged 5 to 6 years, intermediates aged 8 to 9 years, and leavers aged 12 years and over By this means it was hoped no child would escape inspection From the point of view of the school medical service, rheumatism was one of the most serious defects of the school child, leading to prolonged absences from school and chronic invalidism, permanent crippling, or early death from heart disease The discovery and removal of diseased teeth and tonsils seemed a small price to pay to ensure against the disastrous consequences of this neglect

Scotland.

Radium Supply in Scotland.

SEVERAL medical institutions in Glasgow have now organized their services for the treatment of cancer by radium. As recently mentioned in these columns the Glasgow Royal Cancer Hospital, with the help of a gift of £10,000 from Lady Constance Burrell, purchased a quantity of radium in November, 1928, to augment its original supply A central department of the Glasgow and West of Scotland Radium Committee at Glasgow University has possessed for a number of years about 700 mg of radium acquired at a cost of about £9,000, from which radium emanation is still supplied to the three infirmaries of the city, as well as to the Royal Cancer Hospital and Royal Samaritan Hospital In 1928 the Western Infirmary, as the result of a gift of £5,000 from Sir Henry and Lady Mechan, obtained a supply of radium which was sufficient at that time for the immediate requirements of the Western Infirmary By special arrangement this supply has also been available to the hospital staff for the treatment of private patients, its administration being under the charge of Dr A A Charteris, the Donald research scholar in the latter institution The Glasgow Western Infirmary was subsequently selected by the National Radium Commission after consultation with the medical faculty of Glasgow University as the National Radium Centre for the West of Scotland, and the Infirmary has received the first consignment of radium allocated to it in this capacity The National Radium Commission was constituted about a year ago after a successful appeal had been made for a National Radium Fund Two bodies deal with this Fund the Radium Trust and the Radium Commission the Trust being charged with the duty of purchasing the radium, and the Commission with its custody, distribution, and use After consulting the medical faculties of the different medical schools, the Commission selects an institution as the national centre for a given part of the country The centre for the East of Scotland is the Royal Infirmary of Edinburgh, which received its supply of radium about three weeks ago In each case the Government supply of radium will be used in the respective hospitals only for purposes of research and treatment, while the rest of the radium belonging to the hospitals will be employed at their discretion for outside work as well Other national radium centres have still to be established

Retirement of St. Andrews Professor

A meeting of St Andrews University Court was held on July 9th, when a letter was read from Professor Lewis Robertson Sutherland intimating his resignation from the chair of pathology as at September 30th next It was agreed to make interim arrangements for carrying on the work of the department during the coming academic year and to defer taking steps to fill the vacancy Professor Sutherland graduated M B , C M at Glasgow University in 1890, and after a period of study abroad became assistant to the professor of pathology at Glasgow University and demonstrator of pathological anatomy at the Western Infirmary, as well as pathologist to the Royal Hospital for Sick Children, Glasgow He was appointed to the chair of pathology at the University of St Andrews in 1899, and at the same time became pathologist to the Royal Infirmary of Dundee His name is well known as the editor of recent editions of the *Manual of Pathology*, originally produced by Professor Coats of Glasgow At the same meeting Dr Walter F Harper, B Sc Ph D , was appointed full time assistant in the department of anatomy at Dundee, Dr F M T Skae remaining a part-time assistant It was also intimated that Emeritus Professor Musgrove (formerly Bute Professor of Anatomy in the United College) had presented an epidiascope to the department of physiology

Cremation in Scotland.

The ninth annual conference of the Federation of Cremation Authorities in Great Britain was held in Edinburgh on July 5th and 7th Bailie John Dickson welcomed the delegates on behalf of the Lord Provost and Corporation It was evident he said, that the Cremation Society was making great progress in spite of the difficulty of changing public opinion Progress, however, had not been so rapid in Scotland as in England Mr J Dan Easson secretary of the Edinburgh Crematorium, mentioned that in the nine months during which this crematorium had been in operation, 86 cremations had been carried out—31 of these at a reduced rate He suggested that standard forms should be adopted by all cremation authorities containing printed instructions to doctors in regard to the terms of their certificates Dr A A Mussen, medical officer of health for Liverpool, said that most medical men were in favour of cremation, and it would be a good thing if medical students were instructed in their final year regarding the statutory regulations and the necessary certificates It was stated that in Edinburgh the charges for a cremation, including the fees for medical certificates amounted to less than £15, including carriages Professor Sydney Smith of the forensic medicine department of Edinburgh University, speaking on the subject of cremation and crime referred to the question whether the present regulations under the Cremation Act were sufficient to prevent the concealment of crime Two medical certificates he said were necessary the first contained about nineteen questions, the second which was a confirmatory certificate had to be filled up by an independent doctor The two certificates were then passed to a medical referee who decided whether cremation could be carried out In the majority of deaths no suspicions could possibly arise, and where death was due to poison, the sudden onset of characteristic symptoms in a previously healthy person terminating rapidly in death was sufficient to arouse the doctor's suspicions Where poison had been taken in small doses over a long period, the doctor again was almost certain to have his suspicions aroused by the symptoms, or if improvement in the patient's condition coincided with

his absence from the source of poison In such a case, if cremation were demanded, an immediate examination would be necessary Professor Smith referred to the Chapman poisoning case of 1903, where the sudden death of a girl, after symptoms suggesting poison, had called for an examination both in this case and in that of two women with whom Chapman had been previously associated These two bodies having been exhumed and examined, Chapman was found guilty of three murders At the trial the judge remarked that if cremation had been employed the discovery of Chapman's previous guilt would have been impossible It was pointed out, however, that if cremation had been asked for in the case of the first woman poisoned by Chapman, the circumstances of death could not possibly have escaped notice, and Chapman would have been found guilty there and then Cremation might therefore be regarded as an actual preventive of crime Colonel P S Lelean, professor of public health in the University of Edinburgh, speaking on "dissolution," remarked that two-thirds of the human body consisted of water, which evaporated after death, while the body tissues were slowly resolved into their simple elements, so that finally there remained only about two and a half pounds of solid mineral matter, or in the case of cremation, of ash In the cremation chamber, with a temperature of 1,600° C, the gaseous elements were immediately converted into innocuous products The result was more quickly achieved than by the slow process of natural decay During the last five years, he said, approximately twenty-five acres of land in Edinburgh, which would have provided playgrounds for children, had been wasted on the burial of corpses If it were true, as alleged, that 4,000,000 children in this country had no ground on which to play, it was criminal that land should be uselessly employed for the interment of the dead The tradition of incineration was an old one among the Romans and Greeks, who saw in the smoke of the funeral pyre the ascent of the spirit Incineration would strike a blow at the morbidity which surrounded a graveyard

Training of Scottish Nurses

At the annual meeting of the Edinburgh Club for Nurses an address was delivered by Dr J Pailane Kinloch, Chief Medical Officer of the Department of Health for Scotland Dr Kinloch said that certain aspects of the training of nurses required consideration as a result of the new Local Government Act The supply of trained nurses was not affected, but there was evidence that they were emigrating in large numbers Prospects were better for them abroad than at home, and it was expected that there would be a serious shortage of trained nurses in this country before long It was satisfactory that Scotland should be a training ground of nurses for a wider area, but measures must be taken to prevent a consequent deficiency in this country In his opinion, the requisites were better organization of training, better status for the trained nurse, and increased remuneration for her work Hitherto there had been a complete separation between the nursing and teaching professions, he thought that they must co-operate more and more There were important differences in the training of a nurse and of a doctor The medical student had five years' intensive training in the whole range of medical experience, but a woman who wished to take up nursing and to reach the head of this profession had to spend three years in a general hospital, three years in a fever hospital, six months in maternity training, a period in studying mental disorders, and so on Practically she had to spend about ten years as a pupil before she could become an all-round nurse this was an impossible state of affairs The representatives of the nursing profession must devise a far-sighted policy to provide nurses with a comprehensive training He regarded the Queen's Institute of District Nursing as the chief institute for training the public health visitor but local authorities in the principal towns had largely trained their own health visitors, here again there was an evidence of lack of contact There had been a tendency to make the h[illegible] social worker at the expense of nursing proficiency, and this was quite wrong He regarded nursing as the ideal profession for women, but at present it was not so well organized as the teaching profession, for many suitable recruits were lost during the interval between leaving school and the commencement of their training He suggested that it might be possible for the nursing colleges to recruit girls at the age of 16 or 17 They would get preliminary instruction in biology, physics, chemistry, anatomy, and hygiene At present studies had to be undertaken along with a hard day's nursing After such preliminary training, they could at the age of 18 take up general hospital work for a year, and afterwards pass to fever and maternity hospitals, so that at the end of four or five years they could have a wide training in nursing and in preventive medicine This would call for a spirit of accommodation all round in hospital work, but it would raise nursing to a higher level

England and Wales.

The New Queen Charlotte's Hospital

THE first section of the new Queen Charlotte's Maternity Hospital, in Goldhawk Road, Hammersmith, was opened by Princess Mary, Countess of Harewood, on July 10th The new institution, which will be the largest maternity hospital in the British Empire, and will form with its abundant clinical material and provision for research a sort of staff college for the maternity service, is to consist eventually of a number of buildings grouped around a central lawn, the whole site being five acres in extent The principal frontage will be occupied by the administration offices, the students' college, and the nurses' home To one side of this will be an out-patients' block, with ante-natal and infant welfare departments, all on one story, at the rear an isolation block, consisting of three stories, and beyond this the research laboratory On the other side will be the main hospital, containing 248 beds—a 100-bed unit at each extremity, and a labour ward of 48 beds in the centre Elsewhere in the grounds there is to be a middle-class paying patients' block, of five stories, with from 80 to 100 single-bed private wards The work on the isolation block, for puerperal fever cases, has been carried through in advance of the rest of the construction, and it was this block which was opened by Princess Mary Each of the three stories comprises a five-bed ward, five single-bed wards, and a nursery for ten infants The wards have french windows opening on to broad balconies facing south The Princess was received by the president of the hospital, Lord Howard de Walden, and the chairman of the National Mother-Saving Campaign, Lady Howard de Walden After the hospital had been dedicated "to the Glory of God and in Memory of Her Majesty Queen Charlotte" Sir Almroth Wright, a member of the consulting staff, stated that the present building would be devoted to the treatment and study of puerperal fever, which was responsible for very many of the deaths of women following upon childbirth The number of such deaths was not diminishing, and it was necessary to look for new resources in dealing with this baffling problem of infection He described his own continual disappointments during the forty years in which he had been engaged in research work in connexion with infections conveyed by micro-organisms Princess Mary, having received a golden key from the architect, Mr E Stanley Hall, unlocked the door of the isolation block and declared the building open Thanks were expressed to Her Royal Highness by Sir Samuel Scott, chairman of the committee of management, and by the Mayor of Hammersmith Among those presented to the Princess were Mrs Philip Snowden (vice-chairman of the National Mother-Saving Campaign), and the following medical men Dr T Watts Eden, Dr A W Bourne, Dr Trevor B Davies, Dr L C Rivett, Dr L G Phillips, Dr C S Lane-Roberts, Dr L H W Williams, Dr [illegible], and Dr Eric Pritchard

Cancer Research in Yorkshire

The annual report of the Yorkshire Council of the British Empire Cancer Campaign has now been published. Details are given of the satisfactory progress which has been made in general administration and scientific research. Sir Harold Mackintosh on behalf of the honorary secretaries remarks that in view of the generous response to the appeal for financial support the previous concentration on collecting funds has given place largely to attention to the question of directing as widely as possible the expenditure on cancer research. New moneys received during the year under review amounted to £1 828, the smallest amount yet contributed, but obtained without any active efforts, the hope is expressed that the Campaign will continue to benefit by such unsolicited and welcome support. Actual research absorbs 67 per cent. of the expenditure, the remaining 3 per cent. being devoted in equal proportions to propaganda and administration. Professor R. D. Passey, who contributes a report on behalf of the department of experimental pathology and cancer research in the University of Leeds, states that Dr. Young has continued his work on experimental hyperplasia, and that more evidence has been accumulated in favour of the view that simple proliferation in the pulmonary epithelial cells of the rabbit is governed by physico-chemical principles. Details are given of experiments designed to elucidate the nature of the action of heavy metals on the living cells, and the development of "tissue immunity" to solutions of neutral salts such as strontium and calcium chloride. Dr. Berenblum has obtained evidence that when two cancer-inducing agents are applied concurrently to the same area of skin the result may be a mutual inhibition though when each is applied alone for a certain period a summation of effect may result. During investigation of the action of mustard gas it was observed that the epithelial hyperplasia which develops invariably during the initial stage of tarring experiments continues when mustard gas is added to the tar although the ultimate development of the tumours is inhibited, thus providing a good example of a continued state of hyperplasia which does not necessarily develop into neoplasia. The reputed inability of blast-furnace tar to produce tumours was tested and was not substantiated, though its carcinogenic activity was found to be less than that of horizontal retort gas tar. Experiments on the Rous tumour in fowls have been repeated during the year under review, it is concluded that infections from bird to bird rarely take place under reasonable conditions of housing, unless opportunity is offered for direct transmission by pecking. Dr. Harold Channon and Mr. Collinson, proceeding with their investigations on blood fat, have obtained results which bear on the method of transport of unsaturated acids from the liver to the tissues. Professor Passey's report contains also short accounts of research work undertaken with the aid of special grants. Professor F. Mellanby records cancer investigations continued at the University of Sheffield from 1929 to 1930. An examination has been made of the chemical change in cancerous tissue, and especially those changes which are known to differ from the corresponding ones in normal tissue. Attention has been directed also to the effect of diet and other factors on the initiation and growth of tumours in mice. It has been shown that the mechanism of the production of lactic acid in cancer tissues differs completely from that concerned in muscle. The development of tar tumours in mice has been proved to depend on the rate of access of this agent to the reacting skin cells by virtue of its solubility in the skin fat. Inhibition of the cancerous reaction was found to follow the application of petroleum ether to the skin before the tar applications.

The Marie Curie Hospital in London.

Although the Marie Curie Hospital at Swiss Cottage for the treatment by radium of women suffering from cancer and allied diseases has been receiving patients since last September, the formal opening took place on July 10th when Mr. Stanley Baldwin, M.P., supported by the French and Belgian Ambassadors, performed the ceremony. The hospital has been founded by the Cancer Research Committee of the London Association of the Medical Women's Federation, and is organized and staffed entirely by women. The work of which it is the outcome was started five or six years ago, after a number of the participating men had visited Continental clinics to study radium treatment. The support of the Medical Research Council and of the British Empire Cancer Campaign was enlisted and a supply of radium, which now amounts to one gram, was obtained. For a time the work was carried out from four hospitals—namely, the Royal Free, the Elizabeth Garrett Anderson, the South London Hospital for Women, and the New Sussex Hospital, Brighton—the radium being taken from one place to another as required. The need for the centralization of activity became evident, and a pleasant house, No. 2, Fitzjohn's Avenue, was acquired and adapted, becoming in a sense a special annexe to the four institutions named. At a private reception before the opening with Mrs. Pinsent, chairman of the Appeal Committee, a few terse, brief addresses on the work done and contemplated were given by Dr. Hurdon, the director, and Dr. Helen Chambers, the pathologist. It was stated that, although the results were extremely encouraging and confirmed those of Continental and other clinics regarding the value of radium in uterine disorders, the time was not ripe for any final report, since five years had not yet elapsed since the first cases were treated. Every patient was being followed up, and the ultimate results were recorded on uniform lines. Since the work was started in 1925 between 400 and 500 cases of uterine cancer had been treated by radium, of the operable cases 90 per cent. were free from all signs and symptoms of cancer, and the inoperable cases, with few exceptions, had greatly benefited. The cases treated were not limited to the malignant group, an increasingly important part of the work of the clinic was the treatment of non-malignant haemorrhagic conditions of the uterus, in which radium was now used in the majority of cases. The hospital at present contained thirty beds, including five private wards with two beds each and two with one bed. Plans were being prepared for a new wing with additional wards to bring the beds up to fifty, and for the provision of an x-ray department, a pathological laboratory, and more nurses' accommodation.

Mr. Stanley Baldwin, opening the hospital with a golden key presented by the architect (Miss Elizabeth Scott), paid a tribute to the radiological pioneers, some of whom, he said, had given their lives and many their health in establishing the technique of radiological application. Dr. Maud Mary Chaburn, chairman of the committee of management, and of the cancer research committee of the hospital, said that there was a certain reserve between the sexes which prevented many women from consulting medical men just on the chance that there might be something wrong. They waited until the condition became worse, and if the case was really one of cancer the result of such waiting was disastrous. It was hoped that this women's effort on behalf of women would lead to many cancer cases being treated earlier, thereby reducing the terrible mortality. The French Ambassador (M. Fleuriau) read a message from Madame Curie, in Paris, wishing success to the undertaking.

New General Hospital for Margate and District.

The new Margate and District General Hospital was opened by Prince and Princess Arthur of Connaught on July 3rd. The address of welcome presented to them stated that the Margate cottage hospital which had served the district admirably for thirty years had become inadequate from the point of view of accommodation possessing as it did only thirty beds. Lately increased to fifty by the construction of a temporary wooden annexe. Plans for a new general hospital were formulated and an appeal for funds was launched at a representative meeting of citizens in March 1926. Of the sum of £70 000 required £57 000 was secured before the opening mostly as a result of local effort. Prince Arthur in reply to the address congratulated the people of the town and neighbourhood upon their courage and foresight in embarking upon an ambitious scheme for the building of an entirely new hospital. From his own personal experience as chairman of the Middlesex Hospital he well knew the magnitude of the task, but, as all who worked for hospitals knew full well even when an ideal site had been secured, as in the instance, and

a really fine building constructed, the task was not finished, nor could ever be Those connected with hospitals had always to be up and doing to keep abreast of the amazing progress which was being made in science, research, and hospital organization He was delighted, though not in the least surprised, to be told of the loyal and devoted services of the staff of the Margate Hospital, both doctors and nurses He then proceeded to open the building with a golden key presented by the architects (Messrs Adams, Holden, and Pearson of London), and accompanied by the president of the hospital, Captain J I H Friend, and the medical superintendent, Dr W G Sutcliffe, made a tour of inspection The new hospital is planned symmetrically on a fine open site in St Peter's Road An endeavour has been made to preserve in the larger institution the homely and friendly atmosphere which has characterized for thirty years the work of the cottage hospital which it is replacing The south-west wing, on the ground floor, provides accommodation for 14 paying patients in rooms containing one, two, or three beds, and the south-west wing has 18 beds for medical cases On the first floor there are two large 18-bed wards for surgical cases, one for men and the other for women, and there is a children's ward with eight cots, opening on to a balcony facing east The wards are all arranged to overlook distant country, they are away from the road, and out of hearing of noisy traffic Special attention has been paid to the x-ray department, which has been planned so that eventually, when funds become available, they may house the modern transformer outfit and x-ray therapeutic installations which it is hoped to possess The out-patient department, the two maternity rooms with vita-glass windows, the sisters' and nurses' residential rooms, as well as the administration offices and service sections, are all designed in accordance with the most modern ideas of hospital construction Judging by the scenes on the opening day, Thanet is very proud of this new hospital, which is the outcome of local effort The very bricks with which it is faced have been made by Kentish hands

Correspondence.

SYME'S AMPUTATION

SIR,—On page 42 of the *Journal* of July 5th Mr A H Mosely of Sydney states "I quite agree about the Syme amputation, it has not been a success on the whole" In contrast with this view, however the operation as described by Professor Syme gave excellent results His account was published in *Syme's Observations in Clinical Surgery* dated 1861, a book which is now difficult to obtain On that account I have copied out the following description

"In performing the operation the foot being held at a right angle to the leg, the point of a common straight bistoury should be introduced immediately below the fibula at the centre of its malleolar projection, and then carried across the integuments of the sole in a straight line to the same level on the opposite side The operator having next placed the fingers of his left hand upon the heel, and inserted the point of his thumb into the incision pushes in the knife with its blade parallel to the bone, and cuts close to the osseous surface, at the same time pressing the flap backwards, until the tuberosity is fairly turned, when, joining the two extremities of the first incision by a transverse one across the instep, he opens the joint, and, carrying his knife downwards, on each side of the astragalus, divides the lateral ligaments, so as to complete the disarticulation Lastly, the knife is drawn round the extremities of the tibia and fibula, so as to expose them sufficiently for being grasped by the hand, and removed by the saw After the vessels have been tied, and before the edges of the wound have been stitched together, an opening should be made through the posterior part of the flap, where it is thinnest to afford a dependent drain for the matter, as there must always be too much blood retained in the cavity to permit of union by the first intention The dressing should be of the lightest description The advantages of this operation are in the first place, its facility and simplicity, requiring no tourniquet, and being completed, so far as the disarticulation is concerned without any hurry in less than a minute secondly, its not implicating any large blood vessels or nerves so as to expose the patient to the risk of suffering from haemorrhage or nervous pains, thirdly, its protection against the chance of exfoliation by the spongy nature of the bone divided, and, fourthly, its affording a stump so perfect as to give the requisite support without any extraneous assistance No other stump of the lower extremity can bear pressure on its face sufficiently for supporting the body but the one in question, or, at least, be so used without inconvenience, and there was a man, lately at the hospital, who, after having had both of his feet amputated, could not only stand, but walk, and run, without aid of any kind whatever"

As to the practical value of Syme's amputation, I find a reference to it in *Memorials of the Life of James Syme* (p 181), where Dr Hudson of New York makes the following comment

"No amputation of the inferior extremity can ever compare in its value to the subject with that of the ankle joint originated by Mr Syme One gentleman, for whom I applied a foot, has walked thirty five miles in a day on a hunting excursion, while his companions did not suspect that he was otherwise than whole"

—I am, etc,

July 8th CHARLES W CATHCART,
Consulting Surgeon, Royal Infirmary, Edinburgh.

INTRAVENOUS SCLEROSING SOLUTIONS

SIR,—In the *Journal* of July 12th (p 59) Dr T H T Barber mentions the successful use of sodium morrhuate in the treatment of varicose veins, and thinks it may supersede other sclerosing agents, Dr A S Ross also reports good results from injecting haemorrhoids with this preparation I may therefore be permitted to point out that I first prepared sodium morrhuate in 1918 in Calcutta for use in leprosy and tubercle, and I found that in strengths of over 3 per cent it caused a strictly localized mild inflammation of the vein wall, followed by firm fibrous occlusion of the vessel, just as did the intravenous injection of sodium hydnocarpate and sodium gynocardate do to an even greater degree, the intravenous use of which in leprosy I first reported in the *British Medical Journal* of October 21st, 1916 (p 550) None of these preparations increase the coagulability of the blood, so there appears to be no danger of embolism resulting, and very slight pain or discomfort follows their use, although if several cubic centimetres of the hydnocarpate solution is injected rapidly into a vein harmless ephemeral giddiness may result Five per cent solutions are probably best for producing sclerosing of blood vessels, and the drugs can be sterilized by heat or by adding 0 5 per cent carbolic acid Sodium gynocardate is made by Martindale and Co, and "alepol," now so largely used in leprosy, consists mainly of sodium hydnocarpate

Some years ago I suggested to a surgical colleague a trial of sodium hydnocarpate solutions by injection into hydroceles after tapping I also tried unsuccessfully to persuade a patient with a hopeless bulging thoracic aneurysm to allow sodium hydnocarpate to be injected into it, and I still think such a trial is indicated in otherwise hopeless cases to induce a deposit of firm fibrin on the inner wall of the dilated vessel —I am, etc,

London, N W 1, July 14th LEONARD ROGERS

SIR,—In the *Journal* of July 12th Dr T H T Barber mentions the use of sodium morrhuate in the injection treatment of varicose veins I have lately used this solution in a few cases, it appears to give less pain, and to be no less effective than quinine urethane, which I generally use

A few days ago I gave a patient 1 3 c cm sodium morrhuate, just after the dressing had been applied she complained of feeling faint, and became unconscious She was pallid, the pulse and heart beats were very faint, and the breathing was shallow Some six or seven minutes later she had slight general twitching, retched several times, and then began to come round Some strychnine and strophanthus were given hypodermically Two hours later she was fairly well, complaining only of slight headache She explained that just after the injection she felt pain in the head, throbbing in the ears, definite pain under the left breast, and a "curious numbness" She has, on previous occasions, had quinine urethane injections in the other leg without any untoward happening

The sclerosing effect of the sodium morrhuate injection was most satisfactory, it was injected into a large vein

at the ankle, and the vein was thrombosed to the level of the head of the fibula But one feels inclined to doubt the safety of the drug after the above experience—I am, etc,

St Anne-on-the-Sea July 12th A H WINCHESTER, F R C S Ed

THE TECHNIQUE OF INJECTING VARICOSE VEINS

SIR,—Dr Noel Scott's article on the treatment of varicose veins by injection in the *Journal* of July 12th (p 58) will be read with much interest by practitioners who have already had some experience in the chemical sclerosis of varicose veins His use of a lithium solution for veins, and his method of injecting ulcers with the quinine solution are genuine advances in our knowledge of the subject

But I am not in agreement with Dr Scott's description of the actual technique of injection, and I cannot understand his statement that veins are more easily injected when they are collapsed Surely this is not so The more distended a vein is the more easily can it be entered with a needle He is right when he states that the ideal position for the patient is prone upon a couch and I submit that such a position is practicable in every case provided that a suitable tourniquet is used Dr Scott states however, that a tourniquet produces venous engorgement is difficult to manage single-handed and causes considerable pain to the patient Each of these statements is wrong The tourniquet need cause no harmful engorgement its function is to maintain such a column of blood in the vein when the leg is elevated as is present when the patient is standing The tourniquet which I employ is not difficult to use single handed and its application is quite painless It was made for me by Messrs Woollen of Manchester and consists of a rubber bag rather larger than that used in a sphygmomanometer, and enclosed in a linen washable sheath A stout webbing strap is slotted into the sheath and fastens with a buckle A length of rubber tubing and a bulb, fitted with a release valve, provide the means of inflation

The patient stands on the affected limb, the tourniquet is lightly strapped in position, which, if the lower part of the leg is being treated is just above the knee The bag is inflated just sufficiently to maintain the distension present in the erect position and the patient lies down His foot is elevated on a cushion or low stool The needle is then inserted, and if one has a syringe with a slightly fitting plunger it will be unnecessary to withdraw the latter to ascertain when the vein has been entered Owing to the intravenous pressure blood will flow into the syringe immediately the needle is in the lumen of the vein The valve of the tourniquet is released, the vein rapidly empties, and the injection is made slowly

There is no need to massage the solution along the vein, as suggested by some writers gravity carries it upwards After the injection has been completed a few moments will suffice for the sclerosing solution to have passed beyond the site of injection when the needle can be withdrawn and the puncture sealed with collodion The patient remains in the prone position for a minute, when he can be allowed to get up

The advantages of this method are that from the moment the needle is inserted until the patient steps off the couch the leg is absolutely immobile there is no leakage of blood when the needle is withdrawn, and, with reasonable care, no case of complete penetration of the vein need occur—I am, etc,

Buxton July 12th ALFRED R ROOKE

HORSESHOE KIDNEY

SIR,—I have read with interest the recent report by Mr Arthur Jacobs (July 5th, p 8) and the letter of Mr W Clifford Morson (July 12th, p 80) In excretion urography we now have a method which makes for greater precision in the diagnosis of this condition Unless the renal function is greatly impaired we are able to get by an intravenous injection of uroselectan a clear picture of the size, shape, and disposition of the renal substance as well as the actual drainage system A horseshoe-shaped kidney is readily outlined in the radiogram (other abnormalities in size and shape may be clearly shown) The method will also show whether the junctional band consists of true renal substance or merely fibrous tissue

In April last a young girl was admitted to the infirmary here with vague abdominal symptoms and swelling which, on examination, was thought to be a horseshoe kidney Intravenous pyelography proved this supposition to be correct, and at the same time showed that the junctional band consisted of actual renal tissue Recently the same procedure was utilized in demonstrating the shape and size of a "cake-like" kidney which was lying partly in the right iliac fossa and partly in the pelvis It had become infected, and the clinical picture closely simulated an appendix abscess More details of these (and other) cases will I hope, be published shortly in an article on excretion urography—I am, etc,

Surgical Unit Cardiff June 14th ROBERT V COOKE.

AORTIC ANEURYSM SIMULATING PULMONARY DISEASE

SIR,—Dr R B Myles's letter on July 12th (p 79) on the interesting case of aortic aneurysm which simulated bronchitis, indicating the value of a radiogram in the diagnosis, and the two previous cases of the simulation of asthma reported in the *Journal* by Drs Cock and Hill, tempt me, while this subject is fresh in the minds of your readers, to refer to three cases—which I hope to report fully at a later date These were cases of syphilitic aortitis (two with aneurysmal dilatation) with histories of cough, blood-stained expectoration loss of weight evening temperature, and sweats—symptoms due mainly to secondary pulmonary congestion—which had been sent to me at my tuberculosis clinic as suspicious cases of phthisis I referred to these cases in a paper I read on the problems of differential diagnosis before the Tuberculosis Association

I think it will be generally admitted that the importance of careful routine clinical and radiological examination in suspicious chest cases—not excluding the importance of a full history and examination of available sputum—cannot be too strongly emphasized Not infrequently the history and clinical examination alone have proved in the hands of most chest clinicians to be deceptive, and it would be foolish to deny this As has been frequently stated clinical and radiological examinations of the chest are complementary and not competitive methods of examination Just as in every case percussion and auscultation are routine methods of examination of the chest so routine radioscopy should be practised Only in this way will accurate early diagnosis be obtained and, in my opinion, such cases as have been reported will prove to be less rare than is generally supposed It is of interest to note that at a recent discussion at the Royal Society of Medicine on syphilitic aortitis both Professor Lesché of Berlin and Dr John Parkinson emphasized how rapidly routine x-ray examination was taking the premier place in early diagnosis—I am, etc,

London S W 1, July 12th PHILIP ELLMAN

OCCIPITO-POSTERIOR POSITIONS

SIR,—It may be of interest that occipito-posterior positions seem to be unknown among races that habitually squat for urination and defaecation (no doubt they occur in the richer people who have adopted English habits as regards chairs and the closet) It is obvious that the child's back must come forward when the mother adopts the squatting position I suggest this as treatment (or course before the head has entered the brim)

For years I have asked expectant mothers to use a chamber rather than the closet for the daily evacuation, as I found they then needed no aperient It cured constipation, stretched their sacro-iliac joints, and strengthened the perineum—I am, etc,

London, W.1, July 13th. KATHLEEN VAUGHAN

PROGNOSIS IN UTERINE CANCER

SIR,—I desire to call attention to an article by Dr W P Healy to which reference is made in the *Epitome* of July 5th (para 20) Writing in the *New York State Journal of Medicine* of February 15th, under the title "Factors that influence prognosis and end-results in uterine cancer," this author states that Broders of the Mayo Clinic groups uterine cancers according to their different cell types in four grades, and compares the results of surgical and of radiation treatment according to the grade of tumour In Grade I he places those tumours "which represent the adult highly differentiated type of epidermoid cancer cell," and in Grade IV those tumours "which are very cellular and made up of completely undifferentiated embryonal or anaplastic cells" Grades II and III are intermediate between Grades I and IV in degree of cellular differentiation and evidences of anaplasia Dr Healy points out that the malignancy of the tumour varies with the stage of development of the cell, the higher the stage of development the less is the malignancy, and the lower the type of cell development the higher is the malignancy

These observations are, I think, generally admitted to be true, but his further observations will probably come as a surprise to a great number of medical practitioners—namely, "that the degree of radio-sensitivity of the epidermoid cancers of the cervix varies directly with the cell type, Grade I being the most radio-resistant and Grade IV the most radio-sensitive," an observation which has a most important bearing upon the question of treatment, which is borne out by the statistics and end-results which he quotes In cancer of the cervix in Grade IV, the most malignant type, when treated surgically by hysterectomy, only 9 5 per cent of the patients remained well after five years, whereas of those treated by radiation 66 per cent remained well after five years Cancer of the corpus uteri he also differentiates into four grades, according to cell type and structure He states that those in Grade I were least malignant and were the most readily cured by any form of efficient therapy, Grade IV cases were the most malignant, and at the same time the most radio-sensitive, histologically resembling closely the anaplastic Grade IV of cervix cancers These cases of cancer of the corpus under surgical treatment gave uniformly bad results, not one of the patients in Mahle's report from the Mayo Clinic having survived five years, whereas under radiotherapy 50 per cent of the patients with Grade IV corpus cancer were alive and well at the end of five years In advanced cases of all grades which were treated by radiotherapy 23 per cent of the patients were still alive at the end of five years, though all these cases were hopeless from a surgical point of view when first seen

It is remarkable in view of these statistics how few cases of uterine cancer are treated by radiation in this country, when compared with the enormous number treated surgically, the only reason is apparently that the beneficial effects of radiotherapy have not been made sufficiently evident in the medical literature of this country I have treated a large number of cases of uterine cancer by means of radiation with success, but I must admit that I had no idea that the comparison between surgery and radiotherapy was so heavily in favour of the latter —I am, etc,

London, W 1, July 5th CHRISTOPHER KEMPSTER

X-RAY TREATMENT OF TONSILS

SIR,—In reply to Dr Webster's letter (June 28th, p 1197) regarding the enucleation of tonsils by diathermy, I certainly had no wish to make disparaging remarks about *x*-radiation in general Surely, however, such appreciation of *x*-ray treatment may be accompanied by an acknowledgment of its limitations My statement in "Destruction of tonsils by diathermy" (*British Medical Journal*, June 14th) reads

"*x* rays and radium cause the tonsils and lymphoid tissue to diminish in size, but the remaining sunken fibrous tonsil may continue to serve as a focus of infection"

Further it was suggested that haemolytic streptococci and other pathogenic organisms are often found afterwards unaffected by such treatment Thirdly, there was the possibility of *x*-ray dermatitis and damage to the thyroid-parathyroid apparatus Dr Webster tells us that he is prepared to repeat a 50 per cent erythema dose twice weekly, as this cannot possibly lead to dermatitis My own experience of twelve years' *x*-ray therapy does not agree, as I have seen *x*-ray dermatitis develop with still smaller dosage Dr Webster possibly ignores the effect of secondary *x*-radiation when he states that by his technique *x* rays cannot possibly reach the thyroid and parathyroid structures

With regard to the second and pathological question, it is quite correct that haemolytic streptococci are occasionally located in apparently healthy throats So are diphtheria bacilli, but surely it is at least desirable to eliminate them, especially when virulent specimens are detected I am assured by my pathologist friend Dr Creed that the suggestion that the tonsils are part of a normal antibody laboratory is sketchy in the extreme, since no authority has ever discovered where antibodies are formed normally The spleen probably plays a great part It is still more unlikely that organisms in freely draining tonsillar crypts act as a stimulation of antibody production Further, even if, as Dr Webster states, *x* rays cause a reduction in the number of organisms in the tonsil crypts, surely this would by his very theory reduce the antibody stimulators

In my opinion the greatest objection to the *x*-ray treatment of tonsils lies in the very shrinkage Dr Webster mentions The extensive invagination of surface area produces innumerable pockets or crypts As a result of the diathermy enucleation, however, we are left with a soft glassy scar with practically no contraction of tissue —I am, etc,

Putney Hill, S W 15, July 7th. WARNER COLLINS

VILLAGE SETTLEMENTS IN THE AFTER-CARE OF TUBERCULOSIS

SIR,—In the review of the report of the employment committee of the Joint Tuberculosis Council (*Journal*, June 28th, p 1183) I notice the following passage "An important criticism of village settlements is that they cater for so few people" I hope you will forgive me for writing to point out what a curious criticism this is The only reason why village settlements have so far only catered for a few people is because no such settlement has yet had enough capital As the committee indicates, the local authorities originally responsible for the inhabitants of a village settlement contribute nothing towards the capital expenses involved If they did—and I have already suggested a manner in which they might conveniently be empowered to do so—it would be found that many more people would be "catered for" in village settlements

The committee's suggestion that persons "settled" should be "unsettled" after a few years seems to me to show a complete misunderstanding of the foundation of village settlements They are not intended to "harden off" early cases, but to provide permanently for moderately advanced cases which have been rendered quiescent Surely the committee is aware that in such cases quiescence is not a permanent condition, and that exacerbation would follow a return to the outside world, especially as the prospects of obtaining suitable employment are, on the committee's own showing, practically nil?

One further point the result of the appeal to employers was the conclusion that "ordinary industry can contribute nothing of importance to a solution of the problem at issue" Yet the committee, later in the same report, "expresses the view that the primary aim of all schemes for care and after-care should be to increase the proportion of cases that can enter ordinary industry!" Comment is superfluous

The committee's report proves, more clearly than it proves anything else (1) that ordinary industry will not absorb ex-sanatorium patients, and (2) that only in village settlements can such persons be sure of permanent employment Is it not evident, therefore, that until there are enough village settlements the whole problem of tubercu-

le is will remain unsolved? "Early" cases avoid discovery because they fear economic disaster Remove that fear by means of village settlements and surely the proportion of 'early' notifications will increase One thing is certain until that fear is removed we shall make little progress in combating tuberculosis—I am etc,

P C VARRIER JONES,
July 6th. Medical Director Papworth Village Settlement

AN IMPERIAL MEDICO POLITICAL CONFERENCE

SIR,—It is now common knowledge that the British Medical Association will be celebrating in 1932 the centenary of its birth For the past twenty-eight years there have been held annually in the United Kingdom meetings of representatives, but the problems discussed have been almost entirely confined to those affecting the medico-political interests of the member resident there Although representatives from overseas do to some extent attend, this annual opportunity for a short medico political conference among themselves and with those working at the headquarters of the Association has never been taken advantage of

It has become now quite the usual thing for the British Government of the day to call into conference representatives of the Dominions and of the Colonies when there are discussed questions that profoundly affect the future of the Empire and other nations, many of which have a medico-political bearing At Geneva the League of Nations has developed a section that deals with social services, and consequently impinges on and eventually controls, matters in which members of the British medical profession are deeply interested Wireless, air mails, and rapid means of transit have brought all much closer together, disease is less localized now than it used to be Medico-political activities can no longer be conducted in isolation

Does not the centenary in 1932 provide a similar opportunity for more closely linking up the Association at home and the Association overseas, for purposes of education, consultation, and protection, thus allowing it to take in Imperial health questions generally that intimate consultative and co-operative part which it takes locally in all parts of the Empire? We have a Dominion Committee, and it does good work But in 1900 a medico-political committee for Great Britain was sufficient for all purposes, how it is only a small part of the intricate machinery developed Health insurance problems, State and voluntary hospital problems, maternity service problems, general medical service problems, drug traffic problems—all have their peculiar setting in relation to the part of the Empire concerned On all these and other matters exchange of experience would be invaluable

The human tendency is for those with a common interest to come together, and thus we are faced with innumerable kaleidoscopic groupings This is all to the good in so far as central bargaining is concerned But if those who have to face and to deal with such trained and experienced combinations are themselves at the best only individual units, then their defeat becomes as easy as that of an undisciplined mob We at home should recognize the advantage of personal contact with the stimulating influence of colleagues who live under freer conditions We are still far too provincial and introspective in our outlook, our interests, and our actions Such a conference—especially if repeated at reasonable intervals—would help to alter all this and result in good to those we who live here desire to help

The Sections at the Annual Meeting in 1932 could be made to acquire a more Imperial aspect by a suitable choice of subjects for papers and debate But unless the individuality and freedom of medicine has been secured all discussion of scientific subjects will be academic and conducted in shackles

There is time for our overseas members to consider the proposal and to express their views—I am, etc

Hove, Sussex, July 10th. E ROWLAND FOTHERGILL

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE House of Lords has this week decided to insist on its amendment to the Coal Mines Bill which would permit the working of a ninety hour fortnight in mines. The House of Commons debated the Scottish Estimates Imperial Trade Policy, and a motion to authorize an increase of £10,000,000 in the Unemployment Insurance Fund The Finance Bill was again considered on report The Housing (Scotland) Bill passed through report and was read a third time in the House of Commons In the House of Lords the Housing (No. 2) Bill was read a second time

The Mental Treatment Act (1930) received the Royal Assent on July 10th

In the House of Commons on July 15th discussion arose on the position of opticians under the national health insurance scheme and a statement was made by Mr Greenwood

Mr Greenwood states that an interim report from the Committee on Maternal Mortality will be published before the end of the month

Scottish Department of Health

The House of Commons on July 14th considered in committee a vote *to complete the sum required for the salaries and expenses of the Department of Health for Scotland*

Mr W ADDISON in moving the vote said that in 1929 the birth rate in Scotland was 19·02 per 1,000 of the population Both the birth rate and the actual number of births were lower last year than in any year since compulsory registration was introduced in 1855 The death rate was 14·5 per 1,000 which was slightly higher than in 1928 This was largely if not altogether attributable to the epidemic of influenza in the first quarter of 1929 Respiratory diseases during that epidemic had an adverse effect on the infantile mortality rate which was 88·8 per 1,000 in 1929 This was however lower than the rate for any year except 1923 and 1928

Maternal Mortality in Scotland

Scotland was still in an unenviable position with regard to maternal mortality the rate for 1929 being 6·9 per 1,000 persons compared with 7 for the preceding year The rate had varied very little since the introduction of schemes of maternity and child welfare and showed no marked tendency to decline The matter was continually occupying the attention of the Department of Health the local authorities and others engaged in medical administration Investigations were now being made in Scotland into the deaths of married women during pregnancy or within four weeks of the termination of pregnancy While the numbers so far investigated were not sufficient on which to base definite conclusions there was throughout a quite definite indication of the need of providing more complete medical supervision and care of women during pregnancy To that end it was hoped with the present organization of the health service under the Act of 1929 that an effort would be made to secure an adequate ante natal service but for the best results they must look to the mothers themselves to co-operate by making a fuller use of the services provided This would probably have to be done by stimulating their interest in these services and educating them as to their value

Tuberculosis

With regard to tuberculosis the picture was more encouraging The death rate in 1929 from all forms of tuberculosis was 0·9 per 1,000 the lowest yet recorded in Scotland. It was 3 per 1,000 lower than the rate in 1923 which up to that time had been the lowest recorded figure In 1929 4,579 persons died from tuberculosis compared with 6,326 in 1919 Although respiratory tuberculosis shared in the high mortality of the first quarter of last year the death rate for the year was down and but for the abnormal weather in the first quarter the decrease in the number of deaths would have been even more substantial. Although tuberculosis still accounted for many deaths it was hoped that the continuance of the intensive campaign against the disease aided by improved methods of diagnosis and a greater facility for institutional treatment would ere long secure that tuberculosis would be classed among the less deadly ailments of humanity

Sickness among the Insured

The amount expended by the approved societies on sickness and disablement benefit still kept abnormally high In 1929 £1,924,000 was spent—an increase of £200,000 over 1928 The epidemic of influenza in the early part of the year accounted for some part of the increased expenditure but after making allowance for that and for the slightly increased number of insured persons at risk there remained a considerable part of the increase for which no explanation was available The Department continued to give the matter its closest attention and had been in conference regarding it with representatives of the approved societies and a

special committee of the Insurance Acts Committee of the British Medical Association The Department, in addition, had constantly before it the importance of determining, if possible, the causes from which the demand on sickness funds arose One difficulty was that it had not been possible hitherto to prepare and publish accurate statistical information regarding the nature and extent of incapacitating illnesses among the insured population The Department of Health was now in a position to remedy this defect On July 1st it put into operation a scheme for the collection of complete and trustworthy data from the approved societies, from which might be compiled statistical records giving, *inter alia*, the incidence of the various incapacitating diseases and their duration, not only for insured persons generally, but for other groups of insured persons, arranged according to area of residence, occupation, age, etc , also the extent to which individual medical practitioners were granting certificates of incapacity for work The scheme was considered recently at a conference between the Department and representatives of the larger approved societies in Scotland Those representatives approved the principle of the scheme, and promised to co-operate in making it as complete a success as possible Incidentally it was hoped that the more definite statistics, when published, would be of great value to the local authorities in their administration of the health services in their areas

With regard to the inhabitants of St Kilda, it had been decided to evacuate them, and the question of their destination was receiving attention Considerable improvement continued to be effected in the purity of the milk supply of Scotland That was in large measure due to the efforts of producers to attain a higher standard and to the increased attention given by local authorities to the inspection of dairy cattle and the structural and sanitary condition of dairy farms The Lanarkshire milk investigation, undertaken in the early part of the year, to ascertain the effect on the growth, height, and weight of school children by supplying them with an extra ration of milk, showed there was every sign that there had been an improvement in the children who received the milk, as compared with those who had not received it The Empire Marketing Board had promised a grant for an investigation into the incidence of tuberculosis in milk, to be continued for a period of two years, and to be carried out by the Department of Health in co-operation with the health authorities of Aberdeen, Dundee, Edinburgh, and Glasgow

With regard to housing, according to the latest returns there had been completed, at May 31st last, under all forms of State assistance in Scotland, 110,136 houses These probably accommodated about 495,000 people or perhaps one ninth of the working-class population in Scotland But at least another 100,000 houses were required before housing conditions could be regarded as reasonably satisfactory The Government were carrying through special legislation dealing with slum clearance, and when the new bill became law he trusted there would be a great forward movement by the local authorities

Debate

SIR J GILMOUR expressed the hope that the steps being taken by local authorities to set up abattoirs would lead to greater facilities for meat inspection, and that thus gradually the scourge of tuberculosis among cattle would be eliminated The problem carried with it the difficulty of obtaining the good will and co-operation of those in the industry, and it should be treated as a matter of education and administration The more people that could be induced to visit the research stations the better

MR MACPHERSON, speaking on the Highlands and Islands Medical Service, said that if this Government had done nothing else, it had done one good thing in promising to increase the annual grant to £72,000 It was a variable grant, and so long as the Government was in office it was more or less pledged to keep the grant at a figure high enough to meet the various needs of the community He knew the life of the Highland doctor in the old days very well indeed If ever there was a hero in the world it was the Highland doctor On many a stormy night in winter he would have to go miles up hill and down dale and very often, at the end of it, the journey would have cost him six or seven hours and he would probably get half a crown, or nothing at all, for going there It was a great joy to those interested in the Highlands to find that men of that calibre and quality could now be guaranteed in any case, a livelihood The grant introduced in 1911, had justified itself He impressed on the Under Secretary for Health the need of developing things, such as telephones in doctors' houses the housing of doctors, and of assisting nursing associations He drew particular attention to the nursing associations, which had been formed through the willingness of the voluntary workers and the local inhabitants to help themselves gradually to acquire nurses in the different districts As he understood it the voluntary associations did not desire to be dependent on State grants entirely They wished that in necessitous areas, the State should stand by and, where the need was greatest, come forward and assist in this very deserving work

DR ELLIOT said that the public health of Scotland seemed to be improving The attack on tuberculosis continued to give an increasing yield It took forty years to halve the death rate from tuberculosis after 1870 Afterwards it was halved again in twenty years Let them see if they could not halve it a third time in ten years Many water borne diseases had practically been conquered, food diseases were in the way of being conquered, but air borne diseases were still completely unsubdued Figures pointed strongly to the fact that the fundamental resistance of the individual to disease had not been safeguarded where it would give the best results When it was not safeguarded it would lead to breakdown in adolescence or adult life All efforts at administration were of no use unless they met with a corresponding good will among the people, such as a willingness to purchase and pay for clean milk The milk experiments in Lanarkshire, and other such experiments, would foster a health consciousness among the people Until they had got sound children between the ages of 1 and 5 years the children of 14 and 15 must take a secondary place Since we had turned so largely towards preserved foods, extract foods, and refined foods of one kind and another, the necessity for studying these things scientifically stood out in almost every section of the report Since 1920 the Poor Law authorities in Scotland had spent £10,000,000 on the purchase of food without, so far as he knew any real examination into the principles which governed dietetics in the modern State The difficulties before them were very great but there was no reason to suppose that a scientific examination into the feeding, both of the younger and of the older people would not give most valuable results The physical condition of our people was one of the chief concerns of the Department of Health

MR JOHNSTON, replying to the debate, referred to his recent visit to St Kilda He said that the condition under which the people there were living was almost incredible It was famine, There was an actual shortage of food, and, but for the devoted service and labour of the Queen's nurse, Heaven knew what tragedies would have occurred The Lanarkshire milk experiment with 10,000 school children would be of interest not only to Scotland, but to the world It would possibly do more to assist agriculture than any step which had been taken for a long time if it could be proved beyond all doubt that a ration of milk to the school child would raise its weight, and even its height, and would better its health in every way By organizing the milk supply through the local authority they would, later on, save untold millions of public expenditure The Secretary of State proposed, at an early date, when the public assistance committees had got on their feet, to have a discussion with some of them to see how far they could secure the adoption of a more reasonable scale, at least so far as the children were concerned

The vote was agreed to

Road Traffic Bill

The Road Traffic Bill was considered by the House of Commons on report on July 10th Clause 15 deals with the punishment of persons driving motor vehicles when under influence of drink or drugs DR VERNON DAVIES urged that the drugs should be specified He asked whether a man would be liable to prosecution under this clause if he took a heavy dose of quinine and deafness resulted The inquiry was not answered, but the clause was altered by substituting "or a drug" in place of 'or drugs'

SIR WILLIAM BRASS moved to provide that a person arrested under this section should be entitled to be examined by his own or an independent medical man

SIR WILLIAM JOWETT said the ordinary practice was that if a person charged with an offence of drunkenness wished an examination to be made by a medical expert of his selection that opportunity was given him The Government would see that the police authorities were properly circularized and reminded of this practice, and it would be pointed out to them that the Government thought it desirable that the practice should be continued

Sir William Brass withdrew his amendment

On Clause 35—obligation of owners of motor vehicles to hold insurance policies or other security against third party risks—MAJOR HILLS moved to omit Subsection 2 This proposes to confer a right on hospitals to receive a payment of £25 each for treating persons injured in certain cases by motor vehicles He agreed that the burden of treating motor accidents was breaking down the hospitals, but said it should be met by the imposition of an extra penny on each motorist's licence

MR HERBERT MORRISON said he proposed to leave this to a free vote of the House Personally, he took the view that the scramble of the voluntary hospitals for voluntary contributions was a degrading business The subsection bristled with difficulties, and he would vote against it

DR MORRIS-JONES said the House would be disappointed with the Minister's speech

DR MORGAN said the voluntary system of conducting hospitals was out of date and the great majority of the hospitals were nearly bankrupt The financial support which the bill would bring them was slight

After further discussion Major HILLS withdrew his amendment and the subsection remains part of the bill, discussion of which was adjourned

Preservatives in Cream.—Mr GREENWOOD told Mr Richard Tassell on July 10th that he had carefully considered representations made to him by those engaged in the production and distribution of cream as to the effect of the Order prohibiting the use of preservatives in cream upon the industry but was not prepared to suspend or modify them. A large number of efficient firms had adapted themselves to the new regulations and it was possible for others to do so.

Spectacles for Insured Persons.—Mr GREENWOOD told Mr Middleton on July 10th that the fixing of a scale of charges for the supply of optical appliances to insured persons was a matter for agreement and negotiation between approved societies and opticians. Negotiations had been in progress between the Joint Council of Qualified Opticians and representatives of societies and a scale of charges had been agreed upon. The societies were alive to the importance of protecting their members against unreasonable charges on the part of opticians and under the regulations governing administration of benefit they had full power to do so.

Inspection of Factories.—Mr SHORT replying to Mr Gould on July 14th said that the standard of inspection now aimed at under the Factory and Work hops Act was that recommended by the recent departmental committee on the factory inspectorate. It recommended further that works coming under certain codes of regulations should be visited every quarter. This standard could not be secured with the present staff but it should be possible to conform to it when the large increase recently sanctioned by the Government had been recruited.

Blind Persons.—Mr GREENWOOD told Sir N Grattan Doyle on July 14th that complete figures were not available of the total cost of administering the Blind Persons Act 1920 up to March 31st last. The total number of registered blind persons in England and Wales was 52,727 on March 31st 1929. On the same date there were 258 blind persons up to the age of 5 in England and Wales 2,439 from 5 to 16 1,623 from 16 to 21 3,285 from 21 to 30 4,716 from 30 to 40 and 5,897 from 40 to 50 and 20,149 between the ages of 50 and 70.

Universities and Colleges

UNIVERSITY OF LONDON

UNIVERSITY COLLEGE

The following awards have been made in the Faculty of Medical Sciences:

Entrance Scholarship H A Oatley Baylis Starling Memorial Scholarship R A Kekwick Sharpey Scholarship (physiology) J G Young.

Anatomy and Embryology Senior Class (prize equivalent to gold medal) G Qvist Junior Class (silver medal) J H Hellgren Junior Class (histology and embryology—prize equivalent to silver medal) K C Eden.

Physiology Senior Class (gold medal) A de Souza Junior Class (prize equivalent to silver medal) K C Ilen.

Organic and Applied Chemistry General Course (prize equivalent to silver medal) A G Hounslow.

Pharmacology Prize equivalent to silver medal G Qvist.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The following candidates have been approved at the examination indicated:

ACADEMIC DIPLOMA IN BACTERIOLOGY.—Y B Abdoosh H R Aggarwal L G Anderson J G C Campbell J Carmichael F P Coyne S R Pandit R S Twigg.

Diploma in Tropical Medicine and Hygiene

The following have successfully passed the school examination at the termination of the eighty-eighth term (February-July):

A B Cook (Duncan medal) T F Anderson W K Connell D R McPherson L N O'Neill C F Roberts R G Spink D E Stewart M V N Sudds H G Timbres C A Alvarado F Burton G Q Chance I J Cowin R I Dutt M A Gaffar D R Griffith L R Khan A H H Pirdordi I M Lourie F H Mackay F Marsh L C W Maxwell D Murray T H Nolan P K Rao R Shelley H M Soar T W Stephens B A Taylor W F O Taylor S F Theis G M Tollidge H B C Wallace E M Wijerama W B Willis E D B Wolfe K. Wood-Martin.

Passed with distinction.

UNIVERSITY OF LIVERPOOL

A DEGREE ceremony took place in St George's Hall on July 5th. The following medical degrees were conferred:

M D.—W E A Burton R L Corbett Gwyneth Griffith Muriel B Hall A J Hare F W Jones Edna J Manson.

M B, Ch B.—[1] G W Causer; [2] Marjorie E Birch; [2] Honora J Twomey.

The following have been approved at the examinations indicated:

M B, Ch B.—*Part III (1923 Regulations)*: A I Beresford I Rossen F B Williams. *Part I*: M L Kaufman. *Part II*: R Fairhurst, R K Iyer. *Part II (1924 Regulations)*: L G Anderson A Blumfield W N Chalmers J W Cheetham D H Collins A Curtis W Dodd P I Fox M Glynn Morris D O Hughes V S Hughes-Davies A T Jones R P Kemp F R Kitchin J L Newton J Polonsky W J Poole M Solomon T P Twomey R Wright. *Part I*: F J Burke H T Cank, [3] W J Chisnall L M Crook, [2][3] W S Diggle H G Evans, [2] L Harris, J H Hughes, [2] T L Hughes F P Jammy J A Jones, O V Jones, [3] W W Pavah and [3] T P Lennon. H P Loewenthal, [4] A J Martinez, [3] D F Morgan I B Moroney, [3] L Potter, [3] J Rayner I H Thorpe J N Tollington, Winifred Wall, A R Williams & Wynroe. Passed in separate subjects: F C Bell (pharmacology and toxicology), A Ingham (forensic medicine and toxicology) and Mary F Lacey (pharmacology and general therapeutics).

D P H.—*Part I*: A Ashworth Elizabeth M Hardcastle I. Krishna.

DIPLOMA IN TROPICAL MEDICINE.—F C McKenzie.

DIPLOMA IN TROPICAL HYGIENE.—G R Carter T T M Chen J H Dobbin R A Heatley G B McHutchison E S E Menon C K Row T Wilson.

[1] First-class honours.
[2] Second-class honours.
[3] Distinction in surgery.
[4] Distinction in obstetrics and gynaecology.
[5] Distinction in forensic medicine and toxicology.
[6] Distinction in public health.
[7] Distinction in pharmacology and general therapeutics.

The following awards have been approved by the Senate:

Ethel Boyce Fellowship in Gynaecology Dr T N A Jeffcoate. John W Garrett International Fellowship in Bacteriology Dr R Fraser. John Rankin Fellowships in Anatomy (for one year) Dr J A Martinez and Dr N W Robert. Robert Gee Fellowship in Human Anatomy Dr M J Bennett-Jones. Holt Fellowship in Pathology Dr J Lattman. Holt Fellowship in Physiology Dr R Bourne. John Tomlinson Memorial Fellowship in Biochemistry Dr R W Brockfield. Thelwall Thomas Fellowship in Surgical Pathology Dr L Findlay. University Graduate Scholarship W S Dingle. Samuel Memorial Scholarship in Medicine) Dr F W Jones. Samuels Memorial Scholarship (in surgery) Dr J C Lloyd. Samuel Memorial Scholarship (in Obstetrics and Gynaecology) Dr M M Datnow. John Rankin Exhibition: Practical Anatomy divided between Freda B Bannister and C H Stewart-Hess. Margaret Pierce Smith Scholarship renewal for a fourth year) A S Kerr. Carter Scholarship Exhibition G W Causey. Derby Exhibition G W Causey. *proxime accessit* Marjorie E Birch.

UNIVERSITY OF SHEFFIELD

Dr JOHN RENNIE D P H medical officer of health for the city of Sheffield has been appointed Professor of Public Health in place of the late Professor F E Wynne.

The following candidates have been approved at the examination indicated:

FINAL M B, Ch B.—K G A. Barlow M B Hallam F Hudson Constance N Jenkinson W H B Moore Ethel H. Waddy.

UNIVERSITY OF ST ANDREWS

THE Senatus of St Andrews University proposes to confer the honorary degree of LL D on Emeritus Professor J A Lyttle in October. He was vice president of the Obstetrical Section of the British Medical Association meetings in 1910 and 1914.

NATIONAL UNIVERSITY OF IRELAND

UNIVERSITY COLLEGE DUBLIN

THE following candidates have been approved at the examinations indicated:

M D.—C Bastible T O'Connor H Quinlan.

FINAL M B, B Ch, B A O.—T C J O'Connell M J Mullen Patricia M J Daly P J Sianot [1] J P Ferguson M I Cotter M F Daly J J Godson C A Macken P J McManus, A P Madigan P J Murphy J C O'Brien.

D P H.—*Part I*: Bridget Crawford, J C Liddy. *Part II*: [2] C Bastible M Kirby Mary F Moloney J H O'Neill.

[1] *First-class honours.* [2] *Second-class honours.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A QUARTERLY Council meeting was held on July 10th when the President Lord Moynihan was in the chair.

Election to Council

The President stated that at the recent election of three Fellows into the Council in the vacancies occasioned by the retirement in rotation of Mr R P Rowlands Sir Percy Sargent and Mr Victor Bonney the three retiring members were re-elected.

Sir Percy Sargent Mr Victor Bonney and Mr R P Rowlands were introduced and took their seats in the Council.

The late Sir Anthony Bowlby

Mr L B Rawling accompanied by Lady Bowlby and Sir Anthony H N Bowlby and Miss Bowlby presented on behalf of the medical staff of St Bartholomew's Hospital a coloured portrait by Dorofield Hardy of Sir William Llewellyn's portrait of the late Sir Anthony Bowlby. The Council accepted the portrait with appreciative thanks. The President also stated that a silver tablet in memory of the late Sir Anthony Bowlby presented by some American surgeons who had been associated with him during the war was unveiled in the position assigned it in the Inner Hall.

Diplomas

Diplomas of Membership were granted to two candidates and the diploma of Fellowship was granted to Mr Donald Spiers Montague Barlow these candidates having complied with the by-laws of the College.

Licences in Dental Surgery were granted to 33 candidates.

Diplomas were granted jointly with the Royal College of Physicians in Psychological Medicine to 10 candidates. In Laryngology and Otology to 17 candidates.

Fellowship Examination

A report was read from the Board of Examiners in Anatomy and Physiology for the Fellowship stating that at the examination concluded on June 14th 128 candidates were examined of whom 54 were approved and 104 rejected. The report from the Board also announced the award of the Hallett Prize for the examination concluded on June 14th to George Qvist of University College Hospital Medical School.

Primary Fellowship Examination in Canada

The Council appointed the following Assessors, nominated by the Canadian Medical Association for the primary examination for the Fellowship to be held at Montreal on September 2nd, 3rd, and 5th next: Assessor for Anatomy, Professor S. E. Whitnall (McGill University, Montreal); Assessor for Physiology, Professor John Fait (McGill University, Montreal). The examiners sent by the Royal College of Surgeons will be Professor W. Wright and Professor J. Mellanby.

Mr. Edward Grainger Muir, M.R.C.S., of the Middlesex Hospital, who passed the Final Fellowship in June, 1929, but has not reached the age qualification for the diploma, was appointed Bernhard Baron Research Scholar, the subject of his research to be the pathology of the prostate.

Appointment of Librarian

Mr. W. R. Le Fanu, M.A., was appointed Librarian from October 1st next.

Plarr's Lives of the Fellows

Sir D'Arcy Power, the honorary librarian, presented the two volumes of Plarr's *Lives of the Fellows*. The best thanks of the Council were given to Sir D'Arcy Power, Mr. W. G. Spencer, and Mr. G. E. Gask for their services in revising and preparing this work for publication. The volumes can be purchased from Messrs. John Wright & Sons for two guineas (cloth) or three guineas (leather).

Lister Memorial Lecture

The President reported that the Lister Memorial Lecture on "Neuro-hypophyseal Mechanisms from the Clinical Standpoint" was delivered by Professor Harvey Cushing on July 9th, and that he had presented to him the Lister Medal.

Lecturers

The Council elected the following Professors and Lecturers for the ensuing year,

Hunterian Professors.—Sir Arthur Keith (six lectures on recent advances in human embryology). Victor Bonney (one lecture on the conservative surgery of uterine fibroids (myomectomy)), Harold Robert Dew (one lecture on hydatid disease—some interesting complications), John Basil Hume (one lecture on the pathology of diaphragmatic hernia). James Paterson Ross (one lecture on the treatment of cerebral tumours with radium, with an account of experiments made to study the effects of radium upon cerebral tissue), David Howard Patey (one lecture on the pathological basis of the treatment of varicose veins by injections, and its bearing on the problems of thrombosis). James William Tudor Thomas (one lecture on successful grafting of the cornea in rabbits).

Arris and Gale Lecturers.—Thomas Peel Dunhill, C.M.G. (one lecture on malignant disease of the thyroid gland—the relation of the incidence and spread to its embryology and prognosis), Donald Hunter (one lecture on metabolic diseases of bone). Herbert Henry Woollard (one lecture on the potency of the pharyngeal entoderm).

Erasmus Wilson Lecturers.—Clement Edward Shattock (two demonstrations on Reg[illegible]). Cecil Pembrey Grey Wakeley (two demonstrations on [illegible]ward Patey (one demonstration on pathology), (one demonstration on pathology).

Arnott Demonstrator.—Sir Arthur Keith (six demonstrations on the contents of the Museum).

Gilbert Blane Medal

The Secretary reported that the Sir Gilbert Blane Gold Medal for 1930 had been awarded to Surgeon Lieutenant-Commander James P. H. Gaussen, M.B., Ch.B., R.N., in respect of the promotion examination, 1930.

Appointment of Representative

The President was appointed as delegate to the celebration on October 13th, 1930, of the Jubilee of the foundation of Mason Science College and the thirtieth anniversary of the granting of the University of Birmingham charter.

Buckston Browne Dinner

The Buckston Browne Annual Dinner of Fellows and Members will be held on Thursday, November 13th.

Election of Officers

The following officers were elected for the ensuing year: President, Lord Moynihan; Vice-Presidents, Mr. C. H. Fagge and Mr. R. P. Rowlands; Physiological Curator, Mr. R. H. Burne; Pathological Curator, Mr. C. F. Beadles; Honorary Curator of Odontological Collection, Sir Frank Colyer; Honorary Curator of Historical Collection, Mr. C. J. S. Thompson.

Obituary

FRANK E. TAYLOR, M.A., M.Sc., M.D., F.R.C.S., M.R.C.P.

DR. FRANK EDWARD TAYLOR, whose death occurred suddenly on July 1st, was born in Leeds in 1872. He was educated at the Leeds Boys' Modern School and at the Yorkshire College (Victoria University), Leeds, taking the B.A. degree in 1891, after which he entered the medical department of the same college. In 1897 he graduated M.B., Ch.B. Vict., and obtained the diplomas M.R.C.S. Eng. and L.R.C.P. Lond. He held the post of house-surgeon at the Leeds General Infirmary, and then, deciding to specialize in obstetrics and gynaecology, he obtained resident appointments in these branches in Leeds and London after which he matriculated at the University of Berlin in 1899. Since the Boer war was in progress he joined the South African Field Force as civil surgeon, and was awarded the medal and three clasps for his services. On his return from this campaign Dr. Taylor further studied his chosen specialty and added to his qualifications, taking the F.R.C.S. Eng. in 1903, graduating M.B., B.S. Lond. in 1904, and becoming M.R.C.P. Lond. in 1905. In 1906 he proceeded M.D. Lond., obtained the diploma D.P.H. Camb., and graduated M.A. and M.Sc. at Leeds. He was then appointed gynaecologist to the North-West London and Hampstead General Hospital, the St. Marylebone General Hospital, and the Eastern Dispensary.

Dr. Taylor's career seemed now assured, but a period of ill-health followed, compelling him to relinquish his gynaecological work in 1912 and maintaining its hold upon him for the remainder of his life. Nevertheless he refused to give in, and having been appointed lecturer in bacteriology at King's College, London, in 1907, thereafter devoted himself to teaching and research in bacteriology and pathology. In addition to his King's College appointment, he acted for some years as pathologist to the Royal Westminster Ophthalmic Hospital, and, during the war, to the Lewisham War Hospital, he had recently been in charge of the vaccine laboratory of the Royal Herbert Hospital.

Frank Taylor was an excellent teacher, he possessed considerable literary ability and originality, and was the author of numerous papers. These in the earlier part of his career were mainly gynaecological, but later on he turned to pathological subjects, and published numerous investigations on the Arneth blood count, vaccines, the absorption test, mycological tests for sugars, Vincent's angina and fusospirillary peridental gingivitis, the *Diplobacillus liquefaciens* of Petit, and many other subjects. For many years he was an examiner on the Central Midwives Board and an occasional contributor to the *British Medical Journal*. He leaves a widow, but no family.

The sudden and untimely death of Dr. ALEXANDER NICHOLAS ROSS, on July 5th, came as a great shock to the members of the medical profession on Tees-side. Born in Ross-shire in 1880, he received his early education at the Royal Academy, Tain. His first interest was engineering, but after about a year of study in Glasgow he forsook this subject for medicine, and graduated M.B., Ch.B. at Aberdeen in 1904. He then assisted his brother, who was in practice in West Hartlepool, after two years there he spent a year in South Africa as an assistant. In 1908 he settled in Stockton-on-Tees, and built up a very large practice. He was an honorary physician on the staff of the Stockton and Thornaby Hospital, and a member of the British Medical Association, being chairman of the Stockton Division for two years. He was also a member of the Rotary Club.

A colleague writes: Ross was one of the most straightforward of men and of high ideals. Of most kindly and cheerful disposition, he was held in the greatest esteem by all his colleagues. He never spared himself in his work, and brought great comfort and cheer to his many patients. He gave the same self-sacrificing care to everybody. Undoubtedly he overworked himself, he left his surgery on the evening of July 1st to go home to bed with pneumonia, from which he died on the following Saturday morning. His was, in truth, a life devoted to his fellow men. The deepest sympathy is felt for his widow and two sons, the elder of whom enters Cambridge this year to study medicine.

DR. GAVIN B. CLARK, who died at Hampstead on July 5th at the age of 83, was a prominent political figure in the eighties and nineties. After taking the M.D. and F.R.C.S.Ed., he travelled for some years and then settled in practice in South London. But socialistic ideals early attracted him, and in 1885 he was elected M.P. for Caithness as an independent member, though he practically always voted with the radical wing of the Liberal party. Home Rule for Ireland and the Crofters Acts were at this time the measures which most particularly claimed his attention, and he was an ardent supporter

of women's suffrage, progressive self government for India, and international peace. Dr. Clark was early associated with South Africa and in the eighties was appointed Consul General for the South African Republic a post he resigned some two years before the South African war. With Mr. Lloyd George and other Liberals he took the unpopular view of the war, and was one of the most bitterly attacked "Pro Boers" in the country. After the loss of his seat in the General Election of 1900 he did not endeavour again to enter Parliament though he was persuaded to fight in the interests of Labour against Sir John Pratt at Glasgow in 1918. He found a more effective outlet for his energies in the numerous societies and organizations of which he was a member. Despite his lifelong advocacy of peace, Dr. Clark was convinced that the cause of Britain in the great war was just. At the commencement of hostilities he interested himself in the Belgian relief movement, and he played an active part in the Wounded Allies Relief Committee, which established hospitals in France and Serbia. For these services he received the Belgian Order of the Crown and the Serbian Order of St. Sava. Dr. Clark was a man of great force of character and wide interests. His sympathies were always with those needing help, and he never lacked courage in espousing an unpopular cause. The Prime Minister writes of him: He has had a long and very useful life, and his name will always be associated with two great causes which he served with singular devotion—the Highlands and Peace." Dr. Clark leaves a widow and one son and a daughter (Mrs. W. A. Brend). A younger son, Captain W. B. Clark, R.A.M.C., was killed in the war.

Medical News.

PROFESSOR ARTHUR J. HALL has accepted an invitation from the Medical Association of South Africa (British Medical Association) to read a paper on epidemic encephalitis before the South Transvaal Branch, during his visit to Johannesburg as the representative of Great Britain at the International Conference on Silicosis.

PRINCE GEORGE will open the new cabinet making workshop at Papworth Village Settlement on Wednesday, July 23rd, at 2.30 p.m., and subsequently the West Cambridgeshire flower show will be held in the grounds of Papworth Hall.

THE Duke of Connaught, on July 15th, unveiled a bust of the late Mr. Bernhard Baron in the main hall of the Royal Westminster Ophthalmic Hospital. His Royal Highness recalled that Mr. Baron during the years he spent in England, his adopted country gave over £2,000,000 to charity.

THE Home Secretary announces that in accordance with a recommendation of the Health Committee of the League of Nations communicated to His Majesty's Government by the Council of the League, an Order in Council has been issued under the Dangerous Drugs Act, 1920, extending Part III. of that Act, which provides for the control of morphine, heroin, and cocaine, to dihydromorphinone, its salts and any preparation admixture extract, or other substance containing any proportion of dihydromorphinone. The effect of the Order is that this drug (the trade name for which is dilaudide), its salts, preparations, etc., may not be imported into or exported from the United Kingdom and Northern Ireland without a licence issued by the Secretary of State under the Dangerous Drugs Acts, and as regards internal control the Dangerous Drugs (Consolidation) Regulations 1928, will apply. Dilaudide is not manufactured in this country.

THE Royal Society announces in our advertisement columns that it is prepared to receive applications for a Lawrence Research Studentship to be awarded for one year for research in some subject related to the cause and cure of disease in man and animals. The sum available will not be more than £200 but the Council will be prepared to consider an award to the holder of a stipend from some other source the total emolument will not exceed £350. Applications must be sent in by October 11th, on forms to be obtained from the assistant secretary, Royal Society, Burlington House, London, W.1.

THE Fellowship of Medicine announces that from July 21st to August 2nd there will be a special course in diseases of infants at the Infants Hospital, Vincent Square, S.W.1, each afternoon from 2 o'clock. In addition to lectures and demonstrations there will be special visits to the United Dairies Pasteurizing Plant, Willesden, and the V.D. Centre, Thavies Inn. From August 5th to 31st a special course in urology will be held at the All Saints Hospital, Vauxhall Bridge Road, during the afternoons and early evenings and comprising clinical and cystoscopic demonstrations. From August 11th to 16th a special course in diseases of the chest at the Brompton Hospital will occupy the whole of each day with demonstrations, lectures, and operations. The general course of the Fellowship continues throughout the month consisting of attendance at the clinical practice of fifty London special and general hospitals. Programme tickets and further details may be obtained from the secretary of the Fellowship, 1 Wimpole Street, W.1.

AN international post-graduate course will be held in Vienna from September 29th to October 12th, occupying the whole of each day and including lectures and demonstrations on the more important new therapeutic preparations and lines of treatment. Further information may be obtained from the secretary of the International Post-graduate Courses, Dr. A. Kronfeld, Porzellangasse 22, Vienna IX.

AT a *quarterly court of the directors of the Society for Relief of Widows and Orphans of Medical Men* held on July 9th a total sum of £2,151 5s. was voted in grants to the widows and orphans who are receiving relief for the half-year July 1st to December 31st. Widows over 65 years of age received £37 10s. each, those under 65 £35, and the orphans £25 each. At the present time there are 51 widows and 12 orphans on the books. Relief is only granted to the necessitous widows and orphans of deceased members of the society. Any widow of a member who is left with an income of £125 or under is eligible to such relief as the court of directors think fit to grant her. Membership is open to any registered medical practitioner who at the time of his election is residing within a twenty-mile radius of Charing Cross. The secretary will be pleased to send further particulars to any medical man within that radius who may be desirous of joining the society.

THE first International Congress of Neurology will be held at Berne from August 31st to September 4th, 1931, when the following four subjects will be discussed: (1) diagnosis and treatment of cerebral tumours; (2) anatomy, physiology, and pathology of muscular tone; (3) acute suppurative infections of the nervous system; (4) the role of trauma in the production of nervous symptoms.

THE ninth Roumanian Congress of Oto-rhino-laryngology will be held at the Coltea Hospital, Bucarest, under the presidency of Dr. A. Costinin, on October 25th and 26th, when the subject for discussion will be radiography in oto-rhino-laryngology introduced by Drs. I. Tetu, Jovin, and Andreoescu. Further information can be obtained from the general secretary, Dr. Lazar Mayersohn, Calea Mosilor 81, Bucarest.

THE first Congress of the International Society of Experimental Phonetics, held at Bonn last month, was attended by nearly 100 persons. A prominent feature of the proceedings was a demonstration of *x* ray films of the vocal organs during speech by Dr. H. Gutzmann (Berlin), the movements of lips, tongue, uvula, hyoid bone, and larynx were seen with striking clearness. Professor M. Isserlin (Munich) spoke on problems of aphasia. Dr. Kaiser (Amsterdam) described the registration of pathologically altered voices, and Dr. Berger (Münster) described investigations of the Lombard test. Among the exhibits was one from the West End Hospital for Nervous Diseases (London) showing voice records in nervous diseases. Professor Schilling (Freiburg) described an electric method of registering tongue and palate conditions and Dr. Zwirner (Berlin) showed speech curves from cases of depression. Several papers and demonstrations were concerned with registration by the oscillograph, and the nature of the vowels. Profes or E. W. Scripture (Vienna) explained his theory of speech atoms and speech molecules, and Mr. F. Janvrin (London) presented an experimental analysis of a record of verse spoken by John Galsworthy himself. Nearly a dozen papers presented the results of experimental phonetics in linguistic problems. The proceedings of the congress will be published in a volume of about 128 pages costing 10s. At a meeting of the council it was decided that the membership fee should be 10s. a year, to be sent to the Secretarial Bureau, 73 Welbeck Street, W.1. It was also decided that the following publications should be sent free of charge to the members: *Zeitschrift für Experimental Phonetik*, *Bulletin of the International Society of Experimental Phonetics*, *Bulletin de la Société Internationale de Phonetique Experimentale* and *Sprachneuro og echie Mitteilungen*.

THE fifth Congress of French-speaking Psycho-analysts was recently held at the Asyle Ste. Anne, Paris, when papers were read by MM. Hesnard and Laforgue on the psychical mechanism of auto-punishment in the psychology of neuroses and psychoses, criminal psychology, and general pathology; by Mme. Bonaparte on the prophylaxis of neuroses in children, and by Mme. Morgenstern on the place of psychoanalysis in mental hygiene.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

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All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westcent, London*

MEDICAL SECRETARY, *Mediocera Westcent London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus Dublin*, telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

DIET IN RHEUMATISM

DR GRAHAM GRANT (Gray's Inn, W C) writes We are constantly being asked by elderly patients suffering from recurring attacks of subacute rheumatism what to eat, drink, and avoid, and we are charged with giving conflicting opinions when so consulted Some medical men advise lemons others disapprove, some permit beer as a beverage, others hold up their hands in horror (although brewers' labourers do not seem to have rheumatic ailments more than other classes of the community), and endless other instances of divergence can be mentioned, which leave the unfortunate patient with the fear that everything he is eating or drinking may make him worse Can any of your readers supply me with a dietary which is a safe one without being too ascetic?

CLOTHES MOTHS

DR R E DRAKE BROCKMAN writes in reply to "H G," whose inquiry was printed last week —An infallible method, which I devised after much loss from the depredations of clothes-moths, is as follows If the clothes are stored in drawers or boxes, get some cheap thin white cloth or linen and have it made into bags which should be just larger than the drawer or box Divide the bag into numerous divisions 4 in wide by sewing across it Into each of the divisions put a reasonable amount of crude naphthalene and close the ends of the partitions When complete it looks something like a cork mattress, but of course, only a small quantity of naphthalene is put in each partition This mattress of naphthalene should be laid on top of the clothes next to the lid of the box and will be found a certain protection against moths I have thus kept my clothes moth free for over twenty years Of course, the clothes should be taken out a few days before use and thoroughly aired, if possible in the sun, to rid them of the smell of naphthalene

CLEANSING OF THE CHALICE

"MEDICUS" asks if there is any evidence that neglect to wipe the chalice between each participant during the Communion Service may give rise to the transmission of such an infection as pyorrhoea His own view at present is that although it would seem cleanly to use a purificator, yet even this is hardly efficient as a means of eliminating risk of infection

BROMIDROSIS

"A A" writes I should advise "R B C (July 12th, p 86) to try a thorough and prolonged soaping every night with hot water and bimodide soap (Parke Davis's neko), and then rub in formaldehyde sap (diluted, if necessary, to half or one third strength) into the wet skin of the soles and between the toes Suitable diet and a belladonna mixture would discourage sweating Light socks should be worn, and it is beneficial to go barefoot whenever possible

INCOME TAX

Return to United Kingdom

"G H A who is at present residing and working outside the United Kingdom inquires on what basis his earnings would be assessed in this country if he came to reside and work here

The amount of the liability would not be affected by his present earnings abroad on coming to this country a new basis would be adopted That basis would be period to April 5th of the first year the amount of that year's earnings, second year, the amount of the earnings of the first twelve months' in the United Kingdom, third year, the amount of the earnings of the second year, or of the third year if less, after that, the previous year throughout This, of course, assumes that "G H A" does not buy a share in a practice, in that case the previous profits of that practice would normally determine his liability, but in neither case would his present earnings enter into the calculation

Succession to Practice Cash Basis

"ELM" was assistant to his father in a general practice from December 1924, to April, 1928 when he took over the practice, for which he is now paying He is informed that the authorities require the returns to be made on the basis of the bookings of the practice, which would involve heavy labour in preparing the statements and estimating the amount of bad debts

*** We assume that "Elm" has not included in the cash receipts for the purpose of the income tax statements the cash received for work done prior to April, 1928 In that case the returns have undoubtedly not reflected the full earnings of the practice, but only that portion which has been received as cash The attitude of the revenue authorities is correct, but perhaps a compromise could be arranged on the basis of revising the calculations to include *all* cash receipts, whether belonging to "Elm" or his father

Car Allowance

"V F F" was in partnership until September 30th, 1929, was unemployed to January 1st, 1930, and was then an assistant until April 1st, 1930, in a practice in which he acquired a partnership as from that date What depreciation allowance can he claim in respect of the income earned in these periods?

*** Nothing can now be done as regards the income tax payable in respect of the share in the old practice, depreciation allowance should have been claimed at the time (2) Strictly the same applies to the three months' employment earnings, though if that liability has not been settled yet, the inspector of taxes will perhaps admit a claim now to wear and tear allowance for the last quarter of the year 1929-30—that is, one fourth of 20 per cent of £200=£10 (3) For the year 1930-31 the new partnership's wear and tear claim is increased by the addition of "V F F's" car to those in partnership use, and the increase will be the amount of the 1930-31 claim on his car—that is, 20 per cent of £160=£32

LETTERS NOTES ETC

OSTEITIS FIBROSA

WITH reference to the case of osteitis fibrosa, with initial symptoms resembling rheumatic infection, described by Drs J Salisbury Craig and James H Shearer in the *Journal* of July 5th (p 9), Dr J Tertius Clarke has asked the authors to explain why it was considered that the initial symptoms resembled rheumatic infection

DR SALISBURY CRAIG replies The complaint of pain over the posterior aspect of the neck, the left deltoid region, and the left upper arm, together with the tenderness over those regions, were the initial features of the case which led the authors to suspect fibrositis The subsequent development of mild pyrexia and pain in the left infra-axillary region, associated with the mitral stenosis, were regarded as further points in favour of a rheumatic infection

PRURITUS ANI

"CERONS" wishes to thank readers who have replied to his query about pruritus ani So many (he says) have written to me about this distressing complaint that I find it difficult to reply to each one individually, and I hope that they will accept this formality instead

A ROAD ACCIDENT

MR ARTHUR S NICOLL (25, Ringstead Road, Catford S E 6) writes May I endeavour through your columns to get in touch with the medical man who witnessed the accident to a motor cyclist and pillion rider, who were run down by a car, on the way to Hastings on Sunday, June 22nd about 12 30 p m ? The doctor gave me his card at the time, but this has unfortunately been lost

MEDICAL GOLF

A British Medical Association Golfing Society for Sussex has been started, and the first meeting will be held on the links of the Brighton and Hove Golf Club on Sunday, September 28th A competition of 18 holes under handicap against bogey will take place The captain, Colonel Dee is offering a prize for this The honorary secretaries of the society are Dr J H Twiston Davies and Mr Harold Downer All communications should be addressed to 40, Wilbury Road, Hove

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43 44, 45 46 47 48 49 52 and 53 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 50 and 51

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 27

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

51 Post vaccinal Encephalitis

N CARRARA (*La Pediatria* April 15th, 1930, p 451) doubts whether the various nervous manifestations attributed to post vaccinal encephalitis are due directly to the vaccine he considers that the evidence is so contradictory that it is impossible to give a decisive answer one way or the other On the whole he sums up against the suggestion that vaccination stimulates into activity the virus of epidemic or herpetic encephalitis Some cases suggest the possibility of contamination of the lymph with other organisms, or the action of organisms already in the system It is generally thought that manifestations are those of a non purulent inflammation which somewhat resembles the encephalitis occasionally seen after measles it affects the meninges alone or part of the brain or the medulla initiating perivascular glial proliferation especially in the white substance The incubation period ranges from nine to fourteen days, and the disease begins abruptly as one of three main types—namely the meningeal, the meningo encephalitic, and the myelitic In fatal cases death rarely is postponed more than ten days In patients who recover sequels are not very common as contrasted with what occurs in epidemic encephalitis they usually take the form of psychic disturbances In diagnosis the sudden onset of the disease and the absence of eye phenomena, the less polymorphic character of the symptoms and the presence of the Babinski sign are more suggestive of post vaccinal encephalitis than of the epidemic form The mortality is high (30 to 58 per cent), especially in England The disease is almost confined to children between the ages of 3 and 13 who have been vaccinated then for the first time The rarity of it is shown by the fact that only about 400 cases have been recorded in the last twenty years out of the enormous number of people who have been vaccinated, of these, about 200 occurred in Holland 100 in England and 100 in Germany As regards prophylaxis, a single mark vaccination is suggested, although there seems to be little relation between the activity of the reaction and the development of encephalitis even the virulence of the lymph seems to have only relative importance During an epidemic of encephalitis it would probably be wise to postpone vaccination Treatment is chiefly symptomatic

52. Gonorrhoeal Endocarditis with Recovery

M W PERRY (*Amer Journ Med Sci* May 1930 p 599) gives a detailed report of a case of gonorrhoeal endocarditis in a man aged 22 A history of gonorrhoea was followed by a prolonged intermittent fever, associated with a low grade leucocytosis of 10,000 to 15 000 , there was a diastolic murmur of varying intensity situated over the pulmonary area On one occasion a pure culture of gonococci was obtained from the blood taken immediately after a severe rigor From this culture an autogenous vaccine was prepared containing 400 million gonococci per cubic centimetre the patient received 0 2 c.cm , but on each occasion its injection was followed by a severe reaction, and seemed to have a harmful effect, and only three injections were therefore given Although there was no marked anaemia the patient had fourteen transfusions (250 c cm each) of citrated blood over a period of two months On three occasions acute symptoms pointing to pulmonary embolism were noted associated with sudden severe pain in the chest and expectoration of blood Following the last of these attacks the general condition began to improve and the patient was discharged a month later after about three months treatment, during this time a liberal food intake was maintained, and there was but slight loss in weight On discharge the heart murmur remained unchanged, there was some impairment to percussion over the left base and lower axillary region, with diminished intensity of the breath sounds A year later the patient was in good health

53 Juvenile and Adult Types of Tuberculosis.

THE fact that in childhood tuberculosis lesions may be found in any part of the lung parenchyma and also in the tracheobronchial glands is attributed by J A. MYERS (*Minnesota Med* April 1930 p 209) to the fact that they are the result of a first infection, no acquired immunity yet being present the lung parenchyma has no power to localize the infection and the bacilli quickly pass on to the lymph glands Childhood lesions frequently become caseous and later calcified cavity formation is rare, as also is fibrosis In the adult type of infection the lesion is most frequently found at the apex below the clavicle While admitting that the adult type is sometimes found in childhood the author considers that it is the result of a reinfection , he is disposed to disagree with Ranke s hypothesis that the adult type of disease is directly developed from that of childhood It has been possible to prove the pre existence of a childhood infection in 50 per cent of cases of the adult type It is considered that the percentage is probably greater, since radiology often fails to demonstrate lesions which are plain enough at necropsy Copies of radiograms are included by Myers to show the coexistence of signs of childhood and adult disease and also the later development of adult disease where previously only childhood lesions had been visible In many of the latter the adult type of disease had followed continued exposure to a known source of infection Family histories are reported to indicate that tuberculosis is essentially a family disease, and that the existence of signs of childhood disease should make the physician particularly careful to remove the subject from the possibility of reinfection by contact

54 Acute Rheumatic Myocarditis.

G ETIENNE (*Arch des Mal du Cœur* March 1930, p 153) emphasizes the existence of a form of acute rheumatic myocarditis in which the manifestations of cardiac insufficiency dominate the clinical picture and rheumatic pains are either absent or very slight An account is given of six instances of this form of myocarditis The first two patients had no rheumatism, but in one of them forty years previously there had been an acute attack, in both there was an abrupt onset of cardiac failure with fever, weak heart sounds, and dilatation of the heart In the other four cases mild arthritic symptoms were present with similar manifestations of cardiac embarrassment the latter forming by far the most striking part of the clinical picture While classical chronic rheumatic myocarditis has ultimately a poor prognosis, this acute form frequently clears up completely, leaving no disability of any sort Several of the patients described by the author were free from symptoms between two and four years after the illness Such good results depend upon energetic and appropriate treatment A rheumatic origin should be suspected when there is sudden illness with fever and evidence of cardiac insufficiency Salicylates should be administered, at first by intravenous injections and subsequently by the mouth the cardiac insufficiency should be treated simultaneously with camphor oil strychnine, and ouabain Digitalis administration is sometimes of considerable value

Surgery.

55 Benign Gastric Tumours.

E DOMALIG (*Wien Klin Woch* , April 24th, 1930, p 526) remarks that although cases have been frequently recorded in specialist journals during the last ten years, there is no general recognition of the symptomatology of benign tumours of the stomach and wrong diagnoses are made because the condition is not borne in mind Their frequency is variously reported as about 0 5 to 1 25 per cent of all gastric tumours Myomata are the commonest, after which follow polypi and fibromata They may occur as subserous tumours which usually give rise to no symptoms except by their size the weight may reach several kilograms Submucous tumours may develop also and these form the important clinical group Benign tumours appear in both sexes and at all ages but they are more common in the middle and late periods of life Heredity plays a part only in the case of the polypi The complaint is always pain which is localized to the region of the stomach and does not spread in any direction. It occurs almost immediately after a meal irrespective of the type of food eaten and lasts from one to three hours The pain is rarely severe and has therefore usually existed for months or years when the patient presents himself for examination It lacks the periodicity so typical of ulcer, and is described as a feeling of pressure or fullness The patient is always free from pain when the stomach is empty Vomiting is rare the appetite is little influenced and the general condition remains good unless complications occur Examination of the patient shows localized tenderness If a tumour or resistance can be felt (which is rarely the case) it is freely movable The acidity of the gastric juice is normal or low , occult blood is found in the stools if released

search is made An *x* ray examination may show a sharply defined filling defect in the stomach, with normal peristalsis and mobility Polypi have a characteristic outline The complications are chronic haemorrhage giving rise to severe anaemia, acute haemorrhage, which is sometimes severe and fatal, pyloric stenosis, ulceration in the region of the tumour, and malignant change These alter the clinical picture to that of the superadded condition A differential diagnosis has to be made from gastric ulcer, chronic gastritis, and carcinoma The treatment may be local resection of the tumour-bearing area, but gastrectomy is often performed since it has become a recognized operation, and proof of the innocence of the tumour may be lacking until sections are made The author records two cases, in one of which a peptic ulcer occurred in the centre of the tumour

56 Diverticulosis of the Colon

ACCORDING to F W RANKIN and P W BROWN (*Surg., Gynecol. and Obstet.*, May, 1930, p 836) diverticulosis, or sacculations along the lumen of the large bowel, is a condition uniformly asymptomatic except in a few cases in which inflammatory reactions are occurring secondarily to the irritating processes It is present in about 5 per cent of patients who have symptoms referable to the large bowel, but probably actually exists in 1 per cent of all persons Diverticulitis occurs as a rule in about 17 per cent of cases of diverticulosis, and is usually chronic and subject to exacerbations The etiology of diverticulosis is obscure, but it may result from improper emptying of the bottle shaped sacculations (with subsequent inflammation, necrosis, and occasional perforation), due to inherent muscular weakness in the bowel wall and environmental conditions, obesity, and constipation The relationship of this condition to carcinoma is probably incidental rather than actual, in 22 cases reviewed by the authors such associated malignancy was found in only 4 Diverticulitis occurs almost entirely in middle aged persons of a corpulent tendency who lead sedentary lives The outstanding symptom is pain, usually referred to the lower left part of the abdomen and frequently associated with constipation Bleeding is not common, but if it is present an erroneous diagnosis of malignancy is often made Tumefaction is common and is usually the result of inflammatory reactions, with or without abscess formation, in itself it does not indicate malignancy Diverticulitis usually yields to medical and dietetic measures The treatment of an acute attack consists in watchful waiting while the patient is in bed and is receiving irrigations of the affected segment with warm sodium chloride and other sedative solutions As the process subsides, anti constipation diet and small oral doses of mineral oil are given A dietary regimen is is highly essential and often prevents complications, the most common of which are abscess, fistula, and perforation Treatment of the complications is usually surgical, primary resection is dangerous, and the operation of choice is a graded procedure, consisting of drainage with subsequent resection and anastomosis Prolonged drainage by colostomy will often bring about complete recession of the tumefactions and symptoms, rendering further intervention unnecessary

57 Mesenteric Cysts

C W FLYNN (*Annals of Surgery*, April, 1930, p 505) describes mesenteric tumours as being the rarest variety of tumour met with in the abdomen, cysts being more common than solid tumours in this situation Mesenteric cysts of embryonic origin may be classified as cysts of intestinal origin, dermoid cysts, and cysts arising from retroperitoneal organs Mesenteric cysts develop more often in women than men, and most often in the third decade They occur generally to the right of the median line and below the umbilicus, trauma is an important causative factor Diagnosis, owing to the lack of characteristic symptoms, is never made before operation, although a mesenteric cyst should be suspected when an abdominal tumour which is smooth, round, apparently cystic, and mobile is present, associated with recurrent attacks of abdominal pain, nausea, and vomiting There may be constipation alternating with diarrhoea, but usually there is no loss of weight, and there may even be an increase Treatment is always surgical, and must vary according to the case Sometimes drainage is sufficient, although a persisting sinus may have to be resected later The mortality is about 6 per cent with this method of treatment Enucleation is the best form of treatment when possible, and gives good results when the tumour can be completely removed, the mortality is about 16 per cent Resection is indicated if the tumour cannot be removed without interfering with the circulation of the bowel The high mortality of 60 per cent is due to the fact that in this type of case intestinal obstruction and sometimes local peritonitis have developed before operation A case is reported of a large tumour occurring in a girl aged 16 The tumour was firm and contained many small cysts lined with endothelium and turbid fluid It was found to be a lymphangioma and cystic in type, developed from the first portion of the mesentery of the jejunum The symptoms were cramp, colic, and marked constipation Resection of a large section of the jejunum together with the tumour was successfully performed, and the patient made an excellent recovery

Therapeutics.

58 Serum Treatment of Typhoid Fever

P P RAVAULT and D NODRIN (*Journ. de Méd. de Paris*, April 10th, 1930, p 312) record their observations on 38 cases of typhoid fever in a Lyons hospital, 22 of which were treated by Rodet's serum, 30 or 40 c cm were injected on admission, and a similar dose was repeated on each of the four or five following days In some severe cases with high temperature 60 to 80 c cm were given daily, or even as much as 120 to 130 c cm in the twenty four hours In such cases the total quantity of serum given amounted to 150 or 160 c cm, and some patients received even higher doses The twelve patients who did not have serum injections had either mild attacks or were late and complicated cases The results in the 22 patients who were treated by serum are classified in three groups (1) favourable results, in which the administration of serum was accompanied by a permanent fall of the fever and general improvement, (2) doubtful results, the patients after a transient fall of temperature or slight improvement of their symptoms having a fresh rise of temperature, or developing a complication such as phlebitis, and (3) cases in which the serum had no effect In most instances the serum reactions consisted in more or less generalized urticarial or scarlatiniform rashes, but four patients had very severe serum sickness with high fever and generalized arthralgia, this occurred during defervescence or convalescence, and considerably retarded recovery The serum had no effect on the severe forms, and, though it might be of use in the moderate forms by shortening the disease, this benefit was counterbalanced by the severity of the serum reactions Rodet's serum, therefore, is considered by the authors to be in no wise comparable as regards efficacy with diphtheria or tetanus antitoxin, or even antimeningococcal serum

59 Medicinal Treatment of Intestinal Tuberculosis

JUDGING from the effective results obtained by artificial heliotherapy and cod liver oil, which are equally beneficial and practically interchangeable, in the treatment of rickets, and by the use of the first in intestinal tuberculosis, M MCCONKEY (*Amer. Rev. of Tuberculosis*, May, 1930, p 627) considered that cod liver oil might prove equally effective in this disease The results obtained in the treatment of 50 cases with cod liver oil and tomato juice are recorded In earlier cases the oil was given alone, but as better results were noted following the administration of orange juice with the oil, the juice was also used in the routine treatment, later the cheaper but equally efficacious tomato juice was substituted For purposes of comparison, 128 cases of intestinal tuberculosis complicating disease of the lungs were observed, 28 of these received only palliative treatment, 50 were given ultra violet radiation, and 50 received the cod liver oil and tomato juice mixture There was no great difference in the severity of the intestinal symptoms or general condition of the patients, and the diagnosis of the intestinal condition was determined solely by radiological findings McConkey reports that of the untreated group 71 per cent are dead, 14 per cent are alive, of whom only one patient is able to do part-time work, and 14 per cent are untraced Of those receiving heliotherapy, 24 per cent have died, 42 per cent are alive, of whom 16 per cent are able to work, and 34 per cent are untraced Of those receiving cod liver oil and tomato juice, 10 per cent are dead, 86 per cent are alive, of whom 12 per cent can work, and 4 per cent are untraced The author thinks it probable that the symptoms in intestinal tuberculosis depend in some way on the calcium metabolism, and that this treatment possibly effects some change in the calcium metabolism which brings about immediate relief The method of administration is simple 3 oz of tomato juice are placed in a glass and on the surface is floated half an ounce of cod liver oil, the mixture is given ice cold immediately after meals The juice may ferment if kept longer than twenty four to forty eight hours, the juice of an average sized orange may be substituted where fermentation cannot be avoided The method is said to have no contraindications, and may it is useful in the after care of radiated patients, and may also prove a means of preventing intestinal tuberculosis in many cases Patients with tubercle bacilli in the sputum who present either definite or questionable evidence of intestinal disease should be given adequate treatment before the lesion reaches a hopeless stage

60. Treatment of Epidemic Meningitis

J B NEAL (*New York State Journ of Med*, January 15th, 1930, p 79) gives an account of the method of treatment of the Meningitis Division of the Research Laboratory of the New York City Health Department which has been concerned with the treatment of more than 1 000 cases of epidemic meningitis Whenever the fluid obtained by lumbar puncture is cloudy or hazy, antimeningococcal serum warmed to body temperature is immediately introduced by gravity the further administration of serum depends on the results of cultures of the fluid Intrathecal injections are continued about every twenty four hours until at least two successive cultures show no organisms by smear or culture The usual dose is 20 c cm if as much or more fluid has been obtained If the amount of fluid withdrawn is great, and the serum runs in easily by gravity, 30 to 40 c cm of serum may sometimes be given If the fluid is under greatly increased pressure 50 to 60 c cm or more may be withdrawn It is rarely safe to give less than four injections of serum If signs of blocking develop reconrse should be made to ventricular or cisternal puncture Intravenous or intramuscular injection is indicated only in cases of meningococcal septicaemia without meningitis

Anaesthetics.

61 Explosive Anaesthetics

H B WILLIAMS (*Journ Amer Med Assoc*, March 29th, 1930 p 918) reporting for the committee of the physical therapy council of the American Medical Association upon the possibility of explosion of ethylene and other combustible gases used in inducing anaesthesia, considers that there is a real danger where ethylene or ether vapour is mixed with O or N_2O, and contained in or passed through rubber bags and tubing the risk is increased by the practice of washing out the apparatus with oxygen rich mixtures, and administering these to the patient Although every care may be taken when the cautery is used the fact that the mixture in the patient s lungs and upper air passages may become explosive by mingling with respired air is liable to be overlooked, and may result in a disaster Less obvious causes of ignition are the electric sparks which may result from the re establishment of electrical equilibrium after charges have accumulated in consequence of friction upon some insulated rubber portion of the apparatus Experimentally sufficient voltages to cause an explosion were obtained under favourable circumstances by friction of rubber surfaces against each other though the spark was quite small and almost noiseless The remedy advocated is the elimination of rubber the equipment being made conductive throughout Williams remarks that ethylene being more dangerous in this respect than ether, should never be used for operations with the cautery or diathermy apparatus, ether should never be employed in any throat operation with such instruments Care should also be taken not to comb or stroke the patient s hair until the ethylene has become thoroughly dissipated The majority of explosions with ethylene were bound to occur towards the end of the operation, and this, according to Williams may be due to the practice of washing out the patient s lungs with a mixture of O and CO_2

62. Local Anaesthesia with Percaine.

O GESSNER and J NAUHEIMER (*Schmerz Narcose Anaesthesie*, May, 1930 p 44) state that the quinoline derivative percaine is a very active drug its action extending to the central and peripheral nervous system as well as to organs with smooth and striped muscle A study of the comparative merits of percaine and of cocaine and novocain led to the following conclusions According to the authors investigations on the cornea of the rabbit, percaine is over 2,000 times more active than novocain, Lipschitz and Laubender find that it is at least 100 times more active than cocaine On the other hand Uhlmann reports that when it is injected subcutaneously it is five times more toxic than cocaine Percaine is also superior to cocaine in the readiness with which it can be sterilized and in the fact that the toxic dose of percaine does not vary like that of cocaine for the same species of animals If further experience shows that this drug is absorbed with as much difficulty by the human mucous membrane as it is by the frog s skin and that its use does not entail any risk of narcotic poisoning it will be clear that it possesses still more advantages over cocaine The authors add that as regards comparison of percaine with the ordinary infiltration and conduction anaesthetic novocain no final statement at present can be made

63. H BRUCHHOLZ (*Deut Zeit f Chir*, March 1930 p 202), as the result of his own observations and a study of over 4,000 cases reported in the literature comes to the conclusion that percaine, which is the hydrochlorate of butyl oxyl quinolin carbonic acid diethylaminoethylamide is an entirely non irritant local anaesthetic which experimentally and clinically is far superior to cocaine and the derivatives of cocaine hitherto employed both in efficiency and the duration of its action It can be used for infiltration conduction and surface anaesthesia as well as for the local treatment of painful wounds and ulcers in place of anaesthesin and anaesthoform For infiltration anaesthesia a 0.5 per 1,000 solution and for conduction anaesthesia a 1 per 1,000 solution are required When used in a strength of 1 to 2 per cent percaine acts as well as a 10 to 20 per cent solution of cocaine, and its action lasts considerably longer while in a 1 per cent solution it is far superior to alypin, psicaine and other cocaine derivatives for anaesthesia of the urethra and bladder The special practical advantages of percaine are the simplicity of its preparation its durability, and the readiness with which it can be sterilized as well as its cheapness In spite of its relatively high toxicity it can safely be used in the dilution and doses stated It is preferably injected in combination with suprarenin in doses of 400 c.cm of a 1 in 2,000 solution 150 c.cm of a 1 in 1 000 solution, or 50 c.cm of a 1 in 500 solution The maximal dose is about 0.2 gram percaine It is only on operations in the head, neck, and genital region that smaller doses should be used (up to 0 1 gram percaine) and if possible in combination with adrenaline. Percaine is also suitable for lumbar anaesthesia but further experiments are required to determine the optimal dose for this purpose

64 H DOENCH (*Zentralbl f Chir*, March 1st, 1930, p 518), who has employed percaine in about 130 cases, including hernias, tumours, hydroceles, appendicectomies, peritonitis, pancreatitis, artificial anus, bursitis etc, states that the chief objection to percaine lies in the long time (6 to 10 minutes) it takes to produce complete anaesthesia but this is counterbalanced by the great advantage of its protracted action (6 to 14 hours No toxic symptoms of any kind were observed

65. H FLÖRCKEN (*Zentralbl f Chir* April 5th, 1930, p 874), commenting on a recent paper by W Brandes[illegible] who drew attention to the persistent vomiting and deep necrosis of the skin following percaine anaesthesia, states that in his experience of about 400 cases he has never had any complications of this kind He attributes the occurrence of toxic vomiting to the fact that Brandesky did not add any adrenaline to his solutions Percaine without adrenaline causes first a transient local hyperaemia which is then followed by a certain degree of anaemia The toxic vomiting is probably due to too rapid absorption The occurrence of skin necrosis is more difficult to explain and is probably due to local infection not connected with the anaesthetic In the numerous cases in which Flörcken has used percaine he has never seen any necrosis of the skin and has therefore no reason to abandon its use as Brandesky has done, especially since it possesses the inestimable advantage of outlasting the period of pain can ed by the wound He regards it as essential not to exceed a dilution of 1 in 1 000 and always to add one or two drops of a 1 in 1,000 adrenaline solution

Obstetrics and Gynaecology.

66. The Female Sex Hormone.

R. T FRANK and M A. GOLDBERGER (*Journ Amer Med Assoc*, April 19th, 1930, p 1197) state that the female sex hormone can be extracted from various portions of the organism especially the ovarian follicle the corpus luteum and the placenta, and that it also occurs in the blood bile and urine This principle is essential for reproduction because it produces the oestrous and menstrual changes noted in the infertile as well as in the fertile sex cycle (pregnancy) Its local mode of action is unknown and it is not known whether the hormone is fixed used up or destroyed The authors have demonstrated that it occurs in five times greater concentration in the menstrual than in the circulating blood or in blood obtained from the cervix, this indicates that at any rate a concentration of the active substance takes place in the uterine mucosa Loewe and Lange demonstrated in 1926 that the female sex hormone is excreted in the urine of normal women These investigations are difficult and tedious, and the present workers have endeavoured, with satisfactory results, to correlate the blood and urinary observations with the hope of substituting urine examination for the blood test Studies were made on the

blood of normal menstruating and menstruating sterile women, of amenorrhoeic women, and also on the urine of non pregnant women The results are said to warrant the deduction that the amount of hormone produced is not necessarily an accurate index of its quantitative effects, which will depend on at least three factors the amount secreted, the rapidity with which the hormone is utilized or fixed in the genital tract, and the rate and level (threshold) at which the excretion takes place The renal threshold, particularly in the sterile and amenorrhoeic groups, is persistently and recognizably lowered The hormone is produced so rapidly that little effect on the sex tract is produced by the functioning ovaries In one group, amenorrhoea with comparative lack of uterine function is noted, in the other, sterility due to insufficient pregravid (premenstrual) uterine reaction results During pregnancy a very large amount of the hormone is excreted through the kidney The lowering of the urinary threshold to the hormone is significant and important, since amenorrhoea and sterility may result from it Evidence was also found suggesting the existence of a general law governing the urinary threshold excretion of all hormones

67 Clinical Diagnosis of Pregnancy.

ACCORDING to REEB (*Bull Soc d'Obstét et de Gynécol. de Paris*, March, 1930, p 211) the best diagnostic sign of pregnancy is a change of consistency or a slight contraction of the gravid uterus, which may be spontaneous or may be excited by light massage In certain cases this sign may be absent, or it may be feebly present in other states, such as submucous fibroma, under these conditions the diagnosis is uncertain A strong contraction of the uterus will clearly define its contours, will permit an estimation to be made of its volume, will differentiate it from adjacent tumours, will reduce its congestion and diminish the size of prominences which may suggest the existence of an extra uterine pregnancy, and will eliminate by its intensity the possibility of the presence of a fibroma Lorrinez has shown that the intravenous injection of small doses of posterior pituitary extract produces such a contraction Reeb has experimented with this drug in 8 cases, 5 patients were pregnant and 3 were not. The pregnancies were all between the third and fourth months, two being complicated by fibromata, one by a polyp, and one by an ovarian cyst with twisted pedicle, in one case a hydatidiform mole with luteinic cysts was present The intravenous injection of 0 4 to 0 5 c cm of the liquid extract excited a hard uterine contraction, which permitted of very precise localization and differentiation of the existing conditions The injection caused no ill effects to the patient, and did not interfere with the continuation of the pregnancy After the contraction, which lasted two or three minutes, the uterus returned to its original condition, no further contractions or haemorrhages were noted, and all the pregnancies continued to progress normally Reeb maintains that this method is a considerable aid in cases where the diagnosis is difficult

68 Hystero salpingography

C BECLÈRE (*Journ de Radiol et d'Electrol*, April, 1930, p 219) emphasizes the absolute need of a strict technique in hystero salpingography in order to obtain satisfactory results If the lipiodol injection is made under such unfavourable conditions as sepsis or pressure, very grave, and even fatal, accidents may occur If the injection is incomplete, all the necessary images are not obtained, and serious diagnostic errors may arise The most favourable moment for this examination is at the end of the first week after menstruation, and, since it constitutes an actual gynaecological intervention, patients should be kept under medical observation for the ensuing twelve to twenty four hours It should not be made during a febrile period, and the absence of painful reactions in the small pelvis should be verified by palpation Patients should be given, as in the case of curetting, an antiseptic vaginal [illegible]ction, preferably iodized The apparatus should be [illegible]erful, since radiographs in profile, taken with a Potter [illegible]ky machine, are indispensable, and the injection must be controlled by radioscopy Since it is necessary to fill the uterine and tubal cavities with the opaque injection, and as these organs contract, two conditions are necessary a complete obturation (both at the isthmus and external orifice) of the cervix, and a sufficient but limited pressure Methods of obtaining the former are described The pressure, ascertained by a hystero manometer, should not exceed 30 cm of mercury A preliminary radioscopical examination is indispensable to ascertain if the cervical obturation is good, to control the normal filling of the cavities, and to study the uterine and tubal contractions The radiographs should be made both in full face and in profile, two successive ones, taken at short intervals, will prove useful In order to study the permeability of the tubes, radiographs must also be taken twenty four hours after the injection In diagnosing pelvic tumours it is necessary to know the relation of the growth to the uterine cavity Though by pneumo peritoneum a very exact general picture of the tumour can be obtained, the dangers and inconveniences of this method are well known, a simpler and perfectly safe procedure is therefore described by the author A method of obtaining stereoscopic pictures is also indicated, these are always very instructive, and can be taken without special instrumentation

Pathology.

69 Chemistry and Physics of the Blood

C VAN CAULAERT (*Presse Méd*, May, 1930, p 601), who has reviewed the work of Henderson, Haldane, Van Slyke, and others, regards the blood as being a physico chemical system composed of interdependent variables whose interrela tions obey definite laws, which can be expressed by formulae and are applicable to pathological conditions Raising the partial pressure of CO_2, or lowering the *p*H by passing this gas through the blood, causes an increase in the amount of bases in the serum and a diminution in the amount of bases in the corpuscles, but increases the water content and therefore the volume of the cells, with a corresponding diminution of the water and volume of the plasma, there is also an increase in the amount of the corpuscular chlorides and a diminution of the chlorides in the plasma The distribution of water, chlorides, and bicarbonate between plasma and corpuscles is a function of the CO_2 pressure in the blood The osmotic pressure of the intracorpuscular fluid is equal to the osmotic pressure of the plasma In the corpuscles and plasma the positive charges of alkaline kations are compensated by charges of negative anions composed of non diffusible proteins, and diffusible anions of chlorides and bicarbonates, the chief ions concerned in the osmotic pressure of the blood are monovalent K, Na, and HCO_3 Of the blood proteins, haemoglobin alone influences the osmotic pressure The blood proteins in an alkaline medium behave as acids in respect to their isoelectric point By dialysing the proteins and bases through a collodion sac, progressively lowering the *p*H, and measuring the amount of the bases that had passed through the membrane, Van Slyke demonstrated that the amounts of fixed bases increased directly as the *p*H of the plasma was raised, the amount of the bases fixed to the corpuscular protein—haemoglobin—is much greater than the amount of the bases fixed to the proteins of the serum

70 Experimental Tests with an Antituberculosis Serum

W A KUTEISCHIKOW (*Zeit f Immunitätsforsch*, May 2nd, 1930, p 261) prepared an antituberculosis serum by the injection of a horse with increasing doses of a living but comparatively avirulent culture of the human type of tubercle bacillus The strain had been submitted to thirteen successive subcultures on a medium containing a low concentration (probably about 1 in 8,000) of trypaflavine At the end of this treatment one fifth of a potato culture gave rise in guinea pigs, inoculated subcutaneously, to a chronic non fatal infection confined almost exclusively to the lymph glands and accompanied by sclerosis The horse was injected over a period of eight months, and was then bled A preliminary experiment made on a small number of guinea pigs suggested that the serum had curative properties A larger experiment was therefore devised on the following lines Batches S1, S2, and N, each containing twenty guinea pigs, were inoculated subcutaneously in the thigh with 1 mg of virulent tubercle bacilli Ten days later serum injections were commenced S1 was treated daily for eight months, and S2 for five months, with the specific serum, N was treated for six to eight months with normal horse serum Batch S3 of twenty guinea pigs was infected with 20 mg and received specific serum treatment Batch K of ten animals was infected with 1 mg and received no serum treatment The results were very suggestive The animals in the control batch K and the heavily infected batch S3 died of general tuberculosis in four months During the first four months the animals in batches S1, S2, and N increased in weight, batch N then showed symptoms of illness, and by the end of the eighth month only one animal survived, for 15 had died of general tuberculosis, 3 had been killed for examination, and one had died from other causes Of the specifically treated batches S1 and S2, not a single animal had died of tuberculosis at the end of eight months, four animals in S1 died of other causes, and two were killed, in S2 four were killed The experiment is being continued, but the author considers that the results are so far sufficiently striking to ascribe an undoubtedly curative effect to the specific serum

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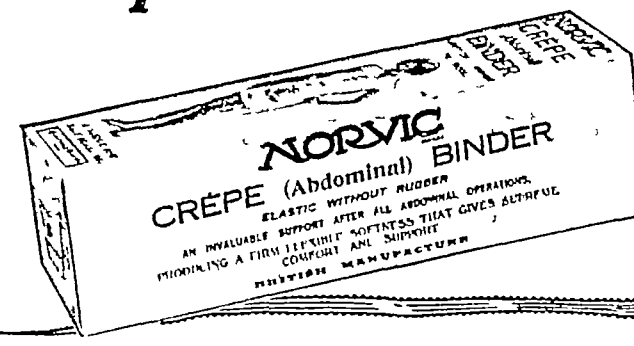
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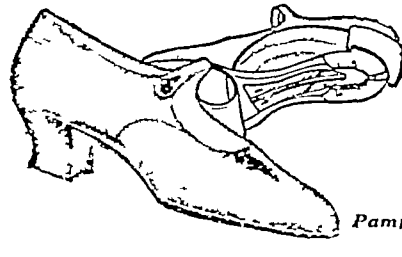
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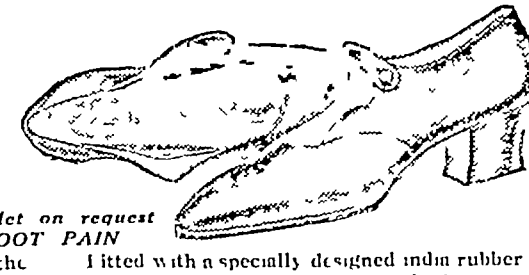
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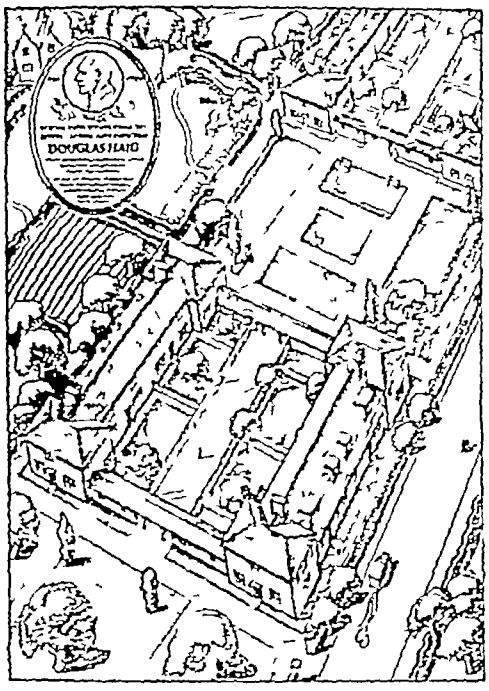
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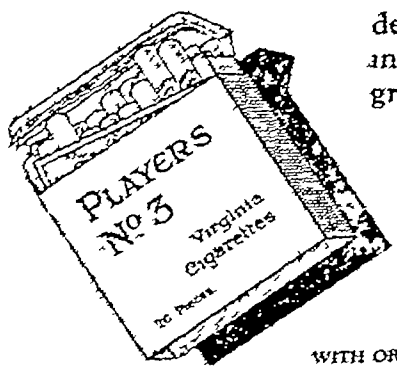
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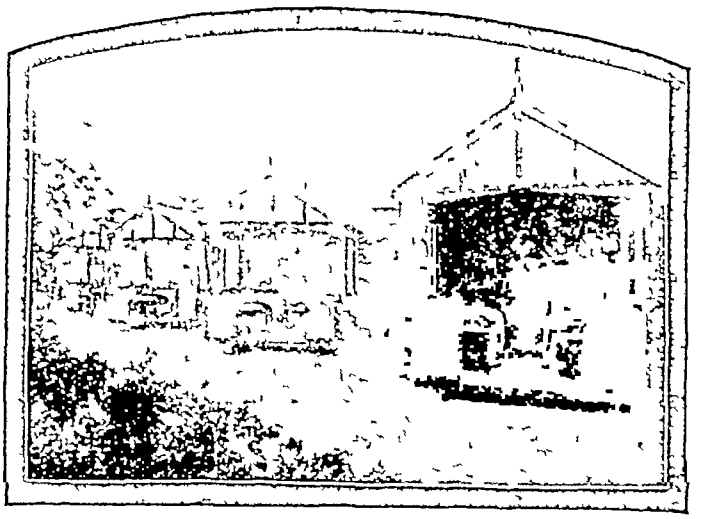
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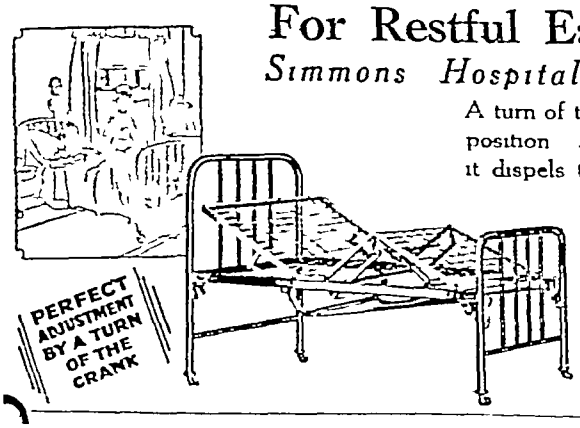
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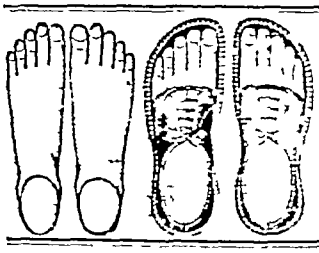


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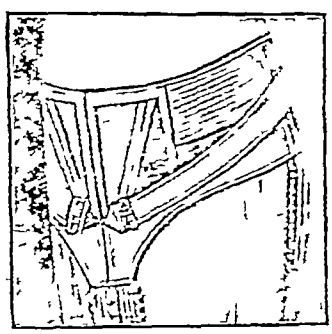
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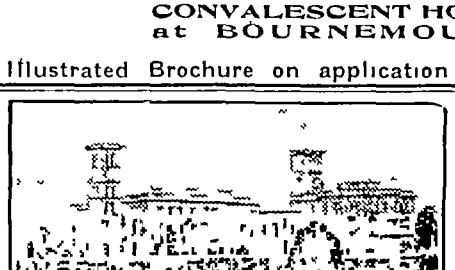
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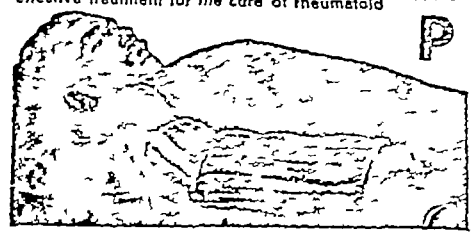
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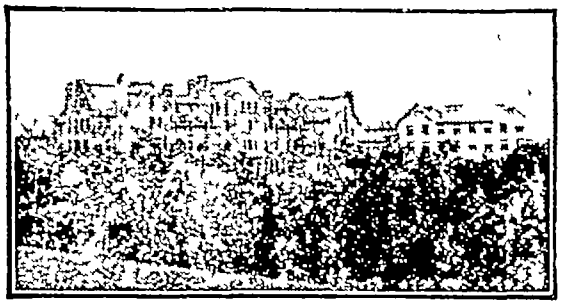
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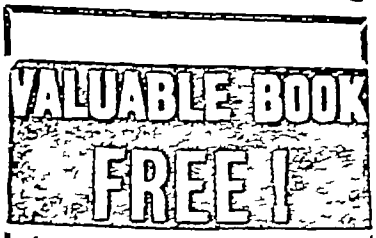
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COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 15th and April 23rd (Candidates for the D T H must possess the D T M of this University)

For particulars apply to the Hon Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool

TAUNTON SCHOOL,

TAUNTON

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M B *Examination University Scholarships* in Chemistry, Biology etc

Special facilities are offered for the teaching of Chemistry Physics Botany and Zoology

New Science Buildings containing seven laboratories two lecture rooms science library store rooms etc. opened in September, 1925 Prospectus from Head Master

GUY'S HOSPITAL MEDICAL SCHOOL.

FINAL F R C S COURSE

SEPTEMBER NOVEMBER 1930

The above Course will commence on Friday September 5th It is regretted that no further applications can be received, as all the vacancies have now been allotted

T B JOHNSTON, Dean

July 9th 1930

PREPARATORY SCHOOL for GIRLS

Sound modern education and healthy home life at moderate cost offered by preparatory school for daughters of professional men Ages 5 to 14 years South Coast. Medical references Arrangements for holidays if required —Apply Miss LAWRENCE, The Haven School Parkstone Dorset.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London)

Tropical Medicine and Hygiene

The School provides two courses yearly, each of 22 weeks The Autumn Course commences on September 30th, 1930, and the Spring Course on February 2nd, 1931 Composition fee, to include hire of Microscope, etc, £34 5s

Diploma in Public Health

The next course of study, covering a period of twelve months, commences on September 29th, 1930 and is so designed that Students wishing to do so can proceed to the New Academic Diploma instituted by the University of London The composition fee of 54 guineas covers the cost of the necessary practical work and instruction in Infectious Diseases, etc

Diploma in Bacteriology

The course of study, covering one academic year, commences early in October Composition fee £47 15s

Epidemiology and Vital Statistics

Special three-monthly advanced courses Composition fee £7 7s

Applications for Prospectuses and for other information should be addressed to the Secretary, Keppel St (Gower Street), London, W C 1

ST MARY'S HOSPITAL MEDICAL SCHOOL, W 2

(University of London)

The WINTER SESSION will begin on Wednesday, October 1st, 1930

The Medical School provides courses in Preliminary Intermediate and Final Subjects and Students can join at once after matriculation

SITUATION—Between a large population providing clinical material, and one of the best residential districts thus enabling students to live in close proximity to their work.

CLINICAL UNITS IN MEDICINE AND SURGERY — Certain members of the Medical and Surgical staff devote their whole time to teaching and research

NEARLY 1 000 beds available for teaching additional clinical material being provided by affiliation to an Infirmary and other Institutions

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1 400 are awarded annually

APPOINTMENTS varying in value up to £750 per annum open to students after qualification

For further particulars and illustrated prospectus apply to the School Secretary

C M WILSON (*M C*) M D F R C P

Dean

University of Aberdeen and ABERDEEN ROYAL INFIRMARY

McROBERT LECTURER IN MALIGNANT DISEASE and RADIUM OFFICER AT THE ABERDEEN ROYAL INFIRMARY

The University Court will shortly proceed to the appointment of a McRobert Lecturer in Malignant Disease

Applicants should be Medical Graduates with experience of the use of Radium in the treatment of Malignant Disease The duties of the Lecturer will include those of Radium Officer of the Aberdeen National Radium Centre at the Aberdeen Royal Infirmary, and also instruction and research in the treatment of malignant disease by radium therapy The Lecturer will be expected to devote part of his time to experimental investigation of malignant disease

The salary proposed is £800

Applications should be lodged with the undersigned

H J BUTCHART, Secretary

The University Aberdeen

LONDON HOSPITAL MEDICAL COLLEGE.

F R C S

A COURSE OF INSTRUCTION for the Final Fellowship Examination will begin on Monday, September 1st

Fees (exclusive of Operative Surgery) 20 guineas Operative Surgery 5 guineas

A separate entry can be made for all Classes other than those of a strictly Clinical character (*Men students only are eligible for admission*)

Further particulars may be obtained from Professor WILLIAM WRIGHT M B, D Sc F R C S Dean London Hospital Medical College Mile End E 1

LONDON HOSPITAL MEDICAL COLLEGE.

Primary Fellowship Examination

A COURSE OF INSTRUCTION for the above Examination will begin on Monday, September 1st The fee for the Course is 15 guineas.

Further particulars may be obtained from Professor WILLIAM WRIGHT M B D Sc F R C S Dean Mile End E 1

ST BARTHOLOMEW'S HOSPITAL MEDICAL COLLEGE

Final F R C S Class

A Course of instruction, suitable to the requirements of candidates for the Final F R C S Examination in November, will begin on September 4th, 1930

For syllabus and full particulars apply to the DEAN, *Medical College, St Bartholomew's Hospital* London E C 1

MARLBOROUGH COLLEGE,

Near MACCLESFIELD

Specialises in

CAREERS FOR GIRLS

List and Prospectus from Principal

Special Terms to Medical Men

F R C S (Edin)

CLASSES with Museum and Anatomical Demonstrations, for next Exam will commence shortly Correspondence work at any time Particulars from CHAS WHITTAKER F R C S Surgeons Hall Edinburgh

The University of Liverpool

SAMUEL TURNER RESEARCH FELLOWSHIP

The University invites applications for the post of Samuel Turner Research Fellow

The Fellow will be required to conduct research into Cancer and the pathology of growth in the first instance by the technique of tissue culture

The appointment which is a full time one will be in the first instance for three years, at a salary of £600 per annum Applications (of which ten typewritten copies should be forwarded to the Registrar The University of Liverpool not later than Sept 30th 1930) should contain a statement of the candidate's experience of pathological research work and tissue culture technique, and should be accompanied by not more than three testimonials and the names of three referees

EDWARD CAREY Registrar

London School of Hygiene and TROPICAL MEDICINE

(University of London)

RESEARCH STUDENTSHIPS

(1) In ENTOMOLOGY

(2) In PROTOZOOLOGY

Applications are invited for two vacant Research Studentships in Entomology and in Protozoology tenable at the above School from October 1st 1930

The Studentships are each of the value of £250 a year, and will be held normally for a period of three years.

Applications should be addressed to the Secretary of the School Keppel Street London W C 1 (from whom further particulars can be obtained) and should be received not later than September 1st

Tutor, familiar with exam, wanted for Primary Fellowship, mainly correspondence Two anxious to meet another man share expenses tutor and read together Reading first time — Write particulars, McMILLAN, 36, Elgin Avenue W 9

1930 A No 028

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
MR. JUSTICE BENNETT

IN THE MATTER OF APNEUGENE LIMITED
and
IN THE MATTER OF THE COMPANIES ACT 1929

NOTICE IS HEREBY GIVEN that a Petition was on th 27th day of May 1930 presented to His Majesty's High Court of Justice by the above named Company to confirm an alteration of the said Company's objects proposed to be effected by a Special Resolution of the Company duly passed in accordance with S 5 of the Companies Act 1929 at an Extraordinary General Meeting of the said Company held on th 22nd day of April 1930 and which Resolution runs as follows —

That the objects of the Company as set forth in clause 3 of the Memorandum of Association of the Company dated the 6th day of May 1924 be altered and/or extended as follows—i.e. That paragraph (b) to (J) inclusive be deleted and that the following paragraphs be substituted therefor

(b) To so conduct the same and the Company's business generally

(I) That the activities of the Company shall be governed by the Ethics of the Medical Profession and that the Company shall have no power to advertise otherwise than in the recognized publications of the Medical Profession nor to do any acts or things either directly or indirectly such as might render any registered Medical Practitioner associated with the Company liable to be struck off the *Medical Register* or to the censure of the General Medical Council as set forth in the Warning Notices issued by that Council.

(II) That any medical treatment provided by the Company shall be at all times rendered under the immediate and direct supervision and control of a registered Medical Practitioner who shall at all times be fully responsible therefor

"(III) That the relations between any registered Medical Practitioners associated with the Company and registered Medical Practitioners in private practice shall at all times conform to the usual Ethical procedure prevailing between consultant and private practitioners."

AND NOTICE IS FURTHER GIVEN that the said Petition is directed to be heard before the Honourable Mr Justice Eve at the Royal Courts of Justice Strand London on Tuesday the 29th day of July 1930 and any person interested in the said Company whether as creditor or otherwise desirous to oppose the making of an order for the confirmation of the said alteration under the above Act should appear at the time of the hearing by him or his Counsel, for the purpose, and is required to give two clear days previous notice in writing of his intention to appear with grounds of his objection to the undersigned the Solicitors for the said Company A copy of the said Petition will be furnished to any such person requiring the same by the undersigned on payment of the regulated charge for the same

Dated the 15 h day of July 1930

STONEHAM & SONS
108a Cannon Street London E.C 4
Solicitors for the Company

City of Birmingham

PUBLIC HEALTH DEPARTMENT

TUBERCULOSIS SECTION

Applications are invited from single male Medical Practitioners for the post of ASSISTANT MEDICAL OFFICER The successful candidate will be employed both in a Sanatorium and in a Dispensary

The salary attached to the appointment is at the rate of £350 per annum with board residence laundry and attendance valued at £150 per annum The officer appointed will be required to pay to the Council all fees allowances and emoluments (other than the foregoing) received by him

Further particulars of the appointment and forms of application may be obtained from the Chief Clinical Tuberculosis Officer 44a Broad Street Birmingham to whom applications stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded no later than July 29th

The Council House F H C WILTSHIRE
Birmingham Town Clerk

Liverpool Heart Hospital

JUNIOR PHYSICIAN (male or female) wanted immediately Salary £52 per annum with board and residence Applications to Miss LEWIS Secretary 14 Cook Street Liverpool

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

Lawrence Research Studentship

The President and Council of the Royal Society are prepared to receive applications for a LAWRENCE RESEARCH STUDENTSHIP to be awarded for one year under the terms of the Lawrence Trust In accordance with the studentship will be awarded for research in some subject related to the cause and cure of disease in man and animals The sum available from the Lawrence Fund will be no more than £200 but the Council will be prepared in suitable cases to consider award to the holder of a stipend from some other source or to provide a supplement from some other appropriate trust fund provided that in any case the holder shall devote the whole of his time to research in the subject presented and that the total emolument for that purpose from all sources shall not exceed £350 per annum

Forms of application must be received not later than October 11th and may be obtained from the Assistant Secretary of the Royal Society Burlington House London W 1

County Borough of Southend-on-Sea

ASSISTANT MEDICAL OFFICER OF HEALTH (Male)

Applications are invited for appointment as Assistant Medical Officer in the Council's Public Health Department at a salary of £600 per annum with annual increments of £25 to a maximum of £700 per annum less deductions under the Local Government and Other Officers Superannuation Act. The candidate appointed will be required to assist the Medical Officer of Health who is also School Medical Officer in the general work of the Public Health Department including the Council's Hospitals the Tuberculosis Dispensary and the Venereal Diseases Treatment Clinic but his main duties will be in connection with the School Medical Service

Applications on forms to be obtained from the Medical Officer of Health, Public Health Office Clarence Street Southend-on Sea, should be returned to him with copies of three testimonials on or before Saturday August 2nd.

Town Clerk's Office H J WORWOOD
Municipal Buildings Town Clerk
Southend-on Sea July 11th, 1930

Lindsey County Council

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

Applications are invited for the post of Assistant County Medical Officer of Health

The person appointed will be required to act as an Assistant Tuberculosis Officer and School Medical Inspector He will also be required to take charge of a Venereal Disease Clinic and act as Medical Officer to a Tuberculosis Hospital of 12 beds

The appointment will be made in accordance with the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations 1930

The salary will be at the rate of £600 rising by annual increments of £25 to £700 with an allowance for travelling on the County Council's scale

Particulars of appointment and forms of application may be obtained from the undersigned Applications to be received no later than July 24th.

W S H. CAMPBELL,
Public Health Dept County Medical
County Council Offices, Officer of Health
Newland Lincoln July 9th 1930

Royal Infirmary, Blackburn

(240 Beds—Five Residents.)

RESIDENT HOUSE PHYSICIAN (male) required at a salary of £175 per annum with board residence laundry etc. In addition to Medical Wards to be attached to Eye, Ear Nose and Throat Department. To commence duties as early as possible

Applications with copies of testimonials stating age nationality experience etc. to be sent at once to the undersigned

Royal Infirmary NATHAN A SMITH
Blackburn Gen Supt & Sec.

This Institution is recognized for the Surgical Practice required for the F.R.C.S. Final Examination.

County Borough of Sunderland

EDUCATION COMMITTEE

The Committee invites applications from registered Medical Practitioners (women) for the post of whole-time ASSISTANT SCHOOL MEDICAL OFFICER. Commencing salary £250 per annum advancing by £25 per annum to £700

Candidates must have had not less than three years professional experience subsequent to registration The duties will primarily be the School Medical Service, and experience in some of the following matters will be considered of special importance —School Clinic examination and certification of defective children epileptic children orthopaedic work, and the prescription of glasses for errors of refraction

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and the selected candidate will be required to pass a medical examination

Applications are to be made on forms obtainable from the undersigned, by whom they must be received endorsed "Assistant School Medical Officer" and accompanied by copies of three recent testimonials not later than Tuesday July 29th

Canvassing will be a disqualification

Education Offices HERBERT REED
15 John Street Chief Education
Sunderland Officer
July 8th, 1930

City of Leeds

ASSISTANT CLINICAL TUBERCULOSIS OFFICER

Applications are invited for the post of Assistant Clinical Tuberculosis Officer Applicants should be duly qualified and registered Medical Practitioners and must have had not less than three years Post-Graduate experience, including experience in general medicine surgery and radiology and in the treatment of tuberculosis at a dispensary and in a hospital sanatorium or other institution reserved for such cases. The possession of a D P H, though not essential would be considered an additional qualification The salary will be £500 rising by annual increments of £25 to a maximum of £700 per annum.

The person appointed will be required to pass a medical examination and to contribute to the Superannuation Fund established under the Local Government and Other Officers Superannuation Act 1922. Form of application may be obtained from the Medical Officer of Health, 12 Market Buildings Vicar Lane, Leeds

Applications endorsed "Tuberculosis Officer" together with copies of not more than three recent testimonials must be delivered at my office 26 Great George Street, Leeds not later than the first post on Friday July 25th.

THOS THORNTON
Leeds Town Clerk

County Borough of Croydon

PUBLIC ASSISTANCE DEPARTMENT

APPOINTMENT OF RESIDENT ASSISTANT MEDICAL OFFICER (Male)

The Council invite applications for the above appointment at their MAYDAY ROAD HOSPITAL

Candidates must have held a resident Hospital appointment and be experienced in anaesthetics. The duties will include occasional visiting of the Council's Homes Any further particulars may be obtained from the Medical Superintendent.

Salary £300 per annum with full residential emoluments valued at £140

Application forms may be obtained of the undersigned, and should be returned completed together with copies of three recent testimonials not later than the first post on Thursday July 24th

Public Assistance JOHN M NEWNHAM
Offices Mayday Road Town Clerk
Thornton Heath. July 8th, 1930

Middlesex County Council

RADIOLOGIST (part-time) required for X-Ray work and Deep Therapy treatment in connection with the Radium Department at the NORTH MIDDLESEX HOSPITAL, Silver Street Edmonton N 18

Candidates must be legally qualified in Medicine, and possess special qualifications and experience in Radiology Apparatus comprises new installation with Ken tron Valve Transformers and Philips Metalix Tube working a 600 k.v. Hours of duty—one session of three hours' duration twice weekly Remuneration £3 3s per session Apply on forms obtainable by sending stamped addressed foolscap envelope to Surgical Director Canvassing will be disqualification.

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H M's Indian Medical Service The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service In other respects the terms will be as detailed below

Candidates must be British subjects under 32 years of age at the time of application, and must be registered under the Medical Acts in force in Great Britain and Northern Ireland

CAREERS

The Indian Medical Service offers wide opportunities of medical experience, including clinical, preventive, specialist, and research work At the beginning of his career an officer is employed on the military side, which has medical charge of the Indian Army Promotion is on a time scale up to the rank of Lieutenant-Colonel, and by selection to the ranks of Colonel and Major-General An officer may apply after two years' Indian service to have his name registered for transfer to the civil side, from which appointments are made to Civil Surgeoncies, which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes, to specialist (for example, public health and bacteriological) services, to research posts, and to professorships at the Medical Schools

PAY

The monthly rates of pay for European officers in the Service who have a "non-Asiatic" domicile are as follows

Rank	Service in Rank.	Basic Pay	Overseas Pay	Year of Total Service
1	2	3	4	5
		Rs	Rs	
			150	1st
Lieut		500	150	2nd
			150	3rd
			150	4th
Capt.	(i) During first 3 years service as Captain	650	£15	5th
			£15	6th
			£25	7th
	(ii) With more than 3 and less than 6 yrs service as Captain	750	£25	8th
			£25	9th
			£25	10th
	(iii) With more than 6 years service as Captain	850	£25	11th
			£30	12th
Major	(i) During first 3 years service as Major	900		
	(ii) With more than 3 and less than 6 years service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut Col	(i) Until completion of 23 years total service	1500	£30	13th and over
	(ii) During 24th and 25th years service	1600		
	(iii) After completion of 25 years total service	1700		
	(iv) When selected for increased pay	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer, may be counted as service for increments of pay promotion retirement and retired pay, but not for gratuity

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions Past service in certain hospital appointments may also render candidates eligible for an antedate of one year Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year The maximum period of antedate, secondment or antedate and secondment combined, admissible under this paragraph, is limited to one year

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50

PRIVATE PRACTICE

With the exception of Administrative Officers, military or civil, and officers holding certain special appointments, officers are not debarred from taking private practice, so long as it does not interfere with their proper duties

PENSIONS.

The rates of pension are as follows	Per annum.
	£
After 17 years' service for pension	400
,, 18 ,, ,, ,,	430
,, 19 ,, ,, ,,	460
,, 20 ,, ,, ,,	500
,, 21 ,, ,, ,,	540
,, 22 ,, ,, ,,	580
,, 23 ,, ,, ,,	620
,, 24 ,, ,, ,,	660
,, 25 ,, ,, ,,	700
,, 26 ,, ,, ,,	750
,, 27 ,, ,, ,,	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent in all the revision being undertaken triennially With effect from July 1st, 1927, a reduction of 4½ per cent has been made on this account from the amounts shown

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments

PASSAGES

An officer on appointment is provided with a free passage to India The wives and families of officers who are married prior to the date of the officers embarkation on first appointment will also be provided with free passage to India, subject to the payment of messing charges

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot, lasting approximately six months prior to their embarkation for India on first appointment

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S W 1 The Selection Committee will meet at the India Office in July, and the selected candidates will be required to join a course of instruction commencing early in August, 1930 Applications should be submitted as soon as possible

EAST AFRICAN MEDICAL SERVICE.

VACANCIES at present exist for MEDICAL OFFICERS in the EAST AFRICAN MEDICAL SERVICE

Qualifications—Candidates must be British subjects of European parentage and under 35 years of age They must possess a double qualification and be on the British Medical Register Preference will be given to candidates who have held Hospital or Public Health appointments or who have special knowledge of anaesthetics radiology surgery medicine ophthalmology, gynaecology and midwifery, diseases of the ear nose and throat, venereal diseases etc

Salary—£600 per annum rising by annual increments of £30 to £840 per annum and thence subject to an efficiency bar, by £40 to £920 per annum

Quarters—Free quarters are provided or an allowance is given in lieu

Passages—Free first-class passages are provided both on first appointment and when proceeding on or returning from leave A married officer will be granted an allowance towards the cost of his family s passage once each way in respect of each tour of service

Terms of Appointment—The appointments are pensionable subject to a probationary period of two years in the first instance

Length of Tour of Service—The normal tour of service is 20 to 30 months after which leave is granted, with full salary for 2½ to 3½ days according to the districts in which the officer has served, for each month of service plus the period of the voyage to England If the officer is returning to East Africa for further service he receives a further similar amount of leave plus the period of the voyage to East Africa

Course of Instruction in Tropical Medicine—Selected candidates will normally be required to undergo a course of instruction in Tropical Medicine and Hygiene before proceeding overseas

Duties—Though Medical Officers are appointed in the first instance for general service there are good opportunities for work in special branches of medicine and surgery and for research

Further particulars and forms of application may be obtained on application in writing, from the Private Secretary (Appointments) Colonial Office, 2 Richmond Terrace Whitehall, London, S W 1

County Borough of Doncaster

PUBLIC HEALTH DEPARTMENT

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

Applications for the above position are invited from duly qualified Medical Practitioners (male) not exceeding 40 years of age

Applicants must be medical men holding a special qualification in State Medicine or a Diploma in Public Health and must have had three years experience of the practice of medicine since obtaining their medical qualification

Preference will be given to applicants who—

(1) Have had some definite experience of school medical work
(2) Have enjoyed special opportunities for the study of diseases in children
(3) Have had experience in infectious diseases
(4) Have held one or more resident hospital appointments

The person appointed will be required to devote the whole of his time to the duties of the office

The salary will be £600 per annum rising by £25 to £700

Application stating age experience qualification and whether married or single accompanied by copies of three recent testimonials should be forwarded so as to reach me not later than August 1st

D LECHMERE ANDERSON
Public Health Office, Medical Officer of Health
Wood Street, Doncaster

Princess Louise Kensington Hospital for Children

North Kensington (60 Beds)

HOUSE SURGEON (woman) required for six months from August 1st The House Surgeon's salary is at the rate of £75 a year should she at the expiration of three months be appointed Senior Resident (of two) the salary would be at the rate of £100 a year with board residence and laundry in each case Applications together with copies of three testimonials must be submitted on a form to be obtained from the Secretary Princess Louise Kensington Hospital for Children 8a Quintin Avenue W 10. Applications must reach the Secretary not later than Wednesday July 23rd

Bristol Royal Infirmary

Applications are invited for the following resident appointments for the six months commencing September 1st

2 HOUSE PHYSICIANS
4 HOUSE SURGEONS
1 HOUSE PHYSICIAN TO THE CANCER RESEARCH DEPARTMENT
1 HOUSE SURGEON TO THE EAR NOSE AND THROAT DEPARTMENT
1 HOUSE SURGEON TO THE GYNAECOLOGICAL AND OPHTHALMIC DEPARTMENTS
1 OBSTETRIC HOUSE PHYSICIAN
1 CASUALTY OFFICER
1 ASSISTANT HOUSE LOGICAL

Salaries at the rate of £60 per annum with board apartments, and laundry except in the case of the Casualty House Surgeon when the salary will be at the rate of £80 per annum with board apartments and laundry

1 DENTAL HOUSE SURGEON

If resident salary at the rate of £80 per annum but if non resident salary at the rate of £116 per annum with board

Candidates who must be duly qualified to send in their applications stating age together with copies of no more than three testimonials to the undersigned on or before Monday July 28th

ELLIS C SMITH F C I S
Secretary and House Governor

Leicester Royal Infirmary

CASUALTY HOUSE SURGEON

A vacancy has arisen for a Casualty House Surgeon Applicants must have held a resident Hospital post or had similar experience in Hospital work Salary at the rate of £125 per annum for a six months appointment. Applications to the House Governor and Secretary

July 7th 1930

Leeds Public Dispensary

Wanted JUNIOR RESIDENT MEDICAL OFFICER Salary £150 per annum, with board, residence and four shillings weekly for laundry Separate sitting room Applications with copies of three recent testimonials to be addressed to the Secretary of the Faculty Public Dispensary North Street Leeds

Cardiff Royal Infirmary

(Associated with the Welsh National School of Medicine.)

Applications are invited for the post of HOUSE SURGEON TO THE OPHTHALMIC DEPARTMENT of the above Institution The post is tenable for six months but may be extended for a further six months This post is open to ladies

Salary is at the rate of £75 per annum with board residence Candidates must have experience of refraction

Application forms may be obtained from the undersigned and should be returned completed with copies of recent testimonial at the earliest possible date as the appointment commences immediately

R ARMSTRONG
July 8th 1930 Medical Superintendent

The Gloucestershire Royal Infirmary and Eye Institution Gloucester.

(153 Beds.)

Applications are invited for the post of RESIDENT SURGICAL OFFICER Good opportunity for practical surgery Salary £175 per annum with board residence and laundry Also for HOUSE PHYSICIAN salary £135 per annum. There are four residents.

The appointments are for six months which may be extended for similar periods by re-election from time to time

Applications stating age qualification and nationality with copies of not less than three recent testimonials should be sent to the undersigned at once

F J SYMONS
Secretary

July 3rd 1930

Merthyr General Hospital, Merthyr Tydfil.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital (male) for a period of six months. Salary at the rate of £150 per annum with board rooms and laundry

Applicants must have had experience in administration of anaesthetics.

Applications stating ages and qualifications and enclosing copies (only) of not more than three testimonials should be addressed Hon Secretary Hon Medical Staff, Merthyr General Hospital.

Dudley Road Hospital, BIRMINGHAM

JUNIOR ASSISTANT MEDICAL OFFICERS (MALE)

Applications are invited from fully qualified *Medical Practitioners for appointments as Junior* Assistant Medical Officers (male) at the Dudley Road Hospital, Birmingham

The Hospital accommodation is fixed at 926 beds divided into Medical, Surgical, Children's Infectious, Maternity, Gynaecological, and Obstetrical Sections. There are completely equipped Pathological and Biochemical Laboratories, Deep Therapy, X-ray, Electrical, Massage, Sunlight, and Dental Departments. Approximately 5 000 operations are performed annually

The appointments will be for a period of six months in the first instance but may be extended at the end of that period

The persons appointed will be required to assist at operations, to administer anaesthetics and undertake casualty work and such other duties as may be assigned to them by the Medical Superintendent

The salaries attached to the appointments will be at the rate of £200 per annum together with full residential emoluments (rations, apartments, laundry and attendance)

The officer appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by him

Further particulars of the appointments may be obtained from the Medical Superintendent F W ELLIS, Esq, M D, F R C S, Dudley Road Hospital, Birmingham, to whom applications, stating age, experience, and qualifications accompanied by copies of recent testimonials should be forwarded so as to reach me not later than Thursday July 24th

F H C WILTSHIRE
Town Clerk

The Council House,
Birmingham

Altrincham General Hospital, CHESHIRE (100 Beds)

Applications are invited for the post of SENIOR HOUSE SURGEON Salary £150 per annum, with board residence, and laundry Also JUNIOR HOUSE SURGEON Salary £120 per annum with board, residence and laundry The appointments are for six months in the first instance

Applications stating age and experience together with copies of recent testimonials, to be sent to Mr WILLIAM MOODY, Secretary, 31, Market Street, Altrincham

Aberystwyth Infirmary and CARDIGANSHIRE GENERAL HOSPITAL

HOUSE SURGEON required (male) Salary £200 per annum, with board residence, and laundry

Candidates must be fully qualified and registered Experience in Anaesthetic and X-ray work essential

Applications, stating age and qualifications together with three recent testimonials to be sent by July 29th to the Secretary The Infirmary Aberystwyth

Duties to commence September 1st

Ancoats Hospital, Manchester

HOUSE PHYSICIAN required to commence duty on September 1st next Appointment for six months Salary at the rate of £100 per annum with board apartments and laundry

Applications stating age qualifications experience if any and full particulars to be forwarded to the undersigned on or before August 1st together with copies of three recent testimonials

By Order of the Board
HERBERT J DARFORNE
Gen Supt & Secretary

Coventry and Warwickshire HOSPITAL COVENTRY (307 Beds)

RESIDENT ASSISTANT HOUSE SURGEON (male) wanted Salary £125 per annum Board laundry and attendance provided Candidates must be duly qualified and registered

Applications stating age and enclosing copies of two testimonials should be sent to the undersigned on or before July 30th

(Mrs) I HOOPER
Secretary

Lowestoft and North Suffolk HOSPITAL LOWESTOFT

JUNIOR HOUSE SURGEON (male) required Salary £120 per annum with board residence and laundry Duties to commence in August Applications together with copies of three testimonials to be sent to the Honorary Medical Superintendent

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

Chesterfield and North Derbyshire ROYAL HOSPITAL (190 Surgical and Medical Beds.)

HOUSE SURGEONS

Applications are invited from fully qualified men for the above posts, which become vacant on July 31st

The appointments are for six months

Salary is from £100 to £175 per annum according to experience, with board, apartments, and laundry

Applications stating age, together with copies of three recent testimonials should be sent to the undersigned without delay

G SUNNUCK,
Supt and Secretary

July 8th, 1930

City of London Hospital for DISEASES OF THE HEART & LUNGS, Victoria Park, E 2

(Bus Tram and Rail Cambridge Heath, L & N E Railway)

A vacancy for a HOUSE PHYSICIAN (male) will occur on September 1st Six months appointment Salary at the rate of £100 per annum Board residence and laundry provided

Applications with copies of (three) testimonials should be sent to the undersigned on or before Monday August 18th

GEORGE WATTS Secretary

Lincoln County Hospital

Wanted a JUNIOR HOUSE SURGEON male unmarried Salary at the rate of £150 per annum rising to £200 per annum at the conclusion of six months approved service

Every candidate for the appointment must be registered under the Medical Acts

Applications stating age and other particulars with copies of testimonials (not more than three) are to be sent to the undersigned from whom further particulars may be obtained

Lincoln ARTHUR MOORE
June 30th 1930 Secretary Superintendent

Jewish Maternity Hospital, Underwood Street Vallance Road, E 1 (34 Beds)

A RESIDENT MEDICAL OFFICER is required for the above Institution Appointment is for six months commencing September 1st Salary at the rate of £50 per annum Application together with copies of three testimonials to be sent to the undersigned not later than July 28th

ALICE MODEL
Hon Organising Secretary

Kent and Canterbury Hospital, CANTERBURY

HOUSE SURGEON required to commence duties on August 1st. Six months appointment Salary at the rate of £125 per annum, plus board residence etc

Applications accompanied by copies of three testimonials should be forwarded to the undersigned by an early post

W T SOUTHWOOD
Supt & Secretary

Eccles and Patricroft Hospital (62 Beds)

Wanted immediately SENIOR RESIDENT MEDICAL OFFICER six or twelve months engagement Commencing salary £175 £200 Also JUNIOR RESIDENT MEDICAL OFFICER (or House Surgeon) Commencing salary £125 £150 Board residence etc Apply with references, to Secretary Eccles and Patricroft Hospital *Patricroft Manchester*

Margate and District New GENERAL HOSPITAL. (80 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) to commence duties as soon as possible

Salary £125 per annum with board and laundry

Applications accompanied by copies of testimonials should be sent to the Secretary, Margate General Hospital as early as possible

North Ormesby Hospital, MIDDLESBROUGH (140 Beds.)

HOUSE PHYSICIAN required (male and unmarried) Salary £120 per annum with board residence, and laundry There are three residents and the successful candidate will be eligible for the post of House Surgeon in due course

Applications stating age qualifications previous experience (if any) with copies of three recent testimonials should be sent to the undersigned at once.

GEORGE WATTS
Secretary Superintendent

Peterborough and District MEMORIAL HOSPITAL (154 Beds)

TWO RESIDENT HOUSE SURGEONS required

Applications are invited from fully qualified male Practitioners for above posts

Salary £135 per annum, with board, residence and laundry

Appointments will be for a minimum period of six months

Applications, stating age qualifications and experience with copies of recent testimonials to be sent to the undersigned from whom further particulars may be obtained

FRANK A C TAYLOR,
Secretary Superintendent

Oldham Royal Infirmary

TWO HOUSE SURGEONS required immediately one for Male Wards and one for Out Patient and Special Departments Appointments tenable until December 31st Successful applicants will be eligible for reappointment Salary at the rate of £175 per annum with board residence and laundry Applications to be submitted forthwith together with copies of three recent testimonials to the undersigned

CHARLES D DRAKE
General Superintendent

Victoria Hospital for Sick CHILDREN, HULL (Incorporated)

RESIDENT HOUSE PHYSICIAN (Lady) required experience in laboratory work desirable Salary £80 per annum

Applications (with copies of recent testimonials) stating age qualifications and other particulars to be sent to the Secretary of the above Institution

King George Hospital, Ilford

Applications are invited for the appointment of HONORARY DERMATOLOGIST to the Hospital Further information may be obtained from the undersigned to whom applications should be sent not later than July 28th

G AUSTIN HEPWORTH Secretary

King George Hospital, Ilford (8 miles from London)

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER Salary £200 per annum, with board residence etc Term—12 months, with eligibility for further period Previous Hospital experience essential Preference given to candidates who are Fellows of a Royal College of Surgeons Vacancy as from September 1st Applications should be sent to the Secretary

Newark General Hospital (50 Beds)

Wanted a fully qualified RESIDENT HOUSE SURGEON (male or female unmarried) Salary £175 per annum with board residence and laundry Appointment for six months or twelve if mutually desired For form of application apply to W T CRAMPTON, 27 Kirk Gate, Newark Notts

Nottingham and Midland Eye INFIRMARY

RESIDENT HOUSE SURGEON required about the end of August 40 beds, large Out patient Department Salary £200 per annum with board and laundry Applicants (gentlemen) should state age, qualifications experience and send copies of three recent testimonials to the Secretary The Ropewalk Nottingham

Royal Cornwall Infirmary, TRURO (84 Beds)

HOUSE SURGEON (male) required with experience of Anaesthetics. Salary £170 per annum rooms board and washing Apply, with copies of three recent testimonials to the Secretary of whom further particulars may be obtained

Evelina Hospital for Children,
Southwark S.E.

The Committee of Management requires a CASUALTY AND OUTPATIENT OFFICER (male) resident for six months from August 12th. Salary at £120 a year with board and residence. Hours on duty from 9.30 a.m. to 5.30 p.m. daily from Monday to Friday inclusive but on Saturday until 2 p.m. no Sunday duty. Candidates (duly registered) to send application giving age and qualifications (with dates) and copies of testimonials to the undersigned at the Hospital before 28th inst.

Applicants will be informed if they will be interviewed by the Medical Committee. Selected candidates must attend Committee of Management. Time and place of Meeting will be notified by the undersigned from whom rules and other particulars relating to the post must be obtained.

By Order of the Committee of Management
H. C. S. SMITH
July 7th 1930 Secretary Superintendent

Evelina Hospital for Children,
Southwark S.E.1

The Committee of Management requires a HOUSE SURGEON (male) for six months from August 12th (during first two months duty in Casualty and Out-patient Department). Salary £120 per annum with board and residence. Candidates duly registered to send application giving age qualifications (with dates) and copies of four testimonials to the undersigned at the Hospital before July 28th. Applicants will be informed if they will be interviewed by the Medical Committee. Selected candidates must attend Committee of Management. Date of meeting will be notified by the undersigned from whom rules and other particulars relating to the post must be obtained.

By Order of the Committee of Management
H. C. S. SMITH
July 7th 1930 Secretary Superintendent

Preston and County of Lancaster
ROYAL INFIRMARY

Applications are invited from gentlemen duly qualified and registered unmarried and of British nationality for the post of HOUSE SURGEON (under Consulting Surgeon).

Salary £150 per annum with board residence and laundry.

Application stating age qualification and training together with copies of recent testimonial to be forwarded to Mr. John Gregson Superintendent and Secretary Royal Infirmary Preston.

Queen's Hospital, Birmingham

Applications are invited for the following posts:

(1) HOUSE SURGEON to the Ear Nose and Throat Department.

(2) [illegible]SURGEON and [illegible] Birmingham Nerve Hospital (Associated with Queen's Hospital).

Appointments for six month.

Salary £70 per annum together with board apartments, and laundry.

Applications and testimonials to be sent to the undersigned at once.

Birmingham C. HURFORD
July 14th 1930 House Governor

Mildmay Mission Hospital,
Austin Street Bethnal Green E.2

Applications are invited for the post of ASSISTANT CASUALTY OFFICER (male) which becomes vacant on Sept. 1st 1930. The appointment is non-resident and for six months. Salary £100 per annum.

Candidates must be registered under the Medical Acts and the Mildmay Council is anxious that they should be fully in sympathy with the religious work of the Hospital.

Applications with copies of recent testimonial should be sent to the Medical Superintendent immediately.

Warrington Infirmary and
DISPENSARY

The Board of Management invite application for the post of JUNIOR HOUSE SURGEON (male unmarried). Vacant owing to promotion of present occupant. Applicants who must be of British nationality must be duly qualified Medical Practitioners.

Salary £175 per annum with board apartments and laundry. Applications stating age with copies of three recent testimonial should be sent in immediately.

By Order
HENRY L. BOOT
Superintendent and Secretary
July 15th 1930

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

Sheffield City Hospitals
INFECTIOUS DISEASES
(538 Beds)

RESIDENT MEDICAL OFFICER (Male)

Applications are invited from duly qualified registered Medical Practitioners with Battersea local experience for the post of Resident Medical Officer.

Salary with three years experience in professional practice £350 with board lodging and washing.

The post is a pensionable one under the Local Government and Other Officers' Superannuation Act 1922 the salary and emoluments being subject to five per cent. deduction.

Application stating age qualifications and present experience with copies of recent testimonial to be sent to the Medical Superintendent Isolation Hospital Sheffield not later than July 22nd.

Rochdale Infirmary and
DISPENSARY
(110 Beds)

Wanted JUNIOR HOUSE SURGEON (male). Salary £175 per annum including board residence and laundry. Applications stating age nationality to-gether with copies of three recent testimonial to be sent to the Secretary endorsed House Surgeon. Conditions of appointment may be had on application to the Secretary.

Infirmary Office W. WYNNE,
Rochdale Lancs. Secretary.

The Royal Liverpool Children's
HOSPITAL.

There will be vacancies on October 1st next for TWO RESIDENT HOUSE PHYSICIANS and TWO RESIDENT HOUSE SURGEONS at the CITY BRANCH Myrtle Street. The appointments will be for a period of six months. Salary in each case at the rate of £100 per annum.

Applications with copies of recent testimonial to be sent to the Secretary Royal Liverpool Children's Hospital Myrtle Street Liverpool on or before Friday July 25th.

The Royal Liverpool Children's
HOSPITAL.

The Committee invite applications from Graduates with previous Hospital experience for the post of RESIDENT MEDICAL OFFICER at the HESWALL BRANCH of the Institution vacant on October 1st next. Salary at the rate of £120 per annum. The appointment will be for a period of six months.

Application with copies of recent testimonial to be sent to the Secretary Royal Liverpool Children's Hospital Myrtle Street Liverpool on or before Friday July 25th.

Haywood Hospital, Burslem

RESIDENT MEDICAL OFFICER required (male or female). Salary £175 per annum with residence board and laundry. Applications stating age qualification nationality to with copies of three recent testimonial to be sent to me not later than July 25th. Duties to commence on August 15th. New Hospital will be opened in October next.

Public Offices F. C. POWELL, F.C.I.S.
Price Street Secretary
Burslem

Haywood Hospital, Burslem

An additional HONORARY OPHTHALMIC SURGEON required. Application stating age and qualifications to be sent to me not later than July 25th.

Public Offices F. C. POWELL, F.C.I.S.
Price Street Secretary
Burslem

Essex County Hospital,
COLCHESTER (160 Bed)

Wanted in August ASSISTANT HOUSE SURGEON AND REGISTRAR (male). Salary £120 with board washing and residence. Medical and Surgical qualifications required.

Application with three recent testimonial to be sent by Friday July 25th to—
ALFRED G. BUCK Secretary

The Willesden General Hospital
(Incorporated) N.W.10
(165 Beds.)

APPOINTMENT OF HOUSE SURGEON AND HOUSE PHYSICIAN

Applications are invited from duly qualified and registered Canadian male graduates for the appointments of Resident House Surgeon and Resident House Physician.

Candidates must be unmarried.

Salary—House Surgeon £110 per annum. House Physician £100 per annum.

Detailed application with copies of testimonials should be sent at once addressed to the Secretary Willesden General Hospital N.W.10.

July 7th 1930

The Willesden General Hospital
(Incorporated) N.W.10
(106 Beds.)

Applications are invited for two clinical Pathologists for appointments as REGISTRARS. Several vacancies exist and a copy of the Regulations governing the appointment can be obtained from the Secretary to whom detailed applications should be addressed not later than Saturday August 30th.

June 30th, 1930

Central London Throat, Nose,
AND EAR HOSPITAL,
Gray's Inn Road W.C.1.

HONORARY ASSISTANT ANAESTHETIST

There is a vacancy in this office. Attendance required at present on Thursdays 9—10 a.m. and on Fridays 2—5.30 p.m.

Further particulars can be obtained from the undersigned to whom application accompanied by copies of not more than three testimonials should be sent not later than July 25th.

JOHN H. YOUNG
Secretary Superintendent.

Stockton and Thornaby Hospital,
STOCKTON-ON-TEES
(140 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about August 1st.

Salary £150 with board residence and laundry. Candidates must be duly qualified, and unmarried.

Applications stating age nationality and experience, together with copies of three recent testimonials to be sent to the undersigned.

J. WILKINSON Secretary.

Swansea General and Eye
HOSPITAL. (316 Beds.)

ASSISTANT PATHOLOGIST wanted full-time (male or female) non-resident. Salary £400 to £500 according to experience. Duties to commence end of September.

Application stating age nationality qualification and experience together with copies of three testimonials to be forwarded to the undersigned.

C. C. HOWELLS Secretary.

The Grosvenor Hospital for
WOMEN Vincent Square S.W.1

Application are invited for the post of RESIDENT MEDICAL OFFICER. The appointment will be for a period of six months (renewable) at a salary of £160 per annum full board etc. included to date from September 1st. Candidate should if at all possible be under signed. Applications stating qualifications age to-gether with copies of three testimonials should be forwarded as early as possible to the undersigned. It will be necessary for applicants to interview members of the medical staff before appointment.

EDWARD DEW Secretary.

The Sheffield Royal Hospital

HOUSE SURGEON to the Ear Nose and Throat Department also RESIDENT ANAESTHETIST required (male). Salary for the first six months at the rate of £60 per annum and for six months at the rate of £100 per annum with board and residence which £100 per annum will be increased to £120 per annum. There are twelve resident medical and laundry. The rooms will be furnished and [illegible]. Applications to be forwarded to the Secretary.

[illegible] H. BOOTH
Superintendent and Secretary.

York County Hospital

The post of RESIDENT ANAESTHETIST AND ASSISTANT HOUSE SURGEON will shortly become vacant. Salary £150 a year with board residence etc. Duties commence August 1st. Application stating age and experience together with copies of not more than three recent testimonials to be sent to the undersigned not later than July 22nd.

Secretary

University of Birmingham

UNIVERSITY CLINICAL BOARD

POST GRADUATE COURSE ON RADIUM THERAPY

A Post Graduate Course on Radium Therapy will be held at the GENERAL HOSPITAL BIRMINGHAM, commencing on Monday, Sept 22nd, and terminating on Saturday, October 4th 1930

The fee for the Course, which will be limited to 30 members, is £5 5s A programme and form of application for admission to the Course may be obtained from the Dean of the Faculty of Medicine, the University, Edmund Street, Birmingham

The King Edward VII Welsh

NATIONAL MEMORIAL ASSOCIATION

Applications are invited for the posts of Half time ASSISTANT TUBERCULOSIS OFFICERS (three in number) to be stationed in the Cardiff, Newport, and Pontypridd areas respectively, and commencing duty on October 1st next

The appointments are limited to one year, and during their tenure successful candidates will be expected to take the Course for the Diploma in Tuberculous Diseases (Wales) at the Tuberculosis Department, Welsh National School of Medicine, and afterwards sit the examination

Applicants must have held a House appointment in Medicine or Surgery for at least six months in a General Hospital, and have served as an Assistant Resident Medical Officer for at least six months in a Tuberculosis Institution

Salary at the rate of £300 per annum

Applications, stating age, qualifications and previous experience, together with copies of three recent testimonials, to be sent to the undersigned not later than July 25th

Memorial Offices, Westgate Street, Cardiff — D A POWELL, Principal Medical Officer

County Borough of Gateshead

CLINICAL TUBERCULOSIS OFFICER AND ASSISTANT MEDICAL OFFICER OF HEALTH

The Council invite applications for the appointment of Clinical Tuberculosis Officer, etc, at a salary of £650 per annum, rising by four annual increments of £25 to £750 per annum A house (unfurnished) is provided free of rent, rates and water The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922, and it may be terminated by either side by one month's notice Candidates must be registered Medical Practitioners, possess a Diploma in Public Health, and be able to furnish evidence of past experience acceptable to the Ministry of Health The person appointed will be required to devote the whole of his time to the duties of the office to act under the direction of the Medical Officer of Health (who is Administrative Tuberculosis Officer) and will be required to undergo on examination as to his physical fitness Applications stating age qualifications and previous experience accompanied by copies of not more than three recent testimonials to be sent to me not later than Saturday, July 26th

Town Hall, Gateshead — J W PORTER, Town Clerk

July 9th, 1930

Darlington General Hospital

(120 Beds)

Wanted JUNIOR HOUSE SURGEON male fully qualified British Salary £125 per annum board residence etc Applications stating experience with copies of two recent testimonials to be addressed to me forthwith

A RIDDLE Secretary

Darlington General Hospital

(120 Beds)

Wanted LOCUM HOUSE SURGEON qualified male Applications with copies of two recent testimonials to be addressed to the undersigned forthwith

A RIDDLE, Secretary

Miller General Hospital,

Greenwich Road, S E.10

CASUALTY OFFICER (male and unmarried) required There are four other residents Salary £150 per annum with board residence and laundry Duties to commence as early in July as possible Applications stating age nationality qualifications and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary as soon as possible

June 24th 1930

Advertisements for these columns must reach us before noon on Tuesday to ensure insertion in the next issue

The Royal Hospital,

WOLVERHAMPTON

(Incorporated under Charter)

CASUALTY OFFICER AND RESIDENT ANAESTHETIST (male) required Duties to commence forthwith, and will include Casualty work and administration of anaesthetics

The Hospital contains 240 beds contains the usual special departments, and is recognized by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice

Candidates must be registered under the Medical Acts, and unmarried The appointment is for six months, with eligibility for further appointment for six months as House Surgeon to *In patients*

Salary at the rate of £125 per annum Board, furnished rooms, and laundry provided

Applications with copies of testimonials, to be forwarded to the undersigned

W H HARPER,
July 14th, 1930 House Governor & Sec.

The Royal Earlswood Institution,

REDHILL SURREY

(Under Mental Deficiency Acts, 1913 27)

JUNIOR ASSISTANT MEDICAL OFFICER REQUIRED (British)

Applicants must be registered practitioners males unmarried, and willing to assist in the games and amusements

The appointment is for six months in the first place Inclusive salary at the rate of £250 *per annum, with board residence, and washing* Good facilities for Post Graduate Studies, Classes, and Examinations.

Applications, stating age, religion and qualifications with copies of three testimonials of recent date, and two references to be sent on or before July 24th to the Medical Superintendent at the Institution The envelope to be endorsed Assistant Medical Officer

H STEPHENS
July 7th, 1930 Secretary

County of Aberdeen

PUBLIC HEALTH DEPARTMENT

The County Council of Aberdeen are prepared to receive applications for the post of ASSISTANT MEDICAL OFFICER OF HEALTH (male) Salary £600—£750, by annual increments of £50 on approved service

A memorandum of duties and form of application may be had from the County Clerk Applicants must be registered Medical Practitioners and must possess the Diploma in Public Health, or its equivalent

Applications, accompanied by 30 copies of testimonials and endorsed Assistant Medical Officer of Health to be lodged with the undersigned not later than Thursday, July 24th

County Buildings, Aberdeen — WILLIAM MURISON, County Clerk

July 11th, 1930

East Ham Memorial Hospital,

Shrewsbury Road London, E 7

(100 Beds)

Applications are invited for the post of HOUSE SURGEON to Special Departments and CASUALTY OFFICER for six months commencing August 1st Salary at the rate of £120 per annum, with board, residence, and laundry

Applications stating age, experience and full particulars together with copies of testimonials are to be in the hands of the undersigned not later than Friday, July 25th

REGINALD PERRY, Secretary

East Ham Memorial Hospital,

Shrewsbury Road London, E 7

(100 Beds)

Applications are invited for the post of HOUSE PHYSICIAN for six months commencing August 1st Salary at the rate of £150 per annum, with board, residence, and laundry

Applications stating age, experience, and full particulars together with copies of testimonials are to be in the hands of the undersigned not later than Friday, July 25th.

REGINALD PERRY, Secretary

Administrative County of LONDON

HOSPITALS SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to positions at the undermentioned Hospitals

(a) WESTERN HOSPITAL Seagrave Road Fulham, S W 6 SENIOR ASSISTANT MEDICAL OFFICER Commencing salary £650 a year Candidates, if single will be required to pay for board, lodging, and laundry at the rate of £130 a year There is accommodation for a married man, who would be required to pay therefor Special experience of Fevers and of the administration of a large Hospital is essential The person appointed will take charge in the absence of the Medical Superintendent

(b) ST PETER'S (WHITECHAPEL) HOSPITAL 74 Vallance Rd, E 1 SECOND ASSISTANT MEDICAL OFFICER Salary £460 a year, with board, lodging, and laundry Candidates must have had previous experience as resident House *Physician in a general hospital and be* accustomed to the administration of anaesthetics Experience in the use of the electro cardiograph is an advantage

(c) ST PANCRAS SOUTH HOSPITAL Pancras Road, N W 1 SECOND ASSISTANT MEDICAL OFFICER Salary £350 a year, with board, lodging and laundry Candidates must have held a resident Surgical appointment in a public general hospital

(d) FULHAM HOSPITAL, St Dunstan's Rd Hammersmith W 6 THIRD ASSISTANT MEDICAL OFFICER The appointment will be for one year only Salary £250 a year, with board, lodging and laundry Candidates must have held a resident Surgical appointment in a public general hospital

(e) QUEEN'S HOSPITAL Sidcup FIRST ASSISTANT MEDICAL OFFICER. Salary £400 a year, with board, lodging, and laundry Candidates must have held *a resident appointment in a public* general hospital

The salaries and conditions of appointment in each case are provisional and are subject to review by the Council

Forms of application may be obtained from the Medical Officer of Health (Staff Division), The County Hall, Westminster Bridge, S L 1 A stamped addressed foolscap envelope should be enclosed and forms must be returned by July 25th Canvassing disqualifies

Candidates desiring to apply for more than one appointment must send in a separate form of application in respect of each hospital Inquiries for further details as to the nature and scope of the duties at the individual hospitals should be addressed to the Medical Superintendent of the Hospital concerned

MONTAGU H COX
Clerk of the London County Council
July 14th, 1930

County Borough of Walsall

MANOR HOSPITAL

RESIDENT ASSISTANT MEDICAL OFFICERS

Applications are invited from duly qualified persons for the above appointments

The salary of the First Assistant Medical Officer will be at the rate of £200 per annum and the salary of the Second Assistant Medical Officer at the rate of £150 per annum together with the usual residential emoluments The appointments will be limited to a period of twelve months

The persons appointed will be required to act under the general direction of the Medical Officer from whom particulars of the appointments may be obtained

Applications stating age, professional qualifications and experience accompanied by not more than three copies of recent testimonials, should be sent to the undersigned at once.

C S FOTHERGILL
29 Leicester St, Walsall — Public Assistance Officer
July 14th 1930

Norfolk and Norwich Hospital,

NORWICH

Applications are invited for the post of HOUSE SURGEON Salary £120 per annum, with board, residence, and laundry Candidates (male) who must possess registered qualifications should forward applications stating age nationality, etc together with copies of testimonials, to the undersigned as soon as possible

FRANK INCH
House Governor & Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House, Tavistock Square, W C 1 (in the case of Scottish appointments, with the Scottish Medical Secretary 7, Drumsheugh Gardens, Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE MON *(Medical Officer for Medical Aid Association)*	YORKSHIRE NORTH RIDING EDUCATIO COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Bryndu Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon Sec of Division or Branch	Town or District.	Hon Sec of Division or Branch	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES *(All Friendly Society Appointments)*	Dr R H TODD (Hon Sec New South Wales Branch) Savings Bank Building 21 Elizabeth St Sydney N S W	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch 20 North Terrace Adelaide	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr G F V ANSON (Hon Sec New Zealand Branch, British Medical Association P O Box 156 Wellington New Zealand.
QUEENSLAND *(British Associated Friendly Societies Institute)*	The Hon Sec Queensland Branch) British Medical Association B M A Building Adelaide St Brisbane	VICTORIA *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon Sec Western Australian Branch British Medical Association No 6 Bank of SW Chambers St. *George's Terr Perth*, Western Australia.

July 16th 1930 By Order of the Council ALFRED COX Medical Secretary

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Hull Royal Infirmary
(270 Beds)

Applications are invited for the following resident posts (male)
ASSISTANT HOUSE PHYSICIAN Vacant July 31st
CASUALTY HOUSE SURGEON Vacant July 23rd
Salary for each post £130 per annum in addition board residence and laundry
Applications should be addressed to the undersigned
P J CARTESS
July 5th 1930 House Governor

Jessop Hospital for Women,
SHEFFIELD
(146 Beds)

GYNÆCOLOGICAL AND MATERNITY DEPARTMENTS

Applications are invited for the post of REGISTRAR AND OBSTETRICAL TUTOR The appointment is whole time non resident and includes ante-natal work teaching of students together with Registrars duties Salary £500 per annum
Applications together with copies of recent testimonial should reach the undersigned on or before July 22nd.
H B SHELSWELL
Secretary

The Jessop Hospital for Women,
SHEFFIELD
(146 Beds)

GYNÆCOLOGICAL AND MATERNITY DEPARTMENTS

Applications are invited for the post of ASSISTANT HOUSE SURGEON for six months appointment
Salary £100 per annum together with board residence and laundry
Application stating age together with copies of recent testimonial should be addressed as to the undersigned.
H. B SHELSWELL,
Secretary

Hospital for Consumption and
DISEASES OF THE CHEST
Mount Pleasant LIVERPOOL.

The Committee of the Hospital invite applications for the post of ASSISTANT MEDICAL OFFICER AND PATHOLOGIST Salary £150 per annum (non resident) with liberty to private practice Duties Daily attendance at Out-door Patients Department and Wards 12 to 2 p m and other duties as may be assigned to him Candidate must be Graduates of a British or Irish University or Member of one of the Royal Colleges of Physicians Application with copies of three recent testimonials to be sent in endorsed Assistant Medical Officer not later than July 26th to the Secretary Mount Pleasant.

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male)
Duties to commence as soon as possible
The duties include charge of four beds devoted to complicated Midwifery cases.
Salary at the rate of £150 per annum with residence board and laundry
The appointment is for six months and is renewable and the salary for the second six months will be at the rate of £175 per annum
Applications accompanied by no more than three recent testimonials to be sent to the undersigned
Dated this 26th day of May 1930
ARTHUR H LIMB Secretary

Midland Hospital
(FOR HOMŒOPATHIC AND GENERAL TREATMENT).
Ear Row BIRMINGHAM

A vacancy occurs for the post of HOUSE SURGEON at the above Hospital on August 6th. Salary £150 with board, residence and laundry
Applications, stating age and qualifications accompanied by recent testimonial should be forwarded at once to
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National Hospital, Queen Square,
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HOUSE PHYSICIAN

The Board of Management invite applications for the post of House Physician which will be sent to the undersigned accompanied by copies of three recent testimonials not later than Monday July 21st The salary is £150 per annum with board and lodging
GODFREY H HAMILTON
Secretary

Royal United Hospital, Bath

Wanted a HOUSE PHYSICIAN Salary £120 per annum
The appointment will be for not less than six months and candidates must be male unmarried and of British nationality
Applications with three testimonials must be addressed to the undersigned.
J LAWRENCE MEARS
Secretary Superintendent

Royal United Hospital, Bath

Wanted at once an ASSISTANT HOUSE SURGEON Salary £120 per annum
The appointment will be for not less than six months and candidates must be male unmarried and of British nationality
Applications with three testimonials must be addressed to the undersigned.
J LAWRENCE MEARS
Secretary Superintendent

North Devon Infirmary,
BARNSTAPLE
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Wanted end of July duly qualified RESIDENT MEDICAL OFFICER (male). Salary £150 per annum with board apartments and laundry Applicants to be not less than six months Applications stating age and qualifications with copies of recent testimonials to be sent forthwith to the Honorary Secretary

(Appointments continued on p 52)

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Wanted—end of August—Outdoor ASSISTANTSHIP, preferably with view and preferably in Manchester suburb or easy reach qualified 7 years, 4½ years' experience G.P., ex Assist. R.M.O. Well received, excellent testimonials, own car Some capital available.—Address No. 4921, B.M.A. House, Tavistock Square, W.C.1

Wanted.—Unmarried male ASSISTANT, outdoor Cyclist Private and panel Practice Midland town Salary £380 with rooms and attendance £20 petrol allowance if own car Dispenser kept.—Address, No. 4731, B.M.A. House, Tavistock Square, W.C.1

Wanted immediately, outdoor ASSISTANT, with view to Partnership, for a mixed Practice in a large Kentish Town Good salary to suitable man British, married man pref.—Recent photo and full parties to No. 5006, B.M.A. House, Tavistock Sq., W.C.1

Wanted — Assistant, male or female with view, Midland City single bond. Must be energetic £250 per annum to start, increasing, reside surgery attendance and all found To commence August 1st.—No. 4935 B.M.A. House Tavistock Sq., W.C.1

Wanted, a Welsh-speaking ASSISTANT for general Practice Good Anaesthetist References required Salary £500 Outdoor.—Address No. 5001, B.M.A. House, Tavistock Square, W.C.1

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Wanted — Assistant, indoor, young, male Protestant English or Scot Panel and private Practice with or without view Send testimonials and photo Salary according to experience from £300 50 miles London.—Address No. 4937 B.M.A. House Tavistock Square W.C.1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view State full particulars.—British Medical Bureau 33 Cross Street Manchester

Wanted for end July, Indoor ASSISTANT (male) Country practice in pleasant district Salary £300 Abstainer preferred Car provided.—Address No. 4901, B.M.A. House, Tavistock Square, W.C.1

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Assistant, single, indoor, cyclist, Protestant, male State age, which must be under 30, and other qualifications £250 per annum Work light.—Address No. 4908, B.M.A. House, Tavistock Square, W.C.1

Assistant wanted at an early date exper. not essential excellent opening for keen young man good salary for suitable applicant.—Address No. 4926, B.M.A. House, Tavistock Square, W.C.1

Male Assistant, with view, wanted immediately for large panel and private Practice in seaside resort in South West England.—Address, stating experience, and enclosing photo and testimonials, No. 4914, B.M.A. House, Tavistock Square, W.C.1

Outdoor Assistant required, male or female, in panel Practice in newer London suburb Cyclist.—Address stating essential particulars, No. 4913, B.M.A. House, Tavistock Square W.C.1

Prospective Partnership in Far East — ASSISTANT, with view to Partnership, wanted in large Practice in Far East, ex House Physician experienced in anaesthetics and children preferred.—Address, No. 4938 B.M.A. House, Tavistock Sq., W.C.1

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July 18th 1930 Secretary

Hospital Convalescent Home, PARKWOOD, SWANLEY KENT

RESIDENT MEDICAL OFFICER (female) Vacancy August 6th. Six months appointment Candidates must have held a House appointment at a General Hospital Salary £200 p a, full board and quarters Apply personally to Secretary Hospital Convalescent House, at Westminster Hospital S W 1 Telephone Victoria 0816

Resident Medical Officer required immediately for LEEDS JEWISH HERZL-MOSER HOSPITAL Salary £100 per annum full board ample time for Post Graduate work Apply Secretary Herzl Moser Hospital Leopold Street Leeds

City of Manchester

ASSISTANT MEDICAL OFFICERS

The Public Health Committee invite applications from Medical Practitioners (male) who have had previous Hospital experience, for the appointment of Four Assistant Medical Officers at the WITHINGTON HOSPITAL (1 200 beds) and INSTITUTION (1 150 beds) Nell Lane West Didsbury Manchester One of the Assistant Medical Officers will be required to have the care of the wards for patients suffering from Pulmonary Tuberculosis (150 beds)

The Hospital is a recognized Training School for Nurses and is equipped with all modern Hospital requirements

The salary in each case will be at the rate of £275 per annum with rations and furnished apartments.

The appointments in the first place will be for a period of six months The successful candidates however will be eligible for re appointment for a further period of six months at the end of that period

The successful candidates will be required to commence duty on September 1st also to contribute to the Corporation Superannuation Fund and to execute their Deed of Service.

Applications endorsed on the envelope Medical Appointment Withington accompanied by not less than three testimonials must be forwarded to the undersigned not later than Thursday July 31st instant

Canvassing in any form oral or written direct or indirect is prohibited

F E WARBRECK HOWELL
Town Hall Town Clerk
Manchester July 16th 1930

County Borough of Reading

BATTLE HOSPITAL.

APPOINTMENT OF ASSISTANT RESIDENT MEDICAL OFFICER

[illegible] d from registered [illegible] he appointment of Officer (male) at the above Hospital at a salary of £300 per annum with board residence etc Candidates must be single and should not be more than 30 years of age

The selected candidate will be required to work under the direction of the Medical Superintendent.

The appointment will be for a period of one year

A form of application may be obtained from the undersigned and applications accompanied by copies of three recent testimonials must be delivered to me not later than Tuesday August 5th. Canvassing either directly or indirectly will disqualify

Town Hall C S JOHNSON
Reading Town Clerk.
July 16th 1930

The Royal Portsmouth Hospital,

PORTSMOUTH
(Five Resident Medical Officers.)

CASUALTY OFFICER male (qualified) required to commence on or about August 1st Salary at the rate of £100 per annum with board etc. Six months' appointment Eligible on completion of term for appointment to other resident posts.

Application stating age nationality etc. and copies of three recent testimonials to be sent to the undersigned as soon as possible from whom all particulars can be obtained

B WAGSTAFF Secretary

Liverpool Hahnemann Hospital,

Hope Street

Applications are invited for the post of STIPENDIARY MEDICAL OFFICER to the above Hospital which falls vacant on August 1st next

Post is non resident tenable for six months renewable. Mornings only Some visiting

Salary at the rate of £125 per annum

Candidates must be willing to study and apply Homœopathy

Apply stating age, sex nationality experience and enclosing copies of testimonials to the Registrar

The Royal Gwent Hospital,

NEWPORT MON

HONORARY RADIOLOGIST

Applications are invited for the post of Radiologist.

Candidates must be registered Medical Practitioner and possess a Diploma in Radiology

Applications should be in writing and sent immediately to the undersigned

J K MILLWARD
July 15th 1930 Secretary Supt.

City and County of Kingston-upon-Hull.

RESIDENT MEDICAL OFFICER
CITY HOSPITAL COTTINGHAM.

The Corporation invite applications for the appointment of a male Resident Medical Officer (single) to undertake under the Medical Superintendent the medical work of the Infectious Diseases Hospital Commencing salary £350 rising subject to satisfactory service by annual increments of £25 to a maximum of £450 per annum together with board laundry and residence.

Applicants must be not more than 40 years of age and must possess general Clinical experience. The possession of experience in a fever hospital will be regarded as an additional qualification

The successful candidate will be required to reside at the City Hospital and to devote the whole of his time to the service of the Corporation He will be required to pass a medical examination and to contribute to the Corporation's Superannuation Fund

Applications on forms to be obtained from the undersigned with copies of not more than three recent testimonials and endorsed Post of Medical Officer City Hospital should be forwarded not later than Friday August 1st.

Guildhall W M FLAZFR, M D
Hull Medical Officer of Health.
July 15th 1930

Derbyshire Royal Infirmary,

DERBY
(General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON

Candidates must be qualified and registered under the Medical Act

The appointment is tenable for 12 months.

Salary will be £150 per annum with apartments board etc.

There are 40 beds for Ophthalmic cases and a large Out patient Department.

Applications with copies of testimonials to be sent to the undersigned

WALTER BANKS
July 14th 1930 Supt & Secretary

The Royal National Hospital

FOR CONSUMPTION AND DISEASES OF THE CHEST VENTNOR ISLE OF WIGHT

A Male ASSISTANT RESIDENT MEDICAL OFFICER required for six months to take up duties at an early date

Salary £300 per annum with residence and board in the Hospital Candidates must be recently doubly qualified registered and unmarried and be desirous of undertaking the earnest study of Tuberculosis,

Applications in candidates own handwriting stating age and qualification (with one copy of three recent testimonials) may be sent to the Medical Superintendent R N Hospital for Consumption Ventnor Isle of Wight

July 15th 1930

Royal Chest Hospital,

City Road E.C.1
(Royal Northern Group of Hospitals.)

The post of HOUSE PHYSICIAN at this Hospital is now vacant The appointment is for six months Salary at the rate of £100 per annum with board residence and laundry Applications with copies of testimonials should be sent to the undersigned from whom forms of application rules and further particulars can be obtained.

Royal Northern GILBERT C PANTER
Hospital Holloway N 7 Secretary

West End Hospital for Nervous DISEASES

(In patient Department Gloucester Gate Regent's Park N W 1)

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN to start duty August 1st Salary £100 with board residence, and laundry Appointment in first instance for six months. Applications with copies of three testimonials must be received by the undersigned no later than July 25th.

J P WETENHALL, Secretary
73 Welbeck Street W 1

Huntingdon County Hospital

MALE HOUSE SURGEON required at once Salary £125 with board residence and laundry—Apply W R GROVE M D

City of Sheffield

ASSISTANT TUBERCULOSIS OFFICER.

Wanted a Male (unmarried) ASSISTANT TUBERCULOSIS OFFICER to reside at WENTFP STREET HOSPITAL, and to devote his whole time to the Municipal Tuberculosis Service

Salary £350 per annum rising to £400 per annum by annual increments of £25 with board residence and laundry

Applicants must be registered Medical Practitioners with not less than three years' experience

The office has been designated an established post under the Local Government and Other Officers Superannuation Act 1922 The successful applicant must undergo a medical examination and the appointment will be subject to the results of such examination being satisfactory

Applications stating age, qualifications and experience with copies of three testimonials to be sent on or before July 29th to the Medical Officer of Health Town Hall Sheffield.

Royal Infirmary, Doncaster

(165 Beds)
OPENING NEW BUILDING

Three HOUSE SURGEONS and One HOUSE PHYSICIAN required at once. New building ready for occupation The House Physician will also be House Surgeon to Ophthalmic and Ear Nose and Throat Departments

The salary of each post is £200 per annum, with board residence and laundry

Appointments are for six months and are renewable

Applications stating age and full particulars together with copies of testimonials should be sent at once to the Secretary Superintendent.

Stroud General Hospital,

STROUD GLOS

HOUSE SURGEON required to commence duty on August 8th. Salary £150 per annum with board lodging and washing The appointment is tenable for six months but application may be made for an extension of this period Candidates must be registered according to the provisions of the Medical Act

Applications stating age and qualifications together with copies of three recent testimonials to be sent to the undersigned

C FOPD SPENCER,
Secretary

Royal West Sussex Hospital,

CHICHESTER.
(111 Beds.)

The Board of Management invite application for the post of SENIOR HOUSE SURGEON to commence early in August Salary £250 per annum with board residence and laundry

Also for JUNIOR HOUSE SURGEON Salary £125 per annum with board residence and laundry

Applications stating age with three recent testimonials should reach the undersigned not later than July 25th.

HERBERT S WILMORE,
Secretary

Whitehaven and West Cumberland Hospital, Whitehaven

(90 Beds)

Wanted JUNIOR HOUSE SURGEON (male) Salary £100 per annum including board residence and laundry Twelve months appointment After six months as Junior an opportunity is given of becoming Senior for the second six months at the rate of £150 per annum

Applications stating age nationality etc together with copies of three testimonials to be sent to the Secretary not later than July 25th. Successful Surgeon not later than [illegible] R. HUTCHINSON Secretary

Royal West Sussex Hospital,

CHICHESTER
(111 Beds.)

The Board of Management invite application for the appointment of an HOUSE SURGEON

Duties to commence on or about Tuesday August 5th

The appointment will be made at Tuesday August 5th

Applications should be sent to me not later than Tuesday July 22nd

HERBERT S WILMORE,
Secretary

St Thomas's Hospital

VACANCY

Applications are invited for the appointment of a SURGEON to the Hospital Candidates must be Fellows of the Royal College of Surgeons of England

Applications must be sent to the Secretary and Clerk to the Governors on or before August 6th

St Thomas's Hospital

VACANCY

Applications are invited for the appointment of a SURGICAL REGISTRAR Candidates must be Fellows of the Royal College of Surgeons of England

Applications must be sent to the Secretary and Clerk to the Governors on or before August 6th

The Manchester Northern

HOSPITAL FOR WOMEN AND CHILDREN,
Park Place, Cheetham Hill Road

The Committee of Management are desirous of receiving applications for the appointment of an HONORARY ASSISTANT SURGEON for Children, who should be a Fellow of the Royal College of Surgeons of the United Kingdom or hold a Degree in Surgery granted after examination by a University recognized by the General Medical Council whose duties shall be to take charge of two beds in the Surgical Children's Ward, and to see surgical cases in the Children's Out patient Department on two mornings each week

Applications, with testimonials, to be sent to Mr JAMES C DANIELS, Secretary 38 Barton Arcade Manchester, on or before Wednesday, August 27th

Manchester Northern Hospital

FOR WOMEN AND CHILDREN,
Park Place, Cheetham Hill Rd, MANCHESTER

The Committee of Management require the services of a SENIOR HOUSE SURGEON duly qualified who is required to commence duty as soon as possible

Salary £130 per annum, with board and residence

Applications, stating age and experience, and date available with copies of recent testimonials to be sent to the Secretary Mr JAMES C DANIELS, 38, Barton Arcade Manchester

The Mount Vernon Hospital,

NORTHWOOD MIDDLESEX
(For the Treatment of Cancer Cases)

JUNIOR RESIDENT HOUSE SURGEON required Six months appointment Salary at the rate of £250 per annum Candidates must be fully registered Applications to the undersigned accompanied by copies of three testimonials should be made on or before July 25th

Offices W J MORTON
7 Fitzroy Square W 1 Secretary

The Royal Waterloo Hospital for

CHILDREN AND WOMEN
Waterloo Road S E 1

Applications are invited from qualified male practitioners for the following post vacant on August 1st a CASUALTY OFFICER to work in the Out Patient Department on weekdays at £152 per annum lunch and tea provided Applications with copies of testimonials should be forwarded by Tuesday morning July 22nd to the Secretary at the Hospital from whom further particulars can be obtained

Wrexham and East Denbighshire War Memorial Hospital

(109 Beds)

Two RESIDENT HOUSE SURGEONS (male or female) required at above Hospital to commence on August 1st Appointments for a period of not less than six months Salaries £150 per annum with board and laundry

Applications stating age nationality experience and qualifications accompanied by copies of three recent testimonials, to be sent to the undersigned not later than Friday July 25th

LESLIE SPENCER, Secretary

Warneford General Hospital,

LEAMINGTON SPA

RESIDENT HOUSE PHYSICIAN required on August 1st. Salary at the rate of £165 per annum with board and laundry Applications and copies of testimonials from qualified and registered practitioners should reach the undersigned by July 23rd

W RUSSELL RUDALL
House Governor and Secretary

British Medical Bureau

NORTHERN BRANCH
(THE S C & M ASSN, LTD)
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MANCHESTER MEDICAL AGENCY

33, CROSS STREET, MANCHESTER.

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Telegrams LOCUM MANCHESTER.

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MALE OR FEMALE.

TRAINED NURSES FOR MENTAL MEDICAL, SURGICAL, AND FEVER CASES

Nurses reside on the premises and are available for urgent calls Day or Night

THE NURSES' ASSOCIATION
(In conjunction with the MALE NURSES ASSOCIATION),
29, York St, Baker St, London, W 1

Mrs MILLICENT HICKS *Supt*
W J HICKS *Secretary*

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Telephone 5932 CITY

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ST. LUKE'S HOSPITAL

FOR MENTAL DISORDERS

Private Nursing Staff Department.

Trained Nurses for Mental and Nervous Cases can be had immediately

Apply to Lady Superintendent
19 Nottingham Place London, W 1
Telephone Mayfair 6420

Northern Branch—Apply Lady Superintendent 57 Clarendon Rd Leeds Phone Leeds 26165

MR HERBERT NEEDES,

31, Bedford Street, Strand, W C 2
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This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS AUDITS and VALUATIONS and the SUPPLY OF LOCUMS and ASSISTANTS

No Charge to Purchasers All Business receives Mr NEEDES personal attention

The Royal Infirmary, Sheffield

(500 Beds)

The Weekly Board of Management invite applications for the undermentioned posts —

TWO HOUSE SURGEONS
ONE OPHTHALMIC HOUSE SURGEON

The appointments will be tenable for a period ending December 31st, 1930 The salary attached to each post is £80 per annum, rising after six months service to £100 per annum, together with board and residence

Applications together with copies of testimonials to be sent to the undersigned immediately

JNO W BARNES, F C I S,
General Superintendent and Secretary
Board Room June 30th 1930

THE OLDEST AND LEADING MEDICAL AGENT

PERCIVAL TURNER,

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After Office Hours EPSOM 9142.

Terms post free on application

Death Vacancy—Essex Suburb Average over £1,100 Panel 800 Very little midwifery, ample scope Fees 3/6 to 7/6 Great scope for younger man—No 8690

Co Durham—Death Vacancy—Over £700 p a. Panel 775 and club PRACTICE Small house to rent or buy—No 8697

Lancs Town—About £1,100 p a Panel 660 Club £50 Fees 5/6 to 5/ Good house and nice garden Rent or sell—No 8704

Middlesex (on Met Rly)—NUCLEUS £500 and great scope Excellent corner house, on main road, for sale No 8703

Scotland, N E Coast—Over £1 000 p a. Panel 520 Appts about £400 Visits 3/6 to 15/ Good house, 3 recep, 5 bed etc.—No 8701

Cheshire—About £1,000 p a Panel about 1,600 No mids PRACTICE run from surgery (5 roomed house) Rent £60—No 8699

London, N—Over £1,300 p a Panel 2,000 Densely populated district No appts or mids 8 roomed house to rent on lease Premium £2,650—No 8696

Devon Town—£1,300/£1,500 PARTNERSHIP with succession Panel over 2 000 and working Mids refused of late, ample scope Worked from surgery—No 8695

Central Wales—£1,300 Panel and appts £400 Very little mid Large house low rent Beautiful scenery—No 8689

London, N—£1,700 p a Panel 1,300 Densely populated area Great scope Fees up to 5/ Prominent but small house to rent—No 8688

London, S E—Woman's PRACTICE. About £600 Panel 220 Fees 3/6 to 21/ Scope for midwifery and increase Ground floor flat—No 8686

Within 45 miles of London—Old-estab unopp PRACTICE. About £1,000 p a Panel 700 Appts £130 Fees 3/6 to 10/6 House 5 bed, tennis good garden to rent—No 8685

South Coast Resort—£6,000 p a Non panel One-fifth share increasing to one third in 2 years Fees 7/6 to 21/ Choice of houses.—No 8682

S Devon—Average £1,600 p a Panel over 2 000 Fees 5/6 to 5/ Large house in residential locality 5 bed, 3 attics 2 recep etc.—No 8678

Essex Suburb—Near Country—1/2 share of £2 500 Great scope Panel about 1,550 Suit man or woman House or flat.—No 8619

S W County—Near Sea—Share worth £700 ample scope Very little mids Visits 5/ to 4 gns Choice of houses Ample scope—No. 8666

London, W—Electrical & X-ray—£1 500/£2 000 Fees 21/ up House in good locality on lease. Low prem—No 8665

Harrogate—Death Vacancy About £700 p a Panel over 500 Clubs etc. about £80 Fees 5/6 to 21/ Good house 5 bed etc Practice and house £1 250—No 8664

Cambs—Over £800—Old-estab unopposed Panel 475 Appts £90 Fees 5/6 to 7/6 Large house 5 bed and garden at low rent—No 8654

S Wales—Death Vacancy—£700 p a. largely colliery Panel 700 Small house low rent or prem Premium £500 or near—No 8651

Lancs Town—£2,500 p a Panel 1 800 Ins £120 Two houses available with 5 bed etc Good opportunity for two friends—No 8645

SPECIAL NOTICE.

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants

Full particulars on application to Mr Percival Turner

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

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LONDON E.17.—DEATH VACANCY.—Middle and working-class PRACTICE in thickly populated district; mainly conducted from Branch Surgery. Receipts over £1,000 p.a. Hospital. Scope for Surgery House for less. Surgery may be bought or rented. Premium 1 year's purchase for Practice 1½ for panel.

MIDLANDS.—PART ERSHIP (Lady Doctor) in growing Panel and Private Practice. Receipts (approx.) £3,286. Several appointments. Premium for 1/4 share £1,255 worth £850 p.a. guaranteed.

LONDON, S.W.—Well-established growing PRACTICE with scope. Situated on main road. House to rent on lease. Branch. Receipts over £600. Panel nearly 400. Premium 1½ years' purchase.

LIVERPOOL.—Middle and working-class rapidly growing PRACTICE situated in centre of city. Receipts £1,150. Panel 1,600. Fees 1/6 to 5/-. Mids. 2 gns. up. Premium £1,600 cash.

NORTH WALES PRACTICE.—ASSISTANTSHIP with view to purchase. Salary £250 (indoor). Receipts over £700. Panel £300 p.a. Appointments. Hospital. House to rent. Nice country, sport of all kinds. Welsh not essential. Premium £800. Terms considered.

KENT COAST.—PARTNERSHIP in old-established non-dispensing non-panel Practice. Fees 5/- to 1 gn. Suitable house available. Receipts nearly £3,500. One-third share for disposal with view to half at 2 years' purchase. Suitable only to well-qualified man of sound experience and good address.

SOMERSET.—PARTNERSHIP in well-established Country Practice on Devon Borders with excellent scope. Highly suitable for expert shooting man fond of country life. Sport of all kind. Guaranteed share worth £750 at 2 years' purchase.

SOMERSET, N.—Seaside Resort.—Well-established NUCLEUS PRACTICE. House to rent or for sale (5 bedrooms), large garden and garage. Receipts £500. Panel 1,800 (increasing). Premium £750 or near offer.

LONDON, N.—NUCLEUS GP situated in residential locality. Excellent scope. Receipts £500. Panel over 100. House for sale or rental. Premium £700.

LONDON, S.E.—PARTNERSHIP in growing middle and working-class GP. Suitable house available for rent. Earnings approximately £4,600. Panel 3,400. One-third share is offered at 2 years' purchase.

LONDON, S.W.—Old-established middle-class GP. Corner house with accommodation to rent at £115 p.a. on lease. Panel 360. Receipts £1,050. Premium 1½ years' purchase or near offer. Scope.

LONDON, E.—Middle and working-class locality. Good-sized house to rent on lease. Branch surgery. Receipts average £1,350. Panel 676. Premium 1½ years' purchase.

LANCS.—Good-class non-panel GP situated in residential district. Receipts over £1,500 (average £1,179). Suitable house available to rent or for sale. Scope for surgery, especially Eyes and E. and T. work. Suitable for a F.R.C.S. Premium £1,200 cash.

GLOS.—Well-established non-dispensing GP situated in good-sized town. Receipts £820. Panel 550. House to rent or for sale. Premium £1,050. A long Partnership introduction would be considered. Suitable for either sex.

YORKS.—Spa Town. Well-established GP with choice of two residences to rent. Receipts approx. £3,500 p.a. Panel 500. Several appointment. Premium £1,050.

NORFOLK (Cathedral City).—PARTNERSHIP in good-class non-panel GP. Receipts over £4,400 p.a. One-fourth share now offered with view to larger share at 2 years' purchase. Suitable to a Physician, young and preferably single.

GLOS.—Well-established middle and working-class PRACTICE. Medium-sized freehold house with grounds. Receipts average £1,270 p.a. Panel 1,100. Fees 2/6 up. Premium for house and Practice £2,500.

LONDON, S.E.—Middle and working-class GP in residential locality. House to rent. Receipts approx. £1,100. Panel 600. Premium £1,500 cash.

KENT.—Fashionable Seaside Resort.—DEATH VACANCY.—Old-established good-class non-panel and non-dispensing PRACTICE. Fees 5/- to 1 gn. Prominent house to rent or for sale (7 beds.). Receipts average £3,030. Premium £3,500 or offer.

LONDON, E.13.—NUCLEUS working-class PRACTICE, in thickly populated locality. House to rent £60 p.a. (part offset at £26 p.a.). Receipts £500. Panel 400. Fees 1/6 up. Mids. 2 to 3 gns. Premium £600 or near offer.

MIDDLESEX, N.—NUCLEUS middle-class residential PRACTICE situated in rapidly developing locality. Modern house to rent or for sale (4 beds.). Fees 3/6 up. Mids. 5 to 15 gns. Receipts (average) £290. Panel 1,145. Excellent scope. Premium £300.

MIDDLESEX (W.).—PARTNERSHIP.—FOURTH PARTNER required in growing mixed Practice residential district. Hospital. Receipts nearly £6,500. Panel 5,050. A 1/7 share, with view to larger share is offered at 2 years' purchase. Excellent opening for energetic man.

BEDS.—PARTNERSHIP in Town Practice. Receipts approx. £1,500 p.a. Panel 1,760. Half share for disposal with view to Succession at 2 years' purchase. Preliminary assistantship entertained.

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2. LONDON (Finchley).—Old-established PRACTICE. Last year's receipts £332 panel nearly 150. Good fees. Premium by arrangement. Nice house can be had on rental.
3. LONDON, S.E.—Mixed-class Cash and Panel PRACTICE. Receipts about £1,150 p.a. Nice house, rent £90 long lease. Vendor going abroad. Premium £1,600.
4. MIDDLESEX (half hour from town).—Well-established PRACTICE. Receipts last year £735, panel 220. Rapidly developing district. Premium £1,100. House to be sold with Practice. Mortgage can be arranged.
5. WALES.—Large Town.—Well-established PRACTICE. Receipts over £1,200 a year, including fair panel. Nice house on lease, rent £90 p.a. Premium £1,500.
6. BUCKS.—Old-established PRACTICE. Receipts now about £430 p.a. including panel 350. Has done more. Nice house available, rent £175. Premium moderate. Good scope.
7. SUSSEX.—Seaside Town.—Third Share of a very old-established Practice held 29 years by Vendor now wanting help through age. Receipts £2,000 p.a. panel 1,000. Premium for third share £1,400.
8. LONDON, N. (near Islington).—Old-established Cash and Panel PRACTICE. Receipts £1,300 p.a. panel 2,000. Eight-roomed house, rent £80, long lease. Premium just over 2 years' purchase.
9. LONDON, N.—Well-established PRACTICE. Receipts last 12 months £500, increasing. Small panel. Nice semi-detached house, garden and garage. Rent £100 p.a. Premium quite moderate for quick sale.

No charge to purchasers or for enquiries.

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2. MANCHESTER (Suburb).—Look-up Surgery. Industrial PRACTICE. Receipts £350. Panel 600 and increasing.
3. *CHESHIRE.*—Well-established middle and working class PRACTICE. Receipts £2,300. Panel 2,400 increasing. Appt. worth about £30 p.a., transferable. Good house, garden, garage.
4. *LANCASHIRE.* — Well-established middle and better-class PRACTICE. Receipts £988, panel 900 both increasing. Appt. £30 p.a. transferable. Good house and garage.
5. [illegible]-established progressive PRACTICE. Receipts [illegible],000. Good house, garage and garden.
6. WEST MIDLANDS.—Well-established PRACTICE in market town and agricultural district. Receipts £1,572. Panel 530. Appts worth £118. Good house. Garage and all conveniences.
7. YORKSHIRE.—Large County Borough.—Well-established working and middle class PRACTICE. Receipts over £1,500 p.a. and steadily increasing. Panel about 1,700. Good house to rent.
8. WEST COUNTRY.—SEAPORT TOWN (Residential district).—Well-established upper and middle-class non-dispensing PRACTICE. Receipts average £1,433 p.a. Panel 353. Not encouraged, but considerable scope if desired. Good fees and house.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

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(FOUNDED 1880)

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Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them

NORTHERN BRANCH

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch

Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester

Telephones CENTRAL 3925 after Office Hours RUSHOLME 2549
Telegrams LOCUM MANCHESTER.

Practices and Partnerships for Disposal — **Full particulars sent free**

1 HOME COUNTIES — Easily worked Country PRACTICE about £2,000 p a in Agricultural District 40 miles from London Panel 800 Centrally situated house (4 bed and attics), garage, and garden, for sale Premium—Practice—1½ years purchase.

2 MIDDLESEX —Rapidly increasing PRACTICE in growing district within 20 miles of London Receipts last 12 months £1 364 Panel 4/500 Specially built house (5 bedrooms) garage and good garden, for sale or rent Premium for quick sale £1,500

3 SHROPSHIRE —Partnership in Practice about £2,200 p a in attractive residential country district Panel 1,100 Very nice house, garage and large garden for sale Sport Premium one half share 2 years purchase

4 SCOTLAND — Unopposed Practice over £1 000 p a in beautiful country district in Inverness shire Panel 520 Nice well built house (6 bedrooms), garage and beautiful garden for sale. Premium—Practice—1½ years purchase

5 YORKSHIRE (W R) — Compact easily worked PRACTICE, averaging £1 600 p a in manufacturing town Panel over 1 300 Splendidly situated house (4 bedrooms) for sale. Scope Premium 1½ years purchase

6 SOUTH DEVON —Country Practice about £1 500 p a in beautiful district near coast Panel 634 House (7 bedrooms) with electric light and central heating garage and large garden for sale

7 LONDON, NORTH —Sound, easily worked PRACTICE nearly £2 600 p a., in residential district Small select panel Good corner house (5 bed and dressing rooms) with very good garden for sale Small Hospital Premium—house and Practice—£4 250 cash

8 MIDDLESEX — Practice about £500 in growing district of pleasant suburb under 10 miles from London Panel 450 Large house to rent on lease Great scop Premium £750 or near offer

9 RADIOLOGICAL Practice in good Town in the West Receipts average over £2 300 p a Important Hospital appointment almost certain of transfer

10 LONDON, EAST —Practice £990 p a in populous area. Panel 1 240 Shop fronted premises to rent Plenty of scope Premium 1½ years purchase

11 ISLE OF MAN —Non-dispensing Practice in small Seaside Town Receipts average £946 (including £350 from panel) Small compact house (5 bedrooms) with nice garden for sale Sport Premium—Practice and house—£2 650

12 SOUTH OF ENGLAND —Partnership in good class non-dispensing Practice £6 000 p a in attractive watering place No panel House (5/4 bedrooms) garage and garden to rent One-fifth or one fourth share at 2 years purchase Partner should be 35 40 years of age and hold F R C S England

13 MIDLANDS —Practice, over £1,700 p a, in important City Panel 1 570 Centrally situated house (7 bed and dressing rooms), with garage and garden for sale Scope for increase Premium £2 250

14 S W OF ENGLAND —Country Practice near the Coast. Receipts £1,628 p a Panel 400 Very attractive (modernised) house (6 bed and dressing rooms) in grounds of 4 acres electric light, for sale Cottage Hospital Premium £2 400, to include drugs, etc, etc

15 LONDON, S E —Partnership in Practice £6 600 p a in outlying Suburban District Panel 2 000 Premium one sixth share, 2 years purchase.

16 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London Good house (6 bedrooms) to let Share worth about £1 400 p a for disposal Partner should be aged 35 40, and married

17 MIDLANDS — Partnership in Practice over £4 100 p a in flourishing town Panel nearly 3 000 House (5 bedrooms) to rent One-fifth share 2 years purchase Preliminary assistantship Applicant must be married or about to be

18 MIDLANDS —Partnership in Practice in Market Town Partner should be young and unmarried and preferably keen on radiology and the biochemical side of medicine. Share worth about £800 p a. at 2 years purchase

19 SURREY — Partnership in Practice, £2 690 p a in growing and prosperous town Panel 950 Excellent scope. Premium one-third or two fifths share 2 years purchase

20 SURREY —Increasing Practice in developing part of residential district half an hour from London Income last year nearly £500 Small panel Modern freehold corner house (5 bedrooms) garden and garage for sale Good scope. Premium £475

21 LONDON, N W —Practice of between £1 100 and £1 200 p a in suburban district Panel 650 Corner house (4 bedrooms) for sale Scope. Premium 1½ years purchase

22 MIDDLESEX — Partnership in Practice, nearly £3 500 p a. in rapidly growing residential town under 20 miles from London Panel about 1 150 Semi detached corner residence (6 bedrooms) garage and garden for sale Premium, one half share 2 years purchase

23 CHESHIRE —Partner required in increasing better class non panel Practice in first rate residential district Cash receipts past year over £4 500 A University Graduate who must have held Resident Hospital appointments preferred One fourth share at 2 years purchase

24 LONDON, S W —Practice about £630 in suburban district within half an hour of Charing Cross Panel about 400 House to rent on lease Very good scope Premium £900

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Practices and Partnerships for Disposal (continued)

25 MIDLANDS —Fourth Partner required in good middle-class non dispensing Practice £3 000 p a in prosperous town Very small panel Small house to rent One-sixth share at 2 years' purchase Partner should be aged about 30 and well qualified.

26 LANCASHIRE —Practice in rapidly growing district near coast and popular resort Receipts last year £1,183. Panel 260 about. Very nice compact freehold house (4 bedrooms electric light etc) with beautiful garden for sale Premium for Practice £500

27 WEST MIDLANDS —Practice about £1,050 p.a. in residential country district. Panel over 500 Excellent house (5 bedrooms) with electric light etc. garage and 3 acres land for sale or rent. *Premium* 1½ years purchase

28 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms) garage garden etc. for sale or rent Very good trout fishing Premium £1 250

29 LONDON, S E —Partnership in increasing middle-class Practice £1 600 p.a. in suburban district Panel 5 500 Premium one-third or *one-fourth* share 2 years purchase. Partner aged about 30 with experience in minor surgery

30 SOUTH MIDLANDS — Practice over £1,200 p.a in Market Town Panel 900 Pleasantly situated house (6 bedrooms) with good garden for sale. Scope. Premium 1½ years purchase

31 SOUTH MIDLANDS — Practice of £756 p.a. in County Town Small panel. Large freehold house (9 bedrooms) garages and garden for sale Good hospital. Premium 1½ years' purchase.

32 LONDON, N —Practice about £1,700 p a in thickly populated district. Panel 1,300 Corner house (2 bedrooms) to rent. Considerable scope. Premium 1½ years' purchase.

33 SOUTH COAST — Non-dispensing PRACTICE about £550 p.a. in popular resort. Small panel House (5 bedrooms) with garage to let Plenty of scope. Prem £500

34 LONDON, S W — Good-class non-panel PRACTICE in pleasant residential outlying suburb Receipts formerly about £1,500 p a. House in good position. Premium based on results.

35 HOME COUNTIES —Country Practice over £1 200 p.a. in agricultural district. Panel over 800 Excellent detached house (5 bedrooms) garden and paddock for sale. Hunting shooting Premium 1½ years' purchase

36 SOUTH-WEST OF ENGLAND —Practice averaging £1 666 p a. in seaport town Panel over 2 000 House with 8 or more bedrooms for sale. Premium £2,500

37 YORKSHIRE (W R) — Practice nearly £1 500 p.a. in manufacturing town Panel about 750 Good house with nice garden to rent or purchase Premium 1½ years purchase.

38 KENT AND SURREY BORDERS —PRACTICE about £800 p a in growing and pleasant residential district. Choice of residence for sale. Good scope. Premium £1,200

39 LONDON, W — Good middle-class non-panel PRACTICE £1 160 p.a. in Western suburb Attractive detached house (8 bedrooms including attics) for sale. Considerable scope. Premium £1 150

40 S E COAST — Practice of nearly £1 100 p.a. in favourite Health Resort. Panel 500 House (5 bedrooms) for sale. Good scope Premium £1,500

41 SOUTH-WEST OF ENGLAND —PARTNERSHIP in increasing middle-class Practice of about £2,500 in seaport town Panel 870 One fourth or one-third share at 2 years purchase Preliminary Assistantship

42 LONDON, S W —Partnership in non-dispensing Practice about £3,300 in first rate residential suburb Small select panel. Hospital. Premium one-third share 2 years purchase

43 SOUTH COAST —Practice nearly £900 in favourite watering place Panel about 200 House (5 bedrooms) in good position for sale. Scope in all directions Premium to effect quick sale only £600

44 OPHTHALMIC PRACTICE in good Town 30 miles from London —Receipts past twelve months £467 (one day a week only) Hospital *Premium* £800

45 SOUTH WALES —Seaport Town —Non-dispensing PRACTICE of £1,500 p.a. Small panel. Pleasantly situated house (5 bedrooms) garden and garage for sale or rent. Premium £1,500

46 EASTERN COUNTIES —Country Practice £1 200 p.a. in agricultural district. Panel 485 Very nice house (6 bedrooms) electric light garage and garden (over acre) for sale. Premium 1½ years' purchase.

47 NEAR EAST —Practice, with some major Surgery if desired. Good Hospital. Two appointments Low premium for quick sale

48 YORKSHIRE — Partnership in Practice £2 300 p.a. in seaside town. Panel over 900 Double-fronted house (8 bedrooms) for sale. Premium two-fifths or one half share 1½ years purchase.

49 WEST OF ENGLAND —Assistant required (with view to Partnership) in busy Town and Country Practice of £1 700 p a. Good Hospital *Two-fifths* share at 1½ years purchase to suitable man (English or Scotch).

50 SOUTH COAST — Small easily worked PRACTICE of £410 p.a. in fashionable Health Resort No night work or midwifery Large house. Premium—house and Practice—£6 000

51 LONDON, E —"Lock-up" Practice averaging £875 p.a. Panel about 275 Rent recovered by sub-letting Long lease Premium £1,100

52 ESSEX —Country Practice £400 p a, near coast. No panel. Pleasantly situated house garage, and garden *Ample* scope. Premium—house and Practice—£1,100

53 SOUTH AFRICA —Old-established PRACTICE of over £1 800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5 000 ft.). Delightful residence (5 bedrooms electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1 200 or offer

54 ESSEX —Partnership in Practice nearly £1 800 p.a in *rapidly developing* neighbourhood. Panel about 500 Choice of two houses Prem. two-fifths share 1½ years pur

55 NEAR OXFORD — Country Practice of just over £1 000 p.a. in hunting centre Panel 700 Good house with modern sanitation excellent garden and paddock to rent. Premium £1,500 to include drugs and fittings

56 WEST HAM — Practice (carried on by Medical Woman) of about £540 p.a. including small panel. No midwifery House to rent. *Premium* 1½ years' purchase.

57 YORKSHIRE (W R) —Practice averaging £1 700 p.a. in manufacturing town. Panel 1,737 House (4 bedrooms) garage and small garden for sale. Scope. Premium 1½ years purchase.

58 WEST MIDLANDS — Partnership in Practice of about £2 650 p.a. in country town. Panel 1 700 Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre. Premium one-half share 2 years purchase.

59 MEDITERRANEAN RESORT —PARTNERSHIP in good-class non-dispensing Practice of between £1,200/£1 400 p.a. Suitable flat to rent. Premium one-half share £950 with succession to whole Practice later

60 DEATH VACANCY —HARROGATE — Receipts about £600 p.a. Panel over 500 Well-situated house (6 bedrooms) to rent.

61 CHANNEL ISLANDS —Practice worth £500 p.a. in a coast town Detached house (6 bed and dressing rooms) to rent. Premium £500

62 HOME COUNTIES —Increasing Country PRACTICE within 30 miles of London Receipts average over £870 p.a. Panel 499 Detached house (5 bedrooms) garage and good garden to rent Premium 1½ years purchase.

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1 LONDON S E — Old established good middle and working class PRACTICE in a pleasant suburb within easy reach of Charing Cross Average gross cash receipts £1 873, including panel of about 1 660 and appts worth £100 Fees from 2/6 No midwifery but good scope Small house available on rental Premium £3 000

2 YORKSHIRE—GOOD TOWN—PARTNERSHIP—A one-half share (guaranteed to produce £2 000 p a in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4,000 Small selected panel of 450 One appointment worth nearly £650 p a Fees 5/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

3 NEAR HEREFORDSHIRE BORDER—HOSPITAL TOWN—Old-established mainly good class non dispensing PRACTICE averaging about £1,200 p a Panel of 500 600 Fees 5/ to 10/6 Nice house in centre of town Price for freehold £1 200 part on mortgage Premium £1 800, £1 300 down and balance by instalments. Up to date Cottage Hospital and good scope for surgery

4 YORKS—PARTNERSHIP—Within a few miles of large residential town, the HALF SHARE of old established unopposed country PRACTICE owing to retirement of senior partner through age and ill health Cash receipts for past three years average over £2 500 p a, including appointments and panel of 1,200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on Price freehold £1,200, part on mortgage Premium 2 years purchase

5 WEST OF ENGLAND—In a small pleasantly situated town amidst beautiful surrounding country, old-established PRACTICE. Income nearly £1 350 p a including panel of 900 Visits 5/ to 21/ Little midwifery Very attractive house in own grounds of 2 acres 3 large professional rooms (separate entrance), 2 reception 5 bed rooms bathroom etc Vendor's freehold Price £2 400 (£1,800 can remain on mortgage) Premium £2 000 Good society etc

6 SHEFFIELD—Old established mainly better and middle-class non panel PRACTICE Average income £700, but large scope Appointment of £160 Fees 3/, 5/ to 15/ Excellent house with small garden Ground rent £9 Premium for house and Practice £1 250

7 PEMBROKESHIRE—Prosperous Town—Well established mixed general PRACTICE Income £1 000 p a Panel of over 700 Fees 3/6 5/, 7/6 No midwifery Large house, with garden Freehold price £1 600, or to rent £100 p a. Premium £1 500

8 SOUTH WEST OF ENGLAND—PARTNERSHIP—In a large thriving seaport town the third share (with increase to half later) of old established rapidly increasing middle-class Practice Receipts average £2 272 p a (last year £2 549) including panel of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase Scope for surgery

9 BEDS—DEATH VACANCY—Unopposed mixed PRACTICE Income £350 p a but good scope Panel of 500 Fees 2/6 3/6 upwards Small centrally situated house 4 bedrooms, etc Rent £14 p a Premium £350 Locum in charge

10 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed class PRACTICE averaging £1 600 p a. including £800 from panel and over £100 from clubs. Visits 5/ upwards (occasionally 2 gns) Very little midwifery from 2 to 5 gns. large attractive house with garden Rent £80 Prem 1½ yrs. pur

11 ESSEX—Unopposed PRACTICE in very pleasant agricultural district, averaging £872 p a including panel of nearly 500 and appts. worth £140 Fees 3/6 to 10/6 Mid 3 to 6 gns (about 12 cases) Commodious house with 2 reception 5 bedrooms and good professional accommodation Large garden Garage Rent on lease £60 Good sport and schools within reach Premium 1½ yrs pur

12 LANCS—Pleasant Town near open country—Well established middle- and better-class PRACTICE Cash receipts last year over £980 including panel of 900 Visits 5/6 to 7/6 medicine extra Mid 2 to 10 gns (about 20 cases) Suitable house with 2 reception 4 bedrooms etc Price for leasehold £1 100, £600 on mortgage Premium 1½ years purchase part by instalments

13 CLOS — COUNTRY PRACTICE — Old established PRACTICE in picturesque surroundings averaging about £1 250 p a including panel of over 1 100 Visits from 3/ Commodious house with 3 reception 6 bedrooms etc. Garden Garage Price for freehold £1 500 £1 000 on mortgage Premium £1 850

14 WEST OF ENGLAND—(Within 100 miles of London).—PLEASANT TOWN—Old established mixed general PRACTICE Average income for last 2 years about £1 250 including panel of 1 200 Fees 2/6 to 6/ and a few at 10/6 Little midwifery Excellent house recently redecorated with ample accommodation Garden Garage Good sport and schools Premium for Practice and house £4 500

15 NORTH LONDON—Old established good middle-class PRACTICE held by Vendor 25 years Cross cash receipts for immediate past twelve months £2 611 Selected panel of about 250 Fees from 5/ upwards Mids from 7 gns (only few cases) Very good corner house non basement with 3 reception 5 bedrooms etc. Price for leasehold £1 800 Premium only £3 000

16 CORNISH RIVIERA—Old established good mixed PRACTICE in exceptionally attractive village which is steadily increasing Receipts for last 12 months £1 300 including panel of over 400 Visits to 21/ Excellent house facing due south with 6 bedrooms etc Good garden Rent on lease £56 p a. Premium £1 800

17 LONDON SOUTH WEST—Very old established non residential PRACTICE averaging about £4 000 p a Panel of 1 500, but large scope for more. Fees 2/6 upwards. Suitable house or flat can easily be obtained to meet purchaser's requirements Rent of surgery on long lease £100 p a Premium 1½ years purchase

18 LANCS—LARGE TOWN—Very old established good industrial class PRACTICE, producing £2 500 p a including panel of 1 804, and appts worth about £120 p a Fees 2/6 upwards Very suitable for two friends in partnership as two houses available Good sport and schools Premium 1½ years purchase. A one half share will be offered with view to succession in six or twelve months if desired

19 CHESHIRE.—Industrial Town within easy reach of Manchester—Well established PRACTICE producing £2 600 p a, with panel of 2 870 Fees 2/6 to 3/6 medicine extra. Good house with ample accommodation Price £1,000 or would be rented at £70 p a Premium 1½ years purchase half down and balance by instalments

20 SOMERSET COAST—PARTNERSHIP—In a small increasing seaside resort the five twelfths share of a very old-established PRACTICE, producing last year £1 600 but offering exceptional scope Panel brings in £480, and appointments Visits 5/ to 4 gns. Mid 4 to 6 gns. only about 12 cases yearly Choice of 2 suitable houses (price freehold £950) with gardens Electric light and gas Premium 2 years purchase

21 SOUTH DEVON—COUNTRY PRACTICE, steadily increasing, and situated in very pleasant agricultural district within easy reach of coast Gross cash receipts for past 12 months £2 326 Panel produces with mileage about £420 Fees 3/6 to 21/ Only about 20 cases of midwifery from 2 to 5 gns Suitable house, in main street with 2 reception 5 bedrooms etc. Garden Garage Rent on lease £50 p a Good sport. Premium £2 800

22 SOUTH OF ENGLAND (Thriving Seaport Town, pop over 50,000)—Old established mixed class PRACTICE. Income last year £623, but offering exceptional scope. Panel of about 430 and 2 small appts Visits 3/6 to 5/ Very attractive residence with professional rooms, 2 reception, 4 bedrooms bathroom etc Pretty garden Garage Rent on lease £100 p a Premium 1½ years purchase

23 PARTNERSHIP—MIDLANDS—COUNTY TOWN—TWO ONE FIFTH SHARES (suitable two friends or will be sold separately) are offered in a very old established good mixed Practice of the senior of two partners Gross cash receipts 12 months over £5 900, including panel of 3,400 Fees from 4/ Not much midwifery Good house rent on lease £75 p a Premium for share two years' purchase

24 YORKS (NORTH RIDING)—In a small pleasant market town with pretty and prosperous surrounding country, very old established mixed class PRACTICE averaging £1 247 p a including appts worth £80 and panel producing last year £366 Visits 3/6 to 25/ One opponent. Good house facing south (3 reception 5 bedrooms bathroom etc) Garden Garage Electric light Vendor's freehold Price £1 350 (£1 000 on mortgage) or would let for few years at £80 p a Premium £1 500 Educational and social amenities

25 KENT—Pleasant Seaside and Residential Town (pop 17 000)—Old estab non dispensing middle and working class PRACTICE averaging for the past 3 years over £1 050 p a including transferable appt. worth about £200 and panel of 500 Visits 3/6 to 10/6 House contains 8 rooms kitchen, bathroom etc Garden Cartage Price freehold £1 500 but might be rented Premium £1 500

26 MANCHESTER—PRACTICE is situated in a growing district offering very large scope. Income about £1 700 p a including panel producing £430 Fees 3/6 upwards. Excellent detached house well situated with 3 reception 5 bedrooms etc. all in good order Price £1 800 Premium 1½ years purchase

27 BORDERS OF BERKS AND HANTS—In a delightful district an old established mixed class PRACTICE averaging for the past three years £904 p a (last year £973) including panel of 400 Visits 5/ to 12/6 medicine extra (3/6) Very little midwifery One opponent House contains ample accommodation (2 sitting rooms 7 bedrooms bathroom etc) Large garden and garage Water laid on and gas plant installed Rent £50 p a Premium £1 400 Excellent sport

28 PARTNERSHIP—In a most desirable outlying residential suburb a suitable Partner (University Graduate Oxon or Cambs experienced 30 to 35 years of age and married preferred) can acquire a share (producing at first about £1 200 p a but larger might be considered with further shares up to a third at arranged intervals) in an old established good mixed class Practice averaging over £10 000 p a Very good house with ample accommodation garden etc on rental Premium 2 years purchase Short preliminary assistantship essential

29 SURREY—In a beautiful residential district within 40 miles of London (good train service) a small mixed class PRACTICE worth about £600 p a. and offering scope Select panel of 200 Charming house with ample accommodation in very pretty grounds (tennis court etc) of 1½ acres Price freehold £3 500 Premium 1½ years purchase

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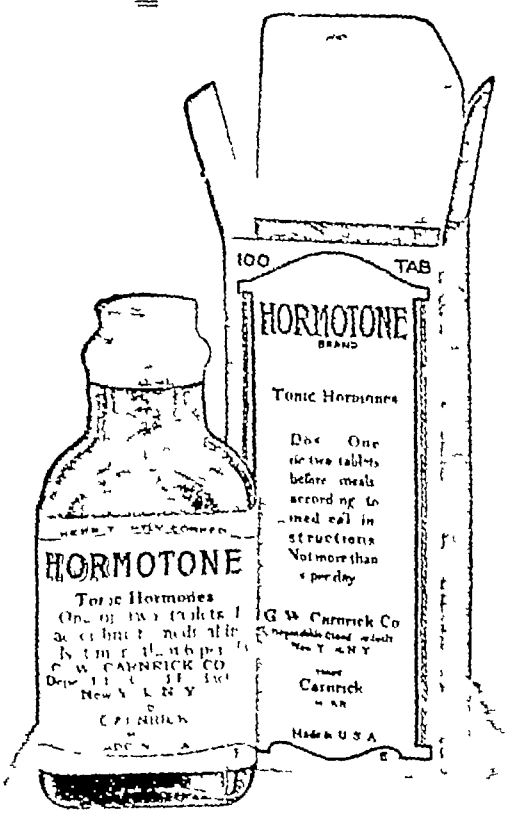
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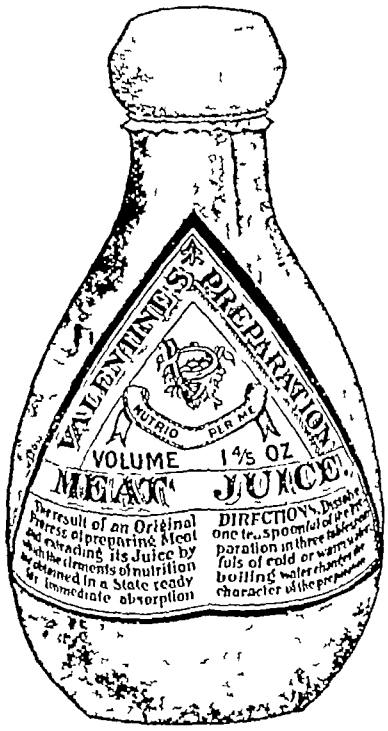
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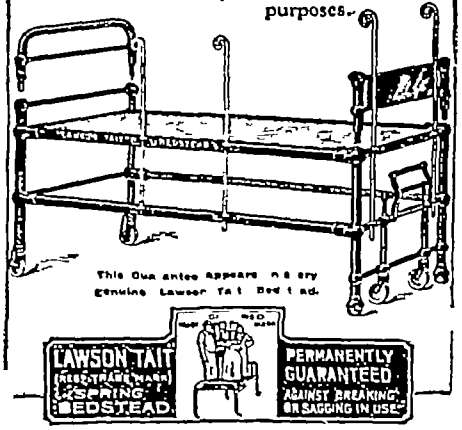
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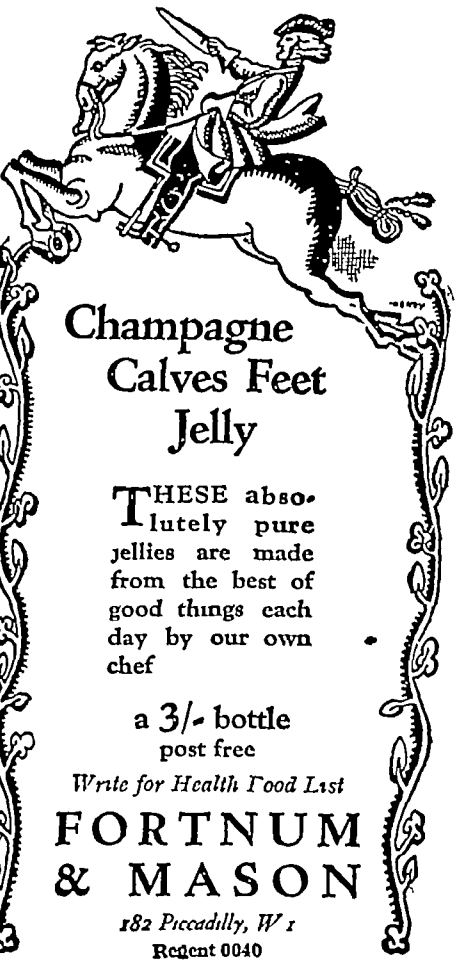
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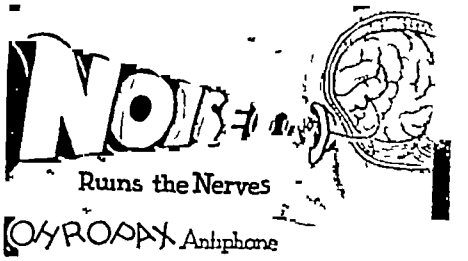
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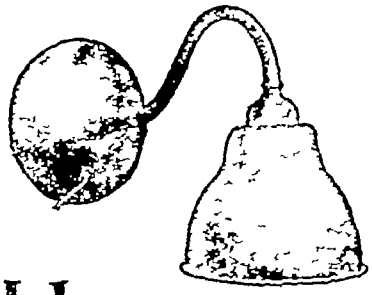
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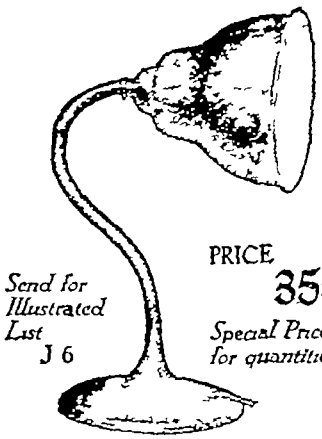
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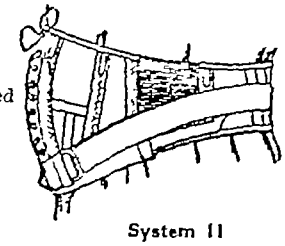
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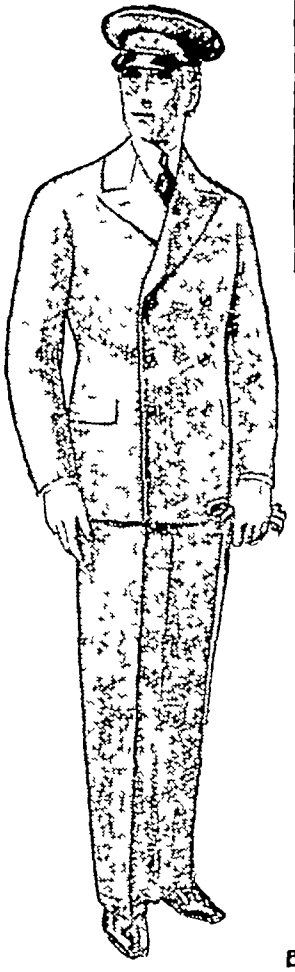
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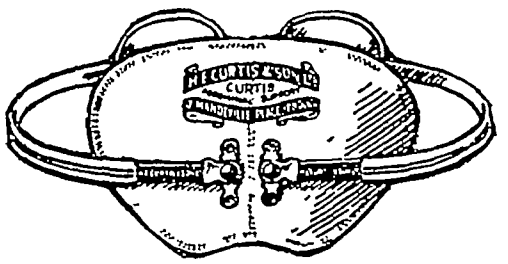
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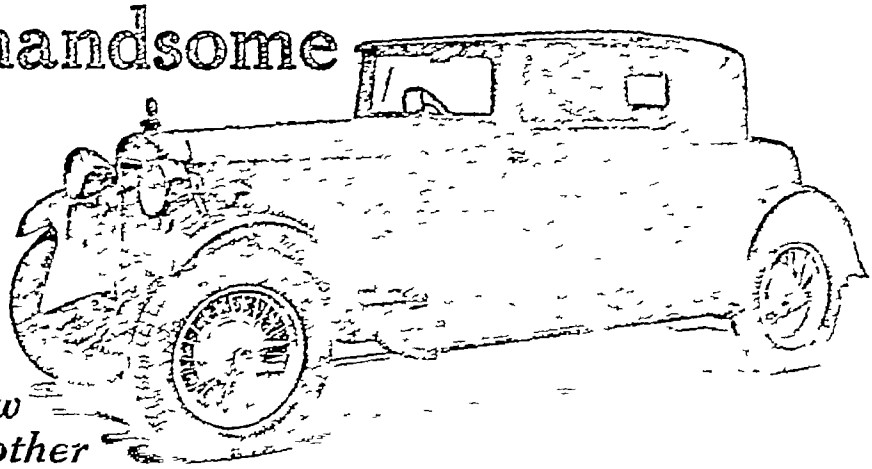
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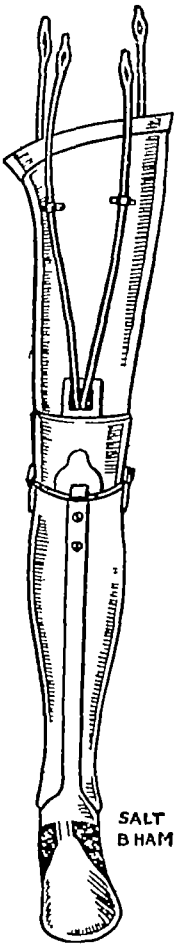
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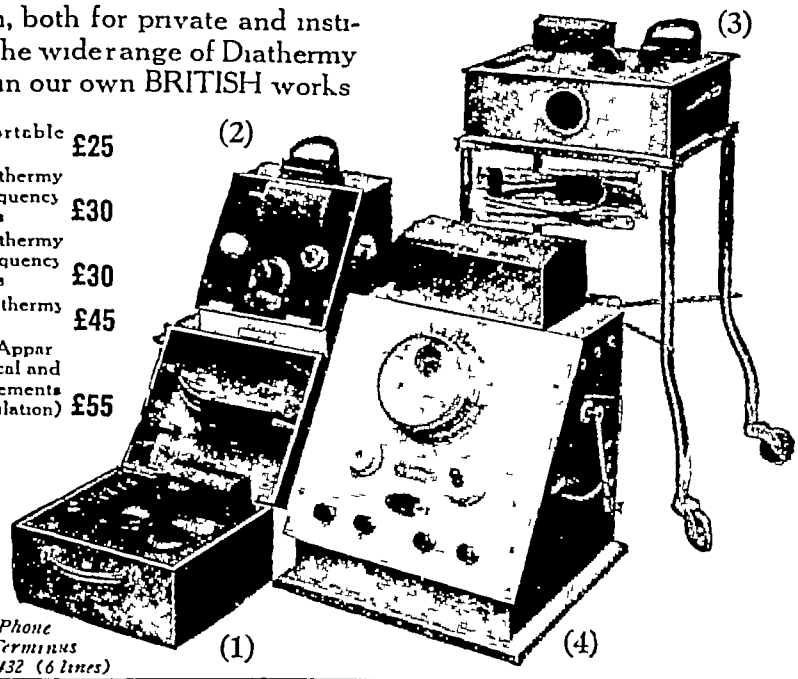
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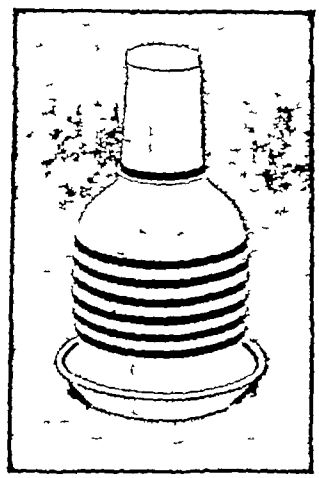
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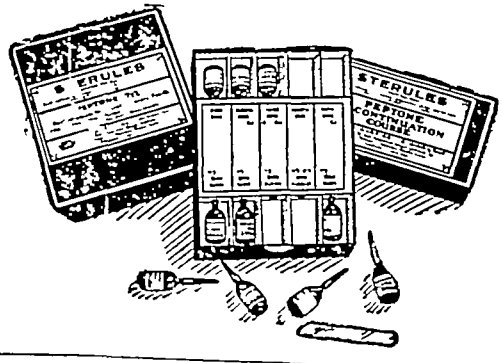
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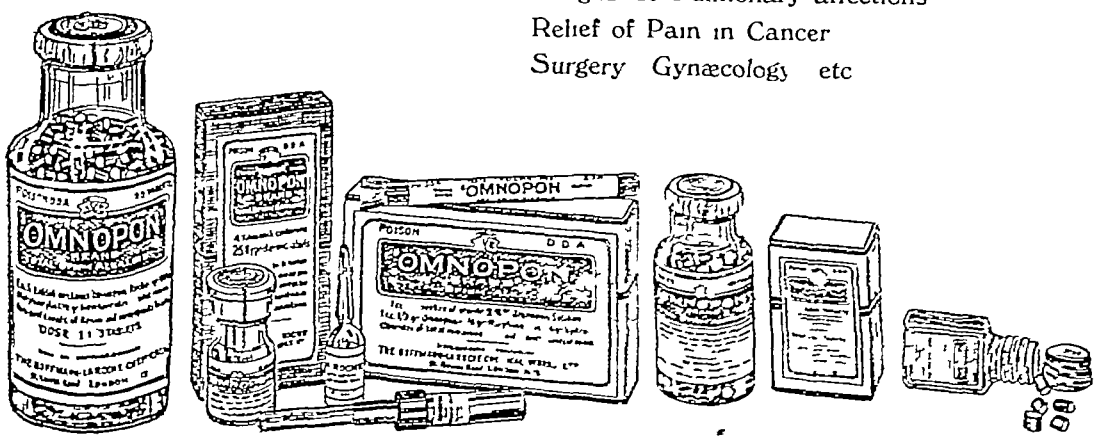
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OBSERVATION AND EXPERIMENT AND THEIR USE IN THE MEDICAL SCIENCES

BY

WILFRED TROTTER, M.S., M.D., F.R.C.S.,

SURGEON TO UNIVERSITY COLLEGE HOSPITAL

THE METHODS OF SCIENCE IN GENERAL

THE accumulation of verifiable knowledge, which is the object of science, depends fundamentally on the discovery of invariable sequences of events in the complex and apparently random phenomena of our experience. The obvious method of doing this is that of observation. We study the natural succession of events as they pass before us and observe those resemblances and recurrences which betray an underlying relation. The power of the method has been increased by refinement and elaboration until it can scarcely be recognized in this simple statement of it. Instruments such as the telescope, the microscope, the spectroscope, have increased its range and its precision, completeness and exactitude of record have increased its trustworthiness, and mathematics has given it the power of detecting relations among recorded facts too complex or too obscure to be within range of direct contemplation. But refinement of method, however far it may be carried, can never surmount the limitation by which observation in its very nature is restricted. This limitation is the circumstance that the observer must wait upon the natural occurrence of the phenomena he wishes to study. The phenomena may be too infrequent for their significant recurrence to come within the span of human life, they may be too complex, and too closely mixed with irrelevant events for the invariable sequences they possess to be detected.

Science has found a means of escape from the limitations of the method of observation in the method of experiment. Partial as the solution of the problem must be admitted to be it has proved of the highest value—of such value, indeed, that its own limitations tend sometimes to be a little overlooked. It will therefore perhaps be useful to examine more closely the relations of the two methods.

The method of experiment seeks to free the man of science from the arbitrary natural distribution of the phenomena he wishes to study. It seeks to give him the required phenomena at command and unmixed with irrelevant events which may modify the essential facts and confuse the study of them. Experiment, then, isolates the event to be studied from the common order of nature, and causes it to occur in circumstances as far as possible simplified and subject to specification.

Applicability of Experiment

Certain sciences have not merely benefited by experiment, but have been created by it. This is true of physics and of chemistry, and is so nearly true of physiology as scarcely to need discussion. In all these sciences experience has proved that the laboratory "event" is as good as the natural 'event,' and that the simplification needed for experimental precision is not necessarily accompanied by distortion of the phenomena concerned. On the whole perhaps it is surprising that physiology has been able successfully to isolate for study so many of the phenomena of living organisms, but of the fact there can be no doubt.

Regarded as subjects for experiment certain sciences stand at the opposite extreme to the position occupied by chemistry and physics. Such are astronomy, geology, meteorology. In the material of their sciences the scale of time and space and the forces concerned are so large that it is usually impossible to produce in the laboratory conditions approaching those of the natural event. These sciences therefore must be, and apparently must continue to be, primarily observational. This is however, by no means to deny that they can and do have useful relations with experimental methods though these relations may be less direct than in other sciences. In geology we may, for example, study in the laboratory some of the elements in the process of metamorphism though we can command no more than an almost negligible fraction of the time and the force that have gone to the formation of metamorphic rocks in nature. In meteorology, again we may study the differences of electric potential that are produced by the breaking up of falling water drops but we must remain almost infinitely far from the scale and magnitude of a natural thunderstorm. In astronomy a science of whose debt to experimental work there can also be no question the impossibility of reproducing in the laboratory the conditions of the natural event is still more apparent.

Thus in geology, meteorology, and astronomy experiment occupies the position of the small scale model and is therefore subject in its degree to the defects of the argument from analogy. These sciences must in fact be described as sciences of *observation and collateral* experiment and have very plain methodical differences from the sciences of *direct* experiment such as physics and chemistry.

Experiment in the Biological Sciences

Physiology has been included here among the sciences of direct experiment, and there can be no doubt of the thoroughness and success with which it has established itself there. It has been hinted however, that the case of physiology is to some extent different from that of the other sciences of direct experiment and its brilliant evolution has had to overcome difficulties special to it. The living organism has a certain perhaps indefinable but not the less substantial unity, and it is this unit and not its constituent parts or processes that has been the material acted on by evolutionary forces. A physiological process may therefore be expected to lose something of its full natural character when it is isolated from the complete animal for purposes of experimental study. This consideration does in fact express one of the limitations of experimental physiology and one that is apt to become increasingly manifest in the most advanced branches of the subject. On the whole however, it is highly remarkable with what success the physiologist has been able to defy this limitation and to detach bodily processes into circumstances of such simplification, or such complete specification, as to make study fruitful without unduly distorting their natural character. Such classical simplifications as the nerve muscle preparation, the isolated heart, the spinal animal, have been justified beyond all question by the substantial additions to knowledge that have been made through them. These preparations cannot, however, fail to remind us sharply of the difference in the status of experiment in physiology and in physics and chemistry. The essence of a scientific experiment is the specification of its conditions. Nor the least medium of any bodily organism is the intact living animal and its normal activity is closely compounded with that of the whole organism. In drawing conclusions from the behaviour of a physiological preparation it is necessary therefore, to specify how far it has been modified by being isolated. The difficulty of doing this with fullness and precision is not inconsiderable—even the necessity for it is not always closely attended to—and does undoubtedly counterbalance to some extent the advantages of simplification that the experimental method possesses. When this lack of specification is least surmountable we can see in physiology a tendency to become a science of collateral rather than of direct experiment.

Scientific Method in Human Biology

The distribution of method in the sciences not concerned with the life of man is relatively simple, because all the larger deciding factors are entirely beyond human influence or control. With the sciences of human life,* the

* The interrelation of physiology and pathology is so close that from the point of view of method they may be usefully regarded as continuous and inseparable. The apparent necessity for the medical student to complete his knowledge of the normal before beginning his study of the abnormal is probably as fallacious as it is practically wasteful and inconvenient.

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Longevity—The fact that man survival to an age long past that of reproduction is a common event makes his general biological position in some ways unique. Morbid states that show themselves on the whole only when reproductive activity is normally waning or at an end can have a selective elimination acting against them, they can thus flourish untouched by what is probably the strongest of all checks upon disease that normally have their range in or before the active period of sexual life. It seems reasonable to suppose that an essential factor in the inveteracy of cancer and its excessive frequency in man is its existence in what we may call a biological backwater, where it has no effects of election to contend with. The difference in frequency of sarcoma and carcinoma might perhaps plausibly be accounted for in the same way. In applying the results of animal experiment to pathological conditions it is [illegible] that this peculiar feature in the [illegible] the latter may be a cause of difficulty, and [illegible]

Deficiency of Vitamin in Food Supply—It is well [illegible] and in a general way the [illegible] of the diet. It is indeed the emptiness of the

appreciate the inestimable gifts [illegible] biology has got, and will probably continue to get, from collateral experiment, yet do suggest that for the finest and deepest insight into the most characteristic phenomena of man's life it will be necessary to use, with all its inherent restrictions, the method of direct experiment in man himself.

Our knowledge of normal physiology in man, such as it is, is almost wholly due to the experimental method. In the study of disease, on the other hand, while the experimental method has been very valuable, and promises to be increasingly so, it is to be noted that the method of observation has behind it a long and honourable history, but it cannot be denied that for a considerable time essential progress in our knowledge of disease has come less and less from the time-honoured method of observation and more and more from experiment. Moreover, with all its opportunities, observation has at its best been able to disclose but little of the fundamental processes of disease, of the exact meaning of morbid phenomena, or of the precise mechanism lying behind symptoms, whereas experiment has a remarkable series of successes of these very kinds already to its credit. In view of such considerations as these it may well be asked

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[illegible] very variable, so that the sig[illegible] being looked for may present itself in a different disguise of detail at each reappearance. The simple method of establishing the significance of a group of phenomena by the dry statistical record of its invariable recurrence in given circumstances is thus not widely applicable in medicine, and the method of observation has not usually obtained its more considerable advances in this way. More often the observer has to be content with a limited number of recurrences of the group of phenomena, and relies upon his close familiarity with and "feeling" for his material to confirm the relation he suspects between items of the group. This ability to detect significant relations among apparently unrelated phenomena by a kind of direct examination is the distinguishing gift of the able observer.

Observational inquiry then in such a field, for example a clinical medicine may give results that are questionable on the one hand because too much value has been given to conclusions essentially based on *intuition*, and on the other hand because the possibilities of exact observation and record have been exaggerated. We are all familiar with instances of large and imposing masses of records vitiated with experimental methods though these relations may be less direct than in other sciences. In geology we may, for example, study in the laboratory some of the elements in the process of metamorphism though we can command no more than an almost negligible fraction of the time and the force that have gone to the formation of metamorphic rocks in nature. *In meteorology, again* we may study the differences of electric potential that are produced by the breaking up of falling water drops but we must remain almost infinitely far from the scale and magnitude of a natural thunderstorm. In astronomy a science of whose debt to experimental work there can also be no question the impossibility of reproducing in the laboratory the conditions of the natural event is still more apparent.

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situation is complicated by the prejudice and the ethical limitations to which direct experiment in man is subject The effect of these circumstances has been to make the study of the processes of the human body in health and disease dependent chiefly on observation in man combined with experiment in animals Experiment in animals has had great success in solving the problems of human biology, and has provided one of the most complete proofs of the value of experimental science and of the general similarity of the fundamental vital processes in all animals At the same time, however, it must be recognized that these experiments have in the strict sense and in relation to man collateral rather than direct validity

The Application of Animal Experiment to Man

The success of animal experiment in human physiology and pathology has been so great and continuous that there has never been any serious call for its collateral quality to be dwelt upon With the increase of knowledge, however, and the need for a finer and finer penetration into the processes of health and disease, the usefulness of a closer critical examination of the actual state of affairs will probably become manifest To those whose work in human biology lies in the observational study of man rather than in animal experimentation the value of such an examination tends constantly to present itself The gap between man and any other animal is large even when judged on the crude basis of manifest structure When the relation of man to animals is regarded from the functional point of view the gap is seen to be larger and much more significant It may be useful to specify some of the biological anomalies in the situation of man which cannot be safely ignored in applying experimental results obtained in animals

The Upright Posture.—The simplest case in which the conditions common to most other animals have been drastically rearranged in man is the upright posture The essential mechanics of the skeleton and of the circulation were established, and as it were tried out, in quadrupedal forms through an enormously long space of time Upon this well-proved arrangement, and it would seem rather suddenly and without a fundamental mechanical reorganization was imposed a posture which threw on the old scheme fresh strains that have tried it to within reach of the actual margin of safety The results of this late and so to say hurried revision of the structural plan show themselves far and wide in the pathological field It is not unreasonable to see these strains as important factors in the so-called static deformities, and in the excessive liability of the lower limbs to diseases of the bones and joints and to circulatory disorders on both the arterial and venous sides Echoes of the same disturbing element are perhaps to be found in abdominal pathology, and even in the peculiarities of the cerebral circulation In general, [illegible] it is perhaps in relation to the special qualities [illegible] as a whole in man that the upright [illegible] of the circulation [illegible] in applying the posture should arouse the most cautious [illegible] results of animal experiment

Longevity.—The fact that in man survival to an age long past that of reproduction is a common event makes his general biological position in some way unique Morbid states that show themselves on the whole only when reproductive activity is normally running out at an end can have no selective elimination acting against them they can thus flourish untouched by what is probably the strongest of all checks upon diseases that normally have their range in or before the active period of sexual life It seems reasonable to suppose that an essential factor in the inveteracy of cancer and its excessive frequency in man is its existence in what we may call a biological backwater, where it has no effective selection to contend with The difference in frequency of sarcoma and carcinoma might perhaps plausibly be accounted for in the same way In applying the results of animal experiment to pathological conditions in man it seems likely that this peculiar feature in the [illegible] may be a cause of difficulty, and [illegible]

The Free and Unlimited Food Supply.—It is well [illegible] and in a general way the in[illegible] of the [illegible] emptiness of the stomach rather than to the nutritional needs of the animal concerned The usefulness of this arrangement is obvious if the impulse to seek food were felt only when the body was in need of it to carry on its functions there would be a risk that the animal would already have lost the energy necessary for the search The normal animal eats, then, because the stomach is calling for food, not because the body is calling for nourishment, and the physiological situation is satisfactory as long as the food is of low nutritive value, as in the herbivora, or has to be worked hard for, as with the carnivora Civilized man has broken through the natural safeguards of the process by obtaining a food supply unlimited both in nutritive value and in amount, but he still regulates his eating by the demands of his stomach rather than by the needs of his body The result is that by the time middle-age is reached the absence of some degree of adiposity is statistically abnormal, and may well give rise to a suspicion of disease Here again we find a gross functional discrepancy between man and animals which may well have a confusing effect in the application of experimental results

The Effects of Personality.—The living animal is a functional unit dependent on the close correlation and harmonious working of its parts There is no reason to suppose that there is any less essential need for harmony among its mental activities and between them and its bodily activities than there is for harmony in the bodily sphere itself In animals other than man disharmonies within the mind or between mind and body, though they sometimes give hints of their presence, are generally inconspicuous The relatively enormous development of mental activities in man has enlarged correspondingly the region in which a lack of harmonious working may arise Disharmonious mental states, such as those due to the clash of individual and social needs, are notoriously apt to interfere with bodily function to a degree and with a duration and constancy that may simulate organic disease and perhaps initiate it It is a fact unfortunately beyond contest that, though the interaction of mind and body presents problems to the importance of which lip-service has been abundantly paid, these problems have never received thorough realistic and scientific treatment The explanation of this deficiency may be in the consideration with which we are here specially concerned, that this is a region in which the functional gap between man and other animals is at its widest and most profound

The Function of Observation in Human Biology

We have pointed to some of the corrections which may have to be applied to animal experiment before its significance for man can be established There is, however, another limitation of the range of collateral experiment in human biology This is in regard to investigations in which access to the subjective side of experience is indispensable The relation between cerebral states and states of consciousness in the normal and abnormal, and the physiology and pathology of pain present problems of this class All these considerations taken together, while they can, of course, in no way depreciate the inestimable gifts human biology has got, and will probably continue to get, from collateral experiment, yet do suggest that for the finest and deepest insight into the most characteristic phenomena of man's life it will be necessary to use, with all its inherent restrictions, the method of direct experiment in man himself

Our knowledge of normal physiology in man, such as it is, is almost wholly due to the experimental method In the study of disease on the other hand, while the experimental method has been very valuable, and promises to be increasingly so it is to be noted that the method of observation has behind it a long and honourable history, but it cannot be denied that for a considerable time essential progress in our knowledge of disease has come less and less from the time-honoured method of observation and more and more from experiment Moreover, with all its opportunities observation has at its best been able to disclose but little of the fundamental processes of disease of the exact meaning of morbid phenomena, or of the precise mechanism lying behind symptoms, whereas experiment has a remarkable series of successes of these very kinds already to its credit In view of such considerations as these it may well be asked

whether the time has not come when it should be recognized with all the practical consequences that would follow, that observation can no longer be regarded as able to effect serious advances in medicine

The method of experiment studies phenomena under the simplified and specified conditions of the laboratory, the method of observation studies phenomena as they are presented in the random order of natural events The first tends to yield clear results capable of analysis by further experimentation, the second tends to yield broader, vaguer conclusions and its power of penetration by analysis is usually limited The first requires patience, caution, ingenuity the second, insight great familiarity with its material and what we may call the intuition of reality—that is to say, the power to choose among equally plausible hypotheses the one that best fits the general behaviour of the material in question In a very broad way it may be said that successful observation depends more directly on a special mental aptitude than does successful experiment

The chief limitation in practice on the value of even the best kind of observation is the difficulty in proving its conclusions and therefore of making them available to the general body of science We have said that successful observation is dependent on special aptitude and it is notorious that ten experiences will yield a great deal more to one man than a hundred of the same kind to another This of course, means that there must usually be a large intuitional element in the conclusions of the able observer, who is apt to be impatient of the drudgery of scientific proof, correspondingly careless in attempting it, and therefore little apt to advance substantially the scientific structure of his subject The evolution of medicine, which has been so largely dependent on it, illustrates in a peculiarly pointed way the disadvantages to which purely observational inquiry is subject The method failed to penetrate the nature of infective processes on the one hand, and on the other it ascribed, and indeed still ascribes, a wholly undue importance to insignificant climatic conditions as direct causes of disease It has held the key to the pathology of vitamin deficiency, to endocrine disorders, to the relation of malaria and mosquito, but has lacked the power decisively to enter into and exploit these new provinces It has had for the most part to leave unelucidated the events that connect the processes of disease with the symptoms they produce so that even to-day, for example, pain, which is by far the commonest of all symptoms, is the bugbear of diagnosis and treatment

The essential feature of the observational method is the recognition of groups of events of which the items are significantly related to one another The simplest case in the detection of such significant relations is when the suspected series recur in the same order often enough to be easily noticeable The study of disturbed function in the human body when it has passed beyond its most elementary stages does not, however, provide many sequences that by their invariable recurrence and unmistakable identity show that their items are interrelated The total body of phenomena accompanying disturbance of function is very large and very variable, so that the significant series which is being looked for may present itself in a different disguise of detail at each reappearance The simple method of establishing the significance of a group of phenomena by the dry statistical record of its invariable recurrence in given circumstances is thus not widely applicable in medicine, and the method of observation has not usually obtained its more considerable advances in this way More often the observer has to be content with a limited number of recurrences of the group of phenomena, and relies upon his close familiarity with and "feeling" for his material to confirm the relation he suspects between items of the group This ability to detect significant relations among apparently unrelated phenomena by a kind of direct examination is the distinguishing gift of the able observer

Observational inquiry then in such a field, for example, as clinical medicine may give results that are questionable on the one hand because too much value has been given to conclusions essentially based on intuition and on the other hand because the possibilities of exact observation and record have been exaggerated We are all familiar with instances of large and imposing masses of records vitiated at their very base by the preconceptions of their compilers or by the impossibility of precise record and with instances of the lineratic pronouncement that rises superior to the need of proof Neither of these misuses of the method however, can justify us in ignoring what has been done by it for medicine in the past or in concluding that the period of its usefulness is at an end

Before inquiring what function the method of observation may yet be able to serve it is well to bring to mind how little the medical sciences can afford to dispense with any means of inquiry that is not demonstrably and wholly sterile The success of the experimental method has been so great that it has become almost a fixed convention for any general comment on the course of science to deal almost wholly with the triumphs that have been attained by this method and but little with the tasks that have proved too hard for it This not unamiable weakness is perhaps partly to be explained and excused at any rate as far as this country is concerned by the constant hostile pressure against animal experiment and the consequent supposed need to justify it in season and out of season It, however, we free ourselves, as we may well do for a moment in so technical a discussion as this from propagandist optimism we shall very easily see that in the interests of science itself we should spare some attention from the triumphs that light up the past, for the need that darken the future The progress of science, when regarded with a due realism is seen always to have been sporadic, to have been subject to lapses of inspiration, to have gone forward in one part of the field at the apparent expense of slackening effort in another No better illustration of this irregularity in the line of progress could be found than in the fact that after over half a century of experimental pathology the four great scourges of man in temperate climates—influenza the common cold, cancer, and rheumatism—remain pathological problems so largely unsolved In the face of a fact like this it is plain that medicine cannot afford to leave unused any implement however imperfect—especially, perhaps, one to which a definite function otherwise unfulfilled can be assigned

In trying to define the field in which observation seems to have its characteristic use it is of advantage to get a clear idea of what actually are the chief defects and limitations inherent in the method Two of these are of such predominant importance that they need only be mentioned first, the limitation of the extent to which observation can be used in following a problem through stage after stage of elucidation until a fundamental solution is found, and secondly, the readiness with which the method lends itself to faulty or even wholly fallacious conclusions It may be thought that neither of these defects needs discussion, but perhaps the second has implications which are not always fully realized and which may repay some examination

Observation and the "post hoc" Fallacy

The characteristic defect of the observational method as commonly used in medicine is its liability to the *post hoc propter hoc* fallacy The only means we possess of establishing a causal relation between events is to observe their invariable occurrence in association The clinical observer cannot bring about at will the recurrence of events he wishes to study or strip them of irrelevant circumstances as can the experimenter Moreover his observations are necessarily made under the pressure of the fact that the events he looks for are not primarily material for science but primarily somebody's symptoms and the signals of somebody's need for help This urgency in the very air of all clinical work does undoubtedly tend towards the finding of significant relations in sequences of events which longer and more thorough observation would have shown to be unrelated The well-equipped clinician must possess the qualities of the artist the man of science, and the humanist but he must exercise them only in so far as they subserve the getting well of the individual patient It is a hard doctrine but none the less true that the essential function of the doctor—the care of the given patient—may involve the forgoing of exactly scientific diagnosis, of the artistic perfecting of an operation, or even of the interests of society at large.

It is therefore obvious that the influences against the making of scientific observations by those in the actual practice of medicine are very strong and it is not surprising that the experimenter is apt to find the clinician on the one hand prolific of unsound conclusions and on the other timid and sceptical in applying the results attained in the laboratory by experiment No better illustration could be found of the characteristic weakness of clinical methods than the extent to which the ascription of disease to trivial climatic discomforts is still accepted or at least tolerated Colds and phenomena of the order of draughts and wet feet—alleged causes of colds—are sufficiently common to afford ample opportunities for the discovery of insignificant sequences This fact, together with the psychological influences tending to associate healthy with comfortable conditions, has produced a veritable folklore pathology of colds and chills which true scientific observation would speedily explode, and which presents clinical medicine in one of its least edifying aspects There are, however, probably even deeper roots of the inveteracy of the *post hoc* fallacy in medicine If two events A and B occur repeatedly in the same order, experience teaches us to regard them as having the relation of cause and effect—that is to say, of being so related that whenever A appears it will be followed by B, and wherever B is observed it will be found to have been preceded by A To establish this relation with any great degree of probability the observed recurrences of A and B in that order must be numerous, must be without exception, and the identity of A and B in each observation must be clear In clinical observation these requirements cannot usually be satisfied with unambiguous severity, the able observer, therefore, while constantly trying to satisfy them as far as the case permits, will depend more or less on the insight and sense of reality that his familiarity with his material and his natural aptitude have given him

It is notorious that a conviction of the existence of a causal relationship between two events—a very different thing from the objective proof of such a relationship—is far from being dependent on such deliberate and cautious procedures In everyday affairs, and to a certain extent in the general run of clinical work, the number of accepted causal relationships far exceeds the number of demonstrated and even of probable cases It seems likely, then, that there is some strong natural tendency which inclines us to ascribe causal relations to events accidentally and arbitrarily occurring near one another That we have such a tendency is at least suggested by the work of Pavlov on conditioned reflexes The essential facts of this work are familiar and need not be recalled in detail In a dog in which a salivary fistula has been established so that the flow of saliva can be measured, the presentation of food is followed at once by a profuse secretion Some arbitrarily chosen stimulus such as the sounding of a metronome is now made to precede immediately the offer of food After this sequence has been repeated a few times it is found that the auditory stimulus causes a similar salivary flow without any presentation of food The cerebral cortex has been taught by a very short experience to accept the metronome sound as a precursor of food In mental terms the sound has become a "cause" of food and an intelligent dog might classify metronomes in the group of things to be hunted like rats and rabbits The facts especially to be noted for our purpose here are first the readiness with which the link of apparent causation is established, secondly, the arbitrariness of the sequence metronomes having no relation with food in the general objective world and thirdly the fact that the relation can be fixed only by adding it to a reflex already established—namely, a natural reflex—in this case the visual salivary reflex

[illegible] has been said earlier in this paper to enjoin [illegible] applying the results of experiments in animals [illegible] caution must, however, be especially stringent [illegible] right conclusions from cerebral [illegible] Nevertheless it is clear enough that there [illegible] close analogy between the aptitude for [illegible] into conditioned reflexes on the one hand [illegible] on the other hand the tendency too readily to ascribe the causal relation to small and unrelated sequences of events, and we may at least suspect that the subjective sense of causation we so easily derive from a few random coincidences is connected with the proved capacity of the brain to pick up arbitrary and as it were "irrational" reflexes The conditioned reflex then is perhaps the simplest case of the *post hoc* fallacy When we thus see reason to suspect that our tendency to impute causal relations unjustifiably may be the expression of a characteristic cerebral function we need not be surprised that this fallacy is so common and so difficult to avoid

We are now in a position to review shortly the disadvantages of the observational method in the study of medical problems as we see it in actual use These disadvantages fall into three groups

1 The method as an instrument of inquiry is of limited range In the systematic attack on a given problem carried on stage by stage until a solution is reached it is notably weak compared with the experimental method to which, in this function, it must always and of necessity remain grossly inferior

2 The method is known as a matter of experience to be especially open to the *post hoc* fallacy Though this may not be fundamental and essential as is the limitation noted above we have seen that there may be an organic predisposition underlying it

3 In clinical medicine the difficulties of securing objective proof by exact observation of identically recurrent events are very great This tends to make the observer rely on intuition rather than on established conclusions and to make him impatient of the labour of proving or disproving the truth of opinions arrived at by intuition The result is that the current clinical medicine of any given period is apt to be loaded with "authoritative" opinions often contradictory of one another, many of which are actually capable of, but have never been submitted to, definite proof or disproof

Limitations of the Experimental Method

Experiment is observation made in specifiable and controllable circumstances and it seeks to eliminate that dependence on the personal judgement, the tact, the intuition of the observer which is the weakness of the observational method If we imagine a problem to be attacked and solved independently by experiment and by observation, the solution by the latter method, in addition to having taken longer and being less exact, will generally have demanded a more arduous and intricate intellectual exercise than the solution by the former

This economy of experiment in its demands upon certain of the less definable aptitudes of the mind is no doubt a contributory cause of its great success as a method, but probably it has secondary consequences which in the long run and on the large scale are not wholly advantageous A science which is strictly limited to the experimental method is apt to favour in its workers a tendency to deprecate any great speculative activity and to regard an interest in the free play of ideas for their own sake as evidence of a lack of scientific stability and trustworthiness Such a distrust of the intellect involves an unsound view of the function of ideas in science It is a mistake to suppose, as it is so easy to do, that science enjoins upon us the view that any given idea is true or false and there is an end of it, an idea may be neither demonstrably true nor false and yet be useful, interesting, and good exercise Again, it is poverty rather than fertility of ideas that causes them to be used as a substitute for experiment, to be fought for with prejudice or decried with passion When ideas are freely current the keen science flesh and living and are in no danger of ceasing to be the nimble and trusty servants of truth We may perhaps allow ourselves to say that the body of science gets from the steady work of experiment and observation its proteins, its carbohydrates, and—sometimes too profusely—its fats but that without its due medium of the vitamin of ideas the whole organism is apt to become stunted and deformed, and above all to lose its resistance to the infection of orthodoxy

The state of inorganic chemistry in the early nineties of the last century showed some traces of the conditions

one an irregular rhythm persisted in spite of partial thyroidectomy, but normal rhythm returned after 154 grains of quinidine and has persisted for two years. Thus of the 11 cases of permanent auricular fibrillation operated on, normal rhythm was restored and remained permanent in 6, whereas in 5 the irregularity persisted, thus restoration of the normal rhythm occurred in 55 per cent.

Of the 356 cases investigated the total mortality could be traced. Of this number one patient who had exophthalmic goitre complicated by auricular fibrillation and severe cardiac damage, died without any operation being performed. All the remaining deaths occurred after operation. Of these, 17 occurred in exophthalmic goitre cases and 7 in toxic goitres. Three of the exophthalmic goitre cases, however, were those of patients with auricular fibrillation and for these one occurred after partial thyroidectomy, a second after lobectomy, and a third after ligation of the right superior thyroid artery only.

Partial thyroidectomy with removal of three-quarters to seven-eighths of the gland was the usual procedure, unless there was a definite contraindication when a primary ligation of one or more of the thyroid vessels was followed three or four months later by partial thyroidectomy. Only one death ensued after simple ligation—namely, the case with auricular fibrillation already mentioned.

The following table (Table II) shows a comparison of the absolute and percentage mortality after operation between cases of Graves's disease, with and without auricular fibrillation.

TABLE II

Condition	Total Cases	Absolute Mortality	Percentage Mortality
Exophthalmic goitre without A F	293	13	4 4
Toxic goitre without A.F	33	3	9.1
Exophthalmic goitre with A F	19	3	15 8
Toxic goitre with A.F	7	0	0
Total cases of Graves's disease without A F	326	16	4 9
Total cases of Graves's disease with A F	26	3	11.5

Although the numbers are small the post-operative mortality is increased by the presence of auricular fibrillation in these cases. The percentage is more than doubled. Another fact brought out by the above table is that the presence of auricular fibrillation in exophthalmic goitre is of much more serious import than in toxic goitre. *This is not surprising if one considers the view expressed* in an earlier part of this paper—namely, that auricular fibrillation is a natural sequel of prolonged thyrotoxicosis, such as occurs in patients with toxic goitres, whereas its occurrence in exophthalmic goitre, in which the symptoms are usually of a few months' duration only, points to a severe grade of poisoning. On the other hand the mortality of exophthalmic cases without auricular fibrillation is less than half that of toxic goitres without auricular fibrillation.

The presence of auricular fibrillation in Graves's disease must be considered a distinctly unfavourable complication as regards the operative risk. It is associated, as a rule, with cardiac enlargement, a rapid pulse rate, and signs of congestive failure. The effect of the excessive thyroid secretion, as shown by the raised basal metabolic rate, is aggravated by an added impairment of cardiac function due to the congestive failure. It is essential, therefore, that the thyrotoxicosis should be reduced, and the ventricular rate controlled, before operative procedure is contemplated. At the Royal Free Hospital Lugol's solution in increasing doses up to 30 minims daily and digitalis tincture in doses of 10 to 20 minims three times daily are given, until the optimum state of the patient is reached, and the nature and extent of the operation is dependent on the degree of improvement attained. Digitalis is well borne by these patients, and they can take larger doses than patients suffering from other types of auricular fibrillation without intolerance. I have never found any untoward effect from digitalis medication.

Conclusions

1. Auricular fibrillation occurs rather more frequently in toxic than in exophthalmic goitres.
2. Its presence in exophthalmic goitres is more serious than in toxic goitres, as shown by the increased post-operative mortality.
3. Auricular fibrillation is not of itself a contraindication to operative treatment, although it is an added risk.
4. The need for thorough pre-operative medical treatment is intensified by the presence of auricular fibrillation.
5. Primary ligation deserves careful consideration as a means of treating severe cases. In most cases, when one or more of the thyroid vessels have been tied the improvement in the general and cardiac condition of the patient has allowed the major operation to be performed without undue risk.

My thanks are due to my colleagues Mr. Cecil A. Joll and Mr. L. F. C. Norbury for their kindness in giving me the opportunity of collaborating with them in the treatment of their cases, and to Miss Geraldine Barry, surgical registrar, for her help in collecting certain particulars for me from the case records.

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URETHRAL CALCULI—ANCIENT AND MODERN

BY

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DURING the last year two urinary calculi have been presented to the Pathological Museum of the University of Egypt. These calculi show so remarkable a resemblance of form, the one to the other, that I have ventured to make a few notes upon them.

The smaller stone (Fig. 1) was removed in December 1928, by Dr. Kattih, assistant surgeon to the Kasr-el-Aini



FIG. 1. FIG. 2.

Hospital, Cairo, from the urethra of a boy 8 years of age. The history which accompanied the specimen stated that the child complained of a lump in the scrotum and perineum. No complaint was made of pain or frequency of micturition. The flow of urine was not interfered with. A slight urethral discharge was present. The stone was cut down upon and removed, and the boy made a perfect recovery. The stone itself weighed 41.5 grams, and is

seen to consist of a large lower bulbous portion, a somewhat indistinct neck, and an elongated extremity The surface of the stone is almost smooth In length it measures 2 75 inches, while its greatest diameter is 1 5 inches Some particles removed from the outer surface give the chemical reaction for phosphates When the stone was removed from the urethra it was found to be lying in a widely distended urethral canal The large globular mass rested in the bulbar urethra, the slim end extended towards the bladder The wall of the urethra was inflamed but showed no sign of actual ulceration

The larger stone (Fig 2) was presented to the museum in 1929 by Mr Guy Brunton, who found it in the grave of a man of the early 18th Dynasty, while he was undertaking archaeological research some twenty miles south of Assiut The stone was found in the neighbourhood of the pelvic bones The stone, though larger in every way than that previously described, bears a very strong family likeness to it This specimen weighs 110 5 grams, in length it is 3 75 inches, while its greatest diameter is 2 75 inches It consists also of a bulbous lower portion, a neck, which is marked by a very evident sulcus, and an elongated extremity The surface is rough, as if it had been lying in a septic cavity Scrapings from the surface give the phosphatic reaction

In comparing the two specimens so similar in shape and moulding, one might suggest that as the former is known to have occupied the urethral canal of a boy of 8, the other might well have occupied a similar position in the man of the 18th Dynasty The sulcus, which is very evident and forms the neck of the stone obtained from the adult, is present to a lesser degree in the stone from the boy, and has probably been produced by the pressure of the anterior layer of the triangular ligament We also know that a stone weighing 41 5 grams can be accommodated by the urethra of a boy of 8 years without causing any grave inconvenience Could not the adult urethra accommodate a calculus of 110 5 grams? In this case, however, the roughened outer surface of the stone suggests that a considerable urethral discharge was present, due to some inflammatory disturbance about the area occupied by this calculus

PNEUMONIA AND EMPYEMA DUE TO A NON-LACTOSE-FERMENTING BACILLUS

BY

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THE following is an account of a case of pneumonia and empyema apparently caused by a non-lactose-fermenting coliform bacillus possessing special biochemical and agglutinative characteristics

HISTORY OF CASE

The patient a man aged 21, was admitted on January 19th 1929 as a case of "influenza" He gave a history of pain in the back and limbs headache sore throat, and slight cough commencing suddenly twenty four hours previously His temperature was 103° F his pulse rate 98, and his respiration rate 24 No abnormalities was detected on examination of the chest He was treated with antipyretics

On January 21st the temperature fell and the patient felt better Four days later he had pain in the left side of the chest and a dry cough His temperature was 103° F his pulse rate 88 and his respiration rate 30 Pleural friction and a small area of dullness appeared below the left scapula Within one week the temperature had settled and the patient's general condition was greatly improving

On January 31st he developed pain in the right side of the chest and a dry cough His temperature was 102° F, his pulse rate 140 and his respiration rate 40 The patient felt and looked ill Pleural friction was present on the right side A right pleural effusion developed and slowly increased during the following week A septic temperature of the swinging type persisted [illegible] was introduced into the right pleural cavity and a purulent fluid was withdrawn On four more occasions pleural fluid was withdrawn and finally the patient was sent to [illegible] and drainage of the pleural cavity was carried out During the whole illness [illegible]

BACTERIOLOGICAL EXAMINATION

Three specimens of pus aspirated from the pleural cavity on different dates were examined, and a Gram-negative bacillus was isolated on each occasion, giving the same biochemical and agglutination reactions

Morphology and Fermentation Reactions

A profuse growth on agar was obtained in twelve hours of colonies having the typical appearance of the coliform group and consisting of highly motile Gram-negative bacilli about 4 μ long and 0 5 μ broad, showing the following reactions when observed over a period of thirty days

Glucose, mannite, maltose, sorbite, and galactose formation of acid and gas
Lactose, saccharose, dulcite, salicin, inulin, adonite, and raffinose no change
Litmus milk slight acid and curdling by fourth day, alkaline from eighth day onwards
Lead acetate no blackening
Gelatin not liquefied in six weeks
Indole reaction negative

The organism therefore differed biochemically from the salmonella group only in its failure to attack dulcite Most members of the salmonella group produce acid and gas in inosite, but some, like this organism, do not Blood culture yielded no growth This was taken when the temperature had fallen, too late to be of much value

Agglutination Tests

A Widal test yielded the following results

Patient's serum + B paratyphosus A = no agglutination
Patient's serum + *B typhosus* = agglutination up to 1 in 15
Patient's serum + *B paratyphosus* B = agglutination up to 1 in 120
Patient's serum + unknown organism = agglutination up to 1 in 3,200

The organism was then typed against stock antiserums for *B typhosus* B, *Paratyphosus* A, and Gaertner's bacillus, but no agglutination was obtained The results of typing against antiserums for *B paratyphosus* B and *B aertrycke* (Glasgow) were as follows

Emulsion of Organism	Dilutions of B paratyphosus B Antiserum						
	100	200	400	800	1 600	3 200	6 400
B paratyphosus B	+++	+++	+++	+++	+++	+++	+++
Unknown organism	+	+	±	∓	−	−	−
B aertrycke (Glasgow)	++	+	+	+	±	−	−

Emulsion of Organism	Dilutions of B aertrycke (Glasgow) Antiserum							
	400	800	1 600	3 200	6 400	12 800	25 600	51 200
B aertrycke (Glasgow)	+++	+++	+++	+++	+++	+++	+++	+++
B paratyphosus B ...	++	+	±	∓	−	−	−	−
Unknown organism	+	±	±	±	±	∓	−	−

+++ quite clear complete sedimentation
++ no quite clear almost complete sedimentation
+ not clear definite sedimentation
± and ∓ slight degree of sedimentation

A vaccine was made containing 500 million of the unknown organism per c cm and injected intravenously into

Emulsion of Organism	Dilutions of Antiserum to unknown Organism						
	160	320	640	960	1 480	2 560	5 1 0
B typhosus	−	−	−	−	−	−	−
B paratyphosus A	−	−	−	−	−	−	−
B suipestifer (Lister Institute	+	+	−	−	−	−	−
B aertrycke (Smethwick)	++	++	+	−	−	−	−
B paratyphosus B	++	++	+	+	−	−	−
B aertrycke (Beveridge)	+++	++	++	+	+	−	−
Unknown organism	+++	+++	+++	+++	+++	+++	++

a rabbit at five-day intervals in doses of 0 1, 0 2, 0 5, and 1 c cm The rabbit's blood was drawn off twelve days after the last injection and set up against emulsions of various organisms

DISCUSSION

These tests show that while the organism has, antigenically as well as biochemically, something in common with *P paratyphosus* B and *B aertrycke* it is distinct from these organisms

The clinical course of the infection bears a striking resemblance to that of many cases of psittacosis The sudden "influenzal" type of onset, the dry cough, the slow pulse and respiration rate compared with the high temperature, are found in psittacosis, but there is no history in the case of contact with a parrot, and the organism differs from the strains which used to be considered the cause of psittacosis

Eighteen months previously the patient had been inoculated with T A B vaccine, and this might account in part for the high agglutination of *B paratyphosus* B by his serum, but the group relations demonstrated between the infecting organism and *B paratyphosus* B are more likely to account for this agglutination

The organism is therefore closely allied to the *paratyphosus* B–*aertrycke* group, but differs materially from these organisms in failure to ferment dulcite and in its specific serological qualities

I wish to thank Dr Logan for his advice and interest during the study of this organism and Dr Goodall for permission to use the case notes The expenses of the investigation were defrayed by a grant from the Moray Fund

CONGENITAL DISLOCATION OF THE KNEES TREATED BY MANIPULATION

BY

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THE case under consideration is that of a baby girl who was brought for treatment with double congenital dislocation of the knees when only 16 days old With the exception of this congenital deformity she was normal and well developed The delivery was a non-complicated vertex The knees could manually be acutely hyperextended on the thighs, but could not be flexed A photograph taken

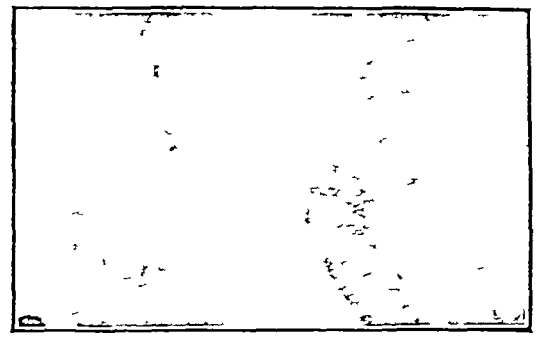


Before treatment After treatment.

reveals hyperextension with resultant folds on the dorsum of the limb above and below the knees. The left leg was in a position of valgus with eversion, the right did not have this malposition

Manipulation was started on the right knee, and the limb placed on a malleable posterior splint which was bent to the required angle after each manipulation Daily massage was ordered for the posterior muscles of the limb Treatment of the left knee was started a fortnight later, the right was then progressing favourably The sittings were twice weekly for the first month and later once weekly, without any anaesthesia When flexion was advancing the posterior splint had to be changed for an angular malleable anterior splint In four weeks the right knee was completely reduced, and later the child resisted any hyperextension, and cried when this was attempted The left knee was more troublesome owing to the eversion of the leg This, however, has now been reduced The child has been under treatment for the last eight months and can be supported on her limbs, the knees being quite stable

Radiographs were taken before and after treatment, the latter showing reduction of the dislocation The left limb shows traumatic separation of the periosteum produced by the forcible correction of the eversion



Left knee before treatment. Left knee after treatment.



Right knee before treatment. Right knee after treatment.

Such cases as the one here recorded are comparatively rare, and, when not complicated by the congenital abnormalities, are undoubtedly due to malposition *in utero*, and should yield excellent results with simple conservative manipulation without anaesthesia when taken in hand early

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

THE VITAMIN A CONTENT OF GHEE

GHEE is the clarified fat of cow's milk or buffalo's milk According to E R Bolton,[1] "it is prepared by inoculating freshly boiled milk (usually buffalo) with sour milk, and after curdling has taken place, churning in a rather primitive manner The fat so obtained is skimmed off, allowed to become somewhat rancid, and then heated in earthen pots until the water has evaporated The fat clarifies on standing, and when sufficiently clear is run off from the sediment and constitutes 'ghee'" This heating or "rendering" is in some cases followed by a second similar treatment, or "re-rendering" Ghee is an important constituent of Indian dietary its vitamin content is consequently a matter of considerable interest

In 1922 Ghose[2] recorded some observations on ghee, in which he found vitamin A to be present His results were obtained before vitamin A had been distinguished from vitamin D They are therefore subject to the same inconsistencies of interpretation as are all results of investigation into the fat-soluble vitamins before that distinction had been recognized By the courtesy of Dr F N Moos of the Goculdas Tejpal Hospital, Bombay, we were recently put in possession of five samples of Indian ghee The first example was of unspecified origin, and was not further examined The remaining samples, Nos 1, 2, 3, and 4, came each from a different hospital in or near Bombay

[1] Bolton E R *Oils, Fats and Fatty Foods*. Churchill 1922, p 123.
[2] Ghose *Biochem Journ* 1922, xvi, 35.

then behave towards the invading bacteria as though they were saprophytes but this is hardly an explanation of the mechanism of the phenomenon, it is merely a restatement of the end-result observed Of one thing the author seems quite convinced, and that is that antibodies play no part in bringing about this immunity though his reason for thinking so—namely that no antibodies are capable of demonstration—does not seem to us entirely satisfactory In passive immunity to a virus such as vaccinia or foot-and-mouth disease, for example, it would be extremely difficult to demonstrate the presence of antibodies in the passively immunized animal though one knows that the insusceptibility of its tissues is the work of the antibodies contained in the serum inoculated But Besredka would have little use for such an argument

The last chapter of the book is devoted to local serotherapy and the author cites many examples to show how much more effective it is to apply an antiserum direct to the seat of infection than it is to apply it indirectly via the circulation This would appear logically sound, and probably most people would agree with him but they would not accept his explanation of the mode of action of the antiserum Antivirus excites immunity by desensitizing cells not by calling forth the production of specific antibodies and since an antiserum locally applied is equally effective in producing an immune state, it must therefore contain antivirus Such reasoning is surely unsound However, leaving aside the question of how antivirus acts, what can be said of the therapeutic results obtained by its aid? The major portion of the book is devoted to this, and glowing accounts are given of the cures to be obtained by this form of therapy in the different realms of disease It is somewhat surprising that a method so simple of application—which can so rapidly effect a cure of such obstinate conditions as long-standing blepharitis and chronic cervicitis and various forms of colitis, to cite only a few examples—should have little or no vogue in this country

The majority of the workers in England who have essayed Besredka's methods are not enthusiastic, whereas on the Continent wonderful successes are recorded What is one to believe? As in most disputes of this kind the whole truth is probably with neither party

HUMAN BIOLOGY AND RACIAL WELFARE

Dr E V Cowdry has edited a collection of twenty-five essays in a volume entitled *Human Biology and Racial Welfare*[1] by twenty-eight contributors nearly all from the United States of America, among whom Professor J F Fulton, who was recently elected to the chair of physiology at Yale, collaborates with his former chief, Sir C S Sherrington on nervous integration in man Specialization is essential for the advance of knowledge, but there is a real danger that the individual worker may thereby tend to become isolated and narrow-minded This liability to thought-tight compartments is also unfortunate for science as a whole, because many of the problems urgently crying for solution are on the borderland of the sciences which make up human biology, and therefore require team work This book, which is accordingly designed to obviate the drawbacks of specialization, is intended for two groups of readers in the first place for students, especially those of medicine, who are about to specialize and can do so more intelligently after they have seen in perspective what lies ahead of them, and secondly for more mature men occupied in science or business who are anxious to gain a deeper insight into the problems of life

The work is divided into five parts the first, on life in space and time, is written by Professor H Norris Russell director of the Princeton University Observatory In the second part, on the origin of man, there are six articles Professor A B Macallum deals with the biochemistry and other aspects of evolution such as the cerebral and the mental in the classification of the races of mankind Aleš Hrdlička, curator of the division of physical anthropology U S National Museum Smithsonian Institute, considers but dismisses the theory of recent generation Part 3, on man as a physiological unit, naturally begin with the editor's description of the vital units called cell and is continued by Dr Alexis Carrel's essay on the relations of cells to one another by Professor W B Cannon on the integrative action of the nervous system, by Sir Charles Sherrington and Dr J F Fulton *on nervous integration in man* and Dr Clark Wissler professor of anthropology at Yale on the integration of the sexes—marriage The important subject of the effects of environment is discussed in no fewer than eight articles on the influence of special factors such as climate food rural or urban residence, and education, the contributors including Sir Humphry Rolleston and Professors Hrdlička Emerson McCollum and Zinsser The fifth and last part of this interesting volume is entitled 'The future' and begins with an able article on the inheritance of disease by the late Paul A Lewis who lost his life while investigating yellow fever at Bahia Brazil last year Professor Raymond Pearl writes with authority on the biology of human populations Dr C B Davenport on the *mingling of races and Professor Conklin on the purposeful* improvement of the human race

We must heartily congratulate the editor on the success of a work embodying a great deal of valuable information by such an eminent team

NASAL SINUSITIS AND GENERAL MEDICINE

THE views of Dr PATRICK WATSON-WILLIAMS on the accessory sinuses of the nose as a site of focal sepsis have long been familiar through the medium of numerous papers, lectures and demonstrations In *Chronic Nasal Sinusitis and its Relation to General Medicine*[2] he has now collected much of this scattered material and presented his matured opinions In this country it was Dr William Hunter, one of the great men to receive no official recognition who introduced the new principle of focal sepsis into medicine, and it is now accepted as commonplace It must, however, from its nature suffer from a certain vagueness and lack of sharp definition and consequently it lends itself easily to exaggeration The tendency is carefully avoided by Dr Watson-Williams in his own domain and he spares no pains to support his thesis with full pathological data taken from both morbid anatomy and bacteriology He is less cautious in accepting the statements of others, for example when it is said that focal sepsis can produce errors of refraction, though it may be admitted that such errors might not cause symptoms in the absence of toxic absorption, and, again, the statement that a certain type of optic neuritis, "the abdominal eye," is regularly cured by removal of an infected gall-bladder, recalls some line of thirty years ago, written by a well-known medical versifier, and entitled "All my eye"

All the possible systemic manifestations of focal sepsis are fully described, but to specialists those parts of the book which will be most instructive are the chapters on endorhinoscopy, on diagnostic suction, and on operative technique The part on nasal endoscopy describes in detail the use of the electric endorhinoscope and is illustrated by a number of fine drawings which almost make a small atlas of the subject It seems that this instrument has not come into use so generally as it deserves The author shows that it can provide information to be obtained in no other way The diagnostic and operative technique demanded in the class of case under consideration has been evolved by Dr Watson-Williams himself but as the accessory sinuses of the nose have been the subject of intensive study by distinguished writers in many different countries it is not likely that his conclusions will be universally accepted, nor does he expect it Nevertheless his opinions and methods are worthy of sympathetic attention The presentation of the case as a whole is not altogether happy There is much repetition, which often makes tedious reading important misprints are too numerous, and the legends below the radiographs on page 130 are misplaced

[1] *Human Biology and Racial Welfare* Edited by Edmund V Cowdry Professor of Cytology Washington University St Louis With an introduction by Elwin R Embree London H K Lewis and Co Ltd New York P B Hoeber Inc. 1930 (6 × 9½ pp xviii + 512 illustrated 28s net.)

[2] *Chronic Nasal Sinusitis and its Relation to General Medicine* By Patrick Watson Williams Bristol J Wright and Sons Ltd., London: Simpkin Marshall, Ltd. 1930. (Med. 8vo pp xvi + 221 109 figures. 15s net.)

EDUCATIONAL PSYCHOLOGY

An excellent book for those who are interested in the application or contribution of psychology to education is the volume entitled *Educational Psychology*,[5] by Rudolf Pintner, a professor in Columbia University. It is no doubt intended primarily for teachers themselves, but it should attract a wider class of readers than this. Parents may derive considerable benefit from its perusal, and it should help many medical practitioners to a better understanding of problems in connexion with the education of children upon which they are often asked to give advice. It has a bearing upon the training of the adolescent and the adult as well as on the schooling of children. It does not follow the older conventional psychological arrangement adopted by many other textbooks of the subject, but accepts the more modern presentation, and has regard to the recent developments in the field of psychological and educational measurements. In this case, at any rate, there is justification for the publishers' note, which claims that the book is "an admirably lucid and comprehensive exposition. Professor Pintner has sifted the whole of psychology and given, in simple and practical form, the essentials needed for educational purposes. The interest is enhanced by many charts and diagrams, and the whole forms an admirable introductory textbook to the subject."

The author treats his subject in two chief divisions: the original nature of the individual to be educated, and the modifications of that nature which it is desired or desirable to attempt to bring about, it is recognized that this division is merely a matter of convenience and largely artificial. "We never find original tendencies and modifications clearly differentiated in any individual. Modifications begin at birth and are continually taking place. Yet every modification is influenced by the original tendencies of the child. There is thus a continual interaction." In the first part of the book there is an adequate and well-proportioned discussion of reflexes, instincts, emotions, and capacities, and a sane appraisement of the measurement of the last by means of intelligence tests. In the second part the subjects dealt with are the laws of learning, effective and economical methods of learning, the permanence of modifications, the reciprocal effects of modification, fatigue, and the best methods of testing progress in school subjects.

In two respects the book is particularly noteworthy. The author considers conditioned reflexes in relation to education, though not, we think, with the adequacy the subject demands. It is however, a considerable advance to have a few pages devoted to them in a book on educational principles and methods. Further, the whole treatment of the subject of the transfer of training—that is the effects produced by training or modification in one department or subject upon other departments or progress in other subjects—is admirable and should be of great value. The wide claims for such effects which have usually been made and are still current deserve the careful examination which Professor Pintner gives them, and there can be little doubt that they must be seriously discounted. Especially may those who are responsible for the general education of pupils destined for the medical profession consider the position of the teaching of Latin and of elementary science in this regard. This is an important section of the book and in it, as in other sections, the author bases his conclusions upon actual experience and scientifically conducted investigations, and expresses them with commendable clearness and moderation.

NOTES ON BOOKS

[illegible] of revision before [illegible] to your [illegible] medicine condensed into a book of [illegible] pocket it is natural that the statements made [illegible] concise, but not always able to stand [illegible] their meaning. Thus in the new edition of *Aids to Medicine* by Dr. J. L. Livingstone we find under glandular [illegible] causes are enlarged tonsils and [illegible] there any other basis than [illegible] Must not both the enlarged tonsils and the enlarged glands be due to the tubercle bacillus? Has anyone ever traced a tubercle bacillus through a carious tooth to a gland? We ask these heretical questions because it seems a pity that students are not trained in clear thinking. The tonsil may be suggested as the probable portal of entry for the bacillus to the gland, a tonsil enlarged from some other cause may possibly encourage entry, but the student should not be led dogmatically to associate enlarged tonsils and tuberculous glands. However, if more exact methods of description were used in *Aids to Medicine*, perhaps the book would no longer go into the pocket of the examinee.

[illegible] Pintner. [illegible] Williams and [illegible] 36s. net. Figure. 10s. 6d. net.) [illegible] Livingstone, M.D., M.R.C.P. [illegible] Tindall and [illegible] 5s. net.)

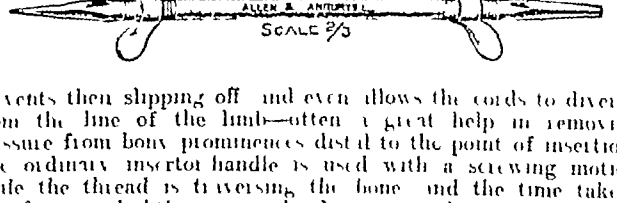
Sir JAMES CRICHTON BROWNE has celebrated his ninetieth year by gathering together into a little book, entitled *What the Doctor Thought*,[7] sundry reflections, amusing stories, and notes on distinguished people whom he has met. In it, as a reviewer recently stated in the *Morning Post*, "wisdom and the oldest jokes are to be found side by side." As an instance of the humour which pervades the stories we may take the account of a dinner at William de Morgan's house in Florence. The conversation turned on spiritualism and all the guests related experiences except one lady, who, while helping herself to rissoles, declared that she would never believe in the supernatural unless some event, however trivial, which could not be explained rationally, happened to her. When the guests were leaving, and de Morgan was lifting the lady's cloak off a peg, an article shot out from the hood and hit her on the nose. De Morgan suggested that the article must have been a mouse with Alpine proclivities, but after a search it proved to be a cold rissole. "All possibilities of a practical joke were excluded," says Sir James. But he begins his next paragraph, dealing with a totally different matter. "I realized how painstaking de Morgan was in his work when, etc."! As a type of Sir James Crichton Browne's reflections we may take his criticism of Lord Rosebery's statement that Dr. Johnson "was born scrofulous, half blind, and with an hereditary melancholy not far removed from madness." Sir James's view is that the scrofula came from a cow with a tuberculous udder, the blindness from a dirty midwife, while the melancholy came from the doctor's alimentary canal, and might have been relieved with buttermilk.

[7] *What the Doctor Thought*. By Sir James Crichton Browne, M.D., LL.D., F.R.S. London: E. Benn, Ltd. 1930. (Cr. 8vo, pp. 284. 7s. 6d. net.)

PREPARATIONS AND APPLIANCES

A MODIFIED STEINMANN'S PIN

Dr. JAMES H. CARIAX (orthopaedic house surgeon, St. Thomas's Hospital) writes: A modification of Steinmann's pin now in routine use in the orthopaedic wards of St. Thomas's Hospital is illustrated below. It differs from the standard pattern only in that it has a screw thread at each end on to which fits a winged nut. When cords are attached to the pin the nut



prevents them slipping off and even allows the cords to diverge from the line of the limb—often a great help in removing pressure from bony prominences distal to the point of insertion. The ordinary inserter handle is used with a screwing motion while the thread is traversing the bone and the time taken, therefore, is slightly increased. Nitrous oxide anaesthesia still suffices for adults while as previously gentle extraction requires no anaesthetic. The pin is made by Messrs. Allen and Hanburys, Ltd.

PREPARATIONS OF EPHEDRINE

We have received from the British Drug Houses, Ltd., samples of various preparations of ephedrine and its hydrochloride. This alkaloid is an exception among new drugs, for not only has it maintained its initial popularity but it is in addition finding a steadily increasing range of employment. In particular, it is proving of real value in the relief of a number of common ailments. The wide range of utility of ephedrine is indicated by the fact that British Drug Houses, Ltd., are issuing a variety of preparations—namely, tablets and elixir for oral administration, ampoules for hypodermic injection, inhalant, throat spray, and nasal jelly. The dose for oral administration is 1/2 to 2 grains, and the inhalants and nasal jelly contain 1 per cent. of ephedrine alkaloid.

The chief use of the drug is in the relief of asthma, but oral and local administration has also proved successful in the treatment of hay fever, and local administration is stated to produce considerable relief in the common cold. Oral administration is reported to benefit whooping-cough. In addition to these actions on the respiratory passages the pressor action of the drug has been utilized for relief of shock.

INVESTIGATION OF ASTHMA.

REPORT BY ASTHMA RESEARCH COUNCIL

In a leading article published in the *British Medical Journal* of June 21st the work of the Asthma Research Council, and of independent observers of this and allied conditions, was discussed. A disease of which the etiology remains obscure, asthma is under investigation from several aspects, and probably boasts as many forms of treatment as the common cold. Cases may be grouped as those which show asthma associated with allied conditions, such as migraine, hay fever, urticaria, eczema, and biliousness in childhood, and those in which asthmatic attacks appear to be the only symptom of ill-health. The findings of many workers, discussed in our recent article, point to alimentary toxaemia as a probable cause of asthma in some cases, achlorhydria and hypochlorhydria are common in asthmatic children, and flatulence is a frequent accompaniment of asthmatic attacks. The presence in the urine of a proteose to which the patient is extremely sensitive is possibly a secondary effect of incomplete protein digestion, and marked improvement, even recovery, has followed desensitization to this proteose. The omission of meat and potatoes from the diet usually reduces flatulence considerably and improves the asthma. *The upper respiratory passages are under suspicion* of harbouring a histamine-producing Gram negative bacillus, which is responsible for asthmatic attacks in other cases. Sinusitis is common among asthmatics, but the opinion is held by some observers that it and the asthma are due to an unknown common cause. The group of cases in which a definite exciting factor such as hen's feathers can be found appears to be smaller than was at one time supposed.

In a report of progress of the Asthma Research Council, from October, 1927, when it originated to May 31st, 1930,[1] the original programme of research is quoted. This was arranged to cover the whole field as far as possible without overlapping, that is to say the asthma research centres were to attack the problem from different angles, following one line of inquiry in each case. The aspects under consideration were to include biochemical investigation, research into asthma as affecting children, an inquiry into the nature of sensitization, an examination of physical methods of treatment, the relationship of asthma to other respiratory diseases, observations on the effects of diet, an investigation of alleged cures, and an analysis of family histories of asthmatics.

Assistance has been received by the council both as a response to public appeals and by donation from the Hadley Stewart Trust. Persons suffering from the disease have shown much anxiety to further the aims of the council, and have supplied records of their illness and of the treatment from which they derived most benefit. Some of the cures, following years of disablement, offer interesting lines of investigation, in others the importance of the psychological factor in asthma becomes apparent. One man recovered, after sixty years, by taking a mouthful of honey at bedtime, another described a cure following a dose of black treacle after the midday meal and two rhubarb pills at night. The council has wisely included in its programme the investigation of secret remedies and of the claims of homoeopaths, osteopaths, nature curers, and others to treat asthma.

Work at Research Clinics

At Guy's Hospital the clinic is under the charge of Dr. G. H. Oriel, and the staff at work on the asthma problem includes a biochemist a radiologist, an oto-rhinologist, a pathologist and clinical pathologist, a physician, and a psychologist. One would say that with such co-operation it should be possible to view the disease as a whole. The clinic has attempted to collect statistics on the conditions predisposing to asthma, and to institute new lines of research and improved lines of treatment. From 213 patients who have passed through the centre it has been possible to draw some tentative inferences. For example up to 14 years of age asthma is more common in boys than girls, after that age the incidence becomes almost even for the two sexes. Over 50 per cent. give a history of asthma or one of the allied conditions in other members of the family.

Investigations on desensitization to the urinary proteose on digestive symptoms on histamine-producing bacilli in the respiratory passages, and on sensitiveness to feather, hair, and other animal substances are also being carried on, but results are as yet inconclusive. Among 55 patients suffering from asthma associated with other allergic conditions and treated with glucose and ammonia to combat intestinal and liver disturbance 27 had no attacks, 25 were improved (less than 50 per cent. of the original number of attacks), and 3 were unchanged (more than 50 per cent. of the original number of attacks). Among 21 treated by vaccines from organisms to which their skins were sensitive 3 showed no attacks, 13 improvement, and 5 no change. Proteose injection has been tried for over three months on 22 asthmatics on whom other forms of treatment failed, and of these 6 have had no attacks, 12 were improved, and 4 unchanged. These figures give an interesting indication of the value of different lines of treatment.

At Great Ormond Street Dr. G. W. Bray is conducting investigations on children. 300 cases of asthma and allied disorders have been observed during the past year. The family history is taken in great detail, and a health visitor calls at the home and takes note of the district and of the internal and external conditions of the house. A radiograph is taken of the chest, blood specimens for analysis and grouping, and the child's diet and daily routine are considered in detail. Septic foci are removed, routine protein skin tests are made, and test meals given. The children attend educatory breathing classes, especially following the removal of tonsils and adenoids. A paper has already been published in this *Journal* (March 1st 1930, p. 384) on the hereditary factor in asthma, as investigated in 200 cases at this clinic.

Physical methods of treatment are under examination at the London Clinic by Dr. Una Ledingham; these include inhalation therapy, ultra-violet ray therapy, the use of an automatic breathing appliance, and the application of carbon dioxide gas to the nose. Among 40 patients ranging in age from 31 to 70 years, 20 derived benefit from one or other form of treatment, 16 were unaffected, and 4 were made worse. The benefit varied from an hour or two of relief to comparative freedom in a few cases. It was found that the cases associated with bronchitis obtained the greatest relief, the remainder being, for the most part, unaffected. Ultra-violet light treatment appeared to give the highest percentage of improvement, inhalations a slightly smaller percentage, and the automatic breather the least.

At the Glasgow Research Clinic treatment has been confined to the removal of any nasal abnormality and dieting according to Dr. Adams's diet sheet. Investigations are being carried out on the reaction of the blood and on eosinophilia in asthma by Dr. Marjorie Gillespie. At the Asthma Research Clinic at Leeds special attention has been directed to the treatment of nasal sepsis and to non-specific desensitization by the intravenous injection of peptone. The cases have been too few for any generalizations to be made as yet, but Dr. Henderson Moll finds that in his present series inheritance through the mother appears to be twice as common as through the father. At the Birmingham Clinic extensive trial has been made of intravenous peptone, and more recently of calcium chloride following investigations on the ionized calcium in the blood. Voluntary workers at the Edinburgh Royal Infirmary have been collecting data for eight years.

Dr. Una Ledingham has made an interesting report on Continental asthma treatment centres. The treatment at these clinics is largely physical, depending on baths, inhalations, diathermy, and ultra-violet light; the results are good in some cases, but probably are temporary rather than permanent. Dr. Ludwig Hofbauer at Vienna, however, advises a method of re-education in breathing, which is simple and appears to give good results.

Research is a tedious undertaking and cannot be hurried. Investigators have been hampered by lack of funds, but in spite of this a remarkable accumulation of knowledge has accrued.

[1] Copies of the report can be obtained gratis from the Secretary, Asthma Research Council, c/o King's College, University of London, Strand, W.C.2.

BEIT MEMORIAL FELLOWSHIPS.

A SURVEY OF TWENTY YEARS

We have received from Sir James K. Fowler, M.D., trustee and honorary secretary of the Beit Memorial Fellowships for Research in Medicine and Allied Sciences, a report of the last meeting of the trustees, together with details of the Fellows elected on that occasion. In view of the fact that the Beit Fellowships were founded in December, 1909, Sir James Fowler substitutes for his customary annual report a review of the work of the Trust during the first twenty years.

In 1909 there were in England possibly half a dozen studentships and scholarships which would enable a man without independent means to turn aside for a few years from the practice of his profession and devote himself to research in medicine, those of the Grocers' Company deserve mention. Sir Otto Beit's gift of £230,000 was of a magnitude that had no precedent in English medicine, and the annual income derived therefrom has ever since been applied to the endowment of men and women, and none of it has been spent upon the erection of buildings. In its first year the Trust created 10 new Fellowships, and within three years there were 30 Fellows engaged in medical research.

The Beit Fellowships are whole-time appointments, although teaching work in connexion with the allied branch of science is permitted, but private medical practice is forbidden. They are open to graduates in any faculty in a British university. The candidate selects the subject of his research, and in submitting it gives an account of his previous career and names referees who can give evidence of his fitness for the work.

At first the value of a Fellowship was £250 per annum, and the tenure three years, with a possible extension to a fourth year in cases where marked distinction had been shown. In 1922 the Fellowships were reorganized and designated junior (three years), fourth year, and senior (three years), thus providing for seven years of continuous research, a period regarded as adequate for a man of marked ability to give proof of his fitness for a higher post—for example, a professorship. The values of the Fellowships were then fixed at £350 per annum for junior Fellows, £400 for fourth year Fellows, and £500 for senior Fellows. In 1927 the stipends were again revised and increased to £400, £500, and £700 respectively, at these values they have since remained.

In 1927 a Senior Fellowship, value £1,000 per annum for five years for research in tropical medicine, was created. To this Dr. Edward Hindle, whose research on yellow fever has been referred to in favourable terms in recent annual reports, was appointed. This research has already afforded an answer to several questions of great practical importance in connexion with yellow fever. It has been shown that (1) A vaccine prepared from the organs of monkeys of a certain species infected with the virus of yellow fever will give protection to other animals of the same species. (2) That animals thus protected can withstand a dose of the virus a million times as great as that which is fatal to the unprotected. (3) That, although this vaccine prepared from monkeys is protective to monkeys, it has not yet proved possible by similar methods to immunize human beings. (4) That Europeans may suffer from a mild disease not clinically recognizable as yellow fever, and that subsequent examination of their blood may prove that all the accepted tests of immunity are present. In view of the dangers of this work the Trustees have decided not to continue the research under present conditions.

The total number of Fellows elected up to and including 1930 is 138. But for the war this number would have been greatly increased, as in 1914 all the Fellows resigned in order to undertake work of more immediate national importance, and during its continuance no new appointments were made. In 1919 all those who applied were reinstated.

Careers of Beit Fellows

Excluding those whose appointments are of too recent date to justify their inclusion, it appears that the total number of Fellows elected up to the year 1925 was 101, of whom 79 were men and 22 women; of the men, 7 died at a relatively early age, but none of the women.

Considering first the careers of the 72 men, it appears that 4 have received the F.R.S. and 16 have been appointed to university professorships. Most of the remainder occupy whole-time posts for teaching, research, or scientific work, and have steadily continued the career upon which many entered when first elected to a Beit Fellowship. Of the 52 who held medical qualifications when appointed, 13 have passed into medical practice, consulting or otherwise, but the majority of these are continuing scientific work and are thus influencing the character of the men in which they are now engaged.

Of the 22 women a few have married, but all continued for many years the work of research, and many are still thus engaged. That they hold, or have held, such positions as members of the scientific staff of the Lister Institute, university lectureships in biochemistry, pathologist and bacteriologist to general hospitals and boards of health, head of a department in an institute for medical research, principal of a horticultural college, physicians to children's hospitals, and holders of Rockefeller Medical Fellowships, is sufficient proof of the value to them of their training when engaged in research as Beit Fellows and also of the services they were thus enabled subsequently to render to the community both in this country and abroad.

As the separate problems upon which the Fellows have been engaged exceed 180 in number it is unlikely that any single individual is competent to form a trustworthy estimate of the effect which this work, covering so many and such diverse fields of knowledge, has had upon the advances made by these various sciences during the period in question. The honorary secretary mentions, however, by name two former Fellows, both of whom were appointed at the first election in 1909. "During the last fifteen years England has made no more conspicuous contributions to the knowledge that guides practical medicine than those which lie in the analysis of disorders of the heart by Sir Thomas Lewis, F.R.S., and in the experimental proof that rickets is due to vitamin deficiency by Professor Edward Mellanby, F.R.S."

Although the possession of an adequate stipend is the first necessity for one who proposes to devote his life to research, a place wherein his work can be carried on is hardly less so. The Beit Fellows have been singularly fortunate in this respect, they have been welcomed in many laboratories and institutes not only in this country but on the Continent and in America. In particular, many have enjoyed the hospitality of the Biochemical Laboratories at Cambridge under Sir F. Gowland Hopkins, and of the Lister Institute under Sir Charles Martin.

In the opinion of the Advisory Board the founder has every reason to be satisfied with the results obtained during the first twenty years of the life of the Trust which was born of his munificence in 1909.

Elections to Fellowships

The following elections were made by the Trustees:

Senior Fellowship (value £700 per annum).—Richard James Lythgoe, M.A., M.B.

Fourth year Fellowships (value £500 per annum).—(1) Philip Eggleton, M.Sc., (2) Frank Robert Winton, M.A., M.D.

Junior Fellowships (value £400 per annum).—(1) Frederick Horace Smirk, M.D., M.R.C.P., subject the functional pathology and physiology of diuresis from a biochemical standpoint and the functional pathology of plethoras, anaemias, and oedemas, (2) Gordon Roy Cameron, M.B., B.S., D.Sc., subject the histological identification of calcium salts in pathological deposits and inflammation in invertebrates, (3) John McMichael, M.B., Ch.B., M.R.C.P.Ed., subject the interrelationships of liver and splenic disease, diseases of portal vessels and other vessel changes in liver disease, (4) Robert Percival Cook, B.Sc., Ph.D., subject bacterial metabolism and its relation to the specific action between host and bacterial parasite, (5) Norman Urquhart Meldrum, B.Sc., subject the so-called reversible denaturation of haemoglobin and the formation of sulphydryl groups in various types of protein denaturation, (6) David Reginald Piper Murray, B.A., subject a comparison of the two types of proteolytic enzymes characteristic of the tissues and organs and of the digestive tract, (7) George Norman Myers, M.B., B.S., M.Sc., subject the curative action of digitalis, its glucosides and allies, in general toxaemia and in conditions of shock, (8) Charles Amos Ashford, B.A., subject studies in (*a*) the metabolism of nervous tissue and (*b*) the mode of action of vitamin D, with special reference to hypervitaminosis D.

All correspondence of candidates and Fellows should be addressed to Sir James K. Fowler, honorary secretary, Beit Fellowships for Medical Research, 35, Clarges Street, Piccadilly, W.1.

Nova et Vetera.

ANAESTHETICS IN MIDWIFERY

J Y SIMPSON'S APOLOGIA

A few months ago a fund was started for the purpose of providing anaesthetics to necessitous women in labour In 1847, when Professor J Y Simpson gave the first anaesthetic to a woman in labour the practice which the public is now asked to support was condemned on medical ethical and religious grounds The contrast may serve to underline the impermanence of moral codes it must not be taken to prove that we are better than our fathers We do not, it is true oppose the administration of anaesthetics in midwifery, but we might well ask ourselves how we would react to this practice if it were proposed for the first time to-day, or whether some of the innovations now opposed on moral grounds may not be adopted and regarded as blessings by our descendants The arguments that Simpson had to answer have more than a historical interest they have appeared with very little change in more recent controversies, and will doubtless find their supporters in the controversies of the future They are, indeed, the stock-in-trade of those persons who, mistrusting innovations for no better reason than that they are new, seek to base their opposition on loftier grounds than a mere temperamental conservatism

Fortunately, Simpson was a skilled dialectician and courageous enough to meet his opponents on their own ground the doctors he refuted by arguments based on medical experience, the theologians out of the Scriptures Some idea of his polemical methods may be gained from the following passages that appear under the heading "Notes of Professor Simpson's Lectures on Midwifery, 1854 to 1855," in the notebook of Dr William Oxley who was a student at Edinburgh, where he qualified in 1856 [1]

The religious objection is that it is a direct interference with the primal curse But if we read the curse literally we must take the whole of the context We shall then find that we are no more interfering with the primal curse in giving a woman chloroform in labour than by eating our food without sorrow, for it says in the curse to man, 'in sorrow shalt thou eat of it all the days of thy life , or by weeding our gardens for it says further, 'thorns and thistles shall bring it forth to thee' , or by inventing agricultural machines to save the sweat of man's brow This argument against chloroform is chiefly used by old maids. In answer we can remind them that the primal curse ordains, I will greatly multiply thy sorrows and thy conception and then ask them, Where is your conception, you've been breaking the primal curse? In sorrow thou shalt bring forth children, you have not any, and, Thy desire shall be to thy husband Madam, you haven't one

Our best Hebrew scholars say that the word in this passage translated sorrow is everywhere else rendered toil, and where pain is meant quite a different word is used According to this argument all medical men are very great sinners for spending their lives in combating death, another consequence of the curse, and parsons are infinitely worse for striving to do away with sin.

The arguments based on ethics Professor Simpson dealt with as follows

Moral objections are made on the ground that it is an unnatural interference with natural functions The same argument holds good in regard to all the inventions and improvements which have removed us from the state in which we were placed by nature. If we take away every thing that is unnatural we shall speedily find ourselves stark naked, *in puris naturalibus*, without carriages, clothes, steamboats, railways, and all the comforts of life Besides, the black women who as nearly as possible are still in a natural condition, suffer little or no pain in labour consequently, when we give a woman in labour chloroform to lull her pains, so far from putting her into an unnatural state we, on the contrary, restore her to a more normal condition.

As was only fitting, Simpson, in lecturing before medical students, devoted the greater part of his attention to the objections that had been brought forward by his professional brethren The gist of his argument is shown in the following extracts

All innovations, not only in medicine but in other professions have met with the strongest opposition It is said that the sexual feelings are excited by the use of chloroform but this is not true the same argument was used against potatoes, tea, and coffee It was always considered by the older surgeons that pain was a great drawback to surgical operations and that something to render patients insensible to pain was very desirable as the suffering of a patient from a severe injury depresses the system, and is alone sufficient to destroy life affecting the circulation in the same way as convulsions do, with fatal effect But no sooner have the anaesthetics so long desired, been discovered, than the opponents to their use say that pain in surgical operations and in midwifery is desirable According to them pain is a very nice thing, they think old things are better than new Shortly after its discovery I stated in the Medico-Chirurgical Society that statistics alone could settle the question these show that operations are not so fatal to the patient on the table when we save him from the pain by giving chloroform and that it adds greatly to the chance of his life being saved after the operation The same doctrine has been held with regard to midwifery, it is said that pain is an essential element in labour It is no more essential than in surgery and patients get on much better without it than with it

In the practice of our profession we have two great duties to perform to prevent death and suffering When we forge either we forget half our profession. All other pains have their remedies, and we have as much right to relieve the pains of labour as other pains, particularly as labour pains are more severe than any of them we are quite as much bound to relieve one as the other

It is said that anaesthesia sometimes produces very serious symptoms vomiting is one but this is not serious and is very rarely seen under the use of anaesthetics Laughing often comes on, but this is not more serious than in hysteria Others aver that it produces convulsions spasms, haemorrhage, but these complications, so far from being caused by it, are more generally treated with it successfully Another objection is that it leaves mental and bodily diseases, such as pneumonia, bronchitis pericarditis, fever, and puerperal diseases It was supposed to produce bronchitis and pneumonia from these diseases being found in those patients who died after surgical operations after its use but when patients die after operations these are very common causes of death, whether anaesthetics have been used or not The proportion of deaths from this cause is not so great after their use as without them

It has been said to cause pericarditis because old adhesions have been found in the pericardium of people who have died under chloroform but old adhesions could not form during the few minutes occupied in the inhalation.

Feverishness is far less frequent after the use of chloroform than without it It is said that it is apt to leave disease of the mind I have seen its use followed by puerperal insanity but only in women who have suffered from this disease before when chloroform had not been used, and consequently it cannot be attributed to chloroform I know of one case of a lady who had always had puerperal fever in previous labours in which chloroform was not used in succeeding labours in which it was used she was quite free from it

It has been asserted that it stops uterine action by producing paralysis. If given during the intervals between the pains it certainly will arrest the pains most effectually, but it will not do so if given during the pains, which is the proper time for giving it and withdrawn during the intervals

Another objection is that it occasionally destroys the life of the patient It has occasionally produced death in surgery but this accident has never happened in midwifery because it is given in much smaller doses On this ground we ought to reject all the drugs from the *Pharmacopoeia*. Opium alone produced 240 deaths in one year even when medically employed In about 400 000 cases chloroform has been used in Edinburgh and out of these there has only been one death Is there any drug in the *Pharmacopoeia* which has been used with less deleterious results? Many ordinary practices in common life should be abolished on the same ground bathing because people have been drowned cold water because people have died from drinking too much of it Fire and water occasionally destroy life should they be abolished? All medical practices, when not used properly may cause death and to give them up from their abuse and not from their use would be madness Since 1847 chloroform has been used in almost all surgical operations performed in Edinburgh, perhaps not more than 5 per cent being performed without it, and only one death has occurred under its use During the same time four cases of sudden death on the operating table have occurred in which chloroform was not given. If chloroform had been used in these cases the deaths would have been attributed to it.

[1] We are indebted to Dr W H F Oxley son of William Oxley for his kindness in allowing us to publish extracts from his father's notebook.

Many women look forward to their term of confinement with dread, which is entirely removed by these remedies Some women, particularly when maniacal, will not allow an examination to be made a difficulty which is removed by anæsthetics

It alleviates the pain of natural and morbid labour, which it is as much a duty to do as to relieve the pain of toothache, lumbago, or any painful disease, all of which have their appropriate remedies, and are not so bad as that of labour It is of use in facilitating manual and instrumental delivery it assists us in turning, by arresting the action of the uterus and in extracting retained placenta, it is the only remedy which arrests convulsions, it promotes recovery which is much shorter and safer after its use in consequence of which the nurses are set at liberty much sooner, a great objection on their part It facilitates puerperal operations, abscess of the mamma often multiple, can all be opened at once, and often disappears in a week instead of going on for months

The modern historian engaged in handling great men out of the pages of history, his favourite recreation, must pause a little uneasily when it comes to the turn of James Young Simpson Would the general adoption of anæsthesia in midwifery have been delayed, he must ask himself, and for how long, if Simpson had been a man of less genius, less skilled in controversy, and with no stomach for a fight?

PUBLIC ADMINISTRATION AND THE MILK SUPPLY

[FROM A CORRESPONDENT]

The wholesomeness and cleanliness of the milk supply of this country are of such evident importance that the chaotic state of the legislation now in force is greatly to be deplored Probably the most glaring example of this chaos is to be found in the overlapping and uncertainty which exist, except in county boroughs, as to the respective duties of the county councils on the one hand and the sanitary authorities (borough and district councils) on the other The adulteration of milk—for example, by the addition of water or skimmed milk or preservatives or colouring matters, or by the abstraction of fat—is the primary concern of the food and drugs authority, which, in the urban and rural districts, and many of the municipal boroughs, is the county council, but medical officers and sanitary inspectors of sanitary authorities may also undertake administrative duties in connexion with such adulteration if they wish This, however, involves their authority in the obligation to defray the cost of their work without escaping its contribution to the cost of the county council's administration of the Food and Drugs (Adulteration) Act

Whether or not the sale of dirty milk is an offence under that statute, and thus a matter with which a county council should concern itself at all, is a question on which this Ldo not agreed The county council of Middlesex, in a circular recently issued to its [illegible] authorities in the county, makes it clear that the officers of that council do not consider that it is within their province to attempt to apply the Food and Drugs (Adulteration) Act to dirty milk, and that in the county council's view local sanitary authorities should take an interest in the matter by virtue of their powers under the Public Health Acts and the Milk and Dairies Order of 1926

Specially designated milk—that is, milk sold under such descriptions as Grade A tuberculin-tested, or Certified—is dealt with by the Milk and Dairies (Amendment) Act, 1922, and the Milk (Special Designations) Order, 1923 under which food and drugs authorities and local sanitary authorities have some powers definitely assigned to each, and others which they may exercise concurrently An example of concurrent powers is to be found in connexion with the enforcement of Section 3 of the Act of 1922, which forbids the sale of specially designated milk otherwise than in accordance with the terms of a licence Local sanitary authorities and county councils are alike empowered to set the law in motion against a distributor licensed by the local authority, and the Middlesex County Council now points out that although in two recent cases it instituted prosecutions it does not ordinarily take such action, but leaves administration in the hands of the local authority, which alone can revoke a distributor's licence With regard to milk from tuberculous cows, the position is further complicated, by reason of the fact that the Milk and Dairies (Consolidation) Act of 1915 and the Milk and Dairies (Amendment) Act of 1922 (which were not originally intended by the Ministry of Health to be in force simultaneously) are both in fact operative, and while Section 5 of the former Act is to be enforced by county and county borough councils, Section 5 of the later Act is to be enforced by sanitary authorities, and each of these sections forbids the sale of milk from cows suffering from tuberculosis of the udder

In these circumstances it is hardly to be wondered at that there is no great uniformity of practice among the various classes of local authority, or that some county councils arrange for the regular collection and routine examination for tubercle of samples of milk while others do not When two authorities have concurrent powers there must always be a danger that each will leave the work to the other Except in connexion with the veterinary inspection of milch cows for tubercle, and Grade A milk sold by licensed producers (as distinct from mere distributors) it would seem that county councils have no clearly defined duties with regard to the sale of milk (or any article of food) which is not, from the point of view of cleanliness or bacterial content, wholesome and sanitary But the annual reports of medical officers of sanitary districts do not, as a rule, provide much evidence that the sale of dirty milk or of specially designated milk has been closely supervised, and there is perhaps in some areas a tendency to regard the supervision of the milk supply as in all respects the province of the county council

In Scotland, by the Local Government (Scotland) Act 1929, all the duties of burghs with a population not exceeding 20,000 under the Food and Drugs and Milk and Dairies Acts have been transferred as from May 16th, 1930, to the county councils which makes the administrative position in Scotland much simpler and cleaner than it is in many parts of England and Wales, with regard both to milk and to other articles of food

ROYAL MEDICAL BENEVOLENT FUND

DURING the first six months of this year the committee has voted £5 208 in grants in addition to the usual payments to the annuitants These grants have been made to medical men who, through age or infirmities, have been unable to follow their profession and whose savings have been exhausted, to widows who have been left ill provided for, and even in some cases absolutely destitute, to widows left with the heavy responsibility of children to educate, and to other dependants of medical practitioners All are genuine cases of distress and poverty, and deserving of the helping hand of a colleague, but more colleagues willing to give the help are wanted Subscriptions and donations are needed Cheques should be sent to the honorary treasurer Royal Medical Benevolent Fund, 11 Chandos Street Cavendish Square W 1

At the last meeting of the committee £646 was voted to thirty five applicants The following are examples of the cases helped

Widow, aged 43 of L.R.C.P and S Husband died in November 1929 of tuberculosis contracted during the war He gave up his town practice three years ago in order that he might work in the country He was however, unfit to do much work and such practice as was secured is not now saleable The widow has been left with £150 in the bank and no income, and a boy aged 10 to educate Fund voted £26 and the committee has asked the Guild to assist widow to find employment The boy will be a candidate for Epsom The Fund will keep in touch with the case will ask other charities to assist, and will give further help from time to time

M.R.C.S aged 57 owing to a stroke had to give up work and is too ill to attend to his own affairs The wife applied for help towards the education of the two children Private income £200, it is not expected that the practice will sell for more than £650 Boy, aged 15, has one more year at school to finish, fees £120 Girl aged 12 at school fees reduced to £30 a year It is of the greatest importance that the boy should have his final year at school, after which he will be able to earn Fund has agreed to pay £45 towards boy's school fees and will ask other charities to contribute towards the balance required

Daughter, aged 61 of M.R.C.S Has been employed in an office but has been seriously ill for many weeks Sick pay of 12s. a week ceased on May 8th She has now only £30 a year from another charity Medical report stated that it would be a long time before she could hope to resume work This was a case of very pressing need and urgency Voted £18 to be paid during the next six months when the case would be further considered In the meanwhile medical comforts and service will be provided by the Guild

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys The Guild appeals for second hand clothes and household articles The gifts should be sent to the Secretary of the Guild, Tavistock House (North), Tavistock Square, W C 1

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SCIENCE AND METHOD

SCIENCE in its chief aspect is a process of gaining knowledge and as such it must not be confounded as it so often is with the process or processes of collecting facts We are far from suggesting that collecting facts is not a laudable activity, it may provide science with material, but itself it is not science The true scientific process is concerned with the arrangement and classification and interpretation of facts, with finding sequences and similarities with formulating hypotheses with discovering law it is a creative act a play of the intellect and imagination about facts, which transforms barren information into fertile knowledge In this process method—that is the way in which facts are discovered—has an important but secondary place It varies from science to science, and within each science according to the material that is being studied, and it may be said to have scientific value in so far as it is adapted to the material being studied and to the ends the scientist has in view It is very important to realize the significance of this second criterion The scientist does not, as it were, take a random sample of facts and say Here is Nature, what secrets has she to reveal to me? He asks specific questions, and has to find the answers in known facts, or to look for the new facts which he believes will provide the answers If his questions are about matters in the field of chemistry and physics he will probably seek out the relevant facts by the method of experiment, if about astronomy or geology it will depend on the precise nature of his questions whether experiment or large scale observation will serve him best It is worth bearing in mind for it may correct the prevailing tendency to over value the experimental method that the scientific theory which has had a greater influence than any other in determining cultural development in the civilized world—the theory of evolution by natural selection—was built up by the method of observation though the credit belongs not to the method, but to the genius of the man who applied it

The experimental method has served science so well that there is, indeed some excuse though no rational basis, for the common view that science is experiment and—an obvious corollary—that knowledge gained otherwise than by experiment is not scientific Even in medicine a subject which has never found a comfortable place among the sciences and prefers generally to proclaim itself an art based on science there is a tendency to apply the word scientific only to facts elicited by laboratory methods or by the method of experiment, other words empirical " for example, being reserved for the facts elicited by the method of observation There is it appears caste among facts and empirical facts are somehow of a humbler order than those named scientific How a fact is classified which has been discovered independently by two opposed methods is not quite clear but the question may serve to indicate the kind of difficulty that can arise when science and method are not clearly distinguished from each other All confusion we believe could be avoided if two general principles were kept in view first, that neither experiment nor observation is science, but that these methods like all others may be used scientifically or otherwise secondly that facts in themselves are neither scientific nor unscientific but thinking makes them so

These considerations bear closely on the thesis developed by Mr Wilfred Trotter in his paper on observation and experiment and their use in the medical sciences This paper published at page 129 should be read in conjunction with Sir Thomas Lewis's observations on research in medicine (*British Medical Journal* March 15th p 479) for in a very real sense the views of these distinguished workers are complementary to each other The indolent mind rests on antitheses, on the easy assumption that if this is good then that must be bad, it must favour observation or experiment—it cannot favour both Sir Thomas Lewis and Mr Wilfred Trotter take, as might be expected, the far more difficult course of appraising the merits and limitations of both methods, and if ultimately one comes down more heavily on the side of experiment and the other on the side of observation it is only, we think because they are not concerned with exactly the same material Behind much of the controversy on the problems of method may be perceived this subjective factor—the all too human bias of the protagonists in favour of methods adapted to the kind of phenomena they themselves are engaged in studying In every concrete instance brought forward to illustrate how *this method or that has served to advance knowledge* it is evident that the method has been successful because it has been correctly applied to suitable material In the sciences related closely to medicine the experimental method has its chief application in the fields of biochemistry physiology, and bacteriology But there is at least one field of medicine that can only be investigated satisfactorily by the method of observation we refer to prognosis It has been said that in medicine three things are important, and that the first and second and third of these is diagnosis But diagnosis is not everywhere in good favour It has been described as the application of labels, though even if it were no more than that we should think little the worse of it, the application of the right label is no small feat, and to those who know how to read it right the label is a shorthand description of the patient and of the disease process from which he is suffering But no one can afford lightly to dismiss prognosis Prognosis rests on a knowledge of the dynamism of disease of the constitution of the individual, and of the nature of the environmental influences, pathogenic or otherwise to which he is subjected This is knowledge that can be gained only by the application of the method of observation to the study of individual patients

Ultimately it may be said indeed that all advance in the science and art of medicine can be gained only at the bedside or in the clinic This does not mean that the physician is not indebted and likely to go on being indebted to knowledge gained by laboratory workers and by workers using experimental methods Such knowledge helps to direct his observation into fruitful channels, it serves, moreover to correct the errors into which he is liable to fall from too exclusive a dependence on the method of observation But none of this knowledge is an advance in medicine until it has been studied in relation to real patients and put to the crucial test of everyday practice

A NOTEWORTHY HEALTH SURVEY

PHILADELPHIA, with its population of over two millions, is one of the largest cities in the United States, and its government and public medical arrangements are of universal interest. It is a city which has had distinguished health superintendents and is the seat of important medical teaching, but "politics" in the worse American sense have meant a vast amount of misgovernment and confused government in the past. There was need, therefore, for the comprehensive survey of its medical activities[1] to which Dr. Haven Emerson's leadership lends credence and authority. The inquiry was authorized by the mayor of the city, and all official documents were made available, it was backed by a Citizens' Survey Committee, and it was supported by a large number of representative subcommittees making studies of special problems within the general scope of the report. On the side of the Health Services, subcommittees considered the problems of cancer, of dental diseases, of heart diseases, of mental hygiene, orthopædics, tuberculosis, maternity and child welfare, social hygiene, sanitation, public health education, industrial hygiene, health services, health examinations, and health areas, and on the side of Services for the Sick, separate subcommittees considered hospitals, dispensaries, social service, convalescence, the chronically sick, and home nurses. The total cost of the survey was about 70,000 dollars, or 3·4 cents per capita if distributed throughout the population, and there is little doubt that the report amply justifies this expenditure.

From an English standpoint, one wonders why, if as we believe is the case, the information in this volume is not available in the periodical reviews of the health superintendent. Annual stocktaking is as important in respect of the health problems of a city as is the treasurer's annual statement of its finances. But even in an English public health report much of the information as to the activities of general and special hospitals given in this volume would be lacking. With the extended local government in England, and the fusion of public health and Poor Law medical activities this should approach more nearly to realization, but the annual review will still be incomplete until it gives corresponding and comparable data for all non-official institutions of the sick, such as are embodied in some measure in this report on the Philadelphia survey. In the report is quoted a comparative statement for the year 1923 of per capita expenditure in cents in twelve American cities with population exceeding half a million. Philadelphia stands lowest in this list with 42 cents, Boston (87 cents) standing highest. In 1928 Philadelphia had increased its per capita expenditure to 52 cents.

In the space at disposal only a few points bearing on public health work can be noted. The chief obstacles to improvement are the inadequate allotments of funds for public health work, the imperfect co-ordination between different public health activities, and especially perhaps in the relation between voluntary and official public health work. A particular instance of the American tendency to have paper regulations which do not carry with them the weight of public opinion is seen in the notification of cases of venereal disease. These are fewer than the number of cases treated in the Philadelphia General Hospital. Delinquent cases not continuing treatment while in an infective condition are liable to have a placard labelled "venereal disease" printed in bold letters placed at the entrance to the patient's home; but, we are informed, "it is rarely necessary to placard a house."

Philadelphia, like all American cities, shows a rapid increase in accouchements in hospitals. In 1921 these formed 31·2 per cent. of total live births, in 1928 the proportion had increased to 51·3 per cent. Of the total live births in 1921, medical practitioners attended 55·0 per cent. of those delivered at home, in 1928 this had declined to 42·9 per cent., while the reduction in midwives' cases was from 13·8 to 5·9. Evidently the maternity practice of both doctors and midwives is being gradually transferred to institutions. Mortality of mothers from accidents and complications of pregnancy and parturition is high, being over 7 per 1,000 live births, as compared with about 4 to 5 in Great Britain. The infantile death rate varied in 1928 in different wards of the city from 276 to 41 per 1,000 births. It is nearly twice as high in the coloured as in the white population. What a vast scope for preventive effort is symbolized by these figures! And yet admirable work is being done, which if adequately co-ordinated and controlled might have double its present effect. Philadelphia is the home of the Henry Phipps Institute, the research work of which on tuberculosis is world famed, but on the administrative side it is lamented that voluntary and official efforts overlap and function inadequately in outlying districts, and the methods of medical and social help are sadly divergent and unrelated. In regard to crippledom there is a like need for overhauling such activities as exist, and for their systematic extension, and the same remark may be made concerning the provision for home visiting of mothers and infants and of the sick, although by some societies good work is being done in these respects.

We need not pursue our illustrations. On the public health side the outstanding lesson of the survey is the need to "take stock," to bury the interests of individual societies and organizations in a spirit of co-operation, and to join forces with official agencies in a combined effort to secure the maximum benefit to the community from every dollar which the taxpayers and the charitable public would then, with increased willingness, be prepared to give. The hospital section of the survey embodies much valuable information, but here—and this feature is seen in large cities both in Europe and in America—there is very incomplete co-ordination between the work of different hospitals. General hospitals are burdened with chronic patients for whom their facilities are unsuited, and at an excessive expense. The homes for chronic cases are overcrowded, and have long waiting lists, and negroes particularly are neglected. The inadequacy of provision is shown by the following comparison. In hospitals intended for the chronic sick Boston had 2·3 beds per 1,000 of population, while Philadelphia had 0·48 bed, and in general hospitals there were 1·3 beds per 1,000 of population for chronic cases, as compared with 0·25 in Philadelphia.

We have extracted only a few items from a document of great value. The entire report is deserving of study, and is most instructive. We congratulate Dr. Haven Emerson and his colleagues on its successful production, and wish for it the practical results that should follow. These will probably come gradually. Their advent will be hastened if all agencies for the betterment of the people endeavour at once to join forces with those whose work is most nearly allied to them. A process begun in this spirit will soon extend. The need for municipal reform is obvious. A wealthy city—and a poor city none the less—cannot afford to

[1] *Philadelphia Hospital and Health Survey 1929.* By Haven Emerson, M.D., Sol Lincus, C.E., and Anna O. Phillips. Philadelphia: Philadelphia Hospital and Health Survey Committee. 1930. (6 × 9; pp. xxii + 834.)

throw away human life and health in the manner which incomplete and unsatisfactory public health administration especially on its medical side implies The citizens of Philadelphia are responsible in the final issue if they do not insist on wisely directed effort, on extended official work and on efficient co-operation of this with all voluntary agencies and hospitals

THE INTERNATIONAL CONTROL OF DRUGS OF ADDICTION

THE British Government has just issued its report for 1929 to the League of Nations on the system of control of the commerce in dangerous drugs established in this country by the Acts of 1920–25, which were the outcome of the International Opium Convention signed at The Hague in 1912, and implemented by the Geneva Convention of 1925 The report claims that "drug addiction is not prevalent in this country," that the production and export of morphine and heroin have been reduced in comparison with the previous year, that raw opium for medicinal purposes is now mainly derived from India, and that the use of "prepared opium" is totally prohibited in Great Britain Some 70 persons were in 1929 proceeded against for offences under the Dangerous Drugs Act, 34 were imprisoned, 26 fined, and a few were deported Since 1928 cocaine has been manufactured, under licence, in this country by one firm, and 9,326 ounces were produced last year, 3,920 ounces were exported, and 4,329 ounces imported The latter is some 5,000 ounces less than in 1928, and the home produce is increased by about the same amount While illicit traffic in dangerous drugs in this country is said to be on a "very small scale," seizures of opium, morphine, heroin, and cocaine, in some cases of enormous amounts, are reported to the League of Nations from abroad Returns from India, Egypt British Colonies, and America indicate that there is little, if any, reduction in the illicit commerce Cases are cited to show that Amoy in China is a centre for smuggling drugs into India and elsewhere At the fifty-ninth Council of the League of Nations, held in May last, the British representative emphasized the widespread and dangerous character of the illicit traffic He cited the case of a steamer that had recently left a port of a certain producing country carrying two thousand cases of opium entirely destined for illicit traffic The Council endorsed the desire of the Tenth Assembly that steps should at last be taken to limit the production of dangerous drugs to medical and legitimate requirements Such limitation was implied and approved by Article 9 of The Hague Opium Convention of 1912, and was reproduced in Article 5 of the Geneva Convention of 1925 It has, indeed, been argued that such limitation should apply only to the alkaloids derived from opium and to cocaine, together with preparations made from them, and not to raw opium nor, for a limited period, to the traffic in "prepared opium" in the Far East The case cited above by the British representative would, however, appear to justify the contention that limitation to medical and legitimate purposes must be applied equally to the production of opium itself The Advisory Committee at Geneva is to be reinforced by the addition of new members, and a fresh conference is to be assembled in December next, which will include representatives of consuming as well as of producing countries Meanwhile it would appear that other countries which are parties to The Hague and Geneva Conventions would do well, not only to legislate on the lines of our Dangerous Drugs Acts 1920–25, but also to see that such legislation is effectively administered

FURUNCULOSIS IN FISH

IN July, 1929, the Secretary of State for Scotland and the Minister of Agriculture and Fisheries appointed a committee, under the chairmanship of Dr T J Mackie professor of bacteriology at Edinburgh, to investigate furunculosis in fresh water fish in Britain The first interim report has just been published[1] The disease is not a new one It has been known in Europe for at least forty years and the causative organism, *Bacillus salmonicida*, was identified in 1894 The condition did not attract attention in this country until 1911, however, but since then it has caused considerable alarm among those concerned with fresh-water fisheries, and it appears to be becoming more common This fatal epizootic disease of the Salmonidae was designated furunculosis by analogy with the human condition, in virtue of its characteristic "boil-like lesions" The causal organism is a short, acrobic, non motile non sporing, Gram-negative bacillus which is not pathogenic for mammals and birds, but is highly virulent to frogs and many species of fresh-water fish The organism can be readily isolated from the heart blood and kidneys, it causes boil-like lesions involving the skin and underlying muscle only in a minority of specimens Healthy carriers appear to exist Recent work has shown that the boil-like lesions are not analogous to human furuncles they are areas of necrosis without any cellular reaction, and the "pus" is really only a mixture of muscle fibres, blood cells, and bacteria The disease is essentially a septicaemia, and various organs may be involved, it is a serious economic menace to the salmon-fishing industry in Britain, and is still spreading to previously uninfected rivers The committee inclines to the view that fish farms play an important part in this spread It is recommended that no live fish belonging to the Salmonidae should be imported from abroad, and that all others, except eels for human consumption, should be admitted only under licence Outbreaks at home should be made notifiable, and no fish should be transferred from an infected watershed without permission from the appropriate authority There is still much to be learned about the disease, however, the experiments at present in progress are to be continued and extended both in the laboratory and in the field

PREMATURE BURIAL

ON June 19th Dr Gardiol, Deputy for the Basses-Alpes, in conjunction with certain of his colleagues, deposited in the Bureau of the Chamber of Deputies in Paris the following draft resolution "The Chamber invites the Government to regularize, in accordance with the findings of the Academy of Medicine and of the Academy of Sciences the verification of death by a medico-scientific test unequivocally indicative of death, in order that the number of burials of persons apparently dead may be reduced to the lowest possible minimum" Dr Gardiol, in assuring his audience that the fear of being buried alive was well grounded called to witness the many cases of premature burial on record In particular he cited the case of Cardinal Donnat, Archbishop of Bordeaux who, on the occasion of his ordination at Rome, passed into a state of apparent death and was wrapped in a shroud and carried to church where he remained unconscious in his coffin till he was awakened by funereal chanting Dr Gardiol's resolution, which has been referred to the Commission on Hygiene, has, of course, proved excellent copy for the Parisian press An editorial note in *Excelsior* points out that in 1803 Fourcroy, wishing to incorporate a provision in the *Code Civil* to the effect that the official called in to verify death should be

[1] Interim Report (March 1930) of the Furunculosis Committee. Edinburgh H.M. Stationery Office. 1930. 3s. 6d. net.

accompanied by a doctor, was assured that he had asked for the impossible, so small was the number of available doctors That objection to-day has ceased to be valid, and it would almost seem as though Dr Gardiol's proposal has a reasonable chance of being translated into French law The whole question was dealt with very thoroughly in Germany in 1919 and 1920 in connexion with the case —discussed fully in the *Deutsche medizinische Wochenschrift* by Dr Puppe, professor of forensic medicine in Konigsberg—of a nurse who, attempting to commit suicide with 1·7 grams of morphine and 5 grams of veronal, was apparently dead for over seventeen hours Puppe's survey included a reference to a Prussian law of 1775 dealing with pecuniary rewards for the revival of persons apparently dead Successful operators received 30 marks, those who had striven in vain were awarded a consolation prize of 15 marks Under certain conditions the prize was divided equally between all the operators The legislators foresaw the possibility that the revival of the apparently dead might become organized as a large-scale industry, and accordingly applicants for the rewards had to prove that the object of their care had really been apparently dead, and that their efforts on his or her behalf had been sufficiently strenuous As a further safeguard against the creation of a trade in resuscitation, cases of poisoning were excluded from the prize-winning class Doctors were eligible for the reward, provided that they were not medical officers of prisons

PREVENTION OF MILK FEVER

ON July 12th (p 69) we published a brief account of a study in the prevention of milk fever that has been carried out at the Royal (Dick) Veterinary College, Edinburgh, and the Animal Diseases Research Institute, Moredun This work, we are informed by Professor J Russell Greig, Director of the Institute, was conducted jointly by himself and Professor Henry Dryerre of the Departments of Physiology University of Edinburgh, and the Royal (Dick) Veterinary College, and Dr N C Wright, by the aid of grants received from the Development Commission and the Highland and Agricultural Society of Scotland, and forms part of a general investigation on milk fever which these workers are prosecuting in collaboration As many of our readers will be aware, the physiological theory which forms the basis of these investigations was originated by Dryerre, who himself initiated the biochemical investigations and conducted them in their early stages Dryerre and Greig contributed a paper on the etiology of milk fever to the *Veterinary Record* on September 8th, 1928, and the paper entitled 'Studies in the prevention of milk fever," which formed the basis of our annotation, was contributed by Greig to the same periodical on April 5th, 1930

THE B C G DISASTER AT LUBECK

ON June 14th (p 1103) we gave a brief account of the conclusions derived by Professor Bruno Lange from his investigations of the deaths that took place at Lübeck following the administration of B C G cultures to 246 infants In an article which appeared in the *Deutsche medizinische Wochenschrift* of May 30th (p 937) Lange stated that he was convinced that the fatalities among the inoculated infants were due to the presence of virulent tubercle bacilli in the cultures In a more recent report Lange states that the experiments and tests carried out by himself and his co-workers at the Robert Koch Institute, Berlin have shown that the material, in the course of its preparation for inoculation purposes, became contaminated, and that the infants were actually inoculated with preparations containing virulent bacilli from some other source He, together with the other investigators, condemns the head of the Lübeck Hospital for throwing away stocks of the cultures when their pathogenic properties became known, for by this action material indispensable for a complete investigation of the cause of the outbreak was destroyed It will be recalled that the citizens of Lubeck appointed their own commission of inquiry, this commission has now issued a majority and a minority report, the former being more severe in its strictures on those responsible According to the majority report the doctor whose duty it was to prepare the vaccine placed the B C G cultures in an incubator containing virulent cultures of human tubercle bacilli, and failed before the vaccine was administered, to satisfy himself by animal experiment that it was innocuous The other doctors in Lübeck are censured for their failure to exercise proper supervision over the administration of the vaccine or to report the outbreak when its significance was realized An article discussing Professor Lange's findings has been contributed by Professor Alberto Ascoli, director of the Tuberculous Vaccine Institute, Mailand, to the *Deutsche medizinische Wochenschrift* of July 11th (p 1160)

MEDICAL PARIS A CENTURY AGO

IN his interesting story of medical Paris a hundred years ago[1] Dr Marcel Fosseyeux, secretary of the French Society of Medical History, gives many personal details about the best-known contemporary medical men, who numbered some 870 for a population round about 700,000 with 20,000 births and deaths annually The reader is conducted through Paris, shown where the medical notabilities lived, and told something about their lives and characteristics Thus Broussais lived at 71, Rue Saint-Jacques, and waged war in the medical press of the day on the opponents of his physiological doctrine, he bled and depleted his patients freely, and in 1824 had himself bled to 20 oz on six occasions, and 50 to 60 leeches applied fifteen times within eighteen days for a digestive disorder His influence must have been powerful, for between 1824 and 1827 the number of leeches imported into France increased from 300,000 to the extraordinary figure of 33 millions Dupuytren, who lived at 4, Place du Louvre on the other side of the Seine, was the dominant surgeon of his time, and met with a haughty silence Richerand's *Histoire des progrès récents de la chirurgie*, which was directed against him There is also an attractive account of the Parisian medical societies and journals of the period, one of the latter founded by Bichat in 1798 had the intriguing title of "La Societe medicale d'emulation," and by 1830 had published twenty-nine volumes of *memoires* and *bulletins*

THE OSLER CLUB

THE Osler Club celebrated, on July 12th, at its headquarters in London, the eighty-first anniversary of the birthday of Sir William Osler Professor Harvey Cushing, having been welcomed as a friend of the club and as orator, gave an informal address, full of the charm and the whimsicality of his subject He told of the early Weston days, of Father Johnson and of James Bovell, and of how under their influence Osler turned from the Church to Medicine Professor Cushing, in his address, revealed some of the secrets of the writing of "The Life," and much else besides, to the delight of his audience Dr Arnold Klebs took up the tale, to be followed by Sir Arthur Keith Between the three, with occasional help from Sir D'Arcy Power, Dr Henry S Wellcome, and Mr Philip Franklin, a lively discussion continued, until Mr W R Bett, foreign secretary of the club, remembered that it was long past Osler's bedtime, and with a graceful tribute to the orator and to the influence of "The Life" upon the growing generations of medical men, brought the meeting to a happy conclusion Before the oration the club entertained Professor Harvey Cushing to dinner at the Langham Hotel

[1] *Il y a cent ans Paris medical an 1830* Par Marcel Fosseyeux Paris: Librairie le François 1930 (5½ × 7½, pp 102, 7 figures 10 fr)

THE HALF YEARLY INDEXES

THE usual half-yearly indexes to the *Journal* and to the *Supplement* and *Epitome* have been printed, they will, however, not be issued with all copies of the *Journal*, but only to those readers who ask for them Any member or subscriber who desires to have one or all of the indexes can obtain what he wants post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W C 1 Those wishing to receive the indexes regularly as published should intimate this desire

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THE Secretary of State for Scotland has appointed Mr A Froude, I S O , to be Registrar General for Scotland, in succession to Dr James Craufurd Dunlop, whose retirement under the age limit will take effect on September 3rd

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A CONFERENCE of representatives of local authorities, convened by the Board of Control, was held on July 22nd and 23rd to discuss action to be taken under the Mental Treatment Act, 1930, which has just received the Royal Assent The subjects of discussion included provision of out-patient clinics, treatment of voluntary patients, and treatment of temporary patients under the new Act On the afternoon of Wednesday, July 23rd, the Minister of Health addressed the Conference

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THE ANNUAL REPRESENTATIVE MEETING.

Friday, July 18th

THE Representative Body, for the first time in its history, met this year in the House of the Association, and seemed to appreciate the comfort of its surroundings Our full report of the proceedings on Friday and Saturday will be found in the *Supplement* The session opened with an expression of sincere regret for the absence of the Deputy Chairman, Dr Arnold Lyndon, whose health did not allow him to seek re-election to that office, and for the illness of Dr John Stevens In moving the election of the President for 1931-32 Dr Brackenbury drew attention to the fact that Dr W G Willoughby will be the first medical officer of health to hold that office, and that he will do so at a particularly appropriate point in professional development The election of Sir Ewen Maclean and Dr A D Blackader of the Canadian Medical Association as Vice-Presidents of the Association was carried with acclamation, and the representatives, after a tribute to the memory of Sir Jenner Verrall and Mr W E Hempson, settled down to the main business of the day Discussion on the report of the activities of the Association Professionnelle Internationale des Médecins served to illustrate anew the vitality and breadth of interest of the Warrington Division, and showed very general concurrence by the Representative Body in the Medical Secretary's opinion of the efficacy of legal sanctions for the suppression of unqualified practice The financial statement, made with the Treasurer's customary skill, elicited a pertinent contribution from a new member, Mr Pearce Gould Manchester's motion on the control of expenditure presumably owed its acceptance to the vigour and conviction of Dr D'Ewart's presentation of what he himself described as "a reasonably pious resolution designed to strengthen the position of the Representative Body," in the realm of finance Discussion on the Organization Report was chiefly noteworthy for the care with which the details of a scheme for according formal recognition of special service rendered by members were debated, commended, and amended up to the point of final adoption, when, suddenly realizing the implications of this attempt to give outward form to a generous sentiment, the representatives turned with relief to the way of escape offered by passing to the next business For the rest, the meeting refused to accept the Holland Division's appeal for a simpler definition of a decision of the Association," and resolved to shoulder its own responsibilities ignoring the dangerous allures of the referendum This decision it forthwith put into practice in what was, as the Chairman of the Insurance Acts Committee pointed out, a matter of fundamental importance The declaration that medical benefit under the Insurance Acts should be extended to dependants of insured persons was strengthened rather than weakened by the addition of a clause safeguarding the economic conditions essential to the provision of a sound service, which differed but little from an amendment framed by Warrington The balance of voting seemed to justify the attitude of confidence in the future, based on sane appreciation of existing conditions which distinguished Dr Dain's opening speech The Science Report gave representatives an opportunity to express their appreciation of the services rendered by individual members in connexion with the Association's work for the advancement of medical science, and of the high quantities of the work submitted by candidates for grants and prizes The discussion on the *Journal* showed a healthy desire for improvement, coupled with appreciation of the manner in which the difficulties of a transition period have been met Friday's session ended with the introduction by Dr Langdon-Down of a report on the ethics of remuneration and reward for research and invention, and a criticism of that report by Dr Graham Little

Saturday, July 19th

On Saturday the Representative Body turned to consider the two chief items of its agenda—the revised Hospital Policy and the Proposals for a General Medical Service The discussion on the former hardly lends itself to summary comment The basic principles at issue had, as pointed out by Sir Richard Luce in introducing the report, already been settled What remained for discussion was the suggestions made for their application in the complex and rapidly shifting field of hospital practice The problem before the Hospitals Committee had been to be of practical use without at any point hindering legitimate development or embarrassing those who are engaged throughout the country in the delicate task of readjustment to widely differing conditions On the whole, the debate, while it emphasized the bewildering variety of local and individual experience, resulted in endorsement of the methods formulated by the committee It certainly showed a lively appreciation of the importance of the points at issue Indeed, at one time it became necessary for the Chairman to read a proposed amendment not only to the main meeting in the body of the hall, but also to a minor meeting of contributors to the discussion gathered on the platform behind the chair The only point on which the recommendation of the Council was definitely rejected was the extension of the income limit for hospital contributory schemes This was negatived on the motion of Bristol and Liverpool under the apprehension that it would involve an encroachment upon the sphere of private consulting practice For the rest what may now as a result of the opening discussion on definitions safely be termed the "council hospital policy, was made more comprehensive by the addition of an alternative method of staffing substantially in the terms proposed by Brighton One appendix that concerning standards for hospitals of 100 and more beds was referred back as not dealing adequately with the needs of council hospitals under the new conditions The motion from Sunderland, designed to safeguard more effectively the free choice of medical attendance by private patients in all classes of institution, was referred to the Council, on the personal undertaking

of the Chairman of Council to consider the best method of providing for the desired result, and a few minor drafting improvements were adopted throughout the policy. Rejection of the amendments by Torquay and Wakefield designed to secure further discussion by the profession before adoption of the policy as a whole marked the appreciation by the Representative Body of the ample opportunities for discussion already offered at every stage of the development of the policy and the urgency of its immediate adoption as a working instrument. The debate was marked throughout by the agreement of every section as to the need for providing at all points for the access of the general practitioner to hospital practice, and a great measure of agreement upon the methods by which this might best be secured. Dr. Bone's introduction of the Proposals for a General Medical Service will repay study as a model of effective exposition, indicating without recapitulation of its contents the scope and aim of the report and the most profitable lines for discussion. His tribute to Dr. Fothergill as the instigator of the proposals and to Dr. Cox as responsible for the formulation of the committee's findings was the more impressive because, in the nature of things, such personal acknowledgements must be rare. At the outset the rejection of West Suffolk's suggestion that the proposals should be accepted merely as a defence against a whole-time State medical service cleared the way for their discussion as a constructive contribution to the service of the community.

Monday, July 21st

The greater part of Monday was spent in completing consideration of the Proposals for a General Medical Service, discussion turning for the most part on points of detail. As on Saturday, the amendments adopted in no way modified the general lines of the report. The addition, on the motion of Brighton and Chichester and Worthing, of provision for direct access of local medical advisory committees to local health authorities seemed not unacceptable to medical officers of health. The long debate on the inclusion of the estimates of cost in para. 72 of the proposals was directed merely to the advisability of quoting official estimates, not to the validity of any estimates put forward on behalf of the Association. The repudiation of a depressing picture of the rural practitioner sketched by Dr. Murray of Banff may have been due in part to the appearance of well-being presented by other rural practitioners who spoke on the motion as well as to their more cheerful estimate of prevailing conditions. A curious position arose from the absent-minded acceptance of an amendment by Kensington, in form a verbal adjustment of the summary of proposals, in essence a negation of the whole basis of earlier decisions of the meeting. The difficulty was solved by an adroit and timely suggestion on the part of Dr. Middleton Martin. Most of the debate on the motions by which it was sought to postpone the effective utilization of the proposals pending further reference to the profession might have been avoided if representatives had kept in mind the real nature of the proposals as explained at the outset by Dr. Bone, and not been misled by the frequent adoption by speakers of the shorter term "scheme," with its suggestion of a cut-and-dried plan of action. The amendments in question were rejected as soon as this point was effectively recalled. On the report of the Dominions Committee the Representative Body enjoyed, as usual, the opportunity of hearing the Oversea representatives. This occasion was marked by the appreciative account given by Sir Ewen Maclean of his recent tour and a description by Dr. A. Robertson of conditions in Victoria, which emphasized once again the similarity of professional problems in all parts of the world. The handling of the motion from Bombay was by no means an easy matter. Both sides displayed admirable restraint and discretion, and if comment were needed on this item it was supplied by Colonel Newcomb's description of the work of the Association in India as one of promoting good will and mutual understanding in very difficult times. Discussion of the Medico-Political Report was almost wholly confined to the determination of the fees to be asked for medical practitioners called in on the advice of midwives. The issue lay between the conviction of the Council as to the maximum fee likely to be obtained and the desire of representatives for payment commensurate with the service actually rendered. Dr. Langdon-Down and Dr. Parry's amendment to the Council's recommendation about the advice to be given on birth control at maternity and child welfare clinics was generally accepted by the meeting and by the Chairman of the Medico-Political Committee as an improvement on the original wording, and brought to a satisfactory end the discussion of a topic beset with difficulties. Discussion of the report on medical benevolence had unfortunately to start from much the same point as it has done since the Association first definitely assumed responsibility for taking a hand in this matter. It was relieved by the highly creditable record of activities undertaken by Portsmouth, and marked by an appeal from Dr. Walker, which at least deserves a more effective response from the Association as a whole than has yet been forthcoming.

All present at the Representative Meeting were greatly concerned to hear that Dr. J. R. Drever, the Scottish Medical Secretary, who was on the platform throughout the opening day, had been taken seriously ill on Saturday, and is now in University College Hospital. The representatives, before separating on Tuesday afternoon, authorized the Chairman to send a message of sympathy and good wishes to Dr. Drever.

The Oversea Luncheon.

On Friday, July 18th, representatives of the Oversea Branches and Divisions visiting London for the Annual Representative Meeting were entertained to lunch at the British Medical Association's House, Tavistock Square, by the officers of the Association, the Chairman of the Organization Committee, and the Chairman of the Dominions, India, Colonies, and Dependencies Committee. The other guests included Mr. Oswald Hempson and the senior officials of the Association. The chair was taken by Dr. C. O. Hawthorne, who, in a short speech, said that this "mid-day relief between sessions" enabled those with common interests and loyalties to make each other's acquaintance. This was the first time that those at headquarters had been able to entertain oversea guests in the Association's home. He wished not only to extend a very cordial welcome to the guests, but to express appreciation of their work and to acknowledge the generous hospitality always offered to official visitors from headquarters on their tours abroad. The Association at home was always very ready to receive suggestions from oversea delegates and to hear their experiences. It was a great source of satisfaction that the obstacles standing in the way of a post-graduate centre in London had now been removed, and that in the plans for the organization of the hospital and school the Association was taking its part. Dr. Hawthorne coupled with the toast of "The Guests" the names of Dr. Napier and Colonel Newcomb, who each expressed thanks for the warmth of their reception by the parent body and its officials. Dr. Hughes and Dr. Robertson also spoke. The names and constituencies of the oversea guests present are: Dr. F. Napier, Southern Transvaal; Lieut.-Colonel Clive Newcomb, South India and Madras; Dr. D'Arcy Moir, New Zealand; Dr. H. Wiltshire, Nyasaland; Dr. Hedley J. Brown, Queensland; Dr. A. F. Hughes, Grenada; Dr. Allen Robertson, Victoria; Dr. G. S. Woodman, Mesopotamia.

CONFERENCE OF THE BRITISH SOCIAL HYGIENE COUNCIL

THE question how to co-ordinate mat rnity and child welfare services with the efforts now being made to combat the spread of venereal disease was one of the topics discussed by the British Social Hygiene Council at an imperial conference held on July 14th at Westminster

The Right Hon L S AMERY M P who was in the chair, said that this question was of great importance for in the ante natal treatment of expectant mothers lay the hope of improving the health of future generations Experience showed that the percentage of healthy children born might be enormously increased by ante natal treatment The real remedy for venereal disease was not licensed hou es and periodical examination but the effective provision of treatment In the Dominions the willing support of the native women could best be secured through the agency of Europeans and the Colonial Office might well encourage the wives of colonial civil servants and officials to get into really human touch with the native population by learning the native languages.

DR FLORA LLOYD assistant medical officer of health for Swansea mentioned that the women s venereal disease centre in Swansea had been established in the same premises as the ante-natal and post natal clinics in order to avoid suspicion in the minds of women that they were being treated for venereal infection, there were however, differen rooms and different entrances. If patients asked a direct question about the treatment they were informed about their condition Only part time nurses were employed, and they were engaged al o in school and health v siting work The chief source from which patients reached the centre was from the ante natal clinic The child population was under close medical scrutiny and all suspicious cases were referred to the clinic for investigation A feature of the work of the Swansea clinic was the effective following up of cases The total number of attendances for 1929 was 10 548 A marked improvement had taken place in the general health and in the local conditions It was not thought in Swansea that the problem of discovering and treating venereal disease in mothers and children had been fully solved. The net was of very coarse mesh and probably caught only a small proportion of cases. Co-ordination with the maternity and child welfare and school medical services was fairly complete, but there was no linking with the venereal diseases department of the Swansea Hospital, and with general practitioners and the midwives The confidential nature of the treatment was a great tumbling block If the clinics became an integral part of the public health clinic services she believed that the work of detecting disease would become much more complete

DR SOCRATES NORONHA of Bombay announced that there a definite solution of the difficulty had been reached There was an infant welfare scheme in Bombay with ten centres each with special women officials, and including one or two venereal disease specialists, who worked at two special sessions per week All the suspected cases of venereal disease were referred to these special sessions.

MR E B TURNER said that those who had anything to do with the appointment of workers at these centres should bear in mind that the practitioners chosen should have a very definite knowledge of venereal disease Many newly qualified men were appointed to the centres whose knowledge in that respect was very slight When he was a member of the General Medical Council some years ago he had tried to arrange for venereal disease to be made part of the educational curriculum He looked through all the examination papers of every qualifying body and, of the huge number of questions, only three dealt with venereal disease.

Emigration and the Dominions

Several delegates addressed the conference on the subject of the treatment and prevention of venereal disease among migrants to the Dominions

DR MCCALLUM, chief medical officer of Australia House said that the population of Australia was increasing by 2 per cent every year, mainly in the transference of British folk and relatively small quotas from Continental countries. The Immigration Act definitely barred any person suffering from a serious transmissible disease Before assistance was granted to migrants each of them had to pass a special interviewing officer, and each report was examined at Australia House Medical references were checked over before approval was given Ships officers made it difficult if a case of venereal disease occurred on board for the infected person to escape a visit to the doctor who was in duty bound to report the case On arrival a Australia every passenger had to pass a doctor of the Commonwealth Department of Health Only the best human material could adjust itself to the new environment

MISS PUBY RICH late of the Racial Hygiene Association of New South Wales, urged the provision of suitable literature and the exhibition of films on emigration boat to impress on the emigrant the need for a high moral standard Film shown to adults should not be the same as those shown to younger people, they could deal with the biological statistical and practical human aspects of venereal disease The very worst time she thought to commence sex education was puberty, when the emotions were at high pitch

DR MYERS of New Zealand remarked that that country desired to have a type of settler who would be mentally physically and morally fit and a patriotic and worthy citizen of the new country They needed people of the highest possible qualifications He believed that films and books could do great harm if not properly suited to the people who were to see them

Biological Training in Schools

PROFESSOR JULIAN HUXLEY who delivered an address on biology in education said that this subject was of paramount importance for residents in agricultural countries especially if conditions were rendered more difficult by climatic causes or insect infestation He commented on the increase in mental defectives during the last twenty years Cinematograph films might be employed more extensively and there should be a certain amount of nature study in the educational programme of every child in the British Empire An exhibition was subsequently given of films

CONFERENCE DINNER.

In connexion with the Conference of the British Social Hygiene Council a dinner was held at the Cafe Royal on July 15th with SIR BASIL BLACKETT the president of the Council presiding the guests included a number of colonial administrators and officials of the Colonial Office

Proposing the toast of Health and Empire MR AMERY said that the conception of health having anything to do with Government was an almost startling novelty in this country only fifty years ago but it was now being accepted in every outpost of the Empire He reminded the gathering how enormous in extent and population was the tropical empire of Britain, nowhere in the world did problems of health have the urgency which they had in the Tropics. In the tropical world, due to causes only in small part inherent to the Tropics, and much more to neglect in the past and in the present, there were insidious enemies lying in wait to destroy both body and mind Mr Amery went on to refer to the possibilities of the Colonial Development Fund, which he had had a share in inaugurating in the way of assisting medical men practising in the colonies to take advantage of opportunities for post graduate study and also of sending out experienced specialists to confer with local administrators on health problems The British Social Hygiene Council which was most willing to co-operate with any Colonial Government was specially concerned to combat a group of diseases (venereal) which were preventable—that indeed was the starting point of its work—in a sense in which the customary diseases of the Tropics were not The toast was responded to by SIR RONALD STORRS Governor of Cyprus who referred in grateful terms to the results of a commission from the British Social Hygiene Council which visited Cyprus in 1926 on its way further east and left its mark he added on the modest health budget of the colony A local hygiene council had since been founded and there were five venereal disease clinics

MRS NEVILLE ROLFE secretary general to the Council proposed the health of The Guests and stressed the service which the wives of colonial administrators might do in the instruction of women in the countries to which they went Brief replies were made by the Right Hon SRINIVASA SASTRI and Lady BADDELEY wife of the Chief Secretary to the Government of Nigeria. In response to the toast of his health which was proposed by DR DRUMMOND SHIELS, M P SIR BASIL BLACKETT said that it had been a great pleasure to the Council

to entertain so many representatives from overseas He was afraid that in the course of the last generation some of the British self confidence in the mission of Britain to the world at large had evaporated Nevertheless, he thought it would be a misfortune if the idea weakened that there were British traditions and British ways of living which were well worth bringing to other peoples, among the ideas which Britain could impart none was more important than the teaching of modern science with regard to preventable disease

England and Wales.

New Public Health (Tuberculosis) Regulations

THE Minister of Health has issued further regulations[1] with regard to tuberculosis, amending those of 1912, 1921, and 1924, they will come into operation on January 1st 1931, and have been modified to correspond with changes involved by the Local Government Act of 1929 They provide that henceforth notifications by school medical inspectors shall be made upon the form prescribed for other primary notifications The wording of Article 5 of the regulations of 1912 has been amended in order to make it clear that previous notification in another sanitary district of the same county does not relieve the medical practitioner from his own duty in this respect unless he has reasonable grounds to believe that the case has already been notified to the medical officer of health of his own sanitary district With regard to the weekly notifications by medical officers of Poor Law institutions and sanatoriums a change has been made in the form to make it clear that the responsibility for the original diagnosis in such cases does not rest upon the medical officer of the institution The requirement that a notification transmitted to a medical officer of health shall be enclosed in a sealed envelope is considered to have been complied with if it is folded and sealed in such a way that, during its transmission, the particulars of the notification cannot be observed A paragraph has been added to make it clear that notification under these regulations is not required in cases where such notification is covered by Section 5 (*b*) of the Local Government Act (Emergency Provisions) Act, 1916 It is added that the notification register to be kept by the medical officer of health need not take the form of a book, the information may preferably be kept in a card system, and should constitute as far as practicable a record of those suffering from the disease The Minister emphasizes the point that, while the responsibility for the conduct of schemes for the institutional treatment of tuberculosis rests with the councils of counties and county boroughs, it does not affect the local functions of district councils as regards the prevention of infection These duties and powers of sanitary authorities in connexion with tuberculosis are defined in two articles of the new regulations, and the necessity of them being exercized is urged It is mentioned that the available information does not suggest that any serious proportion of the unnotified cases of tuberculosis can be ascribed to deliberate neglect on the part of medical practitioners by whom the disease has been diagnosed The two chief causes of delayed notification appear to be that the disease is not recognized by the practitioner in attendance, and that the tuberculous person does not consult a practitioner until his condition is already far advanced From this it results that in some areas a considerable proportion of cases are not notified before death, and that a still larger proportion are only notified during the last six months of life Medical officers of health are asked to use any opportunity which arises to remind general practitioners of the special facilities for diagnosis which are provided by the dispensaries of the county or the county borough council Further development of the educational side of anti-tuberculosis work should also be pressed, the Minister believes that there has been insufficient organized effort in some areas to issue simple statements about tuberculosis and the public facilities for its diagnosis and treatment The Ministry of Health has issued a circular (No 1107) to county councils and local sanitary authorities commenting on the implications of these regulations

[1] Statutory Rules and Orders 1930 No 572. H M Stationery Office Price 3d

Radium Treatment of Menorrhagia

Interesting conclusions about the value of radium treatment in cases of menorrhagia, based on experience gained at University College Hospital during the period 1921 to 1926 inclusive, appear in the Harker Smith Registrar's Report for 1929 In this condition the aim of radium treatment is to relieve the symptom rather than to cure the underlying disease, and in the record of cases included in the report the criterion of cure is the production of amenorrhoea or of periods not accompanied by excessive loss of blood In a few cases the patient denies having received any benefit from the treatment, in spite of the fact that this criterion of cure has been fulfilled, but such an attitude is usually due to severe menopausal symptoms In trying to gauge the severity and duration of menopausal symptoms after radium treatment the hospital authorities aim at keeping in touch with each patient for a minimum period of five years, the three-year period adopted in the past having proved insufficient especially in following up younger patients Some patients have started menstruating after periods of amenorrhoea varying up to four years As far as is known, only two of the patients have become pregnant after radium treatment, one gave birth at full term to a male child with double inguinal hernia the other miscarried These experiences and evidence derived from animal experiment suggest that the children of parents thus irradiated will be physically and mentally abnormal, and there are serious grounds for the view that young patients should not be treated by irradiation unless they are given doses large enough to produce sterility An analysis of the results of treatment in patients with menorrhagia due to no discoverable organic lesion brings out the following facts about dosage in no patient over 45 has a dose of 1,800 milligram hours failed to produce amenorrhoea, a dose of 1,500 milligram hours failed in the case of one patient over 45, but many cases have been cured with this and smaller doses, even as low as 600 milligram hours, in no patient in the age group 41 to 45 has a dose of 1,800 milligram hours failed, though 1,500 milligram hours was ineffective in two patients of this group, in one patient aged 40 a dose of 1,800 milligram hours failed to produce cure It appears, therefore, that the doses required to produce amenorrhoea in the age groups from 41 onwards are as follows 41 to 45, 1,800 to 2,000 milligram hours, over 45, 1,500 to 1,800 milligram hours In younger patients too few cases have been treated to warrant definite conclusions but it appears that the necessary dose in the age period 36 to 40 is 2,000 milligram hours or over, and in younger patients it is higher still All these doses are of course inadequate in cases due to organic disease, thus, two cases associated with fibroids in patients aged 46 and 57 respectively were not cured with a dose of 2,250 milligram hours each, and in cases treated with doses of under 2,000 milligram hours there occurred a larger proportion of failures than in the group of essential menorrhagia

Metropolitan Refuse Dumps

Miss Susan Lawrence, Parliamentary Secretary to the Ministry of Health, received, on July 17th, a deputation representing the Essex riverside local authorities affected by the dumping of refuse from the Greater London area Mr H T Muggeridge, M P, introducing the deputation, stressed the great danger to the health of rapidly growing communities from the present practice of forming huge, unsightly, and insanitary dumps in the areas bordering on London An interparty committee of members of Parliament had been formed to press for immediate action This committee had passed a resolution welcoming the recommendation of the Departmental Committee on London Cleansing that there should be a central responsible body

It was regrettable that that committee contemplated the continuance of the present method of dumping, for some more scientific methods of disposal should be possible If however, dumping in some form must continue, then the local authorities ought to have the right to veto the sites proposed subject to appeal to the Minister Mr F J Cole chairman of Hornchurch Urban District Council, and secretary of the Essex Riverside Advisory Committee said that the dumps fostered the breeding of rats and flies, they were a grave menace to the public health, as well as a danger to traffic by reason of the smoke and fumes which they give off The local authority had little or no control over them His committee wished to press for legislation prohibiting further dumping, except with the permission and under the control of the local authorities in the districts affected any cost incurred by this supervision to be borne by the dumping authority or its contractors The position had been acute since about 1922 when rapid development of the area began The local authorities did not wish to rule out dumping altogether, but they wanted to have their powers increased and something to be done soon

Miss Lawrence made no attempt to minimize the gravity of the present state of affairs She had examined one of these dumps and thought their existence was a public scandal The local authorities had, however not made full use of their existing powers There were two methods of procedure under the nuisance provisions of the Public Health Act and under the power to make by laws and obtain continuing penalties for infringement Hitherto, so far as she was aware, no Essex authority had made by laws on this subject Some other areas had done so, and enforcement of the by laws had resulted in improvement of the conditions Legislation was not only a question of the merits of the case there was the very great difficulty that the committee had not been able to agree on the constitution of the central authority and had made no recommendation on this most vital matter This meant, unfortunately, that any legislation was likely to be controversial, and the difficulty of finding Parliamentary time would be greater if no preliminary agreement could be reached She could make no definite promise of legislation next session The present position was that the standing joint committee of the metropolitan borough councils was considering the report, which had not been long in its hands, and the authorities concerned might profitably explore the matter with that committee Meanwhile the Minister proposed to take up with the borough councils the recommendation of the committee that the dumping authorities should be pressed to secure at once the discontinuance of the use of insanitary dumps for their refuse, and to take measures to minimize the unsatisfactory conditions now existing Mr Oldfield said that procedure on the lines of dealing with a nuisance was useless because it presupposed a dump procedure under by-laws was far more promising It would be more effective if higher penalties were provided and if the courts had also power, if they thought fit, to prohibit the recurrence of the nuisance There were sites altogether unfitted for any dumping at all The authorities wanted a veto subject to the decision of the Minister He thanked Miss Lawrence on behalf of the deputation for her very sympathetic reception

Actinotherapy at a Children's Hospital

The equipment in the light department of the Belgrave Hospital for Children, Clapham Road, S W consists of one mercury vapour lamp and one single-pole carbon arc lamp the former is used mainly for treating infants and younger children, the latter for treating older children unless more concentrated local irradiation is required In the report of the hospital for the year 1929 it is remarked that in a series of 77 new cases treated by ultra-violet radiation not one showed any ill effect from the treatment In 14 cases treatment was not persisted in but 55 of the remaining 63 derived appreciable benefit from it The conditions for which treatment was prescribed were various, and included among others, rickets, debility (a category in which were grouped children who were not doing well or gaining weight but showed no signs of organic disease), tuberculous cervical glands, abscesses ulcers, wounds and lupus vulgaris The total number of exposures given during the year was 1,919, 1,287 by the mercury vapour lamp and 632 by the carbon arc lamp All the rickets cases received ordinary dietetic treatment with cod liver oil, but the light baths were a means of shortening the time of healing especially in the more severe cases of active rickets The treatment was found to be very successful in promoting healing of sinuses wounds and ulcers good results having been obtained in every case Some of the debilitated children appeared to be unaffected by the treatment it is possible that the difference between their response and that of other debilitated children who derived benefit from the treatment may have been due to a difference in home conditions for these if bad enough would neutralize the effects produced by the light baths On the whole, the results obtained in the light department have been satisfactory, but another carbon lamp and a tungsten arc lamp are needed to make the equipment really efficient

London School of Hygiene and Tropical Medicine

On the occasion of this year's Colonial Office Conference an evening reception was held on Friday, July 18th at the London School of Hygiene and Tropical Medicine The guests were received in the magnificent library on the first floor by the chairman of the Board of Management Sir Harry Goschen, Bt, the chairman of the Court of Governors, Sir Holburt Waring, the Vice Chancellor of the University of London, Sir Gregory Foster, and the dean of the School Professor W W Jameson, in the regretted absence, through illness, of the director Sir Andrew Balfour H R H Prince George honoured the occasion by his presence, and after being received at the main entrance to the building His Royal Highness was conducted to the library and then visited the museum the laboratories and the lecture theatre During the evening a series of scientific exhibits was shown in the library by members of the staff, and technical demonstrations were on view in the various laboratories A cinema film entitled 'Better health," was displayed in the main theatre and a short lecture entitled "Insect and man some modern work" was given by Dr P A Buxton, director of the department of entomology The film depicted school life at the special schools of the Leyton Urban District Council

Winsley Sanatorium

The Winsley Sanatorium which is situated near Bath was opened in 1804 twenty-five years of work have now been completed during which period 8,649 patients have been treated In the annual report for the year 1929 it is mentioned that 378 patients were received, the average duration of stay at the institution being 102·4 days In 160 of these 378 patients tubercle bacilli were found in the sputum, comparing with 157 out of a total of 390 in 1928 Dr J D Macfie, the senior resident medical officer remarks that the statistical figures relating to admission and discharge have varied but slightly during the last ten years, and that it is obvious that the search for really early cases is as difficult now as it was when regulated sanatorium treatment was first introduced in Great Britain He regrets that inadequate attention is still being paid to the dental condition of patients requiring sanatorium treatment Sanocrysin alone as well as in conjunction with artificial pneumothorax has again proved to be a failure in spite of the great care taken with the size and spacing of the doses Dr Macfie quotes extracts from his paper on artificial pneumothorax (jointly with Dr G Napier) published in the *Journal* of March 8th which included an analysis of cases treated at Winsley Sanatorium from 1924 to 1929 He adds that the expression return to work' was used to include women who were able to perform household work, though characterized as not being on full work He is inclined to think that the more optimistic statement would have been quite justifiable, and more useful for statistical purposes

Scotland.

American Surgeons in Edinburgh

A VISIT of American surgeons, who are at present touring through some of the medical schools of Great Britain and the Continent, was paid to Edinburgh on July 14th, 15th, and 16th. The party included representatives of various surgical schools from New York to San Francisco and included several Canadian surgeons. The arrangements for a demonstration of surgical work in the Edinburgh Medical School were under the supervision of Professor D. P. D. Wilkie. A series of operations was carried out by the surgical staff in the seven operating theatres of the Royal Infirmary in the forenoon of each day, and demonstrations were given in the afternoons in the department of surgery of the university. These demonstrations consisted of talks of twenty to thirty minutes by various members of the Edinburgh school upon subjects to which they had devoted special attention, such as thoracic surgery, the cause of torticollis, excretion pyelography, post-carotid ganglionectomy, precancerous changes in the breast, splenic anaemia, renal reabsorption, and the history of the Edinburgh Medical School. On Wednesday evening, July 16th, a dinner was held in the Hall of the Royal College of Physicians, at which the American guests were entertained by the surgical staff of the Edinburgh school. Emeritus Professor Sir Harold Stiles occupied the chair, and referred to the cordial relations which were growing more and more intimate between surgeons in Britain and those on the American continent. The toast of "The Guests" was acknowledged by Dr. William Darrach, dean of the Columbia University Medical School, New York, who spoke of the preference that existed among American surgeons for the study of British rather than Continental surgery.

Edinburgh Dental School

The summer meeting of the Edinburgh Dental Hospital was held on July 8th for the purpose of presenting prizes to the students who had been successful in the preceding academic year. Dr. William Guy, dean of the school, presided, and the prizes were presented by Dr. James Haig Ferguson, President of the Royal College of Surgeons of Edinburgh. Dr. Haig Ferguson remarked that the College of Surgeons realized that dental students constituted no small factor in the prosperity and excellence of the medical school. More than one thousand men had taken the L.D.S. diploma of the Royal College of Surgeons, and the College had therefore a special interest in this dental school. Preventive medicine was now everywhere in evidence in the medical world; this was seen particularly in the relation of the teeth to general diseases. The value of close co-operation between the dentist and his medical colleagues could not be overestimated. If an apple a day kept the doctor away, it was equally true that a raw apple at night kept the teeth clean and bright.

New South Wales.

[FROM OUR CORRESPONDENT IN SYDNEY.]

Professorial Appointments at Sydney University

UNDER the Bosch benefaction at Sydney University the following appointments have been made: chair of surgery, Harold Dew, B.S., F.R.C.S., chair of bacteriology, Hedley Duncan Wright, M.D., D.Sc.; chair of medicine, Charles George Lambie, M.C., M.D., F.R.C.P.Ed. Professor Dew graduated M.B., B.S. from Melbourne University in 1914. In April, 1915, after a year in Melbourne Hospital, he joined the R.A.M.C., in which he served till 1919, being awarded the Medaille d'Honneur in 1916. For a year after the war he remained in London attending post-graduate classes, at the end of which time he was admitted to the Fellowship of the Royal College of Surgeons. In 1924 he was awarded the Jacksonian prize of the College, and in 1927 he completed the work *Hydatic Disease*, which won a share of the Syme research prize of Melbourne University. For the last ten years he has been practising surgery in Melbourne, acting, in addition, in an honorary capacity at the Walter and Eliza Hall Institute of Research in Pathology and Medicine. Professor Wright graduated B.A. from the University of Tasmania, and in 1916 graduated M.B., Ch.B. from the University of Edinburgh. He then joined the R.A.M.C., with which he served till 1920. On his return to Scotland he was appointed lecturer in the department of bacteriology of the University of Edinburgh. In 1921 he became a Member of the Royal College of Physicians, Edinburgh, and soon after was awarded the Lister Research Fellowship of that college. In 1925 he proceeded M.D.(Ed.), winning a gold medal, and in 1927 obtained the D.Sc. In 1925 he was appointed assistant lecturer in bacteriology in University College Hospital, London, where he afterwards acted as lecturer. In 1928 he became reader in bacteriology in London University, taking charge of the teaching and research work. At the Annual Meeting of the British Medical Association in Edinburgh three years ago he was vice-president of the Section of Pathology; he is a member of the council of the Pathological Society of Great Britain, and assistant editor of the *Journal of Pathology and Bacteriology*. Professor Lambie graduated M.B., Ch.B. in the University of Edinburgh in 1914. At the opening of the war he joined the R.A.M.C., with which he served for five years, being awarded the Military Cross. He is a Fellow of the Royal College of Physicians, Edinburgh, and a Fellow of the Royal Society of Edinburgh. In 1927 he proceeded M.D. At the present time he holds the positions of assistant physician to the Royal Infirmary, Edinburgh, lecturer in clinical medicine in the University, and lecturer in medicine in the School of Medicine of the Royal Colleges at Edinburgh.

The Late Dr. H. W. Armit

With the death of Henry William Armit the medical press of Australia has lost a tried and valued servant, and the medical profession a true friend. From the date of his appointment to the editorial chair of the *Medical Journal of Australia* his main object in life was to ensure its success from the scientific, literary, and ethical standpoint. He was particularly well fitted for his position, he was a man of wide reading and knowledge, and, in addition to a long journalistic probation, he had had a special training in Association affairs, resulting from his service on committees of the British Medical Association, which rendered his editorial pronouncements valuable whether in medical, medico-political or medico-ethical subjects. A man of strong personality, with high aims and ideals, he held strong views, if at times intolerant of opposition, he was always single-minded and fearless in his advocacy of any cause he felt to be right. His loss will be greatly felt.

India.

Jubilee of the "Indian Medical Record"

THE *Indian Medical Record* was established in 1880 by the late Dr. J. R. Wallace, who became secretary of the Indian Medical Association when this came into existence later. The February number appears as a jubilee issue, and contains an account of the sometimes chequered history of this periodical during the last fifty years. One characteristic feature of its past has been the active interest it has always taken in campaigns against certain widespread diseases; thus, special issues devoted to tuberculosis appeared in 1913 and 1925, the first being characterized by the attention devoted to methods of prevention. Special numbers dealing with a kala-azar epidemic in Bengal were published in August and September, 1923, and another special issue was devoted to the inauguration of the anti-leprosy campaign in India. A series of editorials in 1921 dealt with suggested schemes for the improvement of medical education in India, and active steps were taken at one time to combat the sale of unauthorized medical diplomas hailing from American sources. The present issue contains a large number of special articles on therapeutic and diagnostic topics. Dr. E. Muir contributes notes on the recent advances in the treatment of leprosy, and Professor P. Ganguly discusses an investigation into the prevalence of tuberculosis in Bengal. Comments are

made on the progress of ante-natal and post-natal work in India by Lieut.-Colonel V. B. Green-Armytage, I.M.S., professor of obstetrics and gynaecology, and surgeon to the Eden Hospital, Calcutta. Dr. J. E. Napier of the Calcutta School of Tropical Medicine, gives a short account of what India has done towards solving the kala-azar problem. An interesting frontispiece depicts Dhanvantari—according to Hindoo mythology, the founder of medical science. Reference to a primaeval churning rod and to the assistance of Vasuki the king of the snakes recalls inevitably Aesculapian symbolism. Since 1921 Dr. S. K. Mukherji has edited the *Indian Medical Record*, he must certainly be congratulated on the general excellence and interest of this jubilee issue.

Welfare Work in the Central Provinces and Berar

Under the auspices of the Central Provinces and Berar Red Cross Association welfare activities are extending in the main towns and villages. The work of the Association is conducted in an area of over 100,000 square miles and there are now forty-three welfare centres in good working order, while seven new ones will shortly become affiliated. There is also an efficient school for training health workers, a nursery school is being successfully carried on, and there are good facilities for the training of native midwives. The association has been in existence for six years and is now extending from the towns into the more rural areas, thirty village centres having been brought into being. During 1929 a vigorous scheme for training native midwives was started in the province, but it appears from the annual report for that year of the work of the Central Provinces and Berar Red Cross Association that the effort largely failed, it being found impossible to raise enthusiasm locally. Doubt is expressed whether the present method of training these women by weekly classes, arranging for a certain amount of supervision, and awarding stipends and prizes, is altogether satisfactory, a conference is to be held to discuss the problems which have been disclosed. Great difficulty also is being experienced in finding suitable candidates for health training, the midwives who might be worth consideration in this respect are, however, generally of low educational attainments and of inferior social standing.

South Travancore Medical Mission.

The South Travancore Medical Mission at Nevvoor was founded in 1838, and is conducted by the London Missionary Society. The annual report for 1929 indicates the extent of the work and the popularity that has been won. During 1929, 1,075 major and 907 minor operations were performed in the hospital, while over 13,000 operations were performed in the associated out-stations. Dr. I. M. Orr, one of the two European medical missionaries in charge, contributes to the annual report for that year some surgical notes, from which it appears that the large number of cases of chronic appendicitis treated by operation is attributable to the delay before patients can reach the hospital, and possibly to the prevalence in Travancore of unsuitable diet and chronic constipation. He believes there is a definite relation between diseases of the appendix and affections of the stomach and duodenum. Puerperal sepsis is very common in this part of India, and Dr. Orr reports that very good results have followed the treatment of the uterus with glycerin combined with daily intramuscular injections of streptococcal immunogen. An isolation ward on modern lines was being erected when the report was prepared. A new branch hospital was opened in October at Kalavapuram, and, being situated on the main central road, is receiving patients from a very wide area. Branch hospitals in connexion with the central institution now extend for 100 miles through Travancore, reaching almost to Cape Comorin. With one exception, however (Nedungolam), they have no operating theatre accommodation and therefore many patients requiring major operations have to travel long distances to Nevvoor. These branches are supervised by members of the staff at the main hospital who pay occasional visits, despite their limitations they are rapidly growing in importance as treatment centres. The Nevvoor leper asylum is able to accommodate some seventy patients.

Correspondence.

STERILIZATION OF THE UNFIT

SIR,—We have read with interest the editorial article in the *British Medical Journal* of July 5th upon the above topic. We have also read in the issue of July 12th your appreciative summary of the memorandum of the Eugenics Society.[1] May we draw attention to an argument advanced in your article which we regard as important. This is that, whereas sterilization may be an appropriate measure in individual cases for personal and family reason it is useless and futile as a eugenic measure calculated to diminish the incidence of mental defectiveness. There are two considerations bearing upon the general subject of sterilization and upon your particular view of its usefulness as set forth in your article which we think deserve attention.

1. Discussions on the sterilization of the unfit usually follow somewhat stereotyped lines. It is not necessary here to outline the arguments habitually used by advocates of sterilization. By opponents of this measure however two assumptions are very frequently made about the attitude of their adversaries which lead to much confusion. In the first place, it is assumed that advocates of sterilization propound this measure as an alternative to segregation, which will effect drastic economies for the ratepayer, and render most or all institutional accommodation for defectives superfluous. Secondly, the sterilizationist is credited with supposing that the national stock can *rapidly* be purged of its *entire* burden of defectiveness by the application of the *panacea* of *wholesale* sterilization to certifiable defectives. (The four italicized words occur with predictable regularity in these representations.) After attributing to him these extravagant beliefs, the "segregationist" has little difficulty in disposing of his opponent's arguments.

2. Opponents of sterilization invariably, within our knowledge, give prominence to the argument that because the *bulk of defectiveness is carried* "by normal or subnormal but not defective persons, any measure of sterilizing certifiable mental defectives which ignores non-certifiable carriers of defectiveness is useless and futile. Since you state in your article that "public opinion, even intelligent public opinion, is misdirected in this matter—even by certain persons and societies who might be expected to know better" and since the main argument of your article is to the effect that sterilization is useless as a eugenic measure for the benefit of the race we should like to make it clear what exactly the Eugenics Society stands for in this matter.

The Eugenics Society has never held that sterilization was an *alternative* to segregation. Our late president, Major Leonard Darwin, was so explicit about the matter that it is surprising to find the views of the society over which he presided so widely and flagrantly misrepresented. He wrote: "Segregation should be regarded as the normal method of dealing with all aments, and segregation if properly conducted, does meet all the racial requirements."[2] He advocated voluntary sterilization, not as an *alternative* to segregation, but as a *complement* to it, and wrote: "As regards the immediate future what is most needed is the supply of further accommodation for aments." Neither has the Eugenics Society ever held that a policy of even "wholesale" sterilization would *completely* eradicate mental defectiveness from the national stock. The question of the carrier has been carefully considered by the society which holds that while the problem of defectiveness will always be with us it is open to us to determine whether in the future the problem will be restrained within negotiable limits or whether it will swell to wholly unmanageable proportions.

The Eugenics Society disagrees with you and with Dr. Gill whom you quote with approval as saying: "If every certifiable mental defective had been sterilized twenty or thirty years ago it would have made little appreciable

[1] Obtainable from the secretary, Eugenics Society, 20, Grosvenor Gardens, S.W.1, price 6*d*.

[2] Darwin, Leonard. [illegible] Reform. Murray, 1926, p. 20.

difference to the number of defectives existing to day" One of us has shown[1] that even on the most unfavourable genetic and social assumptions with regard to defectiveness, the incidence of mental defect would be reduced by as much as 17 per cent in one generation if all defectives in that generation were prevented from having children We would further point out that Dr Gill's conclusion is one of profound pessimism According to the report of the Joint Mental Deficiency Committee, the apparent incidence of mental defectives has nearly doubled in the last twenty years If the prevention of defectives from having children, by sterilization, is useless, so also must be the prevention of them having children by other measures, such as segregation and prohibition of marriage All measures, in fact, are useless on this assumption, and pending the detection and sterilization of the "carrier" we are confronted with the prospect of a continual acceleration of whatever increase has really been taking place

In conclusion, we would like to emphasize a feature of our memorandum to which you have drawn attention in your summary Our proposals have been carefully devised to harmonize with the recommendation of the Mental Deficiency Committee, and to assist rather than to impede the creation of simpler institutional accommodation for mental defectives —We are, etc,

C P BLACKER
R A FISHER, F R S
R A GIBBONS
R LANGDON-DOWN
J A RYLE

July 15th.

COLOUR VISION TESTS

SIR,—In reference to the leading article on international colour vision tests in the *Journal* of July 12th (p 68), the first point is that the mass of misstatements on this subject should be corrected, and the tests be based on the facts of colour-blindness As stated by the Colour Vision Committee of the British Association, the old theoretical classifications should be discarded, since the facts do not agree with the definitions Defects of light perception are quite distinct from defects of colour discrimination The two essentials of a practical test for colour-blindness are that dangerously colour-blind persons only should be rejected by it, and that no dangerously colour-blind person should escape detection The wool test with five test colours allows 50 per cent of dangerously colour-blind to escape detection, and of those rejected by it 50 per cent are practically normal sighted Most of the other colour vision tests are as defective, if not worse The report discountenances the use of colour names, and recommends Stilling's test

The three most dangerous groups of colour-blind persons are the dichromic who see two colours in the spectrum, the trichromic who see three colours in it and have no yellow sensation, and those who have considerable shortening of the red end of the spectrum An examination of one of each of these groups will show definitely the value of colour names A dichromic regards a certain green as white and a corresponding purple also as white When shown these colours why should he call them anything except the white which he sees? If the green be made yellower he will immediately call it green, if made bluer he will call it blue The trichromic who sees yellow as red-green miscalls this colour red or green Those with shortening of the red end of the spectrum may be shown a red light which they do not see at all, and say so They may be shown a pink which appears to them a definite blue as indeed it does to a normal-sighted person when examined through a blue-green glass The colour-blind name colours in accordance with their colour perception

The pseudo isochromatic tests in common use are those of Stilling Ishihara, and my card test In order to ascertain the relative merits of these three tests thirty-eight consecutive referred or appeal cases were examined at the Board of Trade None of these was examined by me alone, at least three persons, and often more, were present at all the examinations In every case Captain Ellery or Captain Dowdy and the recorder were present Each candidate was first examined by the pseudo-isochromatic tests, and the fact whether he was dangerously colour-blind or not was ascertained subsequently Ten of the 38 cases were passed and 28 rejected, of the latter, 16 failed with all three pseudo isochromatic tests, but 12 of those rejected passed the Ishihara test completely, and 11 that of Stilling Of those who were passed, 7 showed defects with my card test, of those who failed, all were rejected by my card test, in most cases failing very badly, as, for instance, not reading card 8, a yellow-green C on an orange ground The explanation of the difference is that a test for a dichromic will not necessarily detect a trichromic who has three colour sensations—red, green, and violet—but no yellow sensation, he is obviously dangerous, as shown by the examination with the lantern and spectrum tests In my card test also the pattern is the same on every card, so that the examinee has to judge by colour alone and cannot follow the design of the artist

An important point to note is that a test which is difficult to the normal sighted is *not necessarily difficult* to the colour-blind This is shown by the number of colour-blind persons who can read Stilling's plates Nos 9 and 10, the reading of which is supposed to indicate very good colour perception In fact, a test may be constructed which can be read by the colour-blind but not by the normal sighted Nagel's anomaloscope is not a satisfactory test, since a man may be anomalous without being colour-blind, and 90 per cent of the colour-blind agree with the normal equation —I am, etc,

Board of Trade, S W, July 20th F W EDRIDGE-GREEN.

[1] Fisher R A The Elimination of Mental Defect *Eugenics Review* vol 3 p 114

STORAGE OF X-RAY FILMS

SIR,—I have read a letter in your issue of July 5th from Mr E J H Roth Subsequent to the Cleveland disaster in America last year, the X-Ray and Radium Protection Committee carefully considered the whole question, several meetings were held under the chairmanship of Sir Humphry Rolleston, and, finally, definite recommendations were issued These recommendations were published in the *British Medical Journal*, in other medical papers, and in the *British Journal of Radiology* In addition to this, many hundreds of copies of these recommendations have been sent to hospitals throughout the country The Ministry of Health is not only very much alive to the possible dangers, but is making full use of the committee's recommendations Further, the London County Council and other public bodies are making inspections and advising that efficient film storage and the periodic and drastic weeding-out of used films should become the universal practice Special film stores are being provided in all new, and in many old, departments on the lines suggested by the committee

The question is one of some importance, though it is a matter of surprise to me that your correspondent should be in ignorance of all that has been done in the matter The manufacturer who can produce a satisfactory "safety" film—that is to say, a film with an *acetate* instead of a *nitrate* base—will do much to solve the problem At present the safety films on the market are not easy to handle, and they are inferior in quality May I suggest —as I fear that your correspondent does not, or has not, read his journals as all good doctors ought to do—that it might be a gracious act on your part once again to publish the recommendations of November last —I am, etc,

STANLEY MELVILLE,
Honorary (Medical) Secretary, X Ray and Radium Protection Committee.

London, W 1, July 16th

*** The committee's recommendations were printed in full in our issue of November 16th, 1929 (p 923) If there is a general wish for their republication we will act on Dr Melville's suggestion —ED *B M J*

INTRAVENOUS SCLEROSING SOLUTIONS

SIR,—The recent articles on alternative solutions for the injection treatment of varicose veins will doubtless be of interest to many who practise the injection treatment It is obvious from the variety of solutions recommended, and the different methods of employing them, that there is no solution which can be called highly satisfactory Like others, I have had very variable results with different solutions, sometimes getting a very extensive painful thrombus with a small dose, but more frequently getting absolutely no result whatever, even when I used large doses of the solution

I tried sodium morrhuate in 5 per cent solution in doses of 2 c cm into each puncture of a vein area, and obtained no result whatsoever in four different cases I should be very glad to learn from some of your readers whose experience is extensive how soon after an obvious failure with 20 per cent quinine and urethane or sodium salicylate or 5 per cent sodium morrhuate, can one proceed to inject the same veins again? I find patients are greatly disappointed when nothing whatever happens after for example, the injection of 1 c cm of quinine and urethane, since they have usually been recommended to come to me by others who have been treated by me, obtaining a good, firm thrombus in the vein, and ultimate success These patients usually want another injection two or three days after the first failure, and ask for a good strong dose I have only once tried this method, and again got no result Perhaps some other solution, or a combination of two solutions, would be effective —I am, etc ,

Charing Kent July 21st. H E LITTLEDALE

TECHNIQUE OF INJECTING VARICOSE VEINS

SIR,—I read with great interest Dr Noel Scott's article on the treatment of varicose veins by injection, in the *Journal* of July 12th (p 53), and found myself, with just one exception, in complete agreement with every point in his able description This exception occurs in the following passage "It is not desirable to use a tourniquet because it produces venous engorgement, it is difficult to manage single-handed, and it causes considerable pain to the patient" I should therefore like to put forward my own experience as to the value of the tourniquet in the technique of vein injection

Dr Scott states in his article that "the ideal position of the patient is prone upon a couch," yet he acknowledges that "in most cases the patient is treated while sitting on an ordinary chair" I take the view that the injection should *always* be given with the patient recumbent, and *never with the legs down*, and should like to quote the following extract from my book, *Varicose Veins, Haemorrhoids, and Varicocele their Treatment by Injection*, to explain my reasons for being so emphatic in this respect

> In the upright position, the vein being distended with blood during the actual injection of the sclerosing solution the degree of dilution cannot be gauged, and this tends to produce varying results Whereas in the lying position, the vessel is collapsed and practically free from blood, and, accordingly, the same dilution is not in effect Also, when the vein is distended, leakage of blood or solution around the site of puncture is more likely, resulting in sphacelus or haematoma production, or, at the least, considerable bruising With the subject in the lying position the operator is able to perform the treatment with much greater ease and can control the point of his needle with much more certainty, since he may steady his hands by resting them on the patient's leg, thus avoiding the danger of having the needle point slip out of the lumen of the vessel or pierce the deep wall of the vein One final advantage of the lying posture is that it is decidedly rare for the patient to feel in the slightest degree faint, whereas in an upright position faintness is not uncommon

If the above seems to show that the recumbent posture of the patient is essential, then it seems to me that any technique which makes this position possible providing it is devoid of any vital objections, is the one to employ Now the use of the tourniquet certainly does make the recumbent position possible in all cases and I am sure I can show that it is devoid of any vital objection

In the first place, Dr Scott's objection on the score that the tourniquet causes considerable pain to the patient may be declared null and void if the pneumatic tourniquet is employed, especially when it is used with a manometer The pressure need never exceed 140 mm Hg and provided that the tourniquet is a nice wide one, the sensations of the patient will certainly not register pain Secondly the statement that a tourniquet is difficult to manage single-handed certainly applies to most designs but it most decidedly does not apply to the pneumatic sort When using the latter, as soon as the needle is in the vein no dexterity at all is required to release the valve with one hand, while the other holds the syringe perfectly steady Finally, Dr Scott maintains that it is not desirable to use a tourniquet because it produces venous engorgement But, surely, this is just what is required in order to introduce the needle into the vein That it is completely undesirable after this has been effected, I agree but I never start to inject the sclerosing fluid until all tourniquet pressure has been released and the veins have flattened, leaving the leg pale in colour

In conclusion, I am sure that those who care to try this method of using the pneumatic tourniquet with manometer will soon be saying, "Since then I have used no other"—I am, etc ,

London W1, July 15th RONALD TREVENNEL, M B Ch B

TREATMENT OF ANAL FISSURE, SPASM AND PRURITUS ANI

SIR,—Dr Frank Howitt's article published on June 28th (p 1163) was of much interest, but its utility will be lessened if it should lead to the impression, as it well may, that stricture, ulcer, and painful spasm of the rectum frequently follow operations for haemorrhoids They only arise as the result of wrong or unskilful technique, and in these circumstances are unfortunately liable to occur no matter what type of surgical operation or injection (should the injection method be used) is employed

Dr Howitt discusses a paper by Bensaude and Meyer which gives results of the treatment by diathermy of 114 cases of stenosis and spasm of the rectum I am familiar with the work of these eminent writers, and have frequently visited Dr Bensaude's clinic for the non-operative treatment of gastro-intestinal and rectal complaints at the Hopital St Antoine Paris A large number of their cases of stricture and ulceration are not the result of operations for haemorrhoids, but are due to syphilis and gonorrhoea In this country such cases are probably to be found mainly at genito-urinary and venereal clinics, since, admittedly, stricture cases seen at our own rectal clinics are usually due to sloughing and necrosis following badly performed operations, or following injections (for piles) which have been given in too great strength or amount, or into a wrong site

Treatment by diathermy is effective in these cases Prevention is, however, better than cure Neither stricture nor ulceration nor other painful conditions will occur if the correct technique is employed for injection and ligature methods, and there is careful selection of cases suitable for the mode of treatment adopted In fourteen years' experience, and in several hundreds of cases, I have not had a serious ill-effect following either injection or ligature of haemorrhoids (under local anaesthesia)

Operative and injection methods have each their own extensive field of usefulness within which each is the method of choice My technique (a modification of that described by Mr Mummery and Mr Buck) and mode of selecting cases I described in the *Journal* of April 19th, 1924 Readers will also find in the *Practitioner* of March, 1915 a full discussion of the advantages and disadvantages of both injection and operation by eminent proctologists who first introduced the injection method

For the treatment of fissure there are simpler and more effective methods than diathermy Bensaude himself has discarded it, and now employs a modification of a method which I have used for many years He injects a few

drops of quinine-urea solution under the fissure and touches the surface with pure silver nitrate. He assured me his results were satisfactory in most cases. My own method (realizing that spasm of the sphincter is the cause of delay in healing) is to anaesthetize the sphincter with 0.5 per cent. novocain or quinine and urea solution, using the same technique which I employ for removal of haemorrhoids (*Journal*, March 16th, 1929), and injecting also a few drops beneath the fissure. The sphincter relaxes almost immediately and a speculum can be painlessly passed for the diagnosis or treatment of other rectal conditions. A simple dressing such as pure ichthyol should then be applied daily. (I claim no originality for this method, which has been practised by Hirschmann and others for many years.) Old and dense scar tissue when present I then remove by the simple method advised by Mummery. Many fissures of old standing can only be cured by this little operation.

The introduction by Mr. W. B. Gabriel (*Journal*, June 15th, 1929) of a new preparation, "A.B.A. anaesthesin solution," a most valuable contribution to the treatment of ano-rectal complaints, has made this method of treating fissure more effective since the anaesthetic effect lasts many days. I now employ A.B.A. in preference to novocain.

For pruritus ani, if a lengthy trial shows that the good effects of the A.B.A. solution are permanent—and Mr. Gabriel's experience, described with such restraint, holds out hope for this result in certain cases—the great value of this solution will be inestimable. Colonel W. P. MacArthur's letter in the *Journal* of June 28th (p. 1195), especially his helpful advice on diagnosis and treatment, was of much practical value. I also have found threadworms in many cases. Ball's operation, although recurrences after it are frequent, has given relief in many instances I have known when all other methods were useless, but it should not be advised, and seldom is, until other means have failed. The fact that patients sometimes submit to it a second time and demand it themselves (I have known more than one such patient) is evidence of how sufferers appreciate even its temporary efficacy. General as well as local examination is necessary, since intractable pruritus is often a symptom of remote disease, such as diabetes.—I am, etc.,

London, W.C.1, July 14th. P. KENNEDY MURPHY.

DERMATITIS FOLLOWING USE OF IODINE SOLUTION

SIR,—Mr. Charles Alexander's description in the *Journal* of July 19th (p. 100) of a case of fatal dermatitis following the use of iodine spirit solution prompts me to record two cases which, fortunately, did not end fatally, but caused much pain and distress, and were due to the use of the common tinct. iodi mitis, *B.P.*

The first was that of a man, aged 42, who used the tincture as a counter-irritant for a dull ache in his left arm and forearm. Three hours after a single application the arm was covered with huge blisters separated from each other by superficial cracks of the skin. When I saw the patient he was sitting in bed undressed swaying, and supporting with his right hand the painful arm. He had a pale, sunken face, and was obviously in great pain, his temperature was 100° F., and his pulse 60. Soon after I arrived he vomited, and complained of dimness and severe headache. I treated the patient as for burns and he was able to leave his bed on the fourth day, the arm healed without complications.

The second patient, a woman aged 40, had a small superficial cut (a few millimetres long) on the palmar aspect of the terminal phalanx of the fourth finger of the left hand. She used the remnants of tinct. iodi mitis which she had in her medicine chest, and soon after complained of severe pain in the hand and arm, so unbearable that I was called out at 2.30 a.m. Solutions of liquor ammon. sod. bicarb. and alcohol were used; the pain eased, and she was able to sleep a little. The finger was swollen, and slight pain, concentrated in the terminal joint, which was stiff, persisted for several days, when the skin broke and some fluid escaped.

While there is no doubt that the tincture used in the last case was an old evaporated, and therefore concentrated, solution, I am not sure what the tincture in the first case looked like, except that the patient bought it from well-known chemists in the district. Both patients are healthy individuals, and do not remember ever using tinct. iodi before.

It seems likely that these were cases of idiosyncrasy, but whether the character of the solutions used had anything to do with the pathological phenomena is impossible to say. It warrants, however, careful observation by everyone using iodine in some form or other.—I am, etc.,

London, N.4, July 21st. D. G. DE BOUK.

*** In the nineteenth edition of *The Extra Pharmacopoeia* (Martindale and Westcott) the warning is given that the tinctura iodi (mitis) "should be recently prepared, or is liable to contain aldehyde and hydriodic acid. This aldehyde in presence of iodine and water oxidizes, forming more hydriodic acid as well as acetic acid. The acetic acid may become etherized, forming ethyl acetate. A little iodic acid added to the tincture will prevent decomposition, it breaks up hydriodic acid as formed."

ANAPHYLAXIS AND DISEASE

SIR,—I am greatly interested in a remark by Dr. Langdon Brown in his paper on predestination in disease (*Journal*, March 22nd, p. 525). He writes: "In less degrees both allergy and anaphylaxis declare themselves in violent attempts to get rid of the foreign invader. These attempts take the form of diarrhoea and vomiting or of giant urticaria, or of asthma."

In an article on anaphylaxis printed in the *Medical Journal and Record* of February 3rd, 1926, I tried to place these phenomena under the parasympathetic mechanisms. Briefly, they may be expressed thus. All tissues under the control of the automatic system must be in communication with one another by means of either nervous or hormone influence. They must either have one set of impulses stimulating their function and another inhibiting it, or they must have stimulating impulses alone, the tissues resuming normal function on cessation of the stimulus. The automatic nervous system, together with certain of the ductless glands, is clearly divided into opposing forces each of which has its special functions.

With the sympathetic are bracketed the thyroid, pituitary, and gonads, and with the parasympathetic are associated the parathyroids, thymus, pancreas, spleen, liver, and possibly others. Dr. Langdon Brown has well described how the sympathetic system and its allies take control of all matters pertaining to defence and self-preservation against all factors potential for harm, be they bacteria, wild animals, or financial difficulties, when excessively stimulated they cause symptoms, as seen in exophthalmic goitre and shell shock. The parasympathetic and its auxiliaries preside over the assimilation of food when once procured, and the elimination of all wasteful and harmful products. This is clearly shown by the innervation of the intestine. Stimulation of either of these groups produces a characteristic train of symptoms varying largely according to the severity of the stimulus. The most primitive of the parasympathetic reactions is to eject or vomit. Almost any parasympathetic stimulus causes this, as is seen in sea-sickness from vagal irritation of the semicircular canals. The vomiting of pregnancy is possibly due to stretching of the uterus, thus, as well as early attempts at smoking, stimulates the vagus unduly. Increased intestinal peristalsis resulting in diarrhoea is due to increased vagal stimuli. Vagal stimulation causes contraction of the bronchial muscles, producing asthma. When toxic material gains entrance to tissues that are sensitized immediate efforts are made to eject it, this takes the form of urticaria or angio-neurotic oedema, and is identical with that produced by any dermal test for foreign protein. This reaction must also fall into place as a parasympathetic act, and is part and parcel of the same mechanism which enables an amoeba to extrude undigested material. A stimulus may produce the whole syndrome or part of it according to its severity.

The understanding of these two syndromes will help much to unravel symptoms generally, which will be found to fall

into three main groups those due to direct injury of tissues and organs impairing their function, those due to sympathetic overactivity, and those due to overactivity of the parasympathetic group The vitamins probably form another group of their own

It would be interesting to have expressions of opinion on these matters, since I believe the placing of anaphylactic phenomena under the parasympathetic group is a new conception —I am, etc,

SYDNEY PERN, M R C S, L R C P

Melbourne June 11th

SPONTANEOUS SURGICAL EMPHYSEMA

SIR —The reference to spontaneous surgical emphysema associated with labour, made by Dr F Bedo Hobbs in the *British Medical Journal* of May 24th (p 950) recalls an isolated and puzzling observation of my own, which seems worth mention in this connexion

Some time ago I saw in consultation an English child aged 12 who in the course of an attack of capillary bronchitis had suddenly presented a swelling of striking proportions on the left side of the neck The swelling was neither red, hot, painful nor tender and on palpation gave the characteristic crackle of surgical emphysema Subsequently the swelling spread to both sides of the neck head and chest, to the left arm and to the left side of the abdomen and vulva. It had completely disappeared within fourteen days The bronchitis was not associated with violent coughing there was no evidence of vesicular emphysema and the patient made an early and satisfactory recovery

The source of the subcutaneous collection of gas is a mystery —I am, etc,

R T WELLS,
Lieut.-Colonel I M S Civil Surgeon

Rawalpindi June 22nd.

ANTIMALARIA MEASURES

SIR,—Is there anything in this talk that malaria is to be reduced, in the first place, by improving the economic conditions of the victims?

We had no malaria in the hospital at Taranto when I served there in 1919 Was that because we were well fed, or was it because Colonel J C Robertson, I M S, and Sir Ronald Ross had had the area drained, cleaned, and oiled as necessary, and we ourselves were lodged in screened houses? Lord Allenby's troops were kept tolerably free from malaria through the summer of 1918 by antimosquito measures, but as soon as these well-fed and safeguarded troops were exposed to the myriads of female mosquitos in Northern Palestine half of them or more were down with malaria within three weeks People in flooded areas and swamps are always poorer than those on drier land, which is why they are driven to the swamps but it is better to give them free drainage than free meals, for they will make more money in their longer malaria-free time, and will buy the meals regularly for themselves We are told that ankylostoma-infested communities when cleared of this pest show a new energy and industry Not otherwise probably, will the southern European nations, freed from the malarial oppression which for so long has settled on them and blighted them, develop a new energy and courage, proving themselves perhaps the equals or superiors of the northern nations who live less in the life-giving sunlight

What Lieut.-Colonel Gill calls the new school seems to me to be the older, for it goes back to the old methods I recall from the eighties, when new settlers drained an area for amenity merely, with no direct intention of limiting mosquitos thereby It then took three men, successively, to achieve what one man may do now, but by the time it was done by the last the other two were invalided home or dead People who do not remember the old times cannot imagine what increased comfort and life we have derived from Sir Ronald Ross's discoveries and the teachings of the antimosquito school Before his time malaria was supposed to be due to climate we could do nothing to prevent it, and were laughed at if we tried —I am, etc,

W E HOME,
Fleet Surgeon.

London W 1 July 8th

Obituary

COLONEL JOHN RICHARD DODD, late R A M C (ret), died at Bournemouth on June 11th, aged 72 He was the son of Dr T A Dodd of Ryton, co Durham and was born there on May 18th, 1858 He was educated at Barts and at Newcastle-on-Tyne, where he gained the Dickinson, Tulloch, and Heath Scholarships at Durham University in which he graduated as M B in 1879 He also took the M R C S in 1879, and subsequently the F R C S in 1895 and the D P H of the London Colleges in 1899 After filling the post of house-surgeon of Newcastle-on-Tyne Infirmary he entered the Army as surgeon on February 5th, 1881, becoming lieutenant-colonel after twenty years' service, and colonel on September 9th, 1903 He retired on October 12th, 1912 He served in the Ashanti expedition of 1896 and received the star given for that campaign He was the author of the article on Ambulance in the *Encyclopaedia Britannica*, of Diseases of Soldiers in *Dangerous Trades*, and of numerous articles in the *British Medical Journal Graphic*, *Sporting and Dramatic News*, and other periodicals He was greatly interested in natural history and archaeology, was a keen fisherman, and a good shot In 1914 he went to Trinidad under the Rockefeller Commission to investigate ankylostomiasis in the Indian population, but returned to England to rejoin on the outbreak of war, and was re-employed from February 17th, 1915, till the end of the war After the armistice he settled in Bournemouth, where he devoted himself to archaeology and to the public service, being one of the early organizers of the National Citizens' Union, and a member of the Royal Empire Society and of the Bournemouth Natural History Society In 1897 he married the eldest daughter of Mr J W Cross general manager London and Provincial Bank who survives him, with one son, Captain T Dodd, R A M C

DR WILLIAM DAVID JOSEPH MORRIS an old Cardiff practitioner, died suddenly at his home on July 5th Although he had been in indifferent health for some time he was up and about to the last attending a county cricket match only the day before Born in 1860 at Fishguard, Pembrokeshire, he was educated at the local Grammar School, and at Long Ashton School, Bristol It was at Long Ashton, the home of the great "W G" and his brothers, that was engendered and developed Dr Morris's love of cricket and his skill at it He received his medical education at Guy's Hospital, obtaining the diplomas M.R C S in 1881, the L P C P Edin and L M in 1882, and the L S.A in 1883 After leaving Guy's in 1884 he settled in Cardiff, where he spent the whole of his professional career, building up an extensive practice He was a thoroughly capable family doctor, much respected and trusted by his patients He possessed a high degree of manipulative skill, and had he been more ambitious might have become quite a good surgeon, as it was he had many major operations to his credit He was not a great reader, being essentially an "outdoor man" His interests were many and varied He was a very keen sportsman and an excellent shot especially with the rifle In his early days Dr Morris was an ardent follower of hounds and was associated with three different Hunts in the county he was equally enthusiastic in support of cricket and Rugby football A connoisseur of no mean order he had a large collection of curios and antiques Among his many activities was Volunteering, and when the Volunteers were disbanded he retired with the rank of lieutenant-colonel He served also as major in the 2nd and 3rd Battalions of the Welch Regiment During the war he was in charge of the Mansion House and the St Pierre Voluntary Hospitals A prominent Freemason he was a Past-Master of his Lodge He resigned the appointment of medical officer to the Cardiff Post Office on reaching the age limit in April A colleague writes Among the many traits of his attractive and charming personality should be mentioned the love of both children and animals His influence over the latter was remarkable At one time

he possessed quite a menagerie in his bachelor home, among its denizens being such extremes as a fox and a python, both of which he had succeeded in taming He was a member of the Cardiff Naturalists' Society (Archaeological, Geological, Botanical, and Photographic Sections), an ex-president of the Cardiff Medical Society, and a member of the British Medical Association, being chairman of the Cardiff Division in 1925-26 He was a Justice of the Peace for Glamorgan

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The death occurred on July 7th, at Victoria, British Columbia of DR PHILIP BRUNELLESCHI COUSLAND, who, as editorial secretary of the Chinese Medical Translation Committee for many years, may be looked upon as one of the "fathers" of modern medicine in China Born at Glasgow in 1861, he was educated at George Watson's College, Edinburgh, and Edinburgh University, graduating M B, C M in 1882 After holding the post of house-physician at Leith Hospital he went out to China under the *Presbyterian Church of England and the China* Medical Missionary Association to Swatow Hospital in 1883 Three years later he transferred to Chaochowfu, where he was superintendent of the Burns Memorial Hospital, and, until 1906, was engaged also in evangelistic and other work, including a great deal of translation He then removed to Shanghai, his services being lent to the China Medical Missionary Association (now the China Medical Association) for the purpose of editing, translating, and publishing medical books in Chinese, he was president of the association from 1910 to 1913 In 1890 Dr Cousland had become a member of the terminology committee of the association, and the bulk of its work fell upon his shoulders It largely lay with him to render into Chinese ideas and words wholly foreign to that language The ideographs had each to be considered separately by the committee before they were adopted or improved and finally used in the translation of foreign medical works The Chinese Government eventually itself took part in this task, and appointed a special committee on which the Medical Missionary Committee was represented Dr Cousland was the author of the *English-Chinese Medical Lexicon*, and he translated Osler's *Practice of Medicine*, Halliburton's *Physiology*, and Younger's *Insanity in Everyday Practice* Though he retired from active work some years ago, he remained on the "honorary list" of his society Having settled at Victoria, British Columbia, where his younger son was in medical practice, he continued until recently to visit Shanghai and Japan from time to time in connexion with medical translation work

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We regret to record the death, on July 19th, of Dr T OUTTERSON WOOD, at his residence at Torquay He was born at Rainton, Durham, in April, 1843, and received his medical education at the Newcastle School of Medicine and at St Bartholomew's Hospital He became M R C S Eng in 1868, F R C S Ed in 1874, F R C P Ed in 1879, M D Durh in 1886, and M R C P Lond in 1888 After holding a resident appointment at the Royal Infirmary, Newcastle-on-Tyne, Dr Outterson Wood decided to take up psychiatry as a specialty, and was appointed resident medical officer at Dunston Lodge Asylum, Newcastle-on-Tyne That post he relinquished to become assistant medical officer to the Kent County Asylum, Barming Heath On the recommendation of the Commissioners in Lunacy he was next appointed medical superintendent of the Isle of Man Government Asylum In 1883 he commenced consulting practice in London, and was elected physician to the West End Hospital for Nervous Diseases, Epilepsy, and Paralysis, and to the St George's and St James's Dispensary Dr Outterson Wood was president of the University of Durham Medical Graduates' Association in 1897 and of the Medico-Psychological Association of Great Britain and Ireland in 1905-6 He took a keen interest in the work of the British Medical Association, and was president of the Medico-Psychological Section of the Annual Meeting in Belfast in 1909 He was also in former years a frequent contributor to the editorial columns of this *Journal* On relinquishing practice some fifteen years ago he retired to Torquay His recreations were trout fishing and shooting, in the first of which he was very adept His wife died in 1907

MISS CATHERINE JANE WOOD died on June 14th, at Hazel Rough, near Hartfield, Sussex, aged 88 She was very infirm, with her sight and hearing almost gone, and she suffered from severe rheumatoid arthritis She was born in Doughty Street, London, and most of her active life was spent in London She received her training in nursing under Dr Charles West at the Hospital for Sick Children, Great Ormond Street, and was connected with that hospital and its convalescent branch at Highgate for over fifty years She belonged to a group of highly endowed ladies who, without any pecuniary award, gave splendid service during the early and middle periods of the hospital's history, she ultimately became lady superintendent at Great Ormond Street When her work there was completed she gave unstinted service in several forms of activity concerned with sick-nursing She was the first to start a hostel for private sick-nurses, in which nurses themselves had shares, and she took part in the formation of the British Nurses' Association and of the Invalid Children's Aid Association With Miss Spenser Perceval (Mrs Howard Marsh), she was a founder of the Alexandra Hospital for Children with Hip Disease In 1892 she investigated, at the request of the *British Medical Journal*, the nursing conditions in English workhouses, and also the arrangements for looking after old people in workhouses This was followed by a like investigation of the workhouses in Ireland Miss Wood's reports were published in the *Journal* in 1894, and they had no mean share in bringing about reform She wrote an excellent guide to nursing in children's diseases, and an article in Quain's *Dictionary of Medicine* on children's hospitals Miss Wood was a woman of high moral purpose, of great strength of character, of intellectual vigour, and of unwearied self-sacrifice She will never be forgotten by those who worked under her and with her, side by side in many activities

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THE LATE DR FRANK F TAYLOR

DR HERBERT R SPENCER writes There is an important omission in the obituary notice of the late Dr Frank E Taylor which I would like to supply I allude to his work as director of the "Review of Current Literature" in the *Journal of Obstetrics and Gynaecology of the British Empire*, a post he occupied for many years, up to the time of his death This work, which, though in poor health, he carried out most admirably and unselfishly, will always keep his name in grateful memory by British gynaecologists

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The Services

CONDITIONS OF SERVICE IN THE R A M C

DR F E FREMANTLE, M P, sends us for publication a copy of the following letter, dated July 14th, 1930, which he has received from the Secretary of State for War

"With reference to your letter of June 19th, with which you sent me copies of letters on the subject of conditions of service in the Royal Army Medical Corps, I am writing to let you know that I am going into these questions, but you will, I think understand that it will take time, and I cannot, as you suggest, make improvements to take effect this month I think that the whole matter must be considered in connexion with next year's Estimates, and that I shall not be able to make any announcement in advance of my Estimates speech"

Dr Fremantle asks us to add that the "copies of letters" referred to by Mr Shaw were sent to him as typical complaints, without any indication of the writers' names and addresses In no instance has Dr Fremantle revealed the identity of the officers who have written to him on the subject

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LIEUT GENERAL H B FAWCUS, Director General Army Medical Services, will open the museum of the 47th (2nd London) Division R A M C (T A), at the Duke of York's Headquarters, Chelsea, to day (Saturday, July 26th), at 4 p m

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE Navy Estimates and the vote for the Board of Trade have been considered in the House of Commons this week. There were further discussion on the Finance Bill and other measures.

The Parliamentary Medical Committee met for the last time this session on July 22nd. After considering the proceedings at the recent meeting between the Minister of Health and its representatives the committee decided that its views regarding a central body to co-ordinate the work of rheumatic clinics would be met if the Minister appointed a Rheumatism Council of the same type as the Cancer Committee. The Medical Committee further held that this council should include practitioners actually in practice and treating rheumatic cases. The committee further discussed the requests for the issue of test prescriptions by panel practitioners. It held that for the Ministry of Health to demand such issue was *ultra vires*.

In the House of Lords on July 21st the Housing (No. 2) Bill passed through committee with amendments.

In the House of Lords on July 22nd, the Housing (Scotland) Bill was read a second time.

In the House of Commons on July 22nd the Road Traffic Bill was read a third time. It has already passed the Lords.

Ophthalmic Benefit.

In the House of Commons on July 15th Mr. WOMERSLEY moved that an address be presented to the King praying that Regulation 25 of the National Health Insurance (Additional Benefits) Regulations 1930 dated June 18th 1930 be annulled. The regulation he said dealt with additional benefits for insured persons respecting ophthalmic treatment and the supply of optical glasses. He objected to the portion of the regulation which read:

> Where a member has submitted himself to the examination of a medical practitioner under the scheme of a body or organization which provides both ophthalmic examination and optical appliances he shall not be entitled to obtain the appliance prescribed by such practitioner from an optician who is not associated with that body or organization.

Under the present arrangements they had a body of qualified opticians known as the Joint Council of Qualified Opticians. They had been prescribing for some considerable time for members of approved societies and the arrangement had worked very satisfactorily. But another body had come along. Whenever a member of the Qualified Opticians Council examined a patient and found that he required surgical treatment he immediately reported to the approved society and arrangements were then made for the patient to be examined by an ophthalmic surgeon. The ophthalmic surgeons had set up a board known as the National Ophthalmic Treatment Board and they had taken on to that board certain selected firms which supplied optical glasses. They had gone to the Ministry of Health and requested that they should be given special privileges for that particular board. This question was raised in 1928 when the *National Health Insurance (Amendment) Act* was before the House and various objections to the proposed arrangement were put forward. The approved societies now wanted to know why this change-over should be made. Throughout the United Kingdom there were thirty firms attached to the National Ophthalmic Treatment Board but 90 per cent. of those were in the hands of four firms only which had branches scattered throughout the country. If the regulation was passed they would be the only people available to make up the glasses required by members of approved societies. It was not fair to bring in this drastic change buried in the midst of many new regulations which it might be desirable to introduce. Before any such action was taken a round table conference of all the parties concerned ought to have been held. If the regulation was passed the position would be that a member of an approved society would come to a member of the organization that had hitherto supplied him with glasses and the doctor realizing that the defect required something more than the attention of a refractionist, would say, "You must go to a surgeon." The man would be reported back to the society which would send him to a surgeon. That surgeon could not send him back to have the prescription made up by the person who first called attention to the defect. He would have to go to one of the members of this favoured board. The approved societies said that the members ought to have a free choice to go to qualified and approved men.

Mr. BIRD seconded the motion.

Mr. GREENWOOD said that he did not know what case he had to answer. No drastic changes had been made. These regulations were formulated only after full consultation with the Approved Societies Consultative Council of the Ministry. For years there had been two different schools of thought on this question of ophthalmic treatment. There was what he might call the view of the medical profession and there was the view expressed by the Joint Council. He was not concerned with conflicting professional interests. His concern was service to the members of approved societies. It was his duty to hold the balance as fairly as he could and to give the maximum number of alternative opportunities for service to insured persons. That was done under the regulation now being discussed. Under it any approved society was to be free to make its normal arrangements if it was providing ophthalmic treatment directly with a representative body of opticians and in the majority of cases that course would be followed. The regulation allowed a society to arrange for examination in all cases by ophthalmic surgeons. There were two other alternatives which had been designed to make it possible to get advice from ophthalmic surgeons and to provide that service at a minimum cost. The British Medical Association had made two alternative schemes. In the first one it had prepared a list of medical practitioners who had had experience of dealing with ophthalmic cases and were willing to test the sight of insured persons and prescribe glasses. The insured person having got his prescription could go to any qualified optician he chose throughout the length and breadth of the land. The second scheme was a combined one being an arrangement between the medical profession on the one hand and—it was quite true—a body not representing a large number of firms the Association of Dispensing Opticians on the other—firms he imagined to which most members of the House of Commons went when they had their prescription made up. They never prescribed, but always made up prescriptions which came to them from ophthalmic surgeons. Under that combined scheme it was quite clear that they could not have that free choice of opticians that was available under other schemes. If they had the scheme would go to pieces. It was reasonable to say to an insured person: "If you wish to go to an ophthalmic surgeon if you feel that your eyesight needs highly skilled advice then we have got to tell you that there are only a limited number of opticians to whom you can go to have your prescription made up." That did in a way interfere with the free choice of the insured person but he acted with his eyes open. The insured person need not have this scheme unless he wanted it. He hoped the House would pass these regulations as provisional regulations for the benefit of insured persons.

Mr. RHYS DAVIES said that there was now freedom of choice on the part of the insured person to go to either a panel practitioner a dentist or a chemist. The insured person also had freedom of choice up to the present to choose his optician but by passing these regulations that freedom of choice for the insured person would be taken away. It would be well if the Minister of Health would take this part of the regulation back.

Dr. MORRIS-JONES said that if the regulation was deleted according to the motion it would certainly take away whatever choice there was to the insured person. What were the two schemes before the House? An insured person could go to an optician who was a member of this organization and get his eyes tested and he could get glasses for a fee of 15. He could under the scheme of a National Ophthalmic Treatment Board go to a specially qualified man approved by eminent ophthalmic surgeons appointed by the Board specially qualified to examine eyes for an inclusive fee of 18s.—namely 10s. 6d. for the examination and 7s. 6d. for the glasses—compared with the 15s. which he paid under the other scheme. Surely the House was not going to deprive the insured person of the right of choosing which of the two he preferred. He hoped that the House would not deprive a large number of opticians of the opportunity of making a living.

The motion was rejected by 144 votes to 23.

Silicosis Bill.

The Workmen's Compensation (Silicosis) Bill was considered by a Standing Committee of the House of Commons on July 8th and 10th. *An amendment* to Clause 1 to include form of dust other than asbestos dust was ruled out of order and an amendment to Clause 2, to provide that the medical expenses fund should be maintained by subscriptions from employers was negatived. Dr. VERNON DAVIES proposed an amendment to apply the bill to "groups of industries and processes in which silica or asbestos is used industrially." He withdrew the amendment after Mr. SHORT pointed out that Parliament sought to provide for workers who were exposed to dust even if that dust were not used industrially. Dr. FREMANTLE spoke of the value of employing under the scheme *medical men* who were in general practice instead of only employing whole time officers. A man who gave up his life to examining people suspected of silicosis or a bestosis would make mountains out of molehill. Mr. SHORT said that the Departmental Committee appointed to advise the Home Secretary about these medical arrangements did not share Dr. Fremantle's view. The committee was satisfied that encouragement and facilities would be given these officers to keep themselves up to date in all medical science. Discussion followed on the position under the bill of men working in coal mines and affected with silicosis where there is not 50 per cent. of free silica in the dust. Mr. SHORT said that where the Home Secretary believed there was a risk of silicosis he could apply the compensation schemes without regard to the 50 per cent. limitation.

The bill came before the House of Commons on July 15th, when it passed through report and was read a third time.

In the House of Lords on July 22nd a Commons amendment to the Workmen's Compensation (Silicosis and Asbestosis) Bill, was, on the motion of Earl RUSSELL accepted.

Small pox

Mr GREENWOOD in reply to Mr Broad, stated, on July 17th, that no deaths from small pox were registered during 1929 in Norway, Sweden, Germany Switzerland Austria Denmark or France There were 3 deaths in Spain during 1929 and 5 deaths in Italy in 1927 No particulars were available in regard to Russia

Replying to Mr Groves, on July 21st Mr GREENWOOD said that in the fifty two weeks ended December 28th 1929, 39 deaths occurred in England and Wales which were classified as due to small pox Of these cases, patients aged 3 days, 14 days 3 weeks (two cases), 1 month, 2 months 8 months (two cases), 16 months, 2 years, 9 years, 13 years, 16 years 17 years, 24 years, 25 years, 31 years, 36 years, 37 years, 44 years 63 years 64 years and 65 years were not vaccinated The ages of the patients vaccinated were 14, 20, 28, 29, 34 36 42 43 45 (two cases) 59 61, 65 and 75 years In one person aged 65 years and one aged 74 the vaccinal condition was doubtful no information was available in the case of a person aged 66 years All those vaccinated had been vaccinated in infancy only, and were aged 14 years and upwards at the date of death

Indian Medical Degrees

Mr BENN replying to Major Polo on July 21st said that he had not yet received the views of the Government of India in regard to the resolution passed at the conference of representatives of the principal Governments and the medical faculties at Delhi, in June, requesting the Secretary of State to change the rules governing recruitment to the Indian Medical Service, so as to remove the provision that only persons holding degrees recognized by the General Medical Council in this country should be selected for the Indian Medical Service Dr FREMANTLE asked Mr Benn to do everything he could to insist that in any such change in the rules there should be no degradation of the Service that had done so much and was expected to do so much by keeping its standard up to the European standard Mr BENN said that he could make no statement until he had received the views of the Government of India

Tuberculosis—On July 1st last, 22,575 patients were receiving residential treatment for tuberculosis under the approved schemes of local authorities in England and Wales On the same date 3 232 patients had been awaiting admission to residential institutions for more than ten days Mr JOHNSTON informed Mr Marcus, on July 22nd, that the numbers of new cases of all forms of tuberculosis notified in Scotland in 1928 and 1929 were 10 885 and 10,262 respectively The number who received treatment in institutions in 1928 was 7 808 The corresponding figure for 1929 was not yet available The Department of Health for Scotland had no evidence to indicate that any material number of cases were not receiving treatment because of lack of accommodation

Tuberculosis in South Shields—Replying to Mr Tde, on July 17th Mr GREENWOOD said that a medical officer of his Department would visit South Shields shortly to investigate the prevalence of tuberculosis in the borough It would not be an official inquiry in public but all who had knowledge of the question would be consulted

Dangerous Drugs—Replying to Dr Fremantle, on July 17th, Mr CLYNES stated that it had not yet been possible to take steps to convene a preliminary conference of countries manufacturing narcotics, with a view to limiting their output He would consult on the possibility of summoning a meeting for October On the same date Mr MARLEY asked whether the Home Secretary would consider the fining of doctors who left dangerous drugs in open cars Mr CLYNES replied that steps had already been taken in regard to that matter

Drugs in Automatic Machines—Mr CLYNES told Dr Morris Jones on July 17th that he had seen a report of a case in which the legality of the sale of drugs of a poisonous character, procured from automatic machines outside chemists establishments in the county of London, had been raised where the judge decided that such sale involved a breach of Section 3 of the Poisons and Pharmacy Act, 1908 The proceedings for the recovery of a penalty under that Section were of a civil character and were instituted by the Registrar of the Pharmaceutical Society he had no power to intervene He understood the case in question was a test case arranged by the Pharmaceutical Society, and the judgement would no doubt be noted by those concerned

Infectious Fevers—In reply to Mr Broad on July 17th Mr GREENWOOD said that 3 388 deaths from measles were notified during 1929 in England and Wales, 29,084 from influenza, and 53 from chicken pox Of 120 232 cases of scarlet fever, 717 were fatal, of 62,774 cases of diphtheria, 3 446, of 10,967 of small pox, 39 and of 69,178 of tuberculosis, 37,990

Mental Deficiency—Replying to Dr Morris-Jones, on July 17th, Mr GREENWOOD said he could not undertake at the present time to appoint a commission to make full inquiries into the causation of mental deficiency, its relationship to other abnormal conditions and social problems, and any measures, including segregation and sterilization, by which it might be prevented

Undernourished Children—Sir C TREVELYAN stated, in reply to Mr McShane on July 17th, that, apart from the practical difficulties involved, he doubted whether any useful results would be gained from a comparative medical examination of representative groups of scholars consisting partly of children of men unemployed for some time and partly of children of those belonging to the regularly employed artisan class It was the duty of local education authorities to discover whether children were suffering from malnutrition In areas where industrial depression was acute special steps were taken to keep a close watch on the health of the children and to provide supplementary nourishment in cases of need Mr MCSHANE said that such a comparison was found to be of much value in Glasgow some years ago

Physical Training in Schools—The House of Commons, in Committee of Supply on July 14th, considered a vote for public education in Scotland Mr W ADAMSON moved the vote The Duchess of ATHOLL pointed out that the report on Scottish education stated that not enough physical training was given in the schools and that it was only taken on two or three days a week whereas the inspectors felt it should be every day If physical training was not being given as often as the inspectors thought necessary that pointed to a shortage of teachers In the past Scotland had not devoted much attention to the training of the small child and to the nursery classes Improvements in the health of the children between 1 and 5 years was of greater importance to the nation as a whole than an additional year of school life Mr COWAN said that the next great advance in Scottish education would be along the physical side, partly by practical work in the schools but more by development of the medical services and the provision of playing fields Sir I THOMSON said maternity and child welfare schemes covered only about one third of the children in Scotland The provisions under the Act of 1919 for special schools for children between 5 and 9 years who o mental and physical condition necessitated attention had not been greatly used Mr JOHNSTON replying for the Government said they all wanted to see physical teaching or training The vote was agreed to

Poison Gas—Replying to Mr Freeman, on July 17th, Mr SHAW said the results which had been obtained both during and since the war showed that experiments on animals at Porton gave definite evidence of the mode of action of poison gases on human beings Indications were also obtained of the curative treatment which should be adopted The knowledge gained had greatly alleviated human suffering during the war On July 22nd Mr SHAW, replying to Mr Freeman, in reference to the experiments conducted at Porton with poison gases on animals, said that a comparison of the gross and micro copic appearance of the lungs of men killed by irritant gases in France with those of animals exposed to the same substances showed that the injuries were of similar nature and character Further study of such animals gave evidence of the mode of action of the poisons and their effects on vital organs It was thus possible, by correlating these experiments with clinical observations on gas patients, to formulate curative treatments Descriptions and results of this research were published in the medical press shortly after the war

Universities and Colleges

UNIVERSITY OF LONDON

A MEETING of the Senate was held on July 16th A cordial vote of thanks was accorded to Sir Gregory Foster for the services he has rendered to the University during his tenure of the office of Vice Chancellor

Dr Samson Wright, lecturer on physiology at King's College, was appointed to the University Chair of Physiology at the Middlesex Hospital Medical School

Dr Alexander Robertson was appointed to the University Readership in Biochemistry at the London School of Hygiene and Tropical Medicine

The title of Professor was conferred upon Dr J G Thomson (medical protozoology) and Dr G S Wilson (bacteriology as applied to hygiene) in respect of the posts held by them at the London School of Hygiene and Tropical Medicine

It was resolved to institute a University Chair of Radiology, tenable at the Cancer Hospital (Free), Fulham Road

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on July 15th, when the President, Sir Norman Walker, was in the chair

Lieut Colonel W P Harvey, C I E (Edinburgh) and Dr Arthur Oliver Gray (London) were introduced and took their seats as Fellows of the College

Dr H L Wallace (Edinburgh) Dr Wm Brown O B E (Aberdeen) and Dr H L Whittingham (Halton, Bucks) were elected Fellows of the College

It was announced that Dr D K Henderson (Glasgow) had been appointed Morison Lecturer for 1931

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

AT a meeting of the Royal College of Surgeons of Edinburgh held on July 22nd, when Dr James Haig Ferguson, President, was in the chair, the following 22 successful candidates, out of 73 entered, having passed the requisite examinations this year, were admitted Fellows

M I Ashmawi P C E Brunette C Charleson A C Copley A Brython Davies J Dick C A Ferguson J P Galloway D M Gibson T J Gibson A H Holmes J B Hutchison C M Jennings L R Lalwani A C Melachern H I Masson J W Nimkivell H K Pavy W B Reantice E T S Rudd J D Thomson A L Young

The Ivison Macadam Memorial Prize, consisting of a bronze medal and a set of books, was after a competitive examinat on in organic chemistry, awarded to Mr E T Oon

Medical News.

THE Alvarenga prize of the College of Physicians of Philadelphia has been awarded to Dr H A Harris, assistant professor of anatomy, University College, and assistant to the Medical Unit, University College Hospital for an essay entitled "Cod liver oil and the vitamins in relation to bone growth and rickets"

THE Irish Medical Schools and Graduates' Association will hold its annual luncheon on Wednesday, August 27th at 1 p m , at the Marlborough Hotel, Winnipeg The President of the British Medical Association, Professor W Harvey Smith, will be the guest of the association The speakers will include three distinguished members of the profession in Dublin—Sir William de Courcy Wheeler, Professor T G Moorhead and Sir Robert Woods. The luncheon is open to any member of the medical profession, and guests, ladies or gentlemen, may be invited Tickets will be $1 each, and can be obtained at the B M.A. Registration Office. Seating accommodation is limited to one hundred and fifty Reservations will be held if application is made by letter before August 25th to Dr E S Moorhead, 314, Medical Arts Building, Winnipeg Dr Moorhead suggests that as there are many doctors of Irish descent who will want to hear their native language in its purest form, it is advisable to make reservations early

AS already announced in these columns, a new convalescent centre for 500 male patients has been established by the London County Council, which has purchased for this purpose Queen's Hospital Sidcup the name being changed to Queen Mary's Hospital by permission of the King and Queen On July 21st Princess Mary, Countess of Harewood, visited the hospital and opened it formally Dr Barrie Lambert, chairman of the Central Public Health Committee, gave an account of the way in which the hospital had been obtained and modified for the new purposes to which it will be put After various presentations to Princess Mary, she was conducted through the hospital wards by Dr Clifford Ellingworth, the medical superintendent

AT the July meeting of the Central Midwives Board for England and Wales the following resolution from the Liverpool and District Trained Midwives Association was received "That the suggestion to transfer powers of approval and control of training schools and teachers from the Central Midwives Board to a Government department be strongly opposed"

A CIVIL List pension of £70 has been awarded to Miss Katherine Mary Lovell Gamgee, M R C S., L.R C P , D P H , in recognition of the services rendered by her father, the late Professor Gamgee, to medicine and physiology, and of her work in connexion with public health

THE fifth ordinary general meeting of the Ross Institute and Hospital for Tropical Diseases was held at the Institute Putney Heath on July 9th, when the chairman, Sir Charles McLeod, presented the annual report and accounts for 1929 In connexion with research mention was made of the continued investigation of fungi and fungal diseases. The new malaria department had become a very popular centre for advising medical practitioners and laymen A branch of the institute had been established in Assam the expenses having been guaranteed by various planter companies Work had begun in connexion with the supply of information and advice towards the improvement of health on the tea estates, scientific work would also be conducted there on the prevention of malaria. Courses of instruction for laymen had been continued at the Institute on Putney Heath, and the applications for the third course, to be held next September, were more than double those of the two courses held last year A pamphlet on the prevention of malaria was being distributed, and a special donation had been received towards the expenditure thus incurred Tribute was also paid to the long continued research work of Dr J A Shaw Mackenzie in connexion with the cancer problem

THE annual conference of the National Smoke Abatement Society will be held at Leicester on September 26th 27th, and 28th Dr Margaret Fishenden will make a communication on fuel research and smoke abatement, a meteorologist will discuss smoke and the weather, and a report by the Sheffield Manufacturers Smoke Abatement Research Committee will be considered

THE thirteenth International Congress of Hydrology Climatology and Medical Geology will be held at Lisbon from October 15th to 23rd. During the congress visits will be paid to the more important towns and spas of Portugal, and an excursion will be made to the Azores and Madeira. Further information can be obtained from the Faculty of Medicine, Lisbon

THE Italian League for Combating Cancer has offered a prize of 15,000 lire for the best unpublished work on the value of serological methods in the diagnosis of malignant tumours Two typewritten copies of the work should be sent by competitors before June 30th 1931, to the Lega Italiana per la lotta contra il cancro, Via Tribonland, Piazza Cavour, Caso del Matdato, Rome

THE returns of vital statistics dealing with non native officials employed in the Crown Colonies in West Africa in 1929 contain evidence of an improved standard of health The rate representing officials invalided out of the service fell from 11 7 per 1,000 in 1928 to 10 1 in 1929 which is the lowest figure recorded A rise from 6 7 to 7 7 per 1 000 is reported in the death rate No deaths occurred in Gambia during the year, but the rate in Sierra Leone rose from 3 7 in the previous year to 14 1 Slightly higher figures were also recorded in the Gold Coast and in Nigeria Of the total of 33 deaths 27 were attributed directly to diseases, but only a minority of these appear to have been of a tropical nature Six deaths were caused by blackwater fever The rate per 1 000 in respect of deaths caused by disease was 6 3 in 1929, compared with 11.6 in 1919

WE have received the first two issues (January–February and March–April) of *Archivio Italiano di Anatomia e di Istologia Patologica*, which is published bi monthly by the Royal Institute of Pathological Anatomy of the Ospedale Maggiore Milan under the editorship of A Dionisi of Rome A Pepere of Milan, and F Vanzetti of Turin. Each issue contains original articles and synthetic reviews, with summaries in German French, and rather imperfect English, case reports, and abstracts

A TABLE has been issued by the Ministry of Health based on the returns made by the Poor Law authorities in England and Wales comparing the average number of persons receiving poor relief in April, 1930 with the number recorded in April 1914 In April, 1930, the average number (including both sexes) in receipt of outdoor relief mainly on account of unemployment was 130,100 while those to whom relief was granted for some other cause such as sickness, numbered 606 500 This classification is not available for 1914, but the number receiving unemployment relief at that time is stated to have been almost negligible In April 1930, the total number in all classes was 736,600 compared with 373,400 in 1914—an increase of 363 200 The Ministry adds that the number recorded in April of this year was less by 121,500 than that recorded in the previous month A decrease of 103 800 (or 44 per cent) in the number of those receiving relief mainly on account of unemployment (including their dependants) is attributed largely to the operation of the Unemployment Insurance Act which affected the distribution of unemployment benefit from the middle of March The figures given above do not include 10,000 persons in receipt of medical relief only in their own homes. In 1914 the average amount of outdoor relief, estimated per person, was 2s. 6d , compared with 5s 9d in April 1930 (about 3s. 2d , allowing for the increased cost of living) Persons receiving institutional relief—other than lunatics in asylums and casuals—numbered 254 900 on a day in April, 1914 compared with 211,900 on the corresponding day in April, 1930 This number is stated to be 12,000 less than the total number recorded in March, 1930

THE Harrogate Medical Society has compiled a short account of the nature of spa treatment incorporating a description of the Harrogate waters and baths and the accessory lines of therapy which are employed The pamphlet, which is addressed to the medical profession only, may be obtained from the general manager the Royal Baths, Harrogate

WE have received the first issue of *Les Echos de la Medecine* a monthly journal published by Malone of Paris in the form of a daily newspaper at the price of 50 centimes. It contains short articles on medical questions of the day congress and society reports and medical news.

THE alphabetical and local list of old students of St Thomas's Hospital has been brought up to date and republished in pamphlet form together with lists of past and present officers of the medical school and of winners of scholarships and medals Copies may be obtained from the medical secretary at the hospital

LIEUT COLONEL E. M COWELL, D S O R.A M C. T A., has been appointed a Deputy Lieutenant for the county of Surrey

PROFESSOR FRITZ PREGL of Graz has founded a prize for the best work on microchemistry

DR. KARL SUDHOFF, formerly professor of the history of medicine at Leipzig has been elected a foreign member of the Hungarian Academy of Sciences at Budapest

DR. LEMOINE, formerly professor of clinical medicine at Lille has made a donation of 50,000 francs to the Lille medical faculty

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

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MEDICAL SECRETARY, *Mediscern Westcent, London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

KEEPING FIT IN HOT CLIMATES

"C H B writes from Malta I should be grateful if someone would enlighten me on several points that arose during a discussion on keeping fit in hot climates, or alternatively recommend some small handbook covering the matter First, the question of alcohol My friend, who has spent many years in tropical countries maintains that a good ration of gin daily is essential to health, and that the total abstainers are the first men to go sick Secondly, even in climates such as this he says it is very unwise, and inviting the mild intestinal disorders which are so common, to sleep without a good covering over the lower abdomen Lastly the question of exercise He maintains that to keep fit one must indulge in some violent form of exercise every day, such as five sets of tennis, which causes a tremendous sweat He will not accept a long swim as equal value in exercise because no beneficial results are obtained from the exercise unless it makes one sweat These theories are postulated from twenty years' practical experience of hot countries, and I am not in a position, after an ordinary medical education, to accept or refute them He and his kind have a strong bias in favour of alcohol, and it seems to me that they persuade themselves, and anyone else who will listen to them, that alcohol is a good thing, and then have to make themselves sweat In short, in the Mediterranean climate, would it not be better to live a non alcoholic life and swim, rather than an alcoholic life and have to play tennis and medicine ball?

BROMIDROSIS

'D B M" writes If "R B C will try a strong foot bath of potassium permanganate for the boy with bromidrosis the results will be satisfactory The exact strength cannot be stated, as each case differs, but if the solution gives a mild "tanning" colour to the feet the smell disappears The patient can be given the crystals, and use *his own discretion as regards* the strength of the solution

CLEANSING OF THE CHALICE

"R" writes In my opinion 'Medicus" (July 19th, p 128) has raised a very important question It would certainly be very difficult to prove a case of infection, but this fear does without doubt exist in the minds of devout and reflecting communicants The difficulty would be solved if the clergy could be persuaded to administer the sacred rite by the method known as intinction I cannot discover that intinction is contrary to the Rubric but *perhaps some ecclesiastic with medical training will enlighten us*

INCOME TAX

Retirement of Partner, Cash Basis

"G P explains that X and Z have been in partnership for some years on a basis of half shares, and tax has been accounted for on the cash basis Y retired in June 1929, Z anticipates some fall in the profits of the practice Since Y's retirement a sum of, say, £2 000 has been collected in respect of previous partnership bookings How should the matter be dealt with as between Y and Z?

*** We assume that it is intended to continue the cash bookings basis for future returns, in the long run probably little advantage would be gained to compensate for the inconvenience of changing over to the bookings basis If—as may be the case—Y's retirement led to swollen receipts during the following twelve months, Z is affected adversely for the time being, but it is impossible to estimate such loss with sufficient accuracy to enable it to be allowed for in dividing the income tax liability The plain fact is that up to his retirement (say at July 5th, 1929) X was entitled to one half the profits, and therefore the assessment for the year to April 5th, 1930, should be divided thus—X one fourth of one half = one eighth, and Z, seven eighths The cash receipts of the year 1929 will determine the assessable profit for 1930 31, and if Z enters into partnership with X during that year a similar division will bring him some converse relief

Car Allowance

R C bought a W car in 1926, paying £612, less £235 allowance in respect of his previous car In 1929 he bought an H car, price £518 less £123 received for the W car What claim should he make for 1930-31?

*** Apparently depreciation allowance has not been claimed in the past, though it would apparently have been to "R C's" advantage to do so The obsolescence claim, the amount to be treated in the same way as an expense of the year 1929, would be £612–£123=£489 and the depreciation claim will be £518 at 20 per cent =£103 "R C may, however, meet with the difficulty that, especially as depreciation has not been claimed, the "obsolescence" allowance is, in effect, the same as an allowance in respect of cost of replacement, and *that* allowance cannot be claimed for the same year as depreciation

LETTERS NOTES ETC

FORTICN BODY IN CHILD'S VAGINA

DR A L CROCKFORD *M C* (Axminster, Devon), writes A fairly well grown child, aged 7, was brought to me by her mother with the history of vaginal haemorrhages and a persistent yellowish discharge of some few weeks' duration None of the haemorrhages was at all severe, they were only sufficient to stain her clothes to a marked extent they all occurred in the early stages The child was attending school and appeared to be of perfectly normal mentality There was nothing to suggest any form of "assault" in either the history or on external examination I therefore examined her under a general anaesthetic and found lodged in the vagina an ordinary hairpin with the rounded end uppermost One of the points was embedded in the anterior vaginal wall, which presumably was the site of the occasional haemorrhages The hairpin was removed without much difficulty and the discharge has since completely disappeared It is surprising that with such an object in the vagina the child should have had no apparent pain or discomfort The case illustrates the value of a thorough examination in elucidating an obscure symptom

APICFCIAL LOBAR PNEUMONIA

DR NIAZ MOHAMMED (Kitgum, Uganda) writes A Nubian woman, aged about 45, came on April 16th to the out patient department of Kitgum Hospital complaining only of slight cough, expectoration, and pain in the right chest From her external appearance it appeared she was not seriously ill in any way, but after a few more gravely ill patients had received attention, I examined her and found definite signs of the consolidation stage of lobar pneumonia in the right lower and middle lobes Her temperature, however, was only 98° She was admitted to hospital and given the routine treatment for pneumonia, six days later she was discharged completely cured

EARLY DENTITION

DR H R SPARROW (resident medical officer, Leeds Maternity Hospital) writes I recently had a case of a premature baby, gestation period 37 weeks, and measuring 18½ in, who possessed two lower central incisor teeth at birth The teeth were comparatively firm in the gum when the infant left hospital twelve days later.

A WARNING

'POLICY' writes May I warn practitioners in South West London that there is a superintendent attached to a well known insurance company who canvasses doctors and offers them a medical refereeship on condition that they take a substantial endowment policy with the company He states that the appointed practitioner is the sole referee for the district, and that he can easily pay his premium out of the fees he will obtain I know several men who have been appointed in this way, and they do not get more than about six cases a quarter Before being persuaded, practitioners should make certain that they are the "sole' referee for the district

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 38 39 42, 43, and 44 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *63*

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

71 Congenital Tabes and General Paralysis

F R FERGUSON and M CRITCHLEY (*Brit Journ. Child. Dis.*, January-March, 1920, p 1) record their observations on 36 patients suffering from congenital neuro syphilis, 8 of whom were tabetics, 12 tabo-paretics, and 15 cases of general paralysis, while one belonged to no definite category The chief points of importance in congenital tabes are as follows The age of onset is about puberty the symptoms including failing vision and paraesthesia, though severe lightning pains and ataxia are rare Headache, photophobia and diplopia are common later symptoms, but sphincter disturbances were uncommon in the authors series Apart from slight mental dulling, there was no psychological abnormality, and the sensory loss and ataxia were slight compared with tabes in the adult Nystagmus was present in 3 cases, and there were the typical pupillary abnormalities, dilated pupils were found in half the cases. *Trophic disturbances were rare No crises were encountered* Tendon reflexes were absent or much diminished Strabismus was found in half the cases, and optic atrophy was frequent The characteristic features of congenital general paralysis as distinct from general paralysis in the adult were (1) the early age of onset, (2) association with infantilism and signs of visceral syphilis, (3) frequency of optic atrophy, (4) early appearance of bladder symptoms, (5) dilated pupils which are often inactive, (6) contractures in arms and legs, (7) a different psychological picture, and (8) a more rapid course

72. Allergy in the Symptomatology of Typhoid Fever

COMMENTING on the part played by allergy in giving rise to symptoms in typhoid fever, J DELALANDE (*Paris Méd*, May 17th, 1930, p 457) discusses particularly the three clinical signs of rose spots, splenomegaly, and the pseudo-malarial rise of temperature at the time of defervescence He considers that the rose spots are due to a bacterial embolism in the capillaries of the skin, this is probably favoured by the development of agglutinins in the serum, and perhaps also by local reflex dystony in the lumbar abdominal region He does not think that it represents any specific sensitization As regards the causation of the splenomegaly three factors are adduced—namely, infestation of the spleen with Eberth's bacillus, the action of its toxins, and a specific reaction of the parenchyma of the spleen to typhoid antigen Vincent claims that this last reaction is diagnostic, having obtained an increase of 1 to 2 cm in the two diameters of the spleen in 94 per cent. of enteric cases by the hypodermic injection of lysed Eberth s bacilli sterilized by the addition of ether The author accepts Bouveret s explanation of the increase in temperature at the period of defervescence, that it is protein shock due to the discharge into the blood stream of quantities of lysed Eberth s bacilli.

73 Epilepsy and Migraine.

S BROCK (*New York State Journ of Med*, April 15th, 1930, p 442) discusses the relationship of the sympathetic nerve system to epilepsy and migraine, and, in particular, the question whether these paroxysmal disorders are directly due to its disturbed function, or whether certain symptoms are merely expressions of its abnormal function irrespective of any causal connexion In epilepsy the production of a convulsion may be due to contraction of the cerebral arteries under sympathetic stimulation, thus resulting in decreased capillary flow with deficient oxygenation and a consequent alkalosis of the brain tissue, there may be an increased outward passage of fluid through the capillary walls and the appearance of oedema It is conceivable that some or all of these factors (lack of oxygen, alkalosis, oedema, altered electrolytic equilibrium and increased intracranial pressure) might stimulate nerve cells to discharge and produce muscular spasm The apnoea and muscular contraction would result in an accumulation of lactic and carbonic acids in the tissues, producing an acidosis initiating a reserve reaction, with better utilization of oxygen, restoration of the circulation and remission of the muscle spasm Thus abnormalities in the sympathetic system may have a causal relationship to the production of the convulsive state As regards the possibility that the paroxysmal symptoms of migraine may be directly due to an altered function of the sympathetic system Brock remarks that the condition may be regarded as a vasomotor disturbance due to a variety of stimuli acting thereon and resulting in vasomotor spasm He concludes that both in epilepsy and in migraine there is ample evidence of such disturbed function, with involvement of the cerebral vascular mechanism as the essential factor in the attacks, it is uncertain whether they are caused by indirect nervous or direct physico-chemical influences, and the main etiological factors are unknown.

74 Poliomyelitis in Madrid.

M TAPIA (*La Med Ibera* May 10th and 17th, 1930, pp 621 and 657) records his observations on 112 cases of poliomyelitis under his care during the epidemic at Madrid in the autumn of 1929 The highest incidence was in children under 2 years of age (75 per cent) The period of invasion ranged from a few hours to ten days, the average being from one to five days There was no typical symptom during this period by which the disease could be diagnosed, although the poliomyelitis might be regarded as probable in 20 per cent., and suspected in another 10 per cent During the paralytic stage fever was found to be present in 45.55 per cent The great majority of the cases (103) showed the typical spinal localization *There was only one instance of the pure bulbo-pontine form*, five others belonged to the bulbo-pontine variety, and two to the mesocephalic form described by Marinesco Although meningeal symptoms were frequent, 13 per cent having been noted in the period of invasion and 25 per cent in the paralytic stage, no pure meningeal form was observed Only two cases were seen which could be diagnosed with certainty as examples of the abortive form of the disease The most constant and earliest change found in the cerebro-spinal fluid was Lange s curve, which is intermediate between that of latent syphilis and tabes The mortality was only slightly above 2 per cent As regards functional prognosis, 30 per cent of the cases showed complete recovery, and in another 30 per cent. there was partial recovery from the paralysis

75. Infantile Eczema and Measles.

G COSTANTINO (*La Clin Pediat*, March, 1930, p 215) reviews the literature and records three cases of infants, aged from 4 to 5 months, who had suffered for some time from facial eczema, which, however, rapidly and permanently disappeared after an intercurrent attack of measles. Costantino attempts to explain the curative action of measles by attributing special importance to the age of the patient and to changes in the systemic and cutaneous neurochemistry produced by measles. Injections of measles convalescent serum did not have any effect, however

Surgery.

76 Phrenicectomy in Pulmonary Tuberculosis

M TAPIA (*Rev Espan. de Tuberculosis*, April, 1930, p 25) records 11 cases of phrenicectomy in pulmonary tuberculosis, in patients aged from 17 to 52, and comes to the following conclusions Although in some cases lesions of the base of the lung improve after phrenicectomy this localization cannot be regarded as an ideal indication for the operation Resection of the phrenic nerve is specially indicated in cases of lesions of the upper part of the lung with a tendency to retraction Cases of early infiltration which prove refractory to a rest cure are also suitable for this operation The presence of plural effusions, especially if they are due to an effusion connected with artificial pneumothorax interferes with, or at least diminishes the efficacy of phrenicectomy Phrenicectomy is indicated particularly in those cases in which the patient s social position prevents his undergoing sanatorium treatment The operation is of no value as a test of functional capacity of the other lung.

77 Post-operative Thrombosis and Embolism.

E PAYR (*Zentralbl. f Chir* April 19th, 1930 p 961) states that during the last ten years there has been a very considerable increase in the number of cases of thrombosis, and particularly of severe and fatal pulmonary embolism, amounting in some clinics to 13.5 per cent. of all the fatal cases following operation In Payr's surgical clinic at Leipzig cases of pulmonary embolism formed 5 9 per cent. of the post operative fatalities in 1929, as compared with rates ranging from 0.5 to 3.5 per cent. in the previous nine years Operations on the head, neck, upper limbs and thorax were much less frequently followed by thrombosis

than operations below the diaphragm, the relation being 14 to 86 per cent Childhood is immune, and before the age of 20 thrombosis is very uncommon The average age for death from embolism is between 52 and 55. Early diagnosis is important, and is established by pain on pressure on the soles of the feet due to commencing stasis in the plantar venous network, and by the appearance of piles after operation Prophylaxis consists in exercise of the lower limbs in bed, respiratory gymnastics as soon after the operation as possible, and ligature of the saphenous or femoral veins on the occurrence of slight embolism

78 Surgery of the Prostate Gland

O S LOWSLEY (*Amer Journ of Surg*, March, 1930, p 526), in a review of 373 cases of operation on the prostate gland, states that the most important factor in the successful treatment of prostatic disease is the institution of suitable drainage until the patient reaches his maximum of renal efficiency The most satisfactory method of drainage is by means of a suprapubic double tube suction, the preliminary operation to be conducted under local anaesthesia The type of operation for the second stage can be decided by cystoscopy, or by digital examination, at the preliminary suprapubic cystotomy Whenever possible the hypertrophied gland should not be removed by the suprapubic route, but through the perineum, since the shock following the latter method is not so severe Sacral or parasacral anaesthesia is the most suitable kind for prostatectomy, in 95 per cent of the cases under review perfect anaesthesia was obtained, while the remaining 5 per cent only required slight reinforcement The procedure which proved the most satisfactory was a modification of Young's perineal operation There were 297 cases of adenomatous hypertrophy of the prostate gland, with a mortality of 5 7 per cent, 33 cases of carcinoma of the prostate, with a 10 per cent mortality, 40 cases of prostatic abscess, 2 cases of tuberculosis of the prostate gland, and one of Hodgkin's disease of the prostate There were no deaths in the last three types of disease

79 Solitary Adenoma of the Liver with Twisted Pedicle

PETIT DUTAILLIS and J LONGUET (*Bull et Mém Soc Nat de Chir*, April, 1930, p 506) report a case of adenoma of the liver with an unusual length of the pedicle, which was twisted A woman, aged 27, was admitted to hospital with a painful tumour in the right hypochondrium which had been noticeable since a labour three years previously, but had been treated as a floating kidney, after a subsequent pregnancy a sudden violent pain was felt in the epigastrium, referred to the back, and accompanied by repeated and profuse vomiting These attacks had occurred at frequent intervals for about a year, and during one which was extremely severe the patient was sent to hospital Urological examination showed that the diagnosis of floating kidney was incorrect, and operation was decided upon Laparotomy disclosed a round dark coloured tumour about the size of a cocoa nut, this was joined to the liver by a pedicle as thick as a thumb and about 3 cm long, which was twisted one and a half times The tumour was removed, there being no sign of cirrhosis of the liver, which was normal in every respect The wound was closed without drainage, and the patient made a good recovery The authors think it may be assumed that the torsion occurred during the involution of the uterus after pregnancy, a histological examination of the tumour showed that it was benign in character

Therapeutics.

83 The Value of Lemon Juice Milk

L H BARENBERG, H ABRAMSON, and W H MESSER (*Amer Journ Dis Child*, May, 1930, p 948) have been influenced by the work of Hess and Matzner, who added various juices containing natural organic acids in order to render milk sufficiently acid to counteract its buffer constituents, and at the same time to provide a sufficient quantity of anti scorbutic vitamin The authors favour lemon juice, with it the *p*H can be readily brought down to 5 3 or less, and the addition of the citric acid effects a curd in cow's milk comparable to the fine curd of woman's milk The standard formula as recommended by Hess is as follows milk 24 oz, water 12 oz sucrose 1/2 oz, lemon juice 21 c cm The *p*H of this mixture is about 5 3 When diluted milk is used the lemon juice is added to the water or other diluent, which is mixed slowly with the requisite amount of milk If whole milk is employed however, the fruit juice is added drop by drop the solution being stirred after each drop to avoid curdling Lemon juice milk cannot be distinguished macroscopically from ordinary milk mixtures, except for the presence of minute flocculi The lemon imparts to the milk a delicate, pleasant flavour, its acidity is barely detectable Egg yolk may be combined with lemon juice milk, providing the antirachitic factor as well as an additional amount of vitamin A and iron The authors treated 145 infants in three age groups—namely, those less than 3 months old, those aged from 3 to 6 months, and those from 6 to 12 months—who received lemon juice milk for periods of from six to twelve months, over a total period of five years In general the recipients of this milk manifested a better rate of growth than those who were given other milk preparations Further, there were fewer cases of diarrhoea among the lemon juice milk group, and these cases were milder The same protective influence against diarrhoea was noted in a smaller group of 25 children aged 1 to 2 years Lemon juice milk was also found of value as a food for children suffering from pneumonia and other respiratory ailments

81 Thyroid Therapy in Nephrosis

IT is now generally considered that nephrosis is not primarily a kidney disease Many authorities have contended that the condition is due either to a chronic staphylococcal infection in the nasal sinuses or to some other upper respiratory infection, and that the condition is controlled by appropriate treatment of the sinus disease or infection S J MCCLENDON (*Journ Amer Med Assoc*, April 19th, 1930, p 1202) reports three cases in which adequate treatment of the infectious processes had no effect on the oedema and albuminuria which characterize the disease, even though therapeutic measures were continued for long periods, whereas administration of thyroid extract produced a marked and immediate response This apparently confirms Epstein's theory that nephrosis is due to a metabolic disturbance rather than to a nasal sinus or other respiratory infection None of these cases conformed clinically to cases of myxoedema, since there was no mental retardation and there were no hair or skin changes Epstein has expressed the difference between myxoedema and nephrosis by stating that the distinction might be clarified by designating myxoedema as an actual hypothyroidism and chronic nephrosis as a relative hypothyroidism He does not believe that there are pathological changes in the thyroid gland, but that its activity, whether normal or increased, is insufficient to cope with the existing metabolic disturbance McClendon maintains that in order to obtain good therapeutic results thyroid extract must be given in adequate amounts Dietetic therapy and the treatment of the existing sinus conditions or other upper respiratory infection are important and necessary adjuncts in the treatment of nephrosis, but are not sufficient in themselves to control the oedema and albuminuria

82 Serum Treatment of Erysipelas

H VINCENT (*Gaz des Hop*, April 16th 1930, p 577) records his observations on cases of malignant erysipelas in adults which were characterized by a large amount of albumin in the urine, delirium, and hyperpyrexia The patients were treated by an antimicrobial and antitoxic antistreptococcal serum, large doses ranging from 60 to 100 c cm were given daily by intravenous injections The usual precautions were taken to prevent anaphylaxis, patients who had previously had any other horse serum were desensitized with an injection of 1 c cm some hours before giving the full dose As soon as the temperature became normal in very severe forms with renal or other complications the injections were continued subcutaneously in doses of 20 to 40 c cm for two days in order to prevent a relapse of the streptococcal infection.

83 R C ELLY (*Amer Journ Dis Child*, March, 1930, p 523) reviews the literature, and records his observations on 33 cases of erysipelas in infants aged from 3 weeks to 20 months treated by antistreptococcus erysipelas serum In the average case 10 c cm of concentrated serum was injected intramuscularly on admission and every subsequent day as long as the lesion persisted In desperate cases the initial dose was given intravenously and the rest intramuscularly In a few cases only two or three injections were needed, but usually six to eight were given before the infection completely subsided Of the 33 infants, 21 recovered and 12 died, but only 3 of the deaths occurred among the 19 who were treated within seventy two hours of the onset The most noteworthy and constant effect was disappearance of the toxicity with improvement in the general condition The disease recurred in two patients, both of whom made good recoveries after a second course of antitoxin A serum rash developed in 12 patients, the average day of appearance being the seventh

Dermatology.

84 Tuberculosis of the Skin following Measles

J ROBERT (*These de Paris*, 1930, No 66), who records thirteen illustrative cases in patients aged from 4 to 37, states that measles may be followed by various forms of cutaneous tuberculosis in the production of which this acute exanthem plays an important part The forms most frequently encountered are lupus vulgaris and verrucose tuberculosis The rarer forms are lichen scrofulosorum tuberculous gummata, and papulo-necrotic tuberculides Lupus vulgaris and verrucose tuberculosis present certain special features consisting in multiple disseminated patches affecting not only the face but the rest of the body and the extremities especially The lesions appear simultaneously like an acute exanthem, and attain their complete development immediately or very rapidly There is no fundamental difference between the two clinical types as is shown by transformation of lupus into verrucose tuberculosis and vice versa Lichen scrofulosorum, tuberculous gummata, and papulo necrotic tuberculides do not present any special features The cutaneous tuberculosis has a relatively favourable prognosis, and no tendency to ulceration or deformity has been noted But since the patient is a tuberculous subject he is liable to develop serious visceral disease, and therefore the outlook should be guarded The temporary anergy shown by disappearance of the cutl reaction in measles explains the development of tuberculosis following measles, and especially of cutaneous tuberculosis The inflammatory condition of the skin during measles is probably a predisposing cause of the cutaneous localization of tubercle bacilli

85 Bullous Erythema Multiforme.

L HUFNAGEL (*Bull Soc Franc de Derm et de Syph*, March 1930, p 358) reports the case of a patient who had suffered from recurring attacks of bullous erythema multiforme (hydroa of Bazin) for about ten years The onset of the dermatitis occurred in 1913, following a wound of the lip while eating shellfish, and was marked by an eruption of large bullae in the mouth, and of red papules over the hypogastric region, the penis, and limbs These attacks recurred regularly twice a year in the winter and summer, and lasted about fifteen days When the patient was seen in 1923 large bullae were noted on both lips the inner surfaces of the cheeks and the tongue Some of these were hard and violet coloured while others were less marked and of a greyish red colour Round red papules were found on both arms these were vivid and infiltrated at the periphery and paler in the centre, giving the very characteristic cockade appearance Fever was not present, but the malady caused difficulty in eating, and great mental distress over the facial disfigurement. A course of autohaemotherapy (ten injections) was given Though this did not shorten the duration of the attack, which lasted the usual fifteen days it has evidently established a cure, since there has been no recurrence since it was administered seven years ago

86. Cutaneous Neuroma.

J B LUDY (*Arch Derm and Syph*, March, 1930, p 419) reports a case of cutaneous neuroma occurring in a coloured tuberculous woman, aged 37, who had suffered from prolonged and distressing "colds" when a girl Four years prior to admission to hospital there appeared on each extremity from fifteen to twenty deeply pigmented, discrete, firm, flattened tubercles varying in size from a split pea to a hazel nut, and some showing umbilication they were firmly incorporated in the skin and diffusely distributed, not following the line of any nerve trunk. Symptomless at first they eventually gave rise to bouts of severe itching and tenderness. The Pirquet test was positive and the Wassermann reaction negative, an *x* ray examination revealed an old inflammatory condition at the left apex and dense opaque shadows of the lower part of the right lung suggesting thickened pleura with fluid. Under injections of old tuberculin at irregular intervals the chest signs improved and no fresh skin lesions appeared for two months, the attacks of pain were less severe and not so frequent Microscopically numerous ill defined strands of medullated nerve trunks, extending in all directions through the subpapillary parts of the corium, were seen Ludy remarks that in such cases the essential pathological process is located in the corium and consists of a meshwork of medullated and non medullated nerve fibres possibly representing the disintegration of some parent nerve trunk. He adds that a distinction should be drawn between tumours originating from the endoneurium and nodules (such as tuberculides) depending on toxic stimuli producing focal granulomatous reactions In lesions with pain of a paroxysmal type careful search should be made for nerve fibres

Obstetrics and Gynaecology.

87 Appendicitis in Pregnancy

B B LANDRY (*New England Journ of Med*, April 10th 1930, p 722) remarks that the points diagnostic of appendicitis are similar in pregnancy and in the non pregnant state, with two exceptions (1) more reliance should be placed on localized pain, nausea and vomiting being often absent, or, when present, due to toxaemia or nephritis, and (2) leucocytosis, unless very definite, has little significance, since 13,000 cells per cubic millimetre may be found frequently in pregnancy A rising leucocyte count, or a change in the differential cell values, are very important Emphasis is laid on the important diagnostic point that the majority of pregnant patients who develop acute or chronic appendicitis have had previous attacks The danger and difficulty of the operation in pregnancy, and the risk of a chronic appendicitis becoming acute and terminating in perforation (especially after the fourth month, when the omentum and small intestine have been pushed upwards by the enlarged uterus) render it most advisable that a woman who has a definitely diseased appendix should have it removed, either before marriage or during the very early months of pregnancy During the first six months of pregnancy the treatment of appendicitis is on ordinary lines, but very careful abdominal manipulation is essential, and, whenever possible, drains should not be employed lest weakening of the abdominal wall should result. After the sixth month an accessible appendix should be removed, regardless of the possibility of subsequent abortion In the later months of pregnancy diffuse peritonitis is a very probable sequel of acute appendicitis, the omentum and small intestine having been pushed aside During the last two months of pregnancy the problem of concurrent appendicitis is most serious perforation and general peritonitis may occur rapidly, and appendicectomy alone will precipitate labour Landry advocates abdominal Caesarean section in these cases

88 Prophylaxis against Obstetrical Difficulties.

M RIVIÈRE (*Gaz Hebd Sci Med de Bordeaux*, May 18th, 1930 p 305) emphasizes the importance of pelvic changes in infancy being observed and prevented from persisting, since in later life they give rise to difficulties in the course of labour The infantile pelvis may be seriously affected by rickets particularly if this disease occurs soon after birth, tuberculosis and infantile paralysis have also to be considered in this respect Rivière urges orthopaedic surgeons to bear these effects in mind, in order that commencing rickets may be arrested before it has time to cause deformity of the pelvis The condition should be diagnosed before attempts at walking are made and chemotherapy may be desirable in order that calcification may progress In later cases of rickets it is necessary to remember that the degree of severity of the condition is not to be estimated alone by the extent of deformities of the lower limbs Immobility of the body must be secured as soon as the diagnosis is made, and the pelvis must be protected against any stresses which would lead to alterations in its shape and dimensions Similarly, with spinal tuberculosis early immobilization is required, and the liability of the pelvis to indirect morbid change has to be borne in mind The author concludes that closer co-operation between orthopaedic surgeons and obstetricians is urgently desirable, in view of the fact that many difficulties in subsequent labour can be obviated by early attention being paid to the sensitivity of the female pelvis to certain general diseases

89 Ovarian Haemorrhage.

H STUCKERT (*Journ Amer Med Assoc*, April 19th 1930 p 1227) recalls the fact that haemorrhage from the ovary is most difficult to diagnose clinically, and that the true source of the bleeding may only be recognized during an operation. The condition is usually seen in young women about the time of the menstrual period, and the bleeding often appears as an exaggerated normal discharge Two types of ovarian haemorrhage may be distinguished in one the bleeding is primary and in the other secondary to rupture of a haematoma The etiology of the primary form is defined by Wilson as follows As menstruation approaches there is an increased flow of blood to the pelvic organs this results in intra-ovarian tension and forces the maturing follicle to the periphery of the gland When the ovum is discharged, haemorrhage takes place into the follicular cavity Normally, a rounded clot is formed, but occasionally this does not occur, and the patient early shows signs of internal haemorrhage and shock. Phaneuf recognizes four groups of haematoma of the ovary large ovarian cysts with haemorrhagic contents, due to torsion of the pedicle, haemorrhagic cysts of the Sampson type (chocolate cysts), haematomas of the Graafian

follicles, and haemorrhagic cysts of the corpus luteum Rupture of any of these types may give rise to severe intraperitoneal haemorrhage The probable causes of these haemorrhages are predisposing and local or exciting The former are general rather than local, and include typhoid and scarlet fever, general disorders of the heart and liver and of nutrition (anaemia, chlorosis, haemophilia), phosphorus poisoning, influenza, and rheumatism The local and exciting causes are passive hyperaemia, thrombosis, torsion, chronic oöphoritis, tumours of the small pelvis, uterine retroflexion, inflammatory processes, sudden checking of the normal circulation, and trauma Stuckert agrees with Ravdin that it is best to operate in all cases of this type, even when the symptoms are mild, since a definite diagnosis cannot be made without laparotomy nor the possibility of continued bleeding be estimated

90 A Full-term Ectopic Gestation

A H SINGLETON (*Canadian Med Assoc Journ*, May, 1930 p 679) refers to the case reported by Mabel Ramsay in the *British Medical Journal* of November 23rd, 1929 (p 954), and records details of another case in which ectopic gestation proceeded to full term In a multipara a large tumour developed in the abdomen, but the cervix showed none of the signs of pregnancy, and a sound proved the uterus to be empty. An ovarian cyst was diagnosed and an operation was therefore performed The tumour was found to be adherent to the abdominal wall and to all the surrounding structures except the kidneys, spleen, and liver The adhesions were separated with difficulty, and the tumour was entirely enucleated On opening it a full term foetus was found, it was completely developed, not macerated, and apparently normal except for the exaggeration of the ordinary flexures from the pressure of the tight cyst wall Both the placenta and cord were very macerated, however The patient made a good recovery

Pathology.

91 Diagnostic Value of Casoni's Reaction

L MORINAS and P LAGEZE (*Journ Méd de Lyon*, April 5th, 1930, p 217) have employed Casoni's intradermal injection of hydatid fluid in many cases in their hospital practice, of these, twelve proved to be cases of hydatid cyst The method is more simple, rapid, and reliable than all the serum reactions used hitherto It must be recognized, however, that (1) although simple, it may be occasionally of doubtful interpretation, (2) it is most often negative in cases of dead or suppurating hydatid cysts, and (3) it is constantly positive in patients suffering from taeniasis—a recent discovery, but, as a cause of error, easily eliminated The paucity of pathognomonic signs of hydatid cysts has led the authors to seek in the laboratory a specific test of human hydatid disease Many methods have been suggested, the complement fixation test is positive in 70 per cent only of cases of hydatid cyst (according to the majority of statistics), but numerous observers have found it positive when echinococcosis is absent Many of these errors are due to faulty technique Other proposed tests are a hydatid precipitin reaction and a passive anaphylactic reaction, these are sometimes employed Casoni's test has been used extensively since the war in many European countries, Africa, and South America Hydatid fluid of human origin, or preferably from a sheep, which is easier to obtain, is filtered a small syringe and a very fine hypodermic needle are employed The skin of the thigh or of the forearm is sterilized by applying a tampon saturated in ether, without friction, lest erythema should occur and render the result doubtful, 0·2 to 0·5 c.cm of the filtered hydatid fluid is injected obliquely into the skin This causes a white papule of the size of a lentil to appear, which either increases or is absorbed, as the reaction proves to be positive or negative The injection should be given intradermally, if the point of the needle pierces the whole thickness of the skin the fluid will be diffused in the areolar tissue It is advisable to make a control injection with physiological saline solution, at a short distance from the first, a weak solution of albumin, such as dilute peptone broth, has been recommended for this control injection, but the present authors consider this unnecessary If the papules disappear with slight subcutaneous swelling, whether or not accompanied by a zone of erythema, the reaction is negative When positive, while the control papule disappears, that produced by the hydatid fluid increases progressively, and is surrounded by a sharply defined whitish urticarial plaque as large as a sixpence, the colour becomes livid on compression, and the patch is surrounded by an erythematous and slightly oedematous zone This reaction occurs generally about fifteen minutes after injection The urticaria may persist for two hours

92 The Upper Respiratory Flora of Infants

L KAFFLAND (*Journ Exper Med*, April, 1930, p 617) has made an examination of the bacterial flora of the nose and throat in normal infants and in those suffering from colds The nasal cultures were taken by inserting a swab into the anterior nares, and passing it as far back as possible, the throat swabs were rubbed over the visible portion of the oropharynx The swabs were streaked on 5 per cent rabbit blood agar plates, which were incubated aerobically The upper respiratory tract at birth was found to be sterile Bacteria appeared in the throat after the first feeding, the commonest organism being a haemolytic and non haemolytic streptococci and *Staphylococcus albus* Successive cultures during the first two weeks of life revealed in the throat a copious flora, which differed from that of the adult only in the absence of pathogenic organisms—pneumococci, β haemolytic streptococci, and Pfeiffer's bacillus By eight months the oropharyngeal flora was entirely comparable with that of the adult, the potential pathogens, with the exception of the pneumococcus, had appeared, often without causing any disturbance As regards the nasal flora, cultures were generally sterile for the first day or two of life Organisms then appeared, though not abundantly, *Staphylococcus albus* being generally predominant, next in frequency came diphtheroid bacilli and unidentified large Gram positive cocci During the first two weeks of life pneumococci, β haemolytic streptococci, and Pfeiffer's bacillus were completely absent, and Gram negative cocci were found on only one occasion At eight months the nasal flora was comparable with that of the adult, though it is noteworthy that β haemolytic streptococci were uniformly absent Two groups of infants with colds were studied The first group comprised 21 infants examined during their first cold, no marked difference in the respiratory flora was found from that of the normal group of infants The second group was composed of 14 infants who had a history of recurrent colds, which were more severe than the colds in the first group Their throat flora was similar to that of the normal group, except for the presence of pneumococci in two infants On the other hand, their nasal flora was notably different thus pneumococci were present in 43 per cent, as against the normal 14 per cent, and Pfeiffer's bacillus was found in 21 per cent, as against the normal 7 per cent The author concludes that there is no specific bacterial cause for the first cold of infancy, but that in infants with recurrent colds secondary infection of the nose with pneumococci or Pfeiffer's bacillus probably plays a part

93 Experimental Epidemiology of Tuberculosis

M B LURIE (*Journ Exper Med*, May, 1930, p 743) exposed a number of guinea pigs to the risk of infection in an animal house which contained a variable number of tuberculous animals The guinea pigs were distributed more or less evenly about the room Of 103 guinea pigs exposed for a period of three weeks to thirty two months 15 developed tuberculosis, the shortest period of exposure leading to fatal tuberculosis was eight months Eleven of the 15 animals died from tuberculosis, the remaining 4 died from some complicating condition The average survival time of the 11 animals which died from tuberculosis was 551 days The disease was generally of a chronic type, and was characterized by massive tuberculosis of the lungs often with cavity formation The tracheo bronchial glands were enlarged and fibro caseous, the mesenteric and cervical glands were affected only slightly, if at all Tuberculosis in the liver and spleen was usually only moderate in extent, and was often retrogressive It appeared that the infection had entered by the respiratory tract It is concluded from these results that spontaneous tuberculosis may occur in guinea pigs exposed for a sufficient length of time to an adequate degree of infection

94 The Reid Hunt Reaction in Bronchial Asthma

WHITE mice fed with the blood of patients suffering from Graves's disease show an increased resistance against poisoning with acetonitril, the same increased resistance is found when the mice are given thyroid gland, and it has been named after Reid Hunt, who described it first In a series of investigations C OEHME and H PAAL (*Med Klinik*, March 28th, 1930, p 454) found this reaction positive in 100 per cent of cases of Graves's disease (30 cases) and in 12 out of 17 cases of bronchial asthma The reaction was weakened by pilocarpine administration in cases of asthma, but was not influenced by this drug in cases of Graves's disease The authors therefore conclude that hyperthyrosis and asthma are intimately related, probably through the sympathetic nervous system

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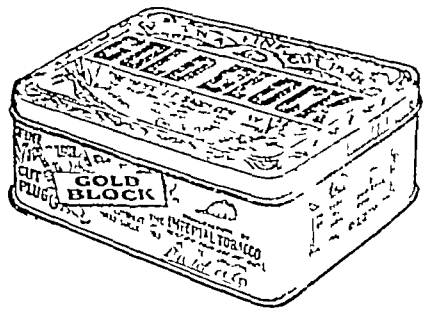
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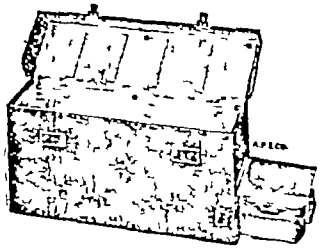
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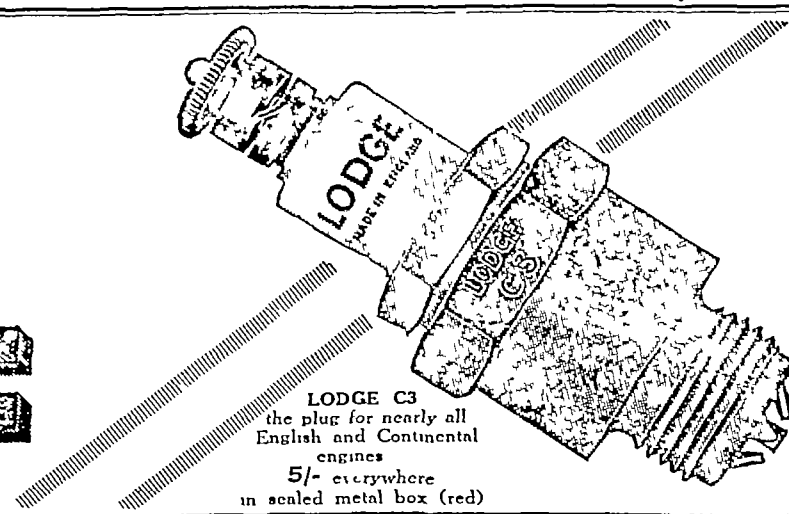
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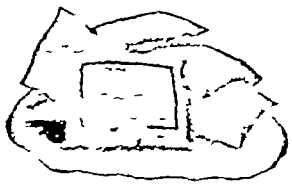
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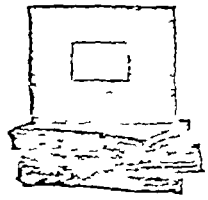
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10 mineral springs of various composition Up-to-date equipment for drinking and baths air and sun baths swimming baths Zander hall X ray institute diet. Recommended for affections of the digestive organs metabolic ailments nervous troubles affections of the organs of circulation of the organs of respiration of the genito-urinary system malaria
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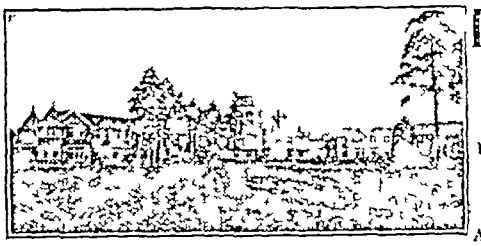
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ST MARY'S HOSPITAL MEDICAL SCHOOL, W 2

(University of London)

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A Course of Instruction for the DECEMBER EXAMINATION will begin on MONDAY SEPTEMBER 1st, 1930, and will be conducted as follows

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THOS A GARNER Secretary

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(UNIVERSITY OF LIVERPOOL)

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FRANK HAYDON, Secretary.

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H. J. BUTCHART, Secretary.
The University, Aberdeen.

University of Glasgow

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Information regarding the Chair may be obtained on application to the Secretary of the University Court, The University, Glasgow.
July 1930.

University of Birmingham

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The holder of the Studentship will be required to devote his or her whole time to research.
Further information may be obtained from the Dean of the Medical Faculty, University, Edmund Street, Birmingham. Applications must be lodged with the Dean not later than September 1st, 1930.

C. G. BURTON, Secretary.

London School of Hygiene and TROPICAL MEDICINE
(University of London.)

RESEARCH STUDENTSHIPS
(1) In ENTOMOLOGY
(2) In PROTOZOOLOGY

Applications are invited for two vacant Research Studentships in Entomology and in Protozoology tenable at the above School from October 1st, 1930.
The Studentships are each of the value of £250 a year and will be held normally for a period of three years.
Applications should be addressed to the Secretary of the School, Keppel Street, London, W.C.1 (from whom further particulars can be obtained), and should be received not later than September 1st.

County Borough of Southampton

RESIDENT MEDICAL OFFICER.

SOUTHAMPTON BOROUGH HOSPITAL.

The Corporation invite applications from duly qualified Medical Practitioners for the position of Resident Medical Officer in their General Hospital.
Salary £350 per annum, rising by four annual increments to a maximum of £400 per annum, together with board, residence, etc.
It is desirable that the gentleman appointed should have had Hospital experience. He will hold office during the pleasure of the Council, and the appointment will be subject to determination by two months' notice on either side. The duties are those which are usually carried out by a Resident Medical Officer of a General Hospital and will include the treatment of patients and such other work as may be assigned to him by the Medical Officer of Health or the Resident Medical Superintendent.
The Council have adopted the Local Government and Other Officers' Superannuation Act, 1922, and the position will be a designated post under the Act. The successful candidate will be required to pass a medical examination.
Applications on the prescribed form to be obtained from the Medical Officer of Health, Municipal Offices, Southampton, and endorsed "Resident Medical Officer," stating age, qualifications, experience, etc., accompanied with copies of not more than three recent testimonials, must be delivered at the Town Clerk's Office, Municipal Offices, Southampton, on or before August 9th.
R. RONALD H. MEGGESON,
July 19th, 1930. Town Clerk.

County of Ross and Cromarty

PUBLIC HEALTH DEPARTMENT

Applications are invited for Two ASSISTANT MEDICAL OFFICERS OF HEALTH for the Public Health Department. One post to be a Senior Assistant in the Island of Lewis with duties inclusive. Salary £700 rising by annual increments of £25 to a maximum of £800. The second to be a Junior Assistant whose duties will be mainly assisting School Medical Officer, general work and holiday duty. Salary £500 rising by annual increments of £25 to a maximum of £700. Copies of three testimonials to be forwarded with the Schedule.
Intending applicants should apply for Schedules specifying terms and conditions of appointment, to the undersigned with whom the completed schedules must be lodged before August 7th.
JOHN FRASER,
County Clerk's Office, County Clerk.
Dingwall.
July 5th, 1930.

ANATOMY POSTS VACANT

The positions of PROFESSOR and ASSISTANT PROFESSOR OF ANATOMY in the UNIVERSITY OF MANITOBA, at annual salaries of 5 000 and 3 500 dollars respectively, are vacant Assistant Professor allowed 200 dollars in lieu of travelling expenses

Applications testimonials, and references will be requested not later than August 23rd

Applicants should cable immediately, advising that they are applying

S WILLIS PROWSE, M D,
Dean of Medical Faculty Medical College,
Winnipeg, Canada

City of Manchester

ASSISTANT MEDICAL OFFICER

The Public Health Committee invite applications from Medical Practitioners who have had previous Hospital experience for the appointment of Junior Resident Assistant Medical Officer at the CRUMPSALL HOSPITAL (1 300 beds) and INSTITUTION (1 600 beds, including 600 beds for mental patients) Crescent Road, Crumpsall, Manchester

The Hospital is a recognized Training School for Nurses and is equipped with all modern Hospital requirements

The salary will be at the rate of £275 per annum, with rations and furnished apartments

The appointment in the first place will be for a period of six months The successful candidate however will be eligible for re appointment for a further period of six months at the end of that period

The successful candidate will be required to commence duty on September 1st also to contribute to the Corporation Superannuation Fund and to execute their Deed of Service

Applications endorsed on the envelope 'Medical Appointment Crumpsall' accompanied by not less than three testimonials must be forwarded to the undersigned not later than Thursday July 31st instant

Canvassing in any form oral or written, direct or indirect, is prohibited

F E WARBECK HOWELL,
Town Clerk

Town Hall
Manchester July 21st, 1930

County Borough of Walsall

MANOR HOSPITAL

RESIDENT ASSISTANT MEDICAL OFFICERS

Applications are invited from duly qualified persons for the above appointments

The salary of the First Assistant Medical Officer will be at the rate of £200 per annum and the salary of the Second Assistant Medical Officer at the rate of £150 per annum together with the usual residential emoluments The *appointments will be limited to a period of* twelve months

The persons appointed will be required to act under the general direction of the Medical Officer, from whom particulars of the appointments may be obtained

Applications stating age professional qualifications and experience accompanied by not more than three copies of recent testimonials, should be sent to the undersigned at once

C S FOTHERGILL,
Public Assistance Officer

29 Leicester St,
Walsall
July 14th 1930

City of Salford

HOPE HOSPITAL (1,000 Beds)

RESIDENT SURGICAL OFFICER required about September 22nd Commencing salary £400 per annum together with board, lodging laundry and attendance Candidates must have had at least two years general or municipal hospital experience and must produce evidence of experience in surgical operative work Preference will be given to candidates possessing one of the higher surgical qualifications

Further particulars may be obtained from the Medical Superintendent Hope Hospital Salford Forms of application may be obtained by forwarding stamped addressed foolscap envelope to the Medical Officer of Health 13 Regent Road Salford to whom they must be returned not later than Saturday Aug 30th

H H TOMSON Town Clerk

City and County of Kingston-upon-Hull

RESIDENT MEDICAL OFFICER
CITY HOSPITAL, COTTINGHAM

The Corporation invite applications for the appointment of a male Resident Medical Officer (single) to undertake under the Medical Superintendent the medical work of the Infectious Diseases Hospital Commencing salary £350 rising subject to satisfactory service, by annual increments of £25 to a maximum of £450 per annum, together with board laundry and residence

Applicants must be not more than 40 years of age and must possess general Clinical experience The possession of experience in a fever hospital will be regarded as an additional qualification

The successful candidate will be required to reside at the City Hospital and to devote the whole of his time to the service of the Corporation He will be required to pass a medical examination and to contribute to the Corporation's Superannuation Fund

Applications on forms to be obtained from the undersigned with copies of not more than three recent testimonials and endorsed Resident Medical Officer, City Hospital," should be forwarded not later than Friday August 1st

W M FRAZER M D
Medical Officer of Health

Guildhall,
Hull
July 15th 1930

Borough of Heywood

MEDICAL OFFICER OF HEALTH

The Council invite applications for the appointment of a whole time Medical Officer of Health to carry out the combined duties of Medical Officer of Health to the Borough School Medical Service Maternity and Child Welfare Centre and any other duties appertaining to the office of Medical Officer of Health Infectious cases dealt with by neighbouring Authorities by arrangement Salary £800 per annum

Candidates must be registered Medical Practitioners, have practical experience of the duties of Medical Officer of Health, and possess the D P H qualification, and any other qualifications required by *Acts of Parliament* and the Regulations of the Ministry of Health

Form of application may be obtained from the Town Clerk, Municipal Buildings, Heywood and such application accompanied by copies of three recent testimonials, endorsed Medical Officer of Health, must be received by the undersigned not later than Thursday, August 7th next

Canvassing either directly or indirectly, will be deemed a disqualification but 12 copies of testimonials may be forwarded for the use of the Committee.

GEO G BOUCHIER,
Town Clerk

Municipal Buildings
Heywood July 16th 1930

Birmingham and Midland Skin Hospital

John Bright Street,
BIRMINGHAM

Applications are invited from registered Medical Practitioners to act as CLINICAL ASSISTANTS in the Out patient Consulting Room each afternoon, except Saturday and Sunday

Honorarium at the rate of 26 guineas per annum for one afternoon per week

Applications (one copy), stating age, qualifications, experience, present engagements and afternoons at liberty, should be addressed to the Secretary not later than September 3rd

The work of the Hospital can be seen each afternoon by doctors and bona fide students

HUBERT SUMNER, Secretary

City of Sheffield

Applications are invited from duly qualified Medical Men for the post of ASSISTANT MEDICAL OFFICER at the CITY GENERAL HOSPITAL (ER VALE SHEFFIELD)

The Hospital contains 840 beds and deals with all branches of medical, surgical, and maternity work

The salary offered is £250 per annum, with full residential allowance

The office is not designated as an established post under the Local Government Superannuation Act 1922 and no deductions will be made from the above salary for superannuation purposes

Applications stating age qualifications, and experience accompanied by copies of three recent testimonials to be sent to the Medical Superintendent City General Hospitals Fir Vale Sheffield

County Mental Hospital, CHESTER

JUNIOR ASSISTANT MEDICAL OFFICER (male single) wanted Salary £350 per annum with four annual increments of £25 together with furnished apartments board washing and attendance The last three increments are conditional on holding the Diploma in Psychological Medicine and for which a further £50 per annum is paid Three months study leave (D P M) may be granted during the second year

The appointment is subject to the provisions and privileges of the Asylums Officers Superannuation Act 1909

Applications stating age and qualifications together with copies of three recent testimonials, to reach the Medical Superintendent on or before August 7th

Caithness County Council

MEDICAL OFFICER wanted for the district of LYBSTER to take up duties on October 1st. The salary includes a payment of £130 p.a. (plus £21 holiday allowance etc) from the County Council for services as local Medical Officer A grant from the Highlands and Islands (Medical Services) Fund is made by the Department of Health, and considerable private and panel practice may be expected For further particulars reference may be made to Mr JAMES ROBERTSON County Clerk Wick with whom applications, with six copies of testimonials should be lodged on or before August 2nd next

The Welsh National School of Medicine

Applications are invited for the post of DEMONSTRATOR IN PATHOLOGY AND BACTERIOLOGY The tenure of the appointment will be for not more than three years, and the salary is £250 per annum

Further particulars may be obtained from the undersigned by whom six copies of application and testimonials must be received on or before August 23rd

D J A BROWN
Secretary

University College
Cardiff July 1930

Birkenhead & Wirral Children's Hospital

Woodchurch Road, BIRKENHEAD

HOUSE SURGEON The Board invite applications for the post of House Surgeon (female) for a period of six months from October 1st Honorarium at the rate of £100 per annum with board residence and laundry Applications together with copies of testimonials should be addressed to the Secretary at the Hospital not later than July 31st

SECOND HOUSE SURGEON The Board invite applications for the post of Second House Surgeon (female) for a period of six months Honorarium at the rate of £75 per annum with board, residence, and laundry Applications together with copies of testimonials, should be addressed to the Secretary at the Hospital not later than July 31st

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male)

Duties to commence as soon as possible

The duties include charge of four beds devoted to complicated Midwifery cases.

Salary at the rate of £150 per annum, with residence board and laundry

The appointment is for six months and is renewable, and the salary for the second six months will be at the rate of £175 per annum

Applications accompanied by not more than three recent testimonials, to be sent to the undersigned

Dated this 26th day of May 1930

ARTHUR H LIMB, Secretary

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service In other respects the terms will be as detailed below

Candidates must be British subjects under 32 years of age at the time of application and must be registered under the Medical Acts in force in Great Britain and Northern Ireland

CAREERS

The Indian Medical Service offers wide opportunities of medical experience including clinical preventive specialist and research work At the beginning of his career an officer is employed on the military side which has medical charge of the Indian Army Promotion is on a time scale up to the rank of Lieutenant-Colonel and by selection to the ranks of Colonel and Major General An officer may apply after two years Indian service to have his name registered for transfer to the civil side from which appointments are made to Civil Surgeoncies which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes to specialist (for example public health and bacteriological) services to research posts and to professorships at the Medical Schools

PAY

The monthly rates of pay for European officers in the Service who have a non Asiatic domicile are as follows

Rank	Service in Rank	Basic Pay	Overseas Pay	Year of Total Service
1	2	3	4	5
		Rs	Rs	
			100	1st
Lieut.	—	500	100	2nd
			100	3rd
Capt.	(i) During first 3 years service as Captain	650	£10	4th
			£15	5th
	(ii) With more than 3 and less than 6 yrs service as Captain	750	£	6th
			£	7th
			£	8th
	(iii) With more than 6 years service as Captain	850	£	9th
			£	10th
			£	11th
			£30	12th
Major	(i) During first 3 years service as Major	950		
	(ii) With more than 3 and less than 6 years' service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut.-Col.	(i) Until completion of 23 years total service	1,000	£30	13th and over
	(ii) During 24th and 25th years' service	1600		
	(iii) After completion of 25 years' total service	1,100		
	(iv) When selected for increased pay	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer, may be counted as service for increments of pay, promotion, retirement and retired pay but not for gratuity

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions Past service in certain hospital appointments may also render candidates eligible for an antedate of one year Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year The maximum period of antedate secondment or antedate and secondment combined admissible under this paragraph, is limited to one year

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50

PRIVATE PRACTICE.

With the exception of Administrative Officers military or civil and officers holding certain special appointments officers are not debarred from taking private practice so long as it does not interfere with their proper duties

PENSIONS

The rates of pension are as follows	Per annum
	£
After 17 years service for pension	400
,, 18 ,,	430
,, 19 ,,	460
,, 20 ,,	500
,, 21 ,,	540
,, 22 ,,	580
,, 23 ,,	620
,, 24 ,,	660
,, 25 ,,	700
,, 26 ,,	750
,, 27 ,,	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent in all the revision being undertaken triennially With effect from July 1st 1927 a reduction of 4½ per cent has been made on this account from the amounts shown

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments

PASSAGES

An officer on appointment is provided with a free passage to India The wives and families of officers who are married prior to the date of the officers embarkation on first appointment will also be provided with free passage to India subject to the payment of messing charges

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot lasting approximately six months prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London S W 1 The Selection Committee will meet at the India Office in August, and the selected candidates will be required to join a course of instruction commencing early in August, 1930 Applications should be submitted as soon as possible

Chesterfield and North Derbyshire Royal Hospital
(190 Surgical and Medical Beds)

HOUSE SURGEON

Applications are invited from fully qualified men for the above post, which becomes vacant on July 31st

The appointment is for six months

Salary is from £100 to £175 per annum according to experience, with board, apartments, and laundry

Applications stating age together with copies of three recent testimonials should be sent to the undersigned

C SUNNUCK
July 21st 1930 Supt & Secretary

Ancoats Hospital, Manchester

HOUSE PHYSICIAN required to commence duty on September 1st next Appointment for six months Salary at the rate of £100 per annum with board apartments and laundry

Applications stating age qualifications experience if any and full particulars to be forwarded to the undersigned on or before August 1st together with copies of three recent testimonials

By Order of the Board
HERBERT J DALFORNE
Gen Supt & Secretary

Coventry and Warwickshire Hospital (307 Beds)

Two RESIDENT HOUSE SURGEONS (male) wanted one of whom to be appointed as Senior House Surgeon

Salaries Senior H S £150, Junior H S £125 per annum with board, laundry, and attendance provided Candidates must be duly qualified and registered

Applications stating age and enclosing copies of recent testimonials should be sent to the undersigned on or before July 30th

(Miss) R HOOPER,
Secretary

Derbyshire Royal Infirmary, DERBY
(General Hospital—346 Beds)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON

Candidates must be qualified and registered under the Medical Acts

The appointment is tenable for 12 months

Salary will be £150 per annum, with apartments, board etc

There are 40 beds for Ophthalmic cases and a large Out patient Department

Applications with copies of testimonials to be sent to the undersigned

WALTER BANKS,
July 14th 1930 Supt & Secretary

District Infirmary, ASHTON UNDER LYNE

(General Hospital, 200 Beds, mainly Surgical)

Wanted, a Male HOUSE SURGEON Six months appointment renewable Salary at the rate of £150 per annum, with board, residence, and laundry

The Resident Staff comprises a Resident Surgical Officer and three House Surgeons

Applications with testimonials, to be sent at once to the undersigned

FRANK OLIVER
July 21st, 1930 Gen Supt & Secretary

Princess Alice Memorial Hospital EASTBOURNE (96 Beds)

Applications are invited for the post of JUNIOR HOUSE SURGEON (male) to commence duty on August 15th Candidates must be unmarried fully qualified and registered The appointment is for six months Salary at the rate of £100 per annum, with board lodging and laundry

Applications stating age qualifications etc and accompanied by copies of not more than three recent testimonials (one of which must be from Medical School) should reach the Secretary not later than first post on Tuesday August 5th

City of London Hospital for DISEASES OF THE HEART & LUNGS, Victoria Park E 2
(Bus Tram and Rail Cambridge Heath, L & N E Railway)

A vacancy for a HOUSE PHYSICIAN (male) will occur on September 1st Six months appointment. Salary at the rate of £100 per annum Board residence and laundry provided

Applications with copies of (three) testimonials should be sent to the undersigned on or before Monday August 18th

GEORGE WATTS, Secretary

Evelina Hospital for Children, Southwark, S E

The Committee of Management requires a CASUALTY AND OUT PATIENT OFFICER (male), resident, for six months from August 12th Salary at £120 a year with board and residence Hours on duty from 9 30 a m to 5 30 p m daily from Monday to Friday inclusive but on Saturday until 2 p m no Sunday duty Candidates (duly registered) to send applications giving age and qualifications (with dates) and copies of testimonials, to the undersigned at the Hospital before 28th inst

Applicants will be informed if they will be interviewed by the Medical Committee Selected candidates must attend Committee of Management Time and place of Meeting will be notified by the undersigned from whom rules and other particulars relating to the post must be obtained

By Order of the Committee of Management
H C S SMITH
July 7th 1930 Secretary Supt

Evelina Hospital for Children, Southwark S E 1

The Committee of Management requires a HOUSE SURGEON (male) for six months from August 12th (during first two months duty in Casualty and Out patient Department) Salary £120 per annum with board and residence Candidates duly registered to send applications giving age qualifications (with dates) and copies of four testimonials to the undersigned at the Hospital, before July 28th Applicants will be informed if they will be interviewed by the Medical Committee Selected candidates must attend Committee of Management Date of meeting will be notified by undersigned from whom rules and other particulars relating to the post must be obtained

By Order of the Committee of Management
H C S SMITH
July 7th, 1930 Secretary Supt

King Edward VII Hospital, WINDSOR (181 Beds)

HOUSE SURGEON required for six months from date of appointment Applicants must be fully qualified and registered and have had experience in Ear Nose and Throat work Salary at the rate of £100 per annum, together with board residence and laundry

Applications stating age qualifications and experience accompanied by testimonials, should be sent to the undersigned not later than August 5th

ARTHUR E CHURCHER Secretary

Liverpool Hahnemann Hospital, Hope Street

Applications are invited for the post of STIPENDIARY MEDICAL OFFICER to the above Hospital which falls vacant on August 1st next

Post is non resident tenable for six months, renewable Mornings only Some visiting

Salary at the rate of £125 per annum

Candidates must be willing to study and apply Homoeopathy

Apply stating age sex nationality experience, and enclosing copies of testimonials, to the Registrar

Aberystwyth Infirmary and CARDIGANSHIRE GENERAL HOSPITAL.

HOUSE SURGEON required (male) Salary £200 per annum with board, residence, and laundry

Candidates must be fully qualified and registered Experience in Anaesthetic and X ray work essential

Applications stating age and qualifications together with three recent testimonials to be sent by July 29th to the Secretary The Infirmary Aberystwyth

Duties to commence September 1st

Huddersfield Royal Infirmary (200 Beds)

Male HOUSE SURGEON required to commence duty as early as possible Salary £150 per annum with board residence and laundry Appointment terminates December 31st, but is subject to renewal for further three or six months

Applications, with copy testimonials to be addressed to the Secretary immediately

Hertford County Hospital

Applications are invited for the post of HOUSE PHYSICIAN (male) Salary £150 per annum with board, residence and laundry The appointment is for six months in the first instance

Applications with copies of three recent testimonials should be sent to the undersigned as early as possible

PERCY G BROOKS Secretary

North Ormesby Hospital, MIDDLESBROUGH
(140 Beds)

HOUSE PHYSICIAN required (male and unmarried) Salary £120 per annum with board residence and laundry There are three residents and the successful candidate will be eligible for the post of House Surgeon in due course

Applications stating age qualifications previous experience (if any) with copies of three recent testimonials should be sent to the undersigned at once

GEORGE WATTS
Secretary Superintendent

North Riding Infirmary, MIDDLESBROUGH
(General Hospital—150 Beds)

JUNIOR HOUSE SURGEON (male) required to take up duties early as possible The appointment will be for a period of six months Three residents are employed Candidates eligible for the higher posts as they become vacant Salary at the rate of £150 per annum with board, residence etc

Applications stating age nationality and experience, with three recent testimonials should be sent to the undersigned forthwith

CHARLES POSTGATE
Secretary Superintendent

Midland Hospital (For Homoeopathic and General Treatment) Fazy Row, BIRMINGHAM

A vacancy occurs for the post of HOUSE SURGEON at the above Hospital on August 6th Salary £200, with board, residence and laundry

Applications stating age and qualifications accompanied by recent testimonials should be forwarded at once to JAMES O YARES, Secretary

Miller General Hospital, Greenwich Road, S E 10

CASUALTY OFFICER (male and unmarried) required There are four other residents Salary £150 per annum, with board residence, and laundry Duties to commence as soon as possible. Applications, stating age, nationality qualifications and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary as soon as possible

July 22nd 1930

Lincoln County Hospital.

Wanted a JUNIOR HOUSE SURGEON male unmarried Salary at the rate of £150 per annum rising to £200 per annum at the conclusion of six months approved service

Every candidate for the appointment must be registered under the Medical Acts

Applications stating age and other particulars with copies of testimonials (not more than three) are to be sent to the undersigned from whom further particulars may be obtained

Lincoln ARTHUR MOORE,
June 30th 1930 Secretary Superintendent

Royal Albert Hospital and Eye INFIRMARY, DEVONPORT

Applications are invited from duly registered and unmarried Practitioners for the following resident appointments

HOUSE SURGEON
ASSISTANT HOUSE SURGEON

Salary House Surgeon £150 per annum Assistant House Surgeon £100 per annum Apartments board and laundry free

Applications, stating age together with copies of not more than three testimonials should be forwarded to the undersigned without delay

FRANK ROWE Secretary

Royal United Hospital, Bath

Wanted a HOUSE PHYSICIAN Salary £120 per annum

The appointment will be for not less than six months, and candidates must be male unmarried and of British nationality

Applications, with three testimonials must be addressed to the undersigned

J LAWRENCE MEARS
Secretary Superintendent

Royal United Hospital, Bath

Wanted at once, an ASSISTANT HOUSE SURGEON Salary £120 per annum

The appointment will be for not less than six months and candidates must be male, unmarried and of British nationality

Applications with three testimonials must be addressed to the undersigned

J LAWRENCE MEARS
Secretary Superintendent

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B M A House, Tavistock Square, W C 1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh)

(a) British Islands.

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN. *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association.)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
MARDY GLAMORGAN *(Workmen's Medical Scheme.)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon Sec. of Division or Branch.	Town or District.	Hon Sec of Division or Branch.	Town or District.	Hon Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr R. H. TODD (Hon Sec. New South Wales Branch) Savings Bank Building 21 Elizabeth St. Sydney N.S.W	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch 207 North Terrace Adelaide.	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr G F V ATSON (Hon. Sec. New Zealand Branch British Medical Association I O Box 156 Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec. Queensland Branch) British Medical Association B.M.A Building Adelaide St. Brisbane	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr FRANK DAVIES (Hon Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon Sec. Western Australian Branch, British Medical Association No 6 Bank of N.S.W Chambers, St. George's Terr., Perth, Western Australia.

July 23rd 1930 By Order of the Council ALFRED COX Medical Secretary

Cardiff Royal Infirmary
(Associated with the Welsh National School of Medicine.)

Applications are invited for the post of HOUSE SURGEON TO THE OPHTHALMIC DEPARTMENT of the above Institution. The post is tenable for six months but may be extended for a further six months This post is open to ladies

Salary is at the rate of £75 per annum with board residence. Candidates must have experience of refractions

Application forms may be obtained from the undersigned, and should be returned completed, with copies of recent testimonials at the earliest possible date as the appointment commences immediately

R. ARMSTRONG
July 8th 1930 Medical Superintendent

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTIO GLOUCESTER.
(153 Beds)

Applications are invited for the post of RESIDENT SURGICAL OFFICER Good opportunity for practical surgery Salary £175 per annum with board, residence and laundry Also for HOUSE PHYSICIAN salary £135 per annum. There are four residents.

The appointments are for six months, which may be extended for similar periods by re-election from time to time.

Applications stating age qualifications and nationality with copies of not less than three recent testimonials should be sent to the undersigned at once.

F J SYMONS
July 3rd 1930 Secretary

Lowestoft and North Suffolk
HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board, residence and laundry Duties to commence in August.

Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

The Manchester Northern
HOSPITAL FOR WOMEN AND CHILDREN
Park Place Cheetham Hill Road.

The Committee of Management are desirous of receiving applications for the appointment of an HONORARY ASSISTANT SURGEON for Children who should be a Fellow of the Royal College of Surgeons of the United Kingdom or hold a Degree in Surgery granted after examination by a University recognized by the General Medical Council whose duties shall be to take charge of two beds in the Surgical Children's Ward and to see surgical cases in the Children's Out-patient Department on two mornings each week.

Applications with testimonials, to be sent to Mr JAMES C DANIELS Secretary 38 Barton Arcade Manchester on or before Wednesday August 27th

Altrincham General Hospital,
CHESHIRE.
(100 Beds)

Applications are invited for the post of SENIOR HOUSE SURGEON Salary £150 per annum with board residence and laundry Also JUNIOR HOUSE SURGEON Salary £120 per annum with board, residence, and laundry The appointments are for six months in the first instance

Applications stating age and experience together with copies of recent testimonials, to be sent to Mr WILLIAM MOODY Secretary 31 Market Street, Altrincham

Merthyr General Hospital,
MERTHYR TYDFIL

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital (male) for a period of six months. Salary at the rate of £150 per annum, with board rooms, and laundry

Applicants must have had experience in administration of anæsthetics.

Applications stating age and qualifications, and enclosing copies (only) of not more than three testimonials should be addressed Hon Secretary Hon. Medical Staff Merthyr General Hospital.

Rochdale Infirmary and
DISPENSARY
(110 Beds)

Wanted JUNIOR HOUSE SURGEON (male). Salary £175 per annum, including board, residence and laundry Applications stating age, nationality etc together with copies of three recent testimonials to be sent to the Secretary, endorsed House Surgeon. Conditions of appointment may be had on application to the Secretary

Infirmary Office, Rochdale Lanes. W WYNNE, Secretary

Swansea General and Eye
HOSPITAL. (316 Beds.)

ASSISTANT PATHOLOGIST wanted whole-time (male or female) non resident Salary £400 to £500 according to experience Duties to commence end of September

Applications stating age nationality qualifications and experience together with copies of three testimonial to be forwarded to the undersigned.

O C HOWELLS Secretary

Eccles and Patricroft Hospital
(62 Beds)

Wanted immediately SENIOR RESIDENT MEDICAL OFFICER six or twelve months' engagement. Commencing salary £175-£200. Also JUNIOR RESIDENT MEDICAL OFFICER (or House Surgeon). Commencing salary £125-£150 Board, residence etc. Apply with references to Secretary Eccles and Patricroft Hospital, Patricroft Manchester

Newark General Hospital
(50 Beds.)

Wanted a fully qualified RESIDENT HOUSE SURGEON (male or female, unmarried) Salary £175 per annum with board, residence, and laundry Appointment for six months or twelve if mutually desired. For form of application apply to W T CRAMPTON 27 Kirk Gate, Newark, Notts.

(Appointments continued on p. 42)

British Medical Journal,

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ASSISTANCIES

Wanted, in September or October young male British ASSISTANT ex Hospital preferred indoor £262 or outdoor £416 Usual bond Particulars and testimonials (copies) — Address No 5123, B.M.A. House Tavistock Square W.C.1

Wanted — Male Assistant Panel and private, Liverpool Salary £300 up (according to experience) and half mid and cons fees Rooms and attendance at surgery provided Must have G.P. experience Begin Sept 1st. Send tests and full partics —No 5101 B.M.A. House Tavistock Sq. W.C.1

Wanted, early in August, indoor ASSISTANT for Midland Rural Practice Experience good Man or woman Usual bond Car to drive Give full particulars—Address No 5136 B.M.A. House Tavistock Sq. W.C.1

Wanted immediately, indoor ASSISTANT for mixed Practice in Lancs town Work light Salary £250 increasing with experience — Address No 5124 B.M.A. House Tavistock Square, W.C.1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices with and without view State full particulars — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Wanted, preferably in Sept., an ASSISTANT by a Specialist Radiologist in the West of England Short time applicant not desired should have D.M.R. & E. —Address fullest particulars No 5128 B.M.A. House Tavistock Square W.C.1

Wanted —Indoor Lady Assistant Country Practice Gloucestershire Able cycle drive car Work light Panel general £150 per annum Tennis country amenities Photo age experience —Address No 5106 B.M.A. House Tavistock Sq. W.C.1

Wanted, a Welsh-speaking ASSISTANT for general Practice Good Anaesthetist References required Salary £500 Outdoor —Address No 5001 B.M.A. House Tavistock Square W.C.1

Assistants and Locum Tenens — Gentlemen immediately available for the foregoing, age 25—35 of good address experience and of British birth are invited to call upon THE MEDICAL AGENCY Watergate House 15 York Buildings Adelphi, W.C.2 between 10.30 and 4 p.m.

Country Doctor wishes to hear of young ASSISTANT for next winter English or Irish Suit man fond of country life and horses but must be well qualified conscientious and a good worker — Address No 5143 B.M.A. House Tavistock Sq. W.C.1

Medical Assistant wanted for Clyde Seaside Town Would suit married man Salary £300 with furnished rooms — Apply to CRAWFORD HERRON & CAMERON Writers 257 West George Street Glasgow C.2

Malaya —Wanted, Assistant for large Town Practice Unique opportunity Send full references and particulars — Address No 5103, B.M.A. House, Tavistock Square W.C.1

Woman Assistant wanted for working-class Practice in London Scotch preferred Send full particulars — Address No 5119, B.M.A. House, Tavistock Square W.C.1

MEDICAL POSTS DISPENSERS etc

Wanted — Qualified Lady ASSISTANT DOCTOR, Scots Presbyterian for Church of Scotland Medical Mission in FIBERIAS TAIISTINE Must be proficient in gynaecology and children's diseases Experience of X-ray work a recommendation Three years engagement in first instance allowance for outfit and passage Commencing salary £275 per annum with furnished accommodation in hospital Duties to commence in Autumn Applications in writing with eight copies testimonials to Dr MACDONALD WEBSTER 121 George Street Edinburgh

Wanted, Dispenser-Bookkeeper from middle September for non-panel Practice near Ealing State qualifications experience and salary required Average work about four hours daily —Address No 5141 B.M.A. House Tavistock Square W.C.1

Wanted —Part-time Help, S.W. London by male Graduate from August 7th—September 6th for morning (9—11 a.m.) and evening (6—8 p.m.) surgeries —Address No 5118 B.M.A. House Tavistock Sq. W.C.1

Wanted in September -Educated COMP
Engl
preferred —Address No 5112, B.M.A. House, Tavistock Square W.C.1

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work, also trained in bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write wire or 'phone (Park 0969) Secretary 7 Westbourne Park Road W.2

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Gentlewoman seeks post as SECRETARY to a Doctor 12 years Nursing experience Free early October — Write M.F.P. 46A Addison Gardens W.14

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The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work— Dispensers (capable of undertaking returns clerical work etc., connected with Ministry of Health) Clerks, Laboratory Assistants general hospital duties Porters, Caretakers etc —Apply, Secretary 85 Eccleston Square, S.W.1

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Wanted --Lady Locum in panel and private Practice, London from August 7th for four weeks £5 5s per week and hospitality —Address, No 5149 B.M.A. House Tavistock Square, W.C.1

Wanted — Reliable and experienced Practitioners (male and female) for LOCUM engagements State full particulars —BRITISH MEDICAL BUREAU, 33 Cross Street Manchester

As Locum — Experienced and reliable (middle aged) Doctor had own Practice desires further ENGAGEMENTS Terms from 6 gns p.w. If country where car and driver available Good refs Now free — MEDICUS c/o Vignes 44, Elgin Cres. W.11

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Lancs Town — Partnership in old-established PRACTICE. Cash receipts 1929 £2 524 Panel 1930 Good house 3 reception 5 bedrooms. Garage and garden Premium—1/2 share—£1,500 (including book debts).—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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North Wales — Doctor (man) invites applications from Lady Doctor prepared to take up 5/6ths share of panel and Industrial Practice Receipts £720 Some experience necessary and ability to take charge. Premium 1½ years half down—Address No 5146 B.M.A. House Tavistock Sq W.C.1

Nr Manchester —Partnership in excellent Practice. Cash receipts 1929 £3 497 Panel 3 200 Excellent house 2 reception 6 bedrooms. Garage and garden (with tennis court) Rent £48 p.a. Premium—half share—1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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APPOINTMENTS —Contd

Liverpool Stanley Hospital, Stanley Road LIVERPOOL

There will be vacancies on October 1st next for One Male HOUSE PHYSICIAN One Male HOUSE SURGEON, and One Female HOUSE GYNAECOLOGICAL SURGEON Salary in each case at rate of £100 per annum, with board, laundry etc Candidates must be on the *Medical Register* and submit their applications, with copies of three recent testimonials, addressed to the undersigned by August 8th
E W OSBORN Secretary

Montagu Hospital, Mexborough, YORKS

Applications are invited for the position of SENIOR HOUSE SURGEON (lady) at the above Hospital (84 beds—10 Maternity)
Commencing salary £120 per annum, with board lodging washing etc
One month's holiday annually
It is desirable that applicants should be at liberty to commence duties as soon as possible. Hospital experience essential
DONALD WILSON Secretary

North Devon Infirmary, BARNSTAPLE. (60 Beds)

Wanted end of July duly qualified RESIDENT MEDICAL OFFICER (male or female) Salary £150 p a, with board apartments, and laundry Appointment to be for not less than six months. Applications, stating age qualifications with copies of recent testimonials, to be sent forthwith to the Honorary Secretary

Royal Cornwall Infirmary, TRURO (84 Beds)

HOUSE SURGEON (male) required with experience of Anaesthetics Salary £170 per annum rooms, board, and washing Apply, with copies of *three recent testimonials to the* Secretary, of whom further particulars may be obtained

Liverpool Heart Hospital

HOUSE PHYSICIAN (male or female) wanted immediately Salary £52 per annum, with board and residence Applications to Miss LEWIS, Secretary 14, Cook Street Liverpool.

County Borough of Reading

BATTLE HOSPITAL.

APPOINTMENT OF ASSISTANT RESIDENT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners for the appointment of Assistant Resident Medical Officer (male) at the above Hospital at a salary of £300 per annum with board residence etc Candidates must be single and should not be more than 30 years of age

The selected candidate will be required to work under the direction of the Medical Superintendent

The appointment will be for a period of one year

A form of application may be obtained from the undersigned and application accompanied by copies of three recent testimonials must be delivered to me not later than Tuesday August 5th Canvassing either directly or indirectly will disqualify

Town Hall C S JOHNSON
Reading Town Clerk
July 15th 1930

Royal Salop Infirmary

SHREWSBURY (150 Beds)

APPOINTMENT OF RESIDENT HOUSE SURGEON

Applications are invited from fully qualified men for the appointment of Resident House Surgeon vacant from August 16th next

Salary £160 per annum with board residence etc

The appointment is for six months in the first instance subject to reappointment for a further period of six months

Resident Staff comprises Resident Surgical Officer Clerk Physician and House Surgeon

Application stating age qualifications experience nationality and accompanied by copies of three recent testimonials to be sent to the undersigned forthwith

J W NOBLE
July 15th 1930 Secretary Supt

Royal Infirmary, Doncaster

(185 Beds)

OPENING NEW BUILDING

Three HOUSE SURGEONS and One HOUSE PHYSICIAN required at once New building ready for occupation The House Physician will also be House Surgeon to Ophthalmic and Ear Nose and Throat Departments

The salary of each post is £200 per annum with board residence and laundry

Appointments are for six months and are renewable

Applications stating age and full particulars together with copies of testimonials should be sent at once to the Secretary Superintendent

Royal Infirmary, Wigan

(120 Beds)

HOUSE SURGEON required for a period of six months Salary £150 per annum with board, residence, and laundry Application stating age qualifications etc together with copies of three recent testimonials to be forwarded immediately to the undersigned

A STANLEY BRUNT
July 8th 1930 Gen Supt & Secretary

The Royal Gwent Hospital,

NEWPORT MON

HONORARY RADIOLOGIST

Applications are invited for the post of Radiologist

Candidates must be registered Medical Practitioners and possess a Diploma in Radiology

Applications should be in writing and sent immediately to the undersigned

J K MILLWARD
July 15th 1930 Secretary Supt

Southend Victoria Hospital,

SOUTHEND-ON SEA
(95 Beds and Cots)

JUNIOR HOUSE SURGEON (male) required September 1st Six months appointment Salary £150 per annum board residence and laundry Apply stating age qualifications previous experience with copies of three recent testimonials to the Secretary on or before July 31st.

Barnwood House Hospital for

MENTAL AND NERVOUS DISORDERS
near GLOUCESTER.

Required SECOND ASSISTANT MEDICAL OFFICER, male. Commencing salary £350 per annum with board residence and laundry Applications with copies of three recent testimonials to be sent to the Medical Supt

Royal Sussex County Hospital,

BRIGHTON (237 Beds)

CASUALTY HOUSE SURGEON (male) required early in August. Salary £120 per annum with board residence and laundry Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts They must be unmarried and when elected under 30 years of age Applications with copies of recent testimonial should be sent immediately to the undersigned

L L W LANCASTER CAYE,
Secretary Superintendent

Saint Mark's Hospital for

CANCER FISTULA AND OTHER DISEASES OF THE RECTUM
City Road London E.C.1

RESIDENT SURGICAL OFFICER (male) required Must be fully qualified Salary £150 per annum and certain other emoluments with board residence and laundry The appointment is for a minimum of six months Duties to commence on September 1st or earlier Application with copies of testimonials must reach the Secretary from whom further particulars may be obtained not later than Saturday August 16th

Sheffield National Radium Centre

The Committee of the Sheffield National Radium Centre invites applications for the post of MEDICO PHYSICIST to organize and take charge of the Centre. Salary £600 to £650 per annum, according to qualifications and experience Should an untrained candidate be selected he would be required to attend Clinics at home and abroad for a period of six months Address with full particulars and copies of testimonials to—

J O W BARNES F.C.I.S.
The Royal Infirmary Secretary
Sheffield.

Wrexham & East Denbighshire

WAR MEMORIAL HOSPITAL
(100 Beds)

RESIDENT HOUSE SURGEON (male) required at above Hospital to commence on August 11th. Appointment for a period of not less than six months Salary £150 per annum with board and laundry

Applications stating age nationality experience and qualification accompanied by copies of three recent testimonials to be sent to the undersigned immediately

LESLIE SPENCER Secretary

Beckett Hospital & Dispensary

BARNSLEY (152 Beds)

Applications are invited from fully qualified male Practitioners for the post of HOUSE PHYSICIAN Duties to commence immediately Salary £140 per annum with board residence and laundry

Applications stating age qualification and experience accompanied by testimonials to be sent to the undersigned

ARTHUR L BOURNE
July 22nd 1930 Secretary Supt

Jewish Maternity Hospital,

Underwood Street Wallace Road E.1
(34 Beds)

A RESIDENT MEDICAL OFFICER is required for the above Institution Appointment is for six months commencing September 1st Salary at the rate of £50 per annum Application together with copies of three testimonials to be sent to the undersigned not later than July 28th.

ALICE MODEL
Hon Organising Secretary

Kent and Canterbury Hospital,

CANTERBURY

HOUSE SURGEON (male) required Six months appointment Salary at the rate of £125 per annum plus board residence etc Applications accompanied by copies of three testimonial and stating when duties could be taken up should be forwarded to the undersigned

W T SOUTHWOOD
Superintendent & Secretary

The Bristol Royal Hospital for

SICK CHILDREN AND WOMEN
St Michael's Hill.

Applications are invited for the position of HOUSE SURGEON Salary £125 per annum with board rooms, attendance and laundry Applicants should state age qualification experience and send testimonials immediately to the undersigned

REGINALD C. THOMAS
Secretary

The Royal National Hospital

FOR CONSUMPTION AND DISEASES OF THE CHEST VENTNOR ISLE OF WIGHT

A Male ASSISTANT RESIDENT MEDICAL OFFICER required for six months to take up duties on September 12th.

Salary £300 per annum with residence and board in the Hospital Candidates must be recently doubly qualified registered and unmarried and be desirous of undertaking the earnest study of Tuberculosis.

Applications in an latter own handwriting stating age and qualifications (with one copy of three recent testimonials) must be received by the Medical Superintendent, R N Hospital for Consumption Ventnor Isle of Wight not later than Tuesday 31st July 29th 1930

The Royal Infirmary, Sheffield

(600 Beds)

The Weekly Board of Management invite applications for the post of HOUSE SURGEON The appointment will be tenable for a period ending December 31st 1930 The salary attached to the post is £80 per annum rising after six months service to £100 per annum with board and residence.

Applications together with copies of testimonials to be sent to the undersigned immediately

JNO W BARNES F.C.I.S.,
General Superintendent and Secretary
Board Room July 21st 1930

The Guest Hospital and Eye

INFIRMARY DUDLEY
(General Hospital—104 Beds.)

Applications are invited for the post of ASSISTANT HOUSE SURGEON to commence duties immediately Salary £150 per annum with furnished apartments board and laundry Candidates must be fully qualified and registered Applicants stating age qualifications and experience and accompanied by copies of testimonials to be sent to the undersigned

H RAYMOND HURST
The Guest Hospital Secretary
Dudley July 18th 1930

The Hospital for Women at

LEEDS
(For the Treatment of Diseases peculiar to Women.)

HOUSE SURGEON wanted for a period of three months from August 1st Salary at the rate of £50 per annum with board quarters and laundry Applications with copies of testimonials should be sent immediately to the undersigned

S CECIL HILL Secretary

The Weir Hospital, Grove Road

Balham S.W.12

JUNIOR RESIDENT MEDICAL OFFICER (male unmarried) required Candidates must be fully qualified and duly registered Salary £150 per annum with board residence and laundry Application with copies of testimonials to be sent to the Secretary from whom further information may be obtained.

Margate and District New

GENERAL HOSPITAL
(80 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) to commence duties as soon as possible.

Salary £125 per annum with board and laundry

Application accompanied by copies of testimonials should be sent to the Secretary Margate General Hospital as early as possible

Stockton and Thornaby Hospital

STOCKTON-ON TEES
(150 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six month. Duties to commence on or about August 1st.

Salary £150 with board residence and laundry Candidates must be duly qualified, and unmarried.

Application stating age nationality and experience together with copies of three recent testimonials to be sent to the undersigned

J WILKINSON Secretary

Victoria Hospital for Sick

CHILDREN HULL (Incorporated).

RESIDENT HOUSE PHYSICIAN (Lady) required experience in laboratory work desirable. Salary £80 per annum.

Applications (with copies of recent testimonials) stating age qualifications and particulars to be sent to the Secretary of the Institution.

Walsall General Hospital,
WALSALL

The Committee invite applications from men for the post of CASUALTY HOUSE SURGEON Salary £120 per annum

Candidates who must be registered under the Medical Acts, must produce three recent testimonials

The appointment will be for six months

The Hospital contains 100 beds and is equipped in all Special Departments

Applications, stating age, qualifications and nationality must be received by the undersigned not later than first post Tuesday, July 29th

WALTER BRANCOMBE Secretary

Whitehaven and West Cumberland Hospital, WHITEHAVEN
(90 Beds)

Wanted JUNIOR HOUSE SURGEON (male) Salary £100 per annum including board, residence and laundry Twelve months appointment After six months as Junior an opportunity is given of becoming Senior for the second six months at the rate of £150 per annum

Applications stating age nationality etc together with copies of three testimonials to be sent to the Secretary endorsed House Surgeon not later than Tuesday July 29th

R HIGGINS Secretary

The Grosvenor Hospital for WOMEN, Vincent Square, S W 1

Applications are invited for the post of RESIDENT MEDICAL OFFICER The appointment will be for a period of six months (renewable) at a salary of £100 per annum full board etc included to date from September 1st Candidates should submit applications, stating qualifications age etc, together with copies of three testimonials as early as possible to the undersigned It will be necessary for applicants to interview members of the medical staff before appointment

EDWARD DIW, Secretary

The Willesden General Hospital
(Incorporated) N W 10
(106 Beds)

Applications are invited from General Practitioners for appointment as REGISTRARS Several vacancies exist and a copy of the Regulations governing such appointments can be obtained from the Secretary to whom detailed applications should be addressed not later than Saturday August 30th

June 30th 1930

The Royal Infirmary, SUNDERLAND (290 Beds)

Wanted middle of September SENIOR HOUSE SURGEON (male) Salary £200 per annum, with board residence and laundry

Applications stating age qualifications and accompanied by copies of testimonials to be sent to the undersigned not later than August 9th

S C FRYERS
House Governor & Secretary

The Sheffield Royal Hospital

HOUSE SURGEON to the Ear, Nose, and Throat Department, also RESIDENT ANAESTHETIST required (males) Salary for the first six months at the rate of £80 per annum after which £100 per annum with board residence, and laundry There are twelve resident medical officers Applications should be forwarded at once to—

W H BOOTH,
Superintendent and Secretary

Victoria Hospital, Accrington

Applications are invited for the post of ANAESTHETIST on the Honorary Staff of this Hospital Gentlemen intending to apply are requested to submit their applications, in writing with a statement of their qualifications, not later than August 4th to the undersigned

Town Hall W H WARHURST,
Accrington Hon Secretary
July 1930

West End Hospital for Nervous DISEASES
(In patient Department Gloucester Gate, Regent's Park N W 1)

The Committee of Management invites applications from British male candidates for the vacancy of JUNIOR HOUSE PHYSICIAN to start duty August 1st Salary £100 with board residence and laundry Appointment in first instance for six months. Applications with copies of three testimonials must be received by the undersigned not later than July 28th

J P WETENHALL Secretary
73 Welbeck Street W 1

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Telephone Mayfair 5420
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Lines — Unopposed — About £1 000 Panel 540 Appts and club £165 Fees 5/6 to 5/ Detached house and grounds to rent —No 8705

Death Vacancy —Essex Suburb Average over £1 100 Panel 800 Very little midwifery ample scope Fees 3/6 to 7/6 Great scope for younger man —No 8690

Co Durham —Death Vacancy — Over £700 p a Panel 775 and club PRACTICE Small house to rent or buy — No 8697

Lanes Town — About £1,100 p a Panel 560 Club £50 Fees 3/6 to 5/ Good house and nice garden Rent or sell —No 8704

Middlesex (on Met Rly) — NUCLEUS £500 and great scope Excellent corner house, on main road, for sale No 8703

Scotland, N E Coast — Over £1,000 p a Panel 520 Appts about £400 Visits 3/6 to 15/ Good house, 3 recep 6 bed etc —No 8701

London, N — Over £1,300 p a Panel 2 000 Densely populated district No appts. or mids 8 roomed house to rent on lease Premium £2,650 —No 8696

Devon Town — £1,300/£1,500 PARTNERSHIP with Succession Panel over 2 000 and working Mids refused of late ample scope. Worked from surgery — No 8695

Central Wales —£1,300 Panel and appts £400 Very little mid Large house low rent Beautiful scenery —No 8680

London, S E —Woman's Practice About £600 Panel 220 Fees 5/6 to 21/ Scope for midwifery and increase Ground floor flat —No 8686

Within 45 miles of London — Old estab unopp PRACTICE. About £1 000 p a Panel 700 Appts £130 Fees 5/6 to 10/6 House 5 bed, tennis good garden to rent —No 8685

Yorks Country — £800 p a Panel 445 Appts about £60 Visits 5/ to 10/6 Modern house 7 bed Rent £42 —No 8681

South Coast Resort —£6,000 p a Non panel One fifth share increasing to one third in 2 years Fees 7/6 to 21/ Choice of houses F R C S essential —No 8682

S Devon —Average £1,600 p a Panel over 2 000 Fees 5/6 to 5/ Large house in residential locality, 5 bed 3 attics, 2 recep etc —No 8678

Essex Suburb —Near Country — 1/2 share of £2 500 Great scope Panel about 1,550 Suit man or woman House or flat —No 8619

S W County —Near Sea —Share worth £700 ample scope Very little mids Visits 5/ to 4 gns Choice of houses. Ample scope —No 8666

London, W —Electrical & X-ray —£1 500/£2 000 Fees 21/ up House in good locality on lease Low prem —No 8665

Harrogate — Death Vacancy About £700 p a Panel over 500 Clubs, etc, about £80 Fees 5/6 to 21/ Good house, 5 bed etc Practice and house £1,350 — No 8664

Cambs —Over £800 —Old-estab unopposed Panel 475 Appts. £90 Fees 5/6 to 7/6 Large house 5 bed and garden at low rent —No 8654

S Wales — Death Vacancy — £700 p a, largely colliery Panel 700 Small house low rent or price Premium £500 or near —No 8651

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DERBYS—Town PRACTICE within 60 miles of London Middle and working-class Receipts nearly £900 Panel 555 Fees 2/6 up No midwifery (scope). Suitable house available. Premium 1½ years purchase

KENT (Seaside).—PARTNERSHIP in good middle-class Practice with excellent scope for increase Receipts nearly £1 900 Small panel 3/7ths share offered with view to 1/2 share at 1½ years purchase Suitable to experienced Practitioner aged about 27—30

WALES—Old-established non-dispensing Town PRACTICE with Surgical scope. Excellent house to rent on lease at £90 p.a. Receipts nearly £1,500 p.a. Panel about 400 Premium £1 500 cash

ESSEX—NUCLEUS non-panel G P with excellent house for sale or to rent. Receipts approx. £230 p.a. Scope for panel if desired

WEST COUNTRY—Oxford or Cambridge Varsity Graduate desired a PARTNER, with view to Succession in three or four years time in old-established good-class non-panel Practice situated in country town Receipts over £2 000 p.a. Half share is offered to well qualified man aged about 30 at 2 years purchase

DERBYSHIRE—PARTNERSHIP in old-established non-panel Practice in best part of large town Receipts approx. £3 000 p.a. Quarter share now with view to larger share at 2 years purchase

YORKS—PARTNERSHIP in middle and working-class Town Practice Receipts approx £3 000 p.a. Panel over 2 000 House to rent Premium for 1/4 share 2 years purchase

YORKS—Well-established middle and working-class Town PRACTICE. Receipts approx £1 520 Panel nearly 1 700 House to rent Premium £2 250

BEDS—PARTNERSHIP with view to Succession Country Practice Receipts average £1 120 p.a. Panel nearly 600 House to rent Premium for half share 2 years purchase Suitable only to single man.

N WALES—DEATH VACANCY—Good-class PRACTICE situated in Seaside Health Resort Large house for sale or to rent at £85 p.a. Receipts approx. £1,200 p.a. Small panel Premium 1 years purchase

KENT—PARTNERSHIP in old-established Country G P Receipts over £2,200 Panel about 1,200 Suitable for experienced married man about 35 Premium for half share with possible view 2 yrs purchase

BLACKPOOL (near).—Well-established middle and working-class PRACTICE. Suitable 8 roomed house available, with garden garage etc. Receipts nearly £1,200 Panel (about) 250 Premium for house and Practice £3 250

LIVERPOOL (near)—Well-established mixed G P Modern house available with Branch Surgery Receipts £2,500 Panel 2,600 Fees 2/6 up Scope for surgery if desired Premium 1½ years purchase

LONDON N—Working-class PRACTICE in thickly populated locality Receipts nearly £1 400 Panel over 2 000 Very little if any midwifery Well located house to rent at £80 p.a. on lease Premium £2 800 cash or near offer

SOMERSET—PARTNERSHIP in well-established Country Practice on Devon Borders with excellent scope. Highly suitable for experienced man fond of country life Sport of all kinds. Guaranteed share worth £750 at 2 years purchase.

MIDLANDS — PARTNERSHIP (Lady Doctor) in growing Panel and Private Practice. Receipts (approx) £3,286 Several appointments Premium for 1/4 share £1 275 worth £850 p.a. guaranteed

LONDON S W.—Well-established growing PRACTICE with scope Situated on main road. House to rent on lease. Branch Receipts over £600 Panel nearly 400 Premium 1½ years purchase

LIVERPOOL—Middle and working-class rapidly growing PRACTICE, situated in centre of city Receipts £1 150 Panel 1 600 Fees 1/6 to 5/ Midwifery 2 gns up Premium £1 600 cash.

NORTH WALES PRACTICE.—ASSISTANTSHIP with view to purchase. Salary £250 (indoor). Receipts over £700 Panel £300 p.a. Appointments Hospital House to rent. Nice country sport of all kinds Welsh not essential. Premium £800 Terms considered.

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MIDDLESEX (W)—PARTNERSHIP—FOURTH PARTNER required in growing mixed Practice residential district Hospital Receipts nearly £6 500 Panel 5 050 A 1/7 share with view to larger share is offered at 2 years purchase. Excellent opening for energetic man

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3 MANCHESTER (Suburb)—Lock up Surgery Industrial PRACTICE. Receipts £350 Panel 600 and increasing

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5 LANCASHIRE — Well-estab middle and better-class PRACTICE. Receipts £988 panel 900, both increasing Appt £30 p.a. [illegible] Good house and garage.

6 [illegible] estab progressive [illegible] PRACTICE. Receipts £1 000 Good house garage and garden.

7 WEST MIDLANDS.—Well-estab PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500 Appts. worth £118 Good house. Garage and all conveniences.

8 YORKSHIRE.—Large County Borough.—Well-estab. working and middle-class PRACTICE. Receipts over £1,500 p.a. and steadily increasing Panel about 1 700. Good house to rent.

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REPAYMENTS ARRANGED BY EQUAL QUARTERLY INSTALMENTS WHICH DO NOT VARY WITH FLUCTUATIONS IN THE BANK RATE

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MENTION B M J

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD)
(FOUNDED 1880)

12, Stratford Place,

Tele Address
Triform, Wesdo—London

Oxford Street, W.1.

Telephone Mayfair {1782 / 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION has every confidence in recommending its members to consult Mr A V STORLY, the General Manager, in all transactions requiring the services of a Medical Agent

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them

The business undertaken by the British Medical Bureau is divided under the following heads —

TRANSFER OF PRACTICES, PARTNERSHIPS, etc

Medical Practitioners wishing to dispose of Practices or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers All information is treated in strictest confidence Full and trustworthy information regarding Practices, Partnerships, etc, for disposal supplied gratis to Purchasers

ASSISTANTS AND LOCUMTENENTS

Assistants and Locumtenents can be secured at short notice It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau A large number of Patients are placed yearly through this medium

ACCOUNTANCY

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i e, Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc

Practices and Partnerships for Disposal — **Full particulars sent free**

1 SOUTH AFRICA —Old-established PRACTICE of over £1 800 in a Town with large White population Climate ideal—no tropical diseases (altitude nearly 6 000 ft) Delightful residence (6 bedrooms electric light) in perfect order, with 2 acres grounds to be let Very good scope Hospital Premium £1 200 or offer

2 SOUTH MIDLANDS —Country Practice of just over £1 000 p a, within 50 miles of London Panel 700 Good house with modern sanitation excellent garden and paddock, to rent Premium £1 500 to include drugs and fittings

3 HOME COUNTIES — Partnership in middle and working-class Practice about £2 500 p a in a Town under 45 miles from London Panel 1,435 One third or one half share at 2 years purchase Preliminary Assistantship

4 DEATH VACANCY —SOUTH COAST — PRACTICE over £850 in favourite watering place Panel about 200 House (5 bedrooms) in half acre garden, for sale

5 LONDON, S W —Partnership in Practice about £2 500 p a, in first rate suburb Panel 1 250 Double fronted house (7 bedrooms) garage and lovely garden for sale Share about £1 000 p a at 2 years purchase Partner must be well qualified preferably M D or F R C S

6 HOME COUNTIES — Easily worked Country PRACTICE about £2 000 p a in Agricultural District 40 miles from London Panel 800 Centrally situated house (4 bed and attics) garage and garden, for sale Premium—Practice—1½ years purchase

7 SHROPSHIRE —Partnership in Practice about £2 200 p a in attractive residential country district Panel 1 100 Very nice house garage and large garden for sale Sport Premium one-half share 2 years purchase

8 SCOTLAND — Unopposed Practice over £1 000 p a in beautiful country district in Inverness shire Panel 520 Nice well built house (6 bedrooms) garage and beautiful garden for sale Premium—Practice—1½ years purchase

9 YORKSHIRE (W R) — Compact easily worked PRACTICE averaging £1 600 p a in manufacturing town Panel over 1 300 Splendidly situated house (4 bedrooms) for sale Scope Premium 1½ years purchase

10 SOUTH DEVON —Country Practice nearly £1 500 p a in beautiful district near coast Panel 634 House (7 bedroom) with electric light and central heating garage and large garden for sale Sport of all kinds Premium 1½ years purchase

11 LONDON, NORTH —Sound, easily worked PRACTICE nearly £2 600 p a in residential district Small select panel Good corner house (5 bed and dressing rooms) with very good garden for sale Small Hospital Premium—house and Practice—£4 250 cash

12 MIDDLESEX — Practice about £500 in growing district of pleasant suburb under 10 miles from London Panel 450 Large house to rent on lease Great scope Premium £750 or near offer

13 RADIOLOGICAL Practice in good Town in the West Receipts average over £2 300 p a Important Hospital appointment almost certain of transfer

14 LONDON, EAST —Practice £990 p a in populous area Panel 1 240 Shop fronted premises to rent Plenty of scope Premium 1½ years purchase

15 ISLE OF MAN —Non-dispensing Practice in small Seaside Town Receipts average £946 (including £350 from panel) Small compact house (5 bedrooms), with nice garden for sale Sport Premium—Practice and house—£2,000

16 SOUTH OF ENGLAND —Partnership in good-class non dispensing Practice, £6 000 p a in attractive watering place No panel House (3/4 bedrooms), garage and garden to rent One fifth or one fourth share at 2 years purchase Partner should be 35 40 years of age and hold F R C S England

17 MIDLANDS —Practice, over £1,700 p a, in important City Panel 1 570 Centrally situated house (7 bed and dressing rooms) with garage and garden, for sale Scope for increase Premium £2 250

18 S W OF ENGLAND —Country Practice near the Coast Receipts £1 638 p a Panel 400 Very attractive (modernised) house (6 bed and dressing rooms) in grounds of 4 acres electric light, for sale Cottage Hospital Premium £2,400 to include drugs etc, etc

19 LONDON, S E —Partnership in Practice £6 600 p a in outlying Suburban District Panel 2 000 Premium one-sixth share 2 years purchase

20 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London Good house (6 bedrooms) to let Share worth about £1 400 p a for disposal Partner should be aged 35 40, and married

21 MIDLANDS — Partnership in Practice over £4,100 p a in flourishing town Panel nearly 3 000 House (5 bedrooms) to rent One fifth share 2 years purchase Preliminary assistantship Applicant must be married or about to be

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Practices and Partnerships for Disposal (continued)

22 MIDLANDS —Partnership in Practice in Market Town Young unmarried man preferred Share worth about £800 p.a. at 2 years purchase.

23 SURREY — Partnership in Practice, £2 690 p.a. in growing and prosperous town Panel 950 Excellent scope. Premium one-third or two-fifths share 2 years purchase.

24 LONDON, N W —Practice of between £1 100 and £1 200 p.a. in suburban district. Panel 650 Corner house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

25 MIDDLESEX — Partnership in Practice, nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share, 2 years purchase.

26 CHESHIRE —Partner required in increasing better-class non panel Practice in first rate residential district. Cash receipts past year over £4 600 A University Graduate who must have held Resident Hospital appointments preferred. One-fourth share at 2 years purcha e

27 LONDON, S W —Practice about £630 in suburban district within half an hour of Charing Cross. Panel about 400 House to rent on lease. Very good scope. Premium £900

28 MIDLANDS —Fourth Partner required in good middle-class non-dispensing Practice £3 000 p.a. in prosperous town Very small panel Small house to rent One-sixth share at 2 years' purchase. Partner should be aged about 30 and well qualified.

29 LANCASHIRE —Practice in rapidly growing district near coast and popular resort Receipts last year £1 183. Panel 260 about. Very nice compact freehold hou e (4 bedrooms electric light etc) with beautiful garden for sale. Premium for Practice £500

30 WEST MIDLANDS —Practice about £1,050 p.a. in residential country district. Panel over 600 Excellent house (5 bedrooms) with electric light, etc. garage and 3 acres land for sale or rent. Premium 1½ years purchase

31 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms) garage garden etc for sale or rent Very good trout fishing Premium £1 250

32 LONDON, S E —Partnership in increasing middle-class Practice £4 600 p.a. in suburban district Panel 3 300 Premium one-third or one-fourth share 2 years purchase. Partner aged about 30 with experience in minor surgery

33 SOUTH MIDLANDS — Practice over £1,200 p.a. in Market Town Panel 900 Pleasantly situated house (6 bedrooms) with good garden for sale Scope. Premium 1½ years purchase.

34 SOUTH MIDLANDS — Practice of £756 p.a. in County Town Small panel Large freehold house (9 bedrooms) garages and garden for sale. Good hospital. Premium 1½ years' purcha e.

35 SOUTH COAST — Non-dispensing PRACTICE about £550 p.a. in popular resort Small panel Hou e (5 bedrooms) with garage, to let. Plenty of scope. Prem £500

36 LONDON, S W — Good-class non-panel PRACTICE in pleasant residential outlying suburb Receipts formerly about £1,500 p.a. House in good position Premium based on results.

37 HOME COUNTIES —Country Practice over £1 200 p.a. in agricultural district Panel over 800 Excellent detached house (5 bedrooms) garden and paddock for sale. Hunting shooting Premium 1½ years purchase.

38 SOUTH-WEST OF ENGLAND —Practice averaging £1 666 p.a. in seaport town Panel over 2 000 House with 6 or more bedrooms for sale. Premium £2,500

39 YORKSHIRE (W R) — Practice nearly £1,500 p.a. in manufacturing town. Panel about 750 Good hous with nice garden to rent or purchase Premium 1½ years purchase.

40 KENT AND SURREY BORDERS —PracTICE about £800 p.a. in growing and pleasant residential district. Choice of residence for sale Good scope. Premium £1 200

41 LONDON, W — Good middle-class non-panel PRACTICE £1 160 p.a. in Western suburb Attractive detached hous (8 bedrooms including attics) for sale Considerable scope Premium £1 150

42 S E COAST — Practice of nearly £1,100 p.a. in favourite Health Resort. Panel 500 House (5 bedrooms) for sale. Good scope. Premium £1,500

43 SOUTH-WEST OF ENGLAND —PartnerSHIP in increasing middle-class Practice of about £2,500 in seaport town Panel 870 One-fourth or one third share at 2 years purchase Preliminary visit tant hip

44 LONDON, S W —Partnership in non-dispensing Practice about £3,300 in first rate residential suburb Small select panel. Hospital Premium one-third share 2 years purchase

45 OPHTHALMIC PRACTICE in good Town 30 mile from London —Receipts past twelve months £4o" (one day a week only) Hospital Premium £800

46 SOUTH WALES —Seaport Town —Non-dispensing PRACTICE of £1 300 p.a. Small panel. Pleasantly situated house (5 bedrooms) garden and garage for sale or rent Premium £1 500

47 EASTERN COUNTIES —Country Practice £1 200 p.a. in agricultural district. Panel 485 Very nice house (6 bedrooms) electric light garage and garden (over acre) for sale. Premium 1½ years purchase.

48 NEAR EAST —Practice, with some major Surgery if desired Good Hospital Two appointments Low premium for quick sale

49 YORKSHIRE — Partnership in Practice £2 300 p.a. in seaside town Panel over 900 Double-fronted house (8 bedrooms) for sale. Premium two-fifths or one half share 1½ years purchase.

50 WEST OF ENGLAND —Assistant required (with view to Partnership) in busy Town and Country Practice of £1 700 p.a. Good Hospital Two-fifths share at 1½ years purchase to suitable man (English or Scotch)

51 SOUTH COAST — Small easily worked PRACTICE of £410 p.a. in fashionable Health Resort. No night work or midwifery Large house Premium—house and Practice—£6 000

52 LONDON, E —"Lock-up" Practice averaging £875 p.a. Panel about 275 Rent recovered by sub-letting Long lease Premium £1,100

53 ESSEX —Country Practice £400 p a, near coast No panel. Pleasantly situated house garage and garden Ample scope. Premium—house and Practice—£1 100

54 ESSEX —Partnership in Practice nearly £1 800 p.a in rapidly developing neighbourhood. Panel about 500 Choice of two houses Prem two-fifths share 1½ years pur

55 WEST HAM — Practice (carried on by Medical Woman) of about £540 p.a. including small panel No midwifery House to rent Premium 1½ years' purchase.

56 YORKSHIRE (W R) —Practice averaging £1 700 p.a. in manufacturing town Panel 1 750 House (4 bedrooms) garage and small garden for sale. Scope. Premium 1½ years' purchase

57 WEST MIDLANDS — Partnership in Practice of about £2 850 p.a. in country town Panel 1 700 Exceptional and extremely attractive hou e (11 bed and lr rooms) garages and garden for sale. Good social centre Premium one-half share 2 years purchase.

58 MEDITERRANEAN RESORT —PartnerSHIP in good-class non-dispensing Practice o between £1,300/ £1 400 p.a. Suitable flat o rent Premium one-half share £950 with succession to whole Practice later

59 DEATH VACANCY —HARROGATE — Receipts about £600 p.a. Panel over 500 Well-situated house (6 bedrooms) to rent.

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All Communications to be addressed to Mr A. V STOREY, General Manager

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Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges

1 DERBYSHIRE—Good mixed class unopposed PRACTICE, in very picturesque surroundings, within easy reach of good town Gross cash receipts for past twelve months £900, including panel of 476 Fees 5/6 to 7/6 medicine extra Suitable house with 2 reception 5 bedrooms etc Half an acre of garden Rent on lease £70 Excellent sport and schools Premium £1 200

2 BORDERS OF BERKS AND HANTS—In a delightful district, an old established mixed class PRACTICE averaging for the past three years £904 p a (last year £973), including panel of 400 Visits 5/ to 12/6, medicine extra (3/6) One opponent House contains ample accommodation (2 sitting rooms, 7 bedrooms bathroom, etc) Large garden and garage Rent £50 p a Prem £1,400 Excellent sport

3 DEATH VACANCY—BRISTOL SUBURB—Well established non panel, non dispensing upper and middle class PRACTICE averaging about £600 p a, but capable of good increase Suitable house can be bought or rented Premium one year's purchase or near offer

4 RENT—PARTNERSHIP—A one half or one third share is offered (after preliminary assistantship) in an old established good middle and working class Practice, producing approximately £2 500 p a Panel of 1,435 Fees 3/6 to 10/6 ,medicine extra Appts worth over £200 p a Premium 2 years purchase Purchaser should be prof Scotch or English and unmarried

5 LONDON S E — Old established good middle and working class PRACTICE, in a pleasant suburb within easy reach of Charing Cross Average gross cash receipts £1 873, including panel of about 1,660, and appts worth £100 Fees from 2/6 No midwifery, but good scope Small house available, on rental Premium £3 000

6 YORKSHIRE—GOOD TOWN—PARTNERSHIP—A one half share (guaranteed to produce £2,000 p a in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4,000 Small selected panel of 450 One appointment worth nearly £650 p a Fees 5/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

7 NEAR HEREFORDSHIRE BORDER—HOSPITAL TOWN—Old established mainly good class non-dispensing PRACTICE, averaging about £1,200 p a Panel of 500 600 Fees 5/ to 10/6 Nice house in centre of town Price for freehold £1,200 part on mortgage Premium £1,800, £1,300 down and balance by instalments Up to date Cottage Hospital and good scope for surgery

8 YORKS—PARTNERSHIP—Within a few miles of large residential town the half share of old established unopposed country PRACTICE owing to retirement of senior partner through age and in different health Cash receipts for past three years average over £2 500 p a, including appointments and panel of 1,200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on Price freehold £1,200, part on mortgage Premium 2 years purchase

9 WEST OF ENGLAND—In a small pleasantly situated town amidst beautiful surrounding country, old established PRACTICE Income nearly £1 350 p a., including panel of 900 Visits 5/ to 21/ Little midwifery Very attractive house in own grounds of 2 acres 3 large professional rooms (separate entrance), 2 reception 5 bed rooms, bathroom etc Vendor's freehold Price £2 400 (£1,800 can remain on mortgage) Premium £2 000 Good society etc.

10 SHEFFIELD—Old established mainly better and middle class non panel PRACTICE Average income £700, but large scope Appointment of £160 Fees 5/, 5/ to 15/ Excellent house with small garden Ground rent £9 Premium for house and Practice, £1 250

11 [illegible] prosperous Town—Well established mixed general £1 000 p a Panel of over 700 Fees 3/6 5/, large house, with garden Freehold price £1,600 or to rent £100 p a Premium £1 500

12 SOUTH WEST OF [illegible]—In a large thriving seaport town the [illegible] to half later) of old established rapidly [illegible] tice Receipts average £2 272 p a (last [illegible] 1 of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase Scope for surgery

13 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed class PRACTICE, averaging £1 600 p a, including £800 from panel and over £100 from clubs Visits 5/ up wards (occasionally 2 gns) Very little midwifery from 2 to 5 gns large attractive house with garden Rent £80 Prem 1½ yrs pur

14 ESSEX—Unopposed PRACTICE in very pleasant agricultural district, averaging £872 p a including panel of nearly 500 and appts worth £140 Fees 3/6 to 10/6 Mid 3 to 6 gns (about 12 cases) Commodious house, with 2 reception, 5 bedrooms, and good professional accommodation Large garden Garage Rent on lease £60 Good sport and schools within reach Premium 1½ yrs' pur

15 LANCS—Pleasant Town near open country—Well established middle and better class PRACTICE Cash receipts last year over £980 in cluding panel of 900 Visits 3/6 to 7/6 medicine extra. Mid 2 to 10 gns (about 20 cases) Suitable house, with 2 reception 4 bed rooms etc Price for leasehold £1 100, £600 on mortgage Premium 1½ years purchase part by instalments

16 GLOS — COUNTRY PRACTICE — Old established PRACTICE in picturesque surroundings averaging about £1 250 p a., including panel of over 1 100 Visits from 3/ Commodious house, with 3 reception 6 bedrooms etc Garden Garage Price for freehold £1 500 £1 000 on mortgage Premium £1 850

17 NORTH LONDON—Old-established good middle class PRACTICE, held by Vendor 25 years Gross cash receipts for immediate past twelve months £2 811 Selected panel of about 250 Fees from 5/ upwards. Mids from 7 gns (only few cases) Very good corner house non basement, with 3 reception, 8 bedrooms, etc Premium for Practice and house £1 250

18 CORNISH RIVIERA—Old established good mixed PRACTICE in exceptionally attractive village which is steadily increasing Receipts for last 12 months £1,500 including panel of over 400 Visits 5/ to 21/ Excellent house facing due south with 6 bedrooms etc Good garden Rent on lease £50 p a Premium £1 800

19 LONDON, SOUTH WEST—Very old-established non residential PRACTICE averaging about £4,000 p a Panel of 1 500, but large scope for more Fees 2/6 upwards Suitable house or flat can easily be obtained to meet purchaser's requirements Rent of surgery on long lease £100 p a Premium 1½ years purchase

20 LANCS—LARGE TOWN—Very old established good industrial class PRACTICE, producing £2 500 p a including panel of 1 804, and appts worth about £120 p a Fees 2/6 upwards Very suitable for two friends in partnership as two houses available Good sport and schools Premium 1½ years purchase A one half share will be offered with view to succession in six or twelve months if desired.

21 CHESHIRE—Industrial Town within easy reach of Manchester—Well-established PRACTICE producing £2,600 p a, with panel of 2 870 Fees 2/6 to 3/6, medicine extra. Good house with ample accommodation Price £1 000 or would be rented at £70 p a Premium 1½ years purchase half down and balance by instalments

22 SOMERSET COAST—PARTNERSHIP—In a small increasing seaside resort, the five twelfths share of a very old established PRACTICE, producing last year £1,600, but offering exceptional scope Panel brings in £480, and appointments Visits 5/ to 4 gns. Mid 4 to 6 gns., only about 12 cases yearly Choice of 2 suitable houses (price freehold £950) with gardens Electric light and gas. Premium 2 years purchase.

23 SOUTH DEVON—COUNTRY PRACTICE steadily increasing and situated in very pleasant agricultural district within easy reach of coast Gross cash receipts for past 12 months £2,326 Panel produces, with mileage about £420 Fees 3/6 to 21/ Only about 20 cases of midwifery from 2 to 5 gns Suitable house in main street, with 2 reception, 5 bedrooms, etc Garden Garage Rent on lease £50 p a Good sport Premium £2 800

24 SOUTH OF ENGLAND (Thriving Seaport Town, pop over 30,000)—Old established mixed class PRACTICE. Income last year £623 but offering exceptional scope Panel of about 430 and 2 small appts Visits 3/6 to 5/ Very attractive residence with professional rooms, 2 reception, 4 bedrooms bathroom etc Pretty garden Garage. Rent on lease £100 p a Premium 1½ years purchase

25 PARTNERSHIP—MIDLANDS—COUNTY TOWN—TWO ONE FIFTH SHARES (suitable two friends or will be sold separately) are offered in a very old-established good mixed Practice owing to the retirement of the senior of two partners Gross cash receipts for immediate past 12 months over £5,900 including panel of 3,400 Fees from 4/ Not much midwifery Good house, rent on lease £75 p a Premium for share two years' purchase

26 YORKS (NORTH RIDING)—In a small pleasant market town with pretty and prosperous surrounding country, very old established mixed class PRACTICE averaging £1 247 p a, including appts worth £80 and panel producing last year £366 Visits 3/6 to 25/ One opponent Good house facing south (3 reception 5 bedrooms bathroom etc) Garden Garage Electric light Vendor's freehold. Price £1 350 (£1 000 on mortgage) or would let for few years at £80 p a Premium £1,500 Educational and social amenities

27 KENT—Pleasant Seaside and Residential Town (pop 17 000)—Old estab non-dispensing middle and working class PRACTICE aver aging for the past 3 years over £1 050 p a including transferable appt worth about £200 and panel of 500 Visits 3/6 to 10/6 House contains 8 rooms kitchen, bathroom etc Garden Garage Price freehold £1,500 but might be rented Premium £1 500

28 MANCHESTER—PRACTICE is situated in a growing district offering very large scope Income about £1 700 p a including panel pro ducing £430 Fees 3/6 upwards Excellent detached house well situated, with 3 reception 5 bedrooms etc. all in good order Price £1 800 Premium 1½ years purchase

29 PARTNERSHIP—In a most desirable outlying residential suburb a suitable Partner (University Graduate Oxon or Cumbs, expe rienced 30 to 35 years of age and married preferred) can acquire a share (producing at first about £1,200 p a but larger might be considered with further shares up to a third at arranged intervals) in an old established good mixed class Practice averaging over £10,000 p a Very good house with ample accommodation garden, etc, on rental Premium 2 years purchase Short preliminary assistantship essential

30 SURREY—In a beautiful residential district within 40 miles of London (good train service) a small mixed class PRACTICE worth about £600 p a and offering scope Select panel of 200 Charming house with ample accommodation in very pretty grounds (tennis court etc.) of 1½ acres Price freehold, £3,500 Premium 1½ years purchase.

Full Schedule of Terms and Conditions will be forwarded on application

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A "RESURRECTION"

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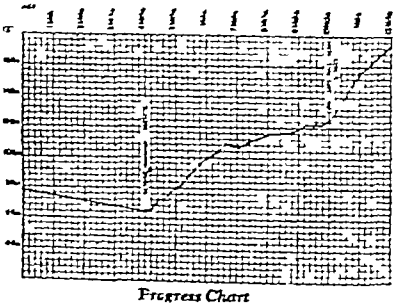
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(Signed)..... M.B Ch B.

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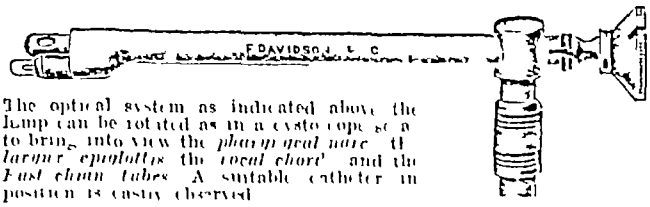
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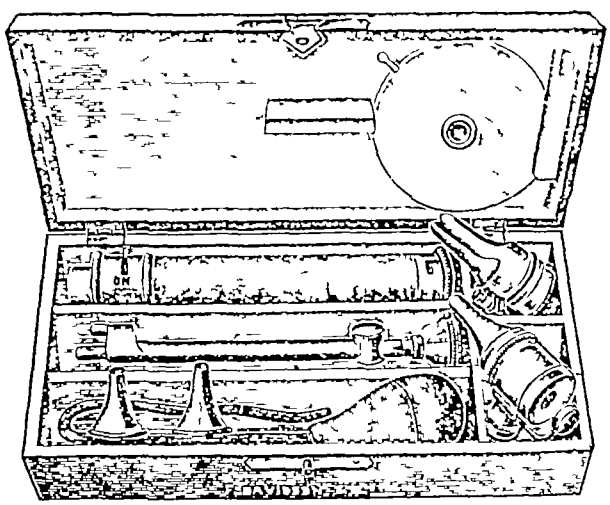
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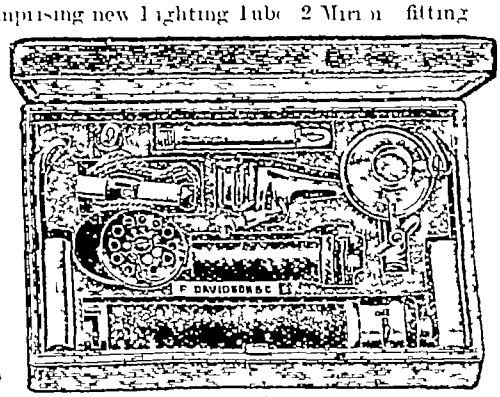
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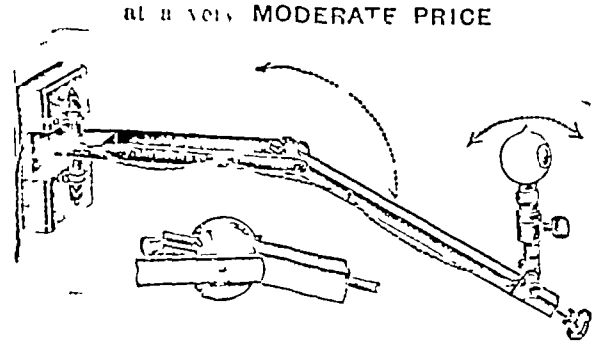
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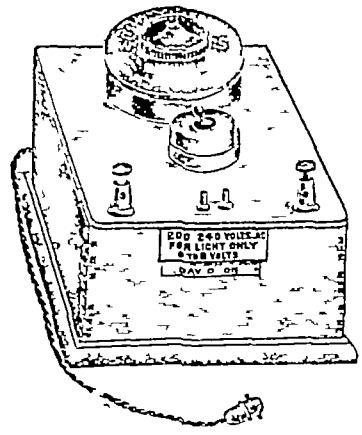
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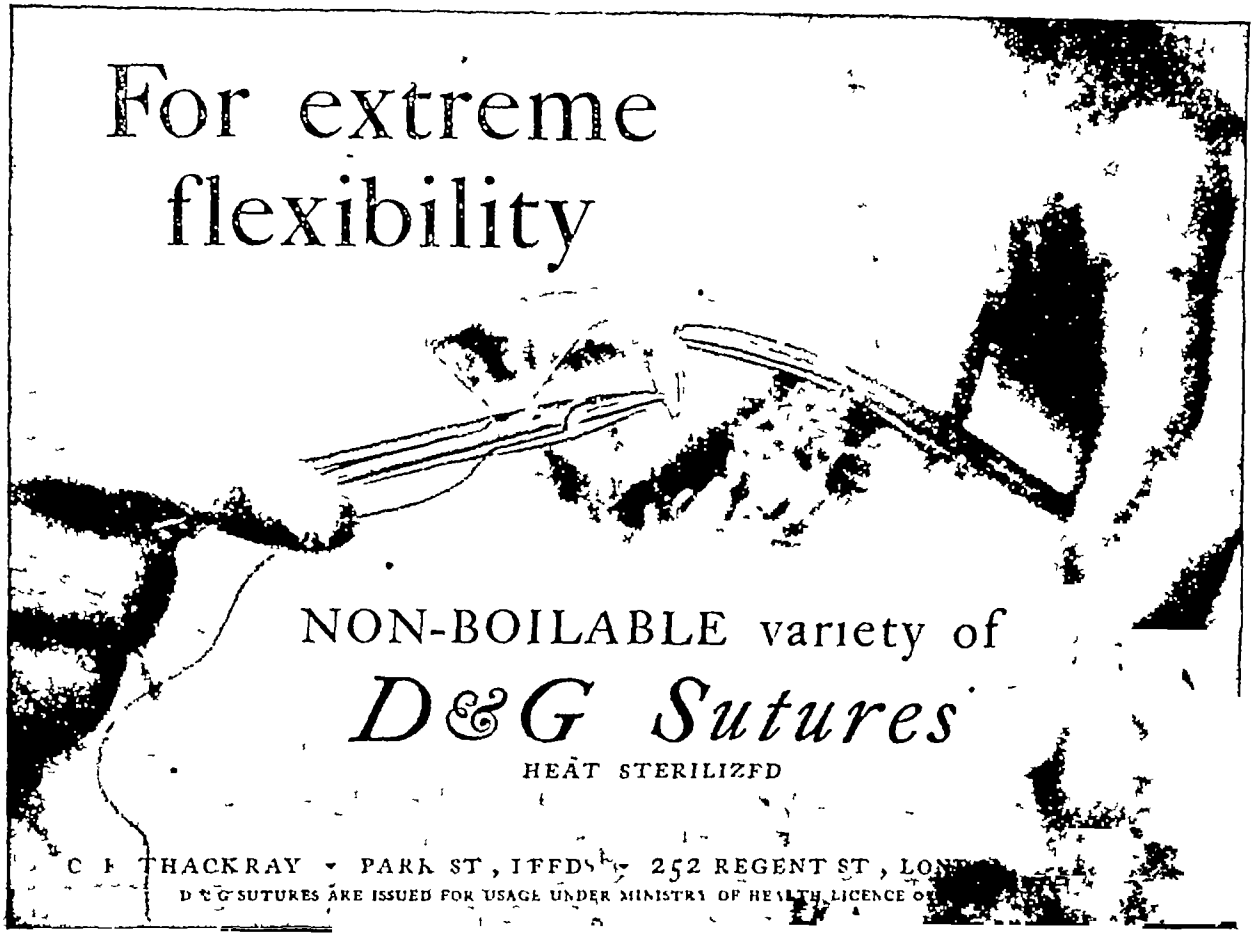
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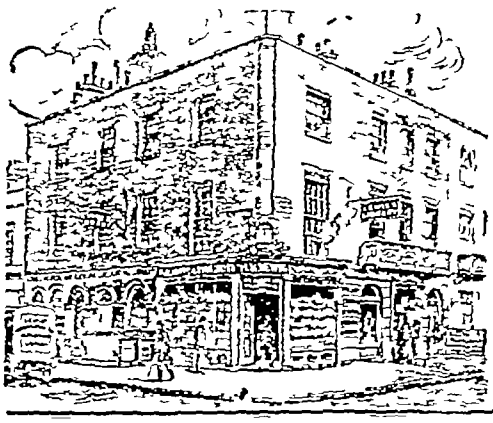
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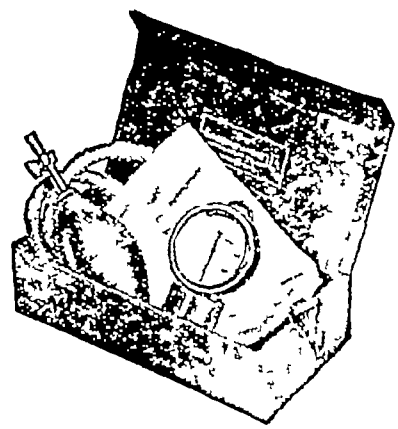
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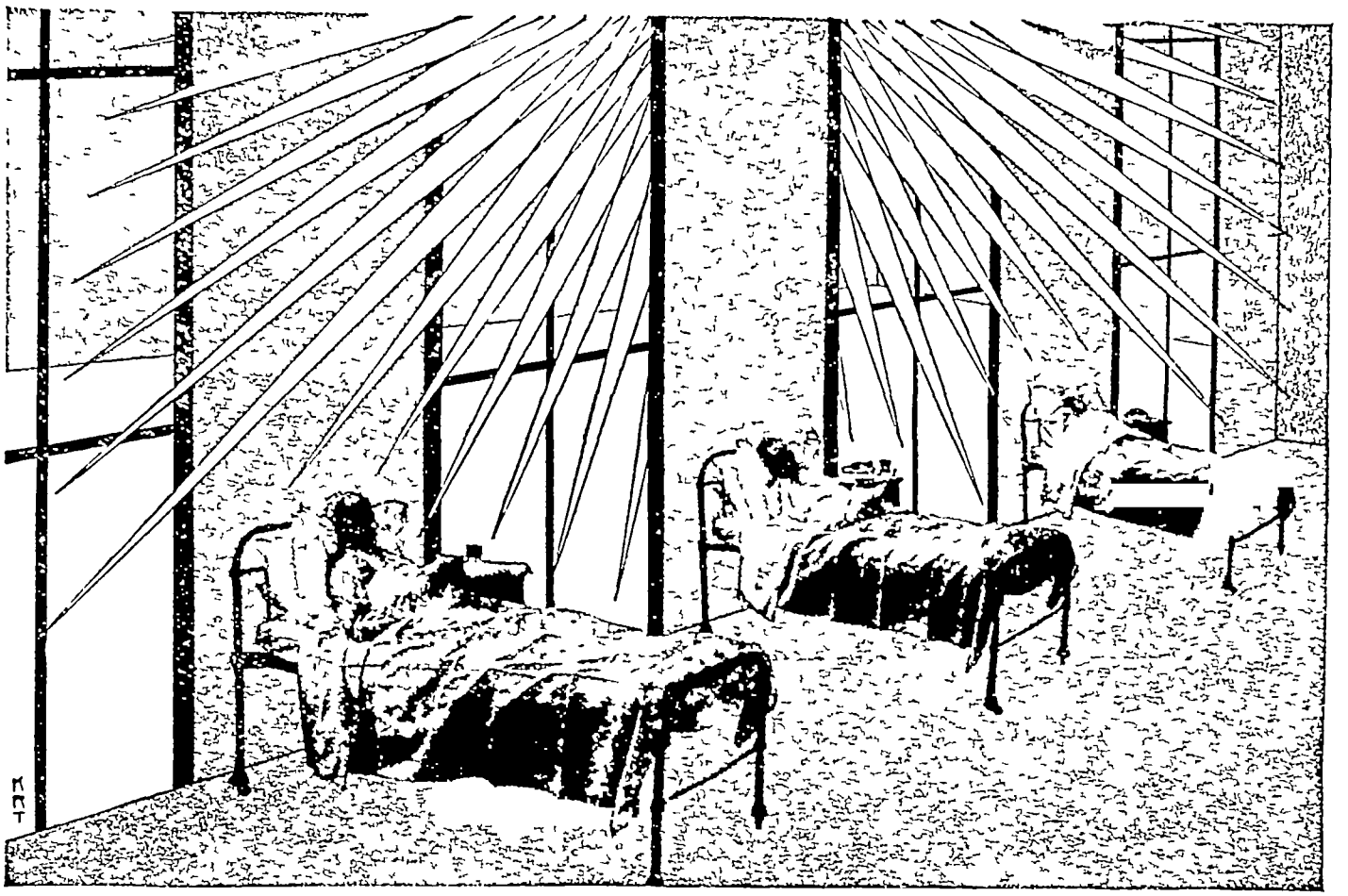
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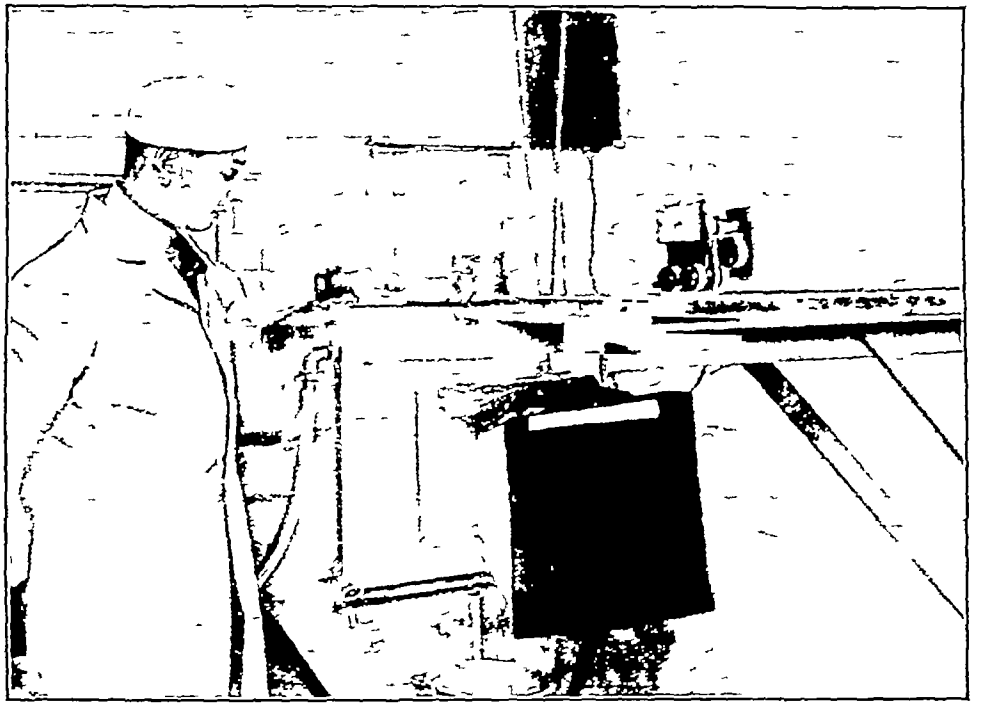
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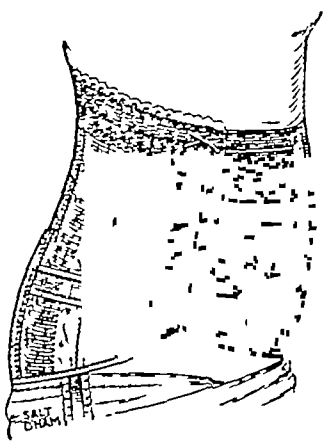
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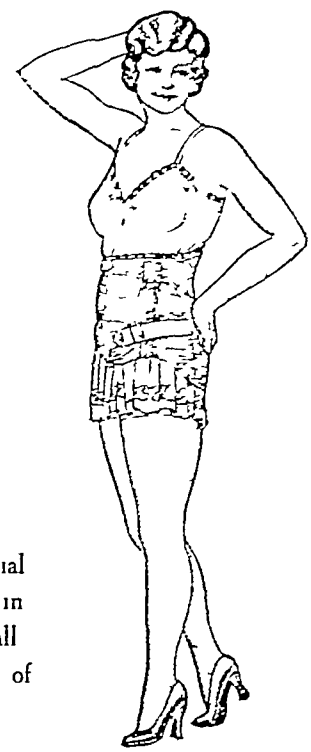
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Capt J T AINSLIE-WALKER, R.A.M.C (T.F.), F.I.C., F.C.S

Extract from "The Medical Press," 7th November, 1923

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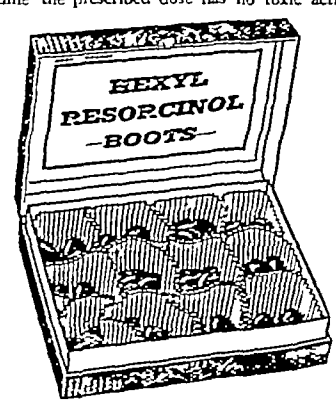
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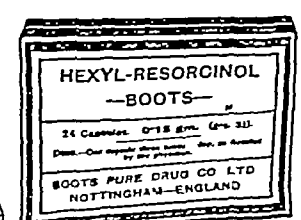
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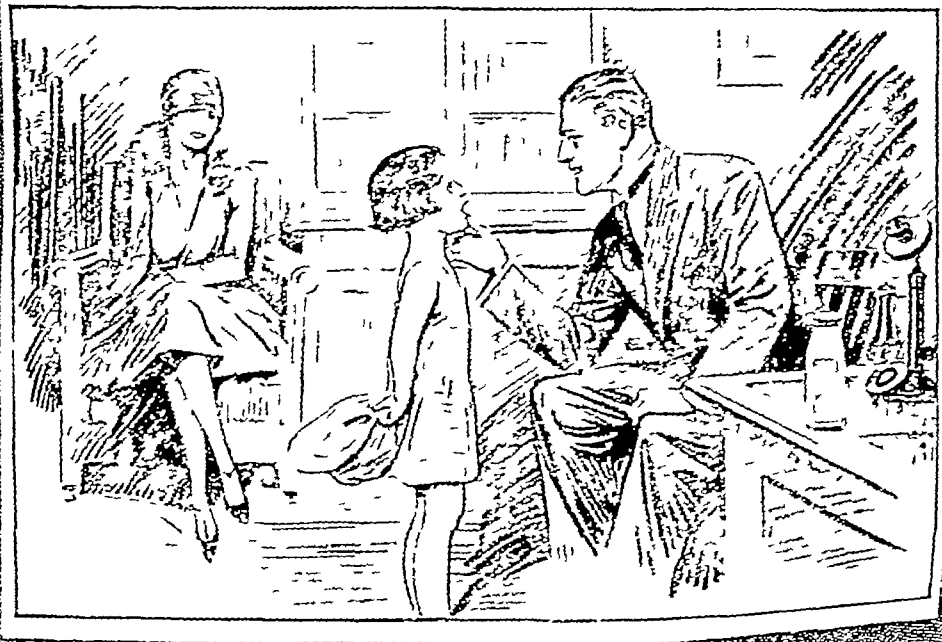
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A Paper on ACUTE PERFORATING DUODENAL AND GASTRIC ULCERS *

BY

JOHN H WATSON, MB BS FRCS,

SURGEON VICTORIA HOSPITAL BURNLEY

THE earliest account of a perforating gastric ulcer was presented to the Royal Society by Christopher Rawlinson in 1729, and the earliest description of a perforated duodenal ulcer was written by Jacopo Penada of Padua in 1783 Dr Samuel Gee in his Bradshaw Lecture for 1892 gave a translation from the French of a most graphic account written by Madame De La Fayette of the death agony of Henrietta, Duchess of Orleans, on June 26th 1670, at St Cloud It was thought by the English Royal House that this unfortunate Princess had been poisoned at the instigation of her husband but Littre in 1872 pointed out that the description of the Duchess's acute illness and the post-mortem findings were without doubt typical of a perforated gastric ulcer In the Bibliotheque Nationale there is preserved a Memoir of a Surgeon of the King of England who was present at the opening of the body of Madame" which contains these interesting comments

> On opening the abdomen fetid gas escaped the whole of the abdomen was full of a sanious putrid yellow watery fluid mixed with oil the outside of the stomach looked healthy and the inside was free from disease except for a little hole in the middle of the anterior wall which had been accidentally produced by the surgeon with the point of his scissors

Benjamin Travers (a former President of the Royal College of Surgeons) in 1816 described very accurately several cases, two of these which I take the liberty of quoting have very interesting post-mortem findings

Case 1—Mr —— aged 35 of a strumous habit but enjoying generally good health was seized whilst dining in company with an excruciating pain in the abdomen which he described as unlike any he had ever felt His abdomen was tense and hard his respiration somewhat agitated flatus rose in quantity from his stomach but he had no disposition to vomit and he died in a warm bath at 6 a m sixteen hours after the attack of pain Post mortem a large quantity of fluid tinged with bile was found contained in the pelvis and about a finger's breadth below the pylorus appeared a circular foramen having a peritoneal margin of the diameter of a writing pen It proved to be the centre of an irregular superficial ulcer of the mucous coat including in its extent two-thirds of the ring of the pylorus

Case 2—Mills a hairdresser had occasionally for the seven preceding years suffered sudden and very violent attacks of abdominal pain from which he had always been speedily relieved by a wine-glass full of brandy on the day of the fatal attack enduring severe pains On reaching home this pain became intolerable and he died 36 hours from the commencement of the intense pain Post mortem a circular aperture of the peritoneum large enough to admit a crow's quill was found at the junction of the duodenum and stomach

Travers sums up the principal signs of these perforating ulcers in a paper published in the *Medical and Chirurgical Transactions* of 1817, in the following striking way

> Sudden most acute and unremitting pain radiating from the scrobiculous cordis or the navel to the circumference of the trunk and even to the limbs its intensity absorbs the whole mind of the patient who within an hour from the enjoyment of perfect health expresses his serious and decided conviction that if the pain is not speedily alleviated he must die coeval with the attack of pain there is a remarkable rigidity and hardness of the belly from a fixed and spastic contraction of the abdominal muscle

Apart from Travers there was no contribution of any importance to the literature of perforating ulcers of the stomach in the early nineteenth century by any English surgeon, but several physicians including Matthew Baillie John Abercrombie, Sir George Baker, William Brinton and George Budd, wrote descriptive articles in which they described not only ulcers of the stomach but also ulcers of the duodenum Abercrombie in fact suggested a dietary which in many respects resembles the routine medical diet of to-day Brinton, who made a remarkable number of post mortem investigations and analysed some 1 200, makes the statement that of the less frequent ulcers on the anterior wall of the stomach as many as 85 per cent perforate, and most of them into the general peritoneal cavity

Until the close of the nineteenth century it was generally considered that a perforation of any gastric ulcer into the general peritoneal cavity meant certain death In the year 1888, however, Mikulicz attempted to close an acute perforation of the stomach by suture, but without success a successful case was reported by Heusner in 1892 At the British Medical Association Meeting at Bristol in 1894 Pearce Gould opened the discussion on the operative treatment of perforating gastric ulcers, and recorded the fact that he knew of only seven cases in which an operation had ended in success In this same year H P Deane of the London Hospital recorded a case in which he had successfully sutured a perforated duodenal ulcer and another was reported by L A Dunn in 1896 Since this time there has been an ever-increasing number of cases recorded each year, and there is a marked improvement in the results of operative treatment This is shown by the following table, which gives the figures of a dozen English surgeons

		Cases.	Died.	Mortality Percentage
Caird F M	1896–1903	54	34	63.0
	1904–1913	193	71	36.7
Short R.	1911	8	26	44.0
Sargent P	1904	49	21	41.9
Morley J	1912	112	48	42.9
Sherren J	912	23	12	42.8
Rutherford J	1920	90	20	22.2
Southam A H	1922	40	3	9.0
Mills P	1925	40	11	27.5
Monaghan J ...	1920–1925	237	55	45.0
Turner G G	1923–1927	194	48	24.7
Williams and Walsh ...	1922–1929	148	47	29.7
Watson J H	1922–1930	110	21	19.1
		1,363	417	31.6

Undoubtedly with earlier diagnosis and prompt surgical treatment this high mortality rate should be very considerably lowered in the future, in fact, Professor Young of Glasgow had a remarkable series of 17 cases of perforation of pyloro-duodenal ulcers between July, 1926, and July, 1927, without a death, and remarks that thirty years ago such a succession of good recoveries would have been regarded as impossible

The series of 110 cases of perforating gastric and duodenal ulcers here recorded include 7 occurring in my private practice, and the remaining 103 in hospital practice (Victoria Hospital, Burnley, 85 cases Reedyford Hospital, Nelson, 14 cases Hartley Hospital Colne 4 cases) Of this number 20 have been operated on by my colleagues, Messrs Mackenzie, McCreadie and Davidson at the Victoria Hospital

In this list there are only eight women patients and of these six were labelled gastric perforations and two duodenal Of the 102 cases occurring in males roughly one-sixth are recorded as being situated in the pyloric portion of the stomach and the other five sixths perforated either at the pyloro-duodenal junction or in the duodenum

There was one case only of a posterior perforation occurring in a man aged 63 years another perforation was recorded as being about the middle of the lesser curvature and there were two other cases in which perforation took place nearer the cardia

As to the age incidence the conditions appear to be most common in the third and fourth decades the youngest

* Read before the Manchester Surgical Society March 13th 1930.

subject being 16 years, the oldest 67 both these had distal ulcers close to the pyloro-duodenal junction In my experience this acute abdominal crisis occurs most frequently in the winter months, especially about Christmas time No case of perforating malignant ulcer has been included

As a general rule there was a previous history of indigestion over a varying period of a few months to several years There were, however, two instances in which the history of previous ulcer symptoms was doubtful The time between the acute symptoms and the time of operation has unfortunately not been accurately recorded, but I have a series of cases from one hospital (Nelson) in which these data have been carefully noted, and it varies from two hours to sixteen hours, the average interval accordingly is seven hours in these cases

Age	Occupation	Site	History	Operation	Perforated	Result
			Years		Hours	
29	Clerk	D U	5	25 6/25	5	Good health
31	Ex soldier	D U	Nil	15 10/26	6	Good health
49	Weaver	G D U	2	3/6/27	6	Good health
53	Postman	D U	1	4/5 27	16	Occasional indigestion
45	Shopman	D U	3	7/6/27	3	Good health
45	Twister	D U	4	31/7/27	5	Occasional indigestion
39	Weaver	D U	1½	5/3/28	6	Good health
38	Overlooker	D U	10	1/9/28	7	Good health
58	Weaver	D U	2	31/10/28	4	Good health
36	Weaver	P U	6	6/1/29	2	Good health
44	Weaver	G D U	3	19/12/29	14	Died 3 hours
41	Manager	G D U	3	21/12/29	4	Died 24 hours
31	Weaver	P U	2	8/1/30	6	Good health

In my experience the most common causes of death in the fatal cases have been (1) shock from perforation and operation, (2) peritonitis and paralytic ileus, and (3) broncho-pneumonia

When considering the site of the perforation it is interesting to compare a series of diagrammatic representations given by various authorities during the past twenty-five years (for instance, those of Sargent,[1] Morley, Deaver,[3] Stewart,[4] Linhorn[5]) It will be seen that most of the ulcers are indicated as being near the lesser curvature, and in the later diagrams most are located in the neighbourhood of the pylorus, with a definite majority on the duodenal side Posterior perforations are relatively rare, and practically none seem to occur near the greater curvature

My experience leads me to believe that perforating ulcers, particularly of the duodenum, have become more frequent in recent years, especially in men The men affected are mostly of the artisan class employed in mills and workshops, who are careless about their food, their habits, and general mode of living

The first cases I had to deal with twenty years ago were generally gastric ulcers which had perforated some days previously and were admitted to hospital with a subphrenic abscess one woman, I remember, vomited a large amount of purulent material and died shortly after admission At the post-mortem examination there was discovered a subphrenic abscess connected with an abscess at the base of the right lung

The incidence of proximal perforations (gastric) is said to be more frequent in women than men, but I have not seen a case of perforated gastric or duodenal ulcer in a woman in the last two years It is difficult to account for this increased number of perforating ulcers in men, I have no satisfactory explanation to offer, but I am quite sure that they are being discovered earlier and more often, for which full credit must be given to the general practitioner

Peritonitis resulting from leaks of this character fortunately differs materially from peritonitis resulting from an acute perforating appendix It is less virulent for at least two reasons (1) the contents of the stomach and duodenum are practically sterile shortly after a meal, (2) the patient is most likely a chronic dyspeptic and is probably taking only small quantities of light food When, therefore, rupture occurs as it does most frequently three or four hours after a meal, the extravasation is in many cases sterile This is not an absolute rule Dugeon[6] found streptococci present in 12 out of 23 cases, but the organism was of low virulence The *Staphylococcus albus* was present in 10 cases, a sterile exudate in 5, but he emphasizes the fact that when the colon bacillus is present the infection is always more severe The time at which perforation occurs is therefore highly important as regards the toxicity of the exudate Perforations occurring late during the process of gastric digestion are often more or less innocuous because of the small number and low virulence of the bacteria present This is a very good reason for not draining the peritoneum which is well able to take care of this type of infection if the primary leak is promptly controlled When however, the rupture occurs immediately after the digestion of a large meal with plenty of fluid, and where the amount of extravasation is great, the response of the peritoneum is by no means so satisfactory and the resulting infection may even be overwhelming

GROSS PATHOLOGY

There are certain striking gross pathological features of these juxtapyloric ulcers which call for remark In the first instance they may be grouped into pre-pyloric and post-pyloric types

Pre-pyloric Type —There is usually considerable infiltration and thickening of the wall of the pylorus, thus encroaching on the lumen adhesions may or may not be present

Post-pyloric Type —This type presents a varying amount of scar tissue, depending on the kind of ulcer which may be (*a*) Medium sized ulcer with considerable scar tissue formation and more or less extensive adhesions deforming and constricting the lumen the ulcer tends to spread on to the pylorus (*b*) Small ulcer with slightly indurated base, there is a marked absence of adhesions (*c*) Multiple ulcers of the so-called "kissing" type are rare

The perforation may vary from pin-point to 6 mm or 7 mm in diameter, and is typically a punched-out hole in the crater of the ulcer Generally speaking most acute perforating duodenal ulcers are single, round, slightly indurated, 1 cm to 2 cm in diameter, nearly always on the anterior surface of the first one and a half inches of the duodenum A great number occur in the duodeno-pyloric fornix, as pointed out by Jefferson[7] The depth of this sulcus varies considerably being shallow in relaxed hypotonic stomachs and well marked in gastric ulcer, where gastric hypertonus is the rule These duodeno-pyloric (Jefferson) or pyloro-duodenal (Young) ulcers are for the most part duodenal, but because the pyloric veins are frequently obliterated in these cases many have been probably classified wrongly as pyloric ulcers

When once an ulcer has eroded through the mucous coat and well into the muscular lining of a hollow viscus its progress depends primarily on two circumstances either the serosa becomes glued to some adjacent structure or an acute abdominal crisis is precipitated by sudden rupture The ulcers which are most likely to perforate into the general peritoneal cavity are obviously those on the anterior wall of the stomach and duodenum, where the possibility of the formation of adhesions is least probable When destruction has proceeded to such an extent that the subperitoneal coat is reached, a sudden intense muscular spasm is likely to cause a rupture of the ulcer base

From the above-mentioned pathology these perforating ulcers may, for practical purposes be placed in two classes (1) *the smaller ulcers with little induration*, (2) *the larger* calloused ulcers, causing more or less deformity and producing a varying amount of obstruction to the exit of food from the stomach

The condition of the peritoneum at the time of operation depends in general upon the time that has elapsed since the actual perforation I have found that the amount of fluid present within the peritoneal sac is very variable, even in the early cases, generally speaking, there is more

in cases of duodenal ulcer than in cases of gastric ulcer This may be accounted for partly by the fact that the duodenal perforations are, on the average, larger than the gastric, further, the callous pyloric ulcer is often associated with a contracted and deformed lumen which blocks to some extent the escape of the contents Much depends also on whether the unfortunate patient has been plied with drinks of various kinds administered by anxious and well meaning relatives and on the intensity of the pylorospasm As might be expected many of my cases of the duodenal type perforated at a time when the stomach was or should have been empty—that is when they were finishing the morning or afternoon work or going to bed at night—at a time when they would be beginning to feel hunger pains

The response of the peritoneum to this leaking fluid I have found to be very variable As a rule in the early stages the gastric contents are more irritant than the duodenal there seems to be more sero-pus and inflammatory lymph deposited about a leaking gastric ulcer The duodenal contents fortunately are deflected to Morrison's pouch and are then diverted to the pelvis along the outer side of the ascending colon so there may at first be very *little evidence of peritoneal irritation*

Apart from the extravasated fluid in these cases there is probably a considerable exudate produced by the peritoneum itself On every occasion I have tested the accumulated fluid it has been neutral to litmus There is a considerable amount of mucus in some instances, and bile, in large amount, in late cases of duodenal perforation I have rarely seen particles of undigested food, the amount of free gas in the peritoneal cavity is also very variable I have never had occasion or the opportunity to demonstrate a pneumo-peritoneum by radiography As time goes on the peritoneal exudate becomes more purulent, and it is an established fact that after six hours, the majority of cases are infected with staphylococci streptococci, and *Bacillus coli communis* of virulent type *hence the need* of a rapid and careful peritoneal toilet In late cases with profound infection the peritoneal vessels will be found engorged with dark venous blood and there is little or no bleeding from the wound—a bad omen

Symptomatology

The description by Travers already given, of the onset of the symptoms is brief, exact, and impressive I have failed to find any other written account which gives so accurately the predominant signs For the sake of analysis they may be tabulated

1 Acute onset of agonizing pain which entirely absorbs the patient's attention
2. General deep tenderness of the abdominal wall
3 Early and intense boardlike rigidity of the flat muscles of the abdominal wall

In addition to these definite and most urgent symptoms there is usually associated

4 A slow pulse of good volume and slightly raised or normal blood pressure in this early stage
5 A subnormal or normal temperature
6 Nausea and vomiting present in the majority of cases
7 Shallow and rapid breathing (upper thoracic type)

Other less constant signs may be noted or elicited such as superficial hyperalgesia, shoulder-tip pain, pallor and flushing of the face, sweating of the head and chest, pneumo-peritoneum, and loss of liver dullness The patient is frequently very restless moaning and groaning with pain, occasionally he holds himself very rigidly, lying on the back with the knees flexed The presence of free fluid in the abdomen abdominal distension, cold extremities, and evidences of profound shock and toxaemia are very late and ominous signs

Of the predominant symptoms I have just tabulated the most urgent is undoubtedly the agonizing pain which is usually referred by the patient to the epigastric region I have found difficulty in judging the exact site because the patient is so distraught by his suffering that he cannot sufficiently concentrate to give reliable answers, and usually dismisses the question abruptly by saying It is all over," or "Give me something to ease the pain"

As to the actual cause of the intense pain much has been written of a more or less discursive and indefinite character, this is probably due in part to the fact that our knowledge of the visceral nerves and their function is as yet incompletely understood

We know that visceral organs are not subjected to the same kind of stimuli as those which constantly play upon the surface receptors further, hollow viscera are insensitive to these particular forms of stimulation (mechanical thermal, electrical) In the usual course of events the reactions called forth in visceral organs do not affect consciousness, on the other hand abnormal visceral stimuli give rise to sensations which are commonly referred to a somatic area removed from the point of stimulation

The normal functioning of a hollow organ like the stomach involves the contraction of smooth muscle but under physiological conditions this does not generally give rise to sensations The actual adequate stimulus for the production of pain in the stomach which is the seat of an ulcer and which has suddenly perforated must in some way be related to the contraction of the unstriped musculature This is what Mackenzie[1] termed the production of pain by a "vital" stimulus as opposed to the "mechanical" stimulus which is adequate to produce pain in other tissues The predominating result is pain referred to certain areas of the outer body wall but the impulse may spread widely according to the intensity of the stimulus and so progressively involve other visceral centres in the central nervous system, by this means producing vasomotor, cardiac, respiratory, and other reflex disturbances

Hughson[2] has expressed the opinion, from his experimental studies on dogs, that spasm of the pylorus from disease within the abdominal cavity is caused by irritation of the peritoneal surface It is evident that with a *perforation there is immediate soiling of the peritoneal* surface by an irritant fluid which would accordingly be sufficient to cause an intense reaction in the nature of a violent pylorospasm, reflex in character, and involving both vagal and sympathetic neurons It has been shown by fluoroscopic examinations of patients with gastric ulcer that the pain in many instances coincides with the appearance of peristaltic contractions sweeping over the pyloric portion towards the contracted pylorus

The operative findings in cases of perforating ulcers confirming these statements have so far as I am aware not been recorded but I have on several occasions noted the sphincter pylori standing out as a thickened pallid band, and found on exploring the pylorus from the duodenal side that the pyloric canal was so contracted that it was difficult to find, and could only be forced by strong digital pressure This narrowing of the lumen, I observed, was not due to a cicatricial constriction but to a contracted sphincter pylori, which gave way to steady pressure, and on dividing the sphincter later the hypertrophied muscle fibres were clearly demonstrated

Mackenzie's early personal experiences as a surgeon in the first instance led him to believe that the violent contraction of the smooth muscle of a hollow viscus was the major factor in the production of visceral pain, and the weight of evidence to my mind appears to support his argument that under certain circumstances when the contractions of a hollow muscular canal like the pylorus become violent or spastic, or when the blood supply to the muscle is greatly diminished the contraction of smooth muscle gives rise to pain, in fact the most severe pains in the epigastric region are probably due to pylorospasm

This pylorospasm depends upon an excessive activity of the visceral nerves of the stomach and duodenum the stimuli they conduct create according to Mackenzie an irritable focus in the spinal cord (seven to twelve dorsal segments roughly) This condition of hyperexcitability profoundly affects the reception and conduction of various regional impulses so much so that an ordinary tactile impulse in passing through this disturbed centre is exaggerated that it produces a painful impression in the sensorium Further the afferent visceral stimuli may also bring about the phenomenon of referred pain in which the impulse is actually conducted to the surface reflexly from the central nervous system along the somatic afferent nerve and again by a process of irradiation to other neighbouring visceral segments various other reflex symptoms of an organic [illegible] manifestations

So far as my observations go superficial sensation does not as a rule appear to be increased in these acute cases, it is only on rare occasions I have been able to demonstrate any actual area of superficial hyperalgesia either of the abdominal wall or about the shoulder tip But any attempt at deep palpation of the muscles of the anterior abdominal wall will cause severe pain This tenderness is associated with a rigidly contracted muscle (viscero-motor reflex) and is but an exaggeration of the normal reflex which maintains the tone of these muscles The reflexes involved in muscular guarding and rigidity are conveyed in part through reflex arcs, which may comprise both sympathetic and somatic neurons Nevertheless a degree of pressure which when applied to other muscles of the body gives rise merely to a sensation, brings forth in these rigid muscles a sensation of severe pain This can only mean some special influence is being exerted on these tender muscles, the effect of which is to increase the intensity of their reaction to stimulation—namely, a hyper-excitable centre in the segment of the spinal cord which is associated with the viscus in question

The fact that the pulse is slow and of good volume in the early stages is an important feature to note, for despite the fact that even recent textbooks still affirm that the pulse is small and thready I have never felt a rapid small pulse in an early case I have on several occasions had the blood pressure taken and found either a slightly raised or normal blood pressure (140 to 160 systolic)—never an early fall in blood pressure, so that the general statement that shock is a predominant feature in the early cases may and does lead to delay in making a diagnosis, for on several occasions I have been called out to these cases, and the doctor in charge invariably contended that as the pulse was so good he could not conceive that the pain was the result of an acute perforation Later, of course, the pulse does become small and rapid, and there is a big drop in the blood pressure, but when this stage arrives the prospect of successful surgical treatment is getting beyond the realms of possibility

With regard to nausea and vomiting, in all cases of intense pylorospasm and pain in the epigastrium there is reflex inhibition of the cardia from sympathetic influences, and at the same time there is the intense contraction of the abdominal muscles, but this is not spasmodic, so that actual vomiting is very slight or may be absent, and at the most consists chiefly of attempts to get rid of very viscid salivary secretion

Respiratory difficulties are commonly observed to accompany acute abdominal disorders The rapid and shallow respiratory movement is due to the fixation of the lower chest, principally by reflex spasm of the lower intercostals (fifth to twelfth) and the peripheral portions of the diaphragm (innervated by lower intercostal nerves) The dyspnœa takes the form of difficulty with the inspiratory phase of the respiratory cycle, particularly on an attempt at deep inspiration

In addition to these predominant signs we meet with the other more variable ones, such as the pallor and flushing of the face, sweating of the face and upper chest, easily provoked pilomotor reflexes, and dilatation of the pupil These secondary symptoms can also be explained on the theory of disturbed reflexes due to spreading from a hyperexcitable centre in the spinal cord, and by diffusion affecting secondary centres which give rise to the unusual or abnormal vasomotor, secretory, pilomotor, and pupillary reactions

Treatment

The only treatment for an acute perforating ulcer is operative, and should follow promptly on the diagnosis, with an early diagnosis in an otherwise good surgical risk the chance of cure is infinitely better to-day than the statistics previously quoted suggest Even after allowing for bad risks, the mortality should not exceed 5 per cent, granted an early diagnosis and that an immediate operation is performed

One of the first surgeons in this country to give serious consideration to active surgical intervention in these cases was Dobson of Bristol, who in 1883 published a paper in the *Bristol Medico-Chirurgical Journal* on a case of perforated gastric ulcer, and suggested as treatment early laparotomy, cleansing of the peritoneum, and suture of the perforated ulcer, if this last were not possible, the formation of a gastric fistula

Eleven years later, 1894, Pearce Gould, discussing the operative treatment of perforating gastric ulcers of the stomach and intestine, advocated the following measures (1) simple washing out of the peritoneal sac and drainage, (2) suture of the ulcer, with or without excision of the edges and cleansing of the peritoneum (3) formation of a gastric fistula or drainage of the stomach with cleansing of the peritoneum His great contention was that

"The key to the position lies in the perfect cleansing of the fouled peritoneum for nearly every case of failure of the operation has been due to the imperfect cleansing of the serous sac and continuance of the peritonitis"

The method of cleansing advised was irrigation which took the form of flushing from a douche can or with the use of a Higginson syringe the solutions preferred for this purpose being either plain boiled water or normal saline, but weak antiseptic solutions (boric, carbolic, and creolin) were utilized by Morris and other believers in the antiseptic system Drainage of the pelvis was instituted in every case, and as a rule, a drainage tube was led down to the site of the lesion

In 1897 Braun of Leipzig published the first case of successful suture in which a piece of omentum was grafted over the perforation, and an anterior gastro-enterostomy completed the operation Shortly afterwards Moynihan, Patterson, and other British surgeons began to combine the posterior operation with simple suture, and for a time this was the method adopted by the majority of surgeons

Mothersole[10] published in 1906 two cases of resection and suture of perforated gastric ulcer

Mills[11] reported in a series of 40 cases published in 1925, better results with the combined operation than with simple suture, but he admits that he performed the simpler operation only in the most serious cases

Bager's[12] figures, collected from fifty hospitals in Sweden are very interesting He has collected 1 767 cases operated upon by about a hundred surgeons during the period 1911 to 1925 Of these, 684 had the operation of simple suture, the mortality being 36 4 per cent, in 616 cases the suture was supplemented by gastro-enterostomy, and the mortality was 23 4 per cent 84 cases were treated by resection, with a mortality of 25 per cent, in 111 cases in which simple tamponage or drainage alone was instituted the mortality rose to 68 5 per cent He says that the poorer results of simple suture compared with the combined operation of suture and gastro-enterostomy, were due undoubtedly to the fact that patients treated by suture alone were the worst operative risks, further, he remarks that cases treated by suture would not have been improved by gastro-enterostomy, but in the cases treated by gastro-enterostomy the mortality would have been somewhat lower had the suture method been adopted For similar reasons he is convinced that the cases treated by gastric resection were good operative risks and that the mortality would certainly have been reduced had less radical measures been adopted

For some years past I have personally given up the combined operation, being convinced in my own mind that the simplest surgical procedures which will correct the defective anatomical findings will give the best results I venture to submit that in the majority of these cases the quickest, simplest, safest, and most effective technique is to excise the ulcer-bearing area, divide the sphincter pylori, and unite the cut edges of this open wound at right angles to the long axis of the gastro-duodenal tract By this method the ulcerated area is removed, any secondary ulcer can be seen and treated, a better union is obtainable by the suture of healthy tissues, constriction of the lumen is avoided, and the prospect of future obstruction of the outlet to the stomach greatly lessened, if not entirely obviated

The operation is performed under local anæsthesia combined with the administration of ether oxygen Occasionally in late cases, the operation has been performed with local anæsthesia alone, following Pauchet's technique The abdomen is opened with a paramedian or median incision, the liver is at once lifted up and the stomach grasped by an assistant and pulled over to the left By using a moist gauze abdominal compress over the hole is obtained, and by this means further leakage will be controlled If there is a considerable amount of fluid in the abdomen and pelvis a suprapubic puncture can be done at this stage, and a wide, split rubber tube inserted to the bottom of the pouch of Douglas thus instituting early drainage Hot gauze packs rung out of saline are then placed in Morrison's pouch and below and internal to the site of the lesion being tucked downwards towards the pelvis A good view of the perforation must be obtained if an excision of the ulcer bearing area is to be undertaken The excision is made in the

form of a square with the diagonal lengthwise if the sphincter pylori is not included the incision is continued through its centre In those cases in which the sphincter is considerably thickened, a wedge is removed on either side of the incision The sutures are then placed after the manner of a Horsley's pyloroplasty an inner layer of interrupted through and through sutures of No 1 catgut and a superimposed layer of Lambert sutures of linen or silk The packs are now removed, and further pockets of exudate mopped up gently with moist gauze After this toilet of the peritoneum the wound is carefully closed in layers without any local drainage but the pelvic drainage tube is kept in for twenty four to forty eight hours. No drainage at all is required in early cases with little extravasation and no form of irrigation is attempted

Immediately after the operation the patient is given a pint of glucose and sodium carbonate solution (5 per cent) per rectum If there are indications of shock as indicated by a weak and rapid pulse and low blood pressure a subcutaneous or intravenous saline is administered the patient is returned to bed, maintained in the recumbent position radiant heat is applied to the abdomen and the patient is kept under the influence of morphine The patient is not raised to the Fowler position until the pulse shows a considerable improvement but on no account is any use made of pituitary extracts

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TWO APPARENTLY UNRELATED OUTBREAKS OF BACILLARY DYSENTERY

BY

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A FAIRLY extensive literature has of late accumulated with regard to bacillary dysentery in Great Britain, suggesting that the disease is endemic and that its unusual prevalence during the past few years is probably only the result of more careful investigation

The last twenty-four years have shown one or more outbreaks of bacillary dysentery in at least eleven areas, even so the following recital is probably incomplete 1906 Birmingham[1], 1911 Paddington[2], 1915, Blackwell rural district[3] (1,000 to 1 700 cases of diarrhoea mainly dysenteric in character associated with pollution of water supply), 1921, Ogmore and Garw urban district[4] (1 100 cases—probably a water-borne infection), 1922 Lynton urban district[5] (18 cases due to milk-borne infection) 1923 to 1926, Aberdeen[6] (about eight outbreaks, totalling 50 cases), 1925 Ayr (five groups of 12 cases), 1926, St Andrews (150 cases)[7] 1928, Smethwick[8] 1928, Newcastle[10] (141 cases) Further cases are referred to by Nabarro,[12] Clayton,[13] and Warren [14]

Textbook descriptions of bacillary dysentery postulate epidemicity where sanitation is defective or where water and milk supplies are infected Endemicity is regarded as the normal in Eastern cities while the occasional outbreaks in this country are relegated to asylums The following account of the Flexner and Sonne outbreaks in Scunthorpe will help to refute the foregoing ideas, and will support the statements of other observers (Fraser etc,[6] Wiseman,[7] Fyfe,[8] Charles and Warren [11] Nabarro,[12] and Warren[14]), regarding the marked variation in virulence and the unrecognized prevalence of bacillary dysentery

The Aberdeen, Newcastle St Andrews and Ayr outbreaks in particular emphasized the variable virulence both of Sonne and of Flexner infections Sonne infections appear to have been regarded as the less serious which agrees with Thjötta's observation that the resultant diarrhoea is often not serious enough to warrant the attention of a physician On the other hand some of the Aberdeen Sonne infections could definitely be subdivided into severe and mild groups—the former again being subdivided into two further groups The more serious Flexner type of infection at Newcastle proved especially virulent among children, while adults appeared immune The experience of the Scunthorpe series agrees in detail with the observations Another curious analogy with the Newcastle[10] cases is that in both areas the outbreaks were at first regarded as food poisoning several members of a family being taken ill, with fatalities resulting

Flexner Outbreak

On February 4th 1930, a message was received from the doctor in attendance that the four children aged 3 to 10 years, of a working-class family residing at Ashby Scunthorpe were suffering from what was believed to be food poisoning

The house was at once visited and one child (Be C) aged 5 years was found to be dying There was marked dyspnoea and Kernig's sign was present No pulse could be felt, no head retraction was observed, and the temperature was 100° F The history was that the child had first been taken ill four days previously, complaining of abdominal pain, headache and diarrhoea Death occurred on February 4th Ba G aged 8 years, was said to have been delirious on the evening of February 3rd and within twenty-four hours had a temperature of 102° F with abdominal pain and diarrhoea A G aged 10, had headache on the morning of February 4th, but wanted to go to school By the evening the pulse was 140 and the temperature was 103° F with abdominal pain and diarrhoea S G had a similar onset the symptoms being complicated by whooping-cough of about seven days duration Both the father—an ironworker—and mother were quite well

On revisiting the patients with the family doctor in the evening the three surviving children were found to be extremely ill with almost constant diarrhoea the motions being greenish black in colour resembling spinach and emitting a peculiar smell which, later, was realized to be almost pathognomonic There was no obvious blood or mucus and apparently no vomiting No splenic enlargement could be discovered, and no rose spots were seen Specimens of faeces were obtained from each surviving child A tentative diagnosis of food poisoning was made but an hour's close questioning failed to suggest any incriminated foodstuff

The routine procedure suggested by the Ministry of Health was followed and four food samples were sent to the Ministry's laboratory for examination In view of the earlier results obtained from the examination of faeces the examination of foodstuffs was not considered necessary A post-mortem examination was carried out on the fatal case (Be C) on February 5th by the patient doctor, and evidence of an enteritis was found The following specimens were sent to the Ministry's laboratory (*a*) small intestine, (*b*) kidney, (*c*) spleen (*d*) section of liver, (*e*) stomach Unfortunately no part of the large intestine was sent On February 5th the condition of the patients was critical especially that of the youngest child S G Specimens of blood were obtained from the parents and the two children A G and Ba G and dispatched to the Ministry's laboratory

The house involved was one of nine scattered old houses forming an isolated courtyard with a common water supply from a shallow well Immediate instructions were given to boil all water before use Four pail closet were in use at the onset of the outbreak The property generally speaking was old but in fair habitable condition Only one house was overcrowded by two families of four adults and nine children New accommodation was found for the subtenant

Detailed inquiries were made at all the remaining eight houses but no history of illness was obtained except from the overcrowded cottage where the five children of the

K family were said to have had bloodstained diarrhoea about the beginning of January. The children when seen on February 5th were quite fit, and no doctor had been called in during their illness.

Pasteurized milk was in use at three houses (including the G and K families) and raw milk from another dealer at four houses, while the two remaining houses used milk from both sources.

The condition of the three sick children of the G family remained much the same on February 6th, with continuation of marked diarrhoea, which showed bright red blood on the evening of that day. There was some remission of the pyrexia.

On February 7th a telegram was received from the Ministry stating that W type Flexner dysentery bacilli had been found in the faecal specimens of two of the three G children. A C and Ba G were at once removed to an infectious diseases hospital, but the toxaemic condition of S G precluded removal. Polyvalent anti-dysenteric serum was *asked for*.

Further inquiries were then instituted for dysentery carriers and an indefinite history was obtained from Mr K, whose children had been ill in January. *Blood* specimens were sent to the Ministry's laboratory from both parents and from two of the five children (L K and B K) who had been the most seriously affected. Normal agglutinations were given by the parents' bloods, while those of the children gave slight but definite evidence of Flexner infection (titre 80 in 160). F K's faeces on February 9th were normal and negative, although she was said to have had slight diarrhoea on February 8th.

Eighty c.cm. of antidysentery serum was administered to the surviving sick child (S G) on February 8th, but death occurred later in the day.

Prophylactic doses of 10 c.cm. were given to three of four women who had taken turns in nursing the sick children and 30 c.cm. to the fourth (Mrs M), who was found to be in bed ill with diarrhoea. A specimen of faeces was obtained prior to this patient's removal to hospital as a suspected case. The report received subsequently showed the presence of a few colonies of Flexner W.

Following the receipt of the Ministry's telegram circulars were sent to the medical practitioners of the district requesting notification of any suspicious cases—dysentery being notifiable under the Public Health (Pneumonia, Malaria, and Dysentery) Regulations, 1919. As a result two groups of cases—(*a*) Dr E and S T, and (*b*) Mrs R—were investigated in different parts of the district. Although blood-stained diarrhoea had occurred in each case *the agglutinations were all negative*.

No further developments took place until February 10*th*, *when* Mrs B, *who had assisted in the nursing of the G children, complained of* diarrhoea with mucus and blood. The stools when seen presented the classical "red currant jelly" appearance. Culture from a specimen obtained on February 11th showed numerous colonies of Flexner W, and removal to hospital was effected on the same day. Prophylactic doses of serum were given to the remaining members of the B household.

As soon as the true nature of the outbreak was realized the Ministry of Health was requested to send assistance, with the object of trying to locate the source of infection. Dr N R Beattie visited the district on February 12th and 13th, but in spite of the closest investigation no definite source of infection could be found. An attempt was made, however, to link up the infections between the K and G families. The members of the K family were the only unsatisfactory tenants in this particular group of houses, and it was found that they had been allocated a pail closet for their own use, while the remaining eight families shared the other three. One of the elder K children admitted having used the pail closet allocated to the G family. In view of the fact that the K children had suffered from undiagnosed dysentery in January it may be possible that the infection was transmitted in this way to the G children. On the other hand, the family of subtenants (including three young children) who lived with the K family from January 12*th* to February 11th, suffered from *no suspicious symptoms*. A specimen of faeces could not be obtained from Mr G (who had given an indefinite history of dysentery during the South African and European wars) until February 19th. This proved to be negative, and the outbreak was by then considered to have subsided.

On March 1st F K was reported to be passing blood and mucus, the only symptoms being slight abdominal pain. On the following day a small quantity of almost pure blood and mucus was passed, and a specimen showed the presence of numerous colonies of Flexner W. The child undoubtedly had a "relapse," in view of the definite agglutination given by her blood on February 7th and the negative faeces of February 9th. Hospital removal was therefore effected on March 5th, and a negative stool was obtained by March 11th, the stools in fact having become quite normal in appearance by March 3rd before hospitalization.

On March 19th Mrs K was reported to be ill, and blood and mucus were passed on the 21st. Specimens of stools were sent for examination, and showed an abundant growth of Flexner W. In view of the negative agglutination of *February 7th the patient had, curiously*, escaped infection during the January infections in her own home, and again during E K's relapse of March 1st. E K had returned from hospital on March 17th. A specimen of blood from Mrs K on April 2nd showed a "suspicious" agglutination against Flexner W in a titre of 30. A previous specimen on February 7th had shown normal agglutination only.

On April 8th J K was said to have passed blood and mucus, although the child was not ill and had a normal temperature. On the following day there was slight mucus but no blood, and a specimen showed Flexner W to be present. On receipt of the report the child was removed to hospital, where no treatment was necessary, and she was discharged on April 17th following a negative stool. Although no serological evidence had been previously obtained J K's case was undoubtedly a "relapse."

This group of Flexner W infection therefore comprises 11 cases, 7 of which gave definite bacteriological evidence, and 2 serological, while the remaining 2 although negative bacteriologically, were quite definite clinically—one in fact being fatal. Of the 11 patients 3 were adults (all females) and 8 were children (7 females and 1 male). In addition, two other patients were removed to hospital as suspects, but were subsequently found not to be suffering from bacillary dysentery. The population at risk in this isolated group of houses consisted of 21 adults (7 male and 14 female) and 14 children (13 females and 1 male).

The cases are interesting inasmuch as the infection "bred true" throughout, in view of the greatly increased virulence in the children of one family (2 deaths), the occurrence of two "relapses", and because *no source of* infection could be discovered—an experience typical of all other outbreaks, except those due to infected water or milk.

Diagnosis was confirmed by faecal culture tests, while agglutination tests were only found to be useful accessories (see Charles and Warren[11]). For successful faecal tests the specimens had to be obtained early. One negative stool was considered sufficient for discharge from hospital.

Sonne Outbreak.

On April 10th a message was received from a doctor that there had been suspicious diarrhoea affecting a household next door to one where he was visiting. This house was also situated in Ashby, but at a considerable distance from the venue of the Flexner cases. A visit disclosed that a child, L M, aged 2, had complained of diarrhoea with blood and mucus about the end of March. It was stated that she had experienced similar attacks previously.

The father, an ironworker at the same works as Mr G of the Flexner series, had been taken suddenly ill while at work about the beginning of April. Blood and mucus had been passed, but no medical attention had been sought. No connexion could be made out between Messrs G and M.

TABLE OF LABORATORY INVESTIGATIONS

Flexner Cases

Date	Patient's Initials	Specimen	Result
1930			
Feb 5	A. G	Faeces	Flexner W in considerable numbers
	Ba. G	"	No B dysenteriae
	S. G	"	Flexner W in small numbers.
	Be. G	P.M. Organs	No B dysenteriae (large intestine no rent)
"	Mr C	Blood	No agglutination against Flexner W
	Mrs. G	"	Agglutinated Flexner W 1 in 40 (? significance)
	A. G	"	No agglutination Flexner W
	Ba. G	"	Insufficient serum
Feb 7	Mr. h	"	Normal agglutination.
	Mrs. h.	"	Ditto.
	F. K	"	Agglutinated Flexner W 80 in 160 (slight but definite)
"	R. h.	"	Ditto
Feb 8	Mrs. M	Faeces	Flexner W a few colonies
Feb 9	E. h	"	No P. dysenteriae
Feb 11	Mrs. R.	"	Flexner W numerous colonies
"	Mrs R	"	No B dysenteriae.
Feb 13	"	Blood	No agglutination to Flexner W
"	Dr E	"	Ditto
"	S T	"	Ditto
Feb 17		Water sample	Colonies on agar D 37 C = 12 per c.cm. Presumptive B. coli plus in 5 c.cm. No dysentery bacilli on plating 800 c.cm.
Feb 19	Mr h.	Faeces	No B dysenteriae
March 2	E. K.	"	Flexner W numerous colonies. (See reports on Feb. 7th and 9th.)
March 11	F. h	"	No B. dysenteriae (hospital clearance)
	Mrs B	"	Ditto
March 23	Mrs K.	"	Flexner W (abundant)
March 31	M. H.	"	No B dysenteriae
April 2	Mrs. K.	Blood	Flexner W agglutinated 1 in 40 (Compare with blood of Feb. 7th—that is, suspicious)
April 9	Mrs K.	Faeces	No B. dysenteriae (hospital clearance)
"	J. h.	"	Flexner W present
April 15	J. K.	"	No B. dysenteriae (hospital clearance)
		Sonne Cases	
April 12	Mr M	Blood	Haemolysed on arrival at laboratory
"	F. M.	Faeces	B. dysenteriae Sonne (pure culture)
April 23	F. M	"	No B. dysenteriae (hospital clearance)
April 25	Mrs. M.	"	Ditto
May 2		Water sample	No B. dysenteriae in 100 c.cm.

F. M., aged 6, commenced with similar symptoms on April 10th, and a faecal specimen obtained on the 12th showed Sonne bacilli in pure culture. A blood specimen taken from Mr. M. at the same time was unfortunately haemolysed on arrival at the Ministry's laboratory. F. M. was admitted to hospital on receipt of the bacteriological finding, there was no apparent illness while in hospital and no treatment was given. A negative stool was obtained on April 23rd, after which he was discharged (April 26th).

On April 24th Mrs. M. complained of violent abdominal pain for about two hours, diarrhoea (but no apparent blood and mucus), and vomiting. Temperature and pulse were normal when seen, and a faecal specimen obtained on April 26th was negative. The family also included another child, P. M., and a baby. Both were said to have had very slight similar symptoms. Although Sonne dysentery was only bacteriologically proved in one child (F. M.), there appears little doubt that the whole family of six were affected at one time or another. Mr. A., who lived next door and had been attended by the doctor who had drawn attention to the M. family, had also suffered from diarrhoea at the beginning of April. Unfortunately no bacteriological tests could be carried out.

No possible connexion could be traced with the Flexner series. The milk supply was the same pasteurized supply as that used by some of the Flexner series, but in view of its large sale in the area and the absence of any explosive outbreak it was assumed not to be the source of infection. The shallow well water supply to the house occupied by the M. and G. families showed gross contamination on bacteriological analysis, but no dysentery bacilli were isolated from 100 c.cm.

The accompanying table shows the specimens examined at the Ministry's laboratory.

I would gratefully acknowledge the co-operation of Dr. J. H. Bellamy of Ashby and of Dr. A. H. G. Johnston of Scunthorpe, of Dr. Neil E. Beattie of the Ministry of Health, and particularly of Dr. William Scott, pathologist to the Ministry, who carried out the whole of the laboratory investigation.

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THE DIAGNOSIS OF BRAIN ABSCESS

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THE diagnosis of brain abscess is often a matter of great difficulty to the surgeon; in some cases while he may be pretty certain of the presence of an abscess he may fail to locate it. For diagnostic purposes brain abscesses may be classified into two groups:

1. Those in which the classical symptoms of abscess of the brain are present. This group may be subdivided as follows: (*a*) Those cases in which localizing symptoms are present where the abscess is caused by direct extension of the infective process. The best examples of this group are the otogenic abscesses, which occur as a result of middle-ear disease and are known as temporo-sphenoidal when they are found in the temporal lobe, and as cerebellar abscess when the cerebellum is the seat of the disease. Another instance of this type of abscess may be found in the frontal area of the brain following suppuration in the frontal or ethmoidal sinuses or injuries in that region of the skull. (*b*) Those in which localizing symptoms are absent—namely, those cases in which the cause is situated at some distance from the abscess and the infective agent is carried by the blood stream. Metastatic abscesses are examples of this kind and are the most difficult to locate. It is well to remember that sometimes otogenic abscesses are formed at some distance from the original focus of infection and have even been found in the opposite side of the brain.

2. Abscesses of the symptomless or latent type, in which there is an entire absence of symptoms and in one case an apparent absence of cause. In this latter type the case of the patient is called before an absolute diagnosis is made owing to the abscess bursting into the lateral ventricles or on the other hand owing to healing by the intervention or acute inflammation which results in a binding down of adhesions formed during the course of the disease and spreading between the dura and brain causing fulminating meningitis and encephalitis.

In the first group the abscess may be acute or chronic, in the second group it must of necessity be chronic In some cases in which the infection spreads very slowly a chronic abscess is formed with such dense fibrous walls that it seems like a solid tumour In these cases, owing to its weight, the abscess may move from its original position and be found either in the fronto-parietal or occipito-parietal region

Examination of the Patient

When tackling a case of suspected abscess of the brain the previous medical history of the patient must be carefully gone into, *and no illness, however slight, may be* ignored An apparently trivial complaint may give a clue to the diagnosis when everything else has failed Thus, in going into the previous history of the case it may be learned that there has been a slight earache at some time or the other which has passed off as quickly as it came, and may or may not have been accompanied by a slight discharge It may then be found that one membrana tympani is not quite normal It may have lost some of its lustre as compared with the normal drum on the other side, or there may be slight thickening, retraction, or evidence of a healed pin-point attic perforation

Again, in the case of an abscess of the frontal lobe there may be a history of frontal headache indicating frontal or sphenoidal sinusitis or ethmoiditis, infection being conveyed directly, or indirectly by the veins In other cases there may be an account of injury in the region of the orbit or nose Fractures, or even a simple contusion without any damage to the bone, may be the cause of a brain abscess These points in the medical history of the patient apply to abscesses due to more or less direct extension of the infection

When dealing with metastatic abscess other signs and symptoms must be looked for The heart must be examined for evidence of valvular disease vegetations conveyed by the blood stream may cause embolic abscess of the brain, often of the frontal lobe The lungs must also be examined, as thrombi, resulting from suppurative conditions such as phthisis, bronchiectasis, pneumonia, and empyema, may be carried by the systemic circulation to the brain

When embolism occurs in cases of pyaemia and leads to breaking down of the cerebral tissue, the middle cerebral artery is usually the vessel affected, the left oftener than the right The symptoms resemble closely those of cerebral haemorrhage, for which it has often been mistaken but usually the parts of the brain affected follow closely the distribution of the artery, while in haemorrhage large areas of the brain may be ploughed up indiscriminately Osteomyelitis and syphilitic disease of the skull bones may give rise to cerebral abscess, in obscure cases, therefore, a Wassermann test should be carried out

Otogenic Abscess

By far the commonest form of brain abscess is that of otogenic origin It is not always easy, when called to see a patient suffering from an intracranial complication following middle-ear disease, to diagnose what the exact condition is Lateral sinus thrombosis, meningitis, and brain abscess are all caused by the pyogenic organisms, usually the streptococcus or staphylococcus, and one or more conditions may be found at the same time Severe pain over the seat of the abscess, with rigors followed by a sharp rise in temperature, may be due to a suppurative pachymeningitis following an extradural abscess In addition there may be a localized swelling over the part owing to the inflamed or oedematous condition of the tissues In such a case as this one finds little or no sign of intracranial tension and thus no localizing symptoms When a subdural abscess forms, the symptoms are similar but more severe

One must bear in mind, especially in [illegible] that an extradural abscess may coexist with [illegible] transmitted in this disease without any symptoms of intr[illegible] hand, the family of even very little suggestion of extrac[illegible] children) who lived the usual discharge from the ear and [illegible]th to February 11th, organ Such a case came under my care about twelve months ago On operating the entire mastoid region was destroyed, a large subperiosteal abscess was evacuated, and an extradural abscess which extended lateral and interior to the sigmoid sinus was opened The sinus was covered with granulations but otherwise healthy, and the patient made a rapid recovery

Abscess caused by chronic middle-ear disease may occur in the temporal lobe as a temporo-sphenoidal abscess, or in the cerebellum The abscess may be adjacent to the diseased bone—namely, the tegmen tympani—and is then due to a direct spread of an extradural or intradural collection of pus In other cases the infection is carried by the veins or perivascular lymph spaces to form an abscess at some distance in the white matter of the brain *The abscess is almost invariably single*, and when headache, vomiting and later optic neuritis occur during the course of chronic middle ear disease, *brain abscess must* be suspected It will further be noticed in such cases that the discharge has ceased, also the *earache, but that* tenderness becomes more pronounced on deep pressure over the temporal or mastoid region A sharp rise in temperature, shivering, and headache generally accompany the formation of pus in the brain This is usually followed by a short latent period in which there are few or no symptoms, but then appear symptoms of compression and toxaemia, the latter due to absorption of pus

In the early stages the difficulty is to differentiate between meningitis and cerebral abscess and in addition, in the case of cerebellar abscess, to exclude acute diffuse labyrinthitis

The following points should be noted in making a differential diagnosis between brain abscess and meningitis

Brain Abscess	*Meningitis*
Pulse Slow and regular	Irregular in rate and force
Temperature Subnormal	Raised
Superficial reflexes Disappear late and are unilateral	Disappear early and are bilateral
Retraction of neck Absent	Usually present
Optic discs Slightly swollen and unilateral	Highly oedematous and bilateral

When meningitis is suspected lumbar puncture should be performed and the cerebro-spinal fluid examined The result of this examination is not always to be relied upon as the fluid may be cloudy but sterile, though a brain abscess is present, or it may be clear and sterile in the presence of purulent meningitis Usually, however, if the fluid is turbid and under tension, and organisms are present one may be sure that the condition is at least a purulent meningitis

When the fluid is clear and the presence of brain abscess is suspected the amount withdrawn should be just enough for the examination This is especially important when there is a chance that the cerebellum may be the seat of the disease, as when too much fluid is withdrawn the foramen magnum may be blocked up by the abscess being pushed down into the spinal canal, and respiration would then cease

Localization of the Abscess

The exact position of the abscess can be localized only by carefully watching for any signs or symptoms that can be assigned to any centre of the cortex or white matter of the brain In the group of otogenic abscesses *localization* is comparatively easy in the metastatic or the latent type it is very different and at times impossible

A temporal lobe abscess of otogenic origin will usually be found on the same side of the brain as the diseased ear The next sign to be looked for is paralysis the presence of which will depend upon whether the abscess is small or large In the former case there is nothing to be seen, in the latter pressure may be exerted superficially on the cortex, the first thing to be noticed being facial paralysis, and later, as the abscess increases in size paralysis of the [illegible]m, and, finally, of the leg In such cases the abscess No[illegible]ated superficially and low down in the temporo- and M[illegible] lobe, and gradually spreads upwards

When the leg is paralysed first, and then the arm and face it shows that the abscess is situated deeply and is pressing on the motor fibre which traverse the internal capsule The speech centre is affected when the left inferior frontal convolution is pressed upon, and motor aphasia results Similarly auditory aphasia occurs when the abscess is situated in the posterior part of the superior temporal convolution Ocular paralysis such as ptosis and strabismus lateralis with a fixed and dilated pupil, denotes pressure on the third cranial nerve of that side Crossed paralysis of the face and limb occurs when the parietal lobe is the seat of the abscess

Generally speaking one-third of the cases of cerebellar abscess are preceded by lateral sinus infection and when the two diseases coexist the symptoms of the one mask those of the other One-third of the cases of cerebellar abscess arising from middle-ear disease follow a suppurative labyrinthitis with complete destruction of the membranous labyrinth In these cases one gets nausea vomiting vertigo etc—in other words symptoms of labyrinthine disease which may immediately precede the formation of the cerebellar abscess or antedate it by months or even years The remaining one-third of the cases of cerebellar abscess are found quite apart from disease of the lateral sinus or labyrinth and occur from direct extension of the infection from the mastoid antrum or cells In these cases an extradural abscess is sometimes encountered on the posterior wall of the petrous bone

A case of otitic cerebellar abscess from which focal symptoms are absent is likely to be mistaken for abscess of the temporal lobe When focal symptoms develop the difficulty lies not in differentiating between a temporosphenoidal and cerebellar abscess but between the latter and acute suppurative labyrinthitis

In the majority of cases when focal symptoms are present the differential diagnosis is easy Vertigo spontaneous nystagmus, Romberg-ism, ataxia etc, suggest cerebellar abscess various aphasias, sensory and motor suggest temporal lobe abscess Since, however these lesions may occur and proceed to a fatal termination with an almost complete absence of localizing symptoms the smaller points must be carefully analysed in order to locate the lesion

Headache is common to both diseases in temporosphenoidal abscess it is less severe varies in intensity from time to time and is usually confined to the temporal region on the affected side In cerebellar abscess as well as being more intense and practically continuous the pain is situated in the occipital lobe on the side of the lesion

Vomiting is always present at the beginning of each lesion, but as the disease progresses the vomiting becomes less frequent or disappears altogether in some cases of temporal lobe abscess while it is frequently seen at irregular intervals in cerebellar disease The nausea and vomiting are unconnected with the intake of food, and may occur several times a day

Mental dullness characterizes temporo-sphenoidal abscess The patient is unable to give his attention to things and has to be roused to answer questions In cerebellar abscess on the other hand, this condition is not present until well towards the end, and is then usually found together with signs of general intracranial pressure.

Vertigo in temporal lobe abscess is a variable and inconstant symptom When present it is due to general increase in intracranial pressure In cerebellar disease vertigo and *ataxia* may appear quite early The individual feels giddy, and tends to fall to the side of the lesion.

Eye changes, such as optic neuritis, inflammation of the papillae, and choked disc are very much more frequent in cerebellar abscess, and this fact may be very important in making a differential diagnosis

Lastly, *muscular paresis*, when present in abscess of the temporal lobe, is always contralateral, while in cerebellar abscess it is sometimes homolateral

Differentiation from Suppurative Labyrinthitis

Before leaving the subject of the differential diagnosis of cerebellar abscess mention must be made of diffuse suppurative labyrinthitis the symptoms of which in the acute stage may resemble those of cerebellar abscess

The principal points in the differential diagnosis are as follows

	Cerebellar Abscess	*Diffuse Suppurative Labyrinthitis in the Acute Stage*
1	Onset gradual	Onset sudden
2	Changing rotatory nystagmus more pronounced to the side of the lesion but may vary with the direction of the eyes first to one side then to the other	Rotatory nystagmus to the sound side increases as the eyes are turned to the sound side and diminishes or ceases when they are turned to the affected side
3	The nystagmus increases as the disease progresses	The nystagmus decreases and tends to disappear by the end of two or three weeks
4	Vertigo is at first influenced by the nystagmus but later becomes persistent even in the absence of the nystagmus	Rotatory vertigo is in the plane of the nystagmus It diminishes and ceases with the disappearance of the nystagmus
5	Ataxia always occurs to the side of the lesion has no particular relation to the direction of the nystagmus present and no tendency to disappear	Ataxia is in the plane of the nystagmus and in the opposite direction to the quick movement It disappears when the nystagmus ceases
6	Caloric reaction present usually normal	Absent
7	Hearing usually normal if only cerebellar disease is present	Entirely lost in affected ear
8	Dysdiadokokinesis and incoordination present	Both absent
9	Finger pointing test shows deviation usually outwards on the side of the lesion Applies only to the limb on the affected side	Deviation occurs in a direction opposite to the quick movement of the nystagmus Both limbs involved
10	Temperature raised at first gradually drop and becomes normal or subnormal	At the onset is elevated, but in uncomplicated cases quickly returns to normal is rarely subnormal.
11.	Pulse rate usually slow Sometimes bradycardia is present with a rise in temperature	Pulse rate normal or varies normally with changes in temperature

When the acute stage has passed on to the latent stage of labyrinthitis the difficulty in diagnosis no longer exists In labyrinthine disease there is complete deafness and the labyrinth ceases to respond to the various tests—an end-result which would not be found in cerebellar abscess

ABSCESS WITHOUT LOCALIZING SIGNS

The next type of brain abscess to be considered also comes under Group I it includes cases with the usual symptoms of brain abscess but presenting no localizing signs In most of these cases the abscess is metastatic and is usually to be found in the white matter of the brain perhaps in the neighbourhood of the internal capsule Sometimes otogenic abscess may form deep in the white matter, following an acute middle-ear inflammation the local condition in the tympanum may have entirely cleared up, while all the time the infection has spread through the dura and finally settled deep in the white matter, leaving no trace of its track, all inflammation having resolved In other cases the inflammation may travel along the perivascular lymphatic vessels to form an abscess some distance away

Another cause of this type of brain abscess is infection from disease of the nose In these cases an examination of the nose and accessory sinuses should be carefully carried out The abscess is usually in the frontal lobe—the silent area of the brain—and though it presents the usual symptoms of abscess it very rarely exhibits focal symptoms In some cases pus may be noticed in the region of the cribriform plate owing to the abscess bursting through the thin plate of bone forming the roof of the nasal cavity in that area

SYMPTOMLESS ABSCESS

Lastly we come to the symptomless or latent variety of brain abscess It is only when rupture occurs that symptoms appear, and then the picture is usually not one of brain abscess, but of overwhelming meningitis which practically always ends

The only remark to be made about these cases is that patients suffering from ear trouble must be watched, whether the condition is just occasional earache or obvious chronic middle-ear disease, also any form of paralysis, whether it be facial, ocular, or of any of the limbs, must be looked out for Any of these signs or symptoms should make one suspicious and decide to keep the individual under close observation

The following account of a case of this type (symptomless) of brain abscess which the author met with a short time ago may be of interest

Mrs X, aged 66 years, was suddenly seized with acute pain in the right ear Within twenty four to thirty six hours the pain gradually subsided, on the appearance of a thick discharge of pus *from the affected ear, and the patient felt much better* No doctor was called, but the patient stayed in bed the next morning Towards the afternoon her maid went to the bedroom and found *her lying on the floor unconscious and clawing the right side of* her head

When I examined the patient I found the condition described above, together with incontinence, facial paralysis on the affected side and slight paresis of the limbs of the opposite side There *was also evidence of meningeal and cerebral irritation* The temperature was 103 5° F On examining the right ear I found no discharge, but a thickened and inflamed drum membrane with a small attic perforation I diagnosed temporo sphenoidal abscess and meningitis following middle ear disease, and my colleague Mr Austin McManus, who also examined her concurred

The prognosis was obviously hopeless, but we decided to operate immediately I *performed a radical mastoid operation, and found* the following condition The mastoid region was remarkable for having no cells, it was very sclerosed In the antrum, which was very small and situated deeply, were a few granulations covered with pus The tegmen was soft and spongy as in acute osteomyelitis and a small sinus led into the middle fossa I removed the entire bony covering and exposed the dura There was no *extradural collection of pus*, but the membrane was thickened, inflamed, and bulging under great tension

I incised the dura, and immediately very thick and cheesy pus escaped, accompanied by blood stained cerebro spinal fluid The *amount of pus was not great*, but the type was that found in chronic abscess, some granulations were present on the inner side of the opening in the dura I carefully put a seeker through the *opening made and met with no resistance except in an upward* direction It seemed as if the entire temporal lobe was pushed away from the dura by the acute and profuse secretion of fluid following the meningeal inflammation I put two fine rubber tubes in the dural opening to act as a drain, and also exposed the lateral sinus which was quite healthy I partly closed the *original mastoid incision* and drained the antrum through the *external auditory meatus*

The patient lived about twenty four hours after the operation *without regaining consciousness*

Unfortunately I had no opportunity of making a post-mortem examination The conclusion I came to was as follows This patient had chronic suppuration in a dense acellular mastoid with a minute antrum Instead of draining, as it normally should, into the tympanic cavity and thence through a perforation in the drum (which it eventually did, but too late), it burrowed its way gradually through the tegmen and dura, forming adhesions in its course, into the temporal lobe, there forming a small chronic abscess Ultimately, for some unknown reason, an acute otitis media arose, and the pus under pressure caused a perforation of the membrana tympani, but spent most of its energy intracranially Rupture of the abscess occurred, with subsequent meningitis, which would account for the symptoms and signs present when the patient was first seen

I would add that the previous medical history of the lady was carefully inquired into and nobody had ever heard her complain of ear trouble, it was said that she always seemed very healthy and enjoyed life The appearance of the drum membrane on examination would seem to bear out this history

The case is of interest because (1) it shows that an intracranial condition may coexist with chronic mastoid disease and cause little or no symptoms, and (2) because it is in direct contrast to a case I reported in this *Journal* (October 19th, 1929, p 717), in which obvious symptoms of temporo-sphenoidal abscess were present, but operation proved the condition to be one of simple mastoiditis

TREATMENT OF BONE TUBERCULOSIS BY LARGE AMOUNTS OF VITAMINS A AND D

BY

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Our inability to arrest the spread of a tuberculous focus in bone, *until considerable destruction has occurred*, makes it worth while to investigate any therapeutic agent which seems likely to control this infection

The results of Mellanby and Green,[1] which have demonstrated the potent action of vitamin A on bacterial infection in animals and man, especially their suggestive results obtained by treating cases of puerperal sepsis[2] with preparations very rich in vitamin A, made it seem probable that the value *of cod-liver oil* as a therapeutic remedy in tuberculosis is really due to its vitamin content It appeared desirable, therefore, to see whether the exhibition of much larger doses of vitamin A than those usually given in cod-liver oil would hasten the healing process in this disease, also since bone calcification, as shown by Mellanby, is controlled by the vitamin now known as vitamin D, and since the present investigations were made on bone tuberculosis, *it was decided to increase this vitamin in the* diet as well as vitamin A, although not to such a great extent It has been mentioned in a previous communication[3] that the giving of extra amounts of vitamin D alone (in the form of irradiated ergosterol—radiostol) did not appear to increase the rapidity of recalcification of bones affected with tuberculosis to any marked extent

Two preparations of different strengths, both containing *a large quantity of vitamin A and one of them having* a high vitamin D content in addition, have been used in this investigation Both were kindly supplied by the British Drug Houses Ltd

Preparation No 1—The vitamin A of this preparation gives 150 blue *with the antimony trichloride test and has about twenty* times the vitamin A potency of cod liver oil It also contains 10,000 antirachitic units per c cm (Coward)

Preparation No 2—This has double the vitamin A content of preparation No 1 (that is, 300 blue), but only 100 antirachitic units per c cm

Forty-three patients were given large dose of these preparations as described below, while 35 patients were given 10 c cm of cod-liver oil daily These latter were intended to act as controls, and were selected because they had similar degrees of infection and bone invasion to certain patients in the other group of cases The patients included in these tests were of varying ages—from 3 to 15 years—and in both groups there were cases with early disease, with acute rapidly progressing disease, with chronic slowly increasing disease, and with disease in which recalcification of bone was commencing

Of the 43 patients, 15 were given an average dose of 7 8 c cm of preparation No 1 daily for an average period of 3 5 months, and were then given an average dose of 9 4 c cm of preparation No 2 for a further average period of 3 4 months The remaining 28 patients were given an average dose of 9 6 c cm of preparation No 2 for an average period of 4 1 months

The 35 control patients were given 10 c cm of cod-liver oil daily during the period of investigation It may be well to mention that the patients of all three groups had received cod-liver oil daily before the actual test started It will be noticed that all the patients, including the controls, got a fair supply of vitamin A and D, but that those receiving the special vitamin preparations Nos 1 and 2 had very much more vitamin A than the others

The clinical condition of the patients in the different groups and the *x*-ray appearance of their affected bones had been carefully recorded some months before the investigation, this was done again both at the commencement and at the end of the test period An examination of the accompanying table will show that of the 43 patients having the vitamin preparations 32 were improved clinically, and 11 were not, that in 25 of these 43 cases the *x* rays showed arrest of disease or increased calcification, while in 18 there

was no evidence of such improvement Of the 35 patients taking cod liver oil, 25 were clinically improved, and 10 were not The skiagram of 18 of these 35 indicated progress towards cure, while those of 17 did not

	Cases receiving much Vitamin A and D		Cases receiving moderate amounts Vitamin A and D (Cod liver Oil)	
	Number	Percentage	Number	Percentage
Total cases	43	—	35	—
Clinically improved	32	74 4	25	71.4
No clinically improved ...	11	25.6	10	28.6
Increased calcification in radiogram	25	58 1	18	51 4
No increase in calcification in radiogram	18	41 9	17	48 6

If one considers the impossibility of selecting exactly similar patients, and of estimating the exact degree of activity of disease, it will be appreciated that the patients having the concentrated vitamins and those taking cod-liver oil showed about the same amount of progress Therefore *for the types of patients described, and with the dosages* and under the other conditions mentioned, the use of preparations containing large amounts of vitamins A and D does not appear to be of more curative value than that of cod liver oil

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THE TREATMENT OF ACUTE PUERPERAL INVERSION

BY

NOEL HYPHER, M R C S L R C P B Sc Lond

DRUMMOND MAXWELL stated in 1915 that "all cases of acute puerperal inversion warrant a clinical record for several reasons" Among the reasons he gave were (1) that no case had been admitted to the London Hospital for the previous fifteen years (2) the very divergent views on treatment and (3) the tendency in modern literature to invoke surgical rather than classical treatment [1]

The incidence of acute puerperal inversion is computed variously by different authors, and no two authors agree T W Eden puts the figure at one inversion in 180 000 to 200,000 labours All authors are agreed, however, that accuracy cannot be arrived at, since practically all cases occur in general practice, and general practitioners as a whole are not prone to put their cases on record

In the classical type of case the uterus is found to be inverted with the placenta centrally attached, this occurs immediately or a few minutes after the child is born In the case here reported the placenta came away fifteen minutes after delivery, but it was not till seven days later that acute inversion with prolapse occurred Fox in 1924, recorded a case where acute inversion with prolapse developed fourteen hours after delivery [2] This is the only case of some delay before the onset of acute puerperal inversion that I have come across in the literature

On May 14th I was called to a Poor Law institution to attend a primipara aged 41 who was in labour The head had been on the perineum for over an hour and in spite of good labour pains no progress was being made *Instrumental delivery under* an anaesthetic was satisfactorily accomplished and on expression of the placenta a large retro-placental clot came away A sharp post partum haemorrhage ensued and this was speedily controlled by the injection of 1 c.cm of pitorvim The placenta on examination was found to be intact with a dark area where the retro-placental clot had formed A perineal tear was sutured with three stitches and half-drachm doses of liq ext ergot were prescribed for the next few days.

The height of the uterus was charted daily by the midwives of the institution On the first day after delivery it was 7 in above the symphysis the second day 6 in the third day 5 in the fourth day 4½ in the fifth day 4 in and on the sixth day it was missing On the seventh day while the patient was using a bed pan the uterus inverted completely and prolapsed out to the vulva I arrived to find a flaccid inverted uterus about the size of a large coco-nut occupying the perineal area There had been much haemorrhage (about 2 pints) but the matron and midwife had applied towels rung out in hot water at a temperature of 120° F and the bleeding was now being kept well in check by such applications There was a moderate degree of shock and the pulse was 130

Under chloroform anaesthesia the uterus which had been well in contact with faecal matter in the bed pan was swabbed and douched with 2 per cent iodine solution at 120° F and reduction was attempted I squeezed the mass with both hands till it was reduced to the size of a foetal head blood spurting on pressure from various points but found it very difficult to force the mass through the vaginal entrance it will be recalled that the perineum had been well sutured Adopting the same methods however my colleague Dr Fraser succeeded in forcing the mass through the vaginal entrance Once this obstacle was overcome the uterus returned quite easily to its proper position So much force was employed to overcome the constriction at the introitus vaginae that the perineum was ruptured again at the original site

An intrauterine douche of 2½ pints of 2 per cent iodine at 120° F was instantly given and the haemorrhage ceased With the idea of preventing recurrence of the inversion and haemorrhage the vaginal vault was next plugged with sterile cyanide gauze well around the fornices counter-pressure being applied with an abdominal pad and binder The usual treatment for moderate shock and loss of blood followed but saline infusions were not given

On recovering from the anaesthetic the patient was definitely comfortable in contrast with her distress before the anaesthesia and reduction The temperature was 103° F and the pulse 126 but the temperature fell next day to 100° F and the cyanide gauze was removed after twenty four hours There was no haemorrhage Neither ergot nor pituitrin was ordered for fear of inducing return of the inversion Since septic endometritis was inevitable 50 c.cm of a polyvalent antistreptococcal serum was injected subcutaneously There was a moderate leucocytosis for twelve days but otherwise recovery was uneventful A subsequent vaginal examination disclosed the uterus to be situated in the normal position The patient is now very well and the perineum will be repaired in the near future

In practically all cases of acute puerperal inversion of the classical type the placenta has been found to be centrally placed and somewhat adherent The tension on the cord caused by a rapidly expelled foetus or the accoucheur has started the process of inversion and the uterus proceeds to expel itself using the placenta as a foreign body In some cases however the cord has been too long to render tension by the projected foetus a likely cause and the midwife has emphatically denied pulling on the cord It must here be assumed that the uterus after evacuating the foetus treats the centrally placed placenta as another foreign body, and promptly proceeds to expel it Crede's method of expression of the placenta, massage of the uterus, denting of the fundus when measuring the height of the uterus, and straining at evacuation, have all been blamed as causes of acute inversion

In treatment various points have to be considered Study of the cases reveals that shock and haemorrhage usually occur in inverse ratio the greater the shock the less the haemorrhage This is easily comprehensible as the blood pressure falls in proportion to the degree of shock Miles Phillip in 1911 conclusively showed that in profound shock treatment should be directed to restoring the patient before attempting to replace the uterus *Immediate replacement* of the uterus in a patient moribund from shock has only hastened the onset of death *In* three cases of profound shock Miles Phillip waited two hours, five hours and twenty hours respectively *before* attempting replacement the patients in the meanwhile being treated with saline infusions pituitary extract and morphine Hellier in 1912 returned *an inverted uterus* after four days [3] In a few cases where there was little or no shock immediate replacement was followed by recovery [4 5 6]

The importance of reduction under an anaesthetic has not been duly emphasized in the textbooks [7 8 9 10 11] in my opinion it should always be conducted under anaesthesia The process of inversion is accompanied by acute pain and sometimes shock [12] So also is the process of reduction

which may be associated with extreme collapse [2 3] Barber in 1887 described a case in which the uterus was replaced without an anaesthetic, as regards the after condition he wrote, "The general condition of the patient was most serious, she was insensible, pulseless, and the extremities cold" [12] In the three successful cases reported by Miles Phillips in 1911, anaesthesia was employed during the process of reduction Blair Bell in a recent case employed anaesthesia, even though shock was not marked [13] In my case, which was one of moderate shock, the patient was fairly comfortable after recovering from the anaesthetic Manipulations affecting the inner surface of the uterus are very painful and liable to be accompanied by shock, and it is now considered orthodox treatment to perform manual removal of an adherent placenta under anaesthesia D J Malan in 1925, while teaching students at the London Hospital, reported a case within his knowledge where the manual removal of an adherent placenta without an anaesthetic had brought about rapid death from shock It may also be recalled how frequently death from shock occurs at the hands of amateur and professional abortionists, as compared with the comparative absence of risk when therapeutic abortion is conducted under an anaesthetic [14]

In the cases where inversion has occurred with an adherent placenta, it has been found expedient to peel off the placenta before replacing the uterus In Barbour's case reduction was found to be impossible until the placenta had been removed

In 1923, E Evans had an intra-abdominal view of the process of replacement through a laparotomy wound With the patient under anaesthesia, the uterus was replaced by an assistant with a hand in the vagina He observed that restitution began from the posterior wall of the cervix [15]

The possibility of recurrence of the inversion must not be forgotten, it was in order to prevent this that we tightly plugged the vaginal vault in our case In the cases reported by Couvelaire[16] and Schockart[17] replacement was followed by return of the inversion a few hours later Schockart, after describing his case, remarks upon the necessity of plugging the uterus itself to prevent recurrence

Lastly, it would seem impossible to make a diagnostic error, but two cases are recorded of mistakes made by midwives In 1897 a midwife pulled on the inverted uterus for three-quarters of an hour thinking it to be the placenta, till the uterus, one tube and an ovary came away the other tube and ovary were congenitally absent [18] In 1915 a midwife mistook the inverted uterus for a second child, in accordance with the rules she sent for a doctor When the doctor arrived he was shown two basins, the placenta in one and the contracted uterus in the other [19] In the former case the patient recovered after closure of the peritoneal cavity, the latter patient succumbed

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PERFORATION OF A SILENT DUODENAL ULCER COINCIDENT WITH PERFORATED APPENDIX

BY

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THOUGH lesions of the appendix, coincident with chronic ulceration of the duodenum, are a recognized and almost a common occurrence, yet a simultaneous perforation of both is of sufficient rarity to deserve record

A mechanic aged 44 was admitted to hospital at 6 p m on May 4th as a case of "acute abdomen" The pain had started at 10 p m on May 3rd it was not rapid in onset, but came on gradually, starting in the umbilical region and spreading to the bottom of the abdomen He had vomited six or seven times, the last time being 10 a m on May 4th Vomiting relieved the pain for a time At about 12 noon there was an exacerbation of the pain Bowels open May 3rd His last meal was at supper, at 9 p m on May 3rd, which consisted of chipped potatoes with a pint of beer

The previous history was that he had had an attack of "colic" a year ago, no history of indigestion

Condition on Admission—Well nourished and healthy Expression characteristic of general peritonitis Tongue moist and furred Temperature 100 8° F, pulse 112 The abdomen moved very imperfectly on respiration It was completely rigid, and acute tenderness was present in both the iliac fossæ, especially the left and also under the left costal margin, marked hyperæsthesia Abdominal reflex lost, marked dimmution of liver dullness Rectal examination negative Chest chronic bronchitis some rhonchi present A diagnosis of perforated duodenal ulcer was made

Operation—At 8 p m Dr F L Buttar operated A right para medial incision was made, and on entering the peritoneal cavity some gas escaped, and purulent fluid was found A short search revealed a small perforation in the anterior aspect of the duodenum, about an inch from the pylorus round which some thickening was present The perforation was sutured and the fluid present was evacuated As this did not seem sufficient to account for all the symptoms present, the right iliac fossa was explored, when a perforated gangrenous appendix was found, with free pus in the abdominal cavity Appendicectomy was performed, and the wound closed with drainage The operation being completed the appendix was slit up and found to contain pus it was gangrenous for about an inch from the tip and half an inch from the tip a small perforation was present The patient suffered considerably from shock, which was successfully combated but unfortunately broncho pneumonia supervened, of which he died on May 7th

Comment

Both from the history of the case and the operative findings one is inclined to conclude that the appendix was the primary lesion I would suggest that the appendix perforated between 10 p m and 12 midnight on May 3rd, shortly after the pain began, and that the duodenal ulcer perforated at about 12 noon on May 4th, when the exacerbation of the existing pain occurred

In the literature on the subject I can find no record of a similar case, the nearest being a case, reported by Moore, of "Simultaneous suppurative appendicitis and perforated gastric ulcer" (*Lancet*, 1910) There is also one by Andre, "Appendicitis, perforated ulcer of the duodenum, subphrenic abscess" (*Clinique*, 1911) A case reported by Matheson (*British Medical Journal*, 1901) also bears a resemblance to it but in this case the girl—who was recovering from appendicitis and was seized with violent haematemesis, with symptoms of gastric perforation—was not operated on, and after death, which occurred a few hours later, no autopsy was performed, so that one can only speculate as to what condition was actually present The case reported on by Moore was that of a girl, aged 19, who had been treated medically for gastric ulceration, and who also had had previous attacks of pain in the right iliac fossa The appendix in this case, although containing pus, was not perforated

In the present case there was no history of gastric or duodenal disturbance, and no history of appendicitis It may be remarked that some oral sepsis was present, three teeth being decayed

I am indebted to Dr F L Buttar for permission to publish these notes

PAINLESS HAEMATURIA

A PLEA FOR EARLY INVESTIGATION WITH REPORT OF A CASE

BY

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The case reported below seems worthy of placing on record because mistakes of the kind mentioned are very common.

A single woman aged 54 consulted her doctor because she had noticed blood in her urine. It had come on suddenly and had lasted for forty-eight hours. There were no other symptoms whatsoever. She was placed on an alkaline diuretic mixture and assured that she had no cause for alarm. Nine months later the bleeding recurred, after which the patient was referred for investigation.

Apart from some loss of weight and the two bouts of haematuria there was nothing of interest in the history. Physical examination was negative, neither kidney being palpable or tender. The urine was clear and free from albumin and other abnormal constituents. Cystoscopic examination was normal. But on exerting firm pressure in both loins blood was seen to emerge from the left ureteric orifice. A catheter specimen *from the right kidney was normal. Indigo-carmine* injected intravenously was returned by the right kidney in three and



a half minutes and by the left in eight. Pyelography showed a normal pelvis on the right side, but definite filling defect on the left.

A diagnosis of hypernephroma was accordingly made and nephrectomy performed, all the perinephric fat removed, and the renal vessels ligatured as close to their origin as possible. *This diagnosis* was subsequently confirmed by microscopic section.

After an uneventful recovery the patient was seen at three-monthly intervals. She put on two stone in weight and apparently promised to do very well.

Fifteen months after the operation two small nodules were noticed about four inches above the lumbar incision. These were freely mobile in the subcutaneous tissues. A month later a nodule appeared over the lower part of the sternum and two others in the rectus sheath. One nodule was excised and microscopically examined. It had the typical structure of a hypernephroma. Deep x rays were applied to the nodules, but in spite of this the patient went downhill, losing weight and strength, and her end is rapidly approaching. The remains of the left kidney with the hypernephroma are shown in the accompanying illustration.

Comment

This case clearly brings out several important points.

1. Painless haematuria is a symptom of the gravest import, and calls for urological investigation without delay, *its commonest cause being* either renal or vesical growth.

2. The amount and frequency of the haematuria may bear no relation to the extent of the disease. In this case it had only occurred twice and had lasted only forty-eight hours each time, yet at least three-quarters of the kidney was replaced by growth.

3. Had there not been a delay of nine months between the first bout of bleeding and an adequate examination the patient might have been free from recurrence at the present date with a good prospect of a cure.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

TWO UNUSUAL CASES OF INTUSSUSCEPTION

INTUSSUSCEPTION DUE TO GUMMA

An intussusception in a boy, due to a gumma, makes the *following case worthy of record.*

A healthy boy aged 14 was admitted with a history of abdominal pain for two days prior to admission. During these two days he had two motions of the bowel, a very small quantity of faeces being passed on each occasion. He vomited for the first time three and a half hours before admission. The pain persisted and he passed frequent motions consisting entirely of blood and mucus.

On admission he was obviously in great pain. Temperature 37° C., pulse 58. The abdomen was not rigid; there was a definite, very tender mass in the lower segment of the abdomen. A rectal examination confirmed the presence of this tender mass. There was mucus and blood only on the examining finger, and the subsequent motions consisted of mucus and blood only. The tongue was dirty.

An acute intussusception was diagnosed, and laparotomy revealed an intussusception of the type ileo-ileal becoming ileo-colic. After reduction a mass could be felt through the intestinal wall in that part of the ileum close to the ileo-caecal valve, the mass being part of the bowel wall. To prevent recurrence the terminal portion of the ileum together with the caecum was excised and end-to-end anastomosis performed. The boy made an uninterrupted recovery.

The tumour on examination proved to be a typical gumma. A Wassermann test was negative both before and after a provocative dose of kharsulphan.

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INTUSSUSCEPTION OF THE APPENDIX

A boy aged 12, was admitted as a straightforward case of acute appendicitis of eighteen hours' duration. At operation the appendix was found to be acutely inflamed and the site of an intussusception, the tip having invaginated itself almost to the base of the *appendix. Recovery was uneventful.*

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Thanks are due to Dr. J. D. Ewart, medical superintendent, Booth Hall Hospital for Children, Manchester, and to Mr. E. E. Hughes, the visiting surgeon, for permission to publish these cases, and also to Dr. G. Dawson for the pathological investigation.

A SERIES OF GASTRIC PERFORATIONS

In view of the fact that acute perforation of the stomach is not very common in malignant disease of that organ and acute gastric perforation in a patient living in bed and under medical treatment must be very rare, the following cases may be of interest.

A man aged 46 was admitted to the Royal Albert Hospital, Devonport, on March 5th, 1930, with all the signs and symptoms of acute gastric perforation. He was at work when the attack occurred, and there was a history of indigestion for fifteen years.

At operation a perforation about a quarter of an inch in diameter was found on the lesser curvature near the pylorus. *This was closed with difficulty on account of the friability* of the edges, and an omental graft was placed over the perforation. The remainder of the stomach and duodenum appeared normal. A drainage tube was inserted down to the pelvis through a separate stab wound, the main incision being completely closed. The operation only took thirteen minutes.

The patient appeared quite well the next day, and on the second day was sitting up in bed playing cards with some of the other patients. Forty-eight hours after operation fluid was given by the mouth, and the patient was put on extra-ed milk in gradually increasing doses up to 6 oz. every two hours, followed by ten days with pulv. alk. (McLean). He did perfectly well, temperature, pulse, etc. He suddenly collapsed and had subnormal temperature, rapid pulse, etc. He complained of no pain and nothing abnormal was found on examination. A large haemorrhage was thought to be the cause, and the usual measures adopted for this. Next day he passed some altered blood in his motions. Recovery began and went on perfectly well for a further ten days, when another collapse similar to the previous one occurred. Again the patient did not complain of anything but weakness and nothing abnormal

found on abdominal examination This time he did not rally, but died five days later

At the post-mortem examination a recently perforated gastric ulcer was found on the lesser curvature, near the cardiac end Gastric contents were present in the peritoneal cavity, and there was some lymph covering the peritoneum This lesion had evidently been the cause of death The original perforation was soundly sealed over by omentum, but proximal to this another perforation had occurred, which was also sealed by omentum This one evidently accounted for his first collapse after operation There were some enlarged glands around the coeliac axis, but no secondary nodules in the liver The stomach wall appeared thicker than usual, but the mucous membrane seemed normal The pathological report was diffuse colloid carcinoma of the stomach

I am indebted to Mr G I Preston surgeon in charge of the case and Dr E Wordley the pathologist, for permission to publish these notes

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BILATERAL RANULA IN THE NEWBORN

THIS condition must be comparatively rare I can find little mention of it in the literature I have had a case recently The swellings were of the size of small hen's eggs, and pushed up the tongue to the roof of the mouth so completely that it was impossible for the child to suck I aspirated each side in turn and obtained from each some 20 c cm of dirty-looking fluid, resembling that obtained from old hydroceles The sacs partly refilled after a few days I incised them (obtaining from them on this occasion glairy, clear material), scraped the interiors with a sharp spoon, and packed them with gauze ribbon steeped in iodine, removing the ribbon after a few minutes The procedure has apparently been successful in obliterating the sacs as the swellings have quite disappeared, and the child is able to feed normally It still, however, has a habit of keeping the tip of the tongue against the roof of the mouth

Ruabon A H TURNER, M B , B S Lond

Reviews.

A SYNOPSIS OF HYGIENE

THE appearance of the third edition of Professor W W JAMESON'S *Synopsis of Hygiene*[1]—on this occasion with the collaboration of Lieut.-Colonel G S PARKINSON—is a sure index of the high estimation in which this well-known work is held Its modest claim to be a synopsis is more than justified It covers the field, is clear throughout, and observes an excellent sense of proportion in adjusting the space required to be allotted to the rival topics now included within the scope of the D P H examinations Moreover, although synoptic in substance, it is not too synoptic in style, but very readable

The opening section on meteorology is well informed and up to date The millibar notation, still a mystery to many, is duly explained In the section on water there is a good conspectus of the geology of water-bearing formations and an adequate account of present-day methods of water purification In the considerable section on food the subject of meat is well summarized, the important points in food poisoning are made plain, and the canning of food and the use of preservatives are discussed in a competent and interesting manner The article on vitamins which has been rewritten to include the results of recent investigations, is lucid and well balanced The tion on vital statistics is clear and suitably presented, the article on statistical methods, though clear to the ited may seem unduly compressed to others The tion dealing with sanitary law contains an excellent view of English local government, including the central and local authorities, and public health officers and their duties The Local Government Act, 1929, is properly set forth together with the Milk Acts and Orders, the Meat Regulations, and other current instruments of administration The work concludes with a useful compendium of public health chemistry and physics

A special merit of the book is its abundance of references to official and other sources, and its copious citations of works for further study It is described on the title page as specially intended for those studying for a diploma in public health To all such it may be cordially recommended

[1] *Synopsis of Hygiene* By W Wilson Jameson M D Aberd M R C I D P H Lond and G S Parkinson D S O , M R C S L R C P D P H Lond Lieut Colonel R A M C (ret) Third edition London J and A Churchill 1930 (Demy 8vo pp vii + 541 20 figures 18s)

"CRIPLE FOLK"

Civilization and the Cripple[1] is an interesting and instructive book its author, Mr FREDERICK WATSON, has strong claims upon our attention He founded and edited the international quarterly journal called *The Cripple* for five years or more As a county director of the British Red Cross Society and chairman of the Montgomeryshire Voluntary Orthopaedic Association, he is qualified to speak on questions of organization, while he has had experience of the problems of rehabilitation as a deputy controller in the Appointments Department of the Ministry of Labour during the period of demobilization after the armistice He uses the term "cripple" in its widest sense, including under it the injured in industrial and other accidents as well as the adolescent and adult victims of disease

There is a great deal that is of interest in the book but to our mind the most attractive chapter is that on the American scheme, in which Mr Watson describes in considerable detail the methods of investigation and of relief and cure which have been elaborated in the United States, mainly since the war, forming a scheme of civilian rehabilitation which developed out of the rehabilitation of disabled soldiers The Federal Boards estimate the number of accident cases needing vocational training or restoration at 80,000 a year, let alone cripples from disease Most extensive and praiseworthy efforts have been made to re-educate and rehabilitate these patients, with very considerable success, but one may still wonder if such efforts can really succeed in a country which has, according to Mr Watson, 5 million workpeople out of employment It may be questioned whether it is worth while to train a cripple for a job for which there are already several able-bodied candidates Setting such doubts on one side, the reader will find the American scheme worth study It aims at covering the industrial or transport case from the moment of accident, through psychological, medical, and educative stages It has often been found in this country that a psychological cure is only possible when the patient's doubts are ended by a final award, leaving him no inducement to exaggerate his inability Mr Watson tells us, on the other hand, that "the Americans are fully alive to the futility of cash payments for injuries It is realized that cash should be used in order that the injured man may be trained for another job, not as a solace for his injuries" There seems no reason to doubt that in some at least of the United States re-education of the industrial cripple has been very successful, and that those who through its means have found new jobs have been able to keep them According to one investigator this success was attributable to four causes—namely, (1) complete physical restoration, (2) better training of the disabled than of the ordinary workman, (3) excess of demand for such men over the supply, and (4) supervision of the ex-devant cripple until he is permanently settled in his job In this connexion it is worthy of notice that Mr Henry Ford employs in his motor works 8,000 cripples, of whom some are blind

Turning from crippling by accident to crippling by disease, Mr Watson gives us an interesting chapter on prevention and rehabilitation, in which we are glad to find strong support and a plea for extension of the successful work of Dr Varrier-Jones at Papworth, even though the subject of pulmonary tubercle is rather beyond the scope of the care of cripples, unless a new and enlarged definition of "cripple" is accepted In the same chapter the author emphasizes the baleful role played by alcohol in the etiology

[1] *Civilization and the Cripple* By Frederick Watson London J Bale, Sons and Danielsson, Ltd 1930 (Sup roy 8vo pp viii + 120 illustrated 10s 6d net)

of tuberculous disease and the close relationship between defective housing and ill health Improved housing conditions, however, are not enough alone The social position of the slum dweller must be improved till he loses the slum mind and is made fit for more healthy surroundings The explorer of some of the latest rehousing schemes and colonies, such as Becontree, will find how quickly and completely the slum dweller can reproduce a slum in even the best planned and most up to-date buildings of the most progressive and enlightened county council

HUMAN EMBRYOLOGY

The Essentials of Human Embryology [1] by Professor DODDS of West Virginia University, is the last of an imposing series of textbooks on this subject from the other side of the Atlantic As not infrequently happens in such circumstances it is one of the best the author having had at his disposal the work of his predecessors and indeed the work under review offers little ground for criticism either from the point of view of accuracy or arrangement The book is primarily intended for medical students and special attention is therefore paid to such sections of the subject as the circulatory and genito-urinary systems where anomalies are apt to occur Certain sections on the other hand, are somewhat summarily dismissed No mention for example is made of the velum interpositum in the account of the development of the central nervous system, and very little is said of the development of the cerebellum To say again that the olfactory bulb appears on the ventral aspect of the cerebral hemisphere betrays an entirely wrong conception of the fundamental fact that it is the hemisphere which is grafted on the bulb We should have liked also to see a somewhat more adequate explanation of the development of the ocular muscles, claiming as they do for their innervation no fewer than three cranial nerves

A special feature of the work is furnished by the illustrations which are both numerous and good though some of the diagrams fail in our opinion to render that service of simplification for which they were apparently designed This failure is most apparent in the section dealing with the subdivision of the coelom—admittedly a difficult subject in the absence of models Despite these drawbacks the book can be warmly recommended as giving students all the information they are likely to require in the course of their medical curriculum

BLOOD DISEASES

In spite of the plethora of haematological literature clinicians will certainly welcome *Diseases of the Blood* [2] by P W CLOUGH Essentially a book for the practitioner it gives in a simple and clear manner a comprehensive description of most of those so-called diseases of the blood which are liable to be met with in general medical practice The thorough sifting of differential diagnosis has led, perhaps inevitably, to some repetition and overlapping, especially in the extensive account of pernicious anaemia and leukaemia, but this may serve to impress the memory and whereas disputed questions are treated on the whole with impartial consideration and frank acknowledgement of ignorance, the prevailing tone is usefully dogmatic and practical Pure haematology and technique occupy a comparatively small section of the book The description and phylogeresis of the blood cells is well and sufficiently dealt with The author is rather indefinite about the nature of reticulocytes, he does not appear to recognize that polychromatic red cells and stippled red cells are identical with *reticulocytes* With regard to technique it would have been an advantage to have had some choice and some accounts of the more commonly employed methods In this country Haldane's *method* for the estimation of haemoglobin is the best known, in the enumeration of red cells Hayem's solution is not much used as a diluting fluid in this connexion the author makes no mention of a common source of error caused by contact haemolysis Red cell and white cell counts are usually made from the same drop the employment of white cell pipettes and special diluting fluid has been now largely discarded In the practice of most clinical laboratories microscope slides and not cover slips are used for preparing blood films It is a pity that the formula of Wilson's stain is not given presumably this is some variant of Romanowsky's stain The staining and enumeration of blood platelets is not dealt with as fully as might be desired English readers will find some of the American expressions tiresome but it is a most excellent book and both the author and publisher are to be congratulated on the production of such a handy yet comprehensive volume at the modest price of 6s

PROPHYLAXIS AGAINST PEDANTRY

THE first edition of Professor RAYMOND PEARL'S prophylactic chapters against pedantry published under the title of *To Begin With*, [3] has already been reviewed in these pages It is therefore unnecessary to dwell on his underlying argument that a specialist should know something about matters outside his laboratory or to assent or dissent — always with profit — while considering the directed reading" he advises with such an agreeable mockery of all those who yield to the 'psychopathic" craving for giving this special kind of advice A biologist who quotes from Chinese emperors Horace the Rev Dr Opimian Petronius and Duhamel, within a page or two who is determined that his students should learn what science is in a philosophic and human sense and that they should never forget that the business of living is the prime affair even for a scientist who begins his course of reading with Lucretius, declares that everybody who calls himself a man ought to have read such a Platonic dialogue as *The Apology* " recommend Rabelais Voltaire and Flaubert's much abused *Bouvard et Pecuchet* among more technical volumes as works necessary to the underpinning" of a scientific mind Baltasar Gracian's *Art of Worldly Wisdom* Balzac's *Physiologie du Mariage* Warner Allen's *Wines of France* the Bergeret series of Anatole France and J B Cabell's *Straus and Prayer-books* as helpful manuals for daily existence is a salutory person to be director of an institute for biological research His zest is so keen that one hesitates to disagree with him even when in one of his side flashes he ranks Shaw and Mencken with Voltaire and Swift This spirited modernism is probably all to the good in his particular cause His sceptical intelligence has its limitations however and the books he throws at the student in the epilogue for their religious education" are really not good enough Mysticism is apparently not to his taste but it is a biological and sociological phenomenon *The Confessions of St Augustine* would add to his directed course' something he has omitted

The 'revision and enlargement' of the volume consist of a new preface and an additional chapter The rest of the book is unaltered, for, as Professor Pearl sensibly says 'Warmed over food always lacks its savour The new preface pretends to lament the sad case of a charming young lady who, about to sit for her final examination for a doctorate in philosophy read *To Begin With* and refused to proceed, stricken with the conviction that he had no intellectual background The new chapter "Annotations is composed of observations in criticism applied to his choice of books In discussing [illegible] nomical books Professor Pearl [illegible] not instinctively [illegible] advice about good [illegible] in claiming better [illegible] destroyed by savage [illegible] is very amusing and [illegible] armed in the literatur

[1] *The Essentials of Human Embryology* By Gideon S Dodds Ph D New York John Wiley and Sons Inc London Chapman and Hall Ltd. 1929 (Med. 8vo pp viii + 316 182 figures. 20s. net)

[2] *Diseases of the Blood* By Paul W Clough M D Medical Monograph London A. and C Black Ltd. 1930 (Fcap 8vo pp 310 2 plates 6s)

[3] *To Begin With* By [illegible] New York and London [illegible]

deadliest to pedantry Some of the volumes recommended are a little out of date, and some have perhaps not yet received European recognition, but these are minor points that do not impair the potency of his astringent prophylaxis

DIFFERENTIAL DIAGNOSIS OF INTRA-ABDOMINAL CONCRETIONS

In his brief but generously illustrated monograph, *Radiographie nephro-cholecystique*,[6] DR DE ABREU of Rio who has written a larger work on the radiological diagnosis of pulmonary and mediastinal conditions, considers the differential diagnosis of renal, gall-bladder, and other intra-abdominal concretions, and proposes a new radiological technique which he has employed for at least five years This method of diagnosis is derived from the principle set out in the above-mentioned work on the radiology of the lungs and mediastinum, and largely depends on the different radiological appearances given by the kidney and its surrounding fat Instead of relying on a lateral view of the kidney, which is submitted to serious criticism, a combination of antero posterior and oblique posterior views of that organ is used to bring out with much better definition the opaque kidney and the transparent fatty tissue around it By combining this method with pyelography and cholecystography renal calculi can be differentiated from gall-bladder and bile-duct calculi and calcified costal cartilages The author strongly advocates the Trendelenburg position during pyelography by the oblique posterior view

NOTES ON BOOKS

IN this study of *Instinct and Intuition* MR BINNEY DIBBLEE has undoubtedly made an original contribution to psychology He bases his argument on the thesis that the thalamus and the cortex must be taken as the high level developments, both structurally and functionally of two divisions of the nervous system, phylogenetically distinct and in large measure antithetical Psychologically he contrasts "instinct," which in man he reckons as a "faculty" by no means comparable to the separate instincts of animals, with intuition and intelligence He regards the latter two functions as to a certain extent complementary intuition working extraconsciously and having at its command a vast store of memories while intelligence exerts rational control in consciousness" He bases his physiological conclusions on the work of Head and Parsons and lays great stress on the importance of the mesial nucleus and interealated cells To the cortex he attributes the functions of intuition and intelligence, but does not work this out in such detail as for the thalamic function He considers that dualities such as pleasure and pain thought and feeling conscious and unconscious which have been discussed at great length in psychological literature, are not fundamental, since they do not depend on the physiologically antithetic organs—the thalamus and the cortex If MR DIBBLEE is sometimes a little obscure in his argument, his main thesis is one of great interest which will compel thought, and it is to be hoped further research will be undertaken to clarify the important debatable ground that lies at the junction of physiology and psychology

The popularity of the Strumpell Seyfarth Textbook of Special Pathology and Therapeutics[7] is shown by the fact that a new edition has been called for within a year from the appearance of the last, of which a review was recently published in these columns The first volume of the new twenty ninth and thirtieth edition is devoted to the consideration of acute infectious disease prevalent in temperate and tropical climates and diseases of the respiratory, circulatory, and digestive systems Some new illustrations have been added, and the work as a whole has been well brought up to date, but we miss any mention of paratyphoid C, tropical typhus, the prodromal rashes of measles or the nervous sequels of vaccination, which as Eckstein has recently shown are by no means unknown in Germany, nor can we agree with the recommendation that every scarlet fever patient should be kept six weeks in bed to prevent the occurrence of nephritis

The little work on Esperanto,[8] by MR BERNARD LONG, president of the Esperanto Congress held in Oxford this year, comprises, as its subtitle states a discussion of the language problem and its solution The origin, spread, and practical use of Esperanto are described, especially in relation to travel, science, commerce, literature, and education The medical interest of this international language lies not only in the fact that it was created by DR L L ZAMENHOF, a Polish ophthalmologist who died in 1917 at the age of 58, but also in the suggestion made by MR LONG that Esperanto might be used with advantage at medical as at other international congresses

[6] *Radiographie nephro cholecystique* Par M de Abreu Paris Masson et Cie 1930 (6½ × 10 pp 158 54 plates 40 fr)

Instinct and Intuition By George Binney Dibblee MA London Faber and Faber Ltd 1929 (Med 8vo pp 394 25s)

[7] *Strumpell Seyfarth Lehrbuch der Speziellen Pathologie und Therapie der inneren Krankheiten* Neunundzwanzigste und dreissigste, neu bearbeitete Auflage Erster Band Von Dr med et phil C Seyfarth Leipzig F C W Vogel 1930 (6½ × 9½ pp xiii + 880 177 figures, 11 plates M 25.)

[8] *"Esperanto Its Aims and Claims* A Discussion of the Language Problem and its Solution By Bernard Long BA Camb London Esperanto Publishing Co, Ltd 1930 (Cr 8vo pp 62. Paper cover 6d board 1s)

THE DEVELOPMENT OF MATERNITY WORK IN CHINA

ONE of the crying needs of the great Republic of China has been a thorough reform of her maternity system Midwives have been a part of the social economy for years the commencement of a system of midwifery stretching back into the dim past But one of the features of many of the old midwifery books is their scarcely veiled contempt for the midwife in being as is shown by the following quotation from one of them, *Ta Sheng P'ien* (circa 1600)

"Now we come to the necessity of having a midwife Sometimes we have to use them but as the majority of them are fools and know little about obstetrics one must take responsibility oneself and not follow all the orders given by the midwife When they come to a house they ask the patient to bear down in labour at once, and say the child's head is just above the perineum and rub the abdomen and back, paying no attention to the stage of labour Sometimes they rupture the membranes artificially and this method may do much harm to the patient In a word they do their best to exhibit their skill The worst class of midwives charge an extra fee for a delivery Rich families have their own private midwives, and sometimes a family will have more than one, each of them has her own method and between them they turn the house into a market"

This is no fancy picture that has been painted A Chinese lady of good family, addressing a meeting where new ways were being advocated, stated that she herself, when in labour, had to get up and go round serving tea to the midwives before they would help her Most of these midwives know nothing of the science of midwifery, as for cleanliness, there is a deformed midwife known to me who scrambles about on her hands and knees, and has been seen to raise herself from this position, wipe her hands down her clothes and then proceed to make a vaginal examination Little wonder that the maternal mortality in childbirth amounts to approximately 15 per 1,000, while we look upon a mortality of 3 per 1,000 as too high, the neo-natal mortality is at least 250 per 1,000, while our neo-natal mortality is below 75 per 1,000 I know of one village where 70 per cent of the children born died of tetanus neonatorum, and all over the Republic this easily preventable disaster carries off its thousands

For years the burden of this need has been on the hearts of all medical workers, Chinese and foreign, and in connexion with some of the medical mission hospitals a beginning was made in training midwives Then sporadic attempts were made by local authorities to control and register midwives, and in places such as Nanking and Canton a beginning was made, which, however, was only a flash in the pan But of late there has been a real attempt to grapple with the matter, and under the aegis of the Nationalist Government a board has been formed, responsible to the Ministries of Health and Education, this has drawn up plans and regulations for schools for midwives The first National School for Midwifery Training has been already opened at Peiping (Peking), with a

trained staff under the control of Dr Marion Yang who has summed up the general situation as follows

Economic conditions in China and the small number of applicants make it impossible to train the number of personnel required for the country in less than half a century Meanwhile in order to meet the present demands as many suitable training and refresher courses as possible should be established with certification of successful candidates In the meantime the community has to utilize what is obtainable and the medical administrative authorities have to make use of what exists Since the establishment of the Ministry of Health midwifery control has come directly under its jurisdiction The enforcement of the regulations largely depends upon how the local health authorities act It seems that the normal procedure would be the registration of the present practising midwives, both old type and modern trained



FIG 1.—A classroom in the First National Midwifery School.

It is estimated that there are 200 000 old type and 500 modern trained midwives in China To make registration possible one will have to lower the requirements to include all the former groups, and even then about one third of the deliveries will be done by helpers who do not practise as a profession One will have to be content under present conditions to register about 85 per cent of those acting as midwives Most of these depend upon their profession as a means of livelihood in which case there exists little difficulty in requesting them to register Registration however at times is impossible to obtain, since some midwives realizing their poor qualification and lack of training refuse to register, and as yet there is no power to compel them Also those who take midwifery work merely as a kind of voluntary service will not register With an incomplete registration it is very difficult to enforce rules governing their practice and with unregistered midwives practising secretly we cannot expect 100 per cent perfection

China's present high maternal and infant mortality rate as compared with other countries is most deplorable The principal causes of this mortality are puerperal infection and tetanus neonatorum Thus the urgent need for midwifery training has come to the attention of the Government As a preliminary step and in order to meet the most pressing need, steps had been taken locally by the Peiping Midwifery Commission to train somewhat the old type midwives who were practising without the slightest knowledge of the theory of their profession During last year 163 old type midwives in Peiping have been trained especially as to cleanliness, in order to diminish the mortality caused by puerperal infection and tetanus neonatorum Those who after this training passed the examination have been given baskets and are being allowed to continue their profession It has been found to be an excellent measure to utilize these old type midwives as a means of publicity their talk and demonstration influencing the mass of the people more than anything else Furthermore it gives the community a chance of recognizing the need and value of modern midwifery, thus creating a demand for modern trained midwives

Supervisors are being engaged to observe whether these midwives are carrying on their profession on a satisfactory basis, to encourage them in case of difficulties to gain the patients confidence and to learn the reaction of the class to the new effort The supervisor also has opportunity of learning about the standards of living of the patients visited and to raise public opinion tending towards the improvement of the midwifery profession in preparation for full control

The present objects of the school are threefold (1) to give a thorough two years training to women who have had a good general education in order that they may become teachers in provincial schools, (2) to give a six months' midwifery training to women who have had a fair general education (this being regarded as a provincial matter) and to supply the immediate crying need and (3) to gather in, register and give elementary training to the midwives of the city It is estimated that in Peiping there are 270 old-type midwives and 35 who have had training in modern method 220 of this number are in active practice Of these old midwives, as has been already said, no fewer than 163 have been brought in and given this elementary course In the old days there was a loose kind of registration with the police, but a proper register is being formed, 193 of the 220 mentioned above are already registered, and the beginnings of a disciplinary system are on foot

There is an increasing demand among women for maternity training and a number of students are already enrolled, ten in each class A small maternity hospital is being enlarged, and there is every prospect of the movement becoming a real factor in the life of the people Perhaps one of the most promising things is the way in which the work has progressed in spite of political upsets and occasional setbacks, there are signs that similar movements will before long occur in all the provincial capital

There are two women doctors attached to the staff both being graduates of the Union Medical College for Women at Peking The director, Miss Marion Yang, and the dean,

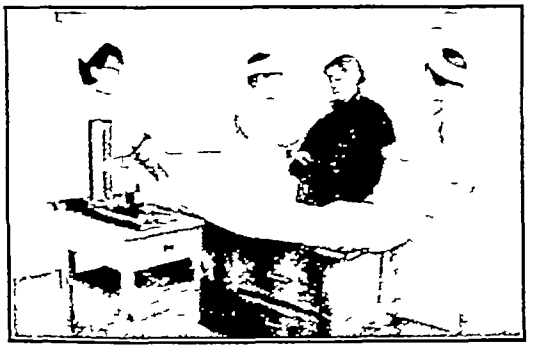


FIG 2.—The ante natal examination room.

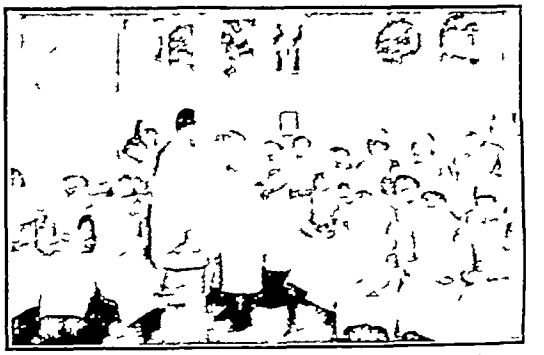


FIG 3.—Pupil midwives being inoculated against typhoid fever

Miss Lily Tseng a fully trained nurse have had the opportunity of post-graduate study abroad the former in both America and England the dean holds the C M B diploma and was trained at the British Hospital for Mothers and Babies Woolwich Both of the doctors have been members of the resident staff of the obstetrical department of the Peiping Union Medical College and the director is still on the visiting staff as a voluntary member taking charge of the out patient department

To sum up, a real beginning of a modern board for China has been made There is no doubt that the work will steadily progress in spite of political changes and parties being agreed on the necessity for such development

J PRESTON MAXWELL
MD FRCS

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THE SCANDAL OF THE REFUSE DUMPS

On July 16th, as reported in our last issue (p 156), Miss Susan Lawrence, Parliamentary Secretary to the Ministry of Health, received a deputation representing the Essex riverside local authorities affected by the dumping of refuse from the Greater London area, and in reply to their representations said she would make no attempt to minimize the gravity of the present state of affairs She had herself been over one of these dumps, and their existence seemed to her a public scandal

It is some years since the London County Council first called the attention of the Minister of Health to this scandal, and from time to time Members of Parliament interested in questions affecting the public health have insistently urged upon the Minister that effective steps should be taken to stop the unseemly practice of dumping the scourings of the streets, the refuse from domestic buildings, and the decomposing and offensive dejecta of trade and industry in gigantic heaps on sites in the neighbourhood of London These sites, still in use and originally adopted as convenient for this unsavoury practice, have now perforce become the residential areas of the overflowing population of the metropolis All that the London County Council had alleged was more than confirmed as a result of the Minister's inquiries A report made by Mr C J Dawes,[1] the Inspector of Public Cleansing of the Ministry of Health, who had been appointed to investigate the whole question, revealed a state of affairs that was simply shocking The report received a large measure of public attention, gross and outrageous evils were described and depicted in the press It was clear that something must be done to remedy evils officially described in the strongest terms But, as the report pointed out, and as must have been already recognized by the London County Council in its appeal to the Ministry, there was no remedy under the existing machinery No single administrative authority was to blame, and no local authority, either alone or in any conceivable practicable co-operation with other authorities, could stop it It was a sanitary problem of Greater London which none of its parts, great or small, could effectively deal with But Greater London, while a vast unit, has no corporate existence In this and other health problems which are those of the whole civic community there is no city corporation as in other large cities, exercising authority over the whole It is true that every now and then when obsolete machinery cracks because of a strain it was never devised to bear, an *ad hoc* authority, such as the Water Board, an electricity, or transport board, is created or suggested And in the absence of any other London precedent, this was what Mr Dawes was compelled to suggest as the only practicable way of dealing with an increasing danger to health

It is certain that *some* authority exercising jurisdiction over the whole of Greater London is alone competent to deal effectively with this grave situation That apparently was the view taken by the then Minister, Mr Neville Chamberlain, who, upon considering the report by Mr Dawes, appointed a Departmental Committee on London Cleansing The terms of reference to the committee are significant "I hereby appoint to be a committee to consider the report made by Mr C J Dawes on public cleansing in London, and to recommend what measures should be taken on the report

The committee will consider at an appropriate stage of their proceedings whether it is advisable that there should be added to the committee persons representative of the interests of local authorities in the neighbourhood of the Administrative County of London" In the report of the departmental committee, which has now been issued,[2] there occurs the following passage "We may here explain that it was decided at our first meeting that the subject we had to consider was London's own special problem, and that for the time being at any rate it was not desirable that the committee should be enlarged so as to include representatives of extra-metropolitan authorities We saw no reason later to alter this view" London, for the departmental committee, means the administrative county The committee finds that it is no longer practicable for the twenty-nine metropolitan sanitary authorities within the administrative county of London separately to dispose of their refuse efficiently, and so it suggests the formation of a central body representative of the said twenty-nine authorities which in some vague way is to co-ordinate the public cleansing service of London It does not seem to have occurred to the departmental committee that the problem before it was a health and administrative problem of that Greater London of which the administrative county forms but a part

The larger part of the population of the metropolis lives outside the limits of the administrative county the aggrieved element in that population lives beyond the county's border, the metropolitan boroughs, though perhaps the chief, are by no means the sole offenders in producing the grave nuisances for which the committee was appointed to find an effective remedy Concerned at the inefficiency and mismanagement of the public cleansing services of the metropolitan boroughs exposed by Mr Dawes, the committee concentrated on these defects, oblivious of the wider bearings of its reference "We are unanimously of opinion, after what we have seen and heard for ourselves, that the facts as to the conditions in the public cleansing service of London have been fairly and accurately presented in his [Mr Dawes's] report, and have not been controverted by any of the evidence that has been submitted to us" But it was not alone the shortcomings of the metropolitan boroughs, as the cleansing authorities within the administrative county, that led Mr Dawes to suggest the formation of an *ad hoc* authority for public cleansing in London It was mainly—as we should infer—because he knew that the scandal of the gigantic muck heaps dumped in the residential areas of outer London could be dealt with only by an authority exercising jurisdiction for the purpose in question over the whole of Greater London For the departmental committee to have missed this point deprives its report of any value as a contribution to the solution of the problem It is not that the committee was unimpressed with the dreadful state of affairs "We have inspected most of the refuse disposal works in London, and are agreed that generally they are out of date, insanitary, inefficient, or so situated as to cause nuisance or grave annoyance As regards the dumping of refuse in areas outside London we have received evidence, written or oral, or

[1] See *British Medical Journal*, April 26th, 1929 p 734

[2] Cmd 3613 Report of the Departmental Committee on London Cleansing London H M Stationery Office 1930 6d

both from the county councils of Essex, Hertfordshire and Middlesex from most of the firms engaged in the transport and disposal of refuse, and from other authorities and bodies we are emphatically of opinion, as the result of our inspections and the evidence submitted that the system of dumping crude refuse without taking adequate precautions to prevent nuisance arising should not be allowed to continue As if any precautions could be adequate and practicable having regard to the scale on which London refuse is dumped! And so we are not surprised to learn that the committee is of opinion that county councils or local authorities should not be given power to exclude refuse from districts other than that in which it is proposed to be deposited or to exercise a veto over sites proposed to be used for tipping refuse The mass of corruption pouring out of London into surrounding area in process of rapid development is an offence, but those afflicted by it must not be given power to exclude the filth

The creation of a central authority competent to deal effectively with the question raises many difficulties Although the committee was agreed as to the necessity for a central service controlled by one authority or body for the disposal of the whole of the house trade and street refuse of the administrative county of London, it had not (as Miss Lawrence pointed out) been able to agree as to the constitution of the central authority and made no recommendations on this vital matter And so nothing that can be effective is to be done *The heaps will go on growing, futile* placebos will be palmed off on the offended public whenever it becomes restive Flies and rats and septic dust, smoke and stinks will continue to pervade the vicinity of the new housing estates on which millions of pounds are being spent to provide the people with healthier homes No one has the courage to tackle the tremendous issues raised by this and other health questions peculiar to the unwieldy community of Greater London The difficulties of the Minister of Health have not been lessened nor his responsibility diminished by the failure of the committee appointed by his predecessor to find a remedy for the evils complained of The insistent urgency of their removal has been confirmed and on the Minister's shoulders now lies the task of dealing with the situation

CHROMOSOMES IN MAN

Ever since the evidence was presented that the chromosomes are, in all probability, the carriers of the hereditary factors, and are an essential part in the sex determining mechanism it has become a matter of some considerable interest, not to say importance, that the number and the character of the chromosomes in man should be determined As far back as 1912 Winiwarter published his observation that the diploid number of the male was 47, that of the female 48 From this it seemed to follow that male was to be distinguished from female in the human species by the possession of a single unpaired X chromosome Other papers dealing with the same subject followed in rapid succession, but without exception they seemed to indicate that Winiwarter was wrong, and that a diploid number of 24 was the correct count

At this point there appeared three papers—two from Japan and one from America—which confirmed Winiwarter's conclusions though they differed amongst themselves on the question whether in the male there were 47 or 48 Oguma and Kihara reported 47 chromosomes in spermatogonia, whereas Painter reported 48 of which 2 were an XY pair The discussion was somewhat complicated by the fact that the Japanese dealt with Japanese material while the American dealt with American white and negro Later Winiwarter and Oguma published a second paper in which their earlier conclusion that the male has a single unpaired X was reaffirmed

Evans and Swezy in their recent monograph on *The Chromosomes in Man, Sex and Spermatogenesis*[1] tackle the question by an extensive study of human spermatogenesis It differs from the former studies by its much more extensive and comprehensive presentation of indubitable evidence for the existence of an XY combination in the human male and clearly demonstrate the fact that the diploid number in both male and female is 48 The material is obtained from white negro Mexican and Indian and in addition chromosome counts were made on the tissues from two embryos from the ovaries of a young girl, and also from fragments of testes removed taken from the body of a middle aged man They demonstrated beyond all doubt that in spermatogonia there are 48 chromosomes and that in the primary spermatocyte the reduced number is 24 as it is also in the secondary spermatocyte They find that the X chromosome is the smallest element in the whole chromosome content and that its recognition is made easy because of its characteristic small size In the primary spermatocyte the X and the Y are paired and the segregate during this particular division Among the secondary spermatocytes there are two kinds Some contain a small X in their this particular chromosome is although the total number of chromosomes is 24 It follows from this that the mature spermatozoa are two kinds—one which carries the Y the other which carries the X Their evidence confirms the conclusion that in the human subject the male is the digametic sex It can now be accepted without question that the diploid number of chromosomes in man is 48 and the haploid 24 and that the male is XY Furthermore it is established that the sexes can be distinguished by difference in chromosome content

[1] *The Chromosomes* and *Olive Swezy* [illegible] No 1 Berkeley Calif Cambridge University [illegible] 11 plates 6s 6d net)

A B.M.A. ODYSSEY

On July 27th, 1929 Sir Ewen Maclean signalized the end of his Presidential year by starting on a journey round the world as official delegate of the British Medical Association to many of its Branches in distant parts After his return he gave some account of this tour to the members of the Council, who were delighted to hear of the splendid welcome given him at every halting place and to receive first-hand news, from the lips of an acute observer, of the strength and enthusiasm and loyalty of the Association overseas Sir Ewen has now written the story and had it printed to please his many friends abroad and at home He calls it aptly 'A B M A Odyssey Round the World in 140 days.' The narrative goes with a swing, the printing and general get-up are worthy of Tanner and Butler's press and many of the seventy pages of the pamphlet are adorned with cheerful pictures mainly of Australian scenes The concluding paragraph may well be quoted here It has been a very privileged ex[illegible] It has abundantly added to my knowl[illegible] wonderful world it has given me [illegible] believe will be enduring [illegible] pioneer work it has [illegible]

membership of this great Association, it has more than ever impressed me with the importance of our Overseas Branches, and it has convinced me of the obligation which rests with us, personally and corporately, to prove ourselves worthy of that great heritage."

TUBERCULOSIS MORTALITY IN CHILDREN

THE fall in the mortality rates from tuberculosis that has taken place during the past thirty years in this country has been greater in children under the age of 5 than in any other age group. Drs. D. J. Dow and W. E. Lloyd of the Brompton Hospital, who have conducted a statistical investigation on tuberculosis mortality in children, point out in their report[1] that, although the absolute rate of mortality from tuberculosis is greater in infants than in older children, relatively to the rate of mortality from all causes it is lower in young children than in those approaching adult life. A study of the annual death rates from tuberculosis per million persons living shows that from 1901 to 1910 the heaviest mortality was in children under 5, the rate then being nearly 3,000 per million living at that age. In 1914 the mortality of this group from tuberculosis—till then higher than that of any other 5-year group—had taken second place to that of the 40-45-year group, and since then it has always been lower than that prevailing in several other periods of life. Analysing the tuberculosis mortality figures for England and Wales from 1898 to 1927 in children under the age of 15, the authors of the report show that during this period the death rate from tuberculosis in children under 1 year of age decreased by 86 per cent., the fall between 1898 and 1912 having taken place rapidly and almost without interruption, and a similar fall having occurred since 1917. The fall in the higher age groups, though not so big, is striking enough, thus in children between 1 and 5 years of age it is 67 per cent., in children between 5 and 10 it is 47 per cent., and in children between 10 and 16 it is 35 per cent. It is interesting to compare these figures with the fall in the rates of mortality from all causes during the same period. In children under 1 year the fall is 56 per cent., in children between 1 and 5, 58 per cent., in children between 5 and 10, 39 per cent., and in children between 10 and 15, 31·8 per cent. A study of the mortality rate from tuberculosis in each of these age groups expressed as a percentage of the total mortality from tuberculosis among children under 15 shows that only in the group of children under 1 year has this figure fallen between the years 1898 and 1927, in the later groups it has increased. Carrying their analysis into the mortality from different types of tuberculosis, the authors found that during the period under survey the death rate from abdominal tuberculosis has fallen by 89 per cent., from tuberculous meningitis by 62 per cent., from pulmonary tuberculosis by 64 per cent., and from other forms of tuberculosis by 77 per cent. Their studies confirm the generally accepted view that few children in contact with tuberculosis fail to react to tuberculin within the first few years of life. Where there is no known contact with tuberculosis the frequency of positive reactions increases gradually from infancy to adult life, so that at about the age of 20 nearly everyone is sensitive to tuberculin. Similarly *x*-ray examination reveals lesions far more frequently in children in contact with tuberculosis than in those who are not exposed to a like risk. Most of the authorities cited by Drs. Dow and Lloyd found a higher mortality *from tuberculosis among children born of infected* parents than among children who were not exposed to infection. But in view of various discrepancies in the figures obtained from different countries the authors themselves made an inquiry into the fate of children who had been in contact in varying degrees with cases of tuberculosis. In their series, representative of an average working-class population, they found that the mortality rate of *exposed children* under 1 year of age was about twice as high as that of children who had not been exposed to infection—the figures being 1·3 per cent. and 0·58 per cent.—and that the death rate within the first five years of life of children who had lived from birth in contact with a parent with positive sputum was 2·6 per cent.

[1] An Investigation from the Research Department of the Brompton Hospital for Consumption and Diseases of the Chest, No. 1. Tuberculosis Mortality in Children. The Chaucer Press, Bungay, Suffolk.

MATERIALISM IN BIOLOGY

IN the Herbert Spencer Lecture, delivered at Oxford in June, Sir Peter Chalmers Mitchell discussed the present position of materialism.[1] It is the opinion of many at the present time that materialism has been found wanting as a working principle. It has even been suggested that religious insight may safely be employed as a guide to scientific insight. The tendency is not confined to philosophers so called, but is exhibited by some distinguished men of science, and, in the lecturer's opinion, threatens to introduce an undesirable subjective and emotional element in scientific work. An examination of the record of recent scientific progress, however, has convinced Sir Peter Chalmers Mitchell that, so far from materialism having lost ground, it has become more firmly established than ever, since Spencer wrote. He adduces many instances of scientific discovery in support of this opinion, such are the demonstration by Butschli that many of the properties of protoplasm which were supposed to depend on some mysterious vital force may be reproduced in colloid solutions, the artificial manufacture of sugar and other products of vegetable and animal life, and the general trend of medical history, exhibiting a continual replacement of more or less mystical causes by material agents. Certain it is that in the science of living beings many functions formerly attributed to "vital force" are now satisfactorily referred to mechanical and physico-chemical forces. Science still finds materialism the best working hypothesis. With regard to the causes of the present tendency towards the mystical—the doctrines of creative urge, entelechy, holism, creative evolution, values, and other theories to explain on imaginary principles what has not yet been referred to matter—the lecturer dismisses the subject with a few brief suggestions. Development of the argument in this direction would have been interesting. Spencer recognized a class of things as unknowable. As realities, they necessarily come within the cognizance of science and cannot be ignored. Many regard them as the most important class of realities. In dealing with them—"the things invisible but real," to use the comely phraseology of Pascal—mankind has unconsciously employed the scientific method of working hypotheses, accepting them as beliefs in default of material proof, testing them, not by experiment, but by experience, retaining them while fruitful, rejecting them for better. The progress of human culture in such particulars as architecture, painting, sculpture, music, literature, ethics, and civilization generally has been largely dependent on these hypotheses, possibly, for humanity at its best, they are indispensable. They suffer, however, under a serious disability: they are not formulated and discarded with the freedom and readiness exhibited in the case of materialistic hypotheses, when worn out they are hard to replace. It would seem that certain scientists of the present day are engaged in an attempt to build up, on the ruins of our old faiths, a rationalized belief, bringing material and "invisible" realities into closer relationship, or to provide a satisfying creed on

[1] *Materialism and Vitalism in Biology.* By Sir Peter Chalmers Mitchell, C.B.E., F.R.S., D.Sc., LL.D. The Herbert Spencer Lecture delivered at Oxford, June 3rd, 1930. Oxford: The Clarendon Press. 1930. (Med. 8vo, pp. 30. 2s. net.)

more materialistic line. The old way is probably the better, but it would be ungracious to criticize these attempts too closely without tentatives there is no progress. The most recent attempt is that formulated in Professor Wardlaw's book *The Creed of a Biologist*[1] and runs: *I believe in the Law, in the immortality of the germ plasm, and in the creative progressive evolution of life in the variability of value of the germ plasm through heredity and environment in the transmission of acquired characters, and in the conscious improvement of the race through the laws of volitive eugenics. I believe that the aim of the individual life is the protection, improvement and continuation of the immortal germ plasm, and that this is best secured by self-development in the highest possible degree, through a permanent monogamic sex-partnership with limitation of offspring towards securing the best possible results in the progeny and their best preparation for the continuation of the process in the next generation.* In this belief, the Universe is rationalized for my intelligence and reason. I accept it with optimism, relinquishing all desire for personal immortality, and unafraid believing that whatever gods may be the game of life will have been played squarely and according to the law."

A SURVEY OF ANATOMICAL DEPARTMENTS

THE seventeenth series of *Methods and Problems of Medical Education*,[2] which is distributed gratis to teachers and administrators in medical schools and hospitals and to others interested in this important subject, contains twenty-eight articles from the directors and teachers of departments of anatomy, histology and embryology. Nearly all parts of the world are represented—for example the teaching in India is described in the medical colleges of Calcutta, Patna, and Bombay. Professor W. A. Mysberg gives an account of the anatomical department at Batavia, Java, Dr. M. R. Drennan of the Wernher Beit anatomical department at Capetown, Professor Ricardo Palma of the anatomical department of San Marcos University, Lima, Peru, and Professor Arturo Garcia of his department in the University of the Philippines. The first article, by Dr. S. R. Detwiler of Columbia University, though short, is extremely interesting, as it sketches the modern scope of anatomy, his first sentence is significant:

> The conception of anatomy as a purely morphological science represents a state of mind which is gradually ceasing to exist among biologists." It is, he insists, a dynamic, not a static, science and is concerned with all biological phenomena dealing with the problems of form and form-regulation in animals. "In the past anatomy did not keep pace with other biological sciences, largely because human anatomy, on account of its practical applications, was for a long period in great danger of becoming merely a handmaid to medicine and surgery. Nowadays anatomical departments must be equipped in the same way as those of experimental biology. Three other accounts of anatomical teaching in the United States of North America are given from Baltimore and Philadelphia, the latter being represented by descriptions of the University of Pennsylvania department and of the Wistar Institute of anatomy and biology. This famous institute has its own press, and gives financial help to a group of anatomical and zoological journals, in addition, its extensive animal building, where experiments in breeding rats have so long been carried out, and the museum dating from 1808, deserve a passing notice. At Aberdeen—the British representative in this instalment—the professors of anatomy and physiology are, in virtue of their office, consultants to the Royal Infirmary, in order that they may co-operate with the physicians and surgeons in teaching and research. Professor P. J. Berry, who gives an account of the department of anatomy and histology in the University of Melbourne, has based on the principle that anything bearing on the life of man—physical anthropology, anthropogeography, prehistory, development, heredity, neurology, and even human behaviour—is a fit and profitable field for anatomical research. At the University of Alberta the staff of the anatomical department is carrying on research on the innervation of the heart, the comparative histology of the islands of Langerhans, and the nerve characteristics of the skin. There are a number of well-illustrated articles describing the anatomical departments in Japan, Czechoslovakia, Rumania, and Bulgaria.

EXCESSIVE PRESCRIBING: EXCESSIVE PENALTY

We regret to learn from the senior partner of a firm of practitioners concerned that the matter has not been settled. The Ministry of Health has, it the Minister upholds the penalty of £100 which the London Insurance Committee asked him to inflict on them as a punishment for excessive prescribing. The action taken by the London Panel Committee in May 1929 was briefly recorded in the *Supplement* of June 22nd 1929 (p. 246). On that occasion a subcommittee, to which the matter had been referred for inquiry, reported that in its opinion the prescribing of the firm of practitioners had not been in excess of what was reasonably necessary for the adequate treatment of the insured patients; the committee however rejected this finding and remitted the whole of it. The chairman referred the question to another subcommittee whose report, adverse to the practitioners, was adopted by the Panel Committee. The irregularity of the procedure [illegible] Ministry of three referees who had [illegible] regretfully to the conclusion that [illegible] considerable expenditure on drugs and medicines was reasonably necessary. The referees added that the object of the proceedings was deterrent and not punitive, and therefore they recommended that the penalty should not be more than sufficient to exercise that deterrent effect. They also expressed the utmost confidence in the bona fides of the practitioner and his partners. "The high ideals with which the members of the firm are possessed are quite admirable, but it is impossible to countenance such idealism at the expense of a limited public fund earmarked for a specific purpose only." In the *Supplement* of February 8th, 1930 (p. 41), we recorded a meeting of the London Insurance Committee, at which after considering the referees' report the committee resolved to ask the Minister of Health to withhold £100 from the money payable to it with a view to this sum being deducted from the remuneration of the practitioner concerned. Then in the *Supplement* of May 3rd (p. 202) we recapitulated the story in outline, and published a statement put in by the practitioners when making oral representations to the Ministry in March. We are aware of the many claims on a Minister's attention; nevertheless it is unfortunate that Mr. *Greenwood* should have taken four or four months to make up his mind on this matter and worse than unfortunate that his decision to impose the penalty instead of a merely nominal fine should be announced until after the close of the [illegible] been announced until after the close of the British Medical Representative Meeting.

NATIONAL COUNCIL FOR MENTAL HYGIENE

A new bulletin has been [illegible] Council for Mental Hygiene interest and report [illegible] last twelve months [illegible] holding a series of

[1] *The Creed of a Biologist.* By Alfred Scott Warthin, Ph.D., M.D., LL.D. London: Constable and Co. Ltd. 1930. (Cr. 8vo, pp. viii + 61, 5s. net.)

[2] *Methods and Problems of Medical Education* (Seventeenth Series). New York: The Rockefeller Foundation. 1930. (8 × 11, pp. 270, illustrated.)

encouraging that they will be continued Seven lectures were given last autumn by well-known authorities on such subjects as adjustment to life at different ages, problems of youth, the woman wage-earner, and mental and nervous problems of everyday life A second series of six lectures dealt in the spring of this year with the new psychology and the parent, the training of children sex education, and choosing a career It is announced that during the coming autumn similar lectures will be delivered on Thursdays at 5 15 p m The popularity of the conference held last autumn in Westminster has led to the decision to arrange a similar gathering in May, 1931 A report of the proceedings of last year's conference has been published by Messrs Adlard and Son price 2s, and is obtainable from the council, the Tavistock Square Clinic, or any bookseller The profits from the sale of this report will be divided between the council and the Tavistock Clinic The bulletin of the council contains comments on the progress of the Mental Treatment Bill (which became law on July 10th), and an account of the first International Congress of Mental Hygiene held in America last May Brief notes are supplied on the work of subcommittees of the council during the last year, this included the drafting of a memorandum on the subject of attempted suicide, and the preparation of two reports, one relating to the present facilities for the immediate care and treatment of persons suffering from mental and nervous disorders, and the other to the hostel system for the treatment of mental defectives The importance of preserving close contact with the work of parallel societies in foreign countries has been recognized and a special secretaryship has been created by the council to this end It is announced that the council is now in a considerably stronger financial position than it has ever been, but so large a programme lies ahead that further support is urgently necessary It is hoped to appoint a whole-time medical director, with the necessary staff and suitable offices, to organize summer schools and conferences, to promote research into the causes of every form of mental disease, and to establish clinics for early mental cases throughout the country

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BRITISH gynaecologists and obstetricians who may be travelling in the United States before or after the Annual Meeting of the British Medical Association in Winnipeg at the end of this month are invited by Dr Samuel R Meaker to visit Boston, where he will show them the most interesting features of the gynaecological and obstetrical work in that city Those who would like to take advantage of this friendly invitation should communicate with Dr Meaker, at 475, Commonwealth Avenue, Boston, Massachusetts

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By an Order of the Committee of Privy Council, made after consultation with the Medical Research Council and with the President of the Royal Society, Sir Charles Sherrington, O M, G B E, M D, F R S, Wayneflete Professor of Physiology in the University of Oxford, and Sir Almroth Wright, F R S, honorary bacteriologist to St Mary's Hospital, London, have been appointed members of the Council, in succession to Sir Frederick Gowland Hopkins, F R S, and Sir Charles Martin, C M G, F R S, who retire in rotation on September 30th

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We regret to announce the death, on July 26th, of Dr A Bertram Soltau, C M G, C B E, senior physician to the South Devon and East Cornwall Hospital, Plymouth, and honorary consulting physician to the Ministry of Pensions Chest for gassed cases We hope to publish an obituary notice in an early issue

ADMINISTRATION OF THE MENTAL TREATMENT ACT

LOCAL AUTHORITIES AND THE BOARD OF CONTROL

A CONFERENCE on the Mental Treatment Act was summoned by the Board of Control for July 22nd and 23rd, and was attended by delegates from local authorities and mental hospitals in all parts of the country

Mr L G BROCK, chairman of the Board of Control, who presided, said that the Board was reluctant to issue a circular giving advice until it had had the opportunity of conferring with the local authorities which would be concerned in the administration of the new Act The Act, in his view, marked an enormous advance on previous legislation, and a change in the whole attitude towards the treatment of mental disease, but it needed to be worked in a spirit of cordial co-operation between the local authorities and the centre He read a letter from Lord Macmillan, who was chairman of the Royal Commission, stating that he welcomed the important advance which the *Act embodied, and thought the provision made for the* reception of voluntary patients in mental hospitals would prove of great value by enabling curative measures to be adopted in the initial stages of mental disturbance

The MINISTER OF HEALTH (Mr Arthur Greenwood), who addressed the conference on the second day, said that it was the desire of the Government that there should be the fullest consultation between the central and local authorities He hoped that during the coming months those concerned in local administration would utilize the experience of the Board of Control, with its special knowledge of the provisions of the Mental Treatment Act The *Board was desirous of dealing with the problems involved* in a sympathetic and constructive spirit The Act meant that the community must cease to think of mental disease as something so indecent as to require to be placed in a separate category, it was a section of the general public health problem of this country In the treatment of mental disease and in dealing with people suffering from any form of mental disorder, the closest contact ought to be maintained with the general health services, hospitals, and so forth Psychological medicine must not be regarded any longer as a separated thing, surrounded by a ring fence As illustrating the problems attending the subject he pointed out that although nobody would challenge a division against the Mental Treatment Bill on second reading, yet many weary weeks were spent in committee on getting it through It might have been possible to attempt a big revolution in lunacy administration, but to-day such a measure would have been one of those slaughtered bills which at this period of the session the Government was compelled to sacrifice This Act was on the Statute Book, and marked a great step forward in a field of public health too long ignored It placed new responsibilities on the local government authorities, but new responsibilities always meant new opportunities The Act would be very carefully watched by enlightened members of the public Many more questions would be asked in Parliament on lunacy administration "I shall not complain, but it means that when I am in the dock you are in the dock My only regret is that I cannot keep you in permanent session, and carry you across to the House to support me when a question is asked about this problem" Within the next few years there would be a great development in voluntary treatment, an enormous increase in the number of people who were being treated in the early stages, and a corresponding diminution in the number of certified cases "I have done my best to give you as good a bill as parliamentary circumstances would allow You asked for these powers, you have got them, and I hope you will use them"

Five main subjects were debated by the conference The first was on out-patient clinics, as to which the general view was that they should be in association with general or cottage hospitals Professor G M ROBERTSON of Edinburgh said that the immediate thing to do was to get the out-patient clinics started in as many places as possible and to consider their lines of development afterwards With them was bound up the objective of the new Act,

which was the medical treatment and prevention of mental disease, instead of, as in the past, the custody of the dangerous insane.

DR T BEATON, medical superintendent of Portsmouth Borough Mental Hospital, in opening the discussion on voluntary patients, spoke in optimistic terms of the possibilities afforded by the admission of the voluntary boarder to the public mental hospitals. Those concerned in administration must be prepared for curious paradoxes, and many patients who in the ordinary way would have been certified would be found admitted as ordinary boarders because they preserved a certain logical continuity of thought. It was important that the staff should not regard the voluntary boarder as a new phenomenon, and they should be taught to make as little difference as possible between the boarder and the certified patient. Another danger was that as the mental patient was a constant source of worry and irritation to the general practitioner, he might be tempted under the new arrangements to unload him on to someone else at the earliest opportunity. MR BROCK said he wanted to allay any apprehension that the voluntary patients would cost the local authorities a lot of money. The great bulk of the patients who were going to be so treated would under the old dispensation have been certifiable.

A discussion also took place on temporary patients under Section 5 of the Act. SIR HUBERT BOND said that this was perhaps the most important of the sections. It got rid of magisterial intervention for a time sufficiently long to enable effective treatment to be applied. It avoided the necessity of compelling a patient as a preliminary step to treatment to be certified as a person of unsound mind and thus removed a formidable bar to early treatment. MR BROCK announced that the Board of Control was about to draw up a list of approved practitioners for the purpose of signing recommendations for treatment of non-volitional patients under Section 5 of the Act. This was a delicate and invidious task for which the Board had set up a committee under the chairmanship of Sir John Rose Bradford, and the principal medical bodies had been invited to nominate members. (On the previous day the Council of the British Medical Association nominated Dr R C Cordon as its representative on this committee.)

The question of research was broached by Professor SHAW BOLTON who hoped the time would soon come when the diploma in psychological medicine would be regarded as the essential qualification for a permanent post in a mental hospital. From the university point of view a psychiatric institute or department was ideal, in his opinion, and it was from the university that mental disease should be taught. He complained that large numbers of medical officers in mental hospitals were unable to secure leave in order to undertake the necessary training for the diploma. Local authorities controlling mental institutions should be asked to allow study leave for three months with salary and emoluments, on the understanding that a certain minimum period of further service was guaranteed. Dr B H SHAW (Stafford County Mental Hospital) commented on the fewness of the mental hospitals in which there were laboratories for the actual investigation of mental disorder, and indicated a number of outstanding problems to which such laboratory investigation might address itself.

In opening a discussion on after-care, Dr J R LORD, medical superintendent of the London County Mental Hospital at Horton, suggested to local authorities that they should regard after-care treatment as best centralized in a national organization which could keep in touch with employers everywhere and establish and maintain convalescent homes and institutions conveniently situated for the use of them all. Such a body could also afford adequate training and experience in case work to social workers whose abilities and character rendered them specially suitable for such work. He thought that local authorities should guarantee an appropriate sum to the Mental After-Care Association which would wholly or partially support a specially trained after-care worker in the district making full use of the association's institutions, paying the full maintenance charges for their patients so accommodated, and make an annual grant to the association to be expended on institutional developments.

Scotland.

Reception to Medical Graduands.

SUCCESSFUL students at the recent final medical examination in Edinburgh were entertained on July 22nd by the Edinburgh Division of the British Medical Association at the Association's House in 7 Drumsheugh Gardens. Dr J M Bowie was in the chair, and Sir Leslie Mackenzie delivered an address on 'The new era in medicine', reviewing the progress made during the last forty years and commenting on the openings for further advance. Great possibilities in preventive medicine he said had been brought about by an alteration in outlook such as had been effected by Koch's discoveries. When the Local Government Board for Scotland issued its tuberculosis circular twenty-four years ago there was hardly a bed for this disease in any municipal or county hospital to-day there were about 5,000 beds in charge of specially trained medical practitioners. Radiology had created a new world of diagnostic methods and treatment and revealed how future progress must be sought along the lines of training in scientific technique associated with unremitting research and experiment. Although an immense amount was being done as regards the examination of children in the State-aided schools and the provision of treatment little if any change had been made in the training of medical students to utilize the information obtained in school clinics. Medical schools, indeed, gave hardly any instruction in the application of clinical methods to the definite purpose of preventing disease. Sir Leslie remarked: "The medicine of the future will rest on this type of test—namely that the clinical candidate shall be so trained in clinical methods that he will be as able to assess the fitness of a person for the purposes of civil life as he now is to give a prognosis in a case of bronchitis." It was curious he added that with all the advances made in technical methods of diagnosis the main reliance was still placed in hospitals, dispensaries, and out-patient clinics on the mother's diagnosis of disease. Until the child was so ill that the mother thought the doctor should be informed the treatment of the child was delayed, and while this 'maternal diagnosis' type of medical practice persisted preventive medicine in the form of individual treatment could hardly begin. In the school clinics defects and ailments were sought out by professionally trained examiners; they were not left to the mother for discovery. Yet the material so brought to light was outside the scope of the medical curriculum and examinations; consequently when anyone decided to study clinical medicine on its preventive side he had to seek out new teachers and receive training in the earlier diagnosis of disease. Sir Leslie Mackenzie then passed to a brief consideration of the proposals for a general medical service elaborated by the British Medical Association which he thought covered all phases of medical practice. The greatest problem," he said, "in the medical organization of the next ten years will be the method of enabling the private patient, through his doctor or otherwise, to get the full advantage of the splendidly equipped institution now available for both diagnosis and treatment. Meanwhile the new local government system makes it possible to organize on a public basis the many medical services provided or to be provided. In conclusion he hoped that the new developments in public medical service would be so adjusted to the voluntary and private medical services that no patient in need of any form of treatment would look for it in vain.

Medical Graduation at Edinburgh.

A graduation ceremony was held on July 22nd in the McEwan Hall of the University of Edinburgh under the presidency of Principal Sir Thomas Holland. More than one hundred students received the degrees of M B, C B, and there were twenty-two recipients of the M D degree. Among the latter gold medals were awarded to Dr J S Fulton for a thesis [illegible] The extensibility of the arteries in man; to Dr [illegible] for a thesis on The mechanics of internal [illegible] and to

DR F E REYNOLDS, whose thesis was "A pathological study of the pathways of infection to intracranial structures from the nose and its accessory cavities." After the degrees had been conferred an address was delivered by the promoter, *Professor* D P D WILKIE, who recommended the new graduates to seek at first a hospital appointment. Whatever their ambitions might be, he considered that a hospital training should be as wide and varied as possible. He advised them not to be concerned about their ultimate vocation, for a career in medicine was determined by evolution rather than by self-determination. Medicine as a profession offered a limitless field for the exercise and development of their individual gifts and for the development of personality. Referring to research Professor Wilkie said that some of the most pressing problems must be solved by clinical study in the wards of hospitals, opportunities for research were not confined to laboratories. The most urgent need of this medical school was the adequate endowment of research in clinical work. Most graduates would find that the general practice of medicine constituted their life-work for this in his opinion, a knowledge of practical psychology was the most essential equipment. They must love their work, the one thing that most surely defeated growth and development in the art of medicine was the introduction of the commercial spirit into practice. True ambition in medicine should be not so much the making of a living as the making of a life. He thought that each of them should attempt to educate their clientele to regard the services of doctors as primarily for the care of health rather than for the cure of disease. If every patient was examined at intervals of six months after the age of 40, early deviations from health would be detected during the curable stage of many diseases, and a new era in medicine would be inaugurated.

Research in Animal Diseases

Dr HENRY DRYERRE has been appointed physiological biochemist to the Animal Diseases Research Institute at Moredun, Edinburgh. For about ten years Dr Dryerre has been lecturer in physiology at Edinburgh University and professor of physiology at the Royal (Dick) Veterinary College, a post which he is retaining. He has published important observations dealing with the effect of thyroid extract upon the response to adrenaline, and with the action of thyroid preparations upon the autonomic nerves, and he has recently been engaged upon the elucidation of the problem of milk fever and its relation to the endocrine glands. Mr W S GORDON, M.R.C.V.S., has been appointed senior bacteriologist to the same institution. He has been working for some years at the Wellcome Research Laboratories, and is well known among Scottish agriculturists for his investigations into lamb dysentery and braxy.

England and Wales.

An Outbreak of Enteric Fever near Portsmouth

DR A MEARNS FRASER, medical officer of health for Portsmouth, has issued a report on a localized outbreak of enteric fever in the Landport district in June. Following a Sunday school outing on May 29th, in which 118 children and 10 adults took part, several cases of enteric fever developed. It appears that 99 of the party drank from a stream running through the woods, and 18 of these contracted enteric fever, 29 suffered from severe attacks of abdominal pain, diarrhœa, or vomiting within three days of returning home, and a further 23 had gastro-intestinal symptoms during the next three weeks, in which period no illness that could be attributed to the excursion occurred among the remainder of the party. An investigation was conducted into the circumstances attending this outbreak, and it was shown that, although in a few of the cases the incubation period was rather longer than usual, yet in none was it incompatible with the suggestion that the disease was contracted on May 29th. Five patients, who subsequently developed enteric fever, had an attack of gastro-intestinal disturbance within a day or two of drinking the water, followed by an interval of apparent good health before the graver disease became manifest. The fever was of a moderately severe type, but up to the present no deaths have resulted. In nearly every case the diagnosis was confirmed by the Widal test. At a subsequent examination the bed of the stream showed marked evidence of sewage pollution, and this was confirmed by analysis. It is stated that the stream received the effluent from sewage works, and it is suggested that there may have been insufficient purification. No other recent cases of enteric fever have been notified in the district concerned.

Epsom College

Founder's Day was celebrated at Epsom College on July 26th, when the prizes were distributed by Lord Burnham, president of the College. The head master, after commenting on the value of past achievements in stimulating progress, mentioned the more prominent distinctions won by past and present members of the school, and referred with gratitude to the new dental scholarship which had been offered by Guy's Hospital, this being he thought, the first of its kind in history. An open scholarship for natural science had been won at Trinity College, Oxford, and another open scholarship for classics in the same university at Pembroke College. A scholarship had been gained at Jesus College, Cambridge, and also an open exhibition at Faraday House Engineering College, while the top place in the Law Society's final examination had been obtained by an Old Epsomian. School successes last year included thirteen passes in the first medical examination, and seventy-two school certificates, with six honours, forty-three exemptions from matriculation, and six distinctions. The athletic successes included an unbeaten Rugby football team and a cricket team which had not been defeated by any other public school. Although last year it had been announced that the council could not proceed yet with the building of the new sanatorium until considerably more money was forthcoming, it had now been decided that the first steps must be taken without further delay in the late autumn. It was hoped that the new building would be ready by January, 1932, the existing sanatorium would then be converted into a house for forty boys, bringing the total up to 450, the maximum number which the council had decided to admit. With the erection of this new building the scheme of reorganization and enlargement formulated in 1924 by Dr Raymond Crawfurd, chairman of the council, would be completed, and this in a period of seven years as contrasted with the original estimate of ten. Other additions and improvements included the construction of a new rifle range, and the erection of a large cricket score board. Lord Burnham delivered an address in which he emphasized the value to any school of a practical bias towards one or other of the lines of education. He emphasized the importance of general intellectual training even though some measure of specialization was inevitable. Dr Raymond Crawfurd, proposing a vote of thanks to Lord Burnham, gave a few details about his predecessors in the presidential office. A new feature in the Founder's Day programme this year was the inclusion of a first-class assault-at-arms, produced in the open air in spite of inclement weather. In the evening the choral society rendered 'The Gondoliers" to a warmly appreciative audience.

Renaming of London Hospitals

The London County Council is proposing to rename some of the hospitals and institutions under its direction. Some of the present names are unsuitable owing to the situation of the hospital (which is not in the locality suggested by its title) or because they are cumbersome in themselves. Ten of the transferred Poor Law hospitals bear names of saints, and twenty bear geographical names. It was at first intended to give them all saints' names, but after consultation with visiting subcommittees and others the idea of a uniform system of nomenclature was abandoned. Among the hospitals to be renamed are the following (the new name is placed in brackets): Bermondsey and Rotherhithe Hospital (St Olave's Hospital), Greenwich and Deptford Hospital and Institution (St Alfege's Hospital), Holborn and Finsbury Hospital (Archway Hospital), Plumstead and District Hospital (St Nicholas's Hospital), St Marylebone Hospital (St Charles's Hospital), Southwark Hospital (Dulwich Hospital), Tooting Home (St Benedict's Hospital).

Papworth Village Settlement

Prince George visited the Papworth Village Settlement in Cambridgeshire on July 23rd to open the new cabinet-making work shop, the foundation stone of which was laid twelve months ago by the Duke of York. Expressing his pleasure at being associated with this valuable form of treatment he commented on the way in which the feeling of helplessness due to the incapacitation of tuberculosis was being overcome by the provision of suitable employment. The health of the children who were brought up in the Settlement seemed to prove that this disease was not hereditary. More financial assistance was urgently needed in order to secure extension of the work, and there should be other similar settlements elsewhere. Sir Frederick Milner emphasized the value of the great interest which members of the Royal Family had taken in the work of Papworth and added that the present Government, as well as its predecessor, had done all it could in the way of encouragement. Prince George was conducted through the workshops and spent a considerable amount of time in the trunk-making department.

Correspondence.

OBSERVATION AND EXPERIMENT

SIR,—To some of the more old-fashioned among your readers it is a pleasure to find an article which is not illustrated by graphs or chemical equations. It is a rare pleasure to come upon an article frankly concerned with the theory of medicine such as the masterly survey of the methods of observation and experiment presented by Mr. Wilfred Trotter in the *Journal* of July 26th (p. 129).

I fancy that it is possible to detect Mr. Trotter hankering after the discredited art of observation in spite of his impartial survey and the full credit given to the achievements of experiment. Perhaps the time has come when a plea should be entered for observation, before a complete breach with tradition shall have destroyed its continuity as a method. If I remember aright it was Jenner who was given the advice, "Don't think—experiment." This may have been well enough for a Jenner but I fear it has proved dangerous advice for many of his successors who have obeyed the injunction all too literally.

In considering the results of experiment run riot I think particularly of the study of tuberculosis. But since tuberculosis may justly be said to be an epitome of medicine, the circumstances of the special case are applicable to medicine as a whole. We have piled up to-day a mass of experimental evidence which no individual is able to cope with. The serious student is bewildered by the spectacle of an ever-increasing mountain of facts and statistics accumulated by the method of experiment. He looks in vain for a guide who will tell him what these things may mean or even if they mean anything at all. It might be well for us to borrow from the ecclesiastical usages of an earlier day which ordained days of humiliation in times of stress. In tuberculosis at least a year of humiliation might not be amiss if it gave us more thought and less experiment and above all if it gave us, not more facts, but an interpretation of the facts.

Over a century ago Louis in his *Researches on Phthisis* spoke of one of the central principles of his study as calling for the "meditation of observers in all countries." I fear that Louis's plea for meditation is little heeded in these days. Will someone point the way?—I am, etc.,

Frimley, July 28th. W. M. MACPHAIL.

DIFFRACTION METHODS IN DIAGNOSIS OF PERNICIOUS ANAEMIA

SIR,—Recently a number of papers appeared in the *British Medical Journal* advocating the use of diffraction methods in the diagnosis of pernicious anaemia, the most recent is that by Dr. Mallov in the issue of July 19th (p. 86). While I have not used Dr. Mallov's direct comparative diffraction method, Professor Gulland, Dr. Goodall and I have tried various diffraction instruments which are on sale at present. The principle of the diffraction method depends on the finding that the diffraction halo produced by passing a beam of light through a blood film varies in size inversely with the average diameter of the red blood corpuscles. The size of the halo is generally measured by the size of the red ring in the spectrum.

Dr. Mallov admits that the red ring mingles to a varying degree with the orange and violet. The personal factor accordingly becomes of great importance. This is quickly realized by anyone who has tested various diffraction instruments. Dr. Mallov himself states in regard to Eve's haloimeter that different observers, even with practice, obtain different results with the same slides. It is obvious that the difference between the size of the halo in a normal blood and that in a case of pernicious anaemia becomes more and more apparent as the degree of megalocytosis becomes greater. In practice it is found that in severe cases of pernicious anaemia with a colour index well over unity diffraction methods undoubtedly give an accurate diagnosis of a megalocytic anaemia. Such cases however are easily diagnosed by a blood count, or in the case of experienced haematologists, by a glance at a stained film. In cases in the remission stage of pernicious anaemia, or in chronic cases where the blood corpuscles number between three and four million, great difficulty in diagnosis is presented, no matter what method is used.

Cabot has demonstrated that in a large percentage of such cases the colour index is unity or below unity—that is, between 0·8 and 1. Price-Jones has shown by measurement that the mean diameter of the red cell in such a case varies from normal by a mere fraction of 1 μ. Taking into consideration the personal factor in accurately assessing the edge of the red ring in the halo, it would be unreasonable to expect that such slight alterations in the size of the red cell can be accurately judged by the eye. A profound knowledge and experience of haematology is required in such cases before a diagnosis can be made. This entails an investigation of (1) the white cell picture with reference to the Arneth count, leucopenia and relative lymphocytosis, (2) the blood platelet picture to detect thrombocytopenia and any increase in the size of the platelet, (3) the red cell picture—for example, megalocytosis, ovality in shape and the coefficient of variation, (4) a test meal, and (5) the van den Bergh reaction, etc. My object in writing this letter is to warn the general practitioner against assuming that diffractive methods are a safe short cut to diagnosis and that any method can dispense with a complete blood examination.

Dr. Mallov under the heading "Prophylaxis" refers to another point which I have seen in several papers in the *Journal* which requires comment. He states that, according to Hurst pernicious anaemia is due to an infection of the duodenum by haemolytic streptococci. I must emphatically maintain that haemolytic streptococci are in no way associated with pernicious anaemia. In a series of nearly fifty cases I found them present in the gastro-intestinal tract *in about 5 per cent of cases*. Similar results have been published by Moench, Kahn, Torry and by van der Reis, who isolated haemolytic streptococci in only one out of thirty samples of duodenal contents of cases of pernicious anaemia. Portal haemolysis is now recognized to have no place in the etiology of pernicious anaemia and there can be no doubt that no specific organism for this disease exists.

Hurst's work on the importance of achlorhydria as an etiological factor in pernicious anaemia deserves the highest recognition. The achlorhydria however must be considered as an indicator of a deficient secretion not only of hydrochloric acid, but of some secretion necessary for protein metabolism from which is produced the specific factor necessary for normal blood formation. In the majority of cases Hurst himself showed that the achlorhydria was congenital, and not acquired as the result of sepsis.

For a full discussion of these points the reader is referred to the monograph on *Pernicious Anaemia* by Professor Gulland and myself published by Henry Kimpton 1930.—I am, etc.,

Department of Medicine, Edinburgh University. STANLEY DAVIDSON, M.D., F.R.C.P.Ed.

"PRE-PERNICIOUS ANAEMIA" AND "MEGALOCYTIC ANAEMIA"

Sir,—Dr J H Malloy's paper on the direct comparative diffraction method of demonstrating megalocytosis (July 19th, p 96) is, of course, of great interest, but it contains one statement which is, I feel, open to doubt Dr Malloy writes "Hurst has shown that the primary condition is achlorhydria which allows of infection of the duodenum by a haemolytic streptococcus" He follows this by contending that "it would seem to be more helpful to call the interval between infection and the onset of anaemia the incubation period of pernicious anaemia"

It is generally agreed that the achlorhydria of pernicious anaemia is, in the great majority of cases a constitutional condition—that is, present throughout life How, then, can one determine the time of infection and so the length of the incubation period? One must agree with Dr Malloy that the term "megalocytic anaemia" should not be used as a synonym for *pre-pernicious anaemia*, but it should be clearly understood that even the latter state is not necessarily unaccompanied by symptoms—I am etc,

Cancer Hospital Fulham Road S W 3 July 22nd — A Piney

GLANDULAR FEVER AND THE WASSERMANN REACTION

Sir,—Very little allusion, so far as I know, has been made to the Wassermann and Meinicke reactions in glandular fever In three cases recently at the German Hospital in which these reactions were tried, one or the other, or both, of these reactions were found to be temporarily positive, as pointed out in my article in the *Medical Press* (1930, vol 181, p 65) This need not necessarily be so in all cases Indeed, Dr M W Cantor in the *Journal* of June 28th (p 1197) mentions that the Wassermann test was employed in one of his cases with negative results, but the Meinicke test was not tried

From another diagnostic point of view our cases help to show that glandular fever may occur without obvious enlargement of any of the superficial lymph glands or of the spleen—a point not mentioned, I believe, either in Glanzmann's recent monograph or in the various articles by H L Tidy, or in the contribution by G Evans and W A Bobb (*Journal*, June 7th, p 1039) In regard to the "lymphotropic" blood picture (that is to say, the "mononucleosis") of glandular fever, it is of course well known that to some extent similar lymphotropic counts are obtained in such common infections as German measles, whooping-cough, and mumps it may turn out that the same will be found in as yet undiscovered specific minor infections which probably still lie hidden among the vast number of cases diagnosed as "influenza," or as vague gastro-intestinal or abdominal attacks—I am, etc

London W 1 June 23rd — F Parkes Weber

PREVENTION OF DERMATITIS IN THE SURGICAL PREPARATION OF THE SKIN

Sir,—The profession should be grateful to Mr R C Alexander for the publication of his case of fatal dermatitis following the use of iodine spirit solution (July 19th, p 100) This case has recalled to my mind quite a number of milder cases of dermatitis following the use of both iodine spirit and picric acid spirit solutions which produced a mild form of toxaemia and caused a considerable amount of discomfort to the unfortunate patients

Two years ago a young woman who had had an abdominal *section performed* four weeks previously was suffering so much discomfort from an extensive picric dermatitis that I was called in to examine her and advise as to treatment Three years ago while making a tour of the surgical clinics of Canada and the United States, I was impressed by the general use of mercurochrome for the preparation of the skin, and since then I have used this method in my hospital and private practice My routine is to have the operation area washed with ether soap, shaved, well swabbed over with spirit, and mercurochromed applied The area is then covered in the normal way with a sterile towel, on the operating table it is swabbed with surgical spirit, dried with a sterile swab, and mercurochrome is again applied The mercurochrome solution is prepared as follows 2 drachms of mercurochrome are placed in 35 c cm of distilled water, and 55 c cm of 95 per cent alcohol and 10 c cm of acetone are added The acetone dissolves the fats Although the above is the original prescription, in practice I have found that industrial alcohol, which contains 75 per cent of alcohol and is, of course, much less costly, has proved to be quite efficient During the three years I have used this preparation I have not seen a case of dermatitis, and the after-results have given me entire satisfaction

Two objections have been raised against the method—namely, the cost and the staining of the skin With regard to the cost if industrial alcohol is used, mercurochrome solution works out at only a few pence more per 100 c cm than 2½ per cent iodine spirit solution, thus the first objection is readily dealt with The staining of the skin is not objectionable to the patients, and in any case wears off in two to three months, or can be easily removed by washing with a solution of sodium hypochlorite No toxic effects have ever been met with in my skin application method, yet the penetrative action is greater than that of either iodine or picric acid, and the bactericidal action is far superior Experimentally the lethal concentration of iodine in aqueous solution against *Staphylococcus aureus* is about 1 in 10,000, while that of mercurochrome is about 1 in 10,000,000 the antiseptic potency of mercurochrome is roughly one thousand times greater than that of iodine

In confirmation of these experimental data I can state that, during my experience of that drug, I have never had a case of skin contamination of the operation wound Should Mr Alexander adopt this method I venture to suggest that he will welcome the advent of mercurochrome—I am, etc,

July 22nd — R Bertram Blair, M B, F R C S Ed, Honorary Surgeon Hull Royal Infirmary

DERMATITIS FOLLOWING USE OF IODINE SOLUTION

Sir,—The descriptions of iodine dermatitis by Mr Charles Alexander and Dr de Bouk recorded in the *British Medical Journal* of July 19th and 26th prompt me to record a case I had

A man aged 55 (who had used iodine previously without any ill effects) had some rheumatic pains in his right arm Some tinct iodi mitis was bought at a local chemist's and applied over the area affected The following day my then partner was called in to see this patient and was surprised to see a case of acute miliant poisoning following the application The whole body from the head to the soles of the feet was one mass of blisters We treated him as a case of bad burns, and he made an uneventful recovery He was confined to bed for a period of six weeks

—I am, etc,

London N W 10 July 25th — L Schapira

DIATHERMY IN GYNAECOLOGY

Sir,—In the review of Professor Thomas H Cherry's book, *Gynecologic Technic*, which appeared in the *Journal* of July 12th (p 63) attention was called to the "excellent results in the treatment by diathermy of pelvic inflammation and chronic cervicitis" The concluding sentence of the review was, "In this country we have as yet had little success in this direction, and this detailed account of American methods might be of unusual value as a means of comparison and correction" This cannot be allowed to pass unchallenged

In the hands of Dr C Allen Robinson the method which he devised for subjecting the urethra, uterus, and its adnexa to diathermy has achieved success which surpasses that which Professor Cherry claims Beginning in 1919, in the electrical department of St Bartholomew's Hospital, Dr Robinson spent many months in designing various electrodes and submitting them to prolonged trial The

method which he eventually adopted has been employed by him for over ten years in my department at St Bartholomew's Hospital also at the West Middlesex Hospital and the London Clinic He has worked in conjunction with gynaecologists of distinction, and his results have been duly checked

I am familiar with the American methods and can point out certain defects in their electrodes and in the modes of using them These doubtless account for the relatively small proportion of successful results obtained by Professor Cherry in comparison with those procured by Dr Robin on The chapter on diathermy in *Gynecologic Technic* indicates that Professor Cherry has realized the great value of the method It also show that the work on diathermy in gynaecology in the United States has not progressed so far as it has in certain hospitals in this country —I am, etc,

London W 1 July 22nd E P CUMBERBATCH

ANAESTHETICS FOR SHORT OPERATIONS

SIR —Being single handed and beyond the reach of consultation I am naturally deeply interested in the matter of anaesthetics Having been trained in England I appreciate the comparative safety of ether over chloroform but on account of the ease and pleasure of being induced by the latter I have come to allow my raw assistants often to use it There are many pitfalls in the successful administration of chloroform however, but the question of the recumbent position has always been believed to be settled It is very disturbing therefore, to get a sudden unsupported statement, such as appears from Melbourne in the letter you published in your issue of May 31st (p 1023)—namely, that the idea that the recumbent position is the correct one to adopt during induction is incorrect"—followed lower by One of the most pleasant of all methods is chloroform induction to a patient sitting comfortably in an armchair"

No doubt some responsible anaesthetist will have something to say on the matter, but if not, I should be relieved to know if the writer, Dr R W Hornabrook, is speaking from wider experience than that of Melbourne —I am, etc,

United Methodist Mission, Wuting'u Shantung N China June 22nd. FRED R CRADDOCK

STORAGE OF X-RAY FILMS

SIR —The large number of letters and inquiries which I have received following the publication of my letter calling attention to the dangers of x-ray films serves to confirm my belief that conditions in radiological departments are far from satisfactory I am familiar with the recommendations referred to by Dr S Melville and published after the disaster in America, but I fail to see how these can give any measure of control for which I pleaded That they should be more widely known is of importance and I am confident, Sir that a useful purpose would be served if you were to republish them —I am, etc,

London W 1 July 25th. E J H ROTH

INTRAVENOUS SCLEROSING SOLUTIONS

SIR,—In the *Journal* of July 19th (p 120) Mr A H Winchester draws attention to some untoward symptoms after injecting sodium morrhuate Might I be permitted to add a brief note of a case of my own that I observed after writing the article to which he refers?

Untoward symptoms probably due to anaphylaxe developed in a young man aged 30 Several weeks previously he had received several injections of NaCl (20 per cent) into four sets of veins in the right leg I decided to inject two remaining veins with sodium morrhuate He belongs to a venous family on both sides The veins were congenital in type of moderate size and with no history of previous infection at any time but there caused him discomfort for which he sought treatment I gave an injection of 2 c cm sodium morrhuate (5 per cent) 1 c cm in the lower third of the leg followed by another 1 c cm into another vein below the knee Almost immediately after the last injection a diffuse blushing of the skin was noticed above and below the sites of the punctures accompanied by a slight stinging and tightening feeling the colour became more intense about the middle of the thigh and over the inner side of the ankle In the centre of the patch on the inner side of the thigh there suddenly appeared a cluster of six urticariform wheals about the size of small split peas Their appearance was preceded by local stinging and tingling and burning pain similar to that met with in herpes zoster Pain was also felt over the branches of the internal cutaneous nerve as far as the groin The whole leg was painful stiff and heavy The wheals persisted for about ten hours gradually fading and the pain lessened but was marked for a week The ultimate result was good the veins being cured but marked pigmentation of the skin over them developed

The conclusions drawn are that the solutions of sodium morrhuate are not entirely free from danger, as was first hoped, and that their field of usefulness in the treatment of veins may become restricted in the event of complications being noted in other cases —I am etc

London S W 7 July 26th T HENRY TREVES BARBER

THE HARVEY CHURCH BELLS

SIR —I observe with much satisfaction that the Harveian Society of London is to assume the charge of reconditioning the church bells in Harley's burial place at Hempstead in Essex, and the moment seems opportune for an old change-ringer with much practical experience of casting and technical tuning to submit notes relating not only to the Hempstead bells but touching also a more general aspect of the subject

During a short visit to the church I was too much concerned with the Harley vault and the geological conditions associated with the fall of the church tower—a most singular event—to give the bells more than a passing glance These are five in number—one of them broken in the crushing collapse of the massive tower—and should be full and deep in pitch they are comparatively modern and not the long-waited castings of mediaeval times which may tempt many an ill-advised churchwarden to melt into an extra bell

In a district so remote and sparsely peopled as Hempstead there is no scope for change-ringing and since five-bell music is attractive and will give 120 changes I hope that those entrusted by the Harveian Society with this matter will see their way to re-erect the five-bell peal as it stood in former times With a good clock the four upper bells would give an excellent quarter chime leaving the tenor to strike the hour Attenuation in weight is unsatisfactory and apt to generate obscuring harmonics and even a sense of jingle Thus the famous Bow bells in the key of C are heavier and more satisfactory than those of Southwark Cathedral, which are a semitone lower in pitch Recasting moreover is no easy matter, and in spite of accurate measurements and imitation there is an element of uncertainty, or luck, in the issue, both in pitch and quality, which every bell-founder knows In such work an accurate ear is essential as well as that special endowment of touch to determine with certainty the precise zone or locality to be dealt with in tuning Bells abound in contrast, that singularly efficient raucous decrepitude Big Ben is known in every London household and by modern means is as audible at Madeira far down in the Atlantic as on the Thames Embankment while Great Paul, muffled in his chamber and murmuring his protest —Vae mihi si non evangelizavero —against any secular use, is hardly known to the average Londoner for whom the parliamentary impressive clock bell attracting vast multitudes to hear the New Year announced is the great bell of St Paul's Some day perhaps Great Paul a ton and more heavier than Big Ben audibly placed and adequately struck will easily suppress any other claim to the domination of the metropolis

I may not further transgress reasonable limit though my brethren will appreciate my subject matter but after all our training excludes nothing and in these days the 'doctor' is the trusted referee both in physical and general culture —I am, etc

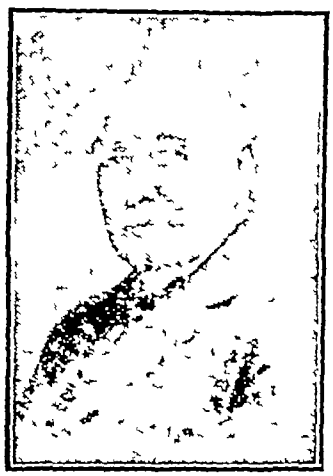
Madeira July 15th. MICHAEL CRABHAM, M D LL D

Obituary

JOHN STEVENS, M.A., M.D., F.R.C.P.Ed.

Formerly Physician to the Edinburgh Western Dispensary

WE greatly regret to announce the death, which took place at his residence in Polwarth Terrace, Edinburgh, on July 24th, of Dr. John Stevens, a well-known practitioner of that city, and for many years an indefatigable worker in the British Medical Association. Dr. Stevens had been suffering from a prolonged illness which showed itself first when he was attending the Representative Meeting of the Association in Manchester a year ago.



John Stevens was born over seventy years ago near Bridge of Earn, and after graduating M.A. at the University of Edinburgh he proceeded to the study of medicine, where he had a distinguished course, gaining in addition to numerous class medals, the Sibbald medical scholarship, and the Stark scholarship. Graduating M.B., C.M. with first-class honours in 1884, he was awarded the Fettes scholarship, which is given to the most distinguished student of the year at Edinburgh University. In 1887 he proceeded to the degree of M.D., being awarded a gold medal for his thesis on "The tests for the bile salts and on the renal examination of the bile salts, urea, indican, and sugar, with a report of clinical cases." This was regarded as a valuable contribution to the side-room work carried out in connexion with clinical medicine of its time. After graduation Dr. Stevens acted as resident physician in the wards of the late Sir Douglas Maclagan at the Edinburgh Royal Infirmary, and had as three of his fellow residents Professor J. S. Haldane, Dr. James Hay Ferguson, and Sir David Wallace. Joining the Royal College of Physicians of Edinburgh as a Member in 1893, he proceeded to the Fellowship of this College in the following year. After a short period of post-graduate study at Vienna Dr. Stevens took up practice in Edinburgh, where in the course of over forty years he had become a well-known physician, greatly respected and beloved by friends and colleagues.

After joining the British Medical Association in 1892, he devoted a very large share of his time and energy to its various organizations, and the work of the Association may be said to have formed the principal hobby of his life. For many years he served as a member of the Executive Committee of the local Edinburgh Division, becoming its chairman in 1922. He became honorary secretary of the Edinburgh Branch in 1914, an office which he held till 1927, when he became its president. He attended every meeting of the Representative Body of the Association from 1914 till the year before his death, and served as a member of the Central Council from 1926 till his fatal illness rendered attendance at the meetings in London impossible. Among the Association's committees upon which he did good service were the Scottish Committee (1919–30), the Chairman's Subcommittee of the Scottish Committee (1923–24), the Medico-Political Committee (1919–27), the Medico-Political and Parliamentary Committee (1922–28), the Ethical Committee (1921–30), the Non-Panel Committee (1923–25), the Non-Panel Subcommittee (1923–24), the Committee *re* Insurance Acts Royal Commission (1924–25), and the Central Emergency Committee (1926–27).

At the time of the introduction of the National Health Insurance Act Dr. Stevens was one of its uncompromising opponents, and he was one of the organizers, and for a time treasurer, of the Medical Guild, an association of practitioners in Scotland who held aloof from the panels formed under the Insurance Act. Although he had latterly come to see that the Insurance Act had conferred many benefits both upon patients of the working class and upon medical practitioners, he maintained to the time of his death a vigorous opposition to any tendency towards the establishment of a State medical service.

The interment, which took place on July 28th, in Morningside Cemetery, was attended by a large gathering of professional colleagues and friends.

[The photograph reproduced is by Alex Ayton, Edinburgh.]

HUGH MILLER, M.B., Ch.B.Glas.

District Medical Officer, Department of Health for Scotland

WE have to record with deep regret the death of Dr. Hugh Miller, one of the best-known medical men in the West of Scotland which took place in Edinburgh on July 22nd. He was the youngest son of the late Rev. Thomas Miller of Neilston in Renfrew, and was born in 1877. He was educated at the High Schools of Ayr and Glasgow and graduated M.B., Ch.B. from Glasgow University in 1899. After holding resident posts in the Western Infirmary, Fever Hospital and Maternity Hospital Glasgow he underwent a course of post-graduate study in Berlin before settling down in Hamilton where he had a very large general practice. During the war he held the post of officer in charge of the Prisoners of War Hospital in Egypt with the rank of captain. About three years ago he was selected by the Scottish Board of Health and placed as regional medical officer for Dundee and district, an appointment which involved much hard work in travelling about the country.



Hugh Miller had always been a keen "B.M.A." man. In 1921–22 he was elected to the Central Council on which he served for six years. He was a member of the Scottish Committee, of which he became chairman in 1925–26 and during his period of office he was largely instrumental in bringing about the adoption of the modified scale of salaries for medical officers of health pertaining to Scotland. He had also served as a member on the Central Ethical, Central Emergency, and Psycho-analysis Committees of the Association. He served as temporary honorary secretary of the Lanarkshire Division in 1915, and was appointed secretary in 1919. He became a member of the Dundee Branch Council in 1930. He had been at one time honorary secretary of the Hamilton Local Medical and Panel Committee, and chairman of the Lanarkshire Medical Practitioners' Union. Before leaving Hamilton to take up his appointment under the Scottish Board of Health in 1927 he was entertained at dinner by his professional colleagues, who made him a presentation in recognition of his services in Hamilton.

Hugh Miller had all the qualifications for success. With a charm of presence and manner he combined a sound and skilful *flair* for practice and, accustomed as he was from his youth up to the exigencies of dealing with the sick and needy, success came naturally to him. His early death closes a career of great promise, and the sympathy of all his friends will be extended to Mrs. Miller, who was almost as well known as himself in representative gatherings of the Association.

The funeral took place on July 25th at the Morningside Cemetery, when the pall-bearers included Dr. J. Livingstone Loudon, representing the Central Council of the British Medical Association, and Dr. Thomson, representing the Lanarkshire Medical Practitioners' Union and the Hamilton Medical and Panel Committees. Dr. Miller's colleagues in the Department of Health, and his brother district medical officers, were also well represented. Dr. G. M. Miller, Dundee, of the Scottish Committee, was also one of the large gathering which assembled to pay a final tribute to a colleague whose high qualities and kindly disposition had won innumerable friends.

[The photograph reproduced is by Alex Ayton, Edinburgh.]

Dr WILLIAM CRAVEN ROCKLIFFE who died on June 23rd was the son of the late Dr Lunn of Hull he changed his surname to Rockliffe on succeeding to certain propert He was educated at Cambridge and St Thomas's Hospital obtaining the diplomas M R C S and L S A in 1876 He graduated M B Cantab in 1877, and proceeded M D Dub in the following year When a student at St Thomas's Hospital it is said that he used to drive up in a dogcart and pair or tandem throw his reins to the groom and then enter the portals of the institution He had intended to practise as a physician in Hull but took up ophthalmic work instead his father had previously undertaken most of the eye surgery in the district On the retirement of Dr Lunn as surgeon to the Hull Royal Infirmary he was appointed the first ophthalmic surgeon to that institution which position he held for twenty five years He was president of the East York and North Lincs Branch of the British Medical Association in 1894–95, and was the first president who provided champagne for all those at the annual dinner He held the office of vice president of the Ophthalmological Society 1900–3 he was a member of the council of the Ophthalmic Section of the Royal Society of Medicine 1917–18 and contributed numerous papers to ophthalmic and other medical journals A colleague writes Dr Rockliffe was a very hard worker at whatever he undertook He was a philanthropist and founded the Hull *Institution for the Blind which entailed his working for* many months every night until after twelve o'clock This institution has developed enormously and is now one of the great charitable organizations in Hull His name is perpetuated in the name of one branch—namely, The Rockliffe Home for Blind Women" He was a staunch Churchman and for several years acted as vicar's warden at Holy Trinity Church, during the incumbency of the late Canon McCormick When away from his professional work and that connected with the blind institution his recreations were shooting and gardening into each of which he entered with his characteristic zest He lost his right forefinger in a shooting accident this would have deterred most men from following ophthalmic work but it merely stimulated him to increased exertion and he very soon could operate as well as ever He was a very good dancer and pursued this pastime with his accustomed energy He played the cornet and some forty years ago organized a small amateur orchestra which for several years by means of concerts, provided substantial sums for the blind institution An exceedingly handsome man with a charming personality he endeared himself to all with whom he came in contact During the past few years owing to advancing age and cardiac trouble he lived in retirement but still worked in his garden and died peacefully in his chair after coming in from it He leaves a widow and one daughter

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Dr H C CORDON MACKENZIE who died on July 18th was educated at Winchester and Magdalen College Oxford, and afterwards studied at Edinburgh and Newcastle He graduated M A Oxon in 1897 and M B Durh in 1907, proceeding to the M D in 1913 He was demonstrator in physiology at the Surgeons' Hall, Edinburgh in 1902–3 and served later as assistant tuberculosis officer and clinical assistant at Charing Cross Hospital and clinical assistant at the Brompton Hospital for Consumption and Diseases of the Chest He was much interested in the development of a scheme of medical control of boys' clubs and served for many years as honorary medical officer of the Hollington Boys' Club and of the Secondary Schools Camp Association During the war he was in command of the 83rd Field Ambulance of the Salonika Force with the rank of lieutenant-colonel R A M C (T F) and was awarded the D S O Dr Mackenzie was a member of the Chelsea Division of the British Medical Association

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Dr JOHN POPPER PARKINSON died on July 11th at his home in Eastbourne where he had lived for the past few years in retiring from active practice in London He was born in 1863, and from Shrewsbury School went to study medicine at University College London graduating M B Lond in 1888 and qualifying for the gold medal at the M D examination next year He then served for twelve months as house-physician house-surgeon and obstetric assistant at University College Hospital and having obtained the F R C S was appointed demonstrator of anatomy at University College After a short period on the staff of the Mount Vernon Hospital he was admitted M R C P and from 1895 to 1898 served as medical registrar to the Westminster Hospital and clinical assistant at Great Ormond Street His next appointments were to the medical staff of the London Temperance Hospital and the Queen's Hospital for Children, with which institutions he remained associated until his retirement when he was elected consulting physician He was also consulting physician to the Finchley Memorial Hospital Dr Porter Parkinson contributed a number of papers mainly on diseases in childhood to medical journals and was the author of a small book on the *Diagnosis of Diseases* which appeared in 1898 He had been honorary secretary of the Society for the Study of Diseases of Children and after the amalgamation he held office as president of the corresponding section of the Royal Society of Medicine He was elected F R C P in 1923

Dr FREDERIC WILLIAM DANIELS who died on July 20th at Leicester where he had resided since 1927 was born in 1872 and received his medical education at the London Hospital He obtained the diplomas M R C S L R C P in 1904 and became F R C S in the following year He held various house appointments at the London Hospital and then practised in Newport Monmouthshire, where he was medical officer to the out-patients and the electrical department of the Royal Gwent Hospital During the war he held a commission in the R A M C

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE week has been the last of the Parliamentary Session which began on July 2nd 1929 Before the *prorogation both* Houses were occupied in adjusting differences on the Road Traffic Bill Housing Bill and other measures which thereafter awaited the Royal Assent The House of Commons passed the outstanding Estimates of the year and discussed foreign affairs and the Army

In the House of Lords on July 29th, the Housing (Scotland) Bill passed its final stage

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Small pox—Mr GREENWOOD on July 29th told Mr Groves that in 19 of the 39 deaths registered in England and Wales during 1929 and classified to small pox one cause of death in addition to small pox appeared on the death certificate The 19 deaths were those of the persons shown in the table contained in his reply given to Mr Groves on July 21st

Shortage of Medical Officers in the Services—On July 29th Mr SANDERS told Dr Vernon Davies that the present shortage of regular Royal Army Medical Corps officers was approximately 1-9 The Secretary for War was in consultation with the Army Medical Advisory Board as to the causes of this shortage and the possible remedies On the same day Mr AMMON told Dr Vernon Davies that the shortage of naval medical officers still continued There were no signs of more satisfactory recruitment The *question was under consideration by the Admiralty* Mr MONTAGUE also informed Dr Davies that there was still some difficulty in obtaining the numbers of medical officers required The question was constantly engaging the attention of the medical authorities at the Air Ministry and of the Air Council

British Trade with India in Medicinal Goods—On July 22nd Mr BENN answering Sir Graham White and Lieut-Col Applin in medicines tatives of the volume of British trade with India in medicines and medical appliances He was informed in April last that a boycott of these classes of British goods had been established in consequence of the decision of the General Medical Council in consequence of the decision of the General Medical Council in May he had the recognition of Indian medical degrees but in May he had the recognition of Indian medical degrees but in March last reports that this boycott was weakening and that orders for British goods were being placed He had received further reports

Tenure of Health Appointments—On July 22nd Mr JOHNSTON in reply to Mr Mac[illegible] a statement as to officers of county and town councils in Scotland who are removable from office [illegible] or with the consent of the court or a Government [illegible] The offices included medical officers of health sanitary [illegible] medical practitioners in the Highlands and Islands [illegible] the county council for the purposes of the duties of [illegible] a police authority [illegible]

medical officers of poorhouses medical superintendents of sanatoriums, public analysts, veterinary inspectors, and medical superintendents of certified institutions for mental defectives

Research on Poison Gas—On July 29th Mr SANDERS told Mr Freeman that the Secretary for War was definitely advised by his expert advisors that the results of the experiments conducted at Porton and elsewhere with poison gases on living animals were such as to leave no doubt that the methods of curative treatment of the effects of gas which those experiments suggested were applicable to human beings

Notes in Brief

In answer to Dr Vernon Davies on July 23rd, Mr Lansbury stated that the Serpentine was last cleaned out during the years 1869, 1870, and 1871

Mr Greenwood states that 265 centres for the purpose of artificial sunray treatment were approved by his department up to April 1st last

The number of buildings acquired by local authorities in England and Wales since April 1st, 1925 in connexion with approved slum clearance schemes is approximately 10,700 and the number demolished approximately 9 000 The number of new dwellings erected is rather more than 9 700

Universities and Colleges.

UNIVERSITY OF LONDON

AT the June matriculation examination 203 candidates passed in the first division and 985 in the second division, while 39 took the supplementary certificate for Latin

The following candidates have been approved at the examinations indicated

M D—*Branch I Medicine* R G Anderson J R Blazé P I J Cutting H Das T A Davies (University medal) R L Ford L W Hale S W Hardwicke J C Hawksley T G Honsden C A Keele C W Marshall S P Meadows A J Morland R H Morley T Morton A M Richards Gwladys V Smallpeice E Williams W Yeoman *Branch II Pathology* K T Gajjar Dorothy S Russell (University medal) *Branch IV Midwifery and Diseases of Women* W M Brown Elizabeth J Carpenter G M FitzGibbon T I D Gray E H Roche Iris V I Ward Jane C Williams *Branch VI Tropical Medicine* F Marsh

M S—*Branch I Surgery* A E de Chazal K W Heritage I Lewis

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL

The following scholarships and prizes have been awarded

Senior Scholarship V Marjorie Robinson Todd Prizes for Clinical Medicine V Marjorie Robinson and L A H Snowball Tanner Prize for Obstetric Medicine and Jelf Medal T W Willway Jocelyn Almond Prize for Diseases of Children I N Cumings Burridge Prize for Forensic Medicine A Marion Kaye Special Prizes (Diseases of Children) V Marjorie Robinson (Orthopaedic Surgery) F W Willway (Surgical Pathology) Hilary Long Class Prizes (Medicine) G H Newns (Surgery) F W Willway (Obstetric Medicine) Hilary Long and T W Willway (Pathology) J R Braybrooke (Forensic Medicine) Mary Evans and G T Cook (Hygiene) G H Newns (Psychological Medicine) K Hazell

LONDON HOSPITAL MEDICAL COLLEGE

The following entrance scholarships have been awarded by the College Board

Freedom Scholarship in Pathology (open to students of the Universities of Oxford and Cambridge) value £100 Mr J G L Spencer Price Scholarship in Science value £100 Mr M L Rubein Second Scholarship in Science value £50 Mr J Simon

UNIVERSITY OF MANCHESTER

THE city of Salford has renewed its grant of £600 to the University for 1930-31

The following appointments are announced lecturer in surgical pathology, J P Buckley M D, M S, F R C S, lecturers in applied anatomy, Harry Platt, M D, M S, F R C S, D McKay Sutherland, M D, F R C S, lecturer in regional surgery, A Graham Bryce, M D, F R C S

The following have been appointed members of the Board of the Faculty of Medicine Dr P H Lacey honorary lecturer in clinical obstetrics and gynaecology, Mr D P Sutherland, honorary clinical lecturer in tuberculosis, Dr William Susman, lecturer in morbid anatomy and histology

UNIVERSITY OF EDINBURGH

AT the graduation ceremony held in the McEwan Hall on July 23rd the following medical degrees and diplomas were conferred

M D—†J R Dogra †R O Paton W C Fotheringill *J S Fulton Anne Gibson O K G Guyer C I Irvine-Jones J P S Jamieson, J Lowe J E Maccabe A A S M Donald Bessie R Mackenzie F G Macnair *J C Moir D Pottinger †A L K Rankin *F F Reynolds I B Rolt D R Thapar Mary Turton (*née* Martin), W Waddell H E V White

Ch M—A. S Fry (Major I M S)

M R. B Ch—N I Abbensetts A Amdor A J Baird B Berger I Black D M Blair A B Brereton A Brookner G J F Cales §A C P Campbell M Chamurich D S Clark Petrusa de B Clark W S M R Craig S Davidson J S de S Drummond E H Duff S Eisenhammer M H Finkelstein G S Forrester A K Fraser I M Fraser P Fraser D N Gibbs J C Gibson J J Glover F G Goulder Moira C Gray I Guthrie J A Guz S Harwitz A C Hill C H Howat G J Hugo J L Hunter J C A Hunter Elizabeth R Jamieson Jessie M Jamieson T T Jardine J S Joffroy H M Johnston R V Keers P L Lal Took I S Lawrence I Lazarus I S Lee M I Leiserowitz §M A Lockie I M I MacAlister A L Macdonald A Macdonald C R Macdonald S A MacDonald Margaret L Mackay I Mackenzie N F Mackenzie C Mackie §A U Mackinnon Jean MacD MacLennan P A Macleod K I F M Millan W MacD Martin A I Milne I M Modak I C Monro §W I C Morris H L Morrison I H C Morton Rachel B Nelson H I Newlands I A Noble I M Officer D Orr H O Parkinson, Margaret J Paterson §J B Pennybacker §H A Raeburn P L I C Ransome-Wallis R A Read R L Renwick A N Roxburgh U Schutzer, H G Scott Kerr W C Service T I Sibbald I H Silverstein D W G Smith C N T Spowart D G A Stewart H Stewart I L Swanston A Thomson I B Tibbetts I S Tough G Turner R E Verney L S Wakefield Elizabeth S Walker R Walmsley G Watt Elizabeth I Welford Annie D Wilson T T B Wood J Yuvabandhu

DIPLOMA IN PSYCHIATRY—W I Raitt

DIPLOMA IN RADIOLOGY—J S Fulton V N Krishnamoorty S K Montgomery K R Spedding J C Tainsh A G C Taylor

The following prizes were presented

Cameron Prize in Practical Therapeutics G R Minot and W P Murphy Thesis Gold Medallists I S Fulton J C Moir F I Reynolds Shaw Mackie Lang Fellowship I G W Hill Stark Scholarship in Clinical Medicine C P Hay Gunning Victoria Jubilee Prize in Medicine R Gaddie Lauder Brunton Prize in Pharmacology and Therapeutics R M Murray Lyon Francis Mitchell Caird Prize I Lowe Ettles Scholarship and Leslie Gold Medal Monat Scholarship in the Practice of Physic Annandale Gold Medal in Clinical Surgery and the Murdoch Brown Silver Medal in Clinical Medicine A C I Campbell Allan Fellowship in Clinical Medicine and Clinical Surgery J B Pennybacker Buchanan Scholarship in Midwifery and Gynaecology W S M R Craig James Scott Scholarship in Midwifery and Beaney Prize in Anatomy and Surgery W I C Morris Conan Doyle Prize R I Verney and G Watt equal Royal Victoria Hospital Tuberculosis Trust Gold Medal A N Roxburgh Scottish Association for Medical Education of Women Prize Jean MacD MacLennan Dorothy Gilfillan Memorial Prize Margaret L. Paterson Wightman Prize in Clinical Medicine C H Howat Pattison Prize in Clinical Surgery and Sir Robert Jones Prize in Orthopaedic Surgery Amelia N Laws Wellcome Medals and Prizes in the History of Medicine Gold Medal O H Leaney Silver Medal R M S M Conaghey Cunningham Memorial Medal Pollard Prize in Anatomy I L Henderson Anderson Henry Prize I Mackenzie Whiteside Bruce Bursary N Gray and J K Sutherland equal

* Awarded gold medal for thesis † Highly commended for thesis ‡ Commended for thesis § Awarded with honour

ROYAL COLLEGE OF SURGEONS IN IRELAND

Carmichael Prize Essay

THE late Richard Carmichael, having bequeathed to the College a sum of money for the purpose of founding prizes for essays upon certain subjects specified by him, the President and Council give notice that, on the second Thursday in November 1931, they will proceed to adjudge prizes of £150 and £100 for the best essays that may be presented to them, in accordance with the following instructions prescribed by Mr Carmichael (1) "The state of the medical profession in its different departments of physic, surgery, and pharmacy, in Great Britain and Ireland, at the time of the writing of these prize essays (2) The state of the hospitals and schools of medicine, surgery, and pharmacy" (3) "The state and mode of examination, or of testing the qualifications of candidates of the different licensing colleges or corporations of medicine, surgery, and pharmacy

The Services

AN R A M C MUSEUM AT CHELSEA

A MUSEUM, which also serves the purpose of library and study centre has been established at the Duke of York's Head quarters, Chelsea for the use of the officers and men of the Royal Army Medical Corps, 47th (2nd London) Division, T A It consists at present of only one room though there is every sign that it will soon overflow into others but it has been pleasantly furnished and equipped with a number of interesting and educative objects

The museum was opened on July 26th by Lieut-General H B Fawcus, C B, Director General Army Medical Services, who explained that the idea originated in the mind of the curator, Captain H A C Gregory who wished to improve the educational standard of the R A M C recruit, and considered that, in order to get a proper grasp of the subjects in his curriculum, a man needed not only his manual, but recourse to models, specimens, slides, and the like Captain Gregory therefore approached Colonel L D Bailey and the other R A M C officers of the Division, who encouraged the project by every means in their power and help was enlisted from many quarters, including the County of London Territorial Army Association and the Royal Army Medical College at Millbank General Fawcus highly praised the conception and expressed the hope that the museum would more than fulfil the ambitions of its promoters Colonel Bailey stated that it was the intention to have weekly lectures in the museum by specialists in their respective subjects, and the museum would be open every day for the use of officers non-commissioned officers, and men, it was hoped to make it in time a thoroughly equipped school of instruction He mentioned some of those

to whom special thanks were due for gifts and loans—first of all, Captain and Mrs. Cregoe, who donations had been most generous. The Royal Army Medical College had furnished an excellent series of anatomical and pathological specimens, St. George's Hospital another set. Professor J. E. Frazer a life-size atlas, the 8th Hygiene Company a set of sanitary models. Sir Cuthbert Wallace (*the hon. rank colonel*) a microscope and set of slides while various officers had to be thanked for exhibits and books. The museum contains an epidiascope and is arranged with desks and every convenience for study. Two life-size figures from Tussaud's collection form a striking embellishment. One of them represents a private in the uniform of the old Hospital Corps of 1856 carrying a knapsack the purpose of which is obscure; the other is an R.A.M.C. orderly of to-day holding a Thomas splint. The models for the two figures are two celebrated association footballers.

DEATHS IN THE SERVICES

Lieut.-Colonel George Henry Bell, R.M.A., Medical Service (*retd.*) of Monte Carlo and of the Badminton Club, died in a nursing home in London after a short illness on July 11th. He was born on July 23rd, 1852, the son of Joshua Bell of Cork, was educated at Queen's College, Cork, and graduated as M.D. and M.Ch. in the Queen's University of Ireland in 1877. Entering the I.M.S. as surgeon on March 20th, 1878, he became lieutenant-colonel after twenty years' service, was placed on the selected list for promotion on April 12th, 1903, and retired on June 30th, 1908. He served in the Burma campaigns from 1885 to 1889 and received the frontier medal with two clasps, and in the Sudan in the Dongola campaign of 1896 receiving the Egyptian medal and the Khedive's medal. He rejoined for service in November, 1914, served in the Pavilion hospital for Indian troops at Brighton till it was closed early in 1916, and afterward in various other posts in England till the end of the war. He was granted a Good Service Pension on May 24th, 1922.

Lieut.-Colonel Clarence Forbes Fearnside, Madras Medical Service (*retd.*), died at Vancouver on June 29th, aged 66. He was born on February 28th, 1864, the son of John Fearnside of Aberdeen, and was educated in the University of that city, where he graduated as M.A. in 1886, and as M.B. and C.M. in 1889. Entering the I.M.S. as surgeon on March 31st, 1892, he became lieutenant-colonel after twenty years' service and retired on September 10th, 1912. He served in the Chin Hills campaign in 1892-93 on the North-East Frontier of India, gaining the frontier medal with a clasp, and also rejoined for service in the war of 1914-18.

The death was recently announced of Lance-Corporal Joseph John Farmer of the Army Hospital Corps, who received the Victoria Cross for gallantry in the action at Majuba in the first Boer war. The *London Gazette* of May 16th, 1881, announces the grant of the Cross as follows:

> For conspicuous bravery during the engagement with the Boers at the Majuba mountain on the 27th February, 1881, when he showed a spirit of self-abnegation and an example of cool courage which cannot be too highly commended. While the Boer closed with the British troop near the Well, Corporal Farmer held a white flag over the wounded and when the arm holding the flag was shot through he called out that he had another. He then raised the flag with the other arm and continued to do so until that also was pierced with a bullet.

Medical News.

THE annual Neech Prize of the Society of Medical Officers of Health for the best paper read before a branch or group of the society, has been awarded for the session 1928-29 to Dr. J. Sim Wallace for his address on "The prevention of dental caries" published in *Public Health*, February, 1929. The award has been delayed to allow publication of all the papers submitted for consideration by the assessors.

THE Fellowship of Medicine announces that an afternoon and evening course comprising clinical and cystoscopic demonstrations will be given at All Saints Hospital, Vauxhall Bridge Road, from August 5th to 30th. A comprehensive course in diseases of the chest will be held at the Brompton Hospital from August 11th to 16th, when instruction will be given throughout the day in the various departments. Courses in the following month will include one in diseases of children at the Queen's Hospital from September 1st to 13th, and another in medicine, surgery, and the specialties at Westminster Hospital from September 15th to 27th. Post-graduates are invited to apply to the Fellowship of Medicine for copies of the syllabuses of the above courses, and also for the programme of work for the winter months. The provisional list of special courses for 1931 is now ready.

MR. L. G. BROFF, chairman of the Board of Control, will officially open the new Coleshill Hall Certified Institution for Mental Defectives, Birmingham, on Tuesday, September 16th, at 3 p.m.

THE eleventh International Veterinary Congress will be held in the Central Hall, Westminster, from August 3rd to 9th. On the evening of Sunday, August 3rd, the president, Sir John McFadyean, and members of the organizing committee will hold a reception at the May Fair Hotel. Other evening functions include a conversazione by the Royal College of Veterinary Surgeons, a banquet given by the Government to official delegates, a reception by the Lord Mayor and Corporation at the Guildhall, and the official banquet of the Congress at the Connaught Rooms. The programme of the sessions includes a number of subjects closely related to human medicine. The office of the organizing committee is at 10, Red Lion Square, W.C.1.

THE Minister of Health has addressed to local authorities a number of suggestions relating to the preparation of by-laws under the Public Health Act, 1925, and proposals outlined in paragraph 6 of the memorandum contained in the report to the Local Government Departmental Committee on Housing (England and Wales), published on February 4th, 1930, (Cmd. 3608), and recommendations of the Committee on Rating of Machinery, published on February 6th, 1930, (Cmd. 3614). Provision is made for, among other purposes, under the ground floor throughout the whole of a new building, or in existing buildings, except in certain cases, the by-laws shall require top and any ventilating aperture so as to prevent the free passage of gas into the building; (*b*) that geysers shall be properly fixed and adjusted, and that both the apparatus and the room in which the apparatus is fixed shall be adequately and efficiently ventilated. It should be made unlawful to install or maintain a geyser without a proper flue. Model clauses are given in the circular to assist local authorities in framing their proposals.

DR. ARTHUR HAYNARD has accepted the invitation of the local Liberal party to become Lord Mayor of Leeds. Under an agreement existing between the three parties on the City Council it is the turn of the Liberals to nominate a candidate for the next municipal year.

SIR JOHN COLLIE, the London County Council [illegible] examiner, has tendered his resignation with effect from February 15th next. He was appointed to the post in 1903. The appointment is a part-time one and remunerated by fees on a capitation basis.

ON July 13th a tablet in memory of Sir William Osler was unveiled at Ewelme Church by the Bishop of Oxford. As Regius Professor of Medicine in the University of Oxford Osler was Master of the Ewelme Almshouse, and whenever he could find time he loved to visit this secluded and picturesque spot. He had its mouldy old records cleaned, bound, and preserved in a fire-proof safe in the muniment room. The tablet commemorates also Lady Osler and their son Revere.

THE Cambridge University Press announces for early publication the third volume of Professor Karl Pearson's *Life, Letters and Labours of Francis Galton*. Volume IIIa deals with Correlation, personal identification, and eugenics; volume IIIb with Characterization, especially by letters.

SHORT but useful accounts of the incidence and treatment of leprosy in Ceylon and the hills of Assam are published in the July number of the *Leprosy Review*, which is the quarterly publication of the British Empire Leprosy Relief Association. Practical points of treatment are indicated in five other articles, mention being made in one of the use of 2 per cent. and 6 per cent. alepol solutions in Persia, where hope is expressed that the disease may be eradicated in a decade or two since very few of the lepers are really Persians by birth. Some useful hints are supplied by the Rev. F. W. Poss as regards the conduct of an Indian treatment centre, and other articles relate to diagnosis, classification, and prophylaxis. The July issue of *Without the Camp*, the quarterly magazine of the Mission to Lepers, comments on the progress of leper treatment centres, particularly in China and India. The Mission has obtained new offices at 7, Bloomsbury Square, W.C.1, to which address all communications should be sent.

As we go to press we learn with deep regret of the death on July 30th of Sir Francis Champneys, [illegible] physician to St. Bartholomew's. He [illegible] chairman of the Central Midwives Board at the age of 82. An obituary notice will appear in an early issue of the *Lancet*. The funeral will take place at Hampstead [illegible] there will also be a [illegible] at 8.30 a.m. on that day, [illegible] service at 10 o'clock.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager British Medical Association House, Tavistock Square, W C 1, on receipt of proofs

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863, and 9864* (internal exchange four lines)

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EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent London*

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MEDICAL SECRETARY *Medisecra Westcent London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus, Dublin* telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

DERMATITIS HERPETIFORMIS

DR J E RICHMOND (Liverpool) writes I should be grateful if someone would suggest some form of treatment which has been tried with success, for a case of dermatitis herpetiformis I cite a case of a young man, aged 30 *Duration of disease, one year* The usual treatment has been tried

TREATMENT OF ASTHMA

"W" writes I would be glad to know if any of your readers have tried Dr Paul Cantonnet's treatment of asthma, and with what results? Is there any translation of his paper available in English? The pamphlet I have is entitled 'Traitement curatif de l'Asthme' Par Docteur Paul Cantonnet Communiqué à l'Academie de Médecine le 22 Février 1929 Deuxième édition Norbert Maloine, 22, Rue de l'Ecole de Medecine, Paris 1929

COLOUR BLINDNESS

"A B" writes I should be glad if any of your readers could give information regarding colour blindness (especially red) Is there any treatment? What professions or trades are suitable? Is the medical profession unsuitable? What literature can be consulted, especially as to career?

KEEPING FIT IN HOT CLIMATES

DR E J BALL (Clifton) writes in reply to C H B (July 26th p 168) Try hot tea In the old sailing ship days my father was seven years on end in one commission on the Gold Coast, etc Three doctors in his ship died in succession and on one occasion he was one of about a dozen in his ship's company of 180 men who did not get yellow fever The doctors, he told me drank spirits and used to laugh at him for drinking hot tea But the tea induced perspiration, and he lived while they died He was not a teetotaller

CLEANSING OF THE CHALICE

THE VEN BERESFORD POTTER, M A, sometime Archdeacon in Cyprus and Syria, writes I see in your issue of July 26th two observations by 'Medicus' and R concerning the cleansing of the chalice in the Holy Communion service This matter was discussed at the last Lambeth Conference and a leading bishop, I understand, reported that the best way of meeting the difficulty was the adoption of intinction Nothing however, was finally settled, but in the proposed prayer book of 1927 (p 283) the following words were used When it is desirable to administer both kinds together the words of administration shall be said thus, etc, and the note was added 'that the same order shall be observed with the permission of the bishop when it is deemed necessary, through grave danger of infection, to administer both kinds together at the open communion Although this prayer book has not received the approval of Parliament, there is not the slightest doubt that no objection could or would be made by Parliament to action suggested by this proposal of the bishops and Church Assembly This I know from a leading opponent of the new prayer book Many clergy have already agreed to offer intinction at the open communion to any communicant desiring it This can be arranged by such communicants kneeling at the extreme end of the altar rails, and the bread or wafer dipped in the wine while administering to them The priest would then continue to administer to the remaining communicants in the accustomed way It should be observed that on and after the Council of Clermont A D 1095, Pope Urban the Second agreed to the custom of dipping the bread in the wine when there was any danger of spilling the wine and also in administering to the sick In A D 1414-18 the Council of Constance forbade communion in both kinds It was not until A D 1547 that the present undesirable practice, which a great number of leading medical men now condemn, especially in large centres of population, was introduced by Archbishop Cranmer *I understand that a considerable number of people* in the English Church failing an arrangement for intinction, receive only in one kind

DR FREDERIC SANDERS writes on this subject My grandfather always attended church thrice on Sundays my father (a doctor) twice, myself usually once, but unless the abominable and disgusting practice at present obtaining in the communion service is changed, I shall do what I can to prevent my son attending at all

LETTERS NOTES ETC.

THE MEDICAL DIRECTORY"

MESSRS J AND A CHURCHILL (40 Gloucester Place Portman Square, W 1) write The annual circular for the *Medical Directory* has been posted to each member of the medical profession If the form has not been received a duplicate will be sent on request We shall be grateful for the return of the forms by an early post

THE BOOT AND THE SHOE

MR JOHN HOWE (general secretary of the Boot Trades Associations, Ltd) writes The leading article in the *Journal* of July 5th on 'The foot and the shoe' has greatly encouraged us in our efforts to achieve some form of agreement in the trade upon what constitutes healthy footwear We particularly wish to *second the interest of the medical profession in our attempt to* bring home to the public the value of sound footwear as an aid to lessening foot troubles and the risk of illnesses which arise from damp feet The boot and shoe trade has spent many months on research work and has sought the advice of many authorities in its endeavours to collect data useful to the trade The human foot has been classified into certain types, and this classification has been made available to manufacturers with a view to helping them to replace obsolete methods of "fittings Special instruments have been devised which enable the category of a foot to be immediately determined and the appropriate type of shoe selected I may mention as evidence of the desire of our Federation to improve footwear along correct lines, that we have had the benefit of the honorary advisory services of an orthopaedic surgeon who, in lectures and by personal advice, has given our members a better knowledge of the anatomy of the *foot in relation to the construction of lasts* It will therefore be seen that the trade is doing its best to encourage the manufacture and use of sensible footwear, and it would appreciate nothing more than the endorsement of the medical profession

DELAYED GROWTH IN HEIGHT

DR D I CONNOLLY (Sale) writes The following case of delayed growth in height occurring after the age of 30 years might *I thought, be of interest A lady aged 30 years, consulted* me some two months ago about dizziness, nausea and malaise I ordered rest in bed and strictly fluid diet Jaundice of an obstructive type intervened, and I gave her small doses of calomel and a bismuth mixture She stayed in bed six days and all the symptoms gradually cleared up When she got out of bed both her husband and she were astonished to notice that she seemed appreciably taller Measurements were taken and checked and it was found that she had grown 1½ in in height during the six days in bed A fortnight later she was measured again and she had grown another 1/2 in, again checked This was about five weeks ago Since then she has remained stationary in height She now measures 5 ft 6 in She has one brother younger than herself and two sisters older, and all of them are 6ft 1 in in height To many of us I feel sure this case will be unusual I have not looked up the literature on the subject Perhaps some of your correspondents could throw light on the matter?

INFECTED EGGS

DR E F WILLIS (Rendlesham Hall, Woodbridge) writes In the *British Medical Journal* of July 12th (p 56) Dr Scott gives a very illuminating account of infection conveyed by ducks' eggs The mode of infection of the eggs is said to be *in utero* May I suggest a second mode of infection that is just possible In hot countries eggs are kept covered from biting flies, as several kinds can pierce the shell and so contaminate the contents I have seen a mosquito pierce the shell of a chicken's egg, and such eggs go bad, as the shell is no longer whole Ditches produce several kinds of biting insects, and it seems quite possible that infection would be conveyed in this way I had a section of a mosquito's head and proboscis showing in the proboscis and travelling toward the tip, a pair of filariae, these would be injected into the victim first bitten and a whole cycle of filariasis started in the body of it Would it be possible for ducks' eggs to be infected in this way by some poisonous gnat?

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 32, 33, 34 35, 38 39 and 40 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 36 and 37

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 95

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

95 Syncope associated with Hypersensitivity of the Carotid Sinus

J ROSKAM (*Presse Méd*, April 30th, 1930 p 590) refers to the well established fact that pressure applied to the neck in the vagus region causes bradycardia Hering has shown that this phenomenon is not due to vagal stimulation, but to a reflex originating in the carotid sinus, which lies at and above the level of the bifurcation of the common carotid artery This plexus controls the vagal tone, and therefore also the heart rate and blood pressure In patients suffering from arterio sclerosis and hypertension the reflex slowing of the pulse following pressure over the sinus is particularly well marked, but ill effects other than giddiness or faintness are rare The author describes a patient in whom there appeared to be an extreme and chronic hypersensitivity of the carotid sinus A man, aged 53, complained of fainting attacks resulting from accidental pressure on the neck On examination the heart was found to be regular and not enlarged the sounds were normal, and the blood pressure was 175/90. Pressure at various points on the left side of the neck produced no result except at the carotid sinus half way between the thyroid cartilage and the angle of the jaw The patient then lost consciousness, respiration ceased, and he became pulseless After fifteen seconds epileptiform convulsions appeared, and the heart began to beat at 120 per minute, with frequent extrasystoles Similar phenomena were evoked by very light pressure upon the opposite side of the neck at a corresponding point The electrocardiogram was normal, and *x* ray examination showed no enlargement of the heart, but advanced aortitis Subsequently further attacks were provoked by transient and by prolonged elevations of blood pressure The author urges that the sensitivity of the sino-carotid reflex should be determined prior to all operations on the antero-lateral region of the neck especially since chloroform causes an exaggeration of the reflex

96 Herpes Zoster in Lethargic Encephalitis.

A. NETTER (*Bull et Mém Soc Méd Hôp de Paris*, May 19th, 1930, p 793) has collected 16 cases of zoster connected with lethargic encephalitis, In 4 of these the eruption was simultaneous with the onset of encephalitis, and in 10 it was a subsequent event, the interval ranging from a week to five years The presence (demonstrated by G Guizetti) in more than a quarter of the necropsies on cases of encephalitis of lesions of the spinal and cerebral ganglia accounts for the appearance of the zoster, and explains its bilateral distribution in a fifth of Netter's cases, as well as the almost constant presence of neuralgic pains and myoclonus On the other hand, the rarity of zoster in encephalitis suggests that the part played by encephalitis in its production is merely limited to preparation of the nerve area which is attacked by the specific agent The intervention of this agent has been established by the reaction of fixation, Bedson having shown the presence of the zoster antigen in the cerebro-spinal fluid of a patient suffering from encephalitis and zoster In three cases the intervention of varicella was shown by the development of this eruptive fever in subjects who had been in contact with the patients, thus furnishing a further argument in favour of the view held by Netter and Urbain of the identity of origin of the varicella and zoster virus P HOMBOURGER (*Ibid*, p 791) also records a case in a man, aged 30, in which intercostal zoster was concurrent with a paraplegic form of epidemic neuraxitis

97 Spontaneous Pneumothorax in Influenza

W WOLLENWEBER (*Arch f Kinderheilk*, May 24th, 1930, p 222) records four fatal cases in children aged 3 months, 6 months, 1½ and 3½ years respectively, in whom the most striking symptoms were sudden aggravation of the general condition, intense dyspnoea and an anxious expression resembling that of patients suffering from severe diphtheria stenosis The necropsy revealed a rupture of a small subpleural abscess, which had either immediately caused a fatal pneumothorax or had led first to the formation of an empyema and then to escape of air into the pleural cavity by a secondary communication of the abscess cavity with the bronchial tree. Unlike pneumothorax in children without severe pulmonary changes, the prognosis of spontaneous pneumothorax in influenza is extremely unfavourable, since a necessary condition for its occurrence is the presence of suppurative pneumonia

98 Chronic Meningococcal Septicaemia

H VESELL and J BARSKY (*Amer Journ Med Sci* May, 1930, p 589), who record a fatal case in a woman, aged 43, state that chronic meningococcal septicaemia, or chronic meningococcaemia, was first described in 1902 by Soloman Its rarity is probably more apparent than real It is characterized by a rather sudden onset with headache intermittent fever, joint symptoms, and a typical eruption resembling erythema multiforme which consists of crops of firm, tender, slightly raised red to bluish red nodules Prostration is slight, but the condition lasts for two to three months The prognosis is better than that of other septicaemias. Meningitis is absent in a large number of cases when it does occur it is a late development Early diagnosis is difficult because the blood culture is frequently sterile until late in the disease Treatment consists in the intravenous injection of antimeningococcal serum, in 20 to 40 c cm doses given every twelve hours, according to the patient's condition

99 Adenoiditis as a Complication of Measles

J CAMINIS (*Arch de Méd des Enf*, April, 1930, p 231) records his observations on seven cases of acute adenoiditis which occurred during a recent epidemic of measles in the Greek island of Chios Rapid recovery followed instillations of gomenol oil into the nasopharynx The complication which occurred in children who were the subject of adenoids developed either at the height of the disease or after the eruption had faded

100 Prophylaxis of Rickets.

A. G DE SANCTIS and J D CRAIG (*Journ Amer Med Assoc*, April 26th, 1930, p 1285) made comparative observations on the value of viosterol (irradiated ergosterol) and cod liver oil as prophylactic antirachitic agents with the following results Cod liver oil in doses of three teaspoonfuls daily prevented rickets in 97 out of 103 infants studied On the other hand, viosterol D in doses of 10 drops daily prevented rickets in only 77 per cent out of 123 cases Viosterol, therefore, is less effective in the prevention of rickets than cod liver oil, although the infants on viosterol received about twice as many rat-units of vitamin D as those on cod liver oil The authors think that one of two conclusions may consequently be drawn either the present recommended dose of viosterol is too small to prevent rickets, or, as seems more likely to them rickets is not due to a deficiency of vitamin D alone

Surgery.

101 Suppurative Abscess of the Lung.

H GABRIELLE (*Lyon Chir*, March–April, 1930, p 225) reports a case of suppurative abscess of the left lung treated by phrenicectomy and extrapleural thoracectomy This type of abscess and its recognition have become much more frequent during the last few years, due partly to radiography, which helps diagnosis, and partly to the severe influenza epidemic of 1918, which was accompanied by numerous cases of lung abscess The use of poison gas during the war has rendered pulmonary abscesses more common In America they have increased in number to a remarkable degree, and it has been suggested that they most frequently follow some surgical operation on the jaw, tongue, and pharynx, or for gastric ulcer The pathology of these abscesses appears to have changed from the simple acute type due to bacterial infection, such as pneumococcal, staphylococcal, streptococcal, or the bacillus of Friedländer, to a type which may be called "gangrenous abscesses", this now appears to be the most common These foul-smelling abscesses are nearly always primary, and may occur at the onset of or in the course of, an ill defined congestion of the lung without a noticeable rise in temperature, or even during a simple bronchitis. The initial symptoms may be slight, and the attention is first attracted by the fetidity and violence of expectoration The physical signs are variable and radiography is the most valuable aid in diagnosis although the appearance may vary from day to day according to whether the cavity is full or empty this form of examination must therefore be repeated. Microscopical examination of the pus shows it to be rich in microbic flora. The clinical symptoms are a hard painful cough and abundant fetid expectoration which is sometimes accompanied by vomiting while the patient has

the appearance of one suffering from phthisis Repeated examination shows the progressive extension of the pulmonary lesions Medical treatment alone is insufficient, and surgical treatment, such as phrenicectomy followed by extrapleural thoracoplasty, is safer, it gives the best results, though, even when the patient has apparently recovered, great care must be taken to avoid a recrudescence of the trouble, since the adjacent pulmonary lesions persist for some time

102 Primary Congenital Dilatation of the Ureters

O PEPI (*Il Policlinico*, Sez Chir , April 15th, 1930, p 183), who records three illustrative cases in patients aged 40 years, 11 months, and 2 years respectively, states that primary congenital dilatation of the upper urinary tract is a fairly rare condition The lesion may involve the whole of the excretory tract, or, more frequently, only segments of it As a general rule the dystrophy is revealed by the occurrence of a complication The congenital lesion primarily affects the nerve fibres, giving rise to atony, and subsequently to dilatation of the renal pelvis and ureters The diagnosis is usually rendered possible by cystopyelography A remarkable feature in Pepi's adult case, in which the symptom was repeated haematuria, was that the lesions were bilateral, as was discovered by cystopyelography No operation was performed, and the patient was discharged after washing out the renal pelvis with silver nitrate solution In the other two cases the condition was not found until the necropsy

103 Bone-block Operation for Drop-foot

W C CAMPBELL (*Journ of Bone and Joint Surg* , April, 1930, p 317), who deprecates the unsatisfactory operative measures used in the treatment of drop foot, describes a surgical procedure devised in 1922 which has been used in over 300 cases The object of the operation is to construct, posteriorly to the ankle joint, an osseous process, attached to the os calcis and impinging upon the articular and the posterior surface of the tibia, blocking ankle motion at about 10 degrees of plantar flexion The indications for the operation are simple drop foot, partial loss of function in the anterior group of muscles, rigid equinus in which the anterior group of muscles is paralysed, equino varus with paralysis of the extensor muscles, equino valgus when associated with decrease in function of the anterior group of muscles, flail foot with complete loss of muscle power, as an adjunct to the transference of various tendons, and for spastic spinal paralysis with overactivity of various tendons The operation should not be employed in the case of children under the age of 8 The clinical results in 225 cases showed that bone block was efficient in 211 cases, radiographic examinations of 143 cases revealed well developed osseous process in all but ten cases In no instance has subsequent arthritis been observed

104 Haemangioma of the Small Intestine

A KORTZEBORN (*Zentralbl f Chir* , April 26th, 1930 p 1042), who records an illustrative case, states that intestinal haemangioma is unusual even as a post-mortem finding, while haemangioma of the small intestine which has come to operation is extraordinarily rare Only two previous cases indexed have been recorded in which haemangioma of the small intestine has been operated on successfully The first case was that of Rodelelius, the operation being for intestinal obstruction , the second case was recorded by Landois, who during an appendicectomy found a haemangioma of the small intestine, which he removed to prevent intestinal obstruction or haemorrhage Kortzeborn's patient was a man, aged 41, who had suffered for seven years from attacks of intestinal haemorrhage and occasional colicky pains On laparotomy a tumour of the size of an apricot was found in the small intestine 75 cm from the ileo caecal junction The affected part of the gut was resected and complete recovery followed

105 The Treatment of Gastro-duodenal Haemorrhage.

H LEFÈVRE and P BROUSSET (*Journ de Med de Bordeaux*, May 10th, 1930, p 355) emphasize the necessity of reaching a diagnosis quickly in gastro duodenal haemorrhage, in order to apply the appropriate treatment Haemorrhages due to ulcer may be solitary, repeated, or continuous, in 30 to 40 per cent of cases of such gastric bleeding the issue is fatal, and early operation is advised Patients blanched by haemorrhage, or with a red corpuscle count of 2 million or under, cannot stand an operation when it reaches 3 million and over the risks of operation are said to be no greater than if time is spent in improving the general condition The authors believe that the risks of operation are less than those of adopting a waiting policy

Therapeutics.

106 Ephedrine in Oto-rhino-laryngology

LI MIT (*Arch Internat de Laryngol* , February, 1930, p 234) describes the pharmacology and uses of ephedrine, the drug is obtained from a plant or prepared synthetically, the synthetic product being optically inactive, and much feebler in its action than the optically active natural drug Ephedrine acts in much the same way as adrenaline It stimulates the sympathetic system, producing vaso constriction and a rise of blood pressure, the action is, however not so marked on the blood vessels as is that of adrenaline, a nasal mucosa which has been treated with ephedrine remaining pink, in contrast with the greyish colour found after adrenaline The advantages of ephedrine are the absence of vaso dilatation after the effect of the drug has passed off, in addition, a much longer period of ischaemia is obtained than with adrenaline The author finds that the chloride is the most active salt, but that the sulphate is better tolerated by the mucosa A solution of 2 to 3 per cent is used in nasal work, and in combination with cocaine or novocain for work under local anaesthesia If used with novocain for injection the natural product must be employed, since the synthetic drug sometimes produces vaso dilatation if injected Ephedrine takes longer to act than adrenaline, and is therefore of less value in the treatment of an asthmatic attack The author points out that the drug acts mainly on the blood vessels of a mucous membrane, and does not, therefore, produce the sweating and paleness which is often seen with adrenaline Occasionally patients are seen who exhibit an idiosyncrasy to the drug, with headache and insomnia, but these symptoms vanish after the hypodermic administration of a small dose of atropine

107 Treatment by Fixation Abscess

A PIC and P DELORE (*Journ de Med de Lyon*, April 20th, 1930, p 263) discuss the value of fixation abscess in prognosis and in treatment They state that if repeated turpentine injections fail to produce an abscess, the prognosis may be regarded as fatal, abscess formation is not always followed by recovery, but the outlook is very hopeful When, after the failure of several injections, the last produces an abscess, the prognosis is improved In 122 cases of puerperal infection there was only one exception to the general rule, recovery ensuing in spite of a very feeble abscess reaction When a definite reaction is present, and the progress of the disease does not appear to be modified, tuberculous infection should be suspected, especially in cases of broncho pneumonia Doubt as regards the curative value of fixation abscess is attributed by the authors to the facts that some authorities have condemned it without trial the injections are often given too late in hopeless cases, and their repetition is unwisely neglected when the first has failed, faulty technique may cause severe pain or accidents, and a satisfactory scientific theory of this method is lacking at present, although its practical value is undoubted The technique is simple within the ability of any practitioner, safe, and often efficacious The average of successes recorded by many authors is 65 per cent Fixation abscess, though not a panacea, succeeds in many cases in which all other methods have failed, it represents a modification of the old methods of seton and cautery

108 Neosalvarsan in Necrotic Herpes Recurrens

P BALOG (*Derm Woch* , May 3rd, 1930, p 617) records the case of a man aged 45, the subject of herpes recurrens, who developed necrotic herpetic lesions of the nose and upper lip There was no history or evidence of syphilis, and the Wassermann, Sachs Georgi, and Meinicke reactions were negative Since all other treatment proved unsuccessful, three intravenous injections of neosalvarsan, in doses of 0 15, and 0 45 gram, at intervals of a few days between each 0 3, were given, in view of its favourable action in injection- ative skin conditions of a non syphilitic nature many ulcer- ing at once took place, and no recurrence had Rapid heal occurred when the patient was last seen ten months later

109 Malarial Therapy in General Paralysis

C HENRY (*Trans Austral Med Cong* , 1930, p 255) records his observations on 190 cases of general paralysis treated by the medical officers of the Department of Mental Hospitals of New South Wales with subcutaneous injections of malarial blood Improvement rarely began before a month after treatment The first sign of improvement was a rapid and permanent gain in weight Mental improvement was shown by (1) the moderating, and in some cases entire disappearance of grandiose delusions, (2) the decrease of depression, and (3) previously idle, untrustworthy, and violent patients

becoming industrious, docile and useful workers No relation was found between the type of the patient and the improvement rate No important complications ensued Herpes labialis occurred in 65 per cent , and diarrhoea in 72 per cent The anaemia was not extreme, and was easily remedied by arsenic and iron A very definite increase in the number and size of the blood platelets was the most striking feature of the blood film

Neurology and Psychology.

110 Etiology of the Spinal Symptoms in Anaemia.

M CRITCHLEY and J G GREENFIELD (*Brain*, April, 1930, p 11) point out that, in contradistinction to the cerebral manifestations of the severe disorders of the blood forming organs, symptoms of a paraplegic nature have received scant attention Although rarely mentioned these spinal forms are not actually uncommon Certain of the spinal changes in the leucoses may throw light on the causation of the commoner paraplegic manifestations of pernicious anaemia After briefly reviewing the literature on the subject, the authors describe the paraplegic manifestations of the leucoses under seven heads, six being briefly delineated, while the seventh is fully dealt with, 4 personal cases are recorded and 13 are cited from the literature Since leukaemia and chloroma are of essentially similar nature, no distinction has been made between the neurological syndromes complicating the two conditions The commonest cause of spinal symptoms in the leukaemias is an infiltration of the spinal meninges with leucocytic masses, though this is more frequent in chloroma The neoplastic cell masses usually lie between the inner aspect of the vertebrae and the spinal cord, they are more or less firmly adherent either to the vertebral periosteum or to the dura mater The epidural fat becomes infiltrated and is ultimately replaced by the massed leucocytic infiltration, which may lie anteriorly or posteriorly, or may encircle the cord, it is usually of some length and may extend from one end of the cord to the other Frequently the infiltration spreads and involves the anterior and posterior nerve-roots, which are rarely implicated alone sometimes it follows the course of the roots into the paraspinal fascia and muscles through the intervertebral foramina The secondary changes in the cord vary In some cases at the level of the largest masses the cord appears constricted and pale, and cross section shows an anaemic condition, the pia mater sharing in the ischaemic process In other cases the cord is obviously hyperaemic at the tumour site, and on cross section punctuate haemorrhages may be seen Both types are probably caused rather by obstruction of the blood vessels than by actual compression of the cord The pathological condition resembles that seen in subacute combined degeneration of the cord, differing from it in its patchy distribution and in the great swelling of the axis cylinders The early symptoms are some sensory complaint, usually pain, which is generally severe and of sudden onset Other sensory symptoms may occur Shortly after the onset the paraplegia develops in the lower limbs, and is usually accompanied by objective sensory changes and bladder disturbances Bed sores quickly appear and the patient rapidly loses weight and becomes febrile Visceral manifestations may be detected at this stage and reveal the true nature of the case The finding of immature white cells (myelocytes or myeloblasts) in the cerebro-spinal fluid is an important diagnostic point

111 The Visual Fields in Cerebral Tumour

W D SHELDEN and W I LILLIE (*Journ Amer Med Assoc*, March 8th 1930 p 677) discuss the localization of cerebral tumours, and illustrate this subject with copies of perimetric charts taken in cases described by them While admitting that exact perimetry is a matter for the expert they suggest that a rough comparison of a patient s fields with that of the practitioner may often give valuable information when the classical triad of headache, vomiting and optic neuritis is not completely present, and may, moreover, give assistance in the actual localization of a cerebral tumour Optical signs attributable to tumours in different regions are described as follows In tumours of the frontal lobe the syndrome of Gowers–Paton–Kennedy was optic atrophy with scotoma on the side of the lesion and choked disc in the other eye, but various combinations of signs are possible There may be unilateral scotoma with normal fundi unilateral central scotoma and pallor of the disc the opposite eye being normal, bilateral central scotoma with pallor of the discs bilateral central scotoma and choked discs unilateral amaurosis and optic atrophy with a choked disc on the other side unilateral amaurosis and optic atrophy, with a choked disc and central scotoma on the other side central scotoma, with alterations in visual fields due to secondary contractions from the choked disc, and bilateral amaurosis These signs may be further modified by extension of the tumour to the region of the chiasma, a case is described where bilateral scotoma was associated with olfactory symptoms, and a tumour of the olfactory groove was correctly diagnosed In tumours involving the chiasma the bilateral hemianopic defects are characteristic and an apparent dissociation of function for visual capacity for forms and colours may exist The tumour may arise from any of the structures near the chiasma, and affect the optic nerves the chiasma itself, and either or both optic tracts Distension of the third ventricle, secondary to tumours of the posterior fossa, is assumed, by its influence on the chiasma to be the cause of binasal hemianopia, such fields are uniformly associated with optic atrophy secondary to choked disc In the case of pituitary tumours, endocrine disturbances may give a clue to localization The optic tract may be involved in tumours arising from the walls of the third ventricle the characteristic sign is the rapid development of complete homonymous hemianopia to forms and colour The intimate relation of the tracts to the cerebral peduncles, the walls of the third ventricle, the ventricular system, the temporal lobes and the basal ganglia gives an opportunity for a multitude of associated symptoms and functional disturbances In tumours of the temporal and occipital lobes the greater separation of the fibres of the optic radiation permits of gradual and partial impairment of function According to Henschen the spatial relationship of the fibres remains constant, thus a homonymous quadrant hemianopia for form and colour may be a guide to the direction of approach of a tumour to the visual pathway, but it does not give the exact localization, which may be the temporal, parietal, or occipital regions

112. Treatment of Nervous Diseases by X Rays.

O MARBURG (*Wien klin Woch*, May 15th 1930, p 609) summarizes the results of *x* ray treatment of various pathological conditions of the central nervous system reported by others and observed by himself Normal adult nervous tissue appears to be unaffected by *x* rays, while infantile and embryonic nerve tissue is sensitive, though not so sensitive as that of animals The rays apparently act mainly by dilating the vessels and altering the permeability of their walls In several cases the escape of cerebro-spinal fluid from a fistula was controlled by exposures to *x* rays, though whether the effect was attributable to diminished secretion or to more effective absorption has not yet been decided Pressure symptoms in early hydrocephalus were also relieved Because of the difficulty of distinguishing intracranial tumours from minor degrees of hydrocephalus Marburg considers it possible that the improvement which has undoubtedly followed *x* ray treatment of some so-called tumours has really been due to an effect on the quantity of the cerebro-spinal fluid rather than on any tumour cells which may or may not have been present He has found, however, that valuable results are obtained when *x* rays are used as a supplement to surgery when the complete radical excision of sarcomas and other tumours of the central nervous system is impossible The only tumours which disappeared completely, as demonstrated by lipiodol, were lymphogranulomata in the spinal canal Marked improvement followed irradiation in cases of traumatic headache as well as other intractable headaches A number of cases of epilepsy were apparently cured for the patients remained free from attacks for some years after several courses of *x* rays extending over one year It is suggested that similar prolonged treatment should be applied to migraine since the short courses employed hitherto have produced little effect

Obstetrics and Gynaecology

113. Stillbirths due to Intracranial Injury

JOYCE PAPTRIDGE (*Journ Obstet and Gynaecol of the British Empire*, Spring, 1930, p 1) states that intra natal and neo-natal deaths of viable foetuses are caused in almost half the cases by intracranial injury Some reduction in this mortality may be secured by taking advantage of the mobility of the pubic and sacro-iliac joints. In the non pregnant woman according to post mortem findings the range of movement is negligible before puberty, it increases until about the age of 23 and gradually falls towards the menopause The author s investigation of an unspecified number of stillbirths occurring at the Royal Free Hospital during eight years indicated that the percentage of stillbirths is least in patients aged about 28 the graphs showing mobility at the pubic joint at various ages on the one hand, and on the other the percentages of stillbirths reveal an inverse relation As was shown by Budin and by Cantin almost all pregnant women acquire during the twenty weeks before term a mobility of the pubic (and therefore the sacro-iliac joint —hich is demonstrable

clinically by placing the finger in contact with the pubic joint, the patient standing first on one and then on the other leg From an ante natal examination of this sort in 100 patients the author concludes that where the pubic joint motility is free the second stage of labour (the foeto pelvic proportion being favourable) lasts as a rule less than an hour In this series four patients had almost immobile pubic joints, of these, two had stillbirths, one required forceps extraction for foetal distress although the foeto pelvic measurements were not disproportionate, and the fourth had Caesarean section In the vast majority of cases, in which movements of the sacro iliac and pubic diarthroses are present towards term, positional treatment logically deserves trial During the first stage of labour the upright position, while diminishing the antro posterior diameter of the inlet, stretches the sacro iliac and pubic ligaments, the complete Walcher position, while reducing tension in the ligaments, produces counter nutation of the sacrum, the promontory falling backward with maximal enlargement of the antro posterior diameter of the inlet In the second stage nutation of the sacrum with drawing up of the pubic bone, tilting of the promontory towards the brim, and retropulsion of the lower end of the sacrum and coccyx, serve to enlarge the outlet, nutation is promoted by flexion of the thighs, by pushing the feet against the end of a bed, and by pulling on a towel attached to the same place—three factors the utility of which is traditional Walcher's position, diminishing the pelvic outlet but increasing the inlet, is indicated during the first rather than the second stage The author thinks that publiotomy, although at present out of fashion in this country, might have better results in hospital practice She adds that conservative obstetric methods, towards which the pendulum has swung of late, are capable of being pursued to the social disadvantage of the race, in that they cause the children of the best cranial stock to run the greatest risks in delivery

114 Indications for Caesarean Section

H THROSBY (*Med Journ Australia*, April 12th, 1930, p 487) discusses the indications for and against Caesarean section in varying circumstances, citing statistics from several sources He concludes that most patients in whom septic infection is suspected should be treated by the lower segment operation, unless (1) the outlet is contracted with the head deeply in the pelvis or (2) the operator is unfamiliar with abdominal work, and skilled assistance is not available, in the second case the classical operation, with the technique of Frances Ivens, should be adopted Tropacocaine spinal anaesthesia should be seriously considered as advisable in patients who have advanced cardiac or renal disease, in cases of ante partum haemorrhage, and when inhalation narcosis is contraindicated Throsby believes also that spinal anaesthesia is preferable in certain other types of patient when Caesarean section is indicated, great advantages being the better coaptation of the uterine wall and the lessened haemorrhage He is not, however, prepared to recommend it yet as a routine procedure The suture material for the uterine wall should be capable of being absorbed, plain gut is preferable when there is undoubted septic infection, but otherwise the sutures may well be of both chromicized and plain gut

115 Puerperal Infection due to B typhosus

ACCORDING to E SCHNIRER (*These de Paris*, 1930, No 17), who records seven illustrative cases, Kuhnau in 1896 was the first to incriminate *B typhosus* as one of the organisms capable of causing septic trouble in the puerperium Two years later Dobbin isolated the organism from the lochia of a woman suffering from a puerperal infection, similar observations were made by Blumenthal in 1902 and Bezançon and Philibert in 1904 Puerperal septicaemia due to this cause must be distinguished from typical enteric fever occurring in the puerperium, and from cases of septicaemia due to *B typhosus* developing in pregnancy and continuing into the puerperium with anatomical lesions closely resembling those met with after delivery at full term or abortion The author attributes the rarity of puerperal infection due to *B typhosus* to the multiplicity of factors needed to produce it—namely, a typhoid carrier, an intestine which has a local immunity, and a genital infection at the time of delivery

116 Treatment of Cervical Cancer by Abdominal Hysterectomy

BERGOUIN (*Bordeaux Chirurgical*, April 1930, p 1) has endeavoured to estimate the proportion of cured cases of cervical cancer which are found to be free from morbid symptoms ten years after their treatment by abdominal hysterectomy As the results of his own experience of Wertheim's operation, and the study of the available statistical evidence, he comes to the conclusion that 40 to 45 per cent of those so treated show no further signs of malignancy ten years subsequently, and he believes that, when such a period of time has elapsed without the development of suspicious manifestations, recovery may be considered absolute, since recurrence is a very rare exception He considers, indeed, that a five year period of observation is adequate in most cases, and he deprecates the pessimism of those who emphasize the incurability of cancer, attributing, in his opinion, too much importance to the very occasional recurrences five years after operation

Pathology.

117 Determination of Blood Groups with Dried Serum

M LISLER and N KOVÁCS (*Münch med Woch*, April 25th, 1930, p 709) employ the following procedure for estimating blood groups Glass tubes of 5 mm inner diameter are filled from a graduated pipette with a certain amount of test serum, which is dried in the usual manner and then sealed, two sets of five tubes are prepared, five of colourless glass for A serum, and five of blue streaked glass for B serum With another pipette 0 02 c cm of blood is sucked up and then blown into an ampulla containing 1 c cm of physiological saline solution, the pipette being washed out several times in the salt solution, in this way is obtained a 2 per cent suspension of the blood to be examined, a set of five such ampullae are prepared By using such a blood dilution pseudo agglutination or interference by anti isoagglutinins is obviated The blood suspension is now pipetted up to 0 02 c cm and blown into one of the tubes containing A serum, and also into one of the tubes containing B serum, which has been previously filled and opened, the tubes are then shaken for about a minute If agglutination occurs in one or both tubes it commences as fine clumps, which soon increase in size and fall to the bottom of the tube, and in about five minutes the supernatant fluid is colourless If agglutination has not occurred the contents of the tube remain homogeneous

118 The Alkaline Reserve in Malignant Growth and Hepatic Disease

G PACETTO (*Il Policlinico*, Sez Chir, April 15th, 1930, p 167) comes to the following conclusions as the result of the study of 26 cases of malignant disease of various organs and 19 cases of hepatic disease, including cholelithiasis, atrophic cirrhosis, and hydatid cysts Subjects of malignant growths do not show any considerable changes in the acid base equilibrium which have any constant or appreciable effect on the alkaline reserve in the blood In a high proportion of cases (80 7 per cent) the alkaline reserve is normal, and it is only in rare cases that its value is subnormal In view of the rarity of such cases it is doubtful if the low values are due to the growth itself, it is not improbable that the influence of the growth is indirect, and that other factors are concerned After operation there may be no alteration in the alkaline reserve, but usually there is a slight change in the way of decrease or increase While, however, the former is only temporary the latter persists for some time after the operation In the subjects of hepatic disease there is a close connexion between the morbid condition and the alkaline reserve, a fact which illustrates the importance of the hepatic function in the maintenance of the acid base equilibrium In a considerable proportion of cases (47 3 per cent) Pacetto found an alkaline reserve of low value before the operation, but on recovery a large number showed an increase of the alkaline reserve, which lasted for some time after the operation

119 Influence of Acid-forming and Base forming Diets

EMMA L SAMUEL and I N KUGELMASS (*Amer Journ Dis Child*, April, 1930, p 687) experimented on two groups of rats with an acid forming diet composed mainly of eggs, rice, and oatmeal, and a base forming diet chiefly of potatoes and lima beans They consider that certain inferences significant in infant feeding are warranted Dilution of cow's milk with water or carbohydrates causes a disproportionate diminution in the intake of basic mineral matter, but the modern trend to concentrate feeding eliminates such a possibility, and the early employment of orange juice and cod liver oil favours the retention of basic elements After weaning there may be a mineral deficiency from the introduction of refined cereals, this may be corrected by supplementing the diet by fruit and vegetable juices or purées A base forming diet is antirachitic, since it favours the retention of calcium and phosphorus During the acute infections and gastro intestinal disturbances the addition of base forming foods is corrective of the acidosis The authors conclude that throughout the period of growth there should be included in the daily dietary adequate amounts of base forming foods—namely, milk, fruit, and vegetables

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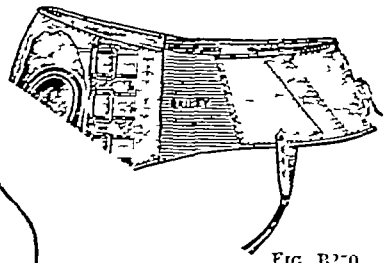


FIG B250

A "RESURRECTION"

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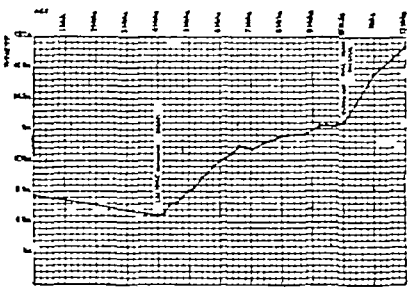
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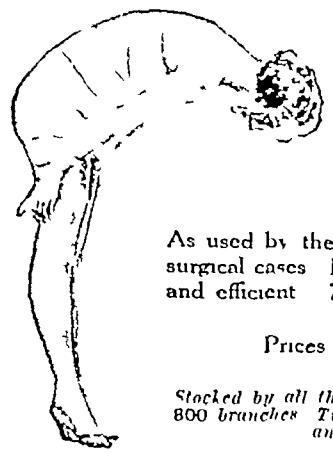
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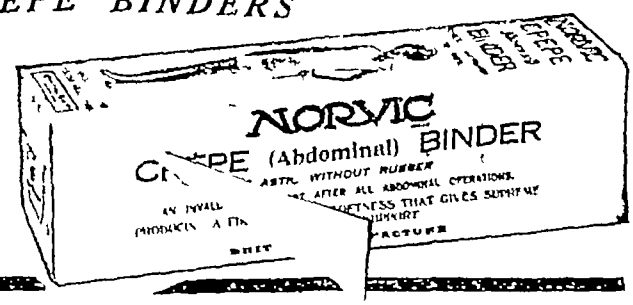
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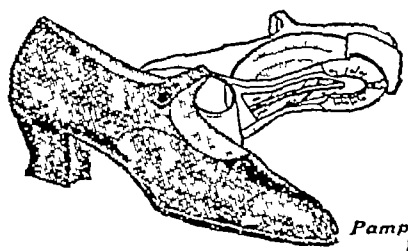
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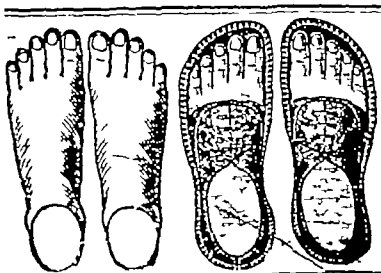


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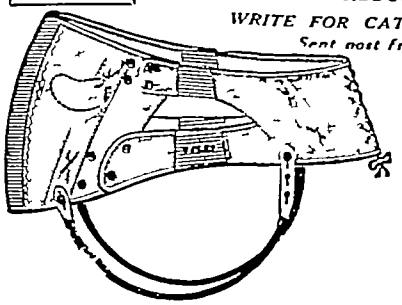
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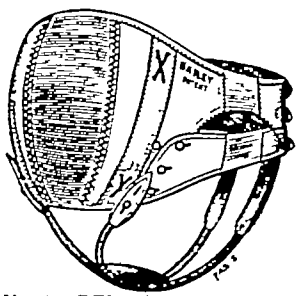
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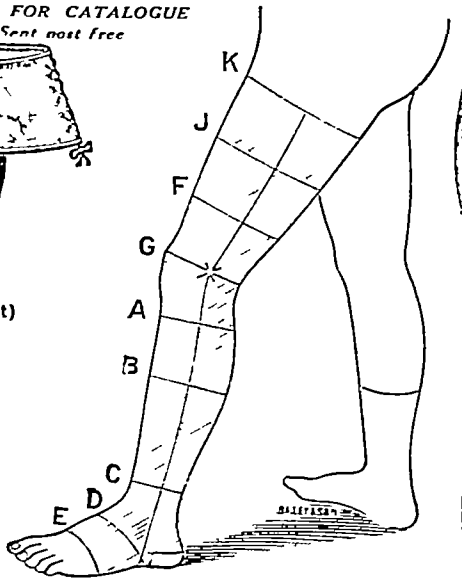
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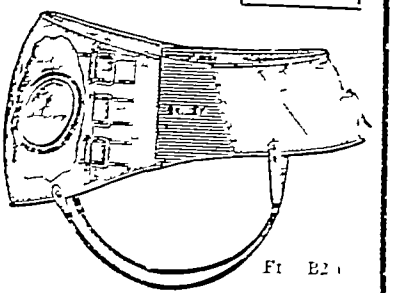


Fig B2 a
(Showing Interior of Cup)
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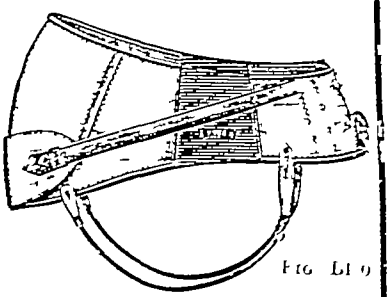
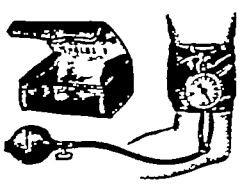


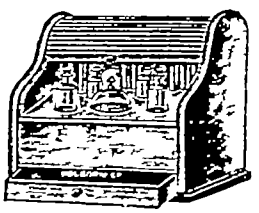
Fig B1 0
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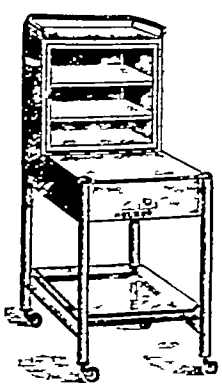
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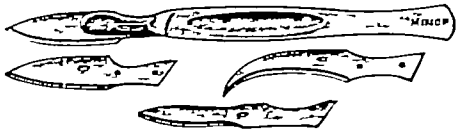
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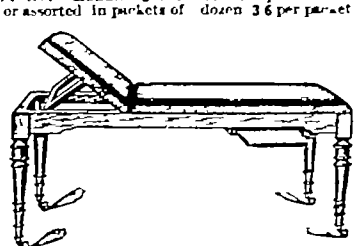
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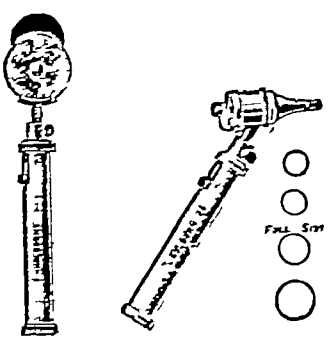
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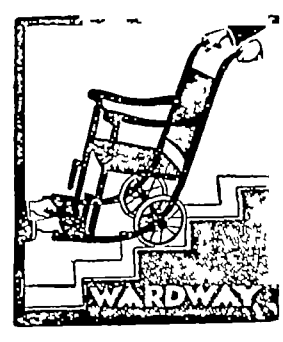
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BEHNKE METHOD Estab 1832. Cases now resident treated at 39 Earl's Court Square S W.5 and in residence in the Summer holidays at Miss BEHNKE's house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."—"Thoroughly physiological principles."—"Lancet."—"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH LISPING. 39 of Miss BEHNKE, 39 Earl's Court Sq., S.W.5

MARLBOROUGH COLLEGE,

Near MACCLESFIELD

Specialises in

CAREERS FOR GIRLS

List and Prospectus from Principal

Special Terms to Medical Men.

ST BARTHOLOMEW'S HOSPITAL MEDICAL COLLEGE

Final F R C.S Class

A Course of Instruction, suitable to the requirements of candidates for the Final F.R.C.S Examination in November will begin on September 4th 1930

For syllabus and full particulars apply to the DEAN Medical College St. Bartholomew's Hospital London E.C.1

POST - GRADUATE MIDWIFERY

Qualified Medical Women are admitted to Queen Charlotte's Hospital of the Salvation Army Lower Clapton Road E.5 for practical fortnightly courses in Midwifery These include daily series of normal cases at the bedside all abnormal cases demonstrated at all abnormal cases ward rounds of visiting staff, V.D clinics and ante-natal clinics For further particulars fees etc apply to EDGAR DIBDEN Secretary

NORTH EAST LONDON POST GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T. H. C. BESTIANS F.R.C.S., Dean.

F R C S (Edin)

CLASSES or POSTAL TUITION—Full particulars of Courses with DEE... Lists of Successful Candidates, Post Free from the Secretary, [illegible]

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute, Riding House Street, London W 1

Dean - Sir CUTHBERT WALLACE, KCMG, CB, FRCS

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, October 6th, 1930 Full particulars will be published later

The Course will be repeated on subsequent dates

Applications for copies of the syllabus, etc, may be made at once, and these will be forwarded as soon as available

The Dean will be glad to see prospective entrants by appointment

THOS A GARNER Secretary

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E C 1

MIDWIFERY TRAINING SCHOOL

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery and Obstetrical complications Monthly or Fortnightly Courses

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C M B regulations

PRIVATE WARDS for paying patients

MATERNITY NURSES *sent out for private cases*

TAUNTON SCHOOL,

TAUNTON

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M B Examination University Scholarships in Chemistry Biology etc

Special facilities are offered for the teaching of Chemistry Physics Botany and Zoology

New Science Buildings containing seven laboratories, two lecture rooms science library, store rooms etc, opened in September, 1925 Prospectus from Head Master

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th *and for the Diploma in* Tropical Hygiene on January 13th and April 23rd (Candidates for the D T H must possess the D T M of this University)

For particulars apply to the Hon Dean, Liverpool School of Tropical Medicine Pembroke Place Liverpool

Doctor-Schoolmaster (ex Public School Resident Medical Officer and Master and Preparatory School Housemaster and Doctor) has opened Sunny House on Kent coast as small HOME SCHOOL for DELICATE and BACKWARD BOYS from 9 to 15 years of age Individual care and tuition Preparation for Preparatory Schools or Common Entrance Examination etc Resident trained Nurse (ex Public and Preparatory School Matron and Nurse in charge) Home Doctor's orders carried out

Prospectus and all particulars from W R L DRAWBRIDGE M R C S L R C P St Aidans Junior House Westgate on Sea Thanet

University of Glasgow

SAMSON GEMMELL CHAIR OF MEDICAL PAEDIATRICS

The Board of Curators proposes to consider the making of an appointment to fill the above vacant Chair *about* the end of September Information regarding the Chair may be obtained on application to the Secretary of the University Court The University Glasgow

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE

FACULTY OF MEDICAL SCIENCES

SPECIAL COURSE FOR THE PRIMARY FELLOWSHIP EXAMINATION OF THE ROYAL COLLEGE OF SURGEONS

Special Short Courses in Anatomy and Physiology will begin on Monday September 1st 1930, in preparation for the December examination

Anatomy—F P Stimm F R C S

Physiology—W H Newton M Sc M B Ch B H P Cuding M A B M B Ch M (Oxon) Egerton, B Sc, M R C S L R C P

The Course in Anatomy includes Histology and is made up of lectures and demonstrations Students are permitted to use the Dissecting Room and Museum of Anatomy

The Course in Physiology includes Biochemistry and consists of lectures and demonstrations together with revision of practical work in those branches of the subject which are of particular importance in medical practice

Full particulars may be obtained on application to—

University College London (Gower Street W C 1) C O C DOUIE Secretary

UNIVERSITY of EDINBURGH

DIPLOMA IN RADIOLOGY

COURSES OF INSTRUCTION for the Diploma in Radiology will commence in the beginning of October 1930

As the number of candidates is limited early application is essential

Particulars may be obtained from the Dean of the Faculty of Medicine

W A *LEMING*
Secretary to the University

University of Leeds

POST GRADUATE COURSES IN OBSTETRICS AND ANTENATAL WORK AT THE LEEDS MATERNITY HOSPITAL (108 Beds)

Registered Medical Practitioners are admitted to the Hospital Practice comprising Ante natal *Labour and Isolation Departments, for periods* of 2—4 weeks

For particulars as to vacancies at the University Obstetrics Students Hostel adjoining the *Hospital apply to the* DEAN, *School of* Medicine Leeds

June 21st 1930

The University of Manchester

The AMY HENRIETTA WORSWICK FELLOWSHIP for the investigation of the Causes and Treatment of Rheumatoid Arthritis is offered for competition The Fellowship is of the value of £150 for one year with the possibility of renewal for a second year Candidates must *possess a registrable medical qualification*

Applications must be made not later than October 15th to the Registrar from whom further particulars may be obtained

Lindsey County Council

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

Applications are invited for the post of Assistant County Medical Officer of Health

The person appointed will be required to act as an Assistant Tuberculosis Officer and School Medical Inspector He will also be required to take charge of a Venereal Disease Clinic and act as *Medical Officer to a Tuberculosis Hospital* of 12 beds

The appointment will be made in accordance with the Local Government (Qualifications of *Medical Officers and Health Visitors) Regulations* 1930

The salary will be at the rate of £600 rising by annual increments of £25 to £700 with an allowance for travelling on the County Council's scale

Particulars of appointment and forms of application may be obtained from the undersigned Applications to be received not later than August 23rd

W S H CAMPBELL
County Medical Officer of Health

Public Health Dept County Council Offices, Newland, Lincoln

July 26th 1930

Doctors attending Post-Graduate Courses in London requiring Comfort and ACCOMMODATION with good cooking at moderate terms Ideal position, facing Hyde Park Send for Tariff—Park Gate Hotel (over Lancaster Gate Tube Station), Bayswater Road, London W 2 Telephone Paddington 3421

County Borough of West Ham

DEPUTY MEDICAL OFFICER OF HEALTH

Applications are invited from duly qualified registered Medical Practitioners for the post of Deputy Medical Officer of Health at a commencing salary of £850 per annum, rising by annual increments of £50 to £1 000 per annum

The engagement will be subject to three months notice on either side

The person appointed will be required to devote his whole time to the duties of the office, and to work under the direct supervision and control of the Medical Officer of Health

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and to a medical examination as required by the Council for the purposes of the Act and the statutory contributions to the Superannuation Fund under the Act will be deducted from the salary

Candidates should possess the Diploma in Public Health and have had *experience in the* general administration of a Public Health Department It will be considered an advantage to have had special experience in one or more of the following

(a) Maternity and Child Welfare
(b) Infectious Diseases
(c) Tuberculosis
(d) Mental Deficiency
(e) Medical Inspection of School Children
(f) Poor Law

Applications should be made on the prescribed form, which may be obtained from the undersigned and returned accompanied by not more than three recent testimonials on or before August 23rd

Canvassing Members of the Council is prohibited and will disqualify

Town Hall CHARLES E CRANFIELD
West Ham E 15 Town Clerk
July 23rd 1930

Borough of Heywood

MEDICAL OFFICER OF HEALTH

The Council invite applications for the appointment of a whole time Medical Officer of Health to carry out the combined duties of Medical Officer of Health to the Borough School Medical Service, Maternity and Child Welfare Centre and any other duties appertaining to the office of Medical Officer of Health Infectious *cases dealt with by neighbouring Authorities* by arrangement Salary £800 per annum

Candidates must be registered Medical Practitioners have practical experience of the *duties of Medical Officer of Health and possess* the D P H qualification and any other qualifications required by Acts of Parliament and the Regulations of the Ministry of Health

Form of application may be obtained from the Town Clerk Municipal Buildings Heywood and such application accompanied by copies of three recent testimonials endorsed Medical Officer of Health must be received by the undersigned not later than Thursday, August 7th next

Canvassing either directly or indirectly will be deemed a disqualification but 12 copies of testimonials may be forwarded for the use of the Committee

C F O C BOUCHIER
Town Clerk

Municipal Buildings Heywood July 17th 1930

Royal Burgh of Inverness

PUBLIC HEALTH DEPARTMENT

Applications are invited for the post of ASSISTANT MEDICAL OFFICER OF HEALTH Applicants in addition to performing general Public Health duties shall have charge of Hospital Services Applicants must be registered Medical Practitioners and hold the *Diploma of D P H or other equivalent qualifications* Commencing salary £600 rising to £700 per annum

Terms of appointment and form of application *may be obtained from the Subscriber* Applications enclosing copies of three recent testimonials must be lodged with the Subscriber on or before August 11th next

Town House Inverness GEO SMITH LANG Town Clerk
July 23rd 1930

Sheffield National Radium Centre

The Committee of the Sheffield National Radium Centre invites applications for the post of MEDICO PHYSICIST to organize and take charge of the Centre Salary £600 to £800 per annum according to qualifications and experience Should an untrained candidate be selected he would be required to attend Clinics at home and abroad for a period of six months Address with fullest particulars and copies of testimonials to—

JNO W BARNES I C I S
Secretary

The Royal Infirmary, Sheffield

ANATOMY POSTS VACANT

The positions of PROFESSOR and ASSISTANT PROFESSOR OF ANATOMY in the UNIVERSITY OF MANITOBA at annual salaries of 5 000 and 3,500 dollars respectively are vacant Assistant Professor allowed 200 dollars in lieu of travelling expenses

Applications, testimonials and references will be requested not later than August 23rd

Applicants should cable immediately advising that they are applying

S WILLIS PROWSE M D
Dean of Medical Faculty Medical College
Winnipeg Canada

County Council of Durham

DISTRICT TUBERCULOSIS MEDICAL OFFICER

The County Health Committee invite applications for a District Tuberculosis Medical Officer at a commencing salary of £500 per annum rising by annual increments of £25 to £700 per annum Travelling expenses will be paid by the County Council.

The appointment will be held subject to three months notice on either side and to the following conditions

(1) The officer appointed must be a registered Medical Practitioner between the ages of 25 and 45 years must devote the whole of his time to the duties of the office and must not engage in private practice

(2) He should either have held a previous appointment as Tuberculosis Medical Officer with the approval of the Minister of Health, or

(i) Have had at least three years experience in the practice of his profession

(ii) Have spent in general clinical work a period of not less than eighteen months of which not less than six months have been spent in a Hospital as Resident Officer in charge of beds occupied by general medical or surgical cases and

(iii) Have received special training for a period of not less than six months in the diagnosis and treatment of tuberculosis

(3) He will be attached to the County Health Department and will subject to the directions of the County Medical Officer be under the control of the Central Tuberculosis Medical Officer

(4) He will be required to reside in his Dispensary area or such other centre as required by the Council

(5) He will be required to carry out the duties of a District Tuberculosis Medical Officer

(6) He must be prepared if called upon to act as Locum Tenens to other members of the Medical Staff of the County Medical Officer

(7) The holding of a Diploma in Public Health and practical experience in bacteriological laboratory work will be deemed additional qualification for the post

The candidate appointed will be required to pass the County Council's medical examination and will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications endorsed "District Tuberculosis Medical Officer" with copies of not more than three recent testimonial must be forwarded on or before August 16th next to the County Medical Officer Shire Hall Durham from whom forms of application can be obtained.

Shire Hall HAROLD JEVONS
Durham Clerk of the County
July 28th 1930 Council.

Derbyshire Royal Infirmary, DERBY

(General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON

Candidates must be qualified and registered under the Medical Acts.

The appointment is tenable for 12 months.

Salary will be £150 per annum, with apartments board etc.

There are 40 beds for Ophthalmic cases and a large Out patient Department.

Application with copies of testimonials to be sent to the undersigned.

WALTER BANKS
July 28th 1930 Supt & Secretary

County Borough of Southampton

RESIDENT MEDICAL OFFICER

SOUTHAMPTON BOROUGH HOSPITAL

The Corporation invite applications from duly qualified Medical Practitioners for the position of Resident Medical Officer in their General Hospital

Salary £350 per annum rising by four annual increments to a maximum of £400 per annum together with board residence, etc

It is desired that the gentleman appointed shall have had Hospital experience He will hold office during the pleasure of the Council and the appointment will be subject to determination by two months notice on either side The duties are those which are usually carried out by a Resident Medical Officer of a General Hospital and will include the treatment of patients and such other work as may be assigned to him by the Medical Officer of Health or the Resident Medical Superintendent

The Council have adopted the Local Government and Other Officers Superannuation Act 1922 and the position will be a designated post under the Act The successful candidate will be required to pass a medical examination

Applications on the prescribed form to be obtained from the Medical Officer of Health, Municipal Offices Southampton and endorsed Resident Medical Officer stating age qualifications experience etc., accompanied with copies of not more than three recent testimonials must be delivered at the Town Clerk's Office Municipal Offices Southampton on or before August 9th.

R. RONALD H. MEGGESON
July 19th, 1930 Town Clerk.

City of Birmingham

PUBLIC HEALTH DEPARTMENT

CITY HOSPITAL, LITTLE BROMWICH

THIRD and JUNIOR ASSISTANT MEDICAL OFFICERS required.

All candidates must have held resident posts in General or Children's Hospitals those for the post of Third Assistant Medical Officer will be expected in addition to have had previous Hospital experience in Fevers.

The salary of the Third Assistant Medical Officer commences at £350 per annum together with board etc The salary attached to the post of Junior Medical Officer is at the rate of £300 per annum together with board, etc. and the appointment is limited to 12 months.

The officers appointed will be required to pay to the Council all fees, allowances and emoluments (other than the foregoing) received by them

Forms of application may be obtained from the Medical Superintendent of the Hospital and should be returned to him on or before Saturday August 16th. The post applied for should be specified.

F H C WILTSHIRE.
The Council House Town Clerk.
Birmingham.

Nottingham Hospital for Women

HOUSE SURGEON (*female or male*) required to commence duties on September 15th. Appointment for period of not less than six months Salary at the rate of £150 per annum with board residence and laundry Previous Hospital experience essential

Applications stating age experience and qualifications accompanied by copies of three recent testimonial to be sent to the Secretary Mr L L MORELL Barton Buildings Parliament Street Nottingham not later than August 14

County Borough of Darlington

HEALTH VISITOR

The Corporation are prepared [illegible] appointment [illegible] Health Visitor [illegible]

(a) the new Health Visitor [illegible] Midwifery Act 1918

(b) the Certificate of Health [illegible] Part I of the Midwives Regulations 1926

(c) have held a Health Visitor's Certificate of the Minister of Health

The duties are [illegible] and the salary will be £[illegible] per annum with [illegible] Local Government Superannuation Act 1922 the appointment will be subject to the provisions of the Act and to the regulations of the Minister of Health.

The successful applicant [illegible] (Contributory) Superannuation Act 1922 [illegible] £172 16s and [illegible]

[illegible] Officers' Superannuation Act 1922 [illegible] application will be required to pass a medical examination

Applications [illegible] to reach the Medical Officer of Health Feethams Darlington not later than Monday September 1

Town Clerk's Office H. HOPPITT
Darlington Town Clerk
July 26th, 1930

Borough of Leigh

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

The Town Council of Leigh invite applications for the appointment of Assistant Medical Officer of Health and Assistant School Medical Officer [illegible]

The appointment will be [illegible] the Midwives Regulations 1926 [illegible] £[illegible]

The person appointed [illegible] of his time to the work [illegible] and will be required to [illegible] time to the Medical Officer [illegible] School Medical Officer

The officer will be required [illegible] out work in connection with the Maternity and Child Welfare [illegible] in addition to and make such duties in connection with the Public Health Services of the Borough as may be assigned to him.

Preference will be given to applicants who have had experience in ante-natal and maternity work administrative [illegible] training of midwives and in other [illegible] generally

The salary will be £[illegible] per annum [illegible] annual increments of £25 to a maximum of £700

Applications stating age [illegible] and qualifications accompanied by copies of three recent testimonials and an Assistant Medical Officer must reach me not later than Saturday August 16th.

Town Hall THOMAS B. BAMBER
Leigh (Lancs.). Town Clerk.

City of Sheffield

ASSISTANT TUBERCULOSIS OFFICER

Wanted a Male (unmarried) ASSISTANT TUBERCULOSIS OFFICER to reside at WINTER STREET HOSPITAL and to [illegible] time to the Municipal Tuberculosis Scheme

Salary £350 per annum, rising to £450 per annum by annual increments of £25 with board residence and laundry

Applicants must be registered Medical Practitioners with not less than three years' experience.

The office has been designated as an established post under the Local Government Superannuation Act 1922 The other Officers Superannuation Act 1922 [illegible] of appointment must be [illegible] scheme of superannuation and the appointment will be subject to examination, and the retention of the post will be subject to the result of such examination

Applications [illegible] experience and [illegible] to be sent to the undersigned not later than Monday August 18th

Town Hall [illegible]

County Mental Hospital, LANCASTER

[illegible] TEMPORARY ASSISTANT MEDICAL OFFICER (male) [illegible] Salary £[illegible] per annum [illegible] laundry and [illegible]

The Royal Hospital,
WOLVERHAMPTON
(Incorporated under Charter)

CASUALTY OFFICER AND RESIDENT ANAESTHETIST (male or female) required.
Duties to commence forthwith and will include Casualty work and administration of Anæsthetics.
The Hospital contains 240 beds contains the usual special departments, and is recognized by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice.
Candidates must be registered under the Medical Acts, and unmarried. The appointment is for six months with eligibility for further appointment for six months as House Surgeon to In patients.
Salary at the rate of £125 per annum Board furnished rooms and laundry provided.
Applications with copies of testimonials to be forwarded to the undersigned.

W. H. HARPER
July 28th, 1930 *House Cov. & Sec.*

South Devon and East Cornwall
HOSPITAL, PLYMOUTH (240 Beds)

Applicants are invited for the following posts on the Honorary Medical Staff.
(1) HONORARY PHYSICIAN (A Member of the Assistant Staff is a candidate for this post.)
(2) HONORARY ASSISTANT PHYSICIAN (in the event of one of the present staff being appointed to the post of Honorary Physician). *Candidates may apply for this post as an alternative to (1).*
Candidates for the above posts must hold the Fellowship or Membership of one of the Royal Colleges of Physicians in Great Britain or be Doctors of Medicine of a University of Great Britain.
Applicants must send twelve copies of their application and testimonials to the undersigned by Monday, August 18th.

Plymouth ARTHUR R. CASH
July 28th, 1930 Gen. Supt. & Sec.

County Mental Hospital,
CHESTER

JUNIOR ASSISTANT MEDICAL OFFICER (male single) wanted. Salary £350 per annum, with four annual increments of £25 together with furnished apartments board washing and attendance. The last three increments are conditional on holding the Diploma in Psychological Medicine and for which a further £50 per annum is paid. Three months study leave (D.P.M.) may be granted during the second year.
The appointment is subject to the provisions *and privileges of the Asylums Officers* Superannuation Act 1909.
Applications stating age and qualifications together with copies of three recent testimonials to reach the Medical Superintendent on or before August 7th.

Hertford County Hospital

Applications are *invited for the post of* HOUSE PHYSICIAN (male). Salary £150 per annum with board residence and laundry. The appointment is for six months in the first instance.
Applications with copies of three recent testimonials should be sent to the undersigned as early as possible.

PERCY G. BROOKS, Secretary.

Huddersfield Royal Infirmary
(200 Beds)

Male HOUSE SURGEON required to commence duty as early as possible. Salary £150 per annum with board residence and laundry. Appointment terminates December 31st but is subject to renewal for further three or six months.
Applications with copy testimonials, to be addressed to the Secretary immediately.

Barnwood House Hospital for
MENTAL AND NERVOUS DISORDERS,
near GLOUCESTER

[illegible] SECOND ASSISTANT MEDICAL [illegible] male. Commencing salary £350 per annum with board residence and laundry. Application with copies of three recent testimonials to be sent to the Medical Supt.

Lowestoft and North Suffolk
HOSPITAL, LOWESTOFT

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board residence, and laundry. Duties to commence in August. Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

Manchester Royal Infirmary
CLINICAL ASSISTANTS FOR CLINICAL LABORATORY WORK. Four Vacancies
(Non-resident, Men or Women)

The Board of Management of the Manchester Royal Infirmary invite applications for the above posts.
Applicants men or women should hold a degree or diploma in Medicine or Science.
The duties of the posts require attendance daily (Sundays excepted) from 9 a.m. to 5 p.m., Saturdays to 1 p.m. working under the direction of the Directors of the Clinical and Research Laboratories. The work comprises routine examinations of blood urine and sputum, estimations of blood urea basal metabolism, and fractional analysis of gastric secretion.
The appointments are for one year renewable for a further period subject to the provisions of the Bylaws as to notice etc. with a commencing salary of £200 per annum.
Applications stating age with copies of *testimonials to be sent to the Chairman of* the Medical Board not later than August 16th.

By Order
FRANK G. HAZELL
July 28th 1930 Gen. Supt. & Sec.

Manchester Royal Infirmary,
CENTRAL BRANCH Roby Street
MANCHESTER

JUNIOR HOUSE SURGEON AND CASUALTY OFFICER (Lady)

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment.
Applicants must be registered and hold a Medical and Surgical qualification.
The appointment is tenable for twelve months commencing September 12th four months as Junior at £100 per annum four months as Assistant at £100 per annum and four months as Senior at *£200 per annum together with board and allowance for laundry.*
Applicants must state age and qualifications, and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Wednesday August 20th.

By Order
FRANK C. HAZELL
Gen. Supt. & Secretary.

Walsall General Hospital,
WALSALL

The Committee invite applications from men for the post of CASUALTY HOUSE SURGEON. Salary £120 per annum.
Candidates who must be registered under the *Medical Acts* must produce three recent testimonials.
The appointment will be for six months.
The Hospital contains 100 beds and is equipped in all Special Departments.
Applications stating age *qualifications and* nationality must be received by the undersigned not later than first post Tuesday, August 5th.

WALTER FRANCOMBE, Secretary.

The Willesden General Hospital
(Incorporated) N.W.10
(106 Beds)

Applications are invited from General Practitioners for appointment as REGISTRARS. Several vacancies exist and a copy of the Regulations governing such appointments can be obtained from the Secretary to whom detailed applications should be addressed not later than Saturday, August 30th.

June 30th 1930

Queen's Hospital for Children,
Hackney Road, London, E.2

CASUALTY OFFICER required. Six months appointment. Salary £100 a year with board residence and washing. Preference given to candidates who have previously held resident appointments. Applications must be made on forms to be obtained from the Secretary and must be sent in as soon as possible with copies of not more than four testimonials.

T. CLENTON KERR
July 21st, 1930 Secretary.

The Royal Eye and Ear Hospital,
BRADFORD

Wanted JUNIOR HOUSE SURGEON (male). Salary £150 with board residence and laundry. Applications stating qualifications etc. with copies of recent testimonials to be forwarded to the undersigned on or before August 14th.

F. BRIGGS, Secretary Supt.
Lan[illegible]
Lond[illegible]

City of Salford
HOPE HOSPITAL (1,000 Beds)

RESIDENT SURGICAL OFFICER required about September 22nd. Commencing salary £400 per annum together with board, lodging, laundry, and attendance. Candidates must have had at least two years general or municipal hospital experience and must produce evidence of experience *in surgical operative work.* Preference will be given to candidates possessing one of the higher surgical qualifications.
Further particulars may be obtained from the Medical Superintendent Hope Hospital, Salford. Forms of application may be obtained by forwarding stamped addressed foolscap envelope to the Medical Officer of Health 143 Regent Road, Salford to whom they must be returned not later than Saturday Aug. 30th.

H. H. TOMSON, Town Clerk.

Borough of Chesterfield
ASSISTANT (Female) MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

Applications are invited from registered Medical Practitioners (women) for the position of Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £450 *per annum, with board residence at the* Corporation Maternity Home valued at £150 both amounts being computable for pension under the Local Government and Other Officers Superannuation Act 1922. Particulars of duties and forms of application may be obtained from the undersigned. Applications endorsed Assistant Medical Officer should be sent to the undersigned on or before Thursday, August 14th.

J. L. FEATHER
Chesterfield Town Clerk.

Seamen's Hospital Society,
Greenwich S.E.

RESIDENT MEDICAL OFFICER required at QUEEN ALEXANDRA MEMORIAL HOSPITAL MARSEILLES from September 1st. Salary at the rate of £250 per annum with board residence and laundry. British State registered Nursing Staff. Candidates must be male and some knowledge of French is essential. Applications with copies of three recent testimonials, to be sent in by August 15th to the undersigned from whom further particulars can be obtained.

Greenwich R. E. V. BAX
July 28th 1930 Secretary.

The General Hospital,
BIRMINGHAM

Applications are invited for the following Resident appointment from September 15th.
HOUSE PHYSICIAN. Salary £70 per annum.
Applications giving full details of qualifications and accompanied by testimonials (if desired) should reach the undersigned by September 8th.

A. H. JENNEY
July 24th 1930 House Governor.

Essex County Hospital,
COLCHESTER (160 Beds)

Wanted in August ASSISTANT HOUSE SURGEON AND REGISTRAR (male). Salary £120 with board washing and residence. Medical and Surgical qualifications required.
Applications with three recent testimonials to be sent by Friday August 8th to—

ARCHD. G. BUCK, Secretary.

Stockton and Thornaby Hospital,
STOCKTON ON TEES
(140 Beds)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about August 15th.
Salary £150 with board residence and laundry. Candidates must be duly qualified and unmarried.
Applications stating age nationality and experience together with copies of three recent testimonials to be sent to the undersigned.

J. WILKINSON, Secretary.

Newark General Hospital
(50 Beds)

Wanted a fully qualified RESIDENT HOUSE SURGEON (male or female unmarried). Salary £175 per annum with board residence and laundry. *Appointment for six months or twelve* if mutually desired. For form of application apply to W. T. CRAMPTON, 27 Kirk Gate, Newark, Notts.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square, W C 1 (in the case of Scottish appointments, with the Scottish Medical Secretary 7, Drumsheugh Gardens, Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE MON *(Workmen's Medical Society)*	ARTHUR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
CILFACH GOCH, GLAMORGAN *(Workmen's Medical Scheme.)*	EATH AND DISTRICT. *(Medical Aid Association.)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
HARDY GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN. *(Windsor Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE ORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr R H TODD (Hon Sec. New South Wales Branch) Savings Bank Building 21 Elizabeth St. Sydney N S W	SOUTH AUSTRALIA. *(Lodge Appointments.)*	Secretary South Australian Branch, 207 North Terrace Adelaide.	WELLINGTON NEW ZEALAND *(Contract Practice Appointments.)*	Dr G F V ANSON (Hon. Sec., New Zealand Branch, British Medical Association P O Box 156 Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon Sec. Queensland Branch) British Medical Association B M.A Building Adelaide St. Brisbane	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon Sec. Victorian Branch) *British Medical Association*, Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec. Western Australian Branch British Medical Association S W Chambers St. George's Terr Perth, Western Australia.

July 30th 1930 By Order of the Council ALFRED COX Medical Secretary

Royal Salop Infirmary, SHREWSBURY (150 Beds)

APPOINTMENT OF RESIDENT HOUSE SURGEON

Application are invited from fully qualified men for the appointment of Resident House Surgeon vacant from August 10th next Salary £160 per annum, with board residence etc

The appointment is for six months in the first instance subject to re-appointment for a further period of six months.

Resident Staff comprises Resident Surgical Officer, House Physician and House Surgeon

Application stating age qualifications experience nationality and accompanied by copies of three recent testimonials to be sent to the undersigned forthwith.

J W NOBLE,
July 15th 1930 Secretary Supt

Royal Infirmary, Doncaster (185 Beds.) OPENING NEW BUILDING

Three HOUSE SURGEONS and One HOUSE PHYSICIAN required at once. New building ready for occupation. The House Physician will also be House Surgeon to Ophthalmic and Ear Nose, and Throat Departments

The salary of each post is £200 per annum with board residence and laundry

Appointments are for six months and are renewable

Applications stating age and full particulars together with copies of testimonials should be sent at once to the Secretary Superintendent

North Devon Infirmary, BARNSTAPLE. (60 Beds.)

Wanted end of July duly qualified RESIDENT MEDICAL OFFICER (male or female). Salary £150 p.a. with board, apartments and laundry Appointment to be for not less than six months. Applications stating age qualifications with copies of recent testimonials to be sent forthwith to the Honorary Secretary

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male)

Duties to commence as soon as possible.

The duties include charge of four beds devoted to *complicated Midwifery* cases.

Salary at the rate of £160 per annum with residence board and laundry

The appointment is for six months and is renewable and the salary for the second six months will be at the rate of £170 per annum.

Applications accompanied by not more than three recent testimonials to be sent to the undersigned.

Dated this 26th day of May 1930
ARTHUR H. LIMB Secretary

The Royal Infirmary, Sheffield (500 Beds)

The Weekly Board of Management invite applications for the post of HOUSE SURGEON

The appointment will be tenable for a period ending December 31st 1930 The salary attached to the post is £80 per annum, rising after six months' service to £100 per annum together with board and residence.

Applications together with copies of testimonials to be sent to the undersigned immediately

JNO W BARNES F C I S.,
General Superintendent and Secretary
Board Room July 21st 1930

The Guest Hospital and Eye INFIRMARY DUDLEY (General Hospital—104 Beds)

Applications are invited for the post of ASSISTANT HOUSE SURGEON to commence duties immediately Salary £150 per annum with furnished apartments, board and laundry Candidates must be fully qualified and registered. Application stating age qualifications and experience, and accompanied by copies of testimonials to be sent to the undersigned.

H RAYMOND HURST
The Guest Hospital Secretary
Dudley July 18th 1930

The Gloucestershire Royal INFIRMARY AND EYE INSTITUTION GLOUCESTER. (163 Beds.)

Applications are invited for the post of RESIDENT SURGICAL OFFICER (male) to which is attached an opportunity for practical surgery Salary £2 0 per annum with board residence and laundry Also for HOUSE PHYSICIAN salary £135 per annum. There are four residents

The appointments are for six months which may be extended for similar periods by re-election from time to time.

Applications stating age qualifications, and nationality with copies of not less than three recent testimonials, should be sent to the undersigned at once

F J SYMONS
July 3rd 1930 Secretary

Saint Mark's Hospital for CANCER FISTULA AND OTHER DISEASES OF THE RECTUM City Road London E C 1

RESIDENT SURGICAL OFFICER (male) required. Must be fully qualified. Salary £150 per annum and certain emoluments with board residence and laundry The appointment is for a minimum of six months Duties to commence on September 1st Applications with copies of testimonials to reach the Secretary from whom further particulars may be obtained not later than Saturday August 16th.

Midland Hospital (For Consumptives and Open Tuberculosis) EAST PARK LINCOLN

A vacancy [illegible] SURGEON [illegible] 6th. Salary £2 0 [illegible] Applications [illegible]

Appointments continued on p 38

British Medical Journal,

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Wanted — Assistant, male or female Public Health panel and private, duties light Ample time for study of D P H Salary 100 guineas and midwifery fees Experience not essential State full particulars — Address No 5210, B M A House, Tavistock Square, W C 1

Wanted in Colliery Practice in Clamorganshire an indoor male ASSISTANT Salary £300 a year rising by increments of £25 to £400 Experience in Anaesthetics and motor cyclist preferred — T J BELL THOMAS M R C S Maesteg

Wanted, in September or October, young male, British ASSISTANT ex Hospital preferred indoor £262, or outdoor £416 Usual bond Particulars and testimonials (copies) — Address No 5123, B M A House Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices with and without view State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted an outdoor Assistant in a Glamorganshire Colliery Practice No dispensing Usual bond salary to commence at £350 per annum with rooms and attendance —Address No 5221 B M A House Tavistock Square W C 1

Wanted — Indoor Assistant, young male Protestant for panel and general Practice country district Yorkshire Suit one recently qualified Able to drive car Usual bond Salary £300 — Address No 5207, B M A House Tavistock Square W C 1

Wanted — Unmarried male ASSISTANT outdoor Midlands Panel and private Cyclist Salary £400 and furnished rooms and attendance Petrol allowance if own car English or Scotch only —Address No 5229 B M A House Tavistock Square W C 1

Wanted, near Birmingham — Outdoor male ASSISTANT September Hospital and/or G P exp[illegible] Annual increments — according to experience A. House Tavistock Square W C 1 5224 B M[illegible]

Wanted — Indoor Male ASSISTANT British for panel and private Practice in West Car provided Dispensing Salary £300 —Address with references No 5225 B M A House Tavistock Square W C 1

Wanted September, young British ASSISTANT recently qualified Indoor private and panel Usual bond Cyclist Give full particulars —Address No 5220 B M A House Tavistock Square W C 1

Wanted — Assistantship with early view to Partnership by M B B Ch Q U B, married Protestant six years experience G P Would be keen to work up Branch Surgery North of England pref Small capital Interview necessary Free end of Sept —No 5232 B M A House, Tavistock Sq W C 1

Wanted —Indoor Assistant immediately man or woman under 30 Protestant Panel and private practice Give full essential particulars —Address No 5226 B M A House Tavistock Square W C 1

Wanted —Assistantship, with or without view, by Woman 7½ years experience C P Free in September Own car Near Manchester if possible —Address No 5208, B M A House Tavistock Square, W C 1

Wanted in Colliery Practice, Glamorgan outdoor ASSISTANT Salary £400 and rooms etc —Address No 5218, B M A House Tavistock Square W C 1

Assistantship desired, charge Branch or possible view M B N U I aged 32 T T six years Hospital appointments private panel Knowledge of Eye work —Add No 5219, B M A House Tavistock Sq W C 1

M.A., B.M., B.Ch. (Oxon.), Conjoint 29 ex H S H P Accoucheur travelled hard worker desires ASSISTANTSHIP definite view Exp C P keen anaes mids Lond or S E Eng pref Mod cap avail suitable place —No 5202 B M A House, Tavistock Sq W C 1

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Wanted —Partnership by M B, Ch B act 28 single Scotch, ex H S etc 2½ years General Practice keen and energetic Short preliminary Assistantship essential —Address No 5231, B M A House Tavistock Square W C 1

Wanted —Partnership by M B, Ch B (Glasgow) aged 34 single Seven years experience C P Capital available — Address No 5209 B M A House, Tavistock Square W C 1

Experienced Practitioner, M D, B S M I C S etc aged 34 6 years G P experience desires join Senior Practitioner as PARTNER in first class non panel non dispensing private Practice in good residential seaside town S or S E coast Would secure suitable residence in fresh part with view to expansion —Address No 5216, B M A House, Tavistock Square W C 1

Junior Partner required in mixed West Riding Practice Receipts over £4 000 Panel almost 5 000 House and garage may be rented at £52 per annum Premium for 1/4 share £1 450 —Apply No 2534 REYNOLDS & BRANSON Ltd Medical Transfer Agents 13 Briggate Leeds

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Lancs Town — Partnership in old-estab PRACTICE. Cash receipts 1929 £2,524 Panel 1930 Good house 3 reception 5 bedrooms Garage and garden Premium—1/2 share—£1 500 (including book debts)—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Partner wanted to buy two-fifths or rather larger SHARE in PRACTICE in Wimbledon Panel 1 300 Average receipts £2,500 Good house and lovely garden Hours about £3 300 which must be bought. Splendid prospect Ample capital essential Population of Wimbledon about 65 000—Address No 4507 BMA House Tavistock Square W C 1

Partner wanted to buy 1/3 share of General Practice doing over £3 100 p.a Situated in small country town in West Would suit man aged about 30 keen on medicine Good sporting district.—Address No 5213 B.M.A House Tavistock Square W C 1

Shropshire—Partnership in good and old-established *Practice with receipts* £2,300 yearly Excellent house large garden tennis lawn Price for half share 2 years purchase *and house £1,500 part deferred*—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street

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Wanted by experienced Doctor, aged 39 (married no children) small PRACTICE or PARTNERSHIP country or South Coast preferred but not essential Part cash down remainder by arrangement State minimum initial deposit required — Address No 5205 B.M.A House Tavistock Sq W C 1.

Wanted—Practice, income about £1 000 Panel 1 000 upward Good house with garden preferably to rent Partnership with succession considered Capital available No agent — Address No 5205 B.M.A House Tavistock Square W C 1

Wanted — Practice (about £1 000) or Partnership with early succession by married man with family Seaside town preferred.—Write Box 1676 LEE & NIGHTINGALE Liverpool

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For Disposal — Good class old-established PRACTICE near London Receipts over £600 capable of increase with active man Educational advantages Could let house with garden Would prefer to sell to man with private means —Address No 5228 B.M.A House Tavistock Square W C 1

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Isle of Man — Seaside Town Old-established PRACTICE receipts average £946 (including £350 from panel) Small detached house 3 *except* 4 bedrooms Garden Good school Premium—Practice and House—£2 000 part by arrangement — BRITISH MEDICAL BUREAU 33 Cross St. Manchester

Manchester —Old-established — Nice house garage £50 Receipts (including Panel £150) over £600 Great scope Price £1 100 (to include fittings drugs linoleum coverings and good debt £500) part deferred—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street

Manchester —Residential suburb Old-estab PRACTICE Average cash receipts £1 918 Panel 1 400 Excellent house for sale 2 reception 4 bedrooms Garage and garden—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Remittances must accompany all orders Apply at the office, B M A House Tavistock Square, W C 1

APPOINTMENTS—Contd

Wanted for the Infirmary, KILMARNOCK a RESIDENT MEDICAL OFFICER (male) to begin duty at once Salary at the rate of £140 per annum, with board etc Applications to be lodged immediately with the Secretary Kilmarnock Infirmary Ayrshire

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Huntingdon County Hospital

MALE HOUSE SURGEON required at once Salary £125, with board residence, and laundry —Apply W R CROVE, M D

Montagu Hospital, Mexborough, YORKS

Applications are invited for the position of SENIOR HOUSE SURGEON (lady) at the above Hospital 84 beds (10 maternity) Hospital experience essential Commencing salary £120 per annum with board lodging washing etc One month's holiday annually It is desirable that applicants should be at liberty to commence duties as early as possible

DONALD WILSON Secretary

King George Hospital, Ilford

(8 miles from London)

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER Salary £200 per annum with board residence etc Term twelve months with eligibility for *further period Previous Hospital experience* essential Preference given to candidates who are Fellows of a Royal College of Surgeons Vacancy as from September 1st Applications should be sent to the Secretary

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Nottingham and Midland Eye INFIRMARY

-RESIDENT HOUSE SURGEON required about September 40 beds Large Out patient Department Salary £200 per annum with board and laundry Applicants (gentlemen) should state age, qualifications experience, and send copies of three recent testimonials to the Secretary, The Ropewalk Nottingham

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Golden Square Throat, Nose, AND EAR HOSPITAL, London, W 1

HOUSE SURGEON male required for October 1st Salary £100 per annum with board and lodging

Applications stating age qualifications and experience together with copies of three testimonials should reach the undersigned on or before August 22nd

F P CARROLL Secretary Supt

Royal United Hospital, Bath

Wanted at once an ASSISTANT HOUSE SURGEON Salary £120 per annum

The appointment will be for not less than six months and candidates must be male unmarried and of British nationality

Applications with three testimonials must be addressed to the undersigned

J LAWRENCE MEARS
Secretary Superintendent

Kent and Canterbury Hospital, CANTERBURY

HOUSE SURGEON (male) required Six months appointment Salary at the rate of £125 per annum plus board residence etc

Applications accompanied by copies of three testimonials should be forwarded to the undersigned.

W T SOUTHWOOD
Superintendent & Secretary

Durham County Sanatorium, HOLYWOOD HALL WOLSINGHAM

Male LOCUM required for six weeks from August 13th

Candidates must be registered Practitioners with experience in Tuberculosis Salary 7 to 9 guineas per week according to experience in Tuberculosis, and board and lodgings

Applications should be sent to the Medical Superintendent

The Sheffield Royal Hospital

RESIDENT ANÆSTHETIST required (male) Salary for the first six months at the rate of £80 per annum after which £100 per annum with board residence and laundry There are twelve Resident Medical Officers and the duties will vary after three months. Applications should be forwarded at once to—

W H BOOTH
Superintendent and Secretary

Royal Cornwall Infirmary, TRURO

(84 Beds)

HOUSE SURGEON (male) required with experience of Anæsthetics Salary £170 per annum rooms board and washing Apply, with copies of three recent testimonials to the Secretary of whom further particulars may be obtained

County Borough of Croydon

PUBLIC HEALTH DEPARTMENT

Applications are invited from qualified Medical Men for the post of ASSISTANT MEDICAL OFFICER OF HEALTH FOR OBSTETRICS. The duties of the post will include the following:

(a) Resident Obstetrical Officer at the Mayday Road Hospital (20 maternity beds).
(b) Visiting Medical Officer to the St. Mary's Hospital an Institution of 32 beds controlled by the Croydon Mother and Infants Welfare Association.
(c) General Clinical Supervision of the Council's Ante-natal Clinics and other work carried out by it under the provisions of the Maternity and Child Welfare Acts and Notification of Birth Act.

Candidates must have had practical experience in Obstetrics and of Ante-natal Clinic. The Fellowship diploma of one of the Royal Colleges of Surgeons will be deemed an additional qualification but the D.P.H. is not essential.

The salary will be £600 per annum with board and lodging at the Mayday Road Hospital (emoluments valued at £150).

The officer appointed will be on the staff of the Medical Officer of Health and will work under his administrative supervision.

The Mayday Road Hospital is a Poor Law Hospital and the duties in connection therewith will be performed under the Medical Superintendent of and as a member of the staff of that Hospital.

Application forms together with full list of duties and details of the appointment may be obtained from the Medical Officer of Health, Town Hall, Croydon, and should be returned with copies of three recent testimonials to me not later than Monday, August 18th.

Town Hall, Croydon. J. M. NEWNHAM, Town Clerk.
July 28th, 1930.

Administrative County of London

The LONDON COUNTY COUNCIL invites applications for the position of ASSISTANT MEDICAL OFFICER in the Public Health Department for duty at the HIGH WOOD HOSPITAL FOR CHILDREN, Brentwood, Essex. Previous Tuberculosis experience will be an advantage.

The commencing salary which is subject to review will be £550 a year. Board, lodging and laundry will be provided for which a charge of £130 a year will be made.

Application form returnable by August 9th, giving further particulars, may be obtained by forwarding a stamped addressed foolscap envelope to the Medical Officer of Health (Staff Division), The County Hall, Westminster Bridge, S.E.1.

Canvassing disqualifies.

MONTAGU HARCOURT, Clerk of the London County Council.

Cornelia and East Dorset Hospital, Poole, Dorset

(105 Beds.)

ASSISTANT ANAESTHETISTS.

The Committee of Management invite applications for the two vacant post of Honorary Assistant Anaesthetists. Applications stating age, experience and qualifications and accompanied by three recent testimonials must reach the undersigned at the Hospital by noon on August 11th.

E. S. FOLEY, Secretary.

Haywood Hospital, Burslem

RESIDENT MEDICAL OFFICER required (male or female). Salary £175 per annum with residence, board and laundry.

Applications, stating age, qualifications, nationality, etc., with copies of three recent testimonials to be sent to me not later than August 8th. Duties to commence on August 15th. New Hospital will be opened in October next.

Public Offices, Price St., Burslem. F. C. POWELL, F.C.I.S.

Margate and District New General Hospital.

(80 Beds).

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) to commence duties as soon as possible.

Salary £125 per annum with board and laundry.

Applications accompanied by copies of testimonials should be sent to the Secretary, Margate General Hospital as early as possible.

Manchester Victoria Memorial Jewish Hospital, Cheetham

(Non Sectarian.)

Applications are invited from registered Medical Practitioners for the post of JUNIOR HOUSE SURGEON (male). The appointment is for six months, the holder being eligible for re-election for a further period of six months. Salary at the rate of £125 per annum with board, residence and laundry. The successful applicant must be prepared to commence duties on September 1st.

Applications, stating age, qualifications and experience with copies of three testimonials to be forwarded to the undersigned not later than August 7th.

FRED BARNES, Supt. & Sec.

Manchester Victoria Memorial Jewish Hospital, Cheetham

(Non Sectarian.)

Applications are invited from registered Medical Practitioners for the post of SENIOR HOUSE SURGEON (male). The appointment is for one year, the holder being eligible for re-election for a further period of one year. Salary at the rate of £250 per annum with board, residence and laundry. The successful applicant must be prepared to commence duties on September 1st.

Applications, stating age, qualifications and experience, with copies of three testimonials, to be forwarded to the undersigned not later than August 7th.

FRED BARNES, Supt. & Sec.

Manchester Victoria Memorial Jewish Hospital, Manchester

HONORARY SURGEON.

Applications are invited for the post of Honorary Surgeon to the above Hospital.

Applicants must be Fellows of one of the Royal Colleges of Surgeons of the United Kingdom and must be in Consulting Practice.

Application, together with copies of testimonial, to be addressed to the undersigned not later than August 15th.

FRED BARNES, Supt. & Secretary.

Royal Hampshire County Hospital, Winchester

(158 Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post to take up duties as soon as possible. Salary £150 per annum with board residence and laundry. Candidates who must be of British nationality, to make application at once to the undersigned enclosing copies of three testimonials.

HERBERT MASLEN, Secretary.

Royal Northern Hospital, Holloway, N.

Applications are invited for the post of RESIDENT OUT-PATIENT CASUALTY OFFICER and ANAESTHETIST for six months, vacant on September 15th. Salary at the rate of £70 per annum with board, residence and laundry.

Application, with copies of testimonials, should be sent by August 9th to the undersigned from whom forms of application and rules can be obtained.

GILBERT G. PANTER, Secretary.

Liverpool Maternity Hospital, Oxford Street.

HOUSE SURGEON required for six months commencing October 1st next. Salary at the rate of £90 per annum with board, residence and laundry. Previous experience as House Surgeon essential. Membership of a Medical Defence Society is a condition of appointment.

Applications, stating age, qualifications and experience, together with copies of testimonials, to be sent to the Hon. Secretary, c/o the Medical Board on or before August 23rd.

East Ham Memorial Hospital, Shrewsbury Road, London, E.7

(100 Beds.)

Applications are invited for the post of HOUSE SURGEON to Special Department and Casualty Officer for six months, commencing August 1st. Salary at the rate of £120 per annum with board, residence and laundry.

Applications, stating age, experience and full particulars, together with copies of testimonial, should be forwarded to the undersigned immediately.

REGINALD PEPPY, Secretary.

Birmingham and Midland Skin Hospital, John Bright Street, Birmingham

Applications are invited from registered Medical Practitioners to act as CLINICAL ASSISTANTS in the Out-patient Consulting Room each afternoon except Saturday and Sunday.

Honorarium at the rate of 25 guineas per annum for one afternoon per week.

Applications (copy), stating age, qualification, experience, present engagements and afternoons at liberty, should be addressed to the Secretary not later than September 3rd.

The work of the Hospital can be seen each afternoon, under arrangement.

HERBERT SUMNER, Secretary.

Chesterfield and North Derbyshire Royal Hospital

(190 Surgical and Medical Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above appointment, which becomes vacant on July 31.

The appointment is for six months.

Salary is from £100 to £150 per annum, with board, lodging and laundry.

Applications, stating age, qualifications, etc., and accompanied by copies of not more than three recent testimonials (one of which must be from Medical School), should reach the Secretary not later than first post on Tuesday, August 5th.

Beckett Hospital & Dispensary, Barnsley

(152 Beds.)

Applications are invited from fully qualified male Practitioners for the post of HOUSE PHYSICIAN. Duties to commence immediately. Salary £140 per annum with board, residence and laundry.

Applications, stating age, qualifications and experience, accompanied by testimonials, to be sent to the undersigned.

ARTHUR L. BOULTBEE, Secretary's Office.
July 27th, 1930.

Royal Hampshire County Hospital, Winchester.

SENIOR RESIDENT MEDICAL OFFICER.

Applications are invited from fully qualified men for the above post, vacant on September 1st. Salary £200 per annum with board, residence and laundry. Candidates who must be of British nationality, should make application at once to the undersigned enclosing copies of three testimonials.

HERBERT MASLEN, Secretary.

Rochdale Infirmary and Dispensary (110 Beds.)

Wanted JUNIOR HOUSE SURGEON (male). Salary £175 per annum, including board, residence and laundry. Applications, stating age, qualifications, etc., together with copies of three recent testimonials, to be sent to the Secretary not later than September 3rd. Conditions of appointment, House Surgeon. Candidates endorsed. House Surgeon may be had on application to the Secretary.

W. WYNNE, Secretary.
Infirmary Office, Rochdale, [illegible]

Royal Hospital, Richmond, [illegible]

JUNIOR HOUSE SURGEON (male) required to take up duties as soon as possible. Salary at the rate of £100 per annum, with board, residence and laundry. Candidates must be fully qualified and registered. The appointment is for six months from date of appointment. Applications, stating age, qualifications, etc., and accompanied by copies of three recent testimonials, should reach the undersigned not later than [illegible] after the date of this advertisement. Canvassing will be considered a disqualification. Applications of three recent testimonials [illegible]

RICHARD ALLEN, Secretary.

PROSPECTIVE PURCHASERS

OF PRACTICES

and those seeking

PARTNERSHIPS

should consult

The

BRITISH MEDICAL BUREAU

at

12, Stratford Place, Oxford St, London,

or its Northern Branch at

33, Cross Street, Manchester

or its Newcastle Branch at

7, Windsor Place, Newcastle - on - Tyne

Those requiring additional

CAPITAL

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Medical Insurance Agency

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B.M.A. House, Tavistock Sq., London, W C 1

Royal Sussex County Hospital,
BRIGHTON

Notice is hereby given that a Meeting of the Elective Committee will be held in the Board Room at the Hospital on Wednesday Sept 3rd at 12 15 p m , for the purpose of electing an HONORARY CLINICAL ASSISTANT to the DERMATOLOGICAL DEPARTMENT and an HONORARY MEDICAL CLINICAL ASSISTANT and such Elective Committee is hereby convened accordingly

Applications are invited for the office of HONORARY DERMATOLOGICAL CLINICAL ASSISTANT from gentlemen who are Fellows Members, or Licentiates of the Royal College of Physicians of London Edinburgh or Dublin or Fellows, Members, or Licentiates of the Royal College of Surgeons of England Edinburgh or Ireland or Graduates in Medicine of one of the Universities of the British Empire and who are duly registered under the Medical Acts

Applications must reach the Secretary Supt at the Hospital before 12 noon on August 18th

By Order of the Board of Management
L L W LANCASTER GAYE
Secretary Superintendent

Royal Sussex County Hospital,
BRIGHTON (257 Beds)

CASUALTY HOUSE SURGEON (male) required early in August Salary £120 per annum with board residence and laundry Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts They must be unmarried and when elected under 30 years of age Applications with copies of recent testimonials should be sent immediately to the undersigned

L L W LANCASTER GAYE
Secretary Superintendent

Altrincham General Hospital,
CHESHIRE
(100 Beds)

Applications are invited for the post of SENIOR HOUSE SURGEON Salary £150 per annum with board residence, and laundry Also JUNIOR HOUSE SURGEON Salary £120 per annum with board residence and laundry The appointments are for six months in the first instance

Applications stating age and experience together with copies of recent testimonials to be sent to Mr WILLIAM MOODY Secretary 31 Market Street Altrincham

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W J HICKS *Secretary*

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North Riding Infirmary,
MIDDLESBROUGH
(General Hospital—150 Beds)

JUNIOR HOUSE SURGEON (male) required to take up duties early as possible. The appointment will be for a period of six months Three residents are employed Candidates eligible for the higher posts as they become vacant Salary at the rate of £150 per annum with board residence etc

Applications stating nationality and experience together with testimonials to

Huntingdon County
MALE HOUSE SURGEON required Salary £125, with board residence, laundry —Apply W R CROVE, M D

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West End — Death Vacancy — About £5 000 p a Non panel, non dispensing high class Fees 21/ up House, 6 bed etc Present rent only £300 —No 8708

South Coast — About £1,300 PARTNERSHIP with succession Small panel Fees 3/6 mostly and up to 10/6 7 roomed house to rent or buy —No 8705

Lincs — Unopposed — About £1 000 Panel 540 Appts and club £165 Fees 3/6 to 5/ Detached house and grounds to rent —No 8705

Death Vacancy — Essex Suburb Average over £1 100 Panel 800 Very little midwifery ample scope Fees 3/6 to 7/6 Great scope for younger man —No 8690

Lancs Town — About £1,100 p a Panel 560 Club £50 Fees 3/6 to 5/ Good house and nice garden Rent or sell —No 8704

Middlesex (on Met Rly) — NUCLEUS £500 and great scope Excellent corner house, on main road for sale No 8703

Scotland, N E Coast — Over £1,000 p a Panel 520 Appts about £400 Visits 3/6 to 15/ Good house 3 recep 5 bed, etc —No 8701

London, E —About £1,000 p a Panel 1 250 Visits 5/ Surgery 3/6 Mids refused Small house to rent —No 8700

London, N. — Over £1,300 p a Panel 2 000 Densely populated district No appts or mids 8 roomed house to rent on lease Premium £2 650 —No 8696

Devon Town — £1,300/£1,500 PARTNERSHIP with Succession Panel over 2 000 and working Mids refused of late, ample scope Worked from surgery —No 8695

Central Wales —£1,300 Panel and appts £400 Very little mid Large house low rent Beautiful scenery —No 8689

London, N — About £1,700 Panel 1 300 40 mids p a Fees 2 to 3 gns Visits to 5/ Corner house to rent Premium £2 500 or near —No 8688

London, S E —Woman's Practice About £600 Panel 220 Fees 3/6 to 21/ Scope for midwifery and increase Ground floor flat —No 8686

Within 45 miles of London — Old-estab unopp PRACTICE About £1 000 p a Panel 700 Appts £130 Fees 3/6 to 10/6 House 5 bed, tennis good garden, to rent —No 8685

Yorks Country — £800 p a Panel 445 Appts about £60 Visits 5/ to 10/6 Modern house 7 bed Rent £42 —No 8684

South Coast Resort —£6,000 p a Non panel One fifth share increasing to one third in 2 years Fees 7/6 to 21/ Choice of houses 1 R C S essential —No 8682

S Devon —Average £1,600 p a Panel over 2 000 Fees 3/6 to 5/ Large house in residential locality 5 bed, 3 attics, 2 recep etc —No 8678

Essex Suburb —Near Country — 1/2 share of £2 500 Great scope Panel about 1,550 Suit man or woman House or flat —No 8619

S W County —Near Sea —Share worth £700 ample scope Very little midy Visits 5/ to 4 gns Choice of houses Ample scope —No 8666

Harrogate — Death Vacancy About £700 p a Panel over 500 Clubs etc. about £80 Fees 3/6 to 21/ Good house, 5 bed, etc. Practice and house £1 250 — No 8664

Cambs —Over £800 —Old-estab unopposed Panel 476 Appts. £90 Fees 3/6 to 7/6 Large house 5 bed and garden at low rent —No 8654

SPECIAL NOTICE.

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants

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DORSET.—PARTNERSHIP (firm of three) in old-established middle and working-class C.I. Suitable house to rent. Receipts (approx.) £4,900. Panel 5,000 (about). Fees 2/6 up. Premium for 1/4 share (to commence) £2,500 cash.

LONDON, S.W.—Old-established PRACTICE situated on main thoroughfare. Large house to rent (part sublet as flat). Receipts £1,150. Panel £1,650. Fees 2/6 up. Scope for Five. Premium for Practice and furniture £2,350. Long Partnership introduction if desired.

CHESHIRE.—Middle and working-class PRACTICE. House to rent. Receipts (averaging) £1,000 p.a. Panel 1,630. No midwifery. Premium open to reasonable (cash) offer.

MIDDLESEX (W.).—Middle and working-class PRACTICE in rapidly growing district. Splendid scope. Medium-sized house. Receipts £770. Panel 300. Fees 3/6 up. Hospital. Premium £1,100.

BERKS.—Town PRACTICE within 60 miles of London. Middle and working-class. Receipts nearly £900. Panel 555. Fee 2/6 up. Midwifery (scope). Suitable house available. Premium 1½ years' purchase.

KENT (Seaside).—PARTNERSHIP in good middle-class Practice with excellent scope for increase. Receipts nearly £1,900. Small panel. 3/7ths share offered with view to 1/2 share at 1½ years' purchase. Suitable to experienced practitioner. Panel about 2,700—3,000.

WALES.—Old-established non-dispensing Town PRACTICE with Surgical scope. Excellent house to rent or lease at £90 p.a. Receipts nearly £1,300 p.a. Panel about 800. Premium £1,500 cash.

ESSEX.—NUCLEUS non-panel C.P. with excellent house for sale or to rent. Receipts approx. £230 p.a. Scope for panel if desired.

WEST COUNTRY.—Oxford or Cambridge Varsity Graduate desired as PARTNER with view to Succession in three or four years' time in old-established good-class non-panel Practice situated in country town. Receipts over £2,000 p.a. Half share is offered to well qualified man, aged about 30 at 2 years' purchase.

DERBYSHIRE.—PARTNERSHIP in old-established non-panel Practice in best part of large town. Receipts approx. £3,000 p.a. Quarter share now with view to larger share at 2 years' purchase.

YORKS.—PARTNERSHIP in middle and working-class Town Practice. Receipts approx. £3,000 p.a. Panel over 2,000. House to rent. Premium for 1/4 share 2 years' purchase.

YORKS.—Well-established middle and working-class Town PRACTICE. Receipts approx. £1,520. Panel nearly 1,700. House to rent. Premium £2,250.

BERKS.—PARTNERSHIP with view to Succession. Country Practice. Receipts average £1,120 p.a. Panel 600. House to rent. Premium for half share 2 years' purchase. Suitable only to married man.

KENT.—PARTNERSHIP in old-established Country Practice. Receipts £2,200. Panel about 1,200. Suitable for younger man. Age about 35. Premium for half share 2 years' purchase.

BLACKPOOL (near).—Well-established middle and working-class PRACTICE. Suitable 8-roomed house and surgery with garage. Receipts nearly £1,200. Panel 650. Premium for house, practice & £3,250.

LIVERPOOL (near).—Well-established Country Practice and suitable with Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for nursery, if desired. Premium 1½ years' purchase.

LONDON.—Working-class PRACTICE in thickly populated district. Receipts nearly £1,400. Panel over 2,000. Very little if any midwifery. Well located house to rent or lease. Premium £2,800 cash or near offer.

SOMERSET.—PARTNERSHIP in well-established Country Practice for Doctor fond of riding with excellent scope. Highly suitable for experienced man fond of country life. Sport of all kinds. Guaranteed value worth £750 a year. 2 years' purchase.

MIDLANDS.—PARTNERSHIP (Lady Doctor) in growing Panel and Private Practice. Receipts (approx.) £3,265. Several appointments. Premium for 1/4 share £1,275 worth £850 p.a. guaranteed.

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LIVERPOOL.—Middle and working-class rapidly growing PRACTICE situated in centre of city. Receipts £1,150. Panel 1,600. Fees 1/6 to 5/. Mids 2 gns. up. Premium £1,600 cash.

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2. LONDON, E.—Quarter share of a cash and panel PRACTICE doing about £1,700 a year; panel 2,000. Living accommodation available; rent £2 p.w. inclusive. Premium for share £750. Good scope for further increase in receipts.
3. MIDLAND TOWN.—Old-estab. PRACTICE. Receipts £900 p.a. including panel 600. Good house, long lease. Rent £70. Long introduction if required. Premium 2 years' purchase, payable £800 down. First year income £900 guaranteed.
4. LONDON, W. (near Piccadilly).—DEATH VACANCY.—Old-estab. good-class PRACTICE. Receipts stated to be £5,000 to £6,000 p.a. Good fees. Nice house rent £300 p.a. Offers invited; part of purchase price could be paid by instalment.
5. MIDDLESEX.—(half hour from town).—Well estab. PRACTICE. Receipts last year £735; panel 220. Rapidly developing district. Premium £1,100. House to be sold with Practice. Mortgage can be arranged.
6. WALES.—Exceptional opportunity to acquire old-established PRACTICE doing £1,000 for small premium of £225. House available 17/6 per week. Vendor wishes a change.
7. LONDON, S.W.—Very old-established PRACTICE. Receipts average £1,060 including panel. Large prominent house; rent £130 p.a. 10 years lease. Vendor selling through age. Urgent sale. Reasonable offer considered.
8. LONDON, E. (5 min. Liverpool Street).—Lady Doctor's PRACTICE. Receipts over £4 per week cash and 220 on panel. Rent of surgery 27/- weekly. Premium £300 or near offer.

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4. CHESHIRE.—Well-estab. middle and working class PRACTICE. Receipts £2,300. Panel 2,400 increasing. Appt. worth about £30 transferable. Good house, garden, garage.
5. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988. Panel 900, both increasing. Appts. £50 p.a. transferable. Good house and garage.
6. MONMOUTHSHIRE.—Well-estab. progressive middle and working-class PRACTICE. Receipts £751. Panel 700. Good house, garage and garden.
7. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house, Garage and all conveniences.
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3 SOUTH DEVON — Partnership in non-dispensing Practice about £2 400 p a, in favourite watering place Panel 950 Good Hospital One-third share at 2 years purchase. Preliminary Assistantship

4 S W OF ENGLAND —Unopposed PRACTICE, about £1,150 p a in delightful country district Very fine house with beautiful gardens tennis lawn etc, for sale Premium 1½ years purchase

5 YORKSHIRE (N R) — Very old-established easily worked PRACTICE of £750 p a in attractive country district Panel 450 Visits 3/6 to 10/6 Modern house 12 rooms Garage and good garden Rent £42 p a Premium 1½ years purchase

6 YORKSHIRE (W R) — Old-established PRACTICE of £1 500 p a in pretty country district close to large town Panel 500 Visits 3/ to 15/ New house, with garage garden and paddock Electric light Rent £100 p a Premium 1½ years purchase

7 SOUTH OF ENGLAND —Old-established unopposed PRACTICE of £1 800 Panel about 1 400 Nice double fronted house (5 bedrooms etc) good garden Rent £90 p a on lease Premium £2 500

8 LONDON, N —Practice about £1,700 p a in thickly populated district Panel 1 300 Corner house (2 bedrooms) to rent Considerable scope Premium 1½ years purchase

9 LONDON, N — Partnership in Practice, about £2 300 p a in growing residential district in outer London Panel 1,100 Good scope Hospital Premium one-third share 2 years purchase

10 SOUTH AFRICA —Old-established PRACTICE of over £1 800 in a Town with large White population Climate ideal—no tropical diseases (altitude nearly 5 000 ft) Delightful residence (5 bedrooms electric light) in perfect order with 2 acres grounds to be let Very good scope Hospital Premium £1 200 or offer

11 SOUTH MIDLANDS —Country Practice of just over £1 000 p a. within 50 miles of London Panel 700 Good house with modern sanitation excellent garden and paddock, to rent Premium £1 500 to include drugs and fittings

12 DEATH VACANCY —SOUTH COAST — PRACTICE over £850 in favourite watering place Panel about 300 House (5 bedrooms) in half acre garden for sale

13 LONDON, S W —Partnership in Practice about £2 500 p a in first rate suburb Panel 1 250 Double fronted house (7 bedrooms) garage and lovely garden for sale Share about £1 000 p a at 2 years purchase Partner must be well qualified, preferably M D or F R C S

14 HOME COUNTIES — Easily worked Country PRACTICE about £2 000 p a in Agricultural District 40 miles from London Panel 800 Centrally situated house (4 bed and attics) garage and garden for sale Premium—Practice—1½ years purchase

15 SHROPSHIRE —Partnership in Practice about £2 200 p a in attractive residential country district Panel 1 100 Very nice house garage and large garden for sale Sport Premium one-half share 2 years purchase

16 SCOTLAND — Unopposed Practice over £1 000 p a in beautiful country district in Inverness-shire Panel 520 Nice well built house (6 bedrooms), garage and beautiful garden, for sale Premium—Practice—1½ years purchase

17 YORKSHIRE (W R) — Compact easily worked PRACTICE, averaging £1 600 p a in manufacturing town Panel over 1 300 Splendidly situated house (4 bedrooms) for sale Scope. Premium 1½ years purchase

18 SOUTH DEVON —Country Practice nearly £1,500 p a in beautiful district near coast Panel 634 House (7 bedrooms) with electric light and central heating garage and large garden for sale Sport of all kinds Premium 1½ years purchase

19 LONDON, NORTH —Sound, easily worked PRACTICE nearly £2 600 p a, in residential district Small select panel. Good corner house (5 bed and dressing rooms) with very good garden for sale Small Hospital Premium—house and Practice—£4 250 cash

20 MIDDLESEX — Practice about £500 in growing district of pleasant suburb under 10 miles from London Panel 450 Large house to rent on lease Great scope Premium £750 or near offer

21 LONDON, EAST —Practice £990 p a in populous area Panel 1 240 Shop-fronted premises to rent Plenty of scope Premium 1½ years purchase

22 ISLE OF MAN —Non-dispensing Practice in small Seaside Town Receipts average £946 (including £350 from panel) Small compact house (6 bedrooms), with nice garden, for sale. Sport Premium—Practice and house—£2 000

23 SOUTH OF ENGLAND —Partnership in good class non-dispensing Practice, £6 000 p a in attractive watering place No panel House (3/4 bedrooms) garage and garden to rent One fifth or one-fourth share at 2 years purchase. Partner should be 35-40 years of age and hold F R C S England

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24 MIDLANDS —Practice, over £1,700 p.a., in important city. Panel 1,500. Centrally situated house (fitted and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2,250.

25 LONDON, S.E.—Partnership in Practice £6,600 p.a. in outlying Suburban District. Panel 2,000. Premium one-sixth share 2 years purchase.

26 *PARTNERSHIP* in non-dispensing Practice in Country District on outskirts of a first-rate town within 100 miles of London. Good house (6 bedrooms) to let. Share worth about £1,400 p.a. for disposal. Partner should be aged 35-40 and married.

27 MIDLANDS — Partnership in Practice over £4,100 p.a. in flourishing town. Panel nearly 3,000. House (3 bedrooms) to rent. One-fifth share 2 years purchase. Preliminary assistantship. Applicant must be married or about to be.

28 MIDLANDS —Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years purchase.

29 SURREY — Partnership in Practice, £2,690 p.a. *in growing and prosperous town.* Panel 950. Excellent scope. Premium one-third or two-fifths share 2 years purchase.

30 LONDON, N.W.—Practice of between £1,100 and £1,200 p.a. in suburban district. Panel 650. Corner house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

31 MIDDLESEX — Partnership in Practice, nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

32 CHESHIRE —Partner required in increasing better-class non-panel Practice in first-rate residential district. Cash receipts past year over £4,500. A Unit-ersity Graduate who must have held Resident Hospital appointments preferred. *One-fourth* share at 2 years' purchase.

33 LONDON, S.W.—Practice about £630 in suburban district within half an hour of Charing Cross. Panel about 400. House to rent on lease. Very good scope. Premium £900.

34 MIDLANDS —Fourth Partner required in good middle-class non-dispensing Practice £8,000 p.a. in *prosperous town.* Very small panel. Small house to rent. One-sixth share at 2 years' purchase. Partner should be aged about 30 and well qualified.

35 LANCASHIRE —Practice in rapidly growing district near coast and popular resort. Receipts last year £1,183. Panel 250 about. *Very nice compact freehold house* (6 bedrooms, electric light, etc.) with beautiful garden for sale. Premium for Practice £500.

36 WEST MIDLANDS —Practice about £1,050 p.a. in residential country district. Panel over 500. Excellent house (5 bedrooms) with electric light etc. garage and 3 acres land for sale or rent. Premium 1½ years purchase.

37 YORKSHIRE (N.R.) —Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms) garage, garden etc. for sale or rent. Very good trout fishing. Premium £1,250.

38 LONDON, S.E.—Partnership in increasing middle-class Practice £4,600 p.a. in suburban district. Panel 3,300. Premium one-third or one-fourth share 2 years purchase. Partner aged about 30 with experience in minor surgery.

39 SOUTH MIDLANDS — Practice over £1,200 p.a. in Market Town. Panel 900. *Pleasantly situated* house (6 bedrooms) with good garden for sale. Scope. Premium 1½ years purchase.

40 SOUTH MIDLANDS — Practice of £750 p.a. in County Town. Small panel. Large freehold house (9 bedrooms) garages and garden for sale. Good hospital. Premium 1½ years purchase.

41 SOUTH COAST — Non-dispensing Practice about £600 p.a. [illegible] (6 bedrooms) with [illegible] Premium £[illegible]

42 LONDON, S.W. — Good-class non-panel PRACTICE in pleasant residential suburb. Formerly about £1,500 p.a. House in good position. Premium based on results.

43 *HOME COUNTIES* —Country Practice over £1,200 p.a. in agricultural district. Panel over 800. Excellent detached house (6 bedrooms) garden and paddock, for sale. Hunting, shooting. Premium 1½ years' purchase.

44 SOUTH-WEST OF ENGLAND —Practice averaging £1,656 p.a. in seaport town. Panel over 2,000. House with 5 or more bedrooms for sale. Premium £2,300.

45 YORKSHIRE (W.R.) — Practice nearly £1,500 p.a. in manufacturing town. Panel about 750. Good house with nice garden to rent or purchase. Premium 1½ years purchase.

46 KENT AND SURREY BORDERS —Practice about £800 p.a. in growing and pleasant residential district. Choice of residence for sale. Good scope. Premium £1,250.

47 LONDON, W — Good middle-class non-panel PRACTICE £1,160 p.a. in Western suburb. Attractive detached house (8 bedrooms including attics) for sale. Considerable scope. Premium £1,150.

48 S.E. COAST — Practice of nearly £1,100 p.a. in favourite Health Resort. Panel 500. House (5 bedrooms) for sale. Good scope. Premium £1,500.

49 LONDON, S.W.—Partnership in non-dispensing Practice about £3,300 in first-rate residential suburb. Small select panel. Hospital. Premium one-third share 2 years purchase.

50 OPHTHALMIC PRACTICE in good Town 30 miles from London.—Receipts past two months £[illegible] (3 days a week only). *Hospital. Premium £800.*

51 EASTERN COUNTIES —Country Practice £1,200 p.a. in agricultural district. Panel 480. Very nice house (6 bedrooms) electric light, garage and garden, for sale. Premium 1½ years purchase.

52 NEAR EAST —Practice, with some major Surgery if desired. Good Hospital. Two appointments. Low premium for quick sale.

53 YORKSHIRE — Partnership in Practice £2,300 p.a. in seaside town. Panel over 900. Double-fronted house (8 bedrooms) for sale. Premium two-fifths of one-half share 1½ years purchase.

54 WEST OF ENGLAND —Assistant required (with view to Partnership) in busy Town and Country Practice £1,700 p.a. Good Hospital. Two-fifths share at 2½ years purchase to suitable man (English or Scotch).

55 SOUTH COAST — Small easily worked PRACTICE of £410 p.a. in fashionable *Health Resort.* No night work or midwifery. Large house. Premium—House and Practice £6,000.

56 ESSEX —Partnership in Practice nearly £1,800 p.a. in rapidly developing neighbourhood. Panel [illegible] 500. Choice of two houses. Premium two-fifths one-half share 1½ years purchase.

57 YORKSHIRE (W.R.) —Practice averaging £1,700 p.a. in manufacturing town. Panel [illegible] (4 bedrooms) garages and small garden. Premium 1½ years' purchase.

58 WEST MIDLANDS — Partnership in Practice of about £2,850 p.a. in [illegible] Exceptional and extremely attractive [illegible] rooms) garages and garden [illegible] mium one-half share 2 years purchase.

59 MEDITERRANEAN RESORT —Partnership in good-class non-dispensing Practice [illegible] £1,400 p.a. Suitable for retiring Practitioner with succession to whole Practice [illegible]

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1 EASTERN COUNTIES —About 50 miles from London and within 10 miles of county town —Old established PRACTICE in pretty country district for immediate disposal Vendor having accepted an appointment Receipts average nearly £900 p a , including panel of 600 and Union £60 Nice house with ample accommodation, garden and garage Can be bought or will be let Premium 1½ years purchase, part by instals

2 PARTNERSHIP —HOME COUNTY —Within 40 miles of London —In small village (with large surrounding population) in very pleasant district the third share (with option to five twelfths in 3 and half in 5 years) of old-estab mixed-class Practice offering excellent scope Present income £3 000 p a including panel producing over £1 200 and appt worth £160 Visits 3/6 to 2 gns Good house at moderate rental Premium 2 years purchase cash Good society and sport Ingoing Partner should be about 30, English or Scotch, and married or about to become so

3 YORKS —In a clean and thriving manufacturing town old established non panel PRACTICE partly Homoeopathic and held 50 years by Vendor who is retiring Cash receipts average about £2 400 p a Patients better and middle class Midwifery refused Good house rent £100 p a Premium only 1 years purchase part down and balance by arrangement.

4 DERBYSHIRE —Good mixed class unopposed PRACTICE in very picturesque surroundings within easy reach of good town Gross cash receipts for past twelve months £900 including panel of 476 Fees 3/6 to 7/6 medicine extra Suitable house with 2 reception 5 bedrooms etc Half an acre of garden Rent on lease £70 Excellent sport and schools Premium £1,200 or near offer

5 BORDERS OF BERKS AND HANTS —In a delightful district an old established mixed-class PRACTICE averaging for the past three years £904 p a (last year £973) including panel of 400 Visits 5/ to 12/6, medicine extra (3/6) One opponent House contains ample accommodation (2 sitting rooms 7 bedrooms bathroom etc) Large garden and garage Rent £50 p a Prem £1,400 Excellent sport

5 DEATH VACANCY —BRISTOL SUBURB —Well established non panel non dispensing upper and middle class PRACTICE averaging about £600 p a , but capable of good increase Suitable house can be bought or rented Premium one years purchase or near offer

7 KENT —PARTNERSHIP —A one half or one third share is offered (after preliminary assistantship) in an old established good middle and working class Practice producing approximately £2 500 p a Panel of 1,435 Fees 3/6 to 10/6 ,medicine extra Appts worth over £200 p a Premium 2 years purchase Purchaser should be pref Scotch or English and unmarried

8 YORKSHIRE —GOOD TOWN —PARTNERSHIP —A one half share (guaranteed to produce £2 000 p a in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4 000 Small selected panel of 430 One appointment worth nearly £650 p a Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

9 NEAR HEREFORDSHIRE BORDER —HOSPITAL TOWN —Old established mainly good class non dispensing PRACTICE averaging about £1 200 p a Panel of 500-600 Fees 5/ to 10/6 Nice house in centre of town Price for freehold £1,200 part on mortgage Premium £1 800, £1 300 down and balance by instalments. Up to-date Cottage Hospital and good scope for surgery

10 YORKS —PARTNERSHIP —Within a few miles of large residential town the half share of old established unopposed country PRACTICE owing to retirement of senior partner through age and infirmity of different health Cash receipts for past three years average over £2 500 p a , including appointments and panel of 1 200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on Price freehold £1,200, part on mortgage Premium 2 years purchase

11 PARTNERSHIP —COUNTY TOWN within 130 miles North of London —A one fifth share is offered in a very old established good mixed class Practice having good scope Cross cash receipts for past twelve months nearly £6 000 including panel of 3 400 Fees from 4/ Not much midwifery Suitable house available Premium 2 years purchase

12 WEST OF ENGLAND —In a small pleasantly situated town amidst beautiful surrounding country old established PRACTICE. Income nearly £1 350 p a including panel of 900 Visits 5/ to 21/ Little midwifery Very attractive house in own grounds of 2 acres 5 large professional rooms (separate entrance), 2 reception 5 bedrooms bathroom etc Vendor's freehold Price £2 400 (£1 800 can remain on mortgage) Premium £2 000 Good society etc

13 SHEFFIELD —Old established mainly better and middle-class non panel PRACTICE Average income £700 but large scope Appointment of £160 Fees 5/ 5/ to 15/ Excellent house with small garden Ground rent £9 Premium for house and Practice £1 250

14 PEMBROKESHIRE —Prosperous Town —Well established mixed general PRACTICE Income £1 000 p a. Panel of over 700 Fees 3/6 5/ 7/6 No midwifery Large house with garden Freehold price £1,600, or to rent £100 p a. Premium £1 500

15 PLEASANT CATHEDRAL CITY within 200 miles North of London —Old established mixed class PRACTICE averaging £1 600 p a. including £800 from panel and over £100 from clubs Visits 5/ up wards (occasionally 2 gns) Very little midwifery from 2 to 5 gns large attractive house with garden Rent £80 Prem 1½ yrs pur

16 ESSEX —Unopposed PRACTICE in very pleasant agricultural district averaging £872 p a , including panel of nearly 500, and appts. worth £140 Fees 3/6 to 10/6 Mid 3 to 6 gns (about 12 cases) Commodious house with 2 reception, 5 bedrooms, and good professional accommodation Large garden Garage Rent on lease £60 Good sport and schools within reach Premium 1½ yrs pur

17 LANCS —Pleasant Town near open country —Well established middle and better class PRACTICE Cash receipts last year over £980, including panel of 900 Visits 3/6 to 7/6 medicine extra Mid 2 to 10 gns (about 20 cases) Suitable house with 2 reception 4 bedrooms etc. Price for leasehold £1 100, £600 on mortgage. Premium 1½ years purchase part by instalments

18 GLOS — COUNTRY PRACTICE — Old established PRACTICE in picturesque surroundings averaging about £1 250 p a. including panel of over 1 100 Visits from 3/ Commodious house with 3 reception, 6 bedrooms, etc Garden Garage Price for freehold £1 500 £1,000 on mortgage Premium £1 850

19 NORTH LONDON —Old established good middle-class PRACTICE held by Vendor 25 years Gross cash receipts for immediate past twelve months £2 311 Selected panel of about 250 Fees from 5/ upwards Midw. from 7 gns (only few cases) Very good corner house non basement with 3 reception 5 bedrooms, etc Premium for Practice and house £4 250

20 CORNISH RIVIERA —Old-established good mixed PRACTICE in exceptionally attractive village which is steadily increasing Receipts for last 12 months £1 300, including panel of over 400 Visits 5/ to 21/ Excellent house, facing due south with 6 bedrooms etc Good garden Rent on lease £56 p a. Premium £1 800

21 LONDON SOUTH WEST —Very old established non residential PRACTICE averaging about £4 000 p a. Panel of 1,500, but large scope for more Fees 2/6 upwards Suitable house or flat can easily be obtained to meet purchaser's requirements Rent of surgery on long lease £100 p a. Premium 1½ years purchase.

22 LANCS —LARGE TOWN —Very old established good industrial class PRACTICE producing £2,500 p a., including panel of 1,804, and appts worth about £120 p a Fees 2/6 upwards Very suitable for two friends in partnership as two houses available. Good sport and schools Premium 1½ years purchase. A one half share will be offered with view to succession in six or twelve months if desired

23 CHESHIRE —Industrial Town within easy reach of Manchester —Well established PRACTICE producing £2 600 p a , with panel of 2,870 Fees 2/6 to 3/6 medicine extra. Good house with ample accommodation Price £1 000, or would be rented at £70 p a Premium 1½ years purchase half down and balance by instalments

24 SOMERSET COAST —PARTNERSHIP —In a small increasing seaside resort the five-twelfths share of a very old established PRACTICE producing last year £1,600 but offering exceptional scope. Panel brings in £480 and appointments Visits 5/ to 4 gns. Mid 4 to 6 gns. only about 12 cases yearly Choice of 2 suitable houses (price freehold £950) with gardens Electric light and gas Premium 2 years purchase

25 SOUTH DEVON —COUNTRY PRACTICE steadily increasing and situated in very pleasant agricultural district, within easy reach of coast Gross cash receipts for past 12 months £2 326 Panel produces with mileage about £420 Fees 3/6 to 21/ Only about 20 cases of midwifery from 2 to 5 gns Suitable house, in main street, with 2 recep 5 beds etc Garden Garage Rent on lease £50 p a Good sport Prem £2 800 Suitable two friends if wished

26 SOUTH OF ENGLAND (Thriving Seaport Town pop over 30 000) —Old established mixed class PRACTICE Income last year £623 but offering exceptional scope Panel of about 430 and 2 small appts Visits 3/6 to 5/ Very attractive residence with professional rooms, 2 reception 4 bedrooms, bathroom, etc Pretty garden Garage Rent on lease £100 p a Premium 1½ years purchase

27 YORKS (NORTH RIDING) —In a small pleasant market town with pretty and prosperous surrounding country very old established mixed class PRACTICE averaging £1 247 p a , including appts worth £80 and panel producing last year £366 Visits 3/6 to 25/ One opponent Good house facing south (3 reception 5 bedrooms bathroom etc) Garden Garage Electric light Vendor's freehold Price £1 350 (£1 000 on mortgage) or would let for few years at £80 p a Premium £1 500 Educational and social amenities

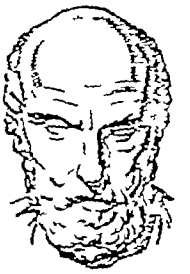
28 KENT —Pleasant Seaside and Residential Town (pop 17 000) —Old estab non dispensing middle and working-class PRACTICE averaging for the past 3 years over £1 050 p a including transferable appt worth about £200 and panel of 500 Visits 3/6 to 10/6 House contains 8 rooms kitchen bathroom etc Garden Garage Price freehold £1 500 but might be rented Premium £1 500

29 MANCHESTER —PRACTICE is situated in a growing district offering very large scope Income about £1 700 p a , including panel producing £430 Fees 3/6 upwards Excellent detached house well situated, with 3 reception 5 bedrooms etc all in good order Price £1 800 Premium 1½ years purchase

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AUGUST 9TH, 1930

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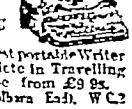
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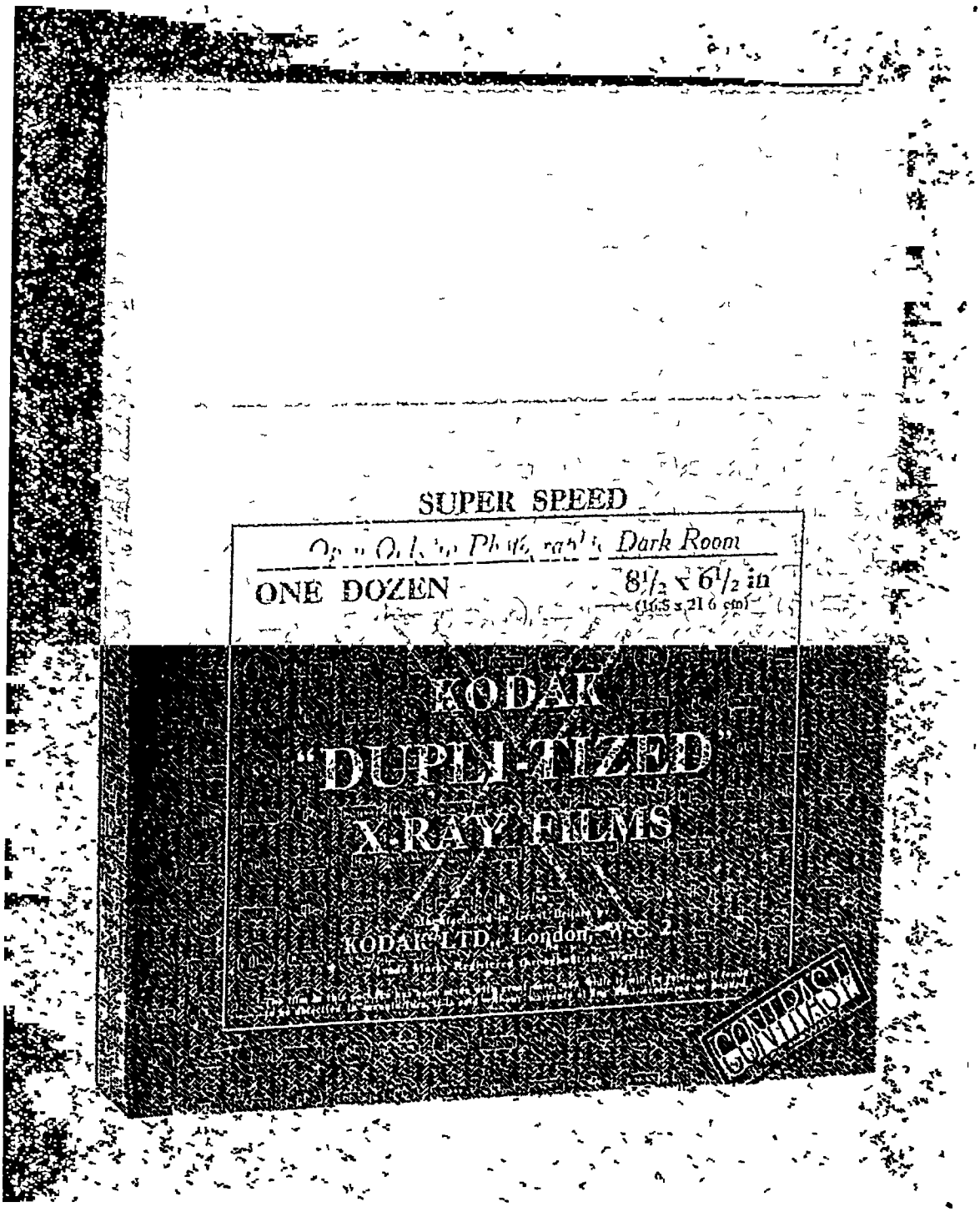
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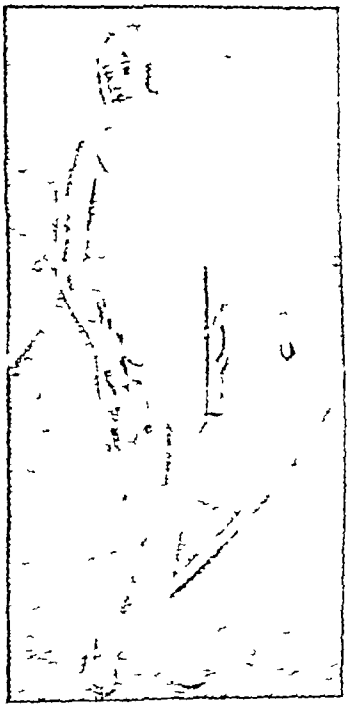


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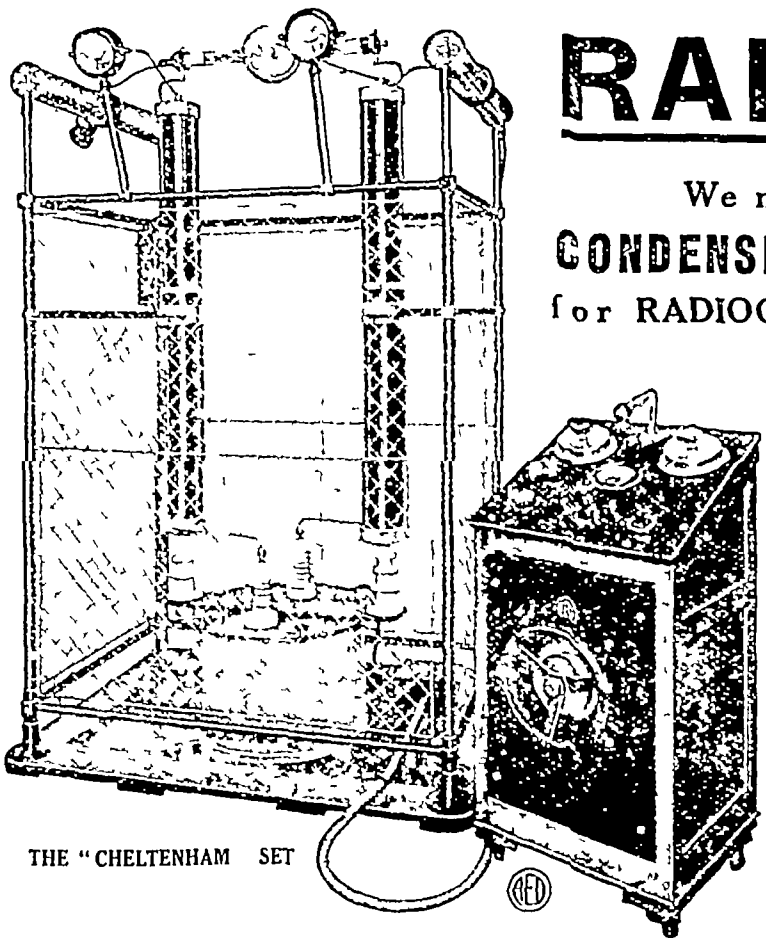
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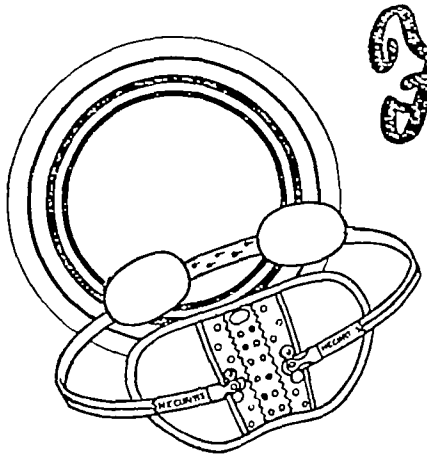
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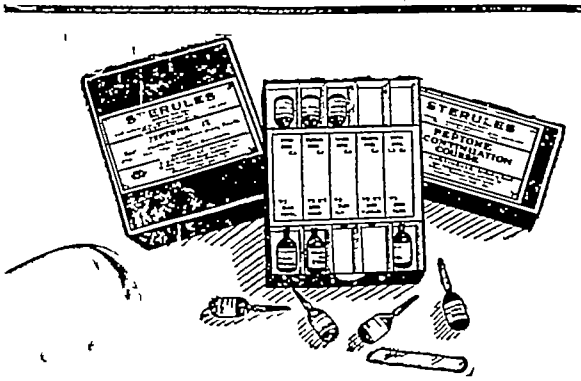
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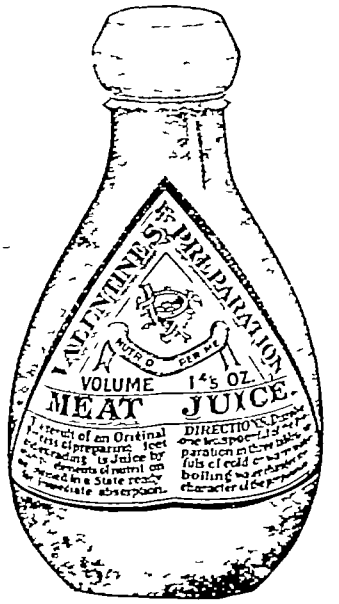
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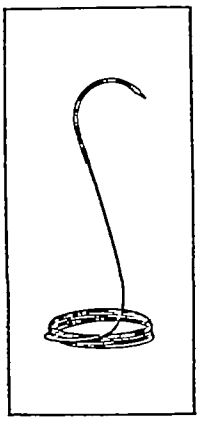
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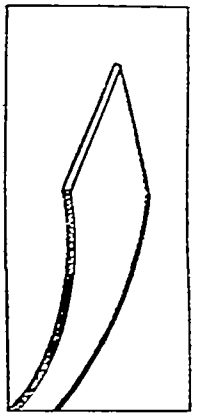
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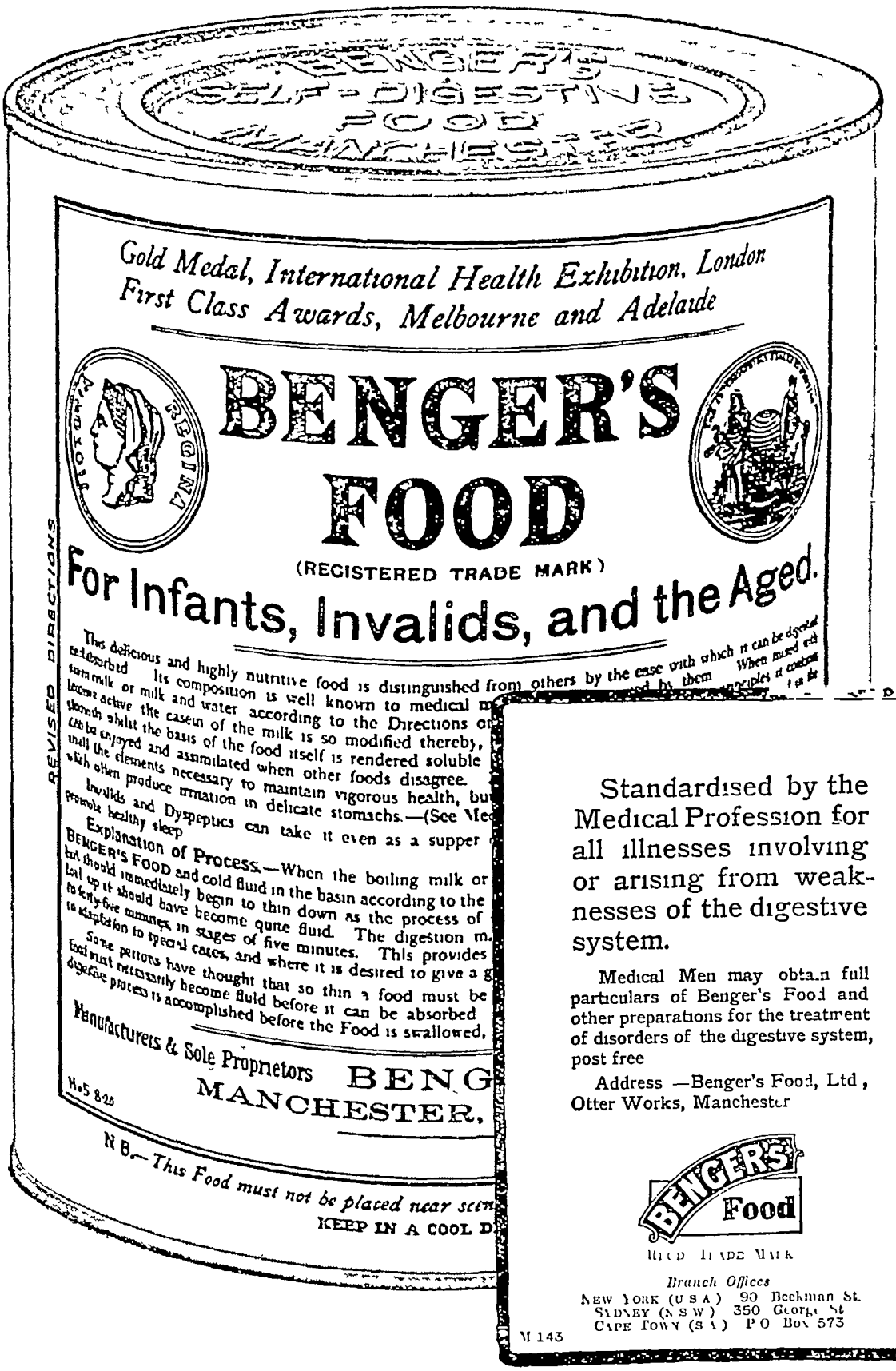
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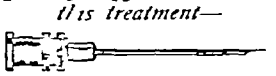
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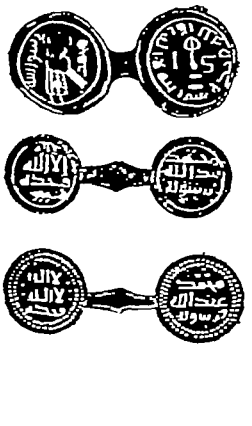
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ON

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BY

D J CANNON, M B, B Ch, M A O

EXTERN EXAMINER IN THE NATIONAL UNIVERSITY OF IRELAND VISITING SURGEON TO THE CHILDREN'S HOSPITAL, DUBLIN

In many countries particularly France and America, there is grave danger of gynaecology becoming merged in general surgery. Emil Novak, who is fighting a magnificent battle for the autonomy of gynaecology, says, that so long as gynaecology is regarded as embracing also a knowledge of the special anatomy, physiology, and pathology of the female reproductive organs, it will constitute an effective breakwater against the invasion of general surgery. No gynaecologist to-day can consider himself thoroughly equipped unless he is well grounded in these fundamentals. This is particularly true of the physiological aspect, which to-day represents the growing edge of our specialty. It is for this reason that I have chosen as my theme a consideration of the many problems connected with the human menstrual cycle.

Ever since Knaeur, by his transplantation experiments in 1899, showed that the ovarian influence responsible for menstruation is exerted through the blood stream and not through the nervous system, the problem of menstruation has been the subject of extensive investigation. Within the past ten or twelve years the amount of experimental work that has been done on the internal secretion of the ovaries has been stupendous, and, although the results arrived at by different observers have been at times conflicting, none the less, in spite of disagreements here and there a number of most interesting conclusions have been arrived at in accordance with the strictest rules of inductive logic. In order that we may appreciate the problems connected with menstruation let me epitomize Novak's classical description of the sequence of events in the menstrual cycle.

The discharge of the ovum from the follicle occurs in the intermenstrual period, most probably about the fourteenth day of the cycle. To be sure, it may occur earlier or later than this date. As the ovum passes down to the uterus, the mucous membrane of the latter prepares for its reception. This preparation begins immediately after the preceding menstruation, for there is a gradual hypertrophic change from this time up to the beginning of the next period. At first this is very gradual, so that at the time the ovum is discharged from the ovary the endometrium is only slightly thicker and its glands are only moderately tortuous, with no sign as yet of secretory activity or decidual change. This phase of the menstrual cycle is called the interval or follicular phase. After the rupture of the Graafian follicle, the gland epithelium begins to show signs of secretory activity, though these are not pronounced until, perhaps, five or six days before the next period. This is the pre-menstrual phase. At the peak of the pre-menstrual phase decidua-like cells appear, which divide the endometrium into the superficial compact and the deep spongy layers.

These facts in regard to the menstrual process are well established. When, however, we come to spell out the proper significance of the facts described we are faced with one of the most fascinating yet difficult problems in physiology.

When I speak of the number of interesting findings that have been arrived at in regard to the internal secretions of the ovary I want to make it clear that with the notable exception of the brilliant piece of histological work carried out by Novak and Wilfred Shaw on the human subject, these findings are largely the fruit of animal experimentation. Now unless the menstrual cycle resembles in its essentials the sexual cycle in the lower animals, we must be very cautious in transferring the results of animal experimentation to the interpretation of human phenomena.

What are the essential features of the sexual cycle in the lower animals?

During anoestrum, or the period of sexual tranquillity, the uterus is inactive, its glands are small and contracted and the mucous membrane is anaemic. The ovaries also are inactive. With the advent of pro-oestrus or "coming on heat," there is a ripening of the follicles in the ovary. Coincidently with follicular activity, there is a gradual development of the endometrium. The glands also show evidence of secretory activity, and the mucous membrane is hyperaemic and succulent.

Pro-oestrus is followed by oestrus during which as a rule, ovulation takes place (in some species only after copulation) accompanied by further changes usually of a retrogressive character in the accessory organs. It is at this period only, in the lower animals, that the female will receive the male. Should fertilization not take place the period of oestrus is immediately followed by pseudo-pregnancy. The essential feature of this stage is the presence of a menstrual decidua which is a miniature representation of the decidua of true pregnancy.

To Allen and Doisy of America we are indebted for the experimental proof that a hormone from the fluid of the growing Graafian follicle is responsible for the oestrous cycle in the lower animals. This hormone is called oestrin, or the oestrus-producing hormone.

To Corner, Allen, Parkes[1] and others we are indebted for the experimental proof that a special hormone manufactured by the luteal tissue of the corpus luteum is responsible for pseudo-pregnancy. Oestrin, or the oestrus-producing hormone even though it may produce actual bleedings in castrated monkeys, is unable however to produce the pregravid endometrium. As relevant to the problem of human menstruation let me indicate a few interesting variations in the sexual cycle of the lower animals.

In a bitch at the height of pro-oestrus haemorrhage appears externally. At the end of pseudo-pregnancy in the same animal haemorrhage occurs into the endometrium of the uterus, but does not appear externally. From the point of view of the oestrous cycle animals fall into two well-defined groups:

(*a*) The species in which the sexual season is associated with but one complete oestrous cycle—the monoestrous type.

(*b*) The species in which there is a recurrence of short oestrous cycles throughout the sexual season—the polyoestrous type.

In the lower animals, therefore, there are two distinct cycles, which come quite close to each other—the sexual or oestrous cycle and the reproductive cycle or the phase of pseudo pregnancy. When we study the human menstrual cycle in the light of the sexual cycle in the lower animals we are at once struck by the fact that among the higher animals, like man and the monkey, the sexual cycle seems to have disappeared altogether, or if there are vestige of it left they are difficult to decipher. It is this consideration that has led many clinicians to the view that the human menstrual cycle has only one phase—the reproductive phase or the phase of pseudo-pregnancy—and that the oestrous phase or cycle is completely merged out in the sequence of events that take place between one menstrual period and another. The pre-menstrual phase of the human menstrual cycle is according to this view designed to facilitate the implantation of the embryo and thus corresponds to the luteal or pseudo-pregnant phase of lower mammal. Menstruation therefore represents the abortion of an unwanted decidua.

There is a good deal of evidence in support of this view so admirably put by Professor P. W. Johnstone in a paper published this year. The pre-menstrual phase, like the pseudo-pregnant phase in the lower animal, begins after ovulation and the breakdown of the endometrium or menstruation, coincides with degenerative changes in the corpora lutea. Degeneration of pseudo-pregnant congestion sometimes accompanied by bleeding has been described in the rabbit by Hammond,[2] in the dog by Gerlinger,[3] and in the sow by Corner. X-ray sterilization

Read before the South Eastern of Ireland Branch on June 13th 1930.

I am glad to see that Emil Novak[11] in a recent paper agrees with my view of the periodicity of the human menstrual cycle These are his words

"In reference to Wagner's views on the primacy of the corpus luteum, provocative as Wagner's study is, it makes one wonder whether we are not chasing a will o'-the wisp, for beyond the corpus luteum looms the pituitary, and perhaps beyond the latter we shall have to fall back on some innate periodic human factor as elusive as the life principle itself"

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SUBACUTE COMBINED DEGENERATION OF THE CORD IN PRIMARY ANAEMIA OF THE FOWL

ITS PATHOGENESIS AND THAT OF ASSOCIATED LESIONS

BY

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(*With Special Plate*)

IN a previous communication[1] subacute combined degeneration of the cord was described as occurring in fowls with primary or pernicious anaemia This subject is of such importance to an understanding of pernicious anaemia and its nervous complications in the human being that the condition has been taken up again for more detailed discussion in the present paper

During the past four years seven such cases have been recognized and observed in some detail Their essential nature was first suspected when, post mortem, the milk-chocolate-coloured liver, small in size, was found present This, *indicative of the presence of haemosiderosis, is one* of the most characteristic findings in primary anaemia of the fowl A description of the cases in question will now be given

CASE I

Hen 104 White Leghorn, 1 year old, has been ill for some time, lying about on its side When approached it tries to escape, but staggers and at once tumbles on to its side again, mentally it is quite alert It died before any extended examination of its blood was made The haemoglobin, however, was 60 per cent, while a blood film showed a fair degree of erythroblastosis

Post mortem it was found to be very emaciated Naked eye, no obvious lesion was seen except that the liver, spleen, and kidney were exceptionally small in size, and that the liver showed the milk-chocolate hue The femur and tibia were filled with an abnormal marrow, which resembled blood in its colour and consistence, while the metatarsal bone was exceptional in that the fat there, instead of being pure yellow in colour, was of a reddish tint

Microscopic examination disclosed a marked haemosiderosis in the liver, spleen, and kidney, in the latter, especially of the secreting tubules The occurrence in this latter situation is to be emphasized because, in my experience, this has been found associated only with haemolytic conditions, and has not been observed to occur otherwise, as, for instance, in feeding experiments with large doses of iron salts Its occurrence, together with the appearances in the liver and spleen, in cases like the present one is regarded as strong evidence of a primary anaemic condition, existing behind the more obvious nervous implication

The marrow showed the appearances one finds in a primary anaemia—namely a haemocytoblastic hyperplasia and entire absence of fat cells The lower dorsal region and the lumbar enlargement of the spinal cord were treated by Marchi's method Sections prepared from these situations showed in both, but especially in the dorsal region degeneration of the white matter in the posterior and antero-lateral columns of the cord There was no neuroglial proliferation or sclerosis

CASE II

Hen 105 White Leghorn, 1 year old, has been lying about for some time quite alert, but shows a weakness of the right leg Haemoglobin is 70 per cent (normal for fowl), blood films show slight changes only, of the nature of anisocytosis, no erythroblasts seen

The conditions found post mortem, and microscopically in the liver, spleen, and kidney, especially as regards haemosiderosis, and in the marrow, were as in hen 104 The cord in the dorsal and lumbar regions showed similar degenerative changes

CASE III

Hen 107 Light Sussex, 3 years old paralysed in both legs and unable to stand *Haemoglobin is 70 per cent, red blood cells* 2,000,000 per c mm, while the blood films show nothing distinctively abnormal

Post mortem, the conditions present were much as in the previous cases This hen, however, was very fat The femur and tibia were greatly sclerosed and thickened, resulting in a great diminution in the quantity of marrow This was of a pale colour, and looked like dirty tallow

Microscopically the liver, spleen, and kidney, especially as regards haemosiderosis, resembled previous cases Here, however, the marrow was of a very fatty aplastic nature, there being very little evidence of any haematopoietic activity, and it was greatly reduced in quantity owing to the bone sclerosis

The cord in the dorsal and lumbar regions was more markedly involved than in the previous cases The same columns as previously were affected with the degenerative process Fig 1 shows the condition in the lumbar enlargement, degeneration being especially noticeable in the posterior columns

CASE IV

Hen 121 White Leghorn, 1 year old, unable to walk When it tries to do so it tumbles over on to its side *Haemoglobin is* 70 per cent, while the blood films show nothing abnormal The conditions found post mortem were as usual The omentum, however, contained a great quantity of fat, the fowl was not emaciated The marrow in the femur and tibia was of a pale grey colour, and quite abnormal

Microscopically the appearances in the liver, spleen, and kidney, especially as regards haemosiderosis, were as in previous cases The marrow was aplastic and fatty, and showed very little active haematopoiesis Very marked degenerative changes similar to those already described were found in the dorsal and lumbar regions of the cord

CASE V

Hen 122 White Leghorn, 1 year old, showed considerable weakness in the legs, but not so marked as some of the others Haemoglobin was 60 per cent, while the blood films showed nothing markedly abnormal Post mortem the usual conditions were found, including the milk-chocolate coloured liver There was great emaciation The marrow in the femur and tibia was crimson and very fluid, resembling thin red-currant jelly

Microscopically the liver, spleen, and kidney were as usual, the haemosiderotic condition being marked, The marrow showed great congestion of numerous blood sinuses, which had replaced the usual fat cells and functioning marrow tissue The changes in the dorsal and lumbar cord were as in hen 121, only not so marked

CASE VI

Hen 223 White Leghorn, 1 year old, paralysed and unable to stand The haemoglobin was 40 per cent, while the red blood cells numbered 845,000 per c mm Blood films showed marked erythroblastic changes

Post mortem the conditions found were as in previous cases This hen, however, was not emaciated By this time one had come to appreciate the importance of the duodenum in relation to the excretion of iron in primary anaemia,[2] and the duodenal mucosa in this case was found to be deep rusty brown in colour The femur and tibia were very markedly sclerosed, while the greatly diminished marrow was quite abnormal in appearance, being of a pale grey colour

Microscopically the appearances in the liver, spleen, and kidney were as in the previous cases, including the haemosiderosis The duodenal villi showed considerable iron pigment in their cores The marrow was very definitely aplastic The dorsal and lumbar cord showed the usual lesions

CASE VII

Hen 360 White Leghorn, 2 years old, can walk about and even run, but every now and then, without warning, it falls backwards and sits down It lies in the house all day, and does not mingle with the other hens in the run The haemoglobin was 70 per cent, and red blood cell count 2,100,000 per c mm Blood films showed nothing markedly abnormal

The conditions found post mortem were as usual, including the typical liver appearances The mucosa of the duodenum was slightly less brown than in hen 223 The femur and tibia showed

great sclerosis and the marrow was considerably diminished in quantity It was of a reddish colour

Microscopically the appearances in the liver spleen and kidney were as usual including the haemosiderosis The marrow showed absence of fat cells and great increase in number and distension of the venous sinuses with consequent diminution of the haematopoietic tissue Sections of the lumbar and dorsal cord showed very marked degeneration in the usual situations The condition present in the dorsal cord is shown in Fig. 2

The important findings derived from these observations may be summarized In a series of fowls, lesions of the cord, indistinguishable from those described as occurring in subacute combined degeneration of the cord in human beings, have been found In all the cases this has been associated with the existence of a high degree of haemosiderosis of the liver, spleen and kidney, and also of the mucosa of the duodenum, where this was examined In three cases there was also very marked sclerosis of the bones with great diminution in the quantity and marked change in the appearance of the marrow The marrow, when examined microscopically, has been found to be abnormal in all the cases In some it showed atrophy or aplasia, in others considerable diminution accompanied by great increase and distension of the venous sinuses while in others it showed a haemocytoblastic hypertrophy such as one finds typically in active pernicious anaemia of the fowl In some of the cases there was comparatively little alteration in the circulating blood In one case, however, there was considerable reduction in the haemoglobin percentage and number of red blood cells while in others there was evidence of blood instability, as shown by the presence of erythroblasts

Attention may also be drawn to a further circumstance It will be seen that most of the cases in the present series are in young fowls of about a year old Further, that in the older cases sclerosis of the bones becomes a more marked feature These occurrences are exactly paralleled by what takes place in the pure primary anaemia of the fowl without nervous complications This circumstance suggests the essential identity of the two conditions

The significance of the occurrence of the paralytic symptoms in fowls, the circulating blood of which seemed in most cases to be fairly normal for the time being, requires discussion at the outset In the routine of the poultry industry a fowl is rarely noticed to be anaemic or to have a yellowish comb until the haemoglobin has fallen to about 35 per cent * It may be mentioned, however, that yellowness of the comb is not a function of the haemoglobin content of the blood alone It is determined also by the strength of the circulation which, even if the blood has a low haemoglobin content may suffice to keep the cavernous sinuses of the comb sufficiently full of blood to hide the normal yellow coloration of the tissues due to carotene or xanthophyll,† and thus produce a reddish coloration There is room, obviously, for exceptions to the above rule, which, however, is not submitted as being infallible

In general, therefore, in fowls, there occurs a zone of haemoglobin deficiency between 70 per cent (normal) and 35 per cent, within the limits of which the fowl may not be discovered in practice to be ailing at all, or specifically to be suffering from an anaemia For long periods, therefore, with relapse and remission, it is possible that fowls may be affected with a severe anaemia without this being appreciated In the present series, for instance in the majority of the cases there was no history of previous illness or of the occurrence of anaemia Another aspect of the same subject is the fact that in routine practice fowls with anaemia of gravity indicated by 20 per cent haemoglobin and 400,000 red blood cells per c.mm may be regarded as having been *just* taken ill, when further examination shows them to have very old standing disease in a relapse stage after a long remission

That in the paralysed fowls of this series there has been an anaemia associated with haemosiderosis is proved, and that it has been of comparatively long duration is shown by the state of the marrow and the advanced sclerosis of the bones How the circulating blood happens to be normal, more or less, when these cases are first observed, and what bearing these points have on an understanding of the human disease will be discussed shortly

Before going on to the general discussion the ground may be further cleared by referring to some points which apparently axiomatic are nevertheless liable to be overlooked An organ or tissue may be damaged, so far as the influence on it of its blood supply is concerned, either from normal blood being supplied to it in insufficient quantity (owing, perhaps, to the supply vessels being constricted or to the blood pressure being low), or from blood abnormal in cell and haemoglobin content being supplied in the normal quantity or even in deficient quantity owing to weakness of the heart and low blood pressure—occurrences very common in anaemic conditions These considerations have an important bearing on an understanding of the changes occurring in certain organs—for example, the nervous system stomach, etc—as will be discussed later on

Collier,[2] in dealing with subacute combined degeneration of the spinal cord, mentions as a "common designation for the condition "the anaemic spinal disease" This in itself will serve to show how closely this disease has been associated in some minds with anaemia He states, further, that the early writers believed that the anaemia was the essential part of the disease, and that the degenerations in the nervous system were the result of vascular changes* consequent on the anaemia He goes on to mention that this view is negatived by the fact that some cases progress to a fatal issue without any evidence of anaemia As has just been pointed out however anoxaemia of a part may be due to lack of blood as a whole rather than to a deficit of haemoglobin and red blood cells in the blood In this regard it may be mentioned that Kattwinkle (quoted by Collier) considers that the primary spots of degeneration in the cord in this disease are determined by the vascular distribution, and that they result from disease of the perivascular lymphatics Again Osler and McCrae,[3] while arguing for a toxic origin of the disease point out that the action of the toxin on the nervous system affects first as one would expect, those tracts whose mere length must necessitate a more elaborate nutrition for their maintenance It is obvious that the long tracts would be at least equally liable to damage owing to the difficulties of blood supply especially in conditions of anaemia, where not only is the blood poor in quality but the quantity deficient owing to the weakness of the heart and the lowered blood pressure

It may be that the cases of subacute combined degeneration of the cord associated with pernicious anaemia do not constitute *all* the possible cases of this disease There may be others due to mechanical anoxaemia, and these might theoretically constitute the cases referred to by Collier as being unassociated with anaemia Another more likely possibility will be discussed immediately

Following his original argument Collier proceeds to state, as evidence against an anaemic causation that in other cases the nervous manifestations may become severe long before any anaemia is present The possibility that anaemia of sufficient degree to be damaging may have been present previously but unobserved in such cases is not discussed Such a contingency we have shown cannot be overlooked in fowls Parallel events moreover occur in pernicious anaemia in human beings Naegeli Gulland and Goodall,[4] Davidson and Gulland,[5] and others have drawn particular attention to the characteristic fact that persons with pernicious anaemia have an amount of vigour and capacity for work quite out of all proportion to the degree of anaemia they are suffering from It is obvious that such persons would not seek advice till the disease was well advanced Again, in very many cases patients suffering from pernicious anaemia present them-

Observations made on a considerable number of "healthy" hens which showed no outward signs of anaemia have disclosed in several cases not only haemoglobin and red blood cell deficit, but more important from the point of view of the present discussion marked haemosiderosis and considerable marrow changes.

† Yellowness of the comb and other body tissues especially the fat is a very frequent occurrence in primary anaemia. This is not due to bilirubin, but to carotenoid pigments which are unoxidized and so accumulate (vide Bunnell *Brit. Med.* 1930, January 25th p. 165 also Bedson and Knight *Journ. Path. and Bact.* 1924 27 p. 233).

* Vascular changes as distinct from oligochromocythaemia and oligocythaemia as discussed later in this connexion.

selves for examination, not for anaemia or its immediate results, but for some minor complication such as ulcers of the tongue, etc. It does not seem too much to suppose, therefore, that degrees of anaemia—short of a certain limiting but surprisingly low threshold value—may, when unaccompanied by complications which cause the patient to seek advice, have been present for long periods unobserved in the cases one is dealing with here. This is all the more likely when one considers the remissive nature of the disease and the fact that the earlier attacks are less severe than the later ones, and become gradually worse.

In his argument against anaemia being the essential cause of the disease, Collier further states that no case has been recorded or has occurred in the large series examined by himself in which the nervous manifestations developed in a patient already under observation for anaemia. Davidson and Gulland take exception to this statement in its absolute form, but, even if it is not strictly true as it stands, it nevertheless emphasises an important phase, which has its parallel in the disease in fowls. Of the many fowls which had frank anaemia at the time the birds first came under observation, not one subsequently developed nervous symptoms, although many were kept under observation for very long periods, having regard to the age to which a fowl normally lives.

Such an occurrence, however, does not necessarily bear the interpretation which Collier puts on it. It may be that all the cases liable to be affected with nervous symptoms in the course of the disease are affected once and for all in the early stages, possibly because *adaptation* of the nervous system to the changed blood supply, rapid in the majority of instances, is slow in such cases. These, moreover, would constitute the cases, already referred to, where anaemia is not prominent at the time the patients come under observation. It seems likely that the enforced rest, due to the paralysis, has been effective in rendering the anaemia unobservable. Davidson and Gulland and others have stressed the *great importance* of rest as a therapeutic measure in bringing about remissions of anaemia and preventing relapses. It seems likely that in cases not prostrated by the initial attack there is gradual accommodation to the new conditions of the blood and its circulation, and the nervous system becomes so adjusted to the altered environment as to be immune more or less to the subsequent *onset of the nervous complications*.

The idea underlying the explanation suggested here is that the central nervous system can accommodate itself to a condition of anoxaemia just as it can to high barometric pressure and subsequent decompression, if in all cases the changed conditions are imposed gradually. In both sets of circumstances, however, a certain proportion of cases suffer.

Observers are not unanimous about the percentage incidence of nervous sequelae in pernicious anaemia cases. Thus Woltmann (quoted by Piney[3]) states that neurological symptoms occur in over 80 per cent. of the cases, and histological lesions of the spinal cord in a slightly greater percentage. Davidson and Gulland maintain that only 5 per cent. of the anaemic cases show definite evidence of cord damage. The nervous symptoms present in the other 75 per cent. of the cases, they state, are those that occur in any severe anaemia, and are due solely to the anaemia and cardiac weakness.

The pathological changes present in the spinal cord in this disease are minutely described by Collier. The essential lesion is a degeneration of the nerve fibres of various columns, but *without any neurological proliferation* to produce sclerosis and shrinkage of the cord. This characteristic absence of neuroglial proliferation must be emphasized. Piney says in this connexion that it is difficult to imagine that lesions which cause no reaction on the part of the adjacent tissues can be inflammatory in nature, and if one postulates the action of a toxin, the difficulties, he states, are perhaps even greater. Other writers have felt the same difficulty in explaining the absence of reaction *on the part of the surrounding tissues*. Piney attempts a solution in a manner with which I am unable to agree. He suggests that the characters of the changes give the impression that they are due to "abiotrophy" in the sense of the word as used by Gowers—namely, the possession of a variety of hereditary constitutional weakness of the tissue.

The latest authors subscribing to the view that patients with *pernicious anaemia have an hereditary constitutional weakness or diathesis* are Davidson and Gulland. Their argument is that occasionally several cases of pernicious anaemia have occurred in the same family or in near relatives, which suggests the existence of a constitution predisposing to the disease. Davidson and Gulland themselves calculate that pernicious anaemia occurs to the extent of one case in twenty thousand of the general population, this being deduced from the fact that the mortality rate for the disease is 3 to 6 per 100,000 of the population. It follows that from the time pernicious anaemia was recognized and written about as a disease entity hundreds of thousands of cases must have occurred. Nevertheless, out of this total, at a generous estimate, only a few hundred individual cases have shown a familial relationship. These cases would appear to be the exceptions, and it seems likely that an explanation of their occurrence would be found along the line of similar habits, similar environment, exposure to similar producing causes, whatever these may be, or, indeed, even in terms of mere chance occurrence. A similar conclusion has been drawn from the facts that in *Bothriocephalus latus* anaemia a similar familial relationship has been discovered, that a few only of the harbourers of the parasite develop the anaemia, and also that an individual may suffer from a bothriocephalus anaemia, be cured of this by the expulsion of the parasite, and later on develop a true idiopathic pernicious anaemia.* It is difficult to see how such a conclusion could be drawn from such premisses. Disease results from the interaction of two factors, an exciting cause, and a susceptible organism on which the cause acts. Disease may appear not only in a weakened or predisposed organism—and many factors other than heredity may produce such weakness or predisposition—but in an organism subjected to more than usually virulent exciting causes. Again, as is suggested in the foot-note, the so-called idiopathic cases, which develop later, may be the direct result of the original bothriocephalus infection.

A diathesis has also been alleged to exist with regard to the appearance of disease phenomena in individual organs, such as the nervous system, the stomach, the liver, and the bone marrow (*vide* Davidson and Gulland). Allusion has already been made to Piney's statement about the part played by "abiotrophy," an inherited tendency, in the production of the nervous phenomena. Similarly, Davidson and Gulland state that the constitutional factor is found at its greatest in the central nervous system, and is generally accepted as the essential cause of the familial hereditary ataxias. But the familial hereditary ataxias are characterized by marked neuroglial proliferation and sclerosis of the cord, a condition that is characteristically lacking in pernicious anaemia. Collier, who has had an unrivalled experience of cases of subacute combined degeneration of the cord in all its forms, states categorically that heredity is not a factor in the occurrence of the disease.

Viewing the question generally, it can be said with justice that if hereditary predisposition is held responsible for lesions of the nervous system (and other systems and organs) in this disease, then it can logically be held responsible for the sequelae and complications of each and every individual disease in which complications and sequelae are irregular in their occurrence. Those cases having them would, on this basis, possess an hereditary constitutional predisposition to them of the particular organ or system affected, and *vice versa*.

In my view the nervous complications are in all likelihood the consequences of the anoxaemic condition characteristic of the disease. This conception explains the absence of the neuroglial proliferation and sclerosis of the cord, and it accounts for the site of election of the cord lesions—namely, in long tracts of the lower dorsal region, with their nutritional disabilities and difficult blood supply.

Many writers believe that achlorhydria of the stomach is an essential component of the symptom complex of

*Evidence is accumulating that in the fowl the anaemia may persist and cause death long after the tapeworms which originated it have disappeared from the body. This would indicate that the tapeworms have set up a condition which subsequently can develop independently

pernicious anaemia Some even maintain that this organ has an hereditary constitutional predisposition to the disease (Davidson and Gulland) In the first place, they allege that achlorhydria is a constant in pernicious anaemia, and that in a few cases there has been evidence of achlorhydria years before the patient developed pernicious anaemia, secondly, that relatives of pernicious anaemia patients are more prone to achlorhydria than individuals in the general population and that these same phenomena have been observed in regard to bothriocephalus anaemia On the other hand, however, it is indisputable that cases of pernicious anaemia occur with quite normal gastric secretions (Davidson and Gulland), that achlorhydria occurs also in ordinary secondary anaemias, that it occurs in many normal individuals and in many so-called acquired achlorhydric patients (Davidson and Gulland), about whom there is no evidence of greater liability to pernicious anaemia than in the general population

Moreover, other explanations of the achlorhydria are more in keeping with the facts Elsewhere[9] I have adduced evidence to show that the condition is a sequel to the anoxaemia of the central disease I showed that in anaemic pigs there was a considerable lowering of the alkali reserve of the blood, and that in the cases so far examined, this was accompanied by an entire absence of acidity of the gastric contents Having regard to the respiratory difficulties in conditions of anaemia and the importance of the "chloride shift" in respiration, these facts suggested that the achlorhydria was a direct result of the blood condition Such a view is supported by work carried out with histamine Thus, Katzenelbogen[10] has shown that the injection of histamine causes a simultaneous rise of the alkali reserve and a secretion of acid gastric juice into the stomach, a combined result which cannot be without significance in the present issue Bennet and Dodds's results from gastric analysis and estimation of the alveolar carbon dioxide tension point in the same direction [11]

Apart from these considerations, the actual anoxaemia will make it difficult for the stomach to carry out its function properly When a remission has been produced in pernicious anaemia, say, by liver extract, the stomach has been said never again to secrete free hydrochloric acid (Davidson and Gulland) Vaughan[12] does not agree with this view, but even if it is correct it seems capable of a simple explanation along lines already indicated The achlorhydria would at first be functional Its persistence, however, over long periods would lead to bacterial infection of the stomach and this, together with the anoxaemia, especially in the debilitated state of the body due to the anaemia, would result in the production of organic changes in the mucosa which would render the condition permanent Such organic changes have, indeed been described as present in every case by Faber and Bloch (Davidson and Gulland)

I shall now consider the part possibly played by the liver in the disease In a prolonged discussion of the cause of megaloblastic formation in pernicious anaemia, Davidson and Gulland after having practically dismissed the views of Pepper, Cohnheim, and Ehrlich that the megaloblastic change occurs as the result of an inborn error or constitutional defect in the marrow or of a toxin acting on the marrow (the latter on the grounds that no such toxin has ever been demonstrated) proceed to state that both these theories take a very subsidiary place to the one which they now propose to expound * They believe that there exists in the body, principally in the liver, but also in the kidneys and to a less extent in certain other structures, a substance whose presence in sufficient concentration is essential for normal blood formation A deficiency of this unknown but specific factor causes a megaloblastic anaemia In spite of their recognition, by implication if not by actual statement, that this factor occurs in tissues other than those of the liver, they show nevertheless that they regard the condition as one of deficiency of the liver, and of the liver only,* in regard to this specific factor Clearly on their own submissions, the kidney and other organs are equally involved

One may, however, adduce reasons for believing that the liver is the organ mainly at fault in regard to the actual *supplying* of the factor Elsewhere[13] I have shown that in conditions of iron deficiency in pigs extirpation of practically the whole liver has a profound effect on cell multiplication in the marrow In such conditions the marrow is intrinsically sound, but the absence of the liver factor leads to the production of normoblasts by amitotic division of the megacaryocytes This, it should be noted is a cell division abnormality, and indicates an influence of the liver on cell growth In this connexion it should be emphasized that McCollum[14] has shown that liver and kidney have a marked effect on cell multiplication Further attention may be drawn to the fact that the marrow differs from most other tissues in the body, in that cell multiplication and ripening is its main function The others metabolize, store, and so forth but cell multiplication in them is more or less at a standstill These considerations may account for the practical absence of the liver factor in the marrow, where it is used up in cell multiplication, and for its presence in such quantities in, for example, the kidney where it is not used for this purpose and can therefore be stored There is thus considerable evidence for the view that the liver prepares a substance which has a marked influence in controlling the healthy marrow and it seems probable that this or some allied substance may have an equally profound effect on a marrow already diseased

Although I regard the liver as the factory where the agent is produced, I do not assume disease of the liver to be the essential primary cause of pernicious anaemia In my view[15] the liver is healthy at the beginning of the disease but later on a vicious circle may set in and owing to ever-increasing anoxaemia, the liver becomes more and more disabled The marrow is, I believe, the primary seat of the disease Under ordinary conditions one may suppose that the healthy liver produces sufficient liver agent to keep the healthy marrow under control and prevent the formation of embryonic cells Once, however, owing to the action of some irritant, the marrow becomes disordered the healthy liver can no longer produce enough agent to keep it in check a vicious circle is set up and the marrow proceeds with ever-increasing speed to complete disorganization It is only when the agent already supplied by the patient's liver (possibly still healthy and acting to its full extent) is supplemented by an agent from outside sources that a check is put on the process

Castle's[16] work may be reviewed in the light of what has just been said He found that when beef steak that had been previously digested in a normal person's stomach was given in suitable amounts to a person suffering from pernicious anaemia a typical reticulocyte response could be elicited, although the same amount of beef-steak itself, or of the digestive juices alone, or of beef-steak artificially digested in a test tube completely failed Castle's conclusion from these facts is that the patient's stomach lacks some factor which allows the active principle to be obtained from ordinary meat, and he believes the stomach to be the organ primarily at fault Against such a view is the fact that in a certain number of cases of pernicious anaemia gastric digestion is normal The phenomena can easily be explained by the supposition that owing to the digestive disabilities of the stomach, the liver is no longer receiving the raw materials from which it can elaborate the agent or principle

Pepper[17] and Cohnheim[18] held the opinion that the essence of pernicious anaemia was that the bone marrow had reverted to an embryonic type they considered that an embryological developmental or hereditary factor had sufficient "drive" in itself to produce the disease Later observers including Ehrlich [19] extended this view by suggesting that the changes in the marrow were due to the action of a toxin In many instances this toxin was regarded as being haemolytic Elsewhere[9] in connexion with this possibility, I have shown that the haemolysis, which gives rise to a haemosiderosis, is the result of the disease and not the cause of it Moreover haemolytic toxins produce a normoblastic or macroblastic condition of the marrow and blood, not a megaloblastic and megalocytic one

* It is to be inferred from their argument that they regard the liver as the primary seat of the disease. Peabody (*Amer. Journ. Path.*, 1927 iii, p 179) and others had already emphasized the importance of the liver

There would seem to be little doubt that a toxin or an allied substance acting on the marrow is at the root of the production of the disease Here, by its irritative or stimulating action, it produces a specific type of marrow change There is no evidence for the view that the lesions in the various organs in pernicious anaemia are produced directly by the same toxin or by a variety of different toxins Everything suggests that the conditions in the nervous system, stomach, and liver (in the later stages) are produced secondarily by the anoxaemic state brought about by the primary marrow lesion Any other view would seem to be incapable of explaining how such diverse causes as those producing idiopathic pernicious anaemia, sprue, and the pernicious anaemia of pregnancy, syphilis, tapeworm infestation, malaria, etc, can so uniformly bring about what Vaughan calls these "oddly associated lesions"

Summary

The essential and primary factor in the production of pernicious anaemia is the involvement of the bone marrow in an irritative process, which causes it to revert to embryonic cell formation

The resulting anoxaemia causes, secondarily, the complications which are to be found in the central nervous system, the stomach, and the liver (later stages)

There is no evidence for the existence of a "pernicious anaemia diathesis" either in relation to the disease as a whole or to the organ complications

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THORACIC STOMACHS

A Study of Pharyngeal Pouch and Cardiospasm, with Report of Three Cases

BY

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(With Special Plate)

For several decades occasional observers have reported cases of simple dilatations of the oesophagus resembling adventitious stomachs, but they are only now becoming readily recognized For this recent facility in diagnosis we have to thank Roentgen Radiography, after the ingestion of an opaque meal, makes the diagnosis of such

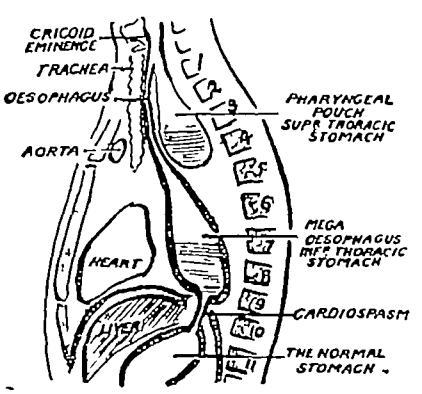


FIG A.—Showing upper and lower thoracic stomachs in profile in the chest

intrathoracic enlargements one of easy and convincing clarity instead of recondite conjecture, as when the doctor depends wholly on clinical acumen

These expansions are found at the upper and lower ends of the gullet In shape and in their relationship to the parent gullet they resemble aneurysms, such as occur in the adjacent aorta The upper is saccular and the lower fusiform in outline A diagram of them in profile indicates their deep dwellings in the chest—and the reason for the picturesque title of these remarks (Fig A) As a matter of fact, the title is not an abuse of the word 'stomach," but a reversion to its proper use, for 'stomach" is derived from the Greek word meaning gullet" and Galen, among other anatomists, preferred the name ventricle" for the subdiaphragmatic stomach They are familiar as "pharyngeal pouch" or "diverticulum," the lower one occurring in the condition known as cardiospasm Diaphragmatic hernia of the normal stomach into the thorax is not included in this paper

It is hoped that reasons other than the mere infrequency and pathological curiosity of these conditions will make this communication helpful A doctor's duty to his patients makes it necessary to recall these disorders to mind from time to time Their remoteness in the hidden depths of the chest hides them from simple view, and the old saying still holds good—"Out of sight, out of mind" While failure to recognize some lesions makes little practical difference to the patient, this is not true in the case of thoracic stomachs They disable the victim, progressively and gravely, if left to nature, but, despite their inaccessibility, they are amenable to sure relief by surgery Reports on such cases, rare but vital, keep the doctor on the look out for them

A few notes of illustrative cases will serve as a basis for consideration of the clinical features of these alimentary pouches

Case I

W H C, aged 62, was a monumental mason, but had only been a supervisor for the last fifteen years He came to me in August, 1929 His past health had been good He stated that for ten years queer audible noises occurred during swallowing Three years ago vomiting—as from a pump—started and brought relief For nine months there had been increasing dysphagia and vomiting This was lately so severe that life had become unbearable he was rapidly losing weight, and had increasing constipation for five months He sought urgent relief in order to nourish himself He had been disposed to heart attacks, having fainted three times in the street, and he had swelling of the feet

On examination he was somewhat pale and spare in flesh His teeth were offensive There was no swelling in his neck, but there was a feeling of food stoppage behind the upper ribs A vomit of six ounces by his bed looked like creamy tomato soup It was acid to litmus, due to decomposition, not, presumably, to admixture with gastric juices, and inoffensive in odour Vomiting occurred within at the most, a few minutes of ingestion Pharyngoscopy by Mr Angell James revealed the walls of the pouch, but no exit

He was radiographed after the ingestion of an opaque meal, when the barium was seen to occupy a substernal pouch the shape of half a small orange, with the flat surface upwards (Figs 1 and 2) It was median, with a slight bulge to the right and its smooth, convex lower aspect was at the level of the fourth dorsal vertebra

Similar cases reported in the literature occur mostly in patients of the fifth decade, and are of several years' duration Sensations of strangling and of troublesome coughing on recumbency are noted, as well as regurgitation of food on pressure of the left side of the neck The patient referred to above showed diminished nutrition, for thoracic stomachs, unlike their abdominal congener, boast no digestive attributes, but rather impede the process

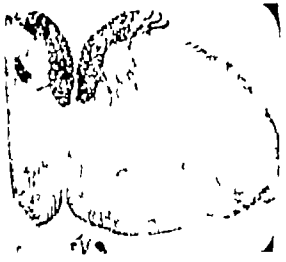


Fig 1



Fig 2.

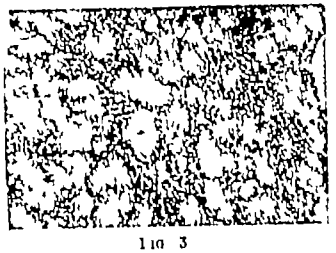


Fig 3

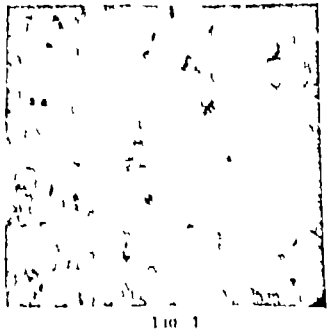


Fig 4



Fig 5.

Fig 1 Hen 107 Case III Lumbar enlargement of cord Marchi's method showing marked degeneration in the dorsal columns also some in the anterior and anterolateral

Fig 2 Hen 300 Case VII Lower dorsal region of cord Marchi's method showing marked degeneration in the dorsal anterior and anterolateral columns

Fig 3—Hen 106 Case II Section of spleen potassium ferrocyanide and HCl showing marked haemosiderosis in the splenic pulp

Fig 4 Hen 121 Case IV Section of liver potassium ferrocyanide and HCl showing marked haemosiderosis of the Kupffer cells and also diffuse haemosiderosis in the liver cells

Fig 5 Hen 4 Case VI Section of kidney potassium ferrocyanide and HCl high power showing marked haemosiderosis of the secreting convoluted tubules.



(a) (b) (c)

Fig 1—(a) Skiagram of Ptolemaic femur (b) photograph of same (c) skiagram of humerus in hospital patient for comparison



(a) (b)

Fig 3—(a) Photograph of predynastic jaw (b) skiagram of same



FIG 1.—Skiagram of W H C, showing pharyngeal pouch, antero-posterior view

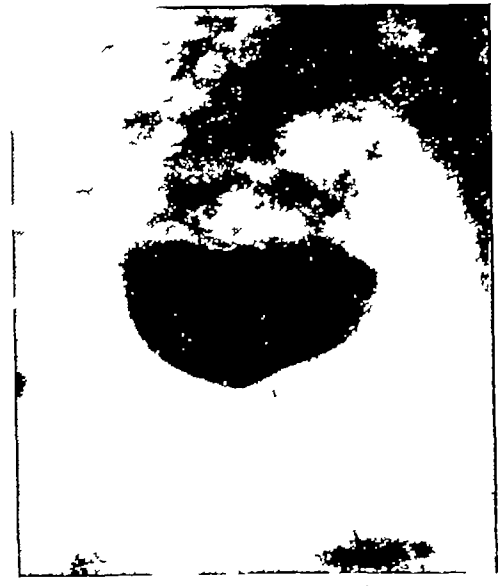


FIG 2.—Skiagram of W H C, showing pharyngeal pouch, lateral view

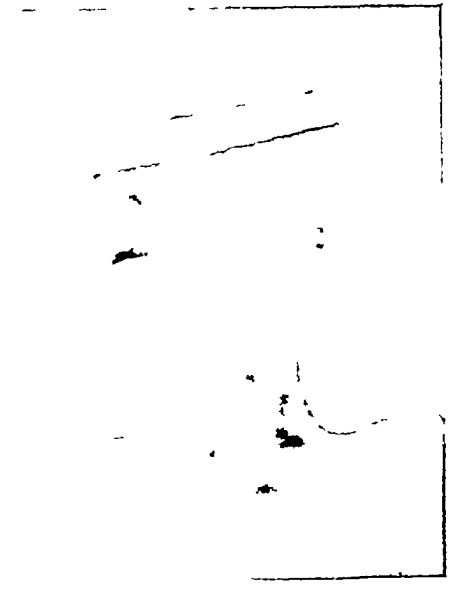


FIG 3.—Photograph of W H C showing pharyngeal pouch stitched to the surface of the skin



FIG 4.—Dilated lower gullet of W S case of cardiospasm (1929)



FIG 5.—Mercury bougie entering stomach of W S (1930.)



FIG 6.—Lower thoracic stomach of A F case of cardiospasm

Operative Treatment

Following the method used by Wilkie[1] diverticulectomy was commenced on September 4th 1929 and the second stage of the operation was completed on the 18th The pouch was exposed by an incision along the anterior border of the left sterno-mastoid muscle between the thyroid gland and larynx medially and the carotid sheath laterally Resting on the prevertebral muscles was a smooth bluish yellow flappy membranous structure It was like a thick walled hernial sac di closing boundaries and coming to resemble a bag as it was gently dissected free of the vertebrae at the back and the viscera in front The recurrent laryngeal ner e was guarded To help to define the neck of the sac at this stage an oesophageal bougie was passed by Dr Stock with ease demonstrating the absence of stricture Here and there a few vessels coursed over the sac and were ligated but bleeding was not troublesome The sac was pulled on to the neck and maintained there by stitching it to the skin margins (Fig 3) The patient swallowed solids joyfully after this operation and suffered only mild cellulitis The second stage consisted in dis section of the pouch to its neck which was ligated the fundus was cut off and the stump cauterized

The patient was able to eat anything after this and returned home and was about for a short time During this period the neck healed soundly He then had an attack of influenza followed by pyrexia and died in four months When he was radiographed in November an opaque meal dropped straight to his stomach no trace remained in his neck Professor Nixon saw him on November 12th and stated that his poor health had nothing to do with the operation

A rival procedure for diverticulectomy is diverticulopexy —that is, fixation of the inverted sac—so successfully carried out by Hill in a series of fifty ca es

Before studying the nature and cause of the upper thoracic stomach a few notes on two examples of the lower thoracic stomach of cardiospasm will be given

CASE II

W S a man aged 50 complained of dysphagia of only two years duration His past history included four years in the trenches in the late war and was good apart from a tendency to a winter cough He felt food arrested on a level with the sternum and usually vomited his food after taking it Cough aggravated the condition Fluids were swallowed better than solids He was a big man and had lost much weight His teeth were carious but he had a fair colour Nothing abnormal was found except that auscultation revealed an interval of ten seconds between swallowing a drink and the entry of the fluid into the stomach. An opaque meal showed a fu iform swelling of the lower oesophagus (Fig 4) A diagnosis of cardiospasm was made

Operative Treatment

Mikulicz s method recently revived by Walton was followed Walton gives a timely warning on the need for lavage and empty ing of the stagnant oesophagus prior to operation The stomach was opened and the index finger pa sed into the contracted cardiac orifice The remaining digits were also introduced one by one till the resistance yielded Thereafter he was able to swallow any kind of food he put on weight and worked In April this year the symptoms recurred in association with bronchial trouble and he vomits if he takes his food too quickly Radiograph- revealed food pa sing undelayed through the lower oesophagus A mercury bougie was used for the relief of his symptoms and a radiogram shows it *in situ* (Fig 5)

CASE III

F aged 48 whose trouble started gradually in 1924 with an occasional meal causing a block in the gullet had a good past history apart from nervous debility in 1912–14 He was specially affected by greasy foods and cold liquids Severe retrosternal pain often rising to a crisis disappeared when his food passed a certain part leaving him exhausted On the morning after he often vomited unaltered the food he had eaten the day before Blood was never present His radiogram after an opaque meal is reproduced as typical (Fig 6) It shows a large lower thoracic stomach with its epiphrenic contour characteristically smooth. The fine oblique trickle of barium that alone escapes into the stomach is a constant feature of these cases It is notable that the con striction is a tunnel about 1 inch long and not a mere ring at the cardiac orifice It corresponds to the normal so-called cardiac sphincter of the oesophagus (Hurst)[4] where that tube passes through the diaphragm This appearance led Chevalier Jackson to apply the term phrenospasm in preference to cardio-spasm With such a picture and history endo copy seems as superfluous as with the one illustrating pharyngeal pouch

Operative Treatment

As in the former case Mikulicz s digital dilatation was adopted and the fingers were introduced up to the proximal interphalangeal joints as advised by Walton Convalescence was smooth except for a slight mucoid discharge from an upper stitch hole which lasted a few weeks and was possibly caused by a slight leakage from the gastrotomy He is a stone heavier and is still very pleased to swallow normally not having had a decent meal for years prior to the operation

The best alternative treatment is the use of mercury bougies of increasing diameter as prescribed by Hurst but for inveterate case, such as the above. I am in favour of Mikulicz s measure, so ably endorsed by the clinical practice of Walton[2]

Dilatation with the hydrostatic bag of Plummer[3] open to the grave objection that during its use accidental rupture of the oesophagus can be less easily guarded against than with digital dilatation and if rupture occurs it cannot be repaired at the time as in the open method

In the diagnosis of these maladies a detailed description of symptomatology is no longer necessary since the radiogram taken routinely in dysphagia reveals a shadow characteristic both in site and in level Thus it readily distinguishes the mild transient oesophageal spasm of functional troubles thoracic aneurysm, and other mediastinal swellings With the comparatively rapid formation of cancerous obstruction in the oesophagus little dilatation develops and with this type of stricture the lower end of the barium column is uneven where it rests on the cancer

NATURE AND ETIOLOGY

A comparative study of the upper and lower types of thoracic stomach reveals more about both than when each is considered separately Common to both is this important feature—namely, that the site of origin of each corresponds with a transition stage in alimentary transport At the upper end is the change over from voluntary to automatic action, and at the lower from the simple tubular oesophagus to the specialized function *of the normal stomach*

It is notable, on examining the structure of their wall that the epiphrenic stomach consists of the hypertrophied muscular coats of the oesophagus and shows all the normal characteristics of muscular tube- proximal to an obstruction while the pharyngeal pouch is merely a mucosal hernia with a thin areolar investment which hangs as a blind bag at the back of the main alimentary tube For the lower stomach, dilatation of the oesophageal exit through the diaphragm is needed and adequate in the upper part but *there is no constriction of the normal pattern* nor would there were, could it dilatation remove the power that lung outside the tube The e differences arise from the different structures and mechanisms of the entry and exit of the gullet During deglutition the food bolus is quickly conveyed from the mouth into the pharyngeal funnel The longitudinal muscles—for example the stylo-pharyngeus and the palato-pharyngeus—then raise this funnel at its upper end and circular contraction squeezes the bolus into the narrower hypopharynx Here the bolus is handed over to the involuntary peristalsis of the gullet It is a region of stress and also of inherent weakness The signs of the cricoid ring forms a projecting hump anteriorly (Fig 4) while the rest of the circumference is encircled by the crico-pharyngeal portion of that compound muscle known as the inferior constrictor Little longitudinal support is present and the osseo-muscular ring above described recesses the assault of the bolus descending into its smaller circumference from the roomier upper pharynx It is a segment of strain owing to the narrowing lumen and to transition from voluntary to automatic transport of food The subtle mechanism of adjustment may easily be thrown out of gear Oral sepsis pharyngitis and oesophagitis or even subphrenic ulceration, may raise the sensibility of the part and so set up protective hypertonus at the oesophageal doorway Just outside the resistant door lies the inherently weak posterior area of the pharyngeal wall (Negus[5]) between the crico-pharyngeal and thyro-pharyngeal elements of the inferior constrictor No actual congenital pouch exists When the crico-pharyngeus fails to relax smoothly the pent-up impetus presses on the *posterior pharyngeal wall, and the weak area yields The* bulge is directed down behind the oesophagus by gravity and mutual pressure of the thyroid gland and the bulkier

pharynx above When large enough a descending bolus will drop more readily into it than into the mouth of the oesophagus, which is displaced forwards and comes to look backwards The oesophageal orifice is like the slit of a letter-box, past which the descending bolus readily drops, and falls instead into the open mouth of the pouch below (Fig B) They are shown respectively as X and Y in the diagram

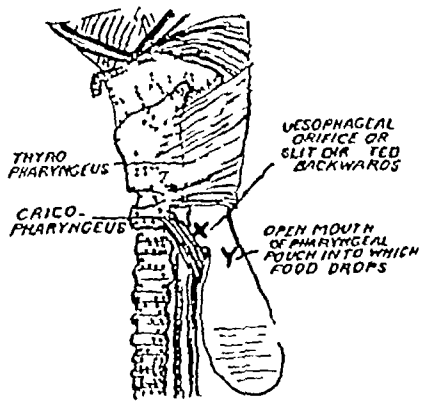


Fig B—Diagram showing pharyngeal pouch as a mucosal hernia

That the diversion of the food is not caused by stricture of the oesophagus is proved, as in the case of W H C, by the immediate ease with which food passes as soon as the pouch is elevated from the thorax by operation and pulled out on the neck The relation of X and Y is simply reversed by this manœuvre, and the orifice of the pouch now presents a narrow slit on the side of the pharyngeal wall, while the mouth below leads straight down the red lane to the stomach (Fig C) Hence the rationale of the operations previously mentioned

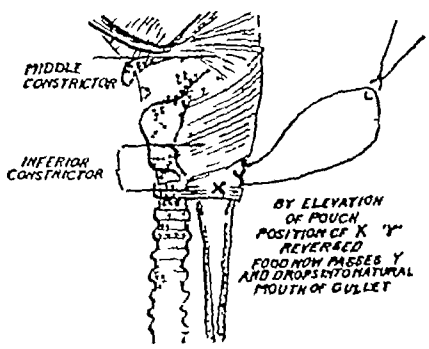


Fig C—Diagram showing rationale on which diverticulectomy and diverticulopexy are based

Development of the Lower Thoracic Stomach

Just above the oesophageal exit arises the epiphrenic stomach involving, to varying heights, the lumen of the gullet above Below the dilatation the lumen of the terminal inch of the gullet, when examined radiographically or by the sense of touch at operation, is but a tiny tunnel through which only a trickle of barium escapes Valuable necropsies, such as that of Morley[7] on such a case, confirm the truth of this, and establish the absence of muscular hypertrophy at the constriction

Numerous causes for this shrunken calibre have been advanced Among them a defect in the neuro-muscular mechanism from birth has been suggested, but it is hard to attribute to a congenital cause a disease first manifesting itself in maturity Walton[8] supports this view, citing rare cases that have occurred in the early years of life He regards the phenomenon as parallel with the faulty co-ordination of neuro-muscular mechanism responsible for the megacolon of Hirschsprung's disease and infantile dilatation of the urinary system, which occur without mechanical blocks Harold Brunn[8] supports the theory, and explains the late onset of the condition by the analogous latent period in cases of cervical rib

The opinion of Mikulicz, to whom we owe the cure by digital dilatation, is expressed by the historic title given to the disease by him—namely, "cardiospasm" That spasm is a potent element in these cases, at least in the earlier stages, is evident from the sudden relief of obstruction, onward passage of food, and relief of pain observed in my case (V F) and in so many of the histories reported

Plummer, after his vast experience, supports the neurogenic theory If accepted, the condition falls into line with that of congenital pyloric stenosis, but in that, if there is overaction of the muscle, it is certainly accompanied by hypertrophy However, it is open to question whether an accommodative diminution in the size of the muscular opening in the diaphragm occurs *pari passu* with the diminished calibre of the gullet, and so inhibits the expected hyperplasia

Hurst[4] remarks on the easy passage of the gentle mercury bougie, and affirms that there can be no positive spasm but mere non-relaxation of the sphincter ("achalasia") Thus he attributes to degeneration of Auerbach's plexus, and has seen this in sections from such cases If the theory is accepted, it involves the belief in some peculiar susceptibility of this segment of the alimentary tract to a poison apparently impotent elsewhere, for there is actual hypertrophy of the circular muscle immediately above the constriction Certainly, in the inveterate case on which I operated, resistance was inelastic and caused by organic contracture This may well be the late outcome of achalasia of the incipient stages by accommodative contracture of the surrounding tissues and the fibrosis following chronic congestion induced by the superincumbent pseudo-stomach

Soper and Cassidy[9] found, in 29 out of 60 cases, pathological lesions elsewhere—for example, gastro duodenal ulcers, gall-stones, pleural contractures, and exophthalmic goitre The last were improved by dilatation of the gullet In my patient (W S) associated bronchial catarrh is noted This conjunction affords a source for possible reflex dysfunctions of the cardiac sphincter Greenwood,[10] from his own case, forcibly argues that dysfunction is due to imprudent feeding when hurried, unmasticated meals provoke irritability and hypertonus of the stomach inlet

The title "phrenospasm" (Chevalier Jackson) lays the blame on the encircling diaphragm Two criticisms of this explanation are suggested The grip of a thin sheet of muscle would make a narrow groove on the gullet, but the findings are those of a tunnel obstruction an inch or more long Morley remarks that phrenicotomy fails to relieve the impasse

Finally, in the cadaver, I am impressed with the resistance offered by the half-encircling edge of the liver when passing a finger into the oesophagus Clark[11] refers to this relationship It is not, in my opinion, an adequate etiological factor, or signs of an impeded cardiac orifice would be manifested more often in conditions of hepatomegaly

The theories mentioned broadly encourage the belief that there is defective neuro-muscular action at the oesophageal exit, but whether this is inherited, brought on by the irritation of imprudent feeding, reflex from distant foci of disease, or the result of local neural degeneration, further research must prove

Summary

It is very probable that a neuro-muscular dysfunction at susceptible transition points in the gullet raises the pressure of ingesta This effect expresses itself by different forms of dilatations The inherent weakness in the posterior aspect of the hypopharynx produces a hernia of the mucosa By contrast, in the epiphrenic region, the oesophageal walls respond to the hypertension within by a typical uniform dilatation and hypertrophy From such origins spring the substernal and epiphrenic stomachs They are likely to continue to vex the human race, evoke the discernment of the doctor, elude prophylaxis, and require most skilful surgery to relieve them

In pharyngeal pouch two-stage diverticulectomy is the best remedy, while cardiospasm, in the early stages, will respond to merp dilatation with bougies, which is best done with the aid of the radiographic screen Where this fails,

Mikulicz's digital dilatation by means of a gastrotomy, is necessary and effective By reason of the comparative infrequency of these conditions, their deep situation, and the vital structures around them, their treatment calls for special care and skill

I am indebted to Dr F J Maves for all the radiological work contributed to the diagnosis of my cases

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TWO CASES OF BONE TUMOUR FROM ANCIENT EGYPT

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[T]ure of the diseases which were present among Egyptians but little is known Such specimens have been found and examined have been generally from the Roman period of occupation, which is, relatively speaking, late in the history of Egypt Pathological specimens have been obtained from the predynastic periods

So far described are mostly associated with the non-resistant portions of the body—namely, the bony tissues—as these parts, unless some form of mummification is undertaken, best resist the destructive influence of time and climatic conditions There have thus been preserved for us specimens which enable us to diagnose conditions which were then associated with the osseous system of the body The supply of these interesting specimens, which reach us only too rarely is mostly derived from the archaeologists, who in the course of their work observe abnormalities in the occupants of the graves and tombs which are being investigated from the archaeological point of view To them, therefore, our thanks are due for the interest they take in this side issue of their work We have to thank Mr Guy Brunton for both the specimens described in these notes

Osteosarcoma of the Femur

The first of these specimens, that of a tumour of the femur, was found by Mr Brunton in a grave at Mostagedda, south of Assiut, on the eastern side of the Nile, on the edge of the desert The specimen belongs to the Ptolemaic period

The bone is the right femur of a young person the head of the bone and the trochanteric epiphyses have not become united and are therefore absent The photograph in the centre of the illustration (Fig 1) gives a good impression of the condition of the bone, the neck of the femur is seen at the upper end of the specimen The bone itself is 10 in long and the surrounding bony growth involves the greater part of it The growth at its [illegible] part is 3½ in in diameter In the fresh state the growth would have been considerably larger because the delicate spicules of bone which form the osseous portion of the tumour are in large part broken off, while time and wear have produced a relatively smooth surface on the mass The soft parts of the tumour have completely disappeared In certain areas, however, the typical bone picule formation of osteosarcoma is evident while the skiagram on the left of the photograph in the illustration shows the typical architecture of the growth The skiagram is obviously that of a long bone of which the cortex while rarefied is unbroken and unchanged in width The medullary space shows no expansion

Extending outwards in a direction at right angles to the shaft are shadows arranged in the form of parallel striae It will be observed that the extent is largest about the mid-point of the bone We should suggest from the radiographic appearance it is a justifiable inference that a bone-forming sarcoma has originated about the mid point of the femur One can therefore definitely exclude such a condition as chronic osteomyelitis which might perhaps be suggested by the gross naked-eye appearance of the specimen

For comparison, a skiagram of a similar osteosarcoma of the humerus, occurring in a young Egyptian patient (Kasr-el-Aini Hospital in patient No 449 of 1930) is reproduced If allowance is made for the fact that in this skiagram the soft parts are shown, the similarity between it and the skiagram of the Ptolemaic bone is evident We therefore venture to diagnose this tumour of the Ptolemaic period as an osteosarcoma and infer that some 2,000 years ago this type of malignant growth was already present in the population of Egypt

A search of the literature for records of similar cases shows that Ruffer,[1] in his "Studies in palaeopathology described a tumour of the pelvis (dating from the Roman period) found in the catacombs of Kom-el-Shoogafa in Alexandria He observed that this tumour had expanded the iliac bone and consisted of a solid bony tumour containing cyst-like spaces Although he suggests that it may be an osteosarcoma from which all soft parts have disappeared it seems more probable to us, from the illustration, that it is an ossifying chondroma

Tumour of the Mandible

The second specimen also sent to us by Mr Brunton, was found by him in the same district in a grave of the pre-dynastic period In all probability therefore its age is not less than 5 500 years This tumour presumably is one of the earliest if not the earliest, yet found amongst the former dwellers in the Nile Valley

The tumour occurs in the left side of the mandible and involves portions of both the horizontal and ascending rami It extends from the region of the canine tooth to the angle of the jaw the bone of which is expanded and reduced to a shell The soft parts of the tumour have disappeared, leaving the cavity in which it lay widely open at the alveolar surface This cavity is 3½ in in length and 3/4 in in depth, while the widest diameter is 1¼ in From the floor of the cavity, and projecting from its sides the remnants of some bony septa can still be seen The teeth and soft parts are absent The illustration (Fig 2) shows on the left side a photograph and on the right side a skiagram of the condition In the latter may be seen the widening and thinning of the bone while the cortex along the inferior border of the mandible is intact For the production of the skiagram the rays were directed relatively to the bone at approximately the same angle as would be employed in the living subject

The diagnosis of this condition cannot be definitely established but the possibilities of a round cell sarcoma, a dentigerous cyst a simple cyst or a fibroma should be considered of these the former appears to be the most probable

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SPONTANEOUS SUBARACHNOID HAEMORRHAGE, WITH KORSAKOFF'S PSYCHOSIS

BY

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IN the *British Medical Journal* of June 8th 1929 Professor Arthur J Hall described two cases of subarachnoid haemorrhage which developed Korsakoff's psychosis The following case seems worth recording The patient had recurrent haemorrhages and from each succeeding haemorrhage the recovery was less complete He developed Korsakoff's psychosis, and finally died seven days after the first haemorrhage The diagnosis was confirmed at autopsy

Clinical History

The patient was a man aged 57 an old soldier tall and strongly built apparently in perfect health with no history of any illness of importance On July 29th he was rather unwell, complaining of headache, he vomited once, but recovered The next evening he went to a whist drive during which he suddenly collapsed on the floor When first seen about an hour later he was very restless, throwing his arms and legs about, trying ineffectively to get up and to untie his hands He made apt but rather curious statements, such as "I'm badly handicapped" He did not answer questions or seem to be aware of his surroundings He was moving the left side of the body more than the right The left pupil was rather large, the right small and less active to light The knee jerks were brisk, the right less so than the left Both plantar reflexes were flexor *The heart appeared normal and the arteries did* not seem to be thickened The urine contained a trace of albumin During the next hour or two he became quieter and somewhat more rational and answered questions A diagnosis of subarachnoid haemorrhage was made

By next morning the pulse rate had gradually fallen to 58, he was becoming more and more comatose, the respiration was of the Cheyne Stokes type The blood pressure was 90/45 He was still moving his limbs but very slightly The knee jerks had become exaggerated, there was double ankle clonus and double extensor plantar response *Lumbar puncture* was performed, the fluid was under considerable pressure, and blood stained throughout Directly after the lumbar puncture the exaggerated knee jerks, ankle clonus, and extensor response disappeared The blood pressure rose to 110/75, and the breathing became regular, but the pulse remained at 58 The left optic disc showed no papilloedema, the right disc was not seen on account of the contracted pupil Four and a half hours after the lumbar puncture he became conscious, asked where he was, and said he would like some whisky He was *fairly quiet through the night, took fluids, and passed water* spontaneously

Examination of the cerebro spinal fluid showed

Red blood corpuscles	131 600 per c mm
White blood corpuscles	395 per c mm
Lymphocytes	320 per c mm
Polymorphs	76 per c mm
Total protein	1 000 mg per 100 c cm
Globulin	++
Chlorides	740 mg per 1 000 c cm
Sugar	Normal
Van den Bergh reaction	Delayed reaction 0 2 units
Wass mann reaction	Negative
Lange s colloidal gold test	0000023211

Next day, August 1st, he showed a definite Korsakoff psychosis There was complete disorientation as to place and time fairly good memory for past events, but fabrication of recent occurrences *In the evening the pulse began to fall* Lumbar puncture was again performed and blood stained fluid under pressure was withdrawn The fluid rapidly became more blood-stained, he complained of headache, then suddenly began to breathe stertorously while clonic movements of the hands and arms took place The needle was quickly withdrawn The patient was cold and sweating, the pulse very feeble, and double ankle clonus and extensor response were again present The left pupil contracted, so that it was now equal to the right The pulse and respiration gradually improved He *became very restless and destructive* He answered questions with Yes and No and obeyed orders for a few seconds, but soon began to try to dismember his bed again He remained in this condition all night The pulse was full and slow, sometimes falling to 40 The left pupil had dilated, and the ankle clonus and extensor response disappeared

Next day Korsakoff's psychosis was well marked His mind seemed to run on his army days On being asked what he was doing when he appeared to be reaching for something, he replied, "Collecting items" "Items of what?" "Stores" He was very suggestible, and was led into saying that he had been out for a walk that morning, and had met the Archbishop of Canterbury, who asked him how things were going

At 11 p m he suddenly *became comatose*, with stertorous breathing There was no apparent cause for this renewed haemorrhage The breathing became very slow, consisting of deep gasps, which occurred every fifteen to twenty five seconds The pulse remained fairly good The left pupil again contracted, and ankle clonus and extensor responses appeared both were more marked on the left side He vomited through his nose and for a time there was a good deal of rattling in the throat There was a left divergent squint for a short time, followed later by conjugate deviation to the left About 12 30 a m *he became very rigid the legs extended* and the back arched An anaesthetic was given to relax the extensor muscles of the back, and lumbar puncture was performed, 40 c cm of blood stained fluid was withdrawn slowly, it was under considerable pressure The breathing and pulse improved, and the rigidity did not recur

Next morning, August 3rd, the coma was still deep Respiration was quiet the pupils were equally contracted, there was no squint or conjugate deviation, there was marked blepharospasm The right optic disc showed papilloedema, the left disc was not clearly seen *The blood pressure* was 135/90 The temperature, which had remained subnormal, rose to 100 6 and the pulse rose from 48 to 88 There was still a trace of albumin in the urine There were a few rales at the bases of the lungs The respiration rate was 24

In view of the fact that lumbar puncture failed to relieve the coma it was decided that decompression was justifiable At 3 30 p m a right subtemporal decompression was performed, the dura mater was a little thickened there was a layer of blood under the arachnoid membrane, and the brain bulged out somewhat At the *end of the operation the respiration and* pulse were improved The coma however, continued unchanged About midnight the respiration rate began to rise and next morning reached 60 Signs of broncho pneumonia developed, the patient became cyanosed, and died at 9 30 p m on August 4th

Post mortem Examination

The brain weighed 2 lb 2½ oz The dura mater was thickened The arachnoid was also thickened especially over the right parietal region Blood was diffused all over the surface of the brain between the arachnoid and the pia mater, when the pia arachnoid was stripped off the brain the convolutions were seen to be a little flattened the brain substance was *not* congested, and there were no haemorrhages *into it* There was a large clot of blood at the base of the brain in the region of the circle of Willis around the medulla and pons, between the medulla and cerebellum, and in the right Sylvian fissure The circle of Willis and its branches showed a considerable amount of thickening, there was one fusiform aneurysm, and one small, thin walled saccular aneurysm containing clot, this was possibly the site of the haemorrhage The fluid in the lateral ventricles was slightly stained with blood, in the wall of the anterior horn of the left lateral ventricle there was a small, yellowish, softened area

Microscopical section of the brain substance showed no abnormality Branches of the circle of Willis showed considerable patchy proliferation of the intima, which in many places was thickly infiltrated in its outer layers with round cells There was no marked thickening or splitting of the elastic laminae The media was not thickened, but there were areas of round-celled infiltration, which was also well marked in the adventitia

The heart was large, weighing 17½ oz There were some fatty patches under the endocardium, especially at the bases of the papillary muscles The mitral and tricuspid valves were a little thickened The condition of the coronary arteries was surprisingly good, and the aorta was unusually free from atheroma

The lungs were congested and oedematous In the left lower lobe there were patches of broncho pneumonia and pus could be squeezed out of the small bronchi The left kidney showed a depressed area resembling an old infarct The cortex of both was a little diminished, and the surface slightly granular To the naked eye there was no evidence of arterio sclerosis Microscopical sections showed patchy areas of fibrosis, with *atrophy of the epithelium of the tubules, there was very little* cellular infiltration, many of the arterioles showed marked reduction or even obliteration, of their lumen, due to proliferation of the intima, with no cuffing with lymphocytes Other parts of the kidneys showed no interstitial change, but some cloudy swelling of the tubular epithelium

The evidence is not sufficient to justify a certain diagnosis, but in spite of the negative Wassermann reaction and the undoubted arterio-sclerotic changes in the kidneys it seems probable that the changes in the membranes and vessels of the brain were due to syphilis, and that the

haemorrhage was due to the rupture of a small aneurism of syphilitic origin on one of the branches of the circle of Willis

The sudden appearance of pupillary and pyramidal tract signs with each fresh haemorrhage, and their rapid disappearance after the relief of pressure by lumbar puncture, was an interesting feature of the case

I have to thank Dr T L Livingstone and Mr J B Hunter for their permission to record this case

Memoranda

MEDICAL, SURGICAL, OBSTETRICAL

RUPTURED LIVER SUTURE

RUPTURE of the liver does not commonly come to operation, as in the first place it is not very frequently seen, and in the second place when it does occur it is either so severe and complicated by other injuries as to be rapidly fatal, or else it is a small subcapsular tear not requiring operative intervention An interesting point about the case reported below was the interval between the accident and the onset of abdominal pain during which the patient felt comparatively well There was also surprisingly little shock *consequent on such a severe injury*

A builder aged 30 was admitted to hospital on March 9th after a cycling accident in which he had a head-on collision with a car He was struck in the abdomen (he thought by the mudguard of the car) and immediately afterwards got up unaided and felt no pain Ten minutes later however he was seized with severe abdominal pain unaccompanied by faintness nausea or vomiting

On admission the pulse was 64 temperature normal and there were no signs of shock there was some rigidity and tenderness in the right upper quadrant of the abdomen The patient had vomited once since the accident The pulse proceeded to rise slowly but steadily and rupture of the liver was diagnosed When I saw him twenty four hours after the accident the pulse was 100 rigidity and tenderness on the right side were marked there were no signs of free fluid in the abdomen but the patient looked strained and was still complaining of pain

Laparotomy was performed through a right paramedian incision enlarged by transverse division of the right rectus There was a considerable amount of free blood in the peritoneum and a rent was found in the right lobe of the liver extending from the edge for four inches on the upper surface and six inches on the lower steadily oozing blood The tear was very difficult to get at being in the posterior axillary line but six or seven interrupted catgut stitches were inserted bringing the edges into apposition No other visceral injuries were present The wound was closed in the usual manner Nine days later a biliary fistula appeared and persisted for four weeks but ultimately healed and the man was discharged fit

I am indebted to the staff of the Farnham Infirmary for the opportunity to operate on this case

G H STEELE, M S F R C S,
Assistant Surgeon Royal Surrey County Hospital Guildford

A PATHOLOGICAL MONOCYTE

THE leucoblast was described by Pappenheim as being a large cell, with a nucleus resembling that of a myelocyte, the basophil cytoplasm is often rich in azur granules, coarser and darker than any ever seen in the lymphocyte or monocyte Its presence in the blood is always pathological, it is invariably associated with serious disturbance of the marrow, and all the evidence points to its originating in the marrow Since it is numerous only in myelaemia, Pappenheim assumed that it belonged to the neutrophil series In the leucocytosis of pneumonia a few myelocytes *appear and in a severe case even one or two premyelocytes*, but no leucoblast is seen For this and other reasons he regarded the leucoblast as being more immature than the premyelocyte

In pernicious anaemia however leucoblasts may be present when there are few myelocytes in the blood and no premyelocytes Pappenheim supposed therefore that *in certain pathological conditions this very immature cell* was forced into the blood that (to account for the absence of premyelocytes) onward development then ceased and that it retrogressed into a large mononuclear the so-called leucoblastic monocyte Thus he believed that in the marrow his leucoblast preceded the premyelocyte in the direct line of neutrophil descent but that pathologic life altered the blood to become a monocyte

These facts afford ample evidence of bone marrow origin of the leucoblast but not for its neutrophil descent On the contrary, in the glandular fever of children (*British Medical Journal*, 1927 vol i p 1056) it may enter the circulation owing to the specific action of the toxin on the *monocytosis* This fact and the appearance of the cell in the stained film suggest that it is a monocyte Pappenheim admitted that it was often difficult to distinguish the leucoblast from a monocyte, if it is really such a cell it is always pathological, and the simplest explanation is that it is an immature monocyte (premonocyte) derived from a lymphoid marrow cell (myelomonoblast) This would explain its emergence in malignant disease In internal cancer (liver, lung, kidney) there is usually a considerable *leucocytosis of neutrophilic cells with a few myelocytes*, and monocytosis with a few promonocytes Because the usual stains do not show the cell I abandoned them ten years ago in favour of the following procedure, which I consider the simplest cheapest, and best blood staining method for general purposes

Manson's *methyl ene blue contains 2 per cent of thionine* in a 5 per cent solution of borax in distilled water the water should be boiling when the borax is added but have been removed from the flame This stock solution may be made by any druggist and will keep for some years It is rendered polychrome in small quantities as required by boiling about 10 c cm in a clean test tube gently over a small flame for one minute Fresh solution require this boiling to be repeated three times at intervals of a few hours older solutions are already lightly polychrome and one boiling may be sufficient after which the polychrome fluid is stored by itself in a small bottle preferably pipette topped and will keep good for months A similar bottle contains 1 per cent eosin in solution in distilled water

Into one ounce of distilled water I put four drops of the eosin and two drops of the polychrome solution and mix Films are fixed in methyl alcohol or Jenner's stain for three minutes or longer and are then stained for half an hour to two hours washing briefly in distilled water It is convenient to have two small wide-mouthed bottles with glass stoppers One contains about 15 c cm of fixative and slide are dropped in to be fixed by tilting the bottle sideways It may be used for months all there is no waste The other bottle holds the staining fluid and the fixed films are transferred to it with forceps It is not necessary to cleanse the staining bottle every time but only to renew the staining fluid immediately before each examination

Ealing W ROBERT CRAIK M D

IDIOPATHIC HAEMORRHAGE IN THE NEWBORN

THE value of injecting parental blood in cases of melaena neonatorum seems to be insufficiently recognized and the following clinical details of such a case may therefore be *worth publication*

A multipara gave birth to a girl without instrumental intervention the presentation being a vertex L O A After an easy labour lasting only a few hours the baby was born apparently perfectly healthy The baby became restless thirty hours later and was found to have passed a tarry black stool that was about three ounces in bulk and was covered with patches of bright red blood A diagnosis of melaena neonatorum was accordingly made and 5 c cm of fresh blood removed from a vein in the mother's arm were *injected immediately into the* baby's buttock at 8 a m Subsequent haemorrhages occurred at 12.30 p.m and 5.15 p.m on the same day At 7 p.m *another* 5 c cm of the mother's blood was injected *followed by 1 c cm of* colloidal calcium into the thigh muscles the calcium being repeated daily for a week By the end of the first day the baby was plainly anaemic but only one other bleeding occurred on the day following the first injection—and that was only a very small loss Complete recovery [illegible] apparently in excellent health There was no family history of phlebitis or purpura in the family

We are prompted to publish this case because our textbooks gave any help in the matter having failed when we referred to them after having exhausted treatment except Vol. I. Leaf Melaena Our treatment of the present case was based on reports of a case reported in the *Practitioner Medical Journal* (January 12 h 1929 p 60)

J M BOYD B A M B Ch B
J A ELLIOT M B Ch B

Wigan

Reviews.

A SYSTEM OF BACTERIOLOGY

THREE volumes of the nine which will eventually constitute the extensive treatise known as *A System of Bacteriology in Relation to Medicine* have already been reviewed in these columns The fourth to appear, volume v,[1] loses nothing in comparison with its predecessors, and will add very materially to the value of this work, which is filling such a long-felt want

This volume opens with a chapter on glanders by F C Minett The subject is perhaps of no very great interest to medical men because of the rarity of this disease in man, but they will read with interest of the satisfactory measures by which their veterinary colleagues have succeeded in controlling, and in some countries exterminating, the disease Up to 1907 about 1,950 horses on an average were annually affected in this country, since 1926 no cases have been reported Following this is a short but most interesting account of melioidosis by W Fletcher, whose name is intimately associated with our knowledge of this glanders-like disease and its causal organism, *B whitmori* The next chapter, by R T Hewlett deals with the important subject of the diphtheria bacillus and diphtheroid organisms The author freely acknowledges his indebtedness to the Medical Research Council's monograph on this subject published in 1923, which Professor Bulloch rightly refers to as the most complete account extant Naturally the information contained in the monograph has had to be condensed for the purpose of this chapter and brought up to date where necessary, the result is a most useful and readable account of the subject The historical note contains no mention of the work of Ramon, which is perhaps a pity, for in the opinion of many, particularly our French colleagues, this constitutes a landmark in the recent history of diphtheria

Chapter iv, which occupies almost half the volume, is devoted to the question of *Bacillus tuberculosis* The many aspects of such an extensive subject as this could hardly receive adequate treatment from a single author, and as many as nine have contributed to this most excellent and valuable account A S Griffith is one of the chief contributors dealing with the morphology and cultivation of the bacillus, experimental tuberculosis, and the spontaneous disease in man and animals We have here the fruits of years of investigation admirably presented The section on allergy and immunity by W H Tytler is good This is a difficult question to deal with There is a wealth of observed facts—some of which are in conflict—which have had various interpretations put on them Tytler has given us a clear and well-balanced account for which those who are unable to keep abreast of the immense literature which has grown up round this subject will be most grateful This chapter contains, in addition, valuable sections on the laboratory diagnosis of tuberculosis by J McIntosh and L E H Whitby, the therapeutic use of tuberculin by A Fleming, the preparation and standardization of this substance by C C Okell, and terminates with an account of chemotherapy in tuberculosis by S L Cummins

Following this are chapters dealing with the other acid-fast organisms, tuberculosis in cold-blooded animals by A S Griffith, Johne's disease by A W Stableforth, leprosy by E Muir, and the non-pathogenic acid-fast bacteria by R St John Brooks Of these the account of leprosy is perhaps the best, and although the section on cultivation loses some of its value, since it was written prior to the recent and apparently successful work of Shiga, it is still of interest as a sound and critical survey of past efforts in this direction The Brucella group is dealt with by J T Duncan, L E H Whitby, and A D McEwen The evidence for the identity of *B melitensis* and *B abortus* is carefully considered, and the danger of diagnosing *B abortus* infection in man by simple agglutination tests is duly stressed Much work remains to be done in this group, and the lines along which investigation is required are pointed out The volume terminates with chapters on *B anthracis* by F W Eurich and R T Hewlett, the non-pathogenic spore-bearing aerobes by R St John Brooks, and two most interesting but short accounts of tularæmia and the bartonellæ by J C C Ledingham and J A W McCluskie respectively

[1] *System of Bacteriology in Relation to Medicine* Medical Research Council Vol v London H M Stationery Office 1930 (9½ × 6, pp 503 Single volumes £1 1s net set of nine volumes £8 8s net)

RHEUMATISM

THE treatise by Professor JULIUS BAUER of Vienna on "So-called Rheumatism"[2] cannot fail to be of interest to those who are concerned in the "campaign against rheumatism" in all countries It should be of assistance to the insurance practitioner, and above all to those who are in charge of centres for the investigation and treatment of rheumatic diseases Professor Bauer is himself the principal medical officer of a large sickness insurance fund He realizes the great difficulty of choosing cases for special treatment which follows from the universal want of precise differential diagnosis Modern medicine has done little to remedy the "confusion of tongues," and it will be says, be necessary to "scour out the collecting basin" into which the whole mass is at present poured His own experience in following up large numbers of cases after various forms of treatment has, in the meantime, led him to certain conclusions

What are the true stigmata of rheumatism? Historical descriptive words should not be altogether distrusted The catarrhus articularis of the seventeenth century, and the much earlier conception which regarded rheumatism, like all chills and colds as "simply a flux," have their element of truth, with infection, metabolic disturbance, and over-fatigue as sometimes dominant influences But it is difficult to find, as yet, a common denominator Atmospheric cold and damp, affecting not only the skin and surface layers but the joints, is a ruling etiological factor In sensitive persons it produces various immediate effects, as in neuralgias and myalgias, torticollis, and Bell's paralysis and paroxysmal hæmoglobinuria The secondary reflex and humoral effects of cold are not less remarkable, such as diminution of opsonins, phagocytosis and bacteriolysis, diuresis, albuminuria, œdema urticaria, cardiovascular spasm Strauss has shown that exposure to cold causes an alteration in the skin tissues, with absorption of substances which disturb colloidal equilibrium, and that sensitization so produced may be connected with morbid sensitiveness to cold Of exogenous factors, infection, however, plays the greatest part in causation Infection must be assumed in inflammatory conditions of the synovia, which characterize the most serious forms of rheumatic disease, like rheumatic fever, as well as in primary chronic polyarthritis, although a constitutional and possibly allergic factor may be present in these diseases On the other hand, the very common degenerative conditions are not infective, although often followed by secondary reactive inflammations There is no proof that endogenous—for example, metabolic—errors can of themselves cause an inflammatory arthritis, although the author admits that "an endogenous factor proper to the organism seems to be a necessary factor in the disease" Anomalies of metabolism may be either conditional and paratypic, or present *ab ovo* and genotypic It is clear that in the causation of the rheumatic diseases they operate in connexion with exogenous factors He considers that the endocrine factor is much overrated, although answerable for many of the polyalgias as in mechanical irritation of the peripheral nerve-endings in obesity

With regard to treatment the discriminating use of protein therapy is commended Baths appear to act as counter-irritants, affording in effect another form of reiztherapie, but their action has never been fully explained—thermal, mechanical, on the skin and nervous tissues, by absorption, and psychic It is worthy of remark that at the present time the oldest of remedies,

[2] *Der sogenannte Rheumatismus* Von Dr Julius Bauer *Medizinische Praxis* Band vii Dresden und Leipzig T Steinkopff 1929 (6 × 8½, pp vi + 142 16 figures, 6 plates RM 9)

which are physical and also the commonest of diseases, the rheumatic are both urgently in need of investigation not so much by laboratory experiment—which is indeed difficult or impossible—as by accurate observation of individuals undergoing treatment. Not a few students of the rheumatisms prevalent in northern countries have that double objective in view. To attain success specialists in all forms of treatment are needed. Freund's opinion is quoted, that many cases of primary chronic polyarthritis are intolerant of heat, and examples are given showing the difficulty of advising patients in the use of baths, and of "sheltering them from bad effects." A practical rule of no little importance is noted: that the functional possibilities of joints must be carefully conserved, by movement given at times of freedom from pain. For this purpose baths and local applications of heat, by hot air or mud or diathermy, may be of much assistance.

THE IMPORTANCE OF A BIOLOGICAL SOCIOLOGY

IT is not hard to identify "A SURGEON" who reveals his initials as C. J. B., writes from Leicester and gives the titles and occasions of his thirteen *Essays and Addresses*[1] written between 1911 and 1929. Throughout them runs the *motif* of an earnest desire to improve the moral, social, and physical state of the race. The method of presentation is thoughtful, free from emotional appeal and based on the application of biological principles. As shown in his Francis Galton Memorial Lecture given in 1928 before the Eugenics Society on "Some causes of racial decay," it is important to bring home to the minds of statesmen and indeed of everyone, the realization that present sociological methods are not yet based on sound biological foundations. Another urgent need is for a national census of quality as well as of quantity, so as to render possible reliable comparisons of physical and mental qualities now and at some future date. The proper attitude of the State and of society in general to diseases and disabilities which are due to unphysiological living and anti-social conduct, such as alcoholism and venereal disease is discussed, and the author insists on the need for educating the public so as to create a "national health conscience" which recognizes that it is wrong to be ill if disease is avoidable. The latest of the addresses in this volume, where every article is interesting, is that on the prevention of mental deficiency given last November and here again education of the public is clearly desirable to obtain united and widespread efforts for improvement.

GRAY'S "ANATOMY"

THE twenty-fourth edition of Gray's *Anatomy*[2] would be noteworthy if for no other reason than that it has appeared under a new editor. Professor T. B. JOHNSTON, in succession to Professor R. Howden, who has been responsible partly or entirely, for no fewer than nine editions issued during the last twenty-five years. Although a textbook of such maturity and popularity tends naturally to become stereotyped, the progress of the subject cannot fail to offer opportunities for effecting improvements either by adding to or amending the work, and such opportunities the new editor has seized nowhere better than in the section on embryology. This section he has thoroughly revised in the light of recent research, having amplified it by twenty-nine pages of text, added thirteen new figures and so modified several figures that have been retained as to make them less diagrammatic and more realistic. In other sections we are glad to note that he has made no attempt to sacrifice unduly the semi-diagrammatic and topographical figures the presence of which has always been one of the most helpful features of the work. Professor Johnston's chief and most successful contribution seems to us to be in the effort he has made to elucidate the structure of those regions of the body which present special difficulty to the student. We would cite as examples such figures as those showing the structure of the wall of the buccopharynx as seen from within, the relations of the posterior belly of the digastric muscle, and the interior of the left side of the peritoneum. Less successful is Figure 695 illustrating the relations of the subclavian artery at the root of the neck, though the failure is due in some measure to the inverted position the figure occupies on the page.

Despite its many excellencies the work is not entirely above criticism. We suggest, for example, that the description of the fibular attachment of the calcaneo-fibular ligament should be made to conform with the very accurate representation in Figures 539 and 543, that the tendon of the extensor carpi radialis brevis should be credited with an attachment to the base of both the second and third metacarpal bones, and that attention might be drawn to the groove—only a little if at all less distinct than that produced by the tendon of the peroneus longus on the under-surface of the cuboid—which the tendon of the tibialis posticus makes on the under-surface of the scaphoid. We feel no little reluctance in drawing attention to what are after all small matters, nor should we have done so but for the fact that Gray's *Anatomy* is by way of being a national institution. It is a great pleasure to feel that in the hands of Professor Johnston the work will continue to keep the proud position it has held for the better part of a century—the most popular textbook on anatomy in the language.

CONGENITAL TALIPES

CONGENITAL club-foot has had many essays and books devoted to its elucidation in the past hundred years, but the last word has yet to be said. The work of Mr. E. P. BROCKMAN[3] which earned the Robert Jones gold medal of the British Orthopaedic Association for 1928 should go far to settle some moot questions. Mr. Brockman in 110 pages, sums up adequately the history of the subject, describes and discusses the normal anatomy of the leg and foot and the pathological anatomy of club-foot. As to the vexed question of the etiology of ordinary congenital club-foot he summarizes his remarks thus:

> Congenital club-foot is caused by a primary failure in development to their full state of all the tissues of the foot. This involves the bones, the ligaments and the muscles. We know nothing of the influence that controls the development of the fertilized ovum nor do we know why it should sometimes fail either partially or completely."

To this we would add that all those who have had much experience of the treatment of congenital talipes equino-varus must agree that this developmental defect comes out clearly in the tendency of an apparently cured club-foot to relapse as growth goes on, a tendency which seems to be caused by an inherent vice of development which is continually reasserting the deformed type. The explanation of this "relapse" offered by Mr. Brockman and others—namely that it is really due to a primary failure to alter the positions of the bones of the hind foot—seems to us rather to beg the question by its assumption that such failure has escaped the notice of surgeons thoroughly familiar with deformity and normality. With this and some minor exceptions we agree with Mr. Brockman's conclusions.

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[1] *Essays and Addresses Sociological Physiological and Practical*. By A Surgeon. London: H. K. Lewis and Co. Ltd. 1930. (Demy 8vo, pp. xiii + 277. 10s. 6d. net.)

[2] *Anatomy Descriptive and Applied*. By Henry Gray, F.R.S. Twenty-fourth edition. Edited by T. B. Johnston, M.B., F.R.C.S. London and New York: Longman, Green and Co. 1930. (Roy. 8vo, pp. xvi + 1466; 1391 figures. 42s. net.)

medical man a new relation to the social order In a graphic passage, Dr Fishbein notes the change that is coming over mankind "the big boned, muscular, prognathic, hairy, stupid ape man has given way to the smooth skinned, bald, slightly corpulent, spindle legged, and thin armed mental dynamo For the sharp nosed, keen eared savage with quick vision, sensitive touch, and rapid response substitute the alert brained, heavily be spectacled, false toothed director behind a desk" Perhaps the position of modern preventive medicine cannot be expressed better than by the admirable dictum that "our hygiene is changing from a moral to a scientific hygiene" Throughout the volume runs the strong current of common sense that should counteract the fads, fancies and quackery which mankind delights in and against which Dr Fishbein has elsewhere waged a vigorous war

We have now received the fourth volume of a series of publications on medical radiology,[7] compiled by various German writers, notices of the three previous ones appeared on December 25th, 1926 (p 1231), and August 25th, 1928 (p 345) The present volume deals particularly with the application of radiology to internal diseases, and the subjects considered include its employment in detecting variations in the position and form of the stomach, examination of the upper urinary passages as a means of diagnosing abdominal tumours, the relation of ultra-violet light and vitamin D to rickets, the causation of pigmentation and the part it plays in protecting the body against the evil effects of certain irritating rays, light erythema, the histology of uterine carcinoma in its relation to radiotherapy, the biological principles concerned in the treatment of cancer, radiology in connexion with operations on the stomach, and diathermy in the treatment of disorders of the throat, nose, and ear This volume, like its predecessors, is freely illustrated, the indexes are good, and the bibliography is extensive

Miss GULLAN'S well known *Theory and Practice of Nursing*[8] has reached its third edition, and has been brought up to date It is a pity that the new preface should contain two misprints, one in particular referring to the appendixes being most unfortunate The appendix in question (No 3, and not No 4) deals with "Food tests and digests," whatever that may mean and should either be omitted altogether or included as an integral part of the chapter on digestion Apart from this comparatively small point the book can be warmly commended to all nurses for its sound teaching, and the chapter on private nursing should be thoroughly mastered

Presumably there is a lay public which likes its flesh made to creep, and for that public Dr NICHOLAS KOPELOFF, research associate in bacteriology in New York, has produced an imposing volume, *Man vs Microbes*[9] He describes it as a "comprehensive volume on microbes for the intelligent layman, an aspect of the human adventure too long neglected" He does not neglect to describe the beneficent germs which have been harnessed by man to agriculture and industry The book is written in a lively manner, and includes accounts of all the more important micro-organisms and of the diseases they produce But it is perhaps doubtful whether it is necessary to quote Chapin's diatribe *against saliva in connexion with the* disease diphtheria. What is the poor layman to do when he learns that 'the cook spreads his saliva on the muffins and rolls, the waitress infects the glasses and spoons, the reader moistens the pages of his book, everyone is busily engaged in the distribution of saliva"? Dr Kopeloff does not emphasize sufficiently the curious fact that we do not all contract diphtheria

Medical men have long desired more authoritative information on the frankly cosmetic side of dermatology, and they owe a debt of gratitude to Messrs REDGROVE and FOAN, who, having previously dealt with hair dyes and perfumes, now give us a volume revealing the secrets of *Paint, Powder, and Patches*[10] There is not quite so much information of medical interest in this as in their former book entitled *Blonde or Brunette?*, as they have approached the subject more from the theatrical and cinema side, but there is much that will be useful for dermatologists to know about face powders, creams, and lipsticks, and the wonderful transformations possible by means of effective "make up" have a fascination for many besides professional mimes

[7] *Ergebnisse der medizinischen Strahlenforschung* Herausgegeben von H Holfelder, H Holthusen, O Jüngling, H Martius, H R Schinz Band iv Leipzig G Thieme 1930 (Sup roy 8vo, pp 694 395 figures M 71)

[8] *Theory and Practice of Nursing* By M A Gullan S R N Third edition London H K Lewis and Co, Ltd 1930 (Demy 8vo, pp xvi + 238 3 figures 9s net)

[9] *Man vs Microbes* By Nicholas Kopeloff New York and London A A Knopf 1930 (6 × 9¼ pp xxiii + 311 + viii, 130 figures 21s)

[10] *Paint Powder and Patches* By H Stanley Redgrove, B Sc, A I C, and Gilbert A Foan London William Heinemann (Medical Books) Ltd. 1930 (Demy 8vo, pp xi + 170 16 plates. 7s 6d. net.)

ST DUNSTAN'S MASSEURS

ADDRESS BY SIR THOMAS HORDER ON PHYSIOTHERAPY

The blinded soldier-masseurs of St Dunstan's held their annual luncheon and reunion at the Langham Hotel on July 25th, when they were addressed by Sir THOMAS HORDER, Bt The Prince of Wales sent a message saying that he was very pleased to hear of the great success which had been attained by more than one hundred blinded soldiers who had been trained in the practice of massage and electrotherapy

Captain IAN FRASER, chairman of the executive council of St Dunstan's, who presided, said how much St Dunstan's and the blinded soldiers under its care were indebted to the medical profession as a whole Whenever and wherever St Dunstan's had called upon consultants, specialists, or general practitioners, these had given their assistance, either voluntarily or at very much reduced fees, and this represented a really generous contribution towards St Dunstan's work Special kindness and consideration had been shown also by hospitals, particularly their out patient departments Although there was actuarial assurance that the lives of blinded soldiers as a whole were likely to be of normal duration, it was nevertheless a fact that a considerable proportion of them suffered a good deal from the direct and indirect effects of their wounds He mentioned that figures prepared by Sir Arnold Lawson and Mr A W Ormond who between them had seen over 1,800 St Dunstan's cases showed that in 41 per cent the blindness was due to wounds caused by high explosives, in 29 per cent to bullet wounds, and in 3 per cent to other traumatic causes, while in the remaining 27 per cent it was due to non traumatic causes such as detachment of the retina, cataract, optic atrophy, and aggravation of latent conditions as a result of hardship Not more than one or two men, to his knowledge, had their sight materially affected by gas

Sir THOMAS HORDER said that he spoke as one who was peculiarly interested in physiotherapy, meaning by that term the various methods of treating patients which began by means of the human hand The men to whom he was speaking had a special adaptability for this method of treatment The deprivation of one faculty made the others more acute, while those who had as it was termed, "all their faculties" tended to drift into using them inefficiently The blind were obviously auditives, but those he was addressing were making themselves into very skilled tactualists One thing which he urged them to do was to state quite clearly, and in every legitimate way, that they were certified The public should know that they had a definite and recognized foundation for what they professed

Although physiotherapy was a very progressive form of therapeutics, Sir Thomas Horder said, he himself was rather conservative in his choice of methods He preferred methods well tried and understood to those new ones which made an appeal to the mysterious in the mind of the patient He also preferred simple methods to complex, he had a great faith in the possibilities of the human hand, and distrusted machinery Some patients had a pathetic belief that a machine could not lie, they wanted, for example, not the physician's assessment of their degree of cardiac insufficiency, but an electrocardiogram, forgetting, of course, that whatever was ascertained, whether by the machine or by the senses, had to be interpreted by the experienced judgement He believed that an immense opportunity for advance in physiotherapy lay in the direction of massage and manipulation Masseurs were tempted sometimes to substitute for physiological and voluntary movements and functions "passive movements," as they were termed They attempted to do for the patient's locomotor apparatus what sometimes members of the medical profession attempted to do for the patient in general—namely, to lead his life for him It was imperative in trying to restore the functions which were in abeyance not to introduce substitutes for what the patient should do for himself There were cases in which the whole movement must be entirely passive to begin with—in certain affections of the heart, for example—but it was most important to recognize the stage when the patient might begin to participate voluntarily in the movement himself No amount of massage or electrical stimulation had the same physiological value as the natural movements carried out by the patient under guidance and supervision

Sir Thomas Horder also reminded his audience that their work, like that of the medical practitioner was based on science The temptation to humbug a patient—and there were patients who liked to be humbugged —must be resisted Massage was *too valuable too integral a part of physiotherapy* to be placed in the background while one talked to the patient of bones out of place of which there was no evidence and so forth Many of them could double their income if they were prepared to substitute for good honest scientific work a certain amount of humbug Finally he spoke of the moral effect of the masseur's work The encouraging manner of the masseur was of value quite apart from what he did with his hands Not seldom the masseur knew more about the patient than the doctor did, but he should not neglect the doctor's point of view Lack of co-operation with his medical supervisor meant failure If the masseur discovered anything which the doctor had not appreciated he should not tell the patient, but should tell the doctor, who would value any information given in the right spirit Many masseurs aimed at too rapid results They forgot that all physical methods were educational in nature. Just as a kind of mental dyspepsia could be produced by forcing the mind too quickly, so irritation and fatigue resulted from an over keen physiotherapy He himself was often content to find at the end of a week a result which *the masseur had been disappointed not to have got within* twenty four hours Often a masseur's work might be spoilt by disregard of the patient's psychology One of the most frequent complaints was the perpetual talk in which many masseurs indulged while giving the treatment He himself often employed blind masseurs, but if he had a chance of employing dumb ones he would be tempted to give all his work to them

CORRELATION BETWEEN INTELLIGENCE TESTS AND WRITTEN AND PRACTICAL EXAMINATIONS

BY

R C GARRY, M B

(From the Institute of Physiology The University Glasgow)

Access to marks gained by second-year medical students, both in academic examinations during the ordinary course of their work in physiology and in a series of intelligence tests, gave an opportunity of finding out how far skill in the one was correlated with skill in the other

The usual examination paper in physiology calls for simple reproduction of facts which have been presented to the candidates at some previous date To gain a good mark in such an examination *it is only necessary to possess a retentive memory* and a fair degree of steady application to the assimilation of facts Intelligence tests are more or less empirical productions, yet they usually differ from the common form of examination in demanding something more than reproduction of acquired information It is common knowledge that the type of student who excels in written examinations may fail lamentably when confronted with practical work, and that the results of intelligence tests are often at variance with the results gained by the *usual methods of examination* Practical work, though of necessity greatly influenced by what is taught, makes a definite demand on qualities which can be acquired neither from books nor from teaching nor even from actual practice, and these qualities may approximate to those tested in the course of an intelligence examination

The ordinary course in physiology in Glasgow demands both attendance at lectures and the performance of practical work For convenience the academic year is divided into three terms, each of ten weeks' duration, and at the end of each term there are two class examinations —one by a written paper, the other by a practical test The sequence of lectures is uninfluenced by the terms and the three written examinations are of exactly the same type Each consists of a paper with three questions to be answered within one hour, and asking for a simple restatement of current physiological teaching The practical work, however, deals with three separate aspects of physiology, the first ten weeks being devoted to experimental physiology, the second to chemical physiology the last to histological physiology The three practical tests, therefore are alike in demanding something in addition to the power of reproducing acquired information

The marks used in the present investigation were all obtained from the same students sitting the same examinations The intelligence test—"Group Tests Series 33" of the National Institute of Industrial Psychology—was given at the outset of the year's work Attendance was compulsory, no warning was given, and over 140 students sat the paper The 140 papers were ultimately whittled down to 103, a certain number of the students had sat the same intelligence paper in the previous year a few several years before, and their papers were ignored The papers of students whose native language was not English and those from students older than the average student were also omitted The previous academic instruction of the students was the same in every case, and the ages varied from 18 to 20 years The intelligence tests were left uncorrected until the students concerned had passed through the entire year's course in physiology Thus those who corrected the class work had no idea of the intelligence test mark gained by individual students

Correspondence between any two series of marks was estimated by finding the coefficient of correlation The results are given in the accompanying table

Intelligence Test Series with	Written Paper		Practical Test	
	Correlation Coefficient.	Probable Error	Correlation Coefficient	Probable Error
Average of all the marks ...	+ 0.19	0 063	− 0 36	0 057
Marks in experimental term	+ 0.23	0 060	+ 0.23	0 060
Marks in chemical term ...	+ 0.003	0 065	+ 0.47	0.050
Marks in histological term ...	+ 0 17	0 063	+ 0.24	0.062

Correlation between intelligence test results and the results of practical work is low, but in every case *significant This cannot be said of the correlation between* this intelligence test and the written papers The correlation coefficient between the average mark gained in the three written papers and the average mark gained in the three practical tests is −0 44, with a probable error of 0 053

Owing to the distractions of student life, it is possible that the results of written papers may not represent the true ability of a large number of undergraduates An intelligence test for which no preparation is required presumably indicates the total ability of each candidate In the degree examination, however, it should be otherwise, because the great majority of those who present themselves have worked reasonably well and feel fairly confident

The correlation coefficient between the results of the same intelligence test and the marks gained by the same group of students in the degree examination at the close of the year's work was only + 0 13, with a probable error of 0 057 Thus it seems that the striking want of correspondence between intelligence test results and the results of written class examinations cannot be attributed wholly to outside distractions operating inimically on the class work with a special bias against the written papers Incidentally, those students who had sat the same intelligence test the previous year showed *without exception* a definite increase in marks *in comparison* with their previous attempt

Summary

The results of written examinations of practical examinations and of an intelligence test obtained from a uniform group of medical students showed that the results of the intelligence test gave consistently a significant though low correlation with the result of the practical work, but with the results of the written papers the correlation was lower and not consistent

It is suggested that the qualities of value in dealing with an intelligence test approximate more closely to those which are useful for dealing with a practical examination than to those which are useful in answering a written paper

I am deeply indebted to Professor Cathcart for advice and for assistance.

British Medical Journal.

SATURDAY, AUGUST 9TH, 1930

A NATIONAL MATERNITY SERVICE

The publication this week of the interim report of the Departmental Committee on Maternal Mortality and Morbidity (of which a summary, with some comment, will be found on page 223) should mark a further stage of progress towards the establishment of a national maternity service. The first detailed proposals in this direction were those of the British Medical Association approved by the Representative Body at Manchester in July last year. They were shortly followed by similar proposals made by the Departmental Committee on the Training and Employment of Midwives, and by other bodies or associations. There was an influential demand, and in some quarters an expectation, that the new Government should introduce legislation to the end indicated, even in its first Parliamentary session. This demand, or expectation, has not been fulfilled. There were no doubt several reasons for postponement, but one of those officially given was the desirability of waiting for the report of the Departmental Committee on Maternal Mortality and Morbidity. A more insistent desire will now be felt for Government action at an early date on one of the most urgent problems of the time, it is to be hoped that the fact that the report of that committee is interim and not final will not be made a renewed excuse for delay. On the particular issues relative to the suggested legislation there is now full information available, though there is need for further consultations with regard to some practical medical and administrative problems, and important financial considerations have to be taken into account. So far as the British Medical Association, representing the organized profession, is concerned with these, action need not be unduly delayed.

The proposals of the Association towards the establishment of a national maternity service have, during the past year, had a wide publicity and received a large measure of approval. They are published as a separate document, slightly amended from the form in which they were printed in the Annual Report of Council in 1929 (*Supplement*, June 29th, 1929, p. 258). An explanation of two points on which there had been some misunderstanding will be found in the Annual Report of Council this year (*Supplement*, April 19th, 1930, p. 134, para. 90), and this should be noted. The report of the Departmental Committee on Maternal Mortality is a valuable reinforcement of the Association's scheme in four respects. Emphasis is laid by the committee on the urgent need for such a scheme. "They wish to state explicitly their view that at present the maternity services are not yielding their potential value, and are not proving a solution of the problem of maternal mortality because of the lack of co-ordinated effort." The report lays down exactly those essential conditions and indicates exactly those essential services which the Association's scheme is devised to provide. In regard to the main differences between the proposals of the Association and the suggestions of the Departmental Committee on Midwives which reported last year, the present committee's report inclines decidedly to the former. These differences are noted in this year's Annual Report of Council (*Supplement*, April 19th, 1930, p. 133, para. 86): they relate to the provision of a doctor's services in a normal case, to the admission to an institution at the patient's option, and to the inclusion in an insurance scheme of the pauper class. Again, the Association's proposal that in certain circumstances a portion of the cash maternity benefit should be payable in advance (which was not noticed by the earlier departmental committee) is supported in the present report. Further, it is gratifying that support is given by the committee to an additional point in the Association's policy in a statement worded as follows: "It is essential that there should be cordial co-operation on the part of the medical profession and of practising midwives, and that for this purpose some kind of co-opted representation of practitioners and of midwives on the committees or sub-committees concerned should be provided for."

Two other matters definitely relevant to a national maternity service are dealt with or referred to in other sections of the departmental committee's interim report. The more important of these relates to the use of anaesthetics and analgesics in obstetric practice. It may be remembered that the Departmental Committee on Midwives said that "it would be to the public interest if some professional body would issue at an early date some pronouncement as to the advisability and place in labour of anaesthetics and sedative drugs generally." In response to this the Council of the Association set up a special committee to report on this matter, and this report was submitted to the departmental committee. There were similar reports from the Royal College of Physicians and from the British College of Obstetricians and Gynaecologists. Meanwhile a well-intentioned but misguided effort had been publicly made to provide anaesthesia for every maternity case. All the reports referred to point out the undesirability of these drugs in certain classes of cases and the danger, either to mother or to child, of their use by persons other than properly qualified medical practitioners. The committee's report fully endorses the position held for so long by the British Medical Association, nevertheless, the provision for anaesthesia is an essential part of any national maternity service.

The other subject referred to is the scale of fees to be paid to practitioners called to a case by midwives. This is important not merely as part of, but prior to, a national maternity service. The earlier departmental committee came to the conclusion that the present scale should be reconsidered by the Minister of Health in consultation with the British Medical Association, and the present committee's report states that it does "not feel that the present scale of fees paid by local authorities under the Midwives Act could be adopted without revision." These expressions of opinion amply justify some such revision as is now asked for by the Association, after careful consideration by the Council and full debate at the recent meeting of the Representative Body.

THE ORIGIN OF CUSTOMS AND BELIEFS

An experienced medical practitioner who had watched the fate of most of the leading men of a great industrial centre for more than a generation once said that a man who had lived a strenuous life in business commonly died within a couple of years after retiring if he had failed to provide himself with a hobby. Men of active mind who have reached a vigorous old age have almost invariably had some second subject to which they could turn, for such men the best relief is to change the current of thought. Granted the wisdom of having some subject of interest outside the

daily round it may be wise to choose one in which it is fairly easy to attain moderate excellence as an amateur No one is better placed to find a congenial indoor hobby than a medical man, for his early training gives him the elements of such sciences as botany and physics and chemistry, while the history of medicine opens innumerable by-paths along which he may wander If it be generally true of all men that the proper study of mankind is man it is in a very particular sense true of the members of our profession Every day in the ordinary practice of medicine are encountered customs habits prejudices, even superstitions, rooted in the dim barbarous past, but influencing the actions of civilized men and women to-day—*the survivals of pre Christian religions and of prehistoric folk medicine* Therefore of all hobbies perhaps the most appropriate for us is to browse in the literature of the beginnings of man and whenever opportunity serves to correct our impressions by seeing and handling his handiwork

It may savour of flippancy to suggest as a suitable subject for a hobby any department of a science calling for so much industry, erudition and critical acumen as is required from one who would make serious contributions to anthropology or ethnology The impression produced by a first attempt to gain some acquaintance with the literature of that part of anthropology concerned with the history of the beliefs, customs and practices of mankind is one of bewilderment Its mass is already enormous, its contents confused and contradictory, and the interpretations conflicting Before going very far, however a remarkable similarity is perceived in these respects between races widely separated in time and space Upon this all authorities are agreed, but when an explanation is sought great divergence of opinion is disclosed The problem as stated some ten years ago by Sir James Frazer is How are we to explain the numerous and striking similarities which obtain between the beliefs and customs of races inhabiting distant parts of the world? Are such resemblances due to the transmission of *the customs and beliefs from one race to* another, either by immediate contact or through the medium of intervening peoples? Or have they arisen independently in many different races through the similar working of the human mind under similar circumstances? *There are difficulties in the way* of either explanation and to Sir James Frazer they appeared so strong that he held both causes to have operated, believing that many of the resemblances are to be explained by simple transmission with more or less of modification, *from people to people*, and many are to be explained as having originated independently through the similar action of the human mind in response to similar environment That there has been local modification and transmission of the belief or custom so modified nobody doubts, and Frazer's compromise does not seem to help very much It is, in fact, less a compromise than a restatement with very slight modification of the original hypothesis of diversity of origin

On the other hand, Professor G Elliot Smith, one of the most vigorous and best equipped of the most modern school, after remarking that the clear light recent research has shed upon the earliest literature in the world has done much to destroy the foundations upon which the theories propounded by scholars have been built up, has asserted that the prevailing doctrine of the independent development of human beliefs and practices ' is not a safe basis for the construction of theories . At best it is an unproven and reckless speculation I am convinced it is utterly false Without presuming to take sides, the amateur *ethnologist will* pay due heed to this very definite opinion on a matter of perennial interest to students of mankind

THE PARLIAMENTARY SESSION

In the parliamentary session which began on June 25th *1929, and ended on August 1st 1929*, the legislative output has not been commensurate with the time expended some important measures promised in the King's Speech have been dropped after introduction, or not introduced at all The promised bill to codify and modernize the Factory Acts is in the latter class But apart from that measure bills of direct medical interest had the good fortune which of late years the Ministry of Health seems to command for most of its proposals Measures which are now on the Statute Book include the Mental Treatment Act, the Highlands and Islands (Medical Service) Additional Grant Act the Workmen's Compensation (Silicosis and Asbestosis) Act, the Housing Act, and the Housing (Scotland) Act The Education (Scotland) Act, which was introduced by Dr Elliot, will facilitate the provision of milk to Scottish school children The Road Traffic Act as passed includes a section providing that voluntary hospitals if they treat those injured in road accidents shall receive a share of the sums paid on third party insurances This provision was inserted by unofficial members in the House of Lords, and supported by others in the House of Commons so firmly that the Government though doubting its practicability could not insist on its deletion *Bills of medical interest* which failed to pass had all been introduced by private members Among them were the Poor Law Officers' Superannuation Bill (Dr Vernon Davies), the Midwifery and Maternity Bill (Mr Alpass) the Protection of Animals Bill and the Protection of Dogs Bill For once the debate on the Ministry of Health Estimates was dominated by a health subject—the report of the Government actuary on the increase in sickness benefit under the National Health Insurance Act Mr Greenwood announced that this matter *would be further investigated* He also made the first *public announcement of the Government's contribution* toward the establishment of a centre in London for postgraduate medical work, to be available for panel practitioners as well as for medical men from the Empire overseas *Maternal mortality was chosen as the subject for* another full day's debate in the House of Commons, and on this the discussion was keen Interpellations or briefer debates have been concerned with the shortage of medical officers in the Navy and Army, the retired pay of P.A.M.C officers, *colonial medical services, the recognition of Indian* medical degrees, tuberculosis in cattle, diet and the teeth and psittacosis, a subject in which the House took still more interest Bills promoted by local authorities included one from Cardiff which proposed special arrangements for the early notification of cancer, *and another which proposed* that Hull should acquire and control a special stock of radium for the use of *local medical men* The latter provision was modified during the passage of the *bill* During the long debates on the Mental Treatment Bill some Labour M.P.s exhibited a prejudice against the Board of Control and a desire to keep the early treatment of mental cases away from recognized mental hospitals and out of the control of the Board Apart from this and from an echo of the *dictum* of Mr Morrison Minister of Transport against the voluntary hospital system no suspicion of antimedical prejudice has marred the session The Parliamentary Medical Committee stronger in numbers than ever before has worked well together Its last business during the session was to ask the Minister of Health to consider the

establishment of a central advisory council to correlate the work of rheumatism clinics A Public Health Advisory Committee of the Labour Party has also emerged as a separate entity Meetings were held at the House of Commons during the session by M P 's and others who desired to bring about the establishment of a national medical service, but their campaign was suspended until its leaders had considered the new scheme propounded by the British Medical Association Mr Greenwood, as Minister of Health, has been fully aware of the importance of the health side of his department Among medical M P 's Dr Vernon Davies, Dr Fremantle, and Dr Morris-Jones have contributed most to debates Dr Salter and Mr Somerville Hastings have organized the work of the Parliamentary Medical Committee, and the former was active on the Road Traffic Bill Little was heard during the session from the anti-vaccinationists, and the anti-vivisectionists chiefly confined themselves to questions about the Porton experimental station for investigating poison gas A petition in favour of the recognition of osteopaths was presented in the closing days of the session

PURULENT TUBERCULOUS PLEURISY

According to the classical teaching surgical intervention is undesirable in the treatment of purulent tuberculous pleurisy, *the treatment of election being by medical means*, with the addition of careful needling As chest surgery advances this view is changing, and it is important that the precise indications for operative measures should be properly understood In a recent monograph[1] Drs F Dumarest, P Rougy, and M Guillemmet discuss very clearly how team work can be applied to the treatment of this complication of phthisis Dr Dumarest and his collaborators hold that much of the confusion that exists in this subject is due to the fact that all varieties of purulent tuberculous pleurisy are improperly lumped together They accordingly classify cases in definite groups, and for the clinical types in each group they lay down principles of treatment The first condition they consider is "cold abscess of the pleura" with or without a coexisting pneumothorax Here the general condition of the patient is remarkably good, and the complication may be discovered almost accidentally, complete reabsorption of the pus is possible, and, provided no distress is being produced by the effusion, *strictly medical and hygienic measures should be employed* Needling of the chest may be necessary when severe dyspnœa is present, but there is always the risk of producing a permanent fistula In cases of pneumothorax complicated by a cold abscess which does not absorb and which recurs after tapping, the authors recommend the production of oleothorax Another type of purulent tuberculous pleurisy is that in which a simple pleural effusion appears to have become infected Although in a patient with such a pleurisy the clinical condition is much worse than in the cold abscess type, and is marked by fever and signs of systemic disease, direct evidence of secondary infection is not obtained easily Such cases in their early stages may be difficult to diagnose from simple pleurisy with effusion, and at the beginning of treatment removal of fluid with gas replacement is advised As soon, however, as the general condition of the patient makes it certain that the effusion has become infected, *lavage of the pleura should* be undertaken by means of certain antiseptics, notably weak iodine solution, introduced through a special three-way cannula If this treatment fails to ameliorate the patient's condition then the question of incision of the pleura and drainage has to be considered, but this operation should be performed only as a last resource In the third group of cases the pleural effusion is frankly septic with bacteriological evidence of a mixed infection Here the exact state of the pyothorax must be carefully considered, whether it communicates with a bronchus or not, and whether the visceral layer of the pleura is intact or destroyed over a wide area of lung In closed pyothorax cases, tapping of the effusion with pleural lavage may be tried first, but opening of the pleura and drainage is usually necessary The aim of treatment is to secure adhesions between both layers of the pleura and obliteration of the affected area This is a rare occurrence after simple drainage, and some form of thoracoplasty, with or without phrenic nerve section, is frequently necessary In cases where there is a fistula between lung parenchyma or bronchus and the infected pleural space, the treatment is different because constant reinfection of the pleura is bound to occur If there is *a small infected cavity* in the pleura, with a sound lung on the opposite side, thoracoplasty should be considered as an immediate proceeding, but if the whole of one side of the chest is filled with pus and *the pyothorax is "open" then every effort must be made* to reduce the amount of fluid by tapping, pleurotomy, and phrenicotomy so that thoracoplasty can be performed later While Dr Dumarest and his colleagues are fully agreed that a tuberculous effusion is best left alone as long as possible, they have set out very clearly in the monograph here summarized the exact indications for further treatment when active measures become necessary

THE SCIENTIFIC BASIS OF MASSAGE

UNDER one name or another massage has been used for ages, and in many countries as a means of treatment of many morbid conditions, and for more than a generation surgeons have taken its claims seriously and have prescribed its application, but without much exact scientific knowledge *of its modo of action* Attempts have been made to fill the gap in our knowledge, of which a serious one is represented by an inquiry made by Drs Pemberton, Coulter, and Mock, the report of which has been approved by the Council on Physical Therapy of the American Medical Association, and its first part published in the journal of the association[1] From the evidence brought forward, and from former essays on the subject, it seems safe to conclude that massage increases local metabolism and the excretion of waste products, stimulates the circulation, and also reacts on the nervous system as manifested by the reflexes Unlike volitional muscular contraction, it does not increase the formation and excretion of lactic acid In persons who are unable to take active exercise it may compensate for the want of the effect of muscular contractions on the return of venous blood to the heart The authors of this paper describe the three varieties of manipulations with their subdivisions, dear to the physiotherapeutist, but not held to have so great an importance by many surgeons The Council on Physical Therapy of the American Medical Association condemns the use of mechanical exercises such as those introduced by Zander as long ago as 1857 on the following grounds

1 Volitional effort is not encouraged
2 The same results could be accomplished without an apparatus
3 Treating only one part does not give any of the advantages of general exercise
4 The use of such apparatus is monotonous, and the patient loses interest in treatment
5 The effect is that of massage and lacks the physiologic benefits of exercise
6 Such apparatus is definitely dangerous

No instances of these evil effects are, however, adduced Most surgeons will approve of the judicious use of massage in the treatment of sprains, including those forms of sprain which really form the traumata of dislocations Except in the case of children we think that most will accept the approval of Lucas-Championniere's teaching as to the use of massage for fractures, although few nowadays will go far with him as to the advisability of discarding splints In

[1] *Traitement des Pleurésies Purulentes Tuberculeuses* Par F Dumarest, M Guillemmet, P Rougy La Pratique Medicale Illustree Paris G Doin et Cie 1930 (7¼ × 10 pp 42 4 plates 16 fr)

[1] *Journ Amer Med Assoc*, June 21st 1930, p 1989

sprains and fractures it would appear that the role of massage is the restoration of the circulation which has been impaired by rupture of capillaries An elaborate tabular list of suggestions for starting physical therapy in fractures is appended to this paper, in which the method of immobilization, the position, the duration of splinting, the use (if any) of a convalescent brace and the date and duration of physical therapy are stated for every typical injury There are also paragraphs on the applicability of massage to the treatment of stiff joints and amputation stumps, and the paralysis of anterior poliomyelitis and Little's disease A note of caution is struck in the discussion of these last two conditions, of which we strongly approve If there is little or nothing that is new in this report it at least reminds of ascertained facts which should be remembered It is to be continued in a later issue of the *Journal of the American Medical Association*

THE ANTI SCURVY VITAMIN IN APPLES

THE investigation of the vitamin content of various foodstuffs is one of the less spectacular but highly important phases of the medical research which is at present making steady and regular progress 'Routine" research sometimes receives rather disparaging comment, it is apt to be forgotten that every big advance leaves, almost in proportion to its magnitude, a large number of points of detail which must be worked out if full advantage is to be taken of the ground gained Thus "following up" is often tedious, and is usually expensive in both time and money, yet it is absolutely essential to the progress both of practice and of theory, and not seldom does it lead to unexpected and new advances The report[1] by Bracewell, Hoyle, and Zilva, on the anti scurvy vitamin in apples, issued by the Medical Research Council is an example of a careful and systematic "follow up" of the vitamin story The work, as the authors make clear, *is part of a much wider scheme*, which aims, partly at least at gaining fresh knowledge of the nature and properties of the vitamin itself Several facts of practical importance emerge It seems to be finally shown that some apples are a reasonably good source of the vitamin Cold storage has only a slight deleterious effect—an important point, in view of the extent to which imported apples are eaten *Roasting the apples in their skins* destroys the vitamin only to a negligible extent A more interesting matter from the scientific point of view is the very queer distribution of the substance It is well known that lemons are rich in vitamin C, and that limes are poor, and that the substitution of limes for lemons in the British Navy had disastrous results It is more startling, however, to realize that there are tremendous differences in the vitamin C content of different types of apples, one kind in particular, Bramley's Seedling (a cooking variety), being far richer than any of the other kinds tested This difference seems to be truly dependent upon the species of apple, and not upon the age of the tree, the soil upon which it is grown or the time of year (provided the apples are suitable for picking) at which the fruit is gathered To those who are not horticultural experts one apple tree looks very like another, and such marked differences are unexpected, although in some Continental work, not yet published, equally striking differences between closely allied fruits are demonstrated The facts seem to place vitamin C in a somewhat different category from other substances of known physiological activity—for example, the hormones, thyroxine, and insulin seem to be present in all vertebrates The other vitamins seem to be pretty widely and evenly distributed, vitamin A can be found in almost any liver oil, B in most green vegetables, while D is formed when ultra-violet light acts upon a sterol, which again is widely distributed But vitamin C may be relatively abundant in one of two closely related fruits, and absent from another, notwithstanding *the fact that they are growing almost side* by side These rather remarkable facts recall to memory the fact that the incidence of scurvy is itself not so general as is that of other deficiency diseases Of all the common laboratory animals, the guinea-pig is the only one which is susceptible, and the only one, therefore, which can be used for experiments with vitamin C, of other animals, it seems that only man suffers from the disease It is possible that there may be here an interesting problem for geneticists It is impossible not to advert to the need, brought out very forcibly in the communication here discussed, for some method of assaying vitamin C other than that of animal experiment Vitamin A can now be estimated with some exactitude by means of a chemical reaction, but for all tests for vitamin C guinea-pigs have still to be employed, and the labour and expense entailed are very large indeed A large number of animals have to be used, and they must be kept under the very best conditions, not only for humanitarian reasons, but because relaxation of precautions inevitably renders all results worthless, through failure of the controls to behave normally or because of the incidence of intercurrent disease It is interesting that, in this work, it has been found possible to avoid gastro-intestinal epidemics by the use of prophylactic vaccines

[1] Medical Research Council. Special Report Series No. 148 The Anti-scurvy Vitamin in Apples. By Mary F Bracewell E. Hoyle and S S Zilva London H.M. Stationery Office. 1930. (2s. net.)

A STATISTICAL STUDY OF ALCOHOLISM

SOME interesting facts about 1,645 patients consecutively discharged from Dalrymple House, Pickmansworth (an institution for the treatment of men of the educated class suffering from alcohol or drug excess) are set out in tabular form in an appendix to the medical superintendent's report for 1929–30 Only forty seven of the patients suffered from drug addiction alone, but of the rest over 200 took drugs in some form or other morphine and opium addiction being commonest, and addiction to cocaine, though much rarer, next Most of the patients are described as having social habits, only seventy-five being of the solitary kind Their temperaments are classified in the tables under the headings nervous nervo-sanguine, passionate phlegmatic, and sanguine the majority (993) being of the first type, 256 of the last, and only 33 being described as passionate Fifty per cent of the patients gave a family history of inebriety, and 11 per cent of insanity with or without inebriety In 1,104 the drinking habits were regular, in 495 they were periodical, the frequency of bouts ranging from once a week to once every twelve months Delirium tremens attacked 429 patients, of whom 258 had one attack 119 two, 26 three, and so up the scale, ending with 13 patients who had had twelve attacks The age period of greatest addiction was 30 to 40, with 636 patients though the period 40 to 50 ran it close with 504 One of the patients was under 20 and four were between 70 and 80 Over half the patients (856) were married 110 were widowed, and 679 were single *A study of the occupations* suggests that the greatest susceptibility is among persons with no occupation the number in this group being 320 next in order come merchants (178) and medical practitioners (130) There were only twenty-two persons in the group classed as artists and theatrical Influence of occupation is suggested as an exciting cause in 115 cases, including commercial travelling in 14 journalism in 9 and wine and beer trade in 33 Other prominent exciting causes are sociability in 202 cases overwork in 77, and nervous shock—a wide term including war service domestic trouble business worry, and financial loss—in 295 Prominent among the complicating diseases were alcoholic neuritis (77) chronic constipation (57) general debility (56), morbus cordis (47), renal disease (48), chronic rheumatism (27), and syphilis (32) The average

length of the period of treatment was twenty and a half weeks, the after-histories of the patients being as follows abstaining 40 per cent, improved 6 per cent, not improved 22 per cent, insane 2 per cent, no news obtainable or dead 22 per cent, and discharged unsuitable for treatment or transferred elsewhere 6 per cent

MELBOURNE HOSPITAL CLINICAL REPORTS

A new medical periodical, the *Melbourne Hospital Clinical Reports*, has now been established in order to obtain a wider circulation for the clinical and experimental work carried on at that institution, it will be published twice yearly, in June and November, under the editorship of Dr S O Cowen Two years ago special staff meetings were instituted for the discussion of medical, surgical, and pathological topics, and the opening papers, which were often based on analyses of the hospital case notes, have proved sufficiently valuable to merit permanent recording Certain senior members of the hospital staff have also been engaged in collecting and publishing historical records and reminiscences, and information of this nature will be included The first issue of the *Clinical Reports* opens with an attractive account of the history of the Melbourne Hospital, which has been prepared by Dr G T Howard, and it is announced that Sir James Barrett will contribute to the November issue some details of the progress of the institution from 1879 to 1883 The hospital was founded as long ago as 1834, but its growth was slow at first Quite a small building sufficed until 1852, when the great influx to the gold diggings led to a series of increases in patients and buildings which brought the accommodation up to about 300 in 1867 The present buildings, opened in 1913, provide a total of 414 beds, and last year 8,400 in-patients were admitted and 57,000 out-patients were treated The clinical records in this first issue include an account of focal infection, by Dr C H Kellaway, director of the Hall Institute of Research, and F Eleanor Williams Drs H F Maudsley and R J Wright-Smith describe a case of encephalitis periaxalis diffusa, Dr K D Fairley discusses the diagnosis and prognosis of complete blocking of the right branch of the bundle of His, and also comments on the value of laboratory aids in the diagnosis of hydatid disease The opening paper read by Dr L E Hurley at a staff discussion on diabetic coma, is printed, it was based on an analysis of fifteen cases unaccompanied by surgical complications, and some practical considerations in the treatment of this condition are appended Other articles relate to the treatment of furunculosis by x rays, and the diagnosis of thrombo-angiitis obliterans Dr R J Wright-Smith, pathologist to the hospital, describes certain museum specimens Miscellaneous case reports complete an interesting record of clinical work, the compilation of which promises well for the future success of the new periodical

MEDICAL APHORISMS OF CORVISART

IT is probably true that every thoughtful practitioner of medicine, almost insensibly perhaps, accumulates from his own experience a more or less numerous series of guiding propositions which hold his faith and direct his path Some of these, were they published, would be valuable contributions to the art of medicine To be successful, however, such an enterprise makes a high demand, it claims both deliberation and confidence and some capacity for literary effectiveness, and these virtues are not every man's property Yet when they are set to the purpose the result is both attractive and serviceable Such terms of appreciation may justly be applied to the recently published volume of *Aphorismes de Medecine Clinique par le Baron Corvisart* [1]

[1] *Aphorismes de Médecine Clinique par le Baron Corvisart* Recueillis par F V Mérat Publiés par le Dr Paul Busquet. Paris Masson et Cie (20 fr)

The collection has an interesting history It was recently discovered in manuscript together with a note explaining that the author had not found the opportunity to publish it because of the duties imposed upon him as Premier Medecin de l'Empereur Napoleon The discovery is certainly a welcome one, and we are indebted to our French colleagues for an opportunity of studying the medical aphorism as this may be constructed by a master of the art and expressed in a language peculiarly capable of the effective phrase Our readers bent on holiday plans may perhaps be inclined for literature outside the professional bookshelf, yet if they enjoy deliberate and well-balanced judgements presented with artistic point and force they will find Baron Corvisart's aphorisms excellent company, and to examine them in the light of an added century of observation and discovery is an inviting opportunity for thought and criticism Dr Paul Busquet, who has edited the volume, introduces with a brief commentary each of the four groups in which the sentences are arranged and his notes have a distinct interest It must certainly be allowed, as Dr Busquet claims, that the aphorisms show the author to have been not only a physician of wide knowledge and great distinction, but devoted also to the highest standards of professional duty and responsibility His teaching relates both to the technical art of medicine and to the mental and moral attitudes to be cultivated by the practitioner, and always his point goes home To select particular sentences for quotation is to become sensible of an embarrassment of riches, but we can hardly resist "Le Medecin doit bien se garder de la manie de tout expliquer", and there are many others of equal temper and point

MEDICAL INSURANCE AGENCY

A MEETING of the committee of management of the Medical Insurance Agency, Limited (by Guarantee) was held at the House of the British Medical Association on July 29th, when the report of the twenty-third year of the agency's work and the corresponding balance sheet were adopted Although the prevalent commercial insecurity in the country must have had a depressing effect on the agency, yet it was revealed in the report that the general progress of previous years had satisfactorily continued, an outstanding feature being the opening of the office in Scotland, where the volume of business dealt with had been highly gratifying The total premium income for the year approximated £98,000, an increase of more than £8,000 as compared with the previous year The amount of business now passing through the agency may be gauged from the fact that no fewer than 6 500 renewals had to be dealt with The commission from motor-car insurance continued to increase rapidly, and is a practical proof of the satisfaction caused by the special policy for medical practitioners In last year's report it was mentioned that life assurance, etc, dealt with through the agency approximated a total of one and three-quarter million pounds, during the year now under review the figure rose to two million pounds The following grants were made to organized medical charities for 1930

		£	s	d
Royal Medical Benevolent Fund		630	0	0
Royal Medical Benevolent Fund Guild		630	0	0
Epsom College—				
Dawson Williams Memorial Fund	£650			
Royal Medical Foundation	£210			
Head Master's Distribution Fund	£100			
		960	0	0
Girls' Education Fund		250	0	0
Royal Home for Incurables, Putney		52	10	0
Sir Charles Hastings Fund		52	10	0
Royal Medical Benevolent Fund (Ireland)		25	0	0
		£2,600	0	0

As a result of this distribution the total sum devoted to medical charities by the Medical Insurance Agency since 1910 has amounted to £25,580

MATERNAL MORTALITY AND MORBIDITY

THE DEPARTMENTAL COMMITTEE'S REPORT

THE interim report of the Departmental Committee of the Ministry of Health on Maternal Mortality and Morbidity has been somewhat impatiently awaited It was published this week, and proves to be an extremely interesting and important document, which fully justifies the apparent delay for which the committee under the chairmanship of Sir George Newman has in some quarters been blamed Some measure of its importance is indicated in a leading article this week at page 218, but there are so many weighty matters dealt with in its 151 pages that a careful study of them must be advised

The committee desired to base its report upon an examination of a sufficient number of maternal deaths of which reports had been made by an experienced medical officer in each sanitary area in accordance with an arrangement entered into in the early part of 1928 The draft form of inquiry in connexion with this arrangement, which received the concurrence of the British Medical Association under conditions safeguarding the confidential nature of replies thereto, was issued in October of that year, and the main part of the departmental committee's report is based upon a careful examination of the first two thousand cases of which particulars have thus been obtained Although at the present time about two-thirds of all maternal deaths in England and Wales are coming under the notice of the committee, in the earlier months the returns were not so abundant, and a considerable time has had to elapse before a sufficient amount of material could be accumulated, examined, and analysed

Though some of its sections may be regarded as complete the report is an interim report, since the committee say "We propose to reserve for a subsequent report further inquiries and recommendations concerning morbidity associated with pregnancy and the puerperium, puerperal sepsis, statistical aspects of the maternal mortality rate, methods of public education in the preventive side of the problem, and some outstanding questions involving research in which we are now engaged, together with an account of our investigation into an additional number of maternal deaths" It will be remembered that Mr Neville Chamberlain, as Minister of Health, had appointed another departmental committee, under the chairmanship of Sir Robert Bolam, to report mainly on the training and employment of midwives The report of that committee was noticed at some length in the *Journal* of September 28th, 1929 (p 592) The references to the two committees allowed of some overlapping in the present report some matters concerning the training of midwives in relation to that of medical students in maternity wards or hospitals, and the position of midwives in a national maternity service, are dealt with from a somewhat different point of view, but with general agreement

Investigation of Maternal Deaths

The two thousand maternal deaths which were investigated were unselected cases, probably representative of the deaths occurring all over the country They are classified in a way which has much practical value, and the conclusions which are drawn from them are expressed very carefully and with a commendable absence of dogmatism The two main classes are (1) deaths directly due to pregnancy and child bearing, including abortion and ectopic gestation (1,596), and (2) deaths due to an independent disease concurrent with pregnancy or childbirth (404) In the first class 38 6 per cent of the deaths were due to sepsis, and 13 6 to eclampsia, while shock antepartum and post-partum haemorrhage, other toxaemias and embolism were responsible severally for percentages varying between 6 and 9 The 616 deaths from sepsis have been divided into three classes (1) following ordinary normal labour, (2) following delivery by low forceps in an otherwise normal labour and (3) following complicated labour The numbers in these groups were 294, 47, and 275 respectively The main object of this investigation was, of course, not academic but practical The investigators have accordingly tried to discover in each case what they call the "primary avoidable factor"—that is, the first omission, mistake, or misjudgement in the train of events which led up to the fatal result, the standard of comparison on which judgement was based is set out It is not an unduly high one, but rather one which may reasonably be expected to be attained in good medical practice in most parts of the country Omitting cases of abortion and of extrauterine gestation and a number of others in which information was insufficient, the cases which showed a primary avoidable factor were 626, and those in which no departure from established practice having a causal relationship with the death was found were 659 In a broad general analysis, therefore, and with no claim to mathematical accuracy, it may be said that the net percentage of preventable deaths is as high as 48 The primary avoidable factors in these 626 cases are subdivided under four headings (1) omission or inadequacy of ante-natal examination (226), (2) error of judgement in management (224) (3) lack of reasonable facilities (64), (4) negligence of the patient or her friends—usually in failing to follow the doctor's advice or in ignoring obvious and serious symptoms—(112) In the first two of these groups the doctor, the midwife, the hospital, or the clinic may have been at fault, and the first group contains 109 cases in which the pregnant woman did not submit to ante-natal examination These are not included in group (4)

The committee realizes that "caution must be exercised in drawing conclusions from the evidence obtained from these investigations," but it is clear that information has been elicited which is of definite and substantial practical value The vast importance of adequate ante-natal examination and supervision in *every* case is reaffirmed, and adequate treatment of any discovered abnormality should naturally, but does not always follow Further, in relation to serious complications and accidents of labour, whether or not they might have been foreseen and averted by ante natal care the committee have ample proof of the need for a higher standard of knowledge and skill on the part of the *general practitioner* as well as for the provision of consultant services and of an increased number of readily available hospital beds Amongst the death from haemorrhage a number of patients might have been saved had specialist services (including facilities for blood transfusion) been at hand At the same time it must not be lost sight of that the majority of cases of haemorrhage and obstetric shock can be saved from death by the immediate replacement of fluid by intravenous or subcutaneous saline solution" Attention is drawn to the relative infrequency with which this treatment is administered With regard to sepsis, substantial improvement may be looked for when ante-natal diagnosis becomes more efficient and widespread when a specialist service is more easily obtainable and when hospital accommodation for suitable cases is more adequate Even so, the number of deaths from sepsis following "normal labour" demands intensive investigation

Puerperal Sepsis

In view of its importance this matter of puerperal sepsis is dealt with in a separate chapter of the report It is considered in its administrative aspect in regard to its causes both bacteriological and predisposing and whether the microbic infection is extrinsic or in origin with reference to its prevention by method of sterilization and by the proper construction equipment and staffing of maternity institutions and in relation to its treatment A number of very valuable suggestions are incorporated in this chapter and in an appendix on sterilization of the hands by Dr Leonard Colebrook Among other matters discussed are the unreliability of lysol, the use of gloves and of masks and the need for the provision of sterilized pads and swabs It is stated that investigations into the value of certain methods of treatment will be summarized in the final report

[1] Ministry of Health Interim Report of Departmental Committee on Maternal Mortality and Morbidity London H.M. Stationery Office 1930. (2s. net.)

Ante-natal Care

In the chapter on ante-natal care the pioneer work of Dr J W Ballantyne is acknowledged, and reference is made to the committee's "Memorandum on ante-natal clinics, their conduct and scope," which was issued to local authorities by the Ministry of Health in July last year This is now reprinted as an appendix to the report We commented upon it shortly after its publication (*Journal*, August 17th, 1929, p 315) Some amplifications of this memorandum are made in the chapter, but nothing very material is added The prime importance of the clinics when properly conducted, for the education of the pregnant woman, of the midwife, and, when in suitable association with a teaching hospital, of the medical student is fully recognized, as is also the possibility that in other respects they may supply a need which is only temporary "Under a reformed maternity service much of the work of routine examination clinics may be transferred to the family practitioner and the trained efficient midwife, but at present they are essential for securing ante-natal care when it would not otherwise be available" The different functions of the true consulting clinic are pointed out, and an important statement, to which the attention of local authorities and their officers may again be drawn, is that "generally speaking, treatment of abnormal cases is not the work of an ante-natal clinic" In paragraph 177 of a subsequent chapter the committee emphasizes this, and enunciates "that it is a principle to be acted upon, wherever possible, that the person responsible for ante-natal supervision should be responsible for attendance during labour", and in paragraph 174 it gives reasons why this attendant should be the ordinary medical practitioner and not one of a "selected panel," whether whole-time or part-time

Anæsthetics in Obstetrical Practice

Other very important and valuable chapters of the report deal with the use of anæsthetics and analgesics in obstetric practice, with medical education in obstetrics, and with a national maternity service On the first of these subjects three interesting memorandums are given in appendixes—one from the Royal College of Physicians of London, one from the British College of Obstetricians and Gynæcologists, and one from the British Medical Association This last is printed in the Annual Report of Council (*Supplement*, April 19th, p 163), and was approved by the Representative Body last month It is perhaps the most emphatic of the three with regard to the use of anæsthetics and analgesics by anyone other than a registered medical practitioner, but the three pronouncements are in substantial agreement, and the committee does not differ from them in their conclusions

Medical Education

In regard to medical education, the most important suggestions of the committee are (1) that the statements of the requirements of the General Medical Council should be made more clear and definite, (2) that the time given to midwifery and gynæcology (including infant hygiene) should be doubled—six months' whole-time hospital practice, including two months' residence in a maternity hospital, (3) that the number of labour cases personally attended (in the suggested alteration "attend and personally deliver") shall be thirty instead of twenty, (4) that ante-natal instruction shall entail the personal examination, under supervision, of not less than fifty pregnant women, (5) that there shall be at least eight attendances at an infant welfare centre, (6) that priority shall be given to the medical student over the student midwife in maternity hospitals, or possibly that students and midwives shall be educated together in this respect

Training of Midwives

The committee had before it the proposals which the British Medical Association was the first to make in any detail for a national maternity service, together with other subsequent and somewhat similar proposals made by the Departmental Committee on the Training and Employment of Midwives, by the Medical Women's Federation, and by others The first of these has been issued separately as an Association document, and is now well known The various schemes do not differ in essential respects, and the principles on which they are based and the requirements which they should embody are set out and endorsed by the committee In a few respects the present report carries the suggestions somewhat further, and it may be noted that where in some minor points the schemes differ from one another it is to the British Medical Association's proposals that the committee more closely adheres It avoids, however—perhaps wisely in the circumstances—those very difficult administrative and financial aspects of the scheme to which the Association's document gives some attention

Another possibly wise feature of the report is that there are no definite recommendations tabulated at its conclusion This will possibly induce a larger number of those interested to read the whole of the body of the report, and with great advantage, for it contains much valuable information, many wise comments, and a large number of practical proposals

Scotland.

Lochaber Hospital Extension

THE Duke of York, on July 30th, inspected the new power works at Lochaber, one of the largest hydro-electrical schemes in the world, and visited the town of Inverlochy where the men employed at the works are accommodated, he also opened an extension of the Belford Hospital Cameron of Lochiel, chairman of the hospital trustees, presided, and mentioned that this hospital had been originally completed in 1864, it now received an annual grant of £200 from the Department of Health, as well as a large contribution each year from the British Aluminium Company For the past two or three years it had been realized that the hospital was in urgent need of reconstruction, and a sum of £4,500 had been raised for the present extension, which included a new operating theatre The extension was intended to commemorate the late Dr Cameron Miller, who had been greatly beloved in the district The Mackintosh of Mackintosh paid a tribute to the memory of Dr Miller, who, he said, had never spared himself, it was possible that his war work and the strenuous duties in connexion with the power scheme had combined to shorten his life The Duke of York afterwards declared the extension opened and unveiled a plaque at the entrance of the operating theatre which bears the following inscription "This operating theatre was erected to the memory of Alexander Cameron Miller, M D, Ch M, F R S E, T D Born, 12th August, 1861, Died, 31st December, 1927 For 41 years Medical Superintendent of this Hospital, beloved physician of the people of Lochaber *Dileas Gu Bas*"

Memorial to the late Dr Alexander Stuart

An extension to the Crieff and District Cottage Hospital, intended as a memorial to the late Dr Alexander Stuart, was opened on July 29th The extension was the gift of Mr W Gilchrist Macbeth of Dunira, who performed the opening ceremony The present extension consists of a solarium fitted with vita glass, enabling convalescent patients to be exposed to the sunlight in all conditions of weather There are eight beds and two cots In handing over the gift to the hospital trustees, Mr Macbeth paid a tribute to the valuable work performed in the Crieff district by Dr Stuart

Appointment for Edinburgh Radiologist

Dr J M Woodburn Morison, lecturer in radiology in the University of Edinburgh and radiologist to the Royal Infirmary of Edinburgh, has been appointed professor of radiology in the University of London, and medical director of the radiological department of the Cancer Hospital, Fulham, in succession to the late Dr Knox This is the first professorship of radiology to be established in this country Its duties include the practice of both radiology and radium therapy at the Cancer Hospital, Fulham, and the instruction of students in these subjects Dr Woodburn Morison is a native of Ayrshire After graduating

M.B. at Glasgow University in 1896, he became assistant radiologist to the Royal Infirmary of Manchester and consulting radiologist to the Ancoats Hospital, Manchester. He holds the diploma in radiology of the University of Cambridge, and has written much upon various aspects of the subject. Five years ago he was appointed radiologist to the Royal Infirmary of Edinburgh and lecturer in radiology to the University; recently he was elected a member of the Radium Commission and a member of the Radium Trust.

Central Midwives Board for Scotland

The examinations of the Central Midwives Board for Scotland held simultaneously in Edinburgh, Glasgow, Dundee and Aberdeen, have just concluded, with the following results. Out of 112 candidates who appeared for the examination 101 passed. Of the successful candidates, 28 were trained at the Royal Maternity Hospital, Glasgow, 24 at the Royal Maternity Hospital, Edinburgh, 5 at the Maternity Hospital, Aberdeen, 7 at the Royal Infirmary, Dundee, 16 at the Elsie Inglis Memorial Hospital, Edinburgh, 3 at Stobhill General Hospital, 2 at Barshaw Hospital, Paisley, 4 at the County and City of Perth Royal Infirmary, and the remainder at various other recognized institutions.

England and Wales

The Order of St. John and the British Red Cross Society

THE tenth report of the Joint Council of the Order of St. John of Jerusalem and the British Red Cross Society—the first to be issued from the new offices of the council at 12, Grosvenor Crescent—covers the period from January 1st to December 31st, 1929. The council records that the total number of patients assisted since the beginning of the war by the auxiliary hospitals for officers department is 18,028. The majority now receiving help are ex-officers suffering from tuberculosis. During the year assistance was given to 293 officers, 105 being new patients. Assistance included refunds to patients of hospital stoppages, allowances for special diet and convalescence, nursing home fees, and occasional contributions towards the cost of special appliances. In some cases full sanatorium fees were paid. Applications are now being made by officers who have allowed the official period of seven years since their demobilization to elapse before appealing to the Ministry of Pensions. Many of them have exhausted their private means in meeting the cost of treatment, and there is evidently little chance of their applications being favourably considered by the Ministry. Where full fees were paid the Officers' Association generally contributed half the amount. Eighty patients were admitted to the Hospital for Officers at Brighton, forty being sent by the Ministry of Pensions in the course of the year. In May, 1928, the Joint Council approved of a proposal that its hospital and medical services department should become a central bureau of hospital information under the auspices of the Joint Council and the British Hospitals Association. The success of the bureau is now regarded as assured. Through the close co-operation between the two associations the collecting of information has been greatly facilitated, especially as the offices of the bureau and of the British Hospitals Association are now in the same building. Much work was done by the bureau during the year in connexion with the effect of the Local Government Act on the voluntary hospitals. Its services were also sought in the distribution of funds of contributory schemes. As recorded in the tenth annual report of the voluntary hospitals in Great Britain (excluding London), the number of hospitals surveyed last year continues to increase. The necessary provision, however, of institutional treatment for sickness and accident, and the rapid growth of organizations in size and number, have made it desirable to have a wider and more comprehensive survey of every department of hospital work than is at present available. To meet this need a new year-book has been projected by the publishers of *Burdett's Hospitals and Charities*, which will extend the scope of that publication. In the arduous task of recording advances in the various branches of hospital activity the co-operation of the Joint Council and the British Hospitals Association has been obtained. Besides issuing memorandums on topics of special interest to hospitals the bureau undertakes to give advice in regard to sites for buildings, plans, etc., and prepares reports for committees of management. Among the philanthropic services organized by various committees the report mentions that over 5,000 Christmas gifts were provided on Christmas Day, 1929, for ex-service pensioner patients in Ministry of Pensions hospitals and similar institutions, and that more than 14,000 ex-service pensioner patients in hospital were given motor drives or conveyed to entertainments and theatres during the year. The Emergency Help Committee continued to provide relief to thousands of sick and disabled ex-service men and their dependants. The total number of new cases assisted or otherwise dealt with, during 1929 was about 23,000. Expenditure on grants for relief amounted to £60,926—£20,000 less than the figure for the previous year. It is satisfactory to note that £6,846 was received in voluntary refund of advances. This department also deals with applications from severely disabled pensioners to provide motor attachments for the tricycles supplied to them by the Ministry of Pensions. Since this work was undertaken in 1924 nearly 500 men have been loaned motors, which many of them use to travel daily to and from their work. In response to applications from Ministry of Pensions hospitals and other institutions treating ex-service pensioner patients, the Games and Comforts Fund made 343 grants of additional comforts and articles of recreation. The extensive and valuable work of the Home Ambulance Service has been recently referred to in these columns, particularly in connexion with road accidents. During the year the ambulances carried over 113,000 patients. A satisfactory report is given of the stores department which not only supplies such articles as are required, but gives expert advice of the most suitable market for direct purchases. During armistice week articles made by patients in hospitals in London and in the provinces were displayed as part of the exhibition and sale of ex-service men's work at the Imperial Institute. Grants for ward industries were given to ten hospitals last year, seven of these were Ministry of Pensions institutions. The Finance Committee reports that the expenditure for the year exceeded the income by £1,780, which compares with a deficit of £814 for the previous year. The Joint Council expresses the hope that its income will increase with improvement in industrial conditions.

Local Authorities and Cancer Research

The seventh of a series of memorandums relating to the causation, prevention, and treatment of cancer has now been issued by the Ministry of Health, accompanied by an explanatory circular (No. 1136). The present memorandum indicates how local authorities may take steps to obtain more complete knowledge of the reactions between cancer and the community, thereby rendering it possible to bring into effect local ameliorative measures. The Minister invites the councils of counties and county boroughs to consider the initiation in their areas of an attempt to ascertain the ways in which the environmental, economic, social, or other conditions of cancer patient affect their chances of cure and relief of suffering. Contact with patients would in the first instance be limited to those applying for treatment at the local hospitals, and in friendly collaboration with the medical staff a series of questions is suggested in order to indicate the general lines upon which the early investigations might proceed. It is thought that the essential information could be obtained through the agency of suitable non-medical members of the staff of a health department working under the fairly close supervision of a medical officer. As the result of analysing a collected sample of individual histories obtained in this way local authorities might find it possible to improve the lot of cancer patients in their areas by giving individual advice and help, and by improving the existing facilities for dealing with the disease or devising new ones. Mention is made of the collective investigation into the incidence of cancer and its history

after treatment which was initiated by the British Medical Association and the belief is expressed that the new inquiry would dovetail conveniently with this, both being benefited thereby Attention is drawn to the advantages to be gained by co-operation between medical officers of health and the Departmental Committee on Cancer

India.

Hospitals and Dispensaries in the Central Provinces and Berar

A policy of progress and expansion in the provision of medical relief is outlined by Colonel W V Coppinger, I M S, Inspector-General of Civil Hospitals, in his report on the hospitals and dispensaries of the Central Provinces and Berar for the triennium which ended in December, 1928 At that date the number of dispensaries had increased from 303 at the close of the previous triennium to 335, and these services were supplemented by ten "cheap plan" dispensaries and thirty-nine travelling dispensaries controlled by the director of public health Several local bodies had taken advantage of the scheme of "cheap plan" dispensaries for which the Government provides the staff and one-fourth of the recurring expenditure, the remaining amount being raised by the local body concerned Travelling dispensaries, which were steadily gaining popularity, were found particularly useful in distributing quinine to patients in malarial districts As the Victoria Hospital at Jubbulpore and the main hospital at Raipur have become Government institutions, there is now, with one exception, a large and fully equipped Government hospital in every division in the province The Irwin Hospital, which has replaced the main hospital at Amraoti, was opened by the Viceroy in 1928 Other medical buildings constructed during the triennium included two new hospitals for women One of the principal features of the report is the provision of medical aid for women by women doctors Eleven women assistant surgeons and eleven assistant medical officers were attached to district and other important hospitals in areas where no separate women's hospitals had been established These appointments were made in pursuance of the Government's policy to provide a woman doctor at one town in every district No reluctance has been shown by the public in taking advantage of these developments The percentage of women treated in the Dufferin hospitals rose from 13 2 (in 1925) to 17 5 An increase of 8,000 in the number of in-patients is recorded, and, although 254 beds were added during the triennium, arrangements were being made at the date of the report to extend the accommodation in several of the main hospitals The expansion in the adult services has been accompanied by a more widespread recognition of the importance of child welfare Health propaganda was carried out in towns and schools by medical officers in charge of all the outlying dispensaries Progress in all these departments has been hampered, however, by an inadequate supply of trained nurses for both private and hospital patients even the best hospitals apparently were unable to provide first-class nursing The provision aimed at is one nurse to every five beds in general hospitals, and one to three beds in women's hospitals At the Victoria Hospital, Jubbulpore, there were only four nurses for 105 beds The whole question of the organization and training of nurses was being considered by the Government when the present report was issued Another problem was the treatment of patients in rural areas Since the close of the triennium a scheme has been put into operation for subsidizing private practitioners who consent to settle in approved centres The Government has also sanctioned the institution of ten scholarships of Rs 20 a month for study at Benares University with the object of encouraging practitioners possessing recognized qualifications to improve the indigenous systems of medicine In order that rural areas should ultimately receive the benefit of these provisions it is proposed to make grants in aid to local bodies up to half the expenditure incurred by them on this account, subject to suitable conditions Large grants have already been allocated for the study and treatment of leprosy in the province In 1928 treatment was given to 1,459 lepers, compared with 1,051 in the previous year, the increase is attributed mainly to effective propaganda One specialist and twenty assistant medical officers have been appointed for leprosy work in Chhattisgarh, the method employed of visiting lepers in or near their homes and establishing treatment centres in selected areas is expected to produce better results than the policy of segregation At the treatment centre at Khot one hundred lepers attended twice a week from the neighbouring villages Seven leprosy clinics have been opened at the headquarters of seven districts, moreover, the accommodation in the eight leper asylums is being gradually increased

Medical Facilities in Bihar and Orissa.

A critical period in the development of medical policy in Bihar and Orissa is indicated in the triennial report of the hospitals and dispensaries in that province for the years 1926-28 The ideal aimed at is the provision of a dispensary in every police station area, so that treatment may be available for any sick person within a distance of five miles Although this ideal had not been attained in any district at the date of the report, a considerable expansion is recorded in the general facilities for medical relief eighty-two new hospitals and dispensaries having been opened during the triennium In many districts, however, the expenditure incurred for this purpose exceeded the minimum sum laid down by statute, in spite of augmented Government grants One reason appears to be a persistent indifference towards the financial needs of local hospitals no increase is reported in charitable contributions This attitude is attributed partly to the fact that the public is inclined to regard medical relief as one of the returns expected from taxation, and partly to the widely recognized practice of the comparatively well-to-do of seeking free treatment at charitable institutions Proposals for authorizing hospital committees to impose small fees on these patients were under the consideration of the Government The report states that such continued indifference is likely to threaten future progress, especially since all the large hospitals in the province are now dependent on Government support, formerly, as local board institutions they were directly supported by local funds Another aspect of medical relief, referred to by Colonel W S Willmore, I M S, Inspector-General of Civil Hospitals in the province, is the necessity for setting a limit to the amount of work that can be efficiently carried out by medical officers Undue attention, he thinks, has hitherto been paid to the amount of work undertaken in dispensaries, without adequate regard for the efficiency of the treatment This tendency in his opinion must impair the prestige of medical science as practised in the West, particularly as it is being brought more and more into competition with the indigenous systems of medicine In this connexion an outstanding problem in the province has been the provision of medical aid to women, not only on account of the deficiency in the supply of women doctors, nurses, and trained midwives, and the reluctance that exists among certain classes to accept the services of male doctors, but also because most women, influenced by custom and prejudice, have been unwilling to take up medicine and nursing as professions At the date of the report not a single woman had applied for admission to the medical college, and only five were attending the medical school at Cuttack No private nursing homes were available in the province, and there appear to have been very few private nurses Apart from the financial difficulties involved in the duplication of staff, the only permanent solution seems to be the gradual removal of restrictive codes In this matter some headway is reported to have been made during the last year of the triennium A great deal of medical relief however, was provided for women of the humbler classes The number treated as out-patients in 1928—although only a third of the number of men—was over 9 million, while the number of in-patients increased from 6,000 to 15,000 since the constitution of the province Notable progress is also recorded in maternity and child welfare In Patna, for example, no deaths from tetanus

or sepsis had occurred for over five years among the patients who were under the care of the maternity supervisor and her staff Several special institutions, established in the province during the triennium, are described in the report, including a sanatorium for tuberculous patients at Ithri, a Pasteur Institute at Patna and a bacteriological laboratory at the Patna Medical College The transfer of the Radium Institute from Ranchi to Patna Medical College Hospital has greatly extended the scope of *radium treatment and provided* valuable opportunities for study and instruction A campaign has been instituted against leprosy, and large sums are being spent on segregation and treatment

Correspondence.

OBSERVATION AND EXPERIMENT

SIR,—No one can have read Mr Wilfred Trotter's essay in the *Journal* of July 26th without being grateful to him for such an illuminating presentation of the methods of investigation, and without being stimulated by it Nor can anyone fail to realize how important it is that we should grasp the *essential truths that he* unfolds before us It is at the same time somewhat depressing to find that in the hierarchy of endeavour such a lowly place is given to clinical observation, and I cannot help wondering whether the melancholy with which he recognizes the necessity for a genius and a special aptitude of mind, if advance is to be made along these *lines, is completely justified It may be so at the moment,* but need it be so for the future?

I am among those who think that the pendulum has swung somewhat too far away from clinical observation, particularly where the teaching of students is concerned In these days of short cuts and labour-saving devices I cannot help thinking that the methods of careful observation, reflection, and deduction, if properly inculcated, would not only ensure a habit of mind attuned to the reception of new ideas, but might also provide a vast army of workers eager to obtain from their clinical material some clue to the mysteries that surround so many aspects of disease

I am certainly in agreement with the view that the production of a mass of statistics is largely valueless, and that haphazard observation as a bolster to *a priori* conclusions may be sterile, but it should be our endeavour to provide the possibility of a more enlightened form of research and to train more carefully the workers of the future

The human body in health and disease is both our raw material and our laboratory, its reactions to environment, to infection, and to mutilation provide the problems that we have to solve Who is so fitted to find out what these problems really are as the skilled clinical observer, and who is more likely to direct the investigation along the right lines? His own observations need not be entirely without result if they are conducted with an inquiring mind The path may be long, the progress is necessarily slow, and the difficulties are great, but the fact that they are somebody's symptoms which we are studying need not destroy their value as material for science

As a surgeon I can, for instance, study nature's effort at repair, and perhaps wonder why when one has removed large portions of the skull in the checking of an osteomyelitis new protective bone is so quickly formed, while after a submucous resection of the septum there is apparently *no attempt at the regeneration of the cartilage* removed Or, again, I may observe that radium will destroy completely a cancer of the tonsil, and yet seem to drive the cancer cells to some more distant spot with the formation of a growth in this new situation Again I wonder why and to wonder sufficiently is halfway to finding out We all have a sufficiency of material to our hands and no one is so busy that he cannot think if he trains himself to do so In time experience comes, and *experience* does not only teach, it also performs Who can tell what far-reaching results such performance may reveal?

We should be thankful for every new method of investigation, and I would have the clinical observer employ every weapon that has been forged for his use but I will not despair of result or lose my hope that clinical observation will remain the living root of our tree of knowledge —I am, etc,

London W 1 July 29th WILFRED HOWARTH

SIR,—Mr Wilfred Trotter's article in the *Journal* of July 26th contains an admirable appreciation of the relative merits and shortcomings of the experimental and the clinical methods in the study of disease It balances them more evenly than Sir Thomas Lewis's recent contribution on the same subject appeared to do Although Mr Trotter does not mention it specifically, there is one region of medicine in which the clinical method has superior advantages, and must remain, at least for a long time, the principal method of research, I mean the region of psychological medicine Here the subject-matter is the whole man, as a social unit, and the opportunities of arranging the conditions in the manner of an experiment are exceedingly rare

It is necessary, moreover, to distinguish an intermediate method of investigation, between the purely *experimental method on the one hand* and the purely clinical on the other, I refer to the introduction into clinical work of instruments of precision, which serve to give an air of scientific accuracy (often a spurious air, it is true) to clinical research The sphygmomanometer and the haemocytometer are examples of these instruments, and they are often helpful, but in psychological medicine *importations of this kind from the experimental field* are wanting in usefulness The psychogalvanometer so-called, is of sadly little service There is no instrument yet devised that can read a man's thoughts or ascertain his motives

There is, of course, a large variety of mental syndromes of the organic reaction type, for which biochemistry and histopathology offer approximately causal explanations But far more numerous in practice are the psychoneuroses and the psychoses the most important of which have no causally significant physical concomitants The advances made by the clinical method applied to these groups in the last thirty years have often been brilliant while the assaults made from the laboratory and more experimental side, although very numerous have as a rule been *comparatively unavailing There is real promise in Pavlov's* work, but here the gap between animal experiments and clinical observation is at its widest, and facile analogy is peculiarly misleading

A plea based on these considerations may well be made, especially in this country, for the intensive clinical study of mental illness, both inside and outside of asylums for the clinical method in this field is not only intensely interesting in itself, but unrivalled for the understanding of the mental conditions in question It is true that a special type of clinical observer succeeds best in this the type often called intuitive But it seems likely that clinical intuition, here as elsewhere, is simply the result of long study of human nature organized by long practice and operating largely unconsciously *The triumphs of* intuition in psychological *medicine are probably therefore* essentially the fruits of the observational method —I am, etc,

London W 1, July 30th R D GILLESPIE

PARTURITION AND PHYSICAL TOIL

SIR,—This is the season when the medical profession is wont to write articles for the newspapers warning holiday-makers against the dangers of unaccustomed exertion He teaches in effect the impossibility of performing hard work without suffering for it unless one has previously undergone a course of training to fit one for hard work I suggest that parturition is hard physical labour, not to be performed without undue exhaustion unless the woman is capable of hard work Women of the working class for example, are always kept in training for hard physical work by their daily round of toil, whereas women of the upper class are not, such differences of "training"

determine, I think, those differences of "fibre" on which the gynæcologist is apt to reflect

In India coolie women do much of the carrying when canals are dug or railways are built, and I have been told by those who have been in charge of such operations that it was quite usual for a coolie woman to work until the actual onset of parturition, and to return to work again immediately after the act was over I take it that parturition is a simple process for these women simply because they are kept in such perfect training for hard physical work If this is correct some of the present-day care of pregnant women seems misdirected effort They ought not to cease physical labour well before their due time, but, on the contrary, keep at work or in training, right up to the actual event In making the suggestion I am well aware of the *post hoc propter hoc* argument which would make some form of heavy lifting precipitate labour, but I do not know if it has yet been shown that physical work can precipitate labour in a woman entirely free from luetic taint Indeed, if hard physical work had any regular definite influence in precipitating labour the vast majority of women in this world should miscarry On the other hand, it may be that specific types of work have a precipitating action, whereas work *per se* has not if this is so, research might well be directed towards finding out if unfavourable types of work exist

Another point worth considering is the possible favourable influence of oxygen administration on women in labour who are not accustomed to hard physical work Physiologists have shown that an untrained man with the aid of oxygen can perform without undue fatigue work that would otherwise completely exhaust him and so, I take it, a woman should also be able to perform with the aid of oxygen, and without exhaustion work that would otherwise completely exhaust her It is also in the fitness of things that the untrained woman requiring oxygen could probably afford to pay for the extra"—I am, etc,

Lucknow July 4th W BURRIDGE

X-RAY TREATMENT OF TONSILS

SIR,—The letter from Dr Warner Collins on July 19th (p 122) should not be allowed to pass without challenge My plain statement (June 28th p 1197) of a "50 per cent or less of the erythema dose given in fortnightly or longer intervals" is travestied to imply that I give a "50 per cent erythema dose twice weekly"—that is, four or more times *the dose I use and recommend* May I repeat that there is no risk of dermatitis if accurately measured filtered doses are given as recommended? In young children 20 per cent doses, or in sun-sensitive adolescents or adults 30 per cent doses, may be found suitable, the patients, as always, must receive individualized treatment

I am astonished that Dr Collins can think a shrinkage to the normal size is "the greatest objection to the x-ray treatment" By pathological enlargement the mouths of the crypts are often blocked, and pus retention and swamping of the defence follow When the lymphoid substance is reduced the crypts open out, and all becomes "normal" The dosage is not sufficient to lead to fibrosis, as he wrongly infers Many patients after irradiation show a smooth, soft, supple tonsil surface with no visible crypts, others show flat gutter-shaped crypts in which no retention could take place Glands already hard and fibrous, following repeated suppurative attacks, give an incomplete response

As to the hypothetical damage to the thyroid and parathyroids by secondary rays, I have found that during a treatment, with the usual localized beam behind the angle of the jaw (projecting forwards, inwards, and upwards on to the tonsil and adenoid site), and the usual lead-rubber protection on the head and neck, there is no measurable pastille change (and only a slight dental film change) on the skin over the thyroid gland—that is, much less radiation than the thyroid receives during an x-ray exposure of the lower cervical spine Surely Dr Collins does not mean to assert that short x-ray diagnostic exposures "damage" normal organs or tissues, but this is what his statement about "secondary x-radiation" implies

As to antibodies being formed in the tonsils, the functions of the lymphatic glands as clearing agents for the tissues were well given as far back as 1911 in Lucas's *Physiology* (vol i, p 533) Later work on the reticulo-endothelial system has confirmed and elaborated these views Thus Aschoff, in his lecture on this subject published in 1924, says it is clear that bacterial toxins are fixed and absorbed, while antibodies are produced by the spleen and reticulo-endothelial system Topley and Wilson, in the chapter on the site of the formation of antibodies in their *Principles of Bacteriology and Immunity* write "The conclusions to be drawn do not seem to be in doubt there is ample evidence that the organs and cells, which have been shown to be concerned with the clearing mechanism of the tissues, are also concerned in some way with the formation of the sensitizing antibodies" In the next chapter they consider "local immunity" in a particular area such as the skin The latter theory may be still "sketchy in the extreme" but the general view as to antibodies being formed in lymphatic glands and other parts of the reticulo-endothelial system does not appear any longer to be questionable Moreover, the widespread development in mammals and birds of subepithelial lymphoid tissue just where bacteria most flourish (fauces, ileum and cæcum) shows its value as a defence mechanism

My views about the value of the tonsils were gained many years ago from Professor Lovell Gulland I am glad to find that there are now other supporters of his opinion as, for example, Professor Kenelm Digby in his *Immunity in Health* Mr Irwin Moore, in his *Tonsils and Adenoids* discusses the theories as to their function but ignores the recent literature on x-ray treatment Dr William Stewart appears to have been one of the first to treat patients with x rays (*British Medical Journal*, 1913, vol i, p 1157) Those who have followed the vicissitudes of medical fashions in history will not wonder at the slow progress of such a new and valuable conservative treatment, nor will they exclude the possibility that one day tonsillectomy may have as restricted a scope as blood-letting has now—I am etc,

J H DOUGLAS WEBSTER, M D,
F R C P Ed

London, W 1, July 26th

THE PERFORMANCE OF NECROPSIES BY GENERAL PRACTITIONERS

SIR,—Is it not time a period was put to the indiscriminate performance of post-mortem examinations by general practitioners at the command of coroners? As a rural practitioner I reluctantly undertake this task about once in two years, and I expect I possess about as much (or as little) knowledge of morbid anatomy as my brethren in similar circumstances, and I am getting a little exasperated at having to outrage my conscience every time I report on the cause of death As a student I performed the prescribed number of necropsies, and during two years as a house-surgeon in busy hospitals a considerable number of examinations fell to my lot But that is many years ago, and I have forgotten all about it One would not mind having a *large* number of post-mortem examinations to do, for then one could become proficient with some hope of remaining so, but I think the occasional necropsy by a general practitioner under the most adverse circumstances, with no facilities and with no skilled assistance, is a ghoulish farce which ought to cease

The coroners are not to blame They apparently are bound to ascertain the cause of death, and by hook or by crook they must extract it from the doctor Once, in a spasm of candour and honesty, I stated at an inquest that I had not the slightest idea what the individual whose corpse I had mutilated had died of The coroner commended my honesty, marvelled at the complexity of the problem, but pointed out that such high-souled ignorance was of no avail for his returns, and that if I could not give the exact cause of death I must give the most likely My pathological skill had reached so far as the detection of a few green peas in the stomach, and a few adroit questions of the "would it be in any way possible" order, resulted in the recording as my solemn opinion that

the deceased died of embarrassment of the heart caused by a surfeit of green peas! And yet the coroner and I were tolerably honest men, doing our best under rather difficult circumstances.

I think there is nothing to be gained and everything to be lost by professing a knowledge we do not possess, and unless I am a solitary monster of necrological ineptitude, there must be hundreds of practitioners who feel as I feel. Let it be freely admitted that morbid anatomy is a difficult and intricate art requiring constant exercise for its perfection, and that it is useless and unreasonable to expect any general practitioner chosen at random to possess or maintain the requisite skill. One might then be free from the nightmare of the ever possible 'cause célèbre,' with the carefully coached and politely ironical cross-examining counsel turning one's feeble post-mortem report into humorous copy for the sensational press.

Neither is there any need in these days of rapid communication, for the decencies of private life to be violated by these charnel house impromptus beneath stairs. Let there be central mortuaries in the sizeable towns with facilities for necropsies to be performed by those whose training or inclination tends that way, and let there be suitable conveyances for the speedy removal and return of bodies requiring such examination. I need not enlarge further upon the revolting aspects of private post-mortem examinations. They are distressing for the bereaved, embarrassing for the surgeon, and useless for the elucidation of the truth. I enclose my card, and remain, Sir, yours, etc.,

July 22nd. RESTICUS.

FIRST AID IN SERIOUS ACCIDENTS

SIR,—In nearly every account of a fatal accident nowadays, whether from motor, aeroplane, or whatever else, one reads, almost as a matter of course, the words "he died on the way to hospital." When a patient reaches our care after any "concussion" we enjoin complete rest of body and mind. Nature helps us by making the patient unconscious. Would it not be possible to educate the public and ambulance men to realize that complete rest is needed *at once*, and that the safest thing to do for a previously healthy person suffering from shock is to secure absolute quiet? If the constitution has been strong enough to resist a fall from the skies or the jarring of a collision, surely, if left alone, it may rally altogether. Fluid carried in a vessel rocks about, and the fluids in the ventricles of the heart and brain are surely rocked by the lifting, pulling, and "taking to hospital."

Should we not inaugurate a rule whereby the injured person is left where he lies until the medical man called in declares that it is comparatively safe to move him? Certainly these accidents often occur in places where the traffic may be impeded, but since we hold up traffic for a broken road, why not for a broken man?—I am, etc.,

Tunbridge Wells, July 31st. H. M. HENDERSON.

SPONTANEOUS SURGICAL EMPHYSEMA

SIR,—I have noted with interest certain references to cases of spontaneous surgical emphysema in recent issues of the *British Medical Journal*. While resident surgical officer at Ancoats Hospital I saw a man who had a very extensive emphysema, starting apparently in the neck and spreading, within the course of twelve hours, down below the nipple line. It followed on tooth extraction with a local anæsthetic, so that, as was suggested, any possibility of lung damage during the struggles of incomplete anæsthesia was excluded. The condition cleared up in the course of a few days without event, although the patient himself was considerably alarmed.

I can offer no explanation, and hesitate to postulate a similarity to cellulitis with gas formation; it is perhaps conceivable that a not very virulent organism might be capable of producing a considerable amount of gas.—I am, etc.,

London, July 26th. S. M. POWER, F.R.C.S.

Universities and Colleges

UNIVERSITY OF OXFORD

AT a congregation held on August 2nd the following medical degrees were conferred:

D.M.—F. Scott.

B.M.—W. D. T. Brunyate, L. R. Bowtell, A. Guirdham.

UNIVERSITY OF CAMBRIDGE

DR. G. H. F. NUTTALL has been re-elected to the Quick Professorship of Biology for one year from November 1st.

At a congregation held on August 2nd the following medical degrees were conferred:

M.D.—H. V. Dicks, G. W. Bamber.

M.B., B.Chir.—C. I. C. Gill, R. E. Parnsley, J. D. Simpson.

M.B.—E. A. Richards, E. J. Lee Smith, R. L. Osmaston, B. C. Tate.

M.B., B.Chir.—A. C. Crooke, H. W. Sadlier, R. S. Stacey, B. C. Nicholson, P. G. Levick, V. P. Paxon, I. J. Franklen Evans, J. S. S. Fairley.

By proxy.

UNIVERSITY OF LONDON

DR. J. M. W. Morrison, M.D. Glas., F.R.C.P.Ed. has been appointed to the University Chair of Radiology, tenable at the Cancer Hospital (Free). He is now lecturer in radiology at the University of Edinburgh.

Dr. W. Robson has been appointed to the Board of Examiners for the second medical examination, Part I., in the place of Dr. J. A. Hewitt who was unable to act through illness, and Mr. C. P. G. Wakeley has been appointed fifth examiner for the M.B., B.S. (surgery) examination, to act if required.

The regulations for the M.D. examination, Branch I. (Red Book, 1929-30, p. 193; Blue Book, September, 1929, p. 266), have been amended by the insertion after "A clinical examination" of the words "An oral examination at the bedside."

Dr. A. M. H. Gray has been appointed a member of the Finance and General Purposes Committee of the National Post-graduate School of Radiography.

Sir Cuthbert Wallace, K.C.M.G., has been elected chairman of the Research Funds Committee.

The annual reports of the superintendent of the Brown Animal Sanitary Institution for 1923 and 1929 record that during the former year 2,293 animals were brought to the institution and that in 1929 the number was 2,179. The five lectures required under the will of the late Mr. Brown had been delivered by the superintendent at the Royal College of Surgeons during December 1928 and 1929, the subjects of the lectures being respectively "The role of bacteria in Nature" and "The relation of pathogenic to saprophytic micro-organisms." Dr. Nathan Raw had continued his investigation on the attenuation of tubercle bacilli with special reference to the question of immunization against tuberculosis. Mr. Stauford Cade had carried out some experiments on rabbits with the object of testing the tolerance of the animals to solutions of colloidal bismuth with glucose, and to ascertain the relation between the weight of the animal and the amount of bismuth possible to inject intravenously. The experiments were a preliminary to some work to be done at Westminster Hospital in connexion with the radium treatment of cancer. The superintendent had continued his work on the ultra-microscopic viruses and on the essential substance, vitamin, obtained from acid-fast bacilli.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN

The following scholarships have been awarded for the session 1930-31:

St. Dunstan's Medical Exhibition, Miss J. W. Ellinger; Isabel Thorne Scholarship, Miss A. L. Mungrave; Sir Owen Roberts Memorial Scholarship, Miss F. C. Naish; Mabel Sharman Crawford Scholarship, Miss B. Clark; Alfred Langton Scholarship, Miss P. N. Greene; Ellen Walker Bursary, Miss S. W. Pyddoke; Flora Murray Bursary, Miss K. M. Jones; Special Bursaries awarded by Medical School, Miss B. D. Corner, Miss B. Hay Cooper, Miss M. H. Mayeur, Miss P. Wade; Julia Ann Hornblower Cock Post-Graduate Scholarship, Miss C. Day.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

A quarterly comitia of the Royal College of Physicians of London was held on July 31st, when the President, Sir John Rose-Bradford, was in the chair. The following Fellows of the College were elected officers for the ensuing year:—*Censors*, Frederick J. Poynton, M.D., W. Langlois Brown, M.D., Charles H. Box, M.D., Sir Charlton Briscoe, Bt., M.D., S. Isaac Elkan, M.D., Sir Humphry Rolleston, Bt., M.D., Robert O. T. H. Arnold Chaplin, M.D., Raymond Crawfurd, M.D.; *Treasurer*, Percy Moon, M.D.; *Registrar*, Hugh Jones, M.D.; *Librarian and Solicitor*, Sir Humphry Rolleston, Bt., M.D.; *Assistant Registrar*, Robert O. Moon, M.D.

Medals and Scholarships.

The Moxon Gold Medal, awarded every third year to the person who is deemed to have most distinguished himself by observation and research in clinical medicine, was awarded to Dr. Frederick Parkes Weber. The Weber Parkes Prize and Medal, awarded every third year for work on the etiology, prevention, or treatment of tuberculosis, were awarded to Dr. Ernest S. Lyle Cummins, C.B., C.M.G. The Morchi Scholarship was awarded after a competitive examination in clinical medicine to John St. Clair Likington, M.B., and Kenneth Moorhouse Robertson, M.B., jointly.

Harveian Oration and Bradshaw Lecture.

The President announced that he had appointed Dr. Percy Hamilton Ellison to deliver the Harveian Oration, and Dr. J. S. Fairbairn the Bradshaw Lecture in 1931.

Appointment of Representatives

Sir John Rose Bradford was appointed a representative of the College on a committee appointed by the Board of Control to advise on certain matters under the new Mental Treatment Act

Sir George Newman and Dr J W McNee were elected representatives of the College on the Executive Committee of the Imperial Cancer Research Fund

Dr A E Voelcker was appointed to represent the College at the celebration in October of the jubilee of the foundation of Mason Science College, Birmingham, and the thirtieth anniversary of the granting of the University charter

Lectures

The following acceptances of appointments were announced Dr Macdonald Critchley as Goulstonian Lecturer for 1931, Sir William Willcox as Lumleian Lecturer for 1931, Sir Andrew Balfour as Fitzpatrick Lecturer for 1931 Dr Samson Wright as Oliver Sharpey Lecturer for 1931, Dr J W McNee as Croonian Lecturer for 1932

Membership

The following candidates, having satisfied the Censors' Board, were admitted Members

Philip Jacob Alpers M B Melb Benjamin Barling M D Lond James Albert Brodrick M B Sydney James William Brown M D Lond Eleanor Mildred Creak M B Lond Philip Edwin James Cutting M D Lond John Dockray M B Camb Mohammed Abdul Aziz H Gammal L R C P John Cullis Hawksley M B Lond Roy Humphrey Howells M B New Zealand Charu Chandra Kapila M B Rangoon Gwash Lal M B Punjab Edward William Lindeck M B Camb Frederick Martin Lipscomb L R C P Florence Louis M B Lond Thomas Keith Sclfe Lyle M B Camb Harry Edward Mansell M B Oxon Dhirendra Chandra Mazumdar M B Allahabad Andrew John Morland M B Lond Santosh Kumar Mukhopadhyay M B Calcutta Margaret Geraldine Phoebe Reed M B Camb Edward Graeme Robertson M D Melb Gerald Richmond Anderdon de Montjoie Rudolf L R C P Ismail Ahmed Sabri M B Cairo James Dundas Simpson L R C P Eliot Trevor Oakeshott Slater L R C P John Smith M D Aberd Bashi Lal Taneja M B Punjab John Richard Hugh Towers M B Camb

Licence and Diplomas

Licences to practise physic were granted to 141 successful candidates, and Diplomas in Public Health Ophthalmic Medicine and Surgery, and in *Tropical Medicine and Hygiene* were conferred jointly with the Royal College of Surgeons (The lists of the successful candidates are published in the report of the meeting of the Royal College of Surgeons printed below)

The following diplomas were also conferred jointly with the Royal College of Surgeons

DIPLOMA IN LARYNGOLOGY AND OTOLOGY—C A Amesur A B Berkowitz I G Dermer A M H Hakim A H Sayed Handousa B Hillel I Kallmeyer F T Land M R Levey H Lewis G R Marcano I G Meade I Phillips S N Prasad H W Savage G S Seed S K Sen Gupta

DIPLOMA IN PSYCHOLOGICAL MEDICINE—R D Curran J W Fisher J Flind R N B McCord W M McGrath W Ogden D N Parfitt R Strom Olsen V Vassallo A W Watt

ROYAL COLLEGE OF SURGEONS OF ENGLAND

AN ordinary meeting of the Council of the Royal College of Surgeons of England was held on July 31st, with Lord Moynihan, the President, in the chair

Gold Medal

The honorary Gold Medal of the College was awarded to Mr R Lawford Knaggs, I R C S in appreciation of his services to the museum more especially in preparing a catalogue of and revising the Strangeways collection of specimens illustrating arthritis

Scholarship

The first Macloghlin scholarship for medical students was awarded to L J Honeywill of Bournemouth School

Examiners

Mr Frank Coleman *M C* dental surgeon to St Bartholomew's and the Royal Dental Hospital was elected a member of the Board of Examiners in Dental Surgery

Mr C H Fagge and Dr R G Canti were elected Examiners in Pathology under the Examining Board in England

Professors William Wright and C Lovatt Evans were nominated to conduct the primary examination for the Fellowship in Australia in 1931

Diplomas

Diplomas of Membership were granted to the following candidates, who had passed the final examination in medicine, surgery, and midwifery of the Examining Board in England

Constance F Allen S G Allen R E Angel Lily Arratoon J Azioun I G Badger W I Bain W L H L Bell S W T Bentall A C Bhardwaj I Billig W R Bion A N Birkett S Bochonek Kathleen M Bodkin B F M Bond E K Boston L V O Brown A Buch W R Burrows M L Bynoe L C Campbell G F Carey J Chamberlain H M Chappel L Charney W F Church L P Clarke A H Clegg D H Collins R V S Cooper W C Crosdeo R M S Cross Elizabeth T Davies L S Davies C G S De Silva C H Devin D Divine R H Dobbs J A Doherty N R Donald Mary G H Edwards A Elliott M M El Mishad A A G Flemming G M Flemming E V P Fox Margaret L Foxwell P I Franks L I Friedman Lorna M A Goulden Bach. C A Grant E R Greathead G Hale I F P Handy Eileen E Harvey R M Harvey Gladys M Herbert Constance M Howe H I Hodgkinson J C de V Hutchinson L B Ialson I I Javeri G H Jennings H B John I G Jones W D G Jones C R Kenchington P A I Lansel S R Ledger J C Leedham Green Edna Lock R I Lomax R I Lucas H O Lyne Moyra I Macnaughton Jones I G Maitland H S A Malik, P T Merlin Elizabeth T Moss Blodwen Morgan G D Morgan K I Nicholls T C Ontred G A V Parker C F L Patterson G H Pearce R B Peckham, N S Plummer, N H L Ridley, R S Risk D M Roberts J M Robertson L K Robson A L Rowson M H Salaman I M Sandford K C Sarkar J M Searle T S Severs Dorothy A Sharpe C J C Sievers W W Simkins C H Sims K C S Skene M W Smith I Sowerbutts A A Staunton D J R Steen G V Steward I G Stewart H M Strover, H B Swift K T Taskar C F Taylor M R Thomas K S Thompson C I L Thurrar T F Tierney O T Wade W N P Wakeley I C Watson I C S Wells Margaret I Williams T C Williams T G Williams B Willinsky Maureen D Willmott Evans F W Willway W I Wimberger H A M Wintle Barbara I Woodhead I C A Wright

The following diplomas were granted jointly with the Royal College of Physicians

DIPLOMA IN PUBLIC HEALTH—Edith I L Abbott Iris I G Adams H W Allen I V Almeyda G R M Apsey S K Arora I R Boland M S Chadha S Dakshinamurty Edith M Davies I G Davies P T J Doss S W Iveson A H Galo K K Goh Phyllis M Grainger A Hamid I B Jones B N Khanna N K Kumaran B K Lal B D Malhotra B D Mallick R Mansoor H D M L Murray W R Nash G I B Payne S M Rahman G A Roche A Shafi I Spencer M I Srivastava V I Whitman

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY—Dorothy R Adams T S Blacklidge H Chaudhuri M A Contractor I R Cunningham I Dadabhoy D R Gawler L M Green Millicent Hamilton Johnstone H V Ingram S Lal Laura M Ligertwood S S Lindsay L Mahadevan T M Mansfield A B Rao C N Smith L Staz L Taneja H Tomkin T A B Travers D K Weston

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE—C A Alvarado T I Anderson W K Connell A B Cook M K Kelaykar I M Lourie D R McPherson I Marsh T H Nolan P K Rao C I Roberts R Shelley M Singh R G Spink T W Stephens Dorothy I Stewart Marjorie V N Sudds B A Taylor S E Theis H G Timbres Gladys M Tullidge E M Wijerama

CONJOINT BOARD IN SCOTLAND

THE following candidates have been approved at the examination indicated

FINAL EXAMINATION—*Medicine* A Fazary K C S Menon K L Loh A J Abeyesundere R Morton M N Rozdon T B D Oliver J C Blok I L K Lawson P Dass I Nasi *Surgery* A Fazary K L Loh Y M I Abeyesundere W F S Winne I Rosenberg *Midwifery* K L Loh A J Abeyesundere R Morton M N Rozdon Y M F Abeyesundere J Rosenberg M D D Jayawardana P Dass G Brown *Medical Jurisprudence and Public Health* I R Le Roux Euphemia Cardwell Y H Kwan R D Johnston B Meyerowitz A M Clement F Ludolf S McCallum Helen H Norris W M Teo F A Libert I M Solario D Cameron J P Collee L J Goggins M Nathan, J Osipowitz H I Ezrot

Out of 93 candidates entered, the following passed the Final Examination and have been granted the diploma of L R C P Ed L R C S Ed, L R F P and S Glas

H H Jones Father A Michael J McConnell, T F la Fronais A D Wilson C Bellamy I B Harris A R Hunt C B Watson I P Walsh R L Allan H C Bodemer I L W Davies Phillol Kelchley W Stevenson M P Moss M K Yong W I M Blamey W Graham C C Teck P Kulasinghe, C D Amarasinha I D Grant F T Buck J A S de Sampayo R P Carew Smyth R S Wilson B W Advani

SOCIETY OF APOTHECARIES OF LONDON

THE following candidates have passed in the subjects indicated

SURGERY—M M Barritt G T W Cashell J S P Coutts G R Davies H Glynn C R Graham I Mattar G W Sturgess W H Willis G K Wilsker

MEDICINE—M Asaad M M Barritt A Buch E C Dymond I F R Heppolette S R G Pimm Z Risk A L Thomas G H C Walmsley

FORENSIC MEDICINE—F C Dymond R F T Finn J D B Games C Seeley I J Todd Naylor

MIDWIFERY—M M Barritt R F T Finn G W Hinchliffe I I Jones C G Muller R D Newton G H C Walmsley

The diploma of the Society has been granted to Messrs A Buch, C T W Cashell E C Dymond I D B Games, J L R Heppolette S R G Pimm, Z Risk, A L Thomas, G K Wilsker, and W H Willis

The Services

DEATHS IN THE SERVICES

Surgeon Lieut Colonel James Anderson Laing, Madras Medical Service (ret), died on May 18th, aged 84 He was born on September 11th, 1845, the son of David Laing, Esq, of Edinburgh, and was educated at the university in that city, where he graduated as M B and C M in 1869, after taking the L R C P in 1866 Entering the I M S as an assistant surgeon on April 1st, 1870, he became Surgeon Lieutenant-Colonel after twenty years' service, and retired on September 9th, 1895

Major Charles James Owen Young, M C, R A M C, died at Kuala Lumpur, Federated Malay States, on July 30th He was the elder son of Colonel C A Young, C B, C M G and was educated at Trinity College, Dublin, where he graduated as M B, B Ch, and B A O in 1916 He entered the Army at once, on July 1st, 1916, as a lieutenant in the Special Reserve, R A M C, became temporary captain on December 1st 1918, captain on January 1st, 1920, and major on July 1st 1928 He served through the latter half of the war of 1914-18, was mentioned in dispatches in the *London Gazette* of December 30th, 1918, and was awarded the Military Cross

Obituary

SIR FRANCIS HENRY CHAMPNEYS, BT., M.D., F.R.C.P.

Consulting Physician-Accoucheur, St. Bartholomew's Hospital.

FRANCIS HENRY CHAMPNEYS, who died on the morning of July 30th, at his home, Littlemead, Nutley, Uckfield, Sussex, was born on March 25th, 1848, as the fourth son of the Very Rev. William Weldon Champneys, rector of St. Mary's, Whitechapel, and Dean of Lichfield, who father and grandfather had also been in Holy Orders. Francis's elder brother, Basil, a well-known architect, edited the *Memoirs and Correspondence of Coventry Patmore* (1900), a younger brother, Arthur Clark, who was a boy and later assistant master at Marlborough, was part author of a history of that public school (1893).

In 1860 Francis Champneys went to Winchester as a scholar, and was a pupil of S. S. Wesley, who was then organist both to the cathedral and the school (1849–65); this must have influenced his musical life for he had an organ in his house during the last quarter of the last century, directed a private choir which usually met in his London house, composed anthems and wrote articles in the *Dictionary of Musical Terms* (1876) compiled by Sir John Stainer and A. W. Barrett. In his *History of St. Bartholomew's Hospital* Norman Moore said that "as a learned and admirable musician he benefited the school of St. Bartholomew's by encouraging the practice of *music there*." Following the example of his father, who had been a Fellow of the college, Francis Champneys went up in October, 1866, to Brasenose, Oxford, and in 1868 rowed bow in the college four in the Stewards' Cup at Henley. He obtained a first class in natural science, together with Seymour J. Sharkey (1847–1929), in the final schools, and the B.A. degree in 1870. He entered the medical school of St. Bartholomew's Hospital in 1871, and while working in the dissecting room there made his first professional contribution—an account of "A communication between the external iliac and portal veins" in an "aged" woman of 48 years (*Journ. Anat. and Physiol.*, 1872, v, 427). The Radcliffe Travelling Fellowship for three years was awarded to him in 1872, the year before that honour was gained by Sharkey, whose career and life so closely corresponded with his. He thus had the opportunity of working at Vienna, Leipzig, and Dresden, and at the last of these medical centres held a post in the lying-in hospital, thus very probably determining his future line of work.



After fulfilling the obligations of the travelling fellowship to spend eighteen months of its tenure abroad, he returned to London, and in 1875 obtained the diploma M.R.C.S. and graduated B.M. Oxon., it was not however until 1878 that he proceeded D.M. At St. Bartholomew's he was appointed medical registrar in 1875 and in 1877 casualty physician at the same time as Robert Bridges, afterwards Poet Laureate. In 1876 he married Virginia, daughter of Sir John Warrender Dalrymple of North Berwick, and began the hard struggle in consulting practice which is easier to look back upon than to endure cheerfully, and which in his case led to such eminent success. In 1880 he was elected assistant obstetric physician to St. George's Hospital and on the retirement of Robert Barnes in 1885 was made obstetric physician, no appointment of a second obstetric physician was made during his term of office, so that he had entire charge of the department until 1[illegible]. In January 1891 he accepted the invitation to return to his old school St. Bartholomew's to take the place of J. Matthews Duncan (1826–1890), as physician accoucheur and lecturer on diseases of women and children, a post he held until his retirement in 1913 under the 65 years age limit when he was elected consulting physician-accoucheur and governor of the hospital. In this year he retired from practice and left his house in Upper Brook Street to live in the country.

He was a [illegible] pupil and follower of Matthew Duncan who had been appointed to the post in 1877, a time when the [illegible] had become [illegible] and Champneys [illegible] to be [illegible] lecture at 9 [illegible] went [illegible] Great St. George H[illegible] [illegible] [illegible] [

occupied the presidential chair of the Royal Medical and Chirurgical Society were Sir Charles Locock, first physician-accoucheur to Queen Victoria, in 1857, and in 1877 Charles West, who was honorary physician-accoucheur and lecturer on midwifery (1848–61) at St Bartholomew's Hospital, and also eminent as founder, in 1852, of the Great Ormond Street Hospital for Sick Children Now, after a shorter interval of seventeen years, Dr T W Eden follows in his footsteps As recently as July 15th last Champneys was elected an honorary Fellow of the society he had served so long and faithfully, but did not live to be admitted or to receive the diploma At the old Obstetrical Society of London, which became a Section of the Royal Society of Medicine, he filled many offices, and was president so long ago as 1895–96, when in his address he gave an account of the midwives question, in which he took a great and active interest for many years, playing a leading part in formulating the rules for the Central Midwives Board, and as its chairman since its institution becoming the authority on the subject, as is shown, among other ways, by his address in 1914 on the working of the Midwives Act (England), 1902 Many of his contributions are to be found in the Obstetrical Society's *Transactions*—for example, his paper on the mechanism of the third stage of labour (1888) In 1890 he delivered the Harveian Lectures on painful menstruation, which were published in the following year His deep interest in combating venereal disease was shown by his support of the British Social Hygiene Council, of which he was a vice-president At the British Medical Association's meeting at Oxford in 1904 he was president of the Section of Obstetrics and Gynaecology

Among his professional publications mention may be made of a volume in the New Sydenham Society's Selected Monographs—Landau's work on "Movable kidney in women," which he translated, annotated, and edited in 1884 He published in 1887 an account of experiments on artificial respiration in stillborn children, and later a study of the natural history of tubal gestation illustrated by a series of seventy-five original cases (1902), and a note on the history of the literature of the toxaemia of pregnancy (1908), the two last appearing in the *Journal of Obstetrics and Gynaecology of the British Empire*

In June, 1910, he was created a baronet of the United Kingdom, the same list containing the peerage conferred on Sir Balthazar Walter Foster, who had been Parliamentary Secretary of the Local Government Board His outstanding position in the medical profession was also shown by his election as president of the Section of Obstetrics and Gynaecology at the Seventeenth International Congress of Medicine, held in London in August, 1913 At the first meeting of the council of the College of Obstetricians and Gynaecologists, in September, 1929, he was appointed vice-patron of the college "in recognition of his services to obstetrics and gynaecology, and to the College during the process of formation" He was one of the original signatories of the college and a member of its first council, he regularly attended its meetings, and his judgement and sound common sense proved most valuable

Champneys advanced the branch of medicine he adorned rather by wise leading and tactful guidance than by initiating any great discovery, and he exerted an influence for reform and wholesome advance on sound scientific lines He had lived through the transitional period during which its followers, formerly physicians in name, became surgeons both in name and in deeds With a personal charm of manner and conversation, he had troops of friends, was a member of several social medical clubs, had wide interests outside his profession, and was a truly religious man His only surviving son, who succeeds to the title, Weldon Dalrymple-Champneys, late Grenadier Guards, was at Oriel College, Oxford, is a doctor of medicine, and a medical officer in the Ministry of Health

The funeral took place at Hampstead Cemetery on August 2nd, preceded by a requiem and the first part of the service at St Alban's, Holborn, with which he had long been associated A memorial service was held in the Church of St Bartholomew-the-Less, within the precincts of the hospital, at 9 15 a m on the same day

H D R

Sir D'Arcy Power writes

My earliest recollections of Dr Champneys go back to a time when he was canvassing for the appointment of obstetric physician to St George's Hospital, where my father had been ophthalmic surgeon and had many friends among the staff Champneys often stayed to dinner, and I recall him as a good-looking man, full of energy, talkative, and bubbling over with laughter He told us of Wagner's genius and of the relative beauties of his different operas, all of which he himself attended regularly, though seats were expensive, and money was not too abundant even for one who had been a Radcliffe Travelling Fellow at Oxford We learned also, incidentally, that it took just forty-nine minutes to walk from our house in Great Cumberland Place to Hampstead, where Miss Dalrymple, his future wife, was then living, and that he did the journey daily A few years later, when I attended the lectures of Dr Matthews Duncan—that great teacher of ethics and midwifery—Champneys was always present, notebook in hand, although he was obstetric physician at St George's, and Dr Matthews Duncan lectured "on every lawful day—Saturdays included—at 9 a m" Later still came the distressing incident when Dr Clement Godson was superseded, Dr Champneys was then elected physician-accoucheur to St Bartholomew's Hospital in place of his great master From that time his position was assured, he went from honour to honour, happy in his circumstances until those last sad years when, bereft of a son in the war and of a beloved wife, he fell into the sadness of old age Of him it was true, as Virgil sings, that—

> "Optima quaeque dies miseris mortalibus aevi
> Prima fugit, subeunt morbi tristisque senectus"

Dr David John Browne, who died at his residence in Londonderry on June 19th at the age of 84, received his medical education in Dublin, where he obtained the diplomas L M in 1868 L R C S I in 1869, and M R C P I in 1880 The whole of his medical career was spent in Londonderry, where he built up a large practice He held several public appointments, being consulting medical officer of health to the Londonderry Union, physician to Foyle College, and medical referee to various insurance companies He was for some time a member of the Derry Corporation, and until his death he was a director of the City of Derry Building Society, of which he had been president for the last fourteen years He was a member of the British Medical Association A colleague writes Of a genial and kindly nature, Dr Browne was a practitioner of the old school He was highly esteemed by everyone with whom he came into contact His bright, cheery manner, coupled with a fine sense of humour inspired many of his patients in the critical stages of their illness, and he was regarded as a family friend as well as medical adviser Some years ago, when he retired from the post of medical officer of the Derry Workhouse and Waterside Infirmary, which he had held for over forty years, the chairman and members of the board of guardians paid the highest tribute to the very efficient manner in which he had discharged his duties

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Dr Charles Berkeley Gervis, who died on June 30th, was born at Hampstead in 1875, he was the fourth son of the late Dr F H Gervis, who practised for many years in Fellows Road Charles Gervis was educated at St Paul's School and University College Hospital, and studied also in Brussels and Vienna He obtained the diplomas of M R C S Eng, L R C P Lond in 1897, and graduated M D Brux in 1898 After serving as assistant medical officer at Colney Hatch Asylum he went to Seaford in 1898 he subsequently held the appointments of medical officer to the Post Office and public vaccinator of the Seaford District of the Eastbourne Union He took great interest in local affairs, being a member of the Seaford Urban District Council for sixteen years and chairman of that body for three years He was also chairman of the Seaford Nursing Association, the committee of the Sussex County Hospital, and the Boy Scouts local association He founded the Seaford Masonic Lodge, and was for many

years honorary secretary of the Union Club. During the war he served with the R.A.M.C. in France and South Africa. Dr. Corvis was a member of the Brighton Division of the British Medical Association. He contributed a paper on eclampsia to the *British Medical Journal* in 1913.

Dr. DAVID HART SCOTT, who died on June 28th at the age of 72, received his medical education at the University of Edinburgh and obtained the diplomas L.R.C.P., L.R.C.S. and L.M. Ed. and L.R.F.P.S. Glas. in 1884. After holding the post of assistant house surgeon at the Dumfries and Galloway Royal Infirmary he engaged in general practice in Manchester and afterwards at Paddock Wood, Kent, acting as district medical officer for the Capel District of the Tunbridge Union. He later practised at Sampford Peverell, Devon, and subsequently at Bolton le Sands, finally settling down at Pirton, Drove, near Wisbech, in 1919. He took an active interest in the affairs of the Isle of Ely Division of the British Medical Association, and became a member of the Executive Committee of that Division in 1919. He was elected vice-chairman of the Division in 1928, and would have held the post of chairman the following year but for his illness, which ultimately proved fatal. In addition to his interest in the affairs of the Division he also took an active part in those of the Isle of Ely Panel and Local Medical Committees, on both of which committees he served from 1919 onward. A colleague writes: Dr. Hart Scott had the attributes in no small degree which go to the make up of an ideal type of man—the combination of the Christian gentleman and the doctor. He never sought popularity, but with such a character he was destined not to escape it. He was held in high esteem among his colleagues, and was truly beloved by his patients, on whose behalf he laboured unsparingly. He will always be remembered for his kindly disposition, his sincere desire to relieve suffering, and his warm, human sympathy.

Medico-Legal

MEDICAL FEES AT INQUESTS

CLAIM AGAINST A CORONER

At Redhill County Court, on July 16th, His Honour Judge Hill Kelly gave a reserved judgement in an action which had been brought by the Medical Defence Union, acting on behalf of Dr. David Low Greig of Caterham, against the coroner for East Surrey, Mr. F. J. Nightingale. Dr. Greig claimed £22 1s. for examining seven bodies and giving evidence on two occasions as to cause of death in the case of the victims of the Croydon air disaster of November 1929. The Medical Defence Union contended that the doctor was entitled to a fee in the case of each body examined, whereas it was contended by the coroner that as the cause of all these deaths was dealt with by one inquiry Dr. Greig was only entitled to two fees of 1½ guineas as if one inquest had been held on one body on two occasions.

At the hearing, which took place on June 20th, Mr. H. C. Dickens (instructed by Messrs. Hempson, solicitors) represented Dr. Greig and the Medical Defence Union, and Mr. Milner Holland represented the coroner and the Surrey County Council, his employing authority.

Mr. Dickens explained that this was a friendly dispute as a result of which it was hoped to get an interpretation of Section 23 of the Coroners Amendment Act, 1926. The section reads as follows:

> The fees payable to a legally qualified medical practitioner who has made any post mortem examination by the direction or at the request of a coroner or who has attended an inquest in obedience to a summons of a coroner under the Coroners Act, 1887, shall (save as in this Act otherwise expressly provided) be as follows—that is to say:
>
> (*a*) For attending to give evidence at any inquest whereat no post-mortem examination has been made by the practitioner, 1½ guineas for each day of which he is required to attend; and
>
> (*b*) for making a post mortem examination of the body of the deceased and reporting the result thereof to the coroner without attending to give evidence at an inquest, 2 guineas; and
>
> (*c*) for making a post mortem examination of the body of the deceased (including the making of a report, if any, of the result thereof to the coroner) and for attending to give evidence at an inquest on the body, 3 guineas for the first day and 1½ guineas for each subsequent day on which the practitioner is required to attend:
>
> Provided that no fee or remuneration shall be paid to a medical practitioner for the purpose of a post mortem examination instituted without the previous direction or request of the coroner.

On November 7th (Mr. Dickens continued) Dr. Greig made an examination of the bodies of seven persons who were the victims of an air disaster, and on the following day attended an inquiry into the causes of death. The inquiry was adjourned, and Dr. Greig attended again at the resumed hearing. His submission was that he was entitled to seven 1½ guinea fees in respect to his services on the first day, and a similar amount in respect to his services on the second day.

The coroner, in evidence, said that he issued only one coroner's warrant, empanelled only one jury, and returned one verdict. He agreed that he viewed seven bodies, that there were seven inquisitions, seven death certificates, and seven burial orders, also that there was a possibility that the cause of death might have been different in each case, though in fact it was not.

Mr. Holland for the coroner submitted that there was no obligation on the part of a doctor to examine the bodies when requested to do so by the coroner's officer. The only thing which could be enforced was attendance at the inquest. When the judge whether he was putting this forward for the defence on behalf of such a responsible body as the Surrey County Council, he said that that in his submission was the law, to which the judge replied: 'How is the coroner to get a medical man to give evidence as to the cause of death if he has no power?' Mr. Dickens also pointed out that if the coroner had no power over a medical man the medical man could go into the witness box at the inquest and say that he could give no evidence as he had not seen the body. At the same time, he would be entitled to his fee of 1½ guineas for attendance.

Judgment for the Doctor

In giving judgement His Honour said that Section 23 of *the Coroners Amendment Act indicated the manner in which* a practitioner was to be remunerated in three different sets of circumstances—namely (*a*), (*b*) and (*c*). It was the first one which fell to be considered in this case—attendance to give evidence without having made a post mortem examination—but in order to construe the section it was proper to have regard to the whole of it. Clause (*a*) might be ambiguous when read alone; it seemed clear that Clause (*b*) gave to the practitioner a right to a fee of 2 guineas for each post mortem examination made by him at the coroner's direction, while Clause (*c*) provided that *the practitioner should be entitled* to be paid 3 guineas for making a post mortem examination of the body and for attending to give evidence at the inquest. If the defendant's contention as to the construction of the section was correct, how was the remuneration of the practitioner to be ascertained in the case coming under Clause (*c*)? Suppose an inquiry into the deaths of two persons killed at the same time and by the same cause, and that the practitioner had by the coroner's direction made post mortem examinations of the two bodies and had attended the inquest: the evidence with regard to both bodies [illegible] was he to be remunerated. The [illegible] ended the operation of Clauses (*a*) and (*b*) and [illegible] Clause (*c*) which enabled the fee of 3 guineas to be split up. On the other hand, if the application was correct, there was no difficulty: the practitioner in that case was entitled to be paid 3 guineas in respect of each post mortem examination he had made where he had also attended to give evidence of the cause of death. Therefore it would follow from the words in Clause (*c*) attending to give evidence at an inquest on the body that an inquiry touching the death of one person and no more was intended, and if the word was used in that sense in Clause (*c*) it followed that it was used in the same sense in Clause (*a*). That the judge thought was the true view of the matter. Although it was [illegible] practice for coroners to hold a single inquiry into the deaths of two or more persons there were really in the law as many inquiries as there were dead bodies touching which [illegible] was held. The language of the *Coroners Act, 1887*, and the *Coroners Amendment Act, 1926*, throughout [illegible] inquiry touching the death of a single person, and there the word used was [illegible] of the Act of *1926* and there the judge [illegible] in the plural whereby the judge [illegible] recognized that a separate inquest [illegible].

The result of this interpretation [illegible] Dr. Greig was entitled to [illegible] application Dr. Greig claimed [illegible] the amount he claimed [illegible] a practitioner should be entitled to be paid a large sum in respect of [illegible] attendances occupying a [illegible] whether [illegible] the case was unusual when a coroner inquired into the deaths of seven persons killed at the same time and a strange result in an unusual case ought not to affect the interpretation of the Act.

The judge added, "Since the rate of remuneration of the medical practitioner is governed by the words of the Act of Parliament no question can arise as to its reasonableness, but the plaintiff naturally referred in his evidence to the fact that, at the defendant's request, he attended on the day before the inquiry at the Caterham mortuary and examined the six bodies lying there [the seventh person died at the house of the plaintiff], and since if he had not attended at the mortuary and made that examination he could have given no evidence for the guidance of the coroner and the jury, it was with considerable surprise that I heard counsel for the defendant repeatedly urging that the plaintiff was under no obligation to comply with the request and could have wholly disregarded it without any breach of duty."

Judgement was given for the plaintiff, but His Honour agreed to a stay of execution for twenty one days

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

ON August 1st before Parliament was prorogued till October 28th, the Royal Assent was given to the Workmen's Compensation (Silicosis and Asbestosis) Act, the Road Traffic Act, the Criminal Appeal (Northern Ireland) Act, the Education (Scotland) Act, the Housing Act, the Housing (Scotland) Act, and to other Acts. The King's Speech proroguing Parliament recalled that at an earlier date the Royal Assent had been given to the Mental Treatment Act.

On the same day Mr Snowden read to the House of Commons a statement setting out the Government's agricultural policy. Dr Fremantle pointed out that this contained no reference to a subject of great importance—namely, the training of veterinary surgeons.

National Health Insurance

Mr GREENWOOD informed Sir N. Grattan-Doyle on July 31st that he had seen the report of the Council of the British Medical Association recommending the extension of the benefits of national health insurance to dependants of all persons insured thereunder. He was not then able to make a statement concerning any action.

Replying to Dr Vernon Davies Mr GREENWOOD said he knew Section 4 of the National Health Insurance Act, 1928, precluding Insurance Committees from making grants unless the Minister was satisfied that they were [illegible] character, would abolish next December the [illegible] service of the Lancashire Insurance Committee. Dr DAVIES stated that since 1926 this service had provided out of local funds a free laboratory diagnostic service for 800,000 insured persons in Lancashire at a cost of less than one farthing per head. Mr GREENWOOD remarked that alternative means of securing services of this character had been suggested to representatives of the committee, but he could not undertake to propose an amendment of the law deleting the word "eleemosynary" from Section 4 of the Act of 1928.

Replying to Mr Daggar Mr GREENWOOD gave the approximate number of weeks for which sickness and disablement benefits were paid under the National Health Insurance Acts:

Years	Million weeks	Years	Million weeks
1921	19	1926	28¼
1922	19¼	1927	30¼
1923	20¼	1928	26¾
1924	23¼	1929	29¼
1925	25		

In reply to Mr Gould, on the same day, Mr GREENWOOD said he had received a report from the Somerset Health Insurance Committee in which it was stated that certain chemists had been dispensing in a very lax way under the National Health Insurance Act, and that in one case a deficiency of 69 per cent of the drugs as prescribed by the medical practitioner was dispensed to the patient. Any failure to comply with the terms of service applicable to insurance chemists would be dealt with in accordance with the Medical Benefit Regulations. Asked by Mr GOULD whether he would not take action in order to dispel the bad impression the report had left on the minds of patients in regard to the quality of dispensing Mr GREENWOOD said that there was no delay on his part. A definite procedure had to be followed under the regulations in regard to intervention.

Mental Treatment

Mr GREENWOOD stated in reply to Mr Richardson on July 30 that in the course of considering the recommendations of the Royal Commission on Lunacy notes were prepared on the clauses that would be required to effect an assimilation of the procedure for the certification of rate-aided and private mental patients. No steps had been taken towards drafting a bill, as it was impracticable at present to undertake further lunacy legislation. When asked to state his attitude towards the recommendation of the Standing Committee on the Mental Treatment Bill to give separate accommodation to voluntary boarders, he reminded Mr Richardson that the Mental Treatment Act had only received the Royal Assent on July 10th and did not come into operation until January 1931. The Board of Control had already conferred with local authorities in regard to some of the more important provisions of the Act. Until local authorities had an opportunity of considering and determining the steps to be taken in their areas when the Act came into operation it was impossible to say how many hospitals which had hitherto been Poor Law infirmaries would be utilized for this purpose or how many hospitals had started out-patient clinics for mental cases.

On August 1st Mr GREENWOOD announced that he had given provisional approval to a proposal made jointly by the East Riding County Council and York City Council to buy Brandesburton Hall and 98 acres of land for "mental deficiency purposes." The estate had been inspected by the Board of Control, which was satisfied that it was suitable. His own inquiries did not support the allegation that the site was unsuitable and too low.

Physical Condition of Army Recruits

In the House of Commons, on July 30th, the Army Estimates again came under discussion, and a statement was made by Mr SHAW. He said that the Army needed about 30,000 recruits a year, of whom 17,000 were required for the infantry. Something like 61 per cent of those who offered themselves for the Army failed to reach the very moderate standard of physical efficiency which was necessary. During the nine months of the present recruiting year 19,213 recruits were accepted. The physical condition of those now offering themselves for service was probably due to the war. In addition, the diminution of births during the war years limited the number of men of military age. In 1928, 64 men out of every 100 were rejected, and in 1929, 61. Nearly all the rejections were on account of physical defects. The height required for the infantry of the line was now 5 ft. 2 in. To him these figures were dreadful. The medical side of the Army was understaffed. From information given him by some of the distinguished men in the medical profession, the reason was that the terms on this side of the service were *not good enough*.

Sir LAMING WORTHINGTON EVANS said that in past years 65 or 66 per cent. of Army recruits had been rejected. He did not see how war deterioration could yet affect recruiting. War children would at most be only 16 years old.

Mr SHAW said he had referred to the children who were 3 or 4 years old when the war broke out.

Dr VERNON DAVIES said the recruiting statistics showed there were in this country a very large number of young men who could not be described as physically fit. The improvement on young men after admission to the Army should be taken into account. Mr Shaw had recently stated that there was a present shortage of 140 medical officers in the Army. Mr Shaw had put his finger on the cause, which was money. The medical man was worthy of his hire, and more and more of them were attracted each year into the public services—the health services, tuberculosis services, venereal disease services, and all the others, which offered great inducements. The best men took these appointments and the Army suffered. If the Secretary of War offered sufficiently good terms he could get them into the Army. There was another method. Would it not be possible to arrange that any medical man who had been in one of the Defence Services should have a preferential claim to any Government medical service, and later on, to those under municipalities? The same trouble was found in the Navy and the Air Force, but if the three departments would persuade the Government to adopt this preferential system the difficulty would be overcome.

The House then agreed to the Army Estimates.

A previous discussion on the Army Estimates and on the shortage of medical officers occupied the House of Commons on March 24th, and was reported in the *British Medical Journal* of April 12th.

Medicine Stamp Duty.—In an answer to Mr Leif Jones, on August 1st Mr SNOWDEN said the net amount of Medicine Stamp Duty received in the year ended March 31st, 1930, was approximately £1,234,200. There was a statutory exemption from the duty in favour of "Known, admitted and approved" remedies—when sold by duly qualified doctors, chemists, or druggists—in which no proprietary right was claimed. Claims for such exemption were admitted provided that a definite and complete statement of the actual ingredients (that is, the full formula with proportions) and a statement that no proprietary rights were claimed in the preparation of the medicine were printed in a legible and conspicuous manner on all labels, cartons, etc. Following the decision of the courts in the case of Farmer *v.* Glyn Jones in 1903, exemption had not been refused on the ground that known, admitted, and approved remedies had been recommended for the prevention or cure of illness. The cost of this exemption could not be stated.

Smuggling of Drugs.—Mr CLYNES, in reply to Mr Mander on July 31st, stated that there had been a number of attempts to smuggle drugs into Egypt on boats of the Khedivial line, and on those of other lines sailing between Egypt and European ports. The Central Narcotics Intelligence Bureau in Cairo had called the attention of the company to these cases, and the company had instructed their agents to co-operate in every possible way with the Bureau to prevent use being made of their ships for such a purpose.

Tuberculosis.—Mr ALEXANDER informed Dr Vernon Davies, on July 30th, that during the previous six months 70 per cent. of those invalided from the Navy for tuberculosis had been granted attributable pensions. This compared with 68 per cent of those invalided for this reason during 1929. On the same day Dr Davis was told by Mr SHAW that the number of such pensions granted to those who had been invalided from the Army during 1929 on this account was about 2 per cent less than the number of the previous year.

Housing.—During the period July 1st 1928 to June 30th, 1929 51,282 houses were built in England and Wales under the Housing Act, 1924; in the following year the number for the same period was 54,159.

Vagrancy—Mr GREENWOOD stated last week that the report of the Commission on Vagrancy would shortly be available He proposes to address a circular letter regarding it to local authorities

London Refuse—In reply to Dr Fremantle on July 31st Mr GREENWOOD said the report of the Departmental Committee on the Disposal of London Refuse was being considered by the Standing Joint Committee of the Metropolitan Borough Councils It would not be practicable for the committee to furnish its view during the parliamentary recess

Anthracosis in Miners—Mr PARKINSON in reply to Mr Jenkins on July 30th said the investigation of anthracosis in miners was within the scope and under the close attention of the Committee on Industrial Pulmonary Disease recently set up by the Medical Research Council The results of the investigations would be published in due course

Infant Mortality in Malta—Dr SMITH replying to the Duchess of Atholl on July 28th said that during 1923 there were 1 653 deaths or 250 81 per 1 000 births of children under 1 year of age in Malta In 1927 there were 2 250 deaths or 301 32 per 1 000 births and in 1928 1 963 deaths or 267 91 per 1 000 birth

Medical News.

VISITS to the Tower of London will be arranged on August 13th 20th and September 3rd in aid of King Edward's Hospital Fund for London the guide being Mr Walter Bell, the well known London historian Applications for tickets (price 10s for each visit) should be made to the secretary of the Fund 7, Walbrook, E C 4

THE winter session of lectures at the Central London Throat, Nose, and Ear Hospital Gray's Inn Road W C 1, will commence on Friday, September 5th at 4 p m The official opening lecture of the session will be given on October 10th at 4 p m by Dr Dan Mckenzie, on the limitations of surgery in oto laryngology

THE Fellowship of Medicine announces that there are still three weeks remaining of the special course in urology consisting of clinical and cystoscopic demonstrations on male and female patients at All Saints Hospital Vauxhall Bridge Road, S W 1 proportionate fees are payable From August 11th to 16th an all day course will be held at the Brompton Hospital A course taking up the whole of the day will be held at the Queen's Hospital for Children from September 1st to 13th, the instruction will consist of the showing of cases rather than set demonstrations or lectures There will be a revision course at the Westminster Hospital from September 15th to 27th when the various departments of the hospital will be utilized for providing instruction in all branches of medicine and surgery Post graduates are invited to apply for particulars of the work arranged for the winter months and also for the 1931 list of special courses full information is obtainable from the secretary of the Fellowship, 1, Wimpole Street, W 1

THE following international post graduate courses have been arranged in Berlin (1) Practical laboratory course September 29th to October 4th fee 40 marks (2) Internal medicine, with special reference to its clinical aspects fee 75 marks, (3) paediatrics September 29th to October 11th, fee 100 marks (4) ophthalmology October 1st to 11th, fee 80 marks and (5) occupational diseases, October 27th to November 4th, fee 60 marks

THE autumn session of training courses for examinations for sanitary inspectors, meat and food inspectors smoke inspectors associateship (general hygiene and sanitation), associateship (food hygiene) and sanitary science will commence at the Royal Sanitary Institute on Monday, September 29th Syllabuses of the lectures and of the examinations are obtainable from the secretary, 90, Buckingham Palace Road, London, S W 1

THE Medical Society of Individual Psychology, which has met hitherto at 55, Gower Street London will in future meet at the rooms of the Medical Society of London, Chandos Street, W 1 The primary object of the society is to bring together those interested in the medical aspects of individual psychology and to give instruction as regards its theory and practice Meetings are held for the reading of papers and the holding of discussions A course of systematic lectures is proposed for the early part of next year The first meeting of the society during the coming session will be held on Thursday October 9th when the chairman Dr O H Wood cock will give an address on the development of individual psychology in the twentieth century Further information as regards membership of the society and other meetings may be obtained from the secretary Dr T E Lawson 35a Welbeck Street W 1

A MEETING of the National Radium Trust was held on July 29th under the chairmanship of Lord Parmoor when considerable was given to the report to be submitted in the autumn to the Treasury for presentation to Parliament

AT the meeting of the council of the Metropolitan Hospital Sunday Fund held at the Mansion House on July 30th it was announced that the sum of £73,000 had been subscribed this year, being £5 000 less than the figure for the previous year It was stated that the money had been distributed among 237 hospitals, institutions, dispensaries and nursing associations 7½ per cent had been appropriated for the purchase of surgical appliances, and 2½ per cent for district nursing associations

THE Medical Research Council has appointed Major A G Church M P, Dr F E Fremantle, M P and Sir John H Parsons F R S, to be members of its Industrial Health Research Board

IN view of the passing of the Road Traffic Act 1930 the Automobile Association has prepared a booklet giving a digest of the main features of the law which affect the owners of motor cars and motor cycles The booklet is obtainable by post-card application to the secretary of the Automobile Association Fanum House New Coventry Street W 1

MESSRS BUTTERWORTH AND CO the publishers of Dr J D Polleston's *Infectious Diseases and Other Fevers in Infancy and Childhood* have sent us a copy of a slip, which is being inserted in all copies of the book sold to the effect that certain passages which were noted in the *Journal*, January 25th p 156) had inadvertently been taken without acknowledgement from the first edition of Dr J D Polleston's book on *Acute Infectious Diseases*

A SOUVENIR booklet has been issued by the Church of England Zenana Missionary Society describing its religious, educational and medical work in India and China since it was founded as a separate organization fifty years ago In that period the society has organized twenty three hospitals and twenty seven dispensaries to alleviate suffering among women and children and to provide training for native nurses and midwives It also maintains several schools for the deaf and blind in both countries Copies of the booklet which contains a number of striking tributes, are obtainable at the offices of the society 19 to 21 Southampton St, W 1, price 1s

ST Bartholomew's Hospital old students annual dinner will be held on Wednesday, October 1st at 7 30 p m in the great hall of the hospital with Mr L B Rawling in the chair The honorary secretary is Sir Charles Gordon Watson, 82, Harley Street, W 1

IN order to make the results of the researches carried out at the National Physical Laboratory more readily available to the public the annual report of the Laboratory for 1929 (reviewed in the *British Medical Journal* of June 21st) has been published in a number of separate pamphlets as well as in volume form These pamphlets which include the reports of the physics electricity metrology, engineering aerodynamics, and metallurgy departments are obtainable at H M Stationery Office

THE fourth Congress of the World League for Sexual Reform will be held in Vienna from September 13th to 20th when papers will be read on housing and sexual reform birth control, the rights of the child and the history of sexual morality

As a memorial to Richard Cadbury and George Cadbury, who created Bournville fifty years ago the firm of Cadbury Bros, Ltd have presented Frankley Beeches near Birmingham, to the National Trust to be preserved free from buildings

HARROW HOSPITAL has received an offer from the Kodak Company to build and equip an x ray room at a cost not exceeding £1 000

DR ROBERT S BRIDGES the Poet Laureate from 1913 to 1930 who died on April 21st aged 85 years has left estate of the gross value of £5 928 with net personality £5 771

THE Hungarian Ministry of Social Welfare has offered a prize of 2 000 Swiss francs for the best original work on the causes of trachoma The work which may be written in English, German, French Italian or Hungarian should be sent to the Ophthalmological Clinic of the Hungarian University Budapest, before June 30th 1931

PROFESSOR ALBERT DÖDERLEIN director of the gynaecological clinic at Munich has been elected honorary president of the Munich *Gynaecological Society* on the occasion of his seventieth birthday

THE following appointments have recently been made in foreign faculties of medicine Dr Cunéo professor of topographical anatomy and operative surgery and director of medico-chirurgical anatomy in the Paris Faculty Dr I Tesson professor of clinical surgery in the Paris Faculty Dr professor of surgical pathology in the medical school of Angers in succession to the late Professor Brin and Dr Schreus professor of dermatology at Düsseldorf

GEHEIMRAT DR PAUL KRAUSE director of the medical clinic at Münster has been elected Rector of the Münster University for 1930-31 and the well known dermatologist Professor Ladislaus Nekam has been elected Rector of Budapest University

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

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MEDICAL SECRETARY, Mediocrea Westcent London

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

SOUR MILK

'E W D' asks for advice about the conducting of the sour milk treatment in the case of persons unable to afford the expense and time involved in daily use of the various commercial preparations on the market He believes that in the Balkans, whence the treatment came, the souring process is kept up by simply transferring a small portion from milk already sour to a fresh bowl, and that there are people who adopt this method in Britain He would be glad to have particulars how this is done, and of the best preparation with which to start the process

UNUSUAL REACTIONS TO ULTRA VIOLET RAYS

DR P CLENNELL FENWICK (Christchurch New Zealand) writes Has anyone using the ultra violet rays had experience of unusual reactions following the use of this ray? A dark haired woman, aged 38, with five ulcers on the legs, was given local treatment with the ultra violet rays and also the usual bath over the whole body, the face being protected The ulcers began to heal well, but the skin over the body reacted quickly, and after the seventh bath treatment was discontinued for several days The whole body showed very marked dermatitis, with a number of crusting areas on the breasts, moreover the face which had not been subjected to the rays, peeled as if the patient had been badly sunburned The reaction was so violent that I was much concerned The skin quickly improved and the crusted areas healed well, but I do not understand why the face, which was never exposed to the rays, should show so marked a reaction

TREATMENT OF OBESITY

'A H' writes I know two medical men who speak highly of a cure of obesity by high rectal enemata and purely vegetable diet I have not been able to find any literature on the subject Is there any article or book available?

BROMIDROSIS

A V C, replying to the inquiry of 'R B C' in the *Journal* of July 12th (p 86) with reference to profuse and offensive perspiration, writes If the boy will use a nail brush and rub soap into the soles of the feet for a few days and afterwards soap the feet daily, especially the heels and the ball of the foot, nothing in the way of chemicals is necessary These boys are not taught to soap the soles of the feet when bathing or washing the feet Of course, well ventilated shoes are also desirable, such as canvas shoes in hot weather

DIET IN RHEUMATISM

T L' writes In reply to Dr Grant's inquiry in the *Journal* of July 19th (p 128) I should like to suggest a trial of the following diet for rheumatism All drinks should be unsweetened additional drinks—plain water, or water into which a little lemon juice has been squeezed—should be taken between meals Cocoa, tea and coffee are very beneficial without milk or sugar though a little milk can be added if necessary Grape fruit or lemon juice unsweetened, can be taken before breakfast If meat cannot be left out of the diet its quantity must be definitely reduced Sweet puddings of the starchy variety and stewed sweetened fruit are definitely injurious, these should be replaced by fresh fruits and nuts Potatoes are best baked and served with butter Salads can be freely indulged in The evening meal should be chiefly protein, starchy foods being replaced by fats as much as possible Fish, eggs, butter and cheese at night are better than pastries, etc Germ bread or ryevita biscuits will supply any deficiency which may be felt in the reducing of the bulk of the diet

LETTERS NOTES, ETC

IODINE IN THE PREVENTION OF MISCARRIAGE

DR J WINIFRED WARD (Chanda, India) writes In view of the remarks of Professor Beckwith Whitehouse in the *Journal* of December 14th, 1929 (p 1095), as to the value of iodine in pregnancy and of the cases of habitual miscarriage successfully treated by iodide and iron recorded by J Novak (see *Epitome*, June 5th, 1926, para 576), the following two cases may be of interest Both were referred to me from the local infant welfare centre and I have sent an account of them to the Central Provinces and Berar Red Cross Infant Welfare Committee The first patient was a healthy low caste Indian woman with a history of two normal pregnancies, *followed by five* pregnancies in which foetal movements stopped at the beginning of the ninth month and stillbirths took place She came for treatment in the *seventh month as she thought* foetal movements had ceased She received syrup ferri iodidi, and gave birth to a full time living male infant In the second instance *a high caste Indian woman was brought by her husband* in the seventh month of pregnancy, as she thought the foetal movements had much diminished and felt a sensation of weight in the lower abdomen She had had two stillbirths at the seventh month, following which her Wassermann reaction and that of her husband were tested and found to be negative The husband stated "The pathologist gave my wife some injections afterwards to make sure" She was treated by syrup of ferrous iodide and, since she stated that this made her vomit by powders of *sodium bicarbonate and magnesium carbonate* She gave birth to a healthy full time male infant

"UKUSIZA ABA LIMELE"

IN the Witwatersrand gold mines the native appears to have become deeply interested in first aid so that there are now over 22 000 natives possessed of first-aid certificates and badges DR H T H BUTT, senior medical officer of the Randfontein Estates Gold Mining Company, finding theoretical tuition unnecessary for the uneducated Bantu, has hit upon the plan of photographing natives in the process of applying splints and bandages, in resuscitating the apparently dead, and in carrying patients or placing them on stretchers The photographs have been collected in a little work entitled *Ukusiza Aba Limele*, the name of each injury is given in Zulu, Xosa Sesuto, and English and an occasional slogan in the same four languages is thrown in for the purpose, presumably, of encouraging any Bantu who can read to join the movement The booklet is published by the Rand Mutual Assurance Company, It has the blessing of the South African Red Cross Society and Dr Butt thinks that it may be of interest to Europeans This should be so, if only for the photograph natives seriously enjoying the processes of where did Dr Butt find the horrible word at is commonly called an appendix? His booklet is published by the Prevention of Accidents Committee of the Rand Mutual Assurance Co, Ltd

RETENTION OF URINE FROM LARGE VAGINAL CLOT

DR C J HILL AITKEN (Kilnhurst, near Rotherham) writes A multipara had post-partum haemorrhage I made her lie flat on her back and kept her so The oozing which continued I disregarded, as from her *oedematous condition* I judged she was albuminuric and the bleeding salutary The uterus was in good position and of a size and of a consistency normal to the puerperium *Thirty six hours later* I was called, as the patient could not pass urine and was in great pain The catheter withdrew about a pint and a half of urine Thereafter the bowels, which had been locked up despite a large dose of black draught acted freely, and a clot, which the friends took to be the after birth, came away Later the patient again passed water naturally Shears in his *Obstetrics*, warns his readers about the danger of retention of lochia if a patient too long lies on her back In this case the oozing blood accumulated (presumably—I did not examine per vaginam) and formed a massive clot in the upper vagina, hence the retention of urine

CINEMATOGRAPH FILMS AND CUSTOMS EXAMINATION

MESSRS KODAK who have *arranged to illustrate certain of the* papers to be read at the forthcoming meeting of the British Medical Association in Winnipeg write When cinematograph film subjects *cinematograph apparatus* or photographic apparatus which is dutiable in this country are taken abroad for temporary use, and will ultimately be brought back to Great Britain by the owner, it is advisable to submit such material to an examination by a Customs officer who in most cases will issue a form stating that the dutiable articles are to be re admitted free of duty *at a specified port of entry within a stated* period Sufficient time should be allowed for the necessary formalities to be complied with before embarking

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals will be found at pages 35 36, 38 39 42, 43 and 44 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *104*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine

120 Psittacosis in France

P PAGNIEZ and V PLICHET (*Bull et Mém Soc Méd des Hôp de Paris* April 28th, 1930 p 688) state that psittacosis appeared later in France than elsewhere in Europe They believe that one of the first cases occurred during the latter half of January 1930, in a man, aged 52, who suffered from persistent fever (103° F), digestive disturbances, and severe insomnia The abdominal and thoracic viscera were apparently normal and there was no headache nor exhaustion but the patient complained greatly of insomnia A blood culture was negative Eight days later signs of consolidation appeared at the right base with apricot coloured sputum and slight dyspnœa Insomnia was continuous The pneumonic signs persisted for a week, expectoration then became less and the temperature fell by lysis Bacteriological examination showed many pneumococci but Nocard's bacillus was not found The patient who kept a number of parrots had been bitten on the hand by one of the birds fifteen days prior to the onset of illness this caused an ecchymosis Another case occurred in the patient's family A HESSLER and P DECOURT (*ibid* p 689) who describe another very mild case of psittacosis remark that this disease had not been observed in France for twenty years but a number of cases have occurred in Paris since December 1929 A man aged 37 who was employed by a dealer in parrots had repeated rigors with a temperature of over 103° F and slight headache these symptoms came on a few hours after he had fed and caressed a sick parrot which died shortly afterwards For a week the patient's condition remained unchanged cough then developed associated with a coated tongue anorexia, and constipation A few days later physical signs of consolidation appeared at the left base but there was no evidence of enteric fever On the ninth and tenth days of the illness several attacks of epistaxis occurred Blood films showed moderate leucocytosis On the fourteenth day the general condition of the patient suddenly improved although the cough and physical signs persisted The spleen was palpable and the temperature oscillated for several days The patient recovered completely at the end of three weeks Bacteriological tests were negative

121 The Significance of Essential Hypertension in Young Male Adults

P S PALMER (*Journ Amer Med Assoc* March 8th 1930, p 634) tabulates the results of examination of 3 593 men whose average age was under 20 Examinations were made between 1914 and 1918, and a large number of cases have been followed for a ten year period Of the total number slightly more than 10 per cent had a systolic blood pressure of 140 mm Hg and upwards while 2 25 per cent had one of 150 mm and upwards, without urinary or other abnormalities the systolic pressure in all these cases was more than 10 per cent above the average taking age, height and weight into consideration Half of these individuals had diastolic pressures more than 10 per cent above the calculated normal, in a normal control group only one quarter showed a similar diastolic abnormality It was noted that of the "normal" controls 2 13 per cent were of a "neurotic type whereas of those with systolic pressures of 140–150 mm 8 3 per cent were of this type and of those with systolic pressures of 150 and over 16 per cent No correlation was found with a previous history of infectious disease this contrasts with Barach's finding of a correlation with previous typhoid fever and diphtheria There was a slight increase of the proportion of overweight persons in the hypertensive group, with an increase in the proportion of "underweight" persons also among those with systolic pressures over 150 mm Of 115 persons followed up for ten years, 66 were normal controls and 49 hypertensives of the former 4 5 per cent had systolic pressures of 140 mm or over and one patient of 150 mm , of the latter 12 2 per cent had systolic pressures of 140–150 and 10 2 per cent of 150 or over the highest being 180 The main conclusion drawn from the research is that if hypertension is present at the age of 20, it is more likely to persist than it is to arise *de novo* in a normal subject Vasomotor symptoms such as palpitations and flushing were observed during the ten year period in a quarter of the hypertensive subjects as compared with only one seventh of the controls In both groups the incidence of familial cardiovascular disease was approximately the same

122 Recovery from Amyloid Disease

H WALDENSTRÖM (*Nord Med Tidsskrift* June 7th 1930 p 953) remarks that pathologists and clinicians have hitherto regarded the deposit of amyloid matter in the tissues of man as an irreversible process During the past twelve years he has studied the problems of amyloid disease and in four cases he has not only demonstrated the presence of this condition during life by associated pathological and anatomical means but has also seen it disappear and the patient recover He adopted Arnold Josefson's system of biopunctures but found that when the liver was explored with a fine needle the hepatic cells aspirated were always healthy even when the patient was undoubtedly suffering from amyloid disease He found it necessary to withdraw by puncture a piece of liver as large as a liver acinus one with a diameter of 1 or 2 mm and a length of about 2 cm For this purpose he used a needle with a cutting edge throughout its circumference During the past twelve years 28 cases of amyloid disease have been observed in his wards and 34 biopunctures followed by a microscopical examination, have been performed In all but two cases the patients suffered from open tuberculosis complicated by a mixed infection In one of the two exceptional cases there was tuberculosis uncomplicated by any mixed infection the other case was one of chronic septic empyema. A bacteriological examination of the mixed infection of fistulae revealed only streptococci or staphylococci, no specific organisms were identified The histories of the cases showed that the appearance of amyloid disease occurred on the average from one to two years after the development of a discharge The author has come to the conclusion that the diagnosis of amyloid disease merely on the strength of such clinical evidence as enlargement of the spleen and liver and the presence of albuminuria in a debilitated patient cannot be more than a probable diagnosis and that certainty can be achieved during life by exploratory puncture By repeating the process it is possible to follow the onset diminution and disappearance of this condition, it may disappear provided that the causative factors are eliminated even after the liver has become so enlarged that it extends to the iliac fossa An enlarged liver in a case of chronic suppuration may not necessarily be amyloid and amyloid disease may be found in a liver of normal dimensions The kidneys may be full of amyloid material without any albuminuria existing

Surgery.

123 The Etiology of Paget's Disease of the Nipple

ARTEP briefly describing the symptomatology and prognosis of Paget's disease of the nipple and J ROUSSET (*Journ de Chir* May 20th 1930 p 311) discuss its causation An account is also given of its pathological anatomy and of the so-called Paget cells, which the authors term dyskeratosic cells Basing their conclusions on a study of five cases of Paget's disease recently examined on studies of normal nipples of old women and on observations in cases of pre-epitheliomatous keratoses of other regions Massia and Rous et coll hold that the disease is of a cancerous nature The two usual theories of the etiology of the affection—namely that it is an epidermotropic cancer and that it is an autonomous disease—are narrated and various other theories (of Butlin of Dubring and Wile and of Wickham) are mentioned A study of these leads the authors to the view that only five solutions of the problem can exist One is that the disease is not of a cancerous nature and the cancerous degeneration is only a mere coincidence In the autonomous theory held by Darier and Civatte the affection is considered precancerous commencing independently and evolving more or less solely for some reason or other it is suddenly complicated by a cancer extending from a deep cancerous growth to the breast The third from an epidermotropic cancer (the old hypothesis of Thiry) maintained by Masson and Pautrier) suggests that the disease is an invasion of the skin by cancer of the mammary from a deep cancer A fourth solution is that the malady is a cutaneous cancer at its commencement and is afterwards propagated deeply These four hypotheses are criticized and rejected by Massia and Pousset who believe that the condition is a cancerous affection originating in the nipple it is later propagated at the same time to the skin by the epithelial tissues and to the deeper structures by the galactophores This cancer is moreover of special type since it

commences in a region normally dyskeratosic Reasons are given for this hypothesis, which its authors consider the most rational.

124 Rupture of the Tendo Achillis

J QUENU and STOIANOVITCH (*Rev de Chir*, No 10, 1929, p 647) report two cases of rupture of the tendo Achillis which were treated by *them with good results* There are three main causes of rupture—namely, when the tendon is cut by a sharp instrument or projectile, when the tendon is *ruptured by a sharp contraction of the* calf muscles, following an external trauma which, without dividing the soft parts, produces a rupture subcutaneously *The lesion occurs most frequently between the ages of* 30 and 50, often in stout men and athletes Rupture of the tendon is usually accompanied by a fall, it is supposed that during some rapid movement made to avoid falling the muscle contracts, and the tendon is ruptured while in an abnormal position Out of 68 cases under review only one was bilateral, *in every case the rupture was complete* The indications which lead to a correct diagnosis are the noise heard as the tendon ruptures, the intense pain which follows the fall, and *the immediate functional impotence* *Radiography in certain* cases is of value Repair of the tendon by means of a strong suture of the two extremities must be undertaken as soon as possible, *this is followed by careful post operative treatment* which consists of placing the foot in extension for three days, after which slight movements of flexion and extension are *encouraged in order to avoid the formation of adhesions.* Walking must not be allowed for at least eight or ten days

125 General Treatment of Cancer

W DRÜGG (*Med Welt*, April 19th, 1930, p 560) emphasizes the need for treatment of the general as well as the local condition in cancer patients He recalls the work of Warburg on the metabolism of such cases, showing that there is an abnormal output of lactic acid in the tumour cells in sufficient quantity to upset the reaction of the body fluids, and that the breaking down of protein stops at the albumoses, causing an intoxication of the whole body These metabolic failures account for the cachexia and also for damage to such organs as the liver, pancreas, and spleen, they also explain the disturbance of nutrition which occurs, even when the tumour is not in the digestive tract The question of diet is consequently of great importance The food must be easily assimilable but rich in calories, proteins, and fats, and carbohydrates should be given cautiously because of the risk of increasing the lactic acid, glucose is well tolerated and may be administered either intravenously or per rectum Insulin is recommended because of its influence on carbohydrate metabolism The excretory functions of the bowel and kidney must be carefully regulated to ensure the evacuation of toxins Drug treatment aims at influencing the tumour directly, or benefiting the organism as a whole Arsenic is useful for its blood building capacity, its effect on the basal metabolism, and its power of modifying pathological tissue Iron assists by increasing the haemoglobin, and quinine by limiting protein destruction Blaudity gives a pill containing ferrous sulphate, arsenious acid, and quinine sulphate, once daily, and continued for years with short breaks Iodine and calcium prevent fermentation, and silicic acid has a good effect on connective tissues In addition, change of air, baths, and light treatment may be beneficial

126 Bone Lesions in Lymphogranuloma Malignum

R MARZIANI (*Arch Ital di Anat e Istol Patol*, January–February, 1930, p 31), who records an illustrative case, states that though some examples of bone lesions in lymphogranuloma have been described, only a few have been studied anatomically, and most of them have been diagnosed as such by clinicians or radiologists without coming to necropsy Even when an anatomical examination has been performed a distinction must be made between those cases in which the bone lesion, usually exclusively situated in the medullary substance, was only discovered because a systematic examination was made of the bone, and particularly the medulla, without any clinical symptoms or gross anatomical changes having drawn attention to the skeleton, and those cases in which the clinical symptoms directed attention to the bones While the former are frequent, the latter, of which Marziani's case is an example, are rare His patient was a man, aged 28, who developed bone lesions first in the knee joints, and later in the clavicles ribs and cranium On clinical and x ray examination there was nothing to distinguish the condition from tuberculosis The necropsy showed diffuse lymphogranulomatosis of the lymphatic glands with osteo periosteal and renal and meningeal localization, degeneration of the viscera and dilatation of the heart This is the first case of lymphogranulomatosis on record in which the bone lesions were predominant at an early stage, and were the cause of death through meningitis

Therapeutics.

127 Ephedrine Sulphate in Acute Shock

C A JOHNSON (*Journ Amer Med Assoc*, May 3rd, 1930, p 1388) adduces by animal experiments and gives reports to show that intravenous injections of ephedrine sulphate are useful in the treatment of shock due to severe trauma or haemorrhage The advantages of this drug are said to be that it is relatively non toxic, has a pronounced haemodynamic action, as well as a marked stimulant effect on the central nervous system, and that it continues to act over a long period, allowing the body to recover from the loss of blood and enabling other and less rapidly acting forms of treatment to be instituted He cites four cases in which intravenous injections of 15 mg of ephedrine sulphate, followed sometimes by larger doses, in the course of a few hours were highly effective Johnson believes that in some instances the central nervous system depression seems to be the predominating factor, and the value of ephedrine sulphate in this connexion is strongly commended

128. The Acidity of Novocain Solutions

J JARZAB (*C R Soc de Biologie*, June 13th, 1930, p 618) remarks that in stomatology novocain and adrenaline are employed as anaesthetics in physiological solutions of sodium chloride In order to counteract the instability of the solution, due to the oxidation of the adrenaline, sodium phosphate or sulphate, hydrochloric acid, and thymol are often added These mixtures are acid, their *pH* ranging between 1 95 and 2 6 This acidity, which is necessary to maintain the novocain in solution, is harmful to living tissues, causing a complete lysis of the erythrocytes, it also lowers the anaesthetic power of the novocain, which is only manifest in a slightly alkaline medium Jarzab has endeavoured to improve the physiological saline solution as a solvent of the novocain by adding potassium chloride and bromide, sodium bromide, and calcium chloride in different proportions not harmful to the red cells He found that *the anaesthetic action of these preparations was not very* satisfactory, that better results were obtained by using only one salt, and that a 1 per cent solution of potassium chloride *was the most effective* A *preparation of novocain* and adrenaline with this solvent is slightly alkaline (*pH* = 7 4), is without injurious action on the tissues, and its anaesthetic power is *greater than that of novocain in simple physio*logical saline solution

129 Intensive Iodine Treatment of Diphtheria

BOUDREAU (*Journ de Méd de Bordeaux*, April 20th, 1930, p 301) assigns the name of "neo diphtheria" to those highly virulent and often serum resistant types of the disease which have been encountered recently, and advocates iodine medication, which he has previously found efficacious in various acute infections, including tuberculosis He claims to have adduced evidence that in many acute infective diseases, especially where the infection has been intense and apparently overwhelming, doses of iodine can be given without harm, and indeed frequently with life saving effect, the value of the treatment being far in excess of the usual therapeutic measures In his opinion iodine, used for its antibacterial and antitoxic actions, can safely be given in doses amounting to 100 drops daily for every year of the patient's age With regard to *virulent cases of diphtheria in particular*, he suggests a dosage of 10 drops, repeated every one, two, or three hours in the case of young infants, and of 20 to 40 drops in older children and adults In desperate cases he states that doses of a drachm or even more, five or six times a day, are well tolerated He advocates trial of the iodine method in all cases of diphtheria which are progressing badly, whether the reason be enfeebled natural resistance, exalted virulence of the disease, or reduction of the efficacy of the serum in use

130 The Effect of Pilocarpine in Sympathicotonia

THE gastro intestinal tract is innervated by both divisions of the vegetative nervous system, and its motility depends on a proper balance between the inhibitory sympathetic and the motor parasympathetic tonus *The term sympathicotonia* has been used by Danielopolu to designate a hyperactivity of the sympathetic innervation as compared with that of the parasympathetic E M LANDIS and J C GITTINGS (*Amer Journ Dis Child*, May, 1930, p 1022) report a case of this condition in a girl, aged 10, who had suffered severe attacks of epigastric pain beginning *at the age of 9 months, and* occurring on the average every two or three weeks The phenomena caused by stimulation of the sympathetic—namely, *dilatation of the pupils*, sweating, increase in the heart rate elevation of the blood pressure, diminution of the gastric

acidity, inhibition of the gastric and intestinal peristalsis diminution of the gastro-intestinal tonus, and increased tonus of the ileo-colic sphincter and pylorus—were all observed and there was leucocytosis with glycosuria The reaction to atropine and the marked sensitivity to adrenaline were the most significant observations in favour of the diagnosis of sympathicotonia Single attacks were aborted by intramuscular injections of physostigmine salicylate (1/60 grain) or intravenous injections of pilocarpine hydrochloride (1/40 grain) The oral administration of pilocarpine in doses of 1/48 grain, twice and later thrice, daily, was followed by complete relief from symptoms

131 Liver Treatment in Spinal Degeneration in Pernicious Anaemia

H LOTTIG (*Münch med Woch* May 16th, 1930, p 853) comments on the present conflicting opinions as regards the influence of liver on the spinal symptoms of pernicious anaemia He concludes that in some of the cases where nervous changes have commenced or have progressed during such treatment the patient was not receiving adequate amounts of liver In a series of nine cases of subacute combined degeneration which were carefully controlled by close observation, especially of the objective signs definite improvement was noted in six particularly referable to the posterior column lesions Of the remainder, two patients died from broncho pneumonia and one could not be kept under observation Recent cord changes are naturally more easily influenced by liver therapy but old standing cases *may be benefited Improvement seems to take place only* after the blood regeneration has reached a certain stage, and the nerve symptoms may even increase slightly at the commencement of the treatment The author points out the relative frequency of psychosis of a paranoic type in this disease, he states that this may develop during liver therapy, or be present before the treatment has commenced

Disease in Childhood

132. Tuberculous Meningitis in Children

TUBERCULOUS meningitis is the most common form of leptomeningitis in children, with the exception of epidemic outbreaks of the cerebro-spinal type there appears to be no difference in the incidence in the two sexes The disease is rare under the age of 6 months, is far more frequent in the second year of life than at any other period and a special tendency to this affection persists till the end of the sixth year though gradually diminishing in degree Prophylactic measures are therefore required more especially during these first five years H S SNYDERMAN (*Med Journ and Record* May 21st, 1930 p 508) states that there are two sources of tuberculosis in early childhood residence in close contact with tuberculous persons and the prolonged use of infected milk especially if not boiled Other causal factors may be trauma or *mental strain such as school work The typical* form of the disease presents three stages the stage of irritation, or of the prodromal symptoms that of pressure or the transitional stage, and the stage of paralysis or coma The onset is insidious and the early symptoms are little more than malaise In a few days vomiting apparently causeless occurs The presence of this vomiting with constipation and headache is always suggestive of tuberculous meningitis The child gradually becomes unnaturally drowsy and irritable, and the abdomen now begins to show the typical hollowed out appearance In a week or ten days after the onset motor disturbances become evident in a slight droop of one eyelid or a squint the pupils tend to contract and the neck is slightly stiff, but marked head retraction and opisthotonos of the rest of the spine are rare A fine tremor of the hands on movement and a tendency to deep sighing expirations at intervals are symptoms of great diagnostic value The progress of the disease is variable and remissions *are common When the third stage sets in* there is general muscular relaxation with difficult and often impossible deglutition The respirations become quicker and irregular the pulse rate increases, the temperature rises and a fatal result usually ensues from exhaustion and deep coma, or convulsions may develop and continue for twelve to twenty four hours terminated by death The diagnosis is often very difficult and depends on the results of a lumbar puncture, which is of essential importance The prognosis is exceedingly grave as the disease is almost invariably fatal If the diagnosis is *correct the* case is practically hopeless whatever treatment is employed As a positive diagnosis is not always possible all cases should be treated like other forms of meningitis Three cases are briefly reviewed by Snyderman to illustrate the absence of symptoms at the onset with the exception of the persistent, causeless vomiting

133 Meningococcal Meningitis in Infants.

C F MCKHANN (*New England Journ of Med*, March 13th, 1930, p 520) states that during a six year period ending November 1st 1929, the mortality rate in a series of 74 cases treated in the Infants and Children's Hospital Boston was *43 per cent The patients were divided into the following* three groups (1) Under 1 year, 39 cases, with 25 deaths, (2) 1 to 2 years, 10 cases, with 3 deaths, and (3) 2 to 12 years, 25 cases, with 6 deaths The mortality figures include deaths due to the infection in the acute stage complications, and sequels The results in the cases treated within the first week of the disease showed about the same percentage of recoveries in all three age groups, but when the illness had lasted longer than a week the mortality rate among the *infants ranged from 75 to 100 per cent* Although the acute symptoms frequently subsided under intensive treatment by injections of serum alternately into the ventricles and the lumbar subarachnoid space, death occurred later from chronic hydrocephalus McKhann concludes by emphasizing the importance of the early diagnosis of the disease in infants and the development of more effective treatment in later cases

131 The Growth of Infants receiving Undiluted Milk.

MARTHA VAN KIRK NELSON (*Amer Journ Dis Child*, April, 1930 p 701) records a study of nine male infants kept under close observation in a metabolism ward from the time they were 2 weeks old until they reached the age of 6 to 10 months *Each of the infants when 2 weeks old received 660 c cm of* milk (six 4-oz bottles) this amount being increased gradually to 900 or 1 000 c cm (four feeds each of 8 oz) at the age of 6 months Raw milk and corn syrup (6 per cent of the volume of the milk) were boiled vigorously for three minutes, and then cooled from 4 to 5 c cm of lactic acid, supposed to facilitate the digestion of milk, was added to each quart of milk 30 c cm of orange juice being given daily until the infants were 3 months old and 60 c cm daily thereafter Half a teaspoonful of cod liver oil was given until 6 weeks of age, and then one teaspoonful daily Egg yoke was added to the feeding mixtures at age periods ranging from 3 to 6 months Carrots were added at 6 months and prunes at 7 months both as purées After each feeding 10 to 20 c cm of distilled water was used to remove the curds adhering to the sides of the bottle, and these washings were given to the infant According to Finkelstein's formula the food intake of these infants should have been diminished by about one third, but not only were these feedings of undiluted milk actually well tolerated they produced a gain both in weight and in length, and a proportionate increase in the retention of nitrogen they did not therefore represent merely the accumulation of adipose tissue

Obstetrics and Gynaecology.

135 Exploratory Curetting of the Fundus Uteri

J L FAURE (*Presse Med* May 24th 1930 p 705) attacks the opinion generally held and formerly by himself also that exploratory curetting is necessary in all cases of suspected cancer of the body of the uterus, he defines such curetting as involving uterine dilatation, a methodical and complete exploration of the whole cavity, and consequently a general or spinal anaesthesia In certain cases where the uterus is more or less open and can be entered without difficulty, permitting the removal of cancerous debris without injury or appreciable pain a prudent exploration might be thinks, be useful It is pointed out that a woman past the menopause who suffers from prolonged haemorrhage or a doubtful discharge with a healthy cervix has *in a arly* every case cancer of the fundus an affection very slow but fatal radio-resistant and almost always curable by hysterectomy *If* not performed too late For curetting the same preparation is needed as for a radical operation if a preliminary one is performed to confirm an almost certain diagnosis there is an unnecessary loss of time with an increased limitation of the subsequent operation and anaesthesia moreover should an abdominal instead of a vaginal hysterectomy be decided advisable further time is lost in changing the patient's position If the curetting is positive and merely confirms the necessity for operation it is useless and may even be harmful If it is negative or doubtful the postponement for some days of the inevitable operation is harmful or may lead to the more dangerous decision no to operate and thus prevent the removal of a uterus which in the vast majority of cases is cancerous Faure therefore strongly advises the abandonment of exploratory curetting He maintains that the circumstances and clinical signs and symptoms should be the guide as to an operation or abstention therefrom

136 Vincent's Disease of the Vagina

C H ARNOLD (*Journ Amer Med Assoc*, May 10th, 1930, p 1461) reports a case in which infection of the vagina with the characteristic spirilla and fusiform bacilli of Vincent's angina appeared subsequent to a throat infection, and agranulocytosis was present similar to that found in other cases in which the throat alone was infected Arnold remarks that the condition is contagious, and that, therefore, prompt and continued intensive treatment is necessary, together with the safeguarding of others from being infected The patient was treated with intramuscular injections of neoarsphenamine, and the vaginal patch received applications of a paste of this drug in glycerin Frequent douches with hot permanganate solution were given during the day The disease cleared up simultaneously in the mouth and the vagina, and an uninterrupted recovery ensued The author comments on the fact that women seem to show more tendency to severe infection by Vincent's organisms than do men, but cases of vaginal involvement seem to be exceedingly rare

137 Lateral Laparotomy in Ovarian Cysts complicating Pregnancy

WHILE the median abdominal incision is preferable in cases of ovarian cysts complicating pregnancy when the uterus is but slightly enlarged, and in those cases in which the cyst is not recognized till the end of gestation, and Caesarean section is necessary before removing it, V LE LORIER (*Bull Soc d'Obstet et de Gynécol de Paris*, April, 1930, p 234) points out that between the fourth and eighth months of pregnancy the conditions are very different The large size of the uterus then necessitates an operation, even for small retro uterine cysts This involves a very long incision, which seriously lessens the subsequent resistance of the wall, while the bending forward of the uterus entails the risk of premature labour To avoid these disadvantages a lateral laparotomy is advised The incision is made two inches inside the antero superior iliac spine across the aponeurotic planes, the reconstitution of which is easy and forms a firm wall which is capable of withstanding both the distension of the uterus, if pregnancy be continued, and a premature labour Since only the volume of the cyst has to be considered, a long incision is not necessary, one of 10 cm is usually sufficient, though a longer one can easily be made if necessary The incision falls on the vascular border of the uterus in the region of its lower segment The cyst can easily be reached by introducing the hand behind the uterus, which need not be displaced or injured, the cyst can also be easily punctured, if desired, the peritoneum being very effectively protected The treatment of the pedicle is remarkably simplified, since it is exposed to view Not the least important consideration is that by this method the uterus is subjected to a minimum of displacement and handling, thus lessening the danger of premature labour Seven cases of ovarian cysts complicating pregnancy are recorded, in which lateral laparotomy was employed with most satisfactory results

Pathology.

138. The Action of Saline Waters on Isolated Heart Muscle.

A MOUGLOI and V AUBERTOT (*Paris Méd*, May 10th, 1930, p 438) record observations on the contractions of the isolated heart of *Helix pomatia*, as recorded on a drum The optimum solution for ventricular function was NaCl 6 5 grams, KCl 0 14 gram, CaCl 0 12 gram, $NaHCO_3$ 0 01 gram, NaH_2PO_4 0 01 gram, and water 1,000 c cm The first series of spa waters tested was the sulphate group, Miers, Montmirail, Decize Saint-Are, and Contrexeville Pavillon, these were diluted with Ringer's solution, distilled water, or glucose Their action was found to be constant, and there was no modification of rhythm, but a considerable increase of tonus, itude was decreased by partial abolition of the diastolic ssion A return to Ringer's solution re established ormal rhythm The next series investigated was the Arbonate waters Pougues water immediately arrested he heart s action, but the normal beat was resumed on returning to Ringer's solution Châtel Guyon water in pure olution arrested cardiac contraction, and when diluted with lextrine it resulted in an arrest in hypertonus, in either vent the return to normal with Ringer s solution was delayed Vichy water diluted with an equal part of Ringer's olution caused an increase of tonus, a slowing of rhythm, nd a diminution of the amplitude Saint Nectaire water diluted with an equal part of Ringer's solution arrested the rhythm in hypotonus Royat water, in pure form, caused an arrest in hypertonus, in isotonic solutions the contractions were still arrested The authors discuss the mechanism of these results, remarking that radio activity can be eliminated as these bottled spa waters had been kept open for some time They conclude that spa waters increase myocardial tonus by their anions, SO_4 and HCO_3, act indifferently through their light cations, Na, Ca, and Mg, and decrease nerve conductivity by virtue of their heavy cations, notably Fe

139 Fluctuations in Susceptibility to Encephalitis

C LEVADITI, P LEPINE, and R SCHOEN (*C R Soc de Biologie*, May 16th, 1930, p 175) have attempted to modify the resistance of rabbits to encephalitis virus by treating them with certain drugs having a profound constitutional effect Some rabbits were given 50 per cent alcohol by the mouth, others were injected intravenously with the hypnotic somnifen or with the hormone thyroxine, others were given irradiated ergosterol The particular substance used was administered on four to seven occasions, and the rabbits were then inoculated intracerebrally with a glycerinated suspension of a strain of encephalitic virus that had become practically avirulent Irradiated ergosterol, even though it caused progressive emaciation, had no apparent effect on the resistance of the animals On the other hand, alcohol and somnifen given in doses sufficient to produce profound hypnosis, and thyroxine given in doses sufficient to produce rapid wasting, increased the susceptibility of the rabbits considerably, most of the animals died in about a week, with positive histological findings, and from many of them the virus was passed on successfully to normal rabbits A number of the control rabbits contracted encephalitis, but this was ascribed to the fact that they were inoculated with a mixture of several strains The authors conclude that certain drugs, which act on the nervous system directly or on the general metabolism, are able to increase the susceptibility of rabbits to the encephalitic virus They suggest that the seasonal periodicity of certain infectious diseases may be due to the occurrence of changes similar to those produced experimentally

140 The Production of Stone in the Bladder

R MCCARRISON (*Indian Journ Med Research*, April, 1930, p 1101) records the results of a series of experiments on rats which he made in order to ascertain whether lime exercised any influence in favouring the production of vesical calculi These showed that the ingestion of lime in excess of requirements, by rats fed on a diet deficient in suitable protein, fat soluble vitamins, and vitamin C, exercises an influence which markedly favours stone formation This conclusion conforms to the widespread belief that the continued consumption of hard water is favourable to the formation of stone It would seem, however, that this effect will not be produced in the presence of a properly constituted diet In further experiments (ibid, p 1103) this investigator found that certain cereal grains favoured the production of stone in rats These, in the order of their potency, were wheat, oats, rice, millet, and cambu Millet and rice have approximately the same degree of stone forming potency, both are less potent than oatmeal and much less potent than whole wheat flour Still further experiments (ibid, p 1115) showed that, in a stone producing diet, the replacement of linseed meal by butter afforded the rats protection against not only urinary calculi, but also against the anaemia, the gastro intestinal disease, the asthenia, and the broncho pneumonia, from one or other of which certain animals, not receiving butter, suffered and died McCarrison has previously reported that the addition of whole milk to a stone producing diet prevents the formation of urinary calculi in rats

141 Functional Tests of the Liver

H G MOGENA (*Arch de med, chir y esp*, May 17th, 1930, p 528) remarks that owing to the complexity of the functions in which the liver is concerned there is not at present a definite test of the insufficiency of the hepatic function as a whole The tests in use indicate only the insufficiency of some definite function In Mogena's experience the most important clinical tests at present concern (1) hyperbilirubinaemia, delay in the elimination of a small quantity of bilirubin injected into the general circulation indicating a lesion of the hepatic cells, (2) galactosuria or glycaemia, the curve being plotted after the administration of galactose, and variations indicating disturbances in the glycogenic function of the liver, and (3) the time of disappearance from the blood of a colouring reagent such as phenolphthalein or rose of Bengal, or the time when it appears in the bile obtained by duodenal intubation This test indicates the antitoxic function of the liver

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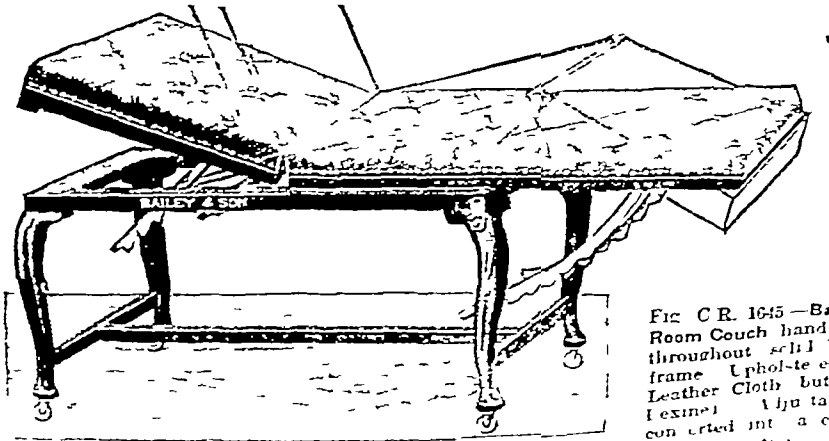
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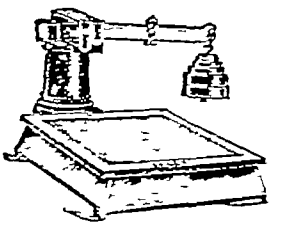
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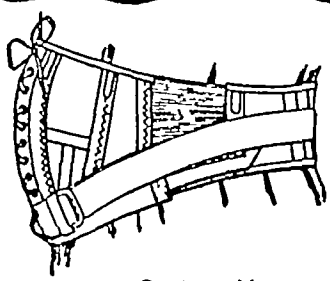
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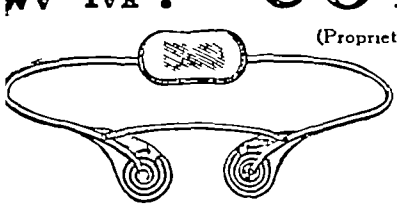
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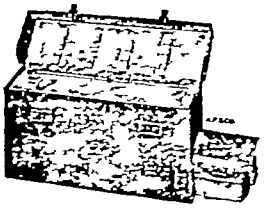
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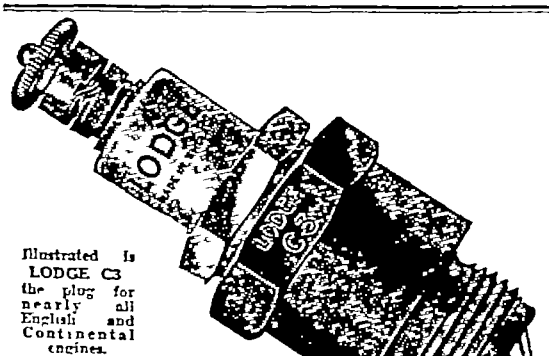
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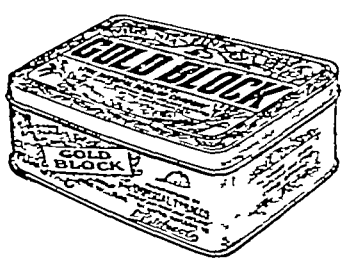
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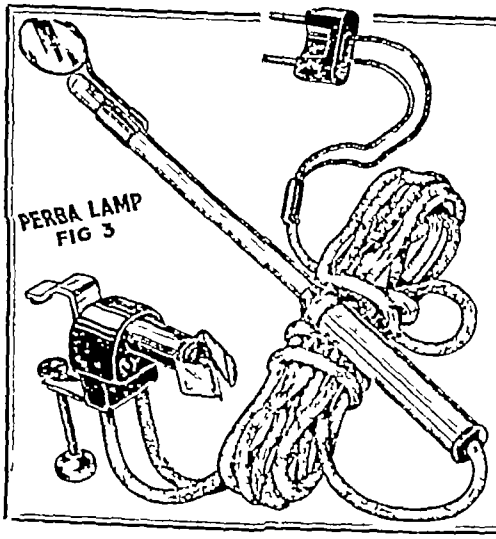


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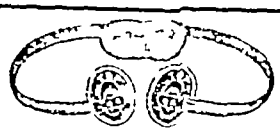
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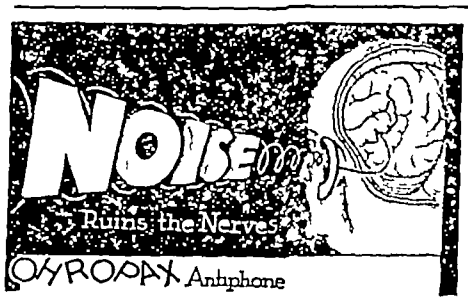
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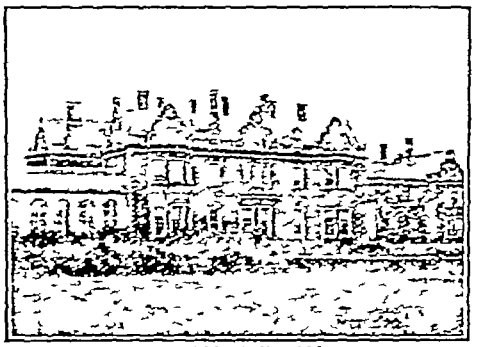
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Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat, fruit, and vegetables are supplied to the Hospital from the farm, gardens, and orchards of Moulton Park. Occupation therapy is a feature of this branch, and patients are given every facility for occupying themselves in farming, gardening, and fruit-growing.

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The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres, at Llanfairfechan, amidst the finest scenery in North Wales. On the North West side of the Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods. The Hospital has its own private bathing house on the seashore. There is trout-fishing in the park.

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This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payments. It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted. Voluntary Boarders received without Certificates.

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There are vacancies for children under 15 years of age at the above-mentioned Home, which is an Institution for the training and education of MENTALLY DEFECTIVE CHILDREN, and has been very favourably reported on by the Board of Control on several occasions.

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Terms:

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A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

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This registered Hospital for MENTAL DISEASES, with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

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A HOUSE Licensed for the reception of a limited number of ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house, with beautiful grounds and park, 5 miles from Sheffield. Station: Grange Lane, L. & N.E. Railway, Sheffield Telephone: No. 40030 Ecclesfield. Resident Physician: GILBERT E. MOULD, L.R.C.P., M.R.C.S.

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The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors, Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and a full equipment of Laboratories, X-rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

The Hospital is equipped for the diagnosis and treatment of any form of ill-health, except Mental and Infectious Diseases. The fees are inclusive.

The climate is mild and the neighbourhood beautiful. Apply: The Secretary,

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A NURSING HOME OPENED IN 1911 FOR THE INVESTIGATION AND TREATMENT OF FUNCTIONAL NERVOUS DISORDERS OF ALL TYPES.

No cases under certificate. Thorough clinical and pathological examinations. Psychotherapeutic treatment. occupation, and recreation as suited to the individual case.

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CONVALESCENT HOME at BOURNEMOUTH standing in 12 acres of ornamental grounds, with tennis courts, etc., which Patients or Boarders may visit by arrangement, for long or short periods.

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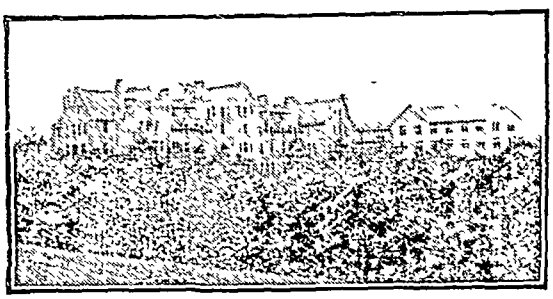
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The University of Liverpool.

SAMUEL TURNER RESEARCH FELLOWSHIP

The University invites applications for the post of Samuel Turner Research Fellow.

The Fellow will be required to conduct research into Cancer and the pathology of growth in the first instance by the technique of tissue culture.

The appointment, which is a full-time one, will be in the first instance, for three years at a salary of £600 per annum. Applications (of which ten typewritten copies should be forwarded to the Registrar, The University of Liverpool no later than Sept. 30th, 1930) should contain a statement of the candidate's experience of pathological research work and tissue culture technique, and should be accompanied by not more than three testimonials and the names of three referees.

EDWARD CAREY, Registrar.

The University of Liverpool.

JOHNSTON CHAIR OF BIO-CHEMISTRY.

The Council of the University of Liverpool will have under consideration in the Autumn Term an appointment to the Johnston Chair of Bio-Chemistry, vacant by the resignation of Professor W. Ramsden. Particulars with regard to the conditions and terms of appointment may be obtained on application, before September 30th, 1930, to the Registrar of the University of Liverpool.

The University of Manchester.

The AMY HENRIETTA WOPSWICK FELLOWSHIP for the investigation of the Causes and Treatment of Rheumatoid Arthritis is offered for competition. The Fellowship is of the value of £150 for one year with the possibility of renewal for a second year. Applicants must possess a registrable medical qualification.

Applications must be made not later than October 15th to the Registrar, from whom further particulars may be obtained.

The University of Manchester.

Applications are invited for the post of DEMONSTRATOR IN CHEMICAL PATHOLOGY. Stipend £350 per annum. Duties to commence September 29th. Applications must be sent not later than September 13th to the Registrar, from whom further particulars may be obtained.

Preliminary Examinations.

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September and December. For Regulations apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

Lancashire County Council.

PUBLIC ASSISTANCE COMMITTEE.

LATE HOSPITAL AND DARNTON HOUSE, ASHTON-UNDER-LYNE, near MANCHESTER.

APPOINTMENT OF SENIOR ASSISTANT RESIDENT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners (men) for the appointment of Senior Assistant Resident Medical Officer at the above Hospital and Institution at a salary at the rate of £300 per annum, [illegible]

Candidates should be [illegible]

The appointment will [illegible]

for a period of [illegible]

applicant, however, will [illegible]

appointment [illegible]

applications [illegible]

[illegible]

[illegible]

[

ANATOMY POSTS VACANT.

The positions of PROFESSOR and ASSISTANT PROFESSOR OF ANATOMY in the UNIVERSITY OF MANITOBA, at annual salaries of 5,000 and 3,500 dollars respectively, are vacant. Assistant Professor allowed 200 dollars in lieu of travelling expenses.

Applications, testimonials, and references will be requested not later than August 23rd.

Applicants should cable immediately, advising that they are applying.

S. WILLIS PROWSE, M.D.,
Dean of Medical Faculty, Medical College,
Winnipeg, Canada.

County Borough of Croydon.

PUBLIC HEALTH DEPARTMENT.

Applications are invited from qualified Medical Men for the post of ASSISTANT MEDICAL OFFICER OF HEALTH FOR OBSTETRICS. The duties of the post will include the following:

(a) Resident Obstetrical Officer at the Mayday Road Hospital (20 maternity beds)
(b) Visiting Medical Officer to the St. Mary's Hospital, an Institution of 32 beds controlled by the Croydon Mothers' and Infants' Welfare Association.
(c) General Clinical Supervision of the Council's Ante natal Clinics and other work carried out by it under the provisions of the Maternity and Child Welfare Acts and Notification of Birth Acts

Candidates must have had practical experience in Obstetrics and of Ante natal Clinics. The Fellowship diploma of one of the Royal Colleges of Surgeons will be deemed an additional qualification, but the D.P.H. is not essential.

The salary will be £600 per annum, with board and lodging at the Mayday Road Hospital (emoluments valued at £150)

The officer appointed will be on the staff of the Medical Officer of Health and will work under his administrative supervision.

The Mayday Road Hospital is a Poor Law Hospital and the duties in connection therewith will be performed under the Medical Superintendent of, and as a member of the staff of, that Hospital

Application forms, together with full list of duties and details of the appointment may be obtained from the Medical Officer of Health, Town Hall, Croydon, and should be returned, with copies of three recent testimonials to me not later than Monday, August 18th

Town Hall, Croydon
July 28th, 1930

J. M. NEWNHAM, Town Clerk

City of Liverpool.

PUBLIC ASSISTANCE COMMITTEE

RESIDENT ASSISTANT MEDICAL OFFICERS

Applications are invited for the appointments of Resident Assistant Medical Officers at the different Hospitals under the control of the Public Assistance Committee for a period of one year from October 1st, at a salary after the rate of £200 per annum, together with the usual residential allowances

Candidates must be single, fully qualified, and registered

Applications, stating age, qualifications etc., with copies of three recent testimonials, to be received by the undersigned not later than August 30th

Public Assistance Offices, Brougham Terrace, Liverpool July 31st, 1930.

WALTER MOON, Town Clerk

Royal United Hospital, Bath.

Wanted at once, an ASSISTANT HOUSE SURGEON Salary £120 per annum

The appointment will be for not less than six months, and candidates must be male, unmarried and of British nationality

Applications, with three testimonials, must be addressed to the undersigned

J. LAWRENCE MEARS,
Secretary Superintendent

Huntingdon County Hospital.

MALE HOUSE SURGEON required at once salary £125 with board, residence, and laundry.—Apply W. R. GROVE, M.D.

County Borough of Croydon.

PUBLIC ASSISTANCE DEPARTMENT.

APPOINTMENT OF RESIDENT ASSISTANT MEDICAL OFFICER (Male).

The Council invite applications for the above appointment at their MAYDAY ROAD HOSPITAL

The Resident Medical Staff consists of the Medical Superintendent; Assistant Medical Superintendent and Surgical Officer; Obstetrical Officer; Medical Officer; Assistant Medical Officer. The Hospital has upwards of 500 beds and offers excellent opportunities for further experience containing a variety of good clinical material.

Candidates must have held a resident Hospital appointment, and be experienced in anaesthetics. Further particulars may be obtained from the Medical Superintendent.

Salary £300 per annum, with full residential emoluments valued at £140.

Application forms may be obtained of the undersigned, and should be returned completed, together with copies of three recent testimonials, not later than the first post on Thursday, August 28th.

Public Assistance Offices, Mayday Road, Thornton Heath. August 1st, 1930.

JOHN M. NEWNHAM, Town Clerk.

Appointment of a Registered MEDICAL MAN OR WOMAN as a RESEARCH WORKER in MENTAL DEFICIENCY.

RE-ADVERTISED AT AN INCREASED SALARY.

THE MEDICAL RESEARCH COUNCIL, the GOVERNING BODY of the DARWIN TRUST, and the COMMITTEE of the ROYAL EASTERN COUNTIES INSTITUTION for the MENTALLY DEFECTIVE at COLCHESTER, jointly invite applications from registered Medical Men or Women to undertake Research into Mental Deficiency.

The person appointed will be a member of the Medical Staff of the Royal Eastern Counties Institution, and will be expected to take some part in the Administrative and Clinical work of the Institution itself, but the major part of the work will be an investigation into the causes of mental deficiency from the clinical, social, and genetic aspects. A Social Investigator will be appointed to assist in the work.

Commencing salary at the rate of £750 a year, non-resident

A form of application can be obtained from the Medical Superintendent, Royal Institution, Colchester, which must be completed and returned before October 4th. Duties to commence January 1st, 1931.

Beckett Hospital & Dispensary, BARNSLEY. (152 Beds.)

Applications are invited for the post of RESIDENT SURGICAL OFFICER (male) at the above Hospital.

Fellowship degree of the Royal College of Surgeons, England, Edinburgh, or Dublin will be deemed a recommendation

Salary attached to this appointment is at the rate of £300 per annum, together with board, residence, and laundry.

The successful candidate must be prepared to take up duty early in September.

Applications, stating age, qualifications, and experience, with copies of testimonials should be addressed to the undersigned immediately.

ARTHUR L. BOURNE,
August 5th, 1930. Secretary-Supt.

HOSPITALS SERVICE.

Administrative County of LONDON.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to positions at the undermentioned Hospitals. Candidates must have had previous residential hospital experience. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments of medical districts under the control of the London County Council.

(a) ST. GILES' HOSPITAL, Brunswick Sq., S.E.—DEPUTY MEDICAL SUPERINTENDENT. Salary £650 a year, with board, lodging, and laundry. No accommodation for a married man. The person appointed will also act as Assistant Medical Officer of Gordon Rd. Institution.
(b) BETHNAL GREEN HOSPITAL, Cambridge Road, E.—JUNIOR ASSISTANT MEDICAL OFFICER. Salary £350 a year, with board, lodging, and laundry. There is accommodation only for the person appointed (man or woman).
(c) HAMMERSMITH HOSPITAL, Ducane Rd., Shepherd's Bush, W.12.—THIRD ASSISTANT MEDICAL OFFICER. Salary £275 a year, with board, lodging, and laundry. Obstetric experience essential There is accommodation only for the person appointed (man or woman). The appointment is for one year only in the first instance.
(d) ST. MARYLEBONE HOSPITAL (now ST. CHARLES HOSPITAL), Charles Square, Ladbroke Grove, W.—THIRD ASSISTANT MEDICAL OFFICER. Salary £300 a year, with board, lodging, and laundry. The appointment will be for one year only in the first instance. There is accommodation only for the person appointed (man only).

The salaries and conditions of appointment in each case are provisional and are subject to review by the Council

Forms of application may be obtained from the Medical Officer of Health (Staff Division), The County Hall, Westminster Bridge, S.E.1. A stamped addressed foolscap envelope should be enclosed, and forms must be returned by August 15th.

Canvassing disqualifies.

Candidates desiring to apply for more than one appointment must send in a separate form of application in respect of each Hospital. Inquiries for further details as to the nature and scope of the duties at the individual Hospitals should be addressed to the Medical Superintendent of the Hospital concerned.

MONTAGU H. COX,
Clerk of the London County Council.

City of Stoke-on-Trent.

ASSISTANT MEDICAL OFFICER (Male)

Applications are invited for the appointment of Second Assistant Resident Medical Officer at the LONDON ROAD INSTITUTION, near Newcastle, Staffs.

The remuneration assigned to such office is £300 per annum, with board and residence. The period of the appointment will be limited to one year, subject to termination by one month's notice on either side The Institution accommodates about 1,000 inmates, including 600 in Hospital (which is recognized as a major training school for nurses) and 150 in Mental Wards. The medical service to the adjacent Children's Homes is performed by the Institution Resident Staff, who also are required to lecture to nurses.

Applications, accompanied by copies of not more than three testimonials of recent date, should be delivered to the undersigned not later than first post on Monday, August 18th. Applicants should state particulars of qualifications or degrees held, the date thereof, when taken, and experience since qualifying Preference will be given to those who have had experience in any of the following subjects—viz., Anaesthetics, Obstetrics, Pathology, and Radiography.

Public Assistance Office, High St., Stoke-on-Trent. July 31st, 1930

E. B. SHARPLEY, Town Clerk

Bedford County Hospital.

ASSISTANT HOUSE SURGEON (male), fully qualified, unmarried, required for a term of not less than six months commencing September 1st. Salary £130 per annum, with board, lodging, and laundry

Applications, stating age, nationality, qualifications, together with three recent testimonials, to be sent to the Honorary Secretary, Medical Staff Committee, not later than August 20th. Selected candidates will be invited for an interview Saturday, August 23rd.

ROYAL NAVAL MEDICAL SERVICE.

VACANCIES EXIST FOR MEDICAL OFFICERS IN THE ROYAL NAVY.

Candidates will be entered as Short Service Medical Officers and will be considered for transfer to the Permanent Service after 6 months' service. They must be registered under the Medical Acts, and be under 30 years of age on date of entry.

Medical Officers, R.N., are liable to serve in Naval Hospitals or Ships in any part of the world.

Excellent opportunities exist for clinical professional work, both medical and surgical, as well as for study and practice of Hygiene, Pathology, Ophthalmology, and other specialist branches.

Adequate provision is made for Post-Graduate Study.

OUTFIT ALLOWANCE of £50 is paid on joining.

PAY.—Pay from approximately £450 to £2.325 a year, according to length of service.

ALLOWANCES.—When in charge of **Hospitals** and **Sick Quarters,** 10s. and 5s. a day.

60 Specialists Allowances of 5s. a day.

Flag Allowances, 5s. and 2s. 6d. a day.

N.B.—About a quarter of the total number of Naval Medical Officers are in receipt of the above allowances.

Provision Allowance and Lodging Allowance are paid when victualling and accommodation are not provided. Servants allowance is also payable in certain appointments.

PROMOTION.—To Surgeon Lieutenant Commander after 6 years' service; to Surgeon Commander after a total of 12 years' service. Promotion to Surgeon Captain, Surgeon Rear-Admiral, and Surgeon Vice-Admiral is by selection.

Ante-date of seniority on account of civil hospital appointments and accelerated promotion can be gained.

RETIREMENT.—Gratuities are paid as follows:—

Short Service Officers, after 3 years' service	£300
Permanent Officers, after 4 years' service ...	£400
,, 8 ,, ,, ...	£1,000
,, 12 ,, ,, ...	£1,500
.. 16	£2,250

Rates of Pension range from approximately £558 a year, normally earned after about 25 years' service, to £1,112 a year, the maximum earned by a Surgeon Vice-Admiral.

Copies of the Regulations and Particulars as to Conditions of Service and Emoluments may be obtained on written or personal application to the Medical Director-General of the Navy, Queen Anne's Chambers, Tothill Street, London, S.W.1.

Ministry of Pensions.

BIRMINGHAM PENSIONS HOSPITAL COMMITTEE.

HIGHBURY HOSPITAL, MOSELEY, BIRMINGHAM.

Applications are invited for the post of RESIDENT ASSISTANT MEDICAL OFFICER at the above Hospital

The cases treated are surgical (mainly orthopaedic) and medical. Salary £300 per annum, with lodging, fuel, and light. The appointed candidate to be prepared to take up duty early in September.

Candidates selected for interview will be required to pay their travelling expenses Applications, stating age, experience, and war service (if any), together with copies of recent testimonials, to be received not later than Friday, August 22nd, addressed to Chairman of the Committee, Highbury Hospital, Moseley, Birmingham.

Queen's Hospital, Birmingham.

(MEDICAL SCHOOL) (350 Beds)

Applications from fully qualified candidates are invited for the post of MEDICAL REGISTRAR.

Salary £200 per annum, with board, residence, and laundry

The appointment in the first instance is for the period November 12th, 1930, to September 30th, 1931, with eligibility for re election for two further yearly appointments from the latter date.

Full particulars can be obtained from the undersigned, to whom applications, accompanied by three recent testimonials, should be sent by Monday, September 8th next

Birmingham. G HURFORD,
July 29th, 1930. House Governor.

Oldham Royal Infirmary.

Two HOUSE SURGEONS required immediately, one for Male Wards and one for Out-patient and Special Departments Appointments tenable until December 31st Successful applicants will be eligible for re appointment Salary at the rate of £175 per annum, with board, residence, and laundry.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned

CHARLES D DRAKE,
General Superintendent.

City of London Hospital for DISEASES OF THE HEART & LUNGS,

Victoria Park, E 2
('Bus, Tram, and Rail, Cambridge Heath, L. & N E Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on September 1st Six months' appointment. Salary at the rate of £100 per annum. Board, residence, and laundry provided.

Applications, with copies of (three) testimonials, should be sent to the undersigned on or before Monday, August 18th

GEORGE WATTS, Secretary.

District Infirmary,

ASHTON UNDER-LYNE

(General Hospital, 200 Beds, mainly Surgical)

Wanted, a Male HOUSE SURGEON. Six months' appointment, renewable Salary at the rate of £150 per annum, with board, residence, and laundry

The Resident Staff comprises a Resident Surgical Officer and three House Surgeons

Applications, with testimonials, to be sent at once to the undersigned

FRANK OLIVER,
July 21st, 1930 Gen Supt & Secretary

Nottingham Hospital for Women

HOUSE SURGEON (female or male) required to commence duties on September 15th Appointment for period of not less than six months Salary at the rate of £150 per annum, with board, residence, and laundry. Previous Hospital experience essential

Applications, stating age, experience, and qualifications accompanied by copies of three recent testimonials, to be sent to the Secretary, Mr A L MORE 1, Burton Buildings, Parliament Street Nottingham, not later than August 14th

Manchester Royal Eye Hospital.

JUNIOR HOUSE SURGEON required Salary £120 per annum, with residence, board, etc

Applications (with copies of testimonials), endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management not later than August 22nd

H R NORTH, Secretary

The Royal Hospital,

WOLVERHAMPTON.
(Incorporated under Charter.)

CASUALTY OFFICER AND RESIDENT ANAESTHETIST (male or female) required.

Duties to commence forthwith, and will include Casualty work and administration of Anaesthetics.

The Hospital contains 240 beds, contains the usual special departments, and is recognized by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical practice.

Candidates must be registered under the Medical Acts, and unmarried The appointment is for six months, with eligibility for further appointment for six months as House Surgeon to In patients

Salary at the rate of £125 per annum. Board, furnished rooms, and laundry provided.

Applications, with copies of testimonials, to be forwarded to the undersigned

W. H. HARPER,
July 28th, 1930 House Gov. & Sec

The Royal Hospital,

WOLVERHAMPTON.
(Incorporated under Charter.)

Applications are invited for the post of RESIDENT ASSISTANT SURGEON AND SURGICAL REGISTRAR. Salary £300 p.a Experience of *major surgery is essential*, and preference will be given to candidates holding one of the higher qualifications in surgery.

Duties and conditions of appointment on application to—

W. H. HARPER,
August 1st, 1930. House Gov. & Sec

Saint Mark's Hospital for CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM,

City Road, London, E C.1.

RESIDENT SURGICAL OFFICER (male) required Must be fully qualified. Salary £150 per annum and certain other emoluments, with board, residence, and laundry. The appointment is for a minimum of six months. Duties to commence on September 1st next Applications, with copies of testimonials, must reach the Secretary, from whom further particulars may be obtained, not later than Saturday, August 16th

Rochdale Infirmary and DISPENSARY. (110 Beds)

Wanted, JUNIOR HOUSE SURGEON (male) Salary £175 per annum, including board, residence, and laundry. Applications, stating age, nationality, etc., together with copies of three recent testimonials, to be sent to the Secretary, endorsed "House Surgeon." Conditions of appointment may be had on application to the Secretary.

Infirmary Office, W. WYNNE,
Rochdale, Lancs. Secretary.

Royal Isle of Wight County HOSPITAL, RYDE.

The Election Committee give notice that they will proceed to the appointment of Two HON. ANAESTHETISTS, who must be registered Medical Practitioners residing in the Isle of Wight. Applications, stating qualifications and experience, with copies of not more than three professional testimonials, to be sent to the Secretary not later than Saturday, August 16th

A. S GORDON, Secretary.

The Infants Hospital,

Vincent Square, Westminster.

There will be vacancies for Two HOUSE PHYSICIANS to enter on duty on October 1st next. The appointments are for six months Salary at the rate of £75 per annum, with board, residence, and laundry. Applications and testimonials should reach the undersigned on or before August 25th.

ALFRED J. SMALL, Secretary

The New Dewsbury and District GENERAL INFIRMARY.

Applications are invited for the post of JUNIOR HOUSE SURGEON; one with Orthopaedic experience preferred. Salary £150, with board, residence, and laundry.

Applications, stating age and experience, together with copies of recent testimonials, to be sent immediately to the undersigned

H. G. PRICE, Secretary-Supt.

Herzl Moser Hospital,

Leopold Street, LEEDS.

Required immediately, RESIDENT MEDICAL OFFICER. Salary £100 per annum. Ample time for Post graduate study.

Apply, Secretary, as above.

Cumberland Infirmary, Carlisle.

The following posts are vacant on October 1st. Six months' appointments Male. Previous experience desirable. Salary in each case at the rate of £155 per annum, board, residence, etc.:

(1) SECOND HOUSE SURGEON.
(2) HOUSE SURGEON to Special Departments. (Eyes, Ear, Nose, and Throat)

Applications, stating age, etc, with copies of not more than four testimonials, must be received by first post on Wednesday, August 20th by the undersigned, who will supply further particulars if desired.

Separate applications required for each post.

J. G. HOWITT,
August 1st, 1930. Secretary.

Gloucestershire Royal Infirmary AND EYE INSTITUTION, GLOUCESTER.

(153 Beds)

Applications are invited for the post of HOUSE PHYSICIAN. Salary £150 per annum, with board, residence, and laundry. The appointment is for six months, which may be extended for similar periods by re election from time to time.

Applications, stating age, qualifications, and nationality, with copies of not less than three recent testimonials, should be sent to the undersigned.

F. J. SYMONS,
July 31st, 1930. Secretary.

North Riding Infirmary,

MIDDLESBROUGH
(General Hospital—150 Beds)

JUNIOR HOUSE SURGEON (male) required to take up duties early as possible The appointment will be for a period of six months. Three residents are employed Candidates eligible for the higher posts as they become vacant. Salary at the rate of £150 per annum, with board, residence, etc

Applications, stating age, nationality, and experience, with three recent testimonials, should be sent to the undersigned forthwith.

CHARLES POSTGATE,
Secretary Superintendent.

Royal Infirmary, Blackburn.

(250 Beds, Five Residents)

THIRD and FOURTH HOUSE SURGEONS (male) required as early as possible at salaries of £175 and £150 per annum, rising to £250, with board, residence, laundry, etc To commence duties September 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc, to be sent at once to the undersigned.

Royal Infirmary, NATHAN A. SMITH,
Blackburn Gen Supt & Secretary.

This Institution is recognized for the Surgical practice required for the F R C.S Final Examination.

The Royal Infirmary, Sheffield.

(500 Beds)

The Weekly Board of Management invite applications for the post of HOUSE SURGEON.

The appointment will be tenable for a period ending December 31st, 1930. The salary *attached to the post* is £80 per annum, rising after six months' service to £100 per annum, together with board and residence.

Applications, together with copies of testimonials, to be sent to the undersigned immediately.

JNO. W. BARNES, F C.I S.,
General Superintendent and Secretary.
Board Room. July 21st, 1930

Royal Hampshire County HOSPITAL, WINCHESTER.

(158 Beds.)

HOUSE SURGEON.

Applications are invited from fully qualified men for the above post, to take up duties as soon as possible. Salary £150 per annum, with board, residence, and laundry. Candidates, who must be of British nationality, to make application at once to the undersigned, enclosing copies of three testimonials

HERBERT MASLEN, Secretary.

Royal Hampshire County HOSPITAL, WINCHESTER.

SENIOR RESIDENT MEDICAL OFFICER.

Applications are invited from fully qualified men for the above post, vacant on September 1st Salary £200 per annum, with board, residence, and laundry. Candidates, who must be of British nationality, should make application at once to the undersigned, enclosing copies of three testimonials.

HERBERT MASLEN, Secretary.

County Council of Durham.

DISTRICT TUBERCULOSIS MEDICAL OFFICER

The County Health Committee invite applications for a District Tuberculosis Medical Officer, at a commencing salary of £900 per annum rising by annual increment of £25 to £700 per annum. Travelling expenses will be paid by the County Council.

The appointment will be held subject to three months' notice on either side, and to the following conditions:

(1) The officer appointed must be a registered Medical Practitioner between the ages of 25 and 45 years, must devote the whole of his time to the duties of the office, and must not engage in private practice.

(2) He should either have held a previous appointment as Tuberculosis Medical Officer with the approval of the Minister of Health or

(i) Have had at least three years' experience in the practice of his profession,

(ii) Have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a Hospital as Resident Officer in charge of bed occupied by general medical or surgical cases, and

(iii) Have received special training for a period of not less than six months in the diagnosis and treatment of tuberculosis.

(3) He will be attached to the County Health Department, and will, subject to the directions of the County Medical Officer be under the control of the Central Tuberculosis Medical Officer.

(4) He will be required to reside in his Dispensary area or such other centre as required by the Council.

(5) He will be required to carry out the duties of a District Tuberculosis Medical Officer.

(6) He must be prepared if called upon to act as Locum Tenens to other members of the Medical Staff of the County Medical Officer.

(7) The holding of a Diploma in Public Health, and practical experience in bacteriological laboratory work will be deemed additional qualifications for the post.

The candidate appointed will be required to pass the County Council's medical examination, and will be subject to the provisions of the Local Government and Other Officers' Superannuation Act, 1922.

Applications endorsed "District Tuberculosis Medical Officer," with copies of not more than three recent testimonials, must be forwarded on or before August 16th next to the County Medical Officer, Shire Hall, Durham, from whom forms of application can be obtained.

Shire Hall, Durham. July 28th 1930

HAROLD JEVONS, Clerk of the County Council.

Lindsey County Council.

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH.

Applications are invited for the post of Assistant County Medical Officer of Health.

The person appointed will be required to act as an Assistant Tuberculosis Officer and School Medical Inspector. He will also be required to take charge of a Venereal Disease Clinic and act as Medical Officer to a Tuberculosis Hospital of 12 beds.

The appointment will be made in accordance with the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations 1930.

The salary will be at the rate of £600 rising by annual increments of £25 to £700 with an allowance for travelling on the County Council's scale.

Particulars of appointment and forms of application may be obtained from the undersigned. Applications to be received not later than August 23rd.

W. S. H. CAMPBELL, County Medical Officer of Health.

Public Health Dept., County Council Offices, Newland, Lincoln. July 26th, 1930

Swansea County Borough

RESIDENT MEDICAL OFFICER

INFECTIOUS DISEASES HOSPITAL

The Council invite applications for the above appointment from duly qualified unmarried Medical Practitioners. The salary will be at the rate of £350 per annum together with emoluments. Previous experience in an Infectious Disease Hospital is desirable.

Applications (on special forms with particulars of duties) can be obtained from the Medical Officer of Health, Public Health Offices, Swansea, to be sent in not later than August 9th.

County Borough of Darlington.

HEALTH VISITOR

The Corporation invite applications for the appointment of Health Visitor.

Applicant must hold the following qualifications:

(a) the new Health Visitor's Certificate of the Royal Sanitary Institute, or

(b) the Certificate for Health Visitors prescribed by the Board of Education Regulations of 1919, or

(c) have held a post as Health Visitor approved by the Ministry of Health.

The duties are chiefly concerned with maternity and child welfare, and the successful applicant will be required to carry out such duties under the direction of the Medical Officer of Health.

The salary for the appointment (under the Corporation's scale) as at present adjusted by reference to the rise or fall in the cost of living is £172 16s., and is subject to such other conditions of such scale as are applicable, and additional allowances amounting to £11 in respect of travelling and uniform are made.

The salary is subject to a deduction of 5 per cent. under the Local Government and Other Officers' Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Applications, stating age, qualifications, and experience, must reach the Medical Officer of Health, Feetham, Darlington, not later than Monday, September 1st.

Town Clerk's Office, Darlington. July 25th, 1930

H. HOPKINS, Town Clerk.

City of Birmingham.

PUBLIC HEALTH DEPARTMENT

CITY HOSPITAL, LITTLE BROMWICH

THIRD and JUNIOR ASSISTANT MEDICAL OFFICERS required.

All candidates must have held resident posts in General or Children's Hospitals; those for the post of Third Assistant Medical Officer will be expected in addition to have had previous Hospital experience in Fever.

The salary of the Third Assistant Medical Officer commences at £350 per annum, together with board, etc. The salary attached to the post of Junior Medical Officer is at the rate of £300 per annum together with board etc., and the appointment is limited to 12 months.

The officers appointed will be required to pay to the Council all fees, allowances, and emoluments (other than the foregoing) received by them.

Forms of application may be obtained from the Medical Superintendent of the Hospital and should be returned to him on or before Saturday, August 16th. The post applied for should be specified.

The Council House, Birmingham.

F. H. C. WILTSHIRE, Town Clerk.

County Borough of Walsall

MANOR HOSPITAL

RESIDENT ASSISTANT MEDICAL OFFICERS

Applications are invited from duly qualified ladies or gentlemen for the above appointments.

The salary of the first Assistant Medical Officer will be at the rate of £200 per annum, and the salary of the second Assistant Medical Officer at the rate of £180 per annum together with the usual residential emoluments.

The appointments will be tenable for a period of twelve months.

The persons appointed will be required to act under the general direction of the Medical Officer from whom particulars of the appointments may be obtained.

Applications, stating age, professional qualifications, and experience accompanied by not more than three copies of recent testimonials should be sent to the undersigned at once.

29 Leicester St., Walsall. August 8th 1930

C. S. FOTHERGILL, Public Assistance Officer.

City of Bradford

MUNICIPAL GENERAL HOSPITAL ST. LUKE'S

HOUSE PHYSICIANS and HOUSE SURGEONS required.

Salary in each case £200 per annum with board and lodging.

These appointments are for a period of six months, renewable for a further period of six months.

Application forms may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned to him not later than August 23rd.

Town Hall, Bradford. July 31st 1930

N. L. FLEMING, Town Clerk.

County Borough of West Ham

DEPUTY MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified registered Medical Practitioners for the post of Deputy Medical Officer of Health at a commencing salary of £650 per annum rising by annual increments of £50 to £1,000 per annum.

The engagement will be subject to three months' notice on either side.

The person appointed will be required to devote his whole time to the duties of the office, and to work under the direct supervision and control of the Medical Officer of Health.

The appointment will be subject to the provisions of the Local Government and Other Officers' Superannuation Act, 1922, and to a medical examination as required by the Council for the purposes of the Act, and the statutory contributions to the Superannuation Fund under the Act will be deducted from the salary.

Candidates should possess the Diploma in Public Health and have had experience in the general administration of a Public Health Department. It will be considered an advantage to have had special experience in one or more of the following:

(a) Maternity and Child Welfare.
(b) Infectious Diseases.
(c) Tuberculosis.
(d) Mental Deficiency.
(e) Medical Inspection of School Children.
(f) Poor Law.

Application must be made on the prescribed form, which may be obtained from the undersigned and returned accompanied by not more than three recent testimonials on or before August 23rd.

Canvassing Members of the Council is prohibited and will disqualify.

Town Hall, West Ham, E.15. July 23rd, 1930

CHARLES E. CRANFIELD, Town Clerk.

Borough of Leigh

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

The Town Council of Leigh invite applications for the appointment of Assistant Medical Officer of Health and Assistant School Medical Officer for the Borough.

The appointment will be subject to the approval of the Minister of Health and the Board of Education.

The person appointed must devote the whole of his time to the service of the Corporation and will be required to act under the supervision of the Medical Officer of Health and School Medical Officer.

The officer will be required primarily to carry out work in connection with the School Medical and Maternity and Child Welfare Services and in addition to undertake such duties in connection with the Public Health Services of the Borough as may be assigned to him.

Preference will be given to applicants who have had experience in ante-natal and midwifery work, administrative experience in the testing of sera and vaccines and in school medical work generally.

The salary will be £630 per annum, increasing by annual increments of £25 to a maximum of £700.

Applications, stating age, experience, and qualifications, accompanied by copies of not more than three recent testimonials, and endorsed "Assistant Medical Officer," must reach me not later than Saturday, August 16th.

Town Hall, Leigh (Lancs.)

THOMAS B. BAMBER, Town Clerk.

City of Salford.

HOPE HOSPITAL (1,000 Beds)

RESIDENT SURGICAL OFFICER required about September 22nd. Commencing salary £400 per annum, together with board, lodging, laundry, and attendance. Candidates must have had at least two years' general surgical hospital experience and must be prepared to specialise in surgical cases to some extent. Previous experience in surgical diseases of the eye will be given special consideration. One of the Residents appointed will be selected from the Hope Hospital staff.

Further particulars may be obtained from the Medical Superintendent, to whom applications, together with copies of not more than three recent testimonials, should be forwarded, marked "Resident Surgical Officer," not later than August 16th.

H. H. TODD, Town Clerk.

The Royal Eye and Ear Hospital, BRADFORD

WANTED, JUNIOR HOUSE SURGEON (male), salary £150, with board, residence and laundry. Applicants should be qualified, and must be willing to undertake some anæsthetic work. Applications, with copies of recent testimonials, to be sent to the undersigned not later than August 14th.

F. PERCIVAL SMITH, Secretary.

(Appointments continued on p. 42.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted immediately, to manage a Branch Surgery in a large Kentish Town, 30 miles from London, an outdoor male ASSISTANT English, with Hospital experience preferred Must own car. Good prospects to suitable man. Salary £400 p.a., free house and attendance—Full parties and photo, to No. 5437, B.M.A. House, Tavistock Sq, W.C.1.

Wanted.—Young, single, male, indoor ASSISTANT. Panel and private Practice. Commencing salary £250, rising to £300 in six months, if suitable Commission on mids Testimonials and photograph—Address, No 5414, B.M.A House, Tavistock Square, W.C.1

Wanted. — Assistantship with early view to Partnership, by M.B., B.Ch. Q.U.B., married, Protestant, six years' experience G.P. Would be keen to work up Branch Surgery North of England pref. Small capital. Interview necessary. Free end of Sept. —No 5232, B.M.A. House, Tavistock Sq., W.C.1

Wanted.—Experienced outdoor male ASSISTANT, with view, for panel and private Practice in Swansea. Salary £400 a year and half midwifery fees State full particulars — Address, No. 5438, B.M.A. House, Tavistock Square, W.C.1

Wanted. — Indoor Assistant, young, male, Protestant, for panel and general Practice, country district, Yorkshire Suit one recently qualified Able to drive car Usual bond Salary £300—Address, No 5207, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Unmarried male ASSISTANT, outdoor. Midlands. Panel and private Cyclist Salary £400, and furnished rooms and attendance Petrol allowance if own car English or Scotch only—Address, No. 5229, B.M.A. House, Tavistock Square, W.C.1

Wanted in Colliery Practice in Glamorganshire, an indoor male ASSISTANT Salary £300 a year, rising by increments of £25 to £400 Experience in Anæsthetics and motor cyclist preferred—T. J. BELL THOMAS, M.R.C.S., Maesteg

Wanted immediately. — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view State full particulars—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted. — Assistantship, with view to early Partnership or Succession, by L.R.C.P. and S.I., aged 30 Eight years' experience G.P., ex H.S. and H.P. London or South of England Interview London.—Add., No 5418, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Outdoor Assistants, male and female Knowledge of Welsh an advantage but essential—Full particulars to A. RAINCOCK, 40, Hamilton Street, Hoole, Chester

Wanted.—Assistantship, with or without view, by Woman; 7½ years' experience G.P. Free in September. Own car. Near Manchester if possible.—Address, No. 5208, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Whole or part-time outdoor ASSISTANTSHIP in Croydon, Epsom, or Wimbledon areas, by experienced young Practitioner.—Address, No 5402, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Young male Assistant, unmarried. Panel and private work in North London. Salary £300 and board. — Address, No. 5408, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, outdoor, with view if suitable. Industrial centre North. Knowledge of Surgery preferred. Usual bond. — Address, No. 5405, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, Partnership, or PRACTICE.—Doctor, abstain 1, extensive experience in private and N.H. Insurance practice, desires full or part time work (preferably with view to partnership or succession) in or near London. Very reliable and highly recommended. Terms mod. —No 5415, B.M.A House, Tavistock Sq., W.C.1.

Assistant, unmarried, indoor, wanted, view Partnership. Good class Country Practice, Warwickshire. Graduate London, Oxford, Cambridge, or T.C.D. D.P.H. an advantage. Ex H.S. or H.P. pref. C. of E.—No 5420, B.M.A. House, Tavistock Sq., W.C.1.

Assistantship (outdoor) wanted by M.B., B.Ch. (1924); ex H.S. and H.P. Experience in panel and private. Used to sole charge. — Address, No. 5430, B.M.A. House, Tavistock Square, W.C.1.

Assistant required for Practice in London, E. Salary £250 p.a. and live in.—No. 5413, B.M.A. House, Tavistock Square, W.C.1.

Indian Doctor, L.R.C.P., etc., Edin., July, 1929, keen, abstainer, desires to be ASSISTANT, with view to gaining acquaintance with G.P. Returning England, October. — Address, No. 5423, B.M.A. House, Tavistock Square, W.C.1.

M.B., Ch.B.Glas. 1925, Scot, 28, desires ASSISTANTSHIP with def. view Partnership to be paid out of income or other suitable appt., ex H.S and Senior H.P. large Teaching Hosp.; Senior H.S., Ear, Throat, Nose, and Gynæcology Depts., H.P. Skins, X-ray and U.V.R., ex Senior Asst. Phys. Mental Hosp.; exp. V.D. and T.B. work., wide exp. anæs; 18 months' G.P. First class refs and tests Colonies considered Free for interview now—No. 5416, B.M.A. House, Tavistock Sq., W.C.1.

Outdoor Assistant (lady) required in panel Practice in new London suburb Cyclist—Address, stating essential particulars, No. 5410, B.M.A. House, Tavistock Square, W.C.1.

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION—Pathologists and Bacteriologists requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are invited to communicate with H. GOODING, Hon. Sec., "Moelfre," 10, Holbeck Grove, Victoria Park, Manchester. No fees.

Part-time Assistant, man or woman, with view to early succession, urgently required. Panel 500. Rapidly increasing Practice, with prom. corner house, 7 miles from centre London. Low prem. for quick sale. —No 5407, B.M.A. House, Tavistock Sq., W.C.1.

Permanent Assistant, with view to ultimate Partnership (London area). Cash and panel (3,500). Very favourable terms in few years. Furnished flat. Recent tests. req., with nationality; age about 35. Autumn. —No. 5435, B.M.A. House, Tavistock Sq., W.C.1.

Radiologist, West End, with increasing Practice, requires OCCASIONAL ASSISTANCE, desires to meet another Radiologist who could have part-time use of rooms and give occasional assistance Nominal rent to suitable man, with usual remuneration for assistance rendered — Address, No. 5443, B.M.A. House, Tavistock Square, W.C.1.

Scotch University Graduate (1927), married, 18 months' Resident House appts., 1 year General Practice, experienced major surgery, wishes ASSISTANTSHIP with early view. Excellent tests. Small capital. —No 5442, B.M.A. House, Tavistock Sq., W.C.1.

Straits Settlements. — Wanted, well-qualified ASSISTANT at once. Climate very healthy and life extremely pleasant. Must be efficient, loyal man.—Address, No. 5432, B.M.A. House, Tavistock Square, W.C.1.

University Graduate, 1926, desires ASSISTANTSHIP with early view. Thoroughly experienced, exceptional references. South of England preferred; non-industrial. Some surgical scope.—Address, No. 5439, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Doctors requiring qualified Dispensers, Nurse Dispensers, Secretary Dispensers or Chauffeuse Dispensers, are invited to write, wire, or 'phone Temple Bar 5058, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Lady Dispenser - Bookkeeper desires RE-ENGAGEMENT now or in September. Fifteen years' experience. Good testimonials.—Address, Miss DANIEL, c/o Dr. AUBREY, Westover House, Bitton, Bristol.

Required by large Company for service in the Tropics, ONE ASSISTANT MEDICAL OFFICER, with special training in Eye work. Preferably ex House Surgeon or Physician. Starting salary £850 per annum, with free furnished bachelor quarters. Free first class passages out and home. Applicants must be of British parentage, single, and unattached. Ladies not eligible.—Address, with copies of testimonials (not returnable), No. 5108, B.M.A. House, Tavistock Square, W.C.1.

The Royal Army Medical Corps ASSOCIATION. — If you require men trained in all branches of hospital work—Dispensers (capable of undertaking returns, clerical work, etc., connected with Ministry of Health), Clerks, Laboratory Assistants, general hospital duties, Porters, Caretakers, etc.—Apply, Secretary, 85, Eccleston Square, S.W.1.

Trained Dietitian, 2 years' Chemistry (Edinburgh University), Housekeeper's Diploma, Edinburgh School of Cookery, six months' Dietetic Course, Edinburgh Royal Infirmary, and other Hospital exp., desires LABORATORY or KITCHEN WORK in connection with Chemistry of Food and Metabolism. —No 5436, B.M.A. House, Tavistock Sq., W.C.1.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors—'Phone Hampstead 1664, or write BEATRICE RADFORD, 341, Finchley Road, N.W.3.

LOCUMS.

FOR LOCUM TENENS APPLY TO
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FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY.
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Telegrams: "RESIDE, TUBECLE, WESTRAND, LONDON."

Wanted immediately.—Reliable and experienced Practitioners (male and female) for LOCUM ENGAGEMENTS — State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

As Locum. — Experienced and reliable (middle aged) Doctor had own Practice, desires further ENGAGEMENTS *Terms from 6 gns p w If country where car and driver available* Good refs Now free — "MEDICUS," c/o Vignes, 44, Elgin Cres, W 11

Doctor wants a Representative for one month from Sept 10th in popular Seaside Practice (compact) Hom County Hospitality and all cash fees offered Sporting and social facilities Owner Post graduating abroad —No 5445, B M A House, Tavistock Sq W C 1

Lady Assistant (Irish) required as LOCUM, indoor Must have tact and general experience State all essential particulars —Address, No 5425, B M A House, Tavistock Square, W C 1

Urgent. — Hospitality extended to Doctor and family — ASSIST in easy Practice, no midwifery, near Weymouth for about 3 weeks Wire (reply paid) — Address No 5425 B M A House Tavistock Square, W C 1

PARTNERSHIPS

Wanted. — Partnership, worth £1,000 p a, in sound Town Practice in Eastern or Home Counties by M B, Ch B, ex H S, H P, 1½ years Sanatorium, 3 years G P M O H Excellent testimonials Capital available Free soon — Address No 5409, B M A House, Tavistock Square, W C 1

Wanted.—Partnership (prelim. Assistantship) Residential town or country Practice or seaside M B, D T M & H Lond, 1926 28½, married General Children and Hospital experience Ample capital — No 5428, B M A House, Tavistock Sq, W C 1

A Third Share is available in a residential and panel PRACTICE, old established, within 20 miles of London House —Address No 5411, B M A House, Tavistock Square, W C 1.

Experienced Practitioner, M.D., BS, M R C S, etc aged 34 6 years' G P, desires join Senior Practitioner as PARTNER in first-class non panel, non dispensing Practice in good residential town, preferably S or E Coast Would secure good house in fresh part with view expansion —Address, No 5433, B M A House, Tavistock Sq W C 1

Junior Partner. — Well-qualified energetic young PARTNER, for long-estab Practice, general partners Prosperous rivers de town, Thames Valley One sixth share (with gross receipts over £1 000) available now Ample scope Panel 2 000 Usual fees 5/ to £1 1s — No 5401, B M A House, Tavistock Sq, W C 1

London, E —Exceptional chance to acquire HALF SHARE of an old established cash and panel PRACTICE Receipts of share £1 200 Nice flat available rent 28 per week Premium 2 years' purchase payable only £1,000 down rest at interest —Apply PEACOCK & HADLEY, Ltd, 19, Craven Street Strand, W C 2

Lancs Town — Partnership in old estab PRACTICE Cash receipts 1929 £2,524 Panel 1930 Good house 3 reception, 5 bedrooms, Garage and garden Premium—1/2 share—£1 000 (including loan debts)—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Partner wanted in good Practice pleasant district London suburb Panel 300—400 Receipts about £3 000 Half share available at 2 years purchase, cash Excellent house —Add No 5424 B M A House, Tavistock Square W C 1

Partner wanted to buy 1/3 share of General Practice doing over £3 100 p a. Situated in small country town in West Would suit man aged about 30 keen on medicine Good sporting district —Address No 5215 B M A House Tavistock Square W C 1

Partnership.—1/3rd share to commence of Practice producing about £1 000 Pleasant district Thames Valley Scope specially midwifery Panel over 600 Premium £700 cash — Address No 5431 B M A House, Tavistock Square, W C 1

PRACTICES

Wanted. — Practice (about £1 000) or Partnership with early succession, by married man with family Seaside town preferred —Write Box A 676, LEE & NIGHTINGALE Liverpool

Cheshire. — Pleasant district. Nice house, large garden, garage Receipts £700 Panel 630 Excellent scope Apply £50 House and Practice £2,200 or near offer part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown St

Cheshire Town, near Manchester. —Average cash receipts £800 Panel 450 Considerable scope Excellent modern house 2 reception 4 bedrooms Garage and garden Premium 1½ years' purchase —BRITISH MEDICAL BUREAU 33, Cross Street Manchester

For Disposal —A good Practice is not always to be had directly, but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised Inform free on applic.—4, Adam St., W C 2

For Sale.—Old-established industrial PRACTICE practically non-colliery, in South Wales Near good Hospital town and coast. Good house and garden to rent Panel 1 500 Average receipts last 4 years £1,300 Premium £1 600 Welsh not essential Good reason for selling —Address No 5444, B M A House, Tavistock Square, W C 1

For Sale.—Old-established industrial PRACTICE in a Yorkshire Town, panel over 2,000; gross takings £2 400, no midwifery, but plenty of scope, house on rent Preliminary Partnership or introduction Premium 1½ years' purchase, cash —Address, No 5214, B M A House, Tavistock Square, W C 1

Isle of Man. — Seaside Town Old estab PRACTICE Receipts average £946 (including £350 from panel) Semi detached house, 3 reception 4 bedrooms Garden Good schools Premium—Practice and House—£2,000, part by arrangement — BRITISH MEDICAL BUREAU, 33, Cross St, Manchester

Lancs Town. — Old-established Receipts £2 500 Panel 1,200 Two excellent houses, each with garden and garage rents £90 and £80 Appointments £120 Price 1½ years' purchase, part deferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown Street.

Lincolnshire Country Practice — Average receipts over £1,200 (including panel £350) Premium 1½ years House electrically lighted Good water supply Purchase price of freehold £2 000 —Apply 2032 REYNOLDS & BRANSON Ltd, Medical Transfer Agents 13 Briggate, Leeds

Live Practice and Freehold CORNER HOUSE for Sale, inclusive price £1 700 with 30 years estab connection, panel practice House of 3 sitting 6 bedrooms, bath kitchen, scullery, pleasant garden Doctor retiring —Apply, OWNER, 2, Nightingale Sq, Balham

London, N. — Old-established cash and panel PRACTICE. Receipts £1 700 a year, panel 1,300 Corner house rent £85 p a, 18 years' lease to run Premium £2 500 Vendor wishes change of district — Apply, PEACOCK & HADLEY, Ltd, 19, Craven Street, Strand, W C 2.

London Practice (20 mins Liverpool St) —Growing district increasing panel ample scope Average income £1 700 Premium 1½ years' purchase or nearest offer quick disposal — Address No 5421 B M A House, Tavistock Square W C 1

London, N.1. — Promising NUCLEUS for Sale. Lock up Surgery Low rent Vendor taking appointment Low premium for quick cash sale — Address No 5434 B M A House Tavistock Square W C 1

Manchester.—Industrial Practice Average cash receipts £95[illegible] Panel [illegible] 21 [illegible] 5 bedrooms Rent £40 p a Five reception 5 bedrooms Rent £40 p a Premium 1½ years' Purchase —BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Manchester. — For Sale, well-established PRACTICE in pleasant residential neighbourhood Premises may be purchased or owner will lease on very reasonable terms —Address, No 5231 B M A House, Tavistock Sq W C 1

Medical Practice, old-established, in N E Scotland near Inverness Town Residential and agricultural population Average cash takings for last four years £600 Good house garden, garage and cottage Substantial loan may be given on property —Address No 5105, B M A House Tavistock Sq, W C 1

Middlesex. — (Half-hour from town) — Well-established PRACTICE Present panel 220 Rapidly developing district Premium £1 100 House to be sold with Practice. Mortgage can be arranged —Apply PEACOCK & HADLEY, Ltd., 19, Craven Street, Strand, W C 2

North Wales.—Inland industrial district—3/4ths of £800 includ panel £300 Good scope Early succession £ 00 guaranteed first year Prem 1½ years, about half down Protestant, assistant preferred Welsh unnecessary —No 5417, B M A House, Tavistock Sq, W C 1.

Ophthalmic Practice for Sale, high-class residential town, South of England Purchaser must be of good Ophthalmic standing and experience, and not too young —Address No 5427, B M A House, Tavistock Square, W C 1

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Rapidly growing Practice for Sale North London Ample scope Residential district Receipts £580 Last month over £60 Panel 120 Premium £600 or near offer Good house, safe or rent —Address No 5419, B M A House, Tavistock Square, W C 1

Scottish Borders —Country PRACTICE for Sale Receipts £500—£550 Panel 330, increasing Easily worked Little midwifery Beautiful country Scope Good house garden Premium £300 —Address No 5412 B M A House Tavistock Square, W C 1

South Wales — Old-established Country PRACTICE Receipts average £1 050 (including £350 from panel) Premium £1,000 £200 down, remainder by instalments Welsh-speaking House to rent —No 5203, B M A House, Tavistock Sq, W C 1

To Purchasers — Do not buy without expert assistance With 40 years' experience Mr PERCIVAL TURNER can advise in all cases Terms free on application to 4, Adam St Strand W C 2 Telephone Temple Bar 5011 Telegrams Epomian London

West Riding Town, population over 30 000 —Well-equipped Hospital Receipts average over £1 200 Panel 1 000 Leasehold £1 100 —Apply 2412, REYNOLDS & BRANSON, Ltd, Medical Transfer Agents, 13, Briggate, Leeds

X-Ray Practice. — For Sale owing to ill health Receipts average £950 Low price for quick sale Vendor has a appointment Hospital appointment —Address No 4703, B M A House Tavistock Square, W C 1

Yorkshire (N R) — Unopposed Country PRACTICE in [illegible] Average cash receipts £700 for [illegible] Excellent [illegible] large garden [illegible] Premium 1½ years [illegible] —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

HOUSES CONSULTING ROOMS

Consulting Rooms to Let — [illegible] Part time [illegible] Apply [illegible] Langham 2861

Devonshire Street (Willett-[illegible] house —To Let as [illegible] CONSULTING ROOM, [illegible] with waiting accommodation [illegible] —Address No 5420, B M A House Tavistock Square, W C 1.

MARGATE.

Sale of Valuable Commodious Premises, situate in the centre of the Town close to G P O, High Street, and Sea front, and within a short distance of the Railway Stations and Cliftonville, with large grounds in rear, also Garage and Residences adjoining

Messrs. REEVE & BAYLY

have received instructions to SELL BY AUCTION at the WHITE HART HOTEL, MARGATE, MONDAY, AUGUST 25th, 1930, at 3 p m, in 9 Lots, Valuable Freehold Premises known as THE COTTAGE HOSPITAL, VICTORIA ROAD, with large garden and grounds in rear.

These Premises are centrally situated and constructionally sound, and are most adapted for the purpose of a Nursing Home, Institution, or Convalescent Home, or would form an ideal building for any public purpose with some additional alterations.

VACANT POSSESSION ON COMPLETION, together with the adjoining Properties 64, 66, and 68, VICTORIA ROAD, and Freehold Garage Premises (in rear), also 3, 5, and 7, THANET ROAD, with Stabling Sheds and Coachhouses, and Freehold Plot of Land, with brick built Stores or Garage (with vacant possession)

Large Sectional Building, fitted Wards, Bathroom, W.C.'s, Kitchen, Radiators, etc

Particulars and Conditions of Sale may be obtained of the Solicitors, Messrs BOYS & MAUGHAN, India House, Margate; or from the AUCTIONEERS, at their Offices, at 18, Cecil Sq, Margate, 243 Northdown Road, Cliftonville; and 7, High Street, Broadstairs

A BARGAIN FOR A DOCTOR.

Bailey, Herts.—The ideal spot for a CONVALESCENT HOME for people with consumptive tendencies This splendid property and residence, with all amenities of Town and the glorious pure air of the country, IS FOR SALE, owing to family reasons, at the absurdly low price of £5,000 or near offer. The small estate of 3½ acres is entirely secluded, being on an island site, though the roads are nowhere visible as it stands high above them. The land is made up of mature orchard, productive kitchen garden, shrubbery, and terraced lawns The house was built for the then owner just before the war regardless of cost It is of moderate size with all modern conveniences Having a flat roof it is most suitable for the erection of shelters for the protection from the wind whilst supplying the fullest amount of sun and air —For full details and arrangements to view, apply, GILBEY, GARNHAM & Co, Letter House, 54/55, Fetter Lane, E C 4. (Central 6321)

For Sale.—In a rapidly growing Wirral Village of over 1,200 inhabitants, in which there is only two resident Medical Men, well built Detached HOUSE, with 3 reception and 4 bedrooms, bathroom, boxroom, separate w c, hot water, electric light, large garage Standing in 1,000 square yards land Only been built two years Most suitable for a Doctor PRICE £1,900 —Apply, BELL, Upton Road, Moreton, Wirral.

Edinburgh. — For Sale, Modern Cornerways 7 roomed Terrace HOUSE Nucleus, growing district Oct —June, 1930, receipts £150, panel 100. Present owner taking up appointment — Address, No 5422, B M A House, Tavistock Square, W C 1

Harewood Chambers, 74-80, Gower St, W.C. — Just opened, newly decorated and furnished Hot and cold water 'Phones. Room and breakfast from 2 gns, b dinner 3 gns Bed and breakfast 7/6 — am 3941

arley Street (adjoining).— Fine CONSULTING ROOM, 2nd floor, with bed and bath rooms, use of waiting room and to on door Very low rent —Address, No 4722, M A House, Tavistock Square, W C 1

Hove —Eminently suitable for a Doctor Specially recommended 15, New Church Road Prominent Corner RESIDENCE with good gardens Freehold at a reasonable price — WINKWORTHS, F A I, 188, Church Road, Hove

Hove —Residential Nerve Home for quick sale Good house (rented), central At at £1,100 per annum Suit specialist Address, No 5440, B M A. House, Tavistock Square W C 1

Leith.—7, Lochend Road.—Main door HOUSE of 5 apartments (1st flat and area), 2 entrances, thoroughly modernized, elect light and power. Excellent situation for Medical Practitioner or Dentist Moderate assessment and feu duty. Upset price £595 Immed occupation. Parties from above address

Leysdown Hotel, edge of North SEA, KENT. Also building land for Bungalows. Splendid beach, beautiful country. Bracing air For recuperation and rest Every class of Games and Sports. Golf under construction.—ANDREWS, Leysdown, Kent

Opportunity.—Doctor or Dentist. —Fine corner position, main road. Growing residential district, Kent, 12 miles from London. Well built HOUSE, 4 bedrooms, space for surgery Price, freehold, £1,000 — LEIGHAN, Stanton Road, Croydon.

Queen Anne Street. — Dental CONSULTING ROOM available shortly for part time use. Magnificently fitted with all the latest dental appliances Rent £100 per annum, to include door plate, attendance, and every convenience —Address, No. 4706, B M.A. House, Tavistock Square, W.C.1

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APPOINTMENTS.—Contd.

County Borough of Southampton.

APPOINTMENT OF SCHOOL DENTIST.

Applications are invited for the position of an Assistant School Dentist to carry out the Dental Examination, Treatment, etc, of elementary school children.

The gentleman appointed must be fully qualified and registered He will hold office during the pleasure of the Council, and will be required to devote the whole of his time to the duties of the office and to act under the direction of the School Medical Officer The appointment will be determinable by two months notice on either side

Salary £450 per annum

The Local Government and Other Officers Superannuation Act, 1922, will be applicable to the appointment, and contributions to the Superannuation Fund will be deducted from the salary. The selected candidate will be required to pass a satisfactory medical examination.

Applications on the prescribed form, to be obtained from the Medical Officer of Health, Municipal Offices, Southampton, and endorsed "School Dentist," stating age, qualifications, experience etc, accompanied with copies of not more than three recent testimonials, must be delivered at the Town Clerk's Office, Municipal Offices, Southampton, on or before August 23rd

R. RONALD H MEGGESON,
August 1st, 1930 Town Clerk.

Royal Sussex County Hospital,

BRIGHTON. (237 Beds)

CASUALTY HOUSE SURGEON (male) required immediately. Salary £120 per annum, with board, residence, and laundry.

Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts They must be unmarried, and when elected under 30 years of age.

Applications, with copies of recent testimonials, should be sent to the undersigned

L L W LANCASTER GAYL,
Secretary Superintendent.

Warwick County Mental

HOSPITAL, HATTON.

JUNIOR ASSISTANT MEDICAL OFFICER wanted Salary £350 per annum, with board, residence, laundry, and attendance An extra £50 per annum is given on obtaining D P M. The appointment is subject to the provisions of the Asylums Officers Superannuation Act, 1909.

Applications, stating age, etc, together with copies of recent testimonials, to be sent to the Medical Superintendent.

King George Hospital, Ilford

(8 miles from London)

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER Salary £200 per annum, with board, residence, etc. Term—twelve months, with eligibility for further period Previous Hospital experience essential. Preference given to candidates who are Fellows of a Royal College of Surgeons Vacancy as from September 1st Applications should be sent to the Secretary.

Altrincham General Hospital,

(100 Beds)

Applications are invited for the post of JUNIOR HOUSE SURGEON Salary at the rate of £120 per annum, with board, residence, and laundry The appointment is for six months in the first instance Duties to commence September 1st next

Applications, stating age and experience, together with copies of recent testimonials, to be sent in to the Secretary, Altrincham Hospital, Cheshire.

Connaught Hospital,

Orford Road, Walthamstow, E 17.
(100 Beds)

Required, SENIOR RESIDENT HOUSE SURGEON (who will be R M O) Appointment to start on September 1st, and to be for six months Salary £150 p a, with free quarters, board, and laundry. Applications, with three testimonials or copies, to reach the Secretary by Wednesday, August 20th.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh)

(a) British Islands.

Town or District.	Town or District	Town or District
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	NEATH AND DISTRICT. *(Medical Aid Association.)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	STIRLING ROYAL BURGH. *(Medical Officer of Health.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Blyndlam Colliery Medical Aid Society.)* *(Workmen's Medical Scheme.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector.)*

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch) Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments.)*	Secretary, South Australian Branch, 207 North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch British Medical Association, P.O. Box 150, Wellington, New Zealand.
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch), British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. FRANK DAVIES (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6 Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

August 6th, 1930 By Order of the Council. ALFRED COX, Medical Secretary.

Borough of Chesterfield.

ASSISTANT (Female) MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER

Applications are invited from registered Medical Practitioners (women) for the position of Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £450 per annum with board residence at the Corporation Maternity Home valued at £150, both amounts being computable for pension under the Local Government and Other Officers Superannuation Act, 1922. Particulars of duties and forms of application may be obtained from the undersigned. Applications, endorsed "Assistant Medical Officer," should be sent to the undersigned on or before Thursday, August 14th.

J. L. FEATHER,
Chesterfield. Town Clerk.

Derbyshire Royal Infirmary, DERBY

(General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

The appointment is tenable for 12 months.

Salary will be £150 per annum, with apartments, board, etc.

There are 40 beds for Ophthalmic cases and a large Out-patient Department.

Applications, with copies of testimonials, to be sent to the undersigned.

WALTER BANKS,
July 28th, 1930 Supt. & Secretary.

Margate and District New GENERAL HOSPITAL.

(80 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male), to commence duties as soon as possible.

Salary £125 per annum, with board and laundry.

Applications accompanied by copies of testimonials should be sent to the Secretary, Margate General Hospital, as early as possible.

Seamen's Hospital Society, Greenwich, S.E.

RESIDENT MEDICAL OFFICER required at QUEEN ALEXANDRA MEMORIAL HOSPITAL, MARSEILLES, from September 1st. Salary at the rate of £250 per annum, with board, residence, and laundry. British State registered Nursing Staff. Candidates must be male, and some knowledge of French is essential. Applications, with copies of three recent testimonials, to be sent in by August 15th to the undersigned, from whom further particulars can be obtained.

Greenwich R. E. V. BAX,
July 23th, 1930 Secretary.

Stockton and Thornaby Hospital, STOCKTON-ON-TEES

(140 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about August 15th.

Salary £150 with board, residence, and laundry. Candidates must be duly qualified, and unmarried.

Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

J. WILKINSON, Secretary.

Hertford County Hospital.

Applications are invited for the post of HOUSE PHYSICIAN (male). Salary £150 per annum, with board, residence, and laundry. The appointment is for six months in the first instance.

Applications with copies of three recent testimonials, should be sent to the undersigned as early as possible.

PERCY G. BROOKS, Secretary.

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board, residence and laundry. Duties to commence in August.

Applications, together with copies of three testimonials, to be sent to the Honorary Medical Superintendent.

Royal Infirmary, Doncaster.

(125 Beds.)

OPENING NEW BUILDING

Three HOUSE SURGEONS and One HOUSE PHYSICIAN required at once. New building ready for occupation. The House Physician will also be House Surgeon to Ophthalmic and Ear, Nose, and Throat Departments.

The salary of each post is £200 per annum, with board, residence, and laundry.

Appointments are for six months and are renewable.

Applications, stating age and full particulars together with copies of testimonials, should be sent at once to the Secretary Superintendent.

The Sheffield Royal Hospital.

RESIDENT ANÆSTHETIST required (male). Salary for the first six months at the rate of £80 per annum, after which £160 per annum, with board, residence and laundry. There are twelve Resident Medical Officers, and the duties will vary after three months. Applications should be forwarded at once to—

V. H. BOOTH,
Superintendent and Secretary.

Nottingham and Midland Eye INFIRMARY

RESIDENT HOUSE SURGEON required as from September 1st. 40 beds. Large out-patient practice. Salary £80 per annum, board, residence and laundry. Applications (one week) from candidates who have had experience of eye work and are registered must be sent at once to the Secretary, The Infirmary, Nottingham.

South Devon and East Cornwall
HOSPITAL, PLYMOUTH. (240 Beds)

Applicants are invited for the following posts on the Honorary Medical Staff:

(1) HONORARY PHYSICIAN. (A Member of the Assistant Staff is a candidate for this post)

(2) HONORARY ASSISTANT PHYSICIAN (in the event of one of the present staff being appointed to the post of Honorary Physician). Candidates may apply for this post as an alternative to (1).

Candidates for the above posts must hold the Fellowship or Membership of one of the Royal Colleges of Physicians in Great Britain, or be Doctors of Medicine of a University of Great Britain.

Applicants must send twelve copies of their application and testimonials to the undersigned by Monday, August 18th. Canvassing disqualifies.

Plymouth. ARTHUR R. CASH,
July 28th, 1930. Gen. Supt. & Sec.

The Hostel of St. Luke
(Clergy Nursing Home),
14, Fitzroy Square, London, W.1.

The Committee of Management invite applications for the post of RESIDENT MEDICAL OFFICER (male) to the above Hostel.

Candidates must have had previous experience as House Surgeon at a General Hospital. The appointment is for one year at least. Salary at the rate of £200 per annum, with board, residence, and laundry. A fortnight's holiday will be allowed every six months, and the Locum will be paid by the Committee of the Hostel.

Applications and enquiries should be addressed to the Secretary of the Hostel, at 14, Fitzroy Square, London, W.1, and reach him before August 18th. The successful applicant will be required to take up his duties on September 1st.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Duties to commence as soon as possible.

The duties include charge of four beds devoted to complicated Midwifery cases.

Salary at the rate of £150 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable, and the salary for the second six months will be at the rate of £175 per annum.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned

Dated this 26th day of May, 1930.
ARTHUR H. LIMB, Secretary

The Bristol Royal Hospital for
SICK CHILDREN AND WOMEN,
St. Michael's Hill.

Applications are invited for the position of HOUSE SURGEON. Salary £125 per annum, with board, rooms, attendance, and laundry.

Applicants should state age, qualifications, experience, and send testimonials immediately to the undersigned

REGINALD C. THOMAS,
Secretary.

Chester Royal Infirmary.
(211 Beds.)

Wanted, HOUSE PHYSICIAN (male) to commence duties September 1st. Salary £150 per annum, with board, lodging, and washing.

Application list closes on August 23rd.

Application forms may be obtained from the undersigned

W. H. GRACE, M.D., M.R.C.P.,
Hon. Superintendent of the Resident
July 29th, 1930. Medical Staff.

King's College Hospital.

The Committee of Management invite applications for the post of JUNIOR PHYSICIAN.

Applications, with copies of three testimonials, should be sent before August 31st to the House Governor, King's College Hospital, Denmark Hill, S.E.5, from whom particulars of the duties may be obtained. The present Senior Medical Registrar is a candidate for the appointment.

Midland Hospital,
Easy Row, BIRMINGHAM.

A vacancy occurs for the post of HOUSE SURGEON at the above Hospital immediately. Salary £200, with board, residence, and laundry.

Applications, stating age and qualifications, accompanied by recent testimonials, should be forwarded at once to JAMES O. AYRES, Secretary.

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Apply to Lady Superintendent,
19, Nottingham Place, London, W.1.
Telephone: Mayfair 5420.

Northern Branch.—Apply, Lady Superintendent, 67, Clarendon Rd., Leeds. 'Phone: Leeds 26165.

Royal Hospital, Richmond,
SURREY.

JUNIOR HOUSE SURGEON (male) required to take up duties October 1st. Salary at the rate of £100 per annum, with board, furnished apartments, and washing. Candidates must be fully qualified and registered, and single. The appointment will be for six months, after which the successful candidate will be eligible for the Senior post. Applications, stating age, experience, and copies of three recent testimonials, must be forwarded to me as soon as possible.

RICHARD ALLEN, Secretary.

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London, S.W. — Nucleus. — About £150. Ample scope to young man. Panel over 100. Fees 3/6 to 10/6. Good corner house for sale or rent.—No 8711.

Lancs Town. — About £1,100 p.a. Panel 560. Club £50. Fees 3/6 to 5/-. Good house and nice garden. Rent or sell.—No. 8704.

Scotland, N.E. Coast. — Over £1,000 p.a. Panel 520. Appts. about £400. Visits 3/6 to 15/-. Good house, 3 recep., 5 bed., etc.—No 8701

London, E.—About £1,000 p.a. Panel 1,250. Visits 5/-. Surgery 3/6. Mids. refused. Small house to rent.—No 8700.

London, N. — Over £1,300 p.a. Panel 2,000. Densely populated district. No appts. or mids. 8 roomed house to rent on lease. Premium £2,650.—No 8696.

Devon Town. — £1,300/£1,500. PARTNERSHIP with Succession. Panel over 2,000 and working. Mids. refused of late, ample scope. Worked from surgery.—No 8695.

Midlands.—Share worth £1,400- £1,500. Good house (7 bed., etc.) and garden, in village 3 miles from town. Fees 5/- to 42/-.—No. 8694.

Central Wales.—£1,300. Panel and appts £400. Very little mid. Large house, low rent. Beautiful scenery.—No. 8689.

London, N. — About £1,700. Panel 1,500. 40 mids. p.a. Fees 2 to 5 gns. Visits to 5/-. Corner house to rent. Premium £2,500 or near.—No. 8688.

London, S.E.—Woman's Practice About £600. Panel 220. Fees 3/6 to 21/-. Scope for midwifery and increase. Ground floor flat.—No. 8686.

Within 45 miles of London.— Old-est unopp PRACTICE, about £1,000 p.a. Panel 700, yielding £430. Appts. £130. Fees 3/6 to 10/6. Good house and garden, with garage and tennis court, to rent.—No. 8685.

Yorks Country. — £800 p.a. Panel 445. Appts. about £60. Visits 5/- to 10/6. Modern house, 7 bed. Rent £42. —No. 8684.

South Coast Resort.—£6,000 p.a. Non panel. One fifth share increasing to one third in 2 years. Fees 7/6 to 21/-. Choice of houses. R.C.S. essential.—No. 8682

London, S.E.—About £350 p.a. Small panel. Very little mids. Fees 3/6 to 7/6. Detached house in own grounds to rent.—No 8681.

S. Devon.—Average £1,600 p.a. Panel over 2,000. Fees 3/6 to 5/- Large house in residential locality, 5 bed., 3 attics, 2 recep., etc.—No 8678.

London, S.E.—About £260 p.a. Panel 150. Fees 2/6 to 21/-. House to rent at £37 p.a., on long lease. Premium £550. —No. 8674.

Essex Suburb.—Near Country.— 1/2 share of £2,500. Great scope. Panel about 1,550. Suit man or woman. House or flat.—No. 8619.

S. W. County.—Near Sea.—Share worth £700, ample scope. Very little mids. Visits 5/ to 4 gns. Choice of houses. Ample scope.—No. 8666.

Harrogate. — Death Vacancy. About £700 p.a. Panel over 500. Clubs, etc., about £80. Fees 3/6 to 21/-. Good house, 5 bed., etc. Practice and house £1,250.—No 8664.

Cambs.—Over £800.—Old-estab. unopposed. Panel 475. Appts. £90. Fees 3/6 to 7/6. Large house, 5 bed., and garden, at low rent.—No. 8654.

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DORSET—PARTNERSHIP (firm of three) in old established middle and working-class G P Suitable house to rent Receipts (approx) £4 500 Panel 5 000 (about) Fees 2/6 up Premium for 1 4 share (to commence) £2 500, cash

LONDON, S W —Old-established PRACTICE situated on main thoroughfare Large house to rent (part sub-let as flat) Receipts £1 150 Panel 1,650 Fees 2/6 up Scope for Eye Premium for Practice and furniture £2 350 Long Partnership introduction if desired

CHESHIRE.—Middle and working-class PRACTICE House to rent Receipts (averaging) £1 000 p a Panel 1,650 No midwifery Premium open to reasonable (cash) offer

MIDDLESEX (W)—Middle and working class PRACTICE in rapidly growing district Splendid scope Medium sized house Receipts £7 0 Panel 300 Fees 3/6 up Hospital Premium £1 100

BERKS—Town PRACTICE within 60 miles of London Middle and working-class Receipts nearly £900 Panel 550 Fees 2 6 up No midwifery (scope) Suitable house available Premium 1½ year purchase

KENT (Seaside)—PARTNERSHIP in good middle-class Practice with excellent scope for increase Receipts nearly £1 900 Small panel 3/7ths share offered, with view to 1/2 share at 1½ years purchase Suitable to experienced Practitioner aged about 25—30

WALES—Old-established non dispensing Town PRACTICE with Surgical scope Excellent house to rent on lease at £90 p a Receipts nearly £1 300 p a Panel about 400 Premium £1 500 cash

ESSEX—NUCLEUS non panel G P with excellent house for sale or to rent Receipts approx £250 p a Scope for panel if desired

WEST COUNTRY—Oxford or Cambridge Varsity Graduate desired as PARTNER with view to Succession in three or four years time in old-established good class, non panel Practice, situated in country town Receipts over £2 000 p a Half share is offered to well qualified man aged about 30, at 2 year purchase

DERBYSHIRE—PARTNERSHIP in old established non panel Practice in best part of large town Receipts approx £3 000 p a Quarter share now, with view to larger share, at 2 years purchase

YORKS—PARTNERSHIP in middle and working-class Town Practice Receipts approx £3 000 p a Panel over 2 000 House to rent Premium for 1/4 share 2 years purchase

YORKS—Well-established middle and working-class Town PRACTICE Receipts approx £1 520 Panel nearly 1 700 House to rent Premium £2 250

BERKS—PARTNERSHIP with view to Succession Country Practice Receipts average £1 120 p a Panel nearly 600 House to rent Premium for half share 2 years purchase Suitable only to married man

KENT—PARTNERSHIP in old established Country G P Receipts over £2 200 Panel about 1 200 Suitable for experienced married man about 30 Premium for half share with possible view to 2 to 3 years

BLACKPOOL (near)—Well-established middle and working-class PRACTICE Suitable 8 roomed house available with garage etc Receipts nearly £1 200 Panel (about) 250 Premium for house and Practice £3 250

LIVERPOOL (near)—Well-established mixed G P Modern house available with Branch Surgery Receipts £2 500 Panel 2 600 Fees 2 6 up Scope for surgery if desired Premium 1½ years purchase

LONDON N —Working-class PRACTICE in thickly populated locality Receipts nearly £1 400 Panel over 2 000 Very little, if any, midwifery Well located house to rent at £80 p a on lease Premium £2 800 cash, or near offer

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LONDON S W —Well-established growing PRACTICE with scope Situated on main road House to rent or lease Branch Receipts over £900 Panel nearly 400 Premium 1½ years purchase

LIVERPOOL—Middle and working class rapidly growing PRACTICE situated in centre of city Receipts £1 150 Panel 1 500 Fees 5 to 5/ Mids 2 gns up Premium £1 600 cash

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ACCOUNTS INVESTIGATED AND INCOME TAX RETURNS PREPARED

RELIABLE AND EFFICIENT LOCUMS SUPPLIED AT SHORT NOTICE, also ASSISTANTS

FOR DISPOSAL

1 BIRMINGHAM — PARTNERSHIP (one-half share) with view to Succession in old established industrial and panel Practice Receipts over £1,700 Panel about 3 000 Appts worth about £50, transferable. Good house, garage etc.
2 SOUTH STAFFORDSHIRE — Well established Country PRACTICE Receipts average over £1,000 p a. Panel 700 Good house, garage, and garden
3 MANCHESTER (Suburb)—Lock up Surgery Industrial PRACTICE Receipts £850 Panel 600 and increasing
4 CHESHIRE.—Well established middle and working class PRACTICE. Receipts £2 300 Panel 2,400, increasing Appts worth about £30 transferable Good house garden garage
5 LANCASHIRE. — Well-established middle and better class PRACTICE Receipts £948, panel 900, both increasing Appt £50 p.a., transferable Good house and garage
6 MONMOUTHSHIRE—Well established progressive middle and working-class PRACTICE. Receipts £751 Panel 700 Good house, garage, and garden
7 WEST MIDLANDS—Well-established PRACTICE in market town and agricultural district. Receipts £1,572 Panel 500 Appts worth £118 Good house Garage and all conveniences
8 YORKSHIRE—Large County Borough—Well established working and middle-class PRACTICE Receipts over £1 500 p.a. and steadily increasing Panel about 1,700 Good house to rent

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

MR. HERBERT NEEDES,

31, Bedford Street, Strand, W.C.2.

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This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS AUDITS and VALUATIONS and the SUPPLY OF LOCUMS and ASSISTANTS

No Charge to Purchasers All Business receives Mr NEEDES personal attention

1 MANCHESTER Mixed PRACTICE of £1 100 a year for prompt sale Panel 1,000 Convenient spacious premises and garage on lease To effect quick sale, premium only £1 250
2 SURREY —Good class PRACTICE of £1 800 p.a. in an attractive Riverside Suburb Panel and appts £600 Very desirable house and gardens on long lease at £120 Vendor retiring after many years, will give three months introd. Premium, to include lease, £3 500
3 NORTHERN HEIGHTS —PRACTICE estab 25 yrs in pleasant residential locality for sale owing to ill health Average over £600 Can be extended Panel 250 Well built corner house with all conveniences garden and garage Leasehold for sale Premium for Practice, £950
4 LANCS —Good middle-class PRACTICE in Town of 45 000 and worth £1,200, with panel of 900 House in residential area slightly opposed with garage. Price £1 100 or might be rented Premium 1½ years
5 HANTS —Unopposed PRACTICE of over £700, with panel and appts situate in a good social and sporting district Pleasant old world residence, with central heating electric garden, garage etc Fixed £2 000 Goodwill £1 000 Personally known
6 IN A CHARMING Country Town within 30 miles, old-estab PRACTICE, returning last year £800, incl panel of 500 Held over 30 years Good society Suitable residence available Scope for younger man of ability
7 REQUIRED—PARTNERSHIP or PRACTICE returning £1 000 upwards in or around London or Town on South Coast
8 REQUIRED in London a PRACTICE of £2 500—£3 000 a year by two partners from 10 of experience and large connexion Must be in decent area with 20—40 per cent. of panel in same
9 WE Lord [illegible] and 30 [illegible] PARTNERSHIP of £1 500—£2 000 in L[illegible] area Non-panel preferred Prepared to pay 2 years' purchase (cash) for suitable investment

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NO GUARANTORS REQUIRED

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PLEASE WRITE FOR PARTICULARS

MENTION B.M.J.

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.

Telephone: Mayfair 1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION has every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

The business undertaken by the British Medical Bureau is divided under the following heads:—

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

ASSISTANTS AND LOCUMTENENTS.

Assistants and Locumtenents can be secured at short notice. It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out.

RESIDENT PATIENTS.

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

ACCOUNTANCY.

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 WEST OF ENGLAND. — Partnership in old established Practice in pleasant Country Town. House to rent or purchase Share worth about £1,000 p a. at 2 years' purchase.

2 LONDON, S.E. — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2,000 House (5 bedrooms, etc) Garden. To let Premium one fifth share 2 years' purchase.

3 MIDLANDS.—Practice over £800 p.a. in first rate Town. Panel 500. Detached house (7 bedrooms) Garage and garden. Rent £110 p a Premium 1½ years' purchase.

4 SOUTH OF ENGLAND.—Partnership in Practice nearly £5,000 p.a. in Country Town, close to fashionable Health Resort. Panel over 5,000. Nice compact house (6-bed. rooms), with garage and garden, to rent. Hospital. Premium, one fourth share £2,500. Great scope.

5 SOUTH DEVON. — Partnership in non-dispensing Practice, about £2,400 p a., in favourite watering-place Panel 950. Good Hospital One third share at 2 years' purchase Preliminary Assistantship

6 S.W. OF ENGLAND.—Unopposed PRACTICE, about £1,150 p a, in delightful country district. Very fine house, with beautiful gardens, tennis lawn, etc, for sale. Premium 1½ years' purchase

7 YORKSHIRE (N.R.). — Very old-established easily worked PRACTICE of £750 p.a in attractive country district Panel 450. Visits 3/6 to 10/6 Modern house, 12 rooms Garage and good garden. Rent £42 p.a. Premium 1½ years' purchase

8 YORKSHIRE (W.R.). — Old-established PRACTICE of £1,500 p a in pretty country district, close to large town Panel £500 Visits 3/- to 15/-. New house, with garage, garden, and paddock. Electric light. Rent £100 p a. Premium 1½ years' purchase

9 SOUTH OF ENGLAND.—Old-established unopposed PRACTICE of £1,800. Panel about 1,400. Nice double fronted house (5 bedrooms, etc.), good garden. Rent £90 p a on lease Premium £2,500.

10 LONDON, N.—Practice about £1,700 p.a. in thickly populated district Panel 1,500 Corner house (2 bedrooms) to rent Considerable scope Premium 1½ years' purchase.

11 LONDON, N. — Partnership in Practice, about £2,300 p a in growing residential district in outer London. Panel 1,100 Good scope Hospital Premium, one third share, 2 years purchase

12 SOUTH AFRICA.—Old-established PRACTICE of over £1,800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5,000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order, with 2 acres grounds, to be let. Very good scope. Hospital. Premium £1,200 or offer.

13 SOUTH MIDLANDS.—Country Practice of just over £1,000 p.a., within 50 miles of London. Panel 700. Good house, with modern sanitation, excellent garden and paddock, to rent. Premium £1,500, to include drugs and fittings.

14 DEATH VACANCY.—SOUTH COAST.—PRACTICE over £850 in favourite watering place. Panel about 200. House (5 bedrooms) in half acre garden, for sale.

15 LONDON, S.W.—Partnership in Practice about £2,500 p.a. in first rate suburb. Panel 1,250. Double-fronted house (7 bedrooms), garage and lovely garden, for sale Share about £1,000 p a at 2 years' purchase. Partner must be well qualified, preferably M.D. or F.R.C.S.

16 HOME COUNTIES. — Easily worked Country PRACTICE about £2,000 p a. in Agricultural District 40 miles from London. Panel 800. Centrally situated house (4 bed and attics), garage, and garden, for sale. Premium—Practice—1½ years' purchase.

17 SHROPSHIRE.—Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1,100. Very nice house, garage, and large garden, for sale. Sport. Premium one half share 2 years' purchase.

18 SCOTLAND. — Unopposed Practice over £1,000 p.a. in beautiful country district in Inverness shire. Panel 520. Nice well-built house (6 bedrooms), garage, and beautiful garden, for sale. Premium—Practice—1½ years' purchase.

19 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,600 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale Scope. Premium 1½ years' purchase.

20 SOUTH DEVON.—Country Practice nearly £1,500 p.a. in beautiful district, near coast. Panel 654. House (7 bedrooms), with electric light and central heating, garage, and large garden, for sale. Sport of all kinds. Premium 1½ years' purchase.

21 LONDON, NORTH.—Sound, easily worked PRACTICE, nearly £2,600 p.a., in residential district Small select panel. Good corner house (5 bed and dressing rooms), with very good garden, for sale Small Hospital. Premium—house and Practice—£4,250 cash.

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Practices and Partnerships for Disposal (continued).

22 MIDDLESEX. — Practice about £500 in growing district of pleasant suburb under 10 miles from London. Panel 450. Large house to rent on lease. Great scope. Premium £750 or near offer.

23 LONDON, EAST.—Practice £990 p.a. in populous area. Panel 1,240. Shop-fronted premises to rent. Plenty of scope. Premium 1½ years' purchase.

24 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Small compact house (5 bedrooms), with nice garden, for sale. Sport. Premium—Practice and house—£2,000.

25 SOUTH OF ENGLAND.—Partnership in good class non-dispensing Practice, £6,000 p.a., in attractive watering place. No panel. House (3/4 bedrooms), garage, and garden to rent. One third share at 2 years' purchase. Partner should be 35-40 years of age, and hold F.R.C.S England.

26 MIDLANDS.—Practice, over £1,700 p.a., in important City. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

27 LONDON, S.E.—Partnership in Practice £6,600 p.a. in outlying Suburban District. Panel 2,000. Premium one-sixth share, 2 years' purchase.

28 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first-rate town within 100 miles of London. Good house (6 bedrooms) to let. Share worth about £1,400 p.a. for disposal. Partner should be aged 35-40, and married.

29 MIDLANDS. — Partnership in Practice over £4,100 p.a. in flourishing town. Panel nearly 3,000. House (3 bedrooms) to rent. One-fifth share, 2 years' purchase. Preliminary assistantship. Applicant must be married or about to be.

30 MIDLANDS.—Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years' purchase.

31 SURREY. — Partnership in Practice, £2,690 p.a., in growing and prosperous town. Panel 950. Excellent scope. Premium, one-third or two-fifths share, 2 years' purchase.

32 LONDON, N.W.—Practice of between £1,100 and £1,200 p.a. in suburban district Panel 650 Corner house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

33 MIDDLESEX. — Partnership in Practice, nearly £3,500 p.a., in rapidly growing residential town under 20 miles from London. Panel about 1,150 Semi-detached corner residence (6 bedrooms), garage, and garden, for sale Premium, one-half share, 2 years' purchase.

34 CHESHIRE.—Partner required in increasing better-class non-panel Practice in first rate residential district. Cash receipts past year over £4,500. A University Graduate who must have held Resident Hospital appointments preferred. One-fourth share at 2 years' purchase.

35 LONDON, S.W.—Practice about £630 in suburban district within half an hour of Charing Cross Panel about 400. House to rent on lease. Very good scope. Premium £900.

36 MIDLANDS.—Fourth Partner required in good middle-class non-dispensing Practice £3,000 p.a. in prosperous town. Very small panel Small house to rent. One-sixth share at 2 years' purchase. Partner should be aged about 30 and well qualified.

37 LANCASHIRE.—Practice in rapidly growing district near coast and popular resort. Receipts last year £1,185 Panel 250 about. Very nice compact free-hold House (4 bedrooms, electric light, etc.), with beautiful garden, for sale. Premium for Practice £500.

38 WEST MIDLANDS.—Practice about £1,050 p.a. in residential country district. Panel over 500. Excellent house (5 bedrooms), with electric light, etc., garage, and 3 acres land for sale or rent. Premium 1½ years' purchase.

39 YORKSHIRE (N.R.).—Practice £920 p.a. in small attractive Country Town Panel 450. Good House (5 bedrooms), garage, garden, etc., for sale or rent Very good trout fishing Premium £1,250.

40 LONDON, S.E.—Partnership in increasing middle-class Practice £4,000 p.a. in suburban district. Panel 3,300. Premium one-third or one-fourth share 2 years' purchase. Partner aged about 30, with experience in minor surgery.

41 SOUTH MIDLANDS. — Practice over £1,200 p.a in Market Town Panel 900. Pleasantly situated house (6 bedrooms), with good garden, for sale. Scope Premium 1½ years' purchase.

42 SOUTH MIDLANDS. — Practice of £756 p.a. in County Town. Small panel. Large freehold House (9 bedrooms), garages, and garden, for sale. Good hospital. Premium 1½ years' purchase.

43 SOUTH COAST. — Non-dispensing Practice about £550 p.a. in popular resort. Small panel House (5 bedrooms), with garage, to let. Plenty of scope Prem. £500

44 LONDON, S.W. — Good-class non-panel PRACTICE in pleasant residential outlying suburb Receipts formerly about £1,500 p.a. House in good position Premium based on results

45 SOUTH-WEST OF ENGLAND.—Practice averaging £1,666 p.a. in seaport town. Panel over 2,000. House, with 5 or more bedrooms, for sale. Premium £2,500

46 YORKSHIRE (W.R.). — Practice nearly £1,500 p.a. in manufacturing town Panel about 750 Good house, with nice garden, to rent or purchase. Premium 1½ years' purchase.

47 KENT AND SURREY BORDERS.—Practice about £800 p.a. in growing and pleasant residential district. Choice of residence for sale. Good scope. Premium £1,200.

48 LONDON, W. — Good middle-class non-panel PRACTICE £1,100 p.a. in Western suburb Attractive detached house (8 bedrooms, including attics) for sale. Considerable scope. Premium £1,150

49 S.E. COAST. — Practice of nearly £1,100 p.a in favourite Health Resort. Panel 500 House (5 bedrooms) for sale. Good scope. Premium £1,500

50 LONDON, S.W.—Partnership in non-dispensing Practice about £3,300 in first rate residential suburb. Small select panel. Hospital Premium one-third share 2 years' purchase.

51 OPHTHALMIC PRACTICE in good Town 30 miles from London.—Receipts past twelve months £497 (one day a week only). Hospital Premium £200

52 EASTERN COUNTIES.—Country Practice in agricultural district. Receipts 1929, £1,400 (average £1,200 p.a.). Panel 425 Very nice house (6 bedrooms), [illegible] garage, and garden (over acre) for sale. Premium [illegible]

53 NEAR EAST.—Practice, with some major Surgery if desired. Good Hospital Two appointments Low premium for quick sale.

54 YORKSHIRE. — Partnership in Practice £2,300 p.a. in seaside town. Panel over 600. [illegible] house (8 bedrooms) for sale. Premium two-fifths [illegible] share 1½ years' purchase.

55 WEST OF ENGLAND.—Assistant required (with view to Partnership) in busy Town and County Practice of £1,700 p.a. Good Hospital. Two-fifths share at 1½ years' purchase to suitable man (English or Scotch).

56 SOUTH COAST. — Small easily worked PRACTICE of £410 p.a. in fashionable Health Resort. No out work or midwifery. Large house Premium [illegible] £6,000

57 ESSEX.—Partnership in Practice nearly £1,800 p.a. in rapidly developing residential resort. Panel 500 (Choice of two houses from [illegible]

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (Partners & Strangers) Post free 1/2

All Communications to be addressed to Mr. A. V. STOREY, General Manager

BOVRIL MEDICAL AGENCY, Ltd.

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10-13, BEDFORD STREET, STRAND, LONDON, W.C.2.

Telegrams: BOVMEDICAL, WESTRAND-LONDON. Telephone: TEMPLE BAR 1616 (3 Lines).

Under the personal directorship of Dr. J. FIELD HALL and J. C. NEEDES

who have both had many years' experience as Medical Transfer Agents.

The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50).

No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. LONDON, S.W.—Riverside Suburb.—Old-established non-panel, non-dispensing PRACTICE, averaging about £1,400 p.a., with good scope. Fees 5/- to 10/6 and some at 21/-. Good corner house, with 7 bedrooms, etc., in excellent repair, on 34 years' lease (ground rent £19 p.a.), price £2,000, half on mortgage. Premium £2,000.
2. MANCHESTER.—Chiefly working-class PRACTICE. Average income £1,000, including panel of 1,000. Moderate expenses. Corner house, with 3 reception, 8 bedrooms, etc. Garage. Rent on lease £65 p.a. Premium £1,500, or near offer.
3. NEAR HUDDERSFILLD.—PARTNERSHIP.—A half share in an old-established mixed-class Practice. Income for immediate past year over £4,250. Panel of 3,500. Fees 5/6 to 7/6. Very good house, with 4 reception, 6 bedrooms, etc. 1½ acres of garden. Price for freehold £2,500. Premium 1½ years' purchase.
4. EASTERN COUNTIES.—Old-established, unopposed, and rapidly increasing Country PRACTICE, in very pleasant sporting and agricultural district, averaging nearly £1,200 p.a. (last year over £1,400). Panel of 500. Very good house (3 sitting, 6 bedrooms, bathroom, etc.) Garden, with tennis lawn. Garage. Electric light. Price, freehold, £2,000, £700 on mortgage. Premium 1½ yrs.' pur.
5. WITHIN 12 MILES OF LONDON.—In a rapidly developing residential district, offering exceptional future prospects, a mixed class PRACTICE doing at the rate of about £500 p.a., and increasing. Panel over 100. Nearest opposition 2 miles. Very good detached corner house, with garden. Price, freehold, £1,700, £1,200 on mortgage. Premium £500.
6. EASTERN COUNTIES.—About 50 miles from London and within 10 miles of county town.—Old-established PRACTICE in pretty country district for immediate disposal, Vendor having accepted an appointment. Receipts average nearly £900 p.a., including panel of 600, and Union £60. Nice house, with ample accommodation, garden, and garage. Can be bought or will be let. Premium 1½ years' purchase, part by instals.
7. PARTNERSHIP.—HOME COUNTY.—Within 40 miles of London.—In small village (with large surrounding population) in very pleasant district, the third share (with option to five-twelfths in 3, and half in 5 years) of old-estab. mixed class Practice, offering excellent scope. Present income £3,000 p.a., including panel producing over £1,200, and appt. worth £160. Visits 3/6 to 2 gns. Good house at moderate rental. Premium 2 years' purchase, cash. Good society and sport. Ingoing Partner should be about 30, English or Scotch, and married or about to become so.
8. YORKS.—In a clean and thriving manufacturing town, old-established non-panel PRACTICE, partly Homœopathic, and held 50 years by Vendor who is retiring. Cash receipts average about £2,400 p.a. Patients better and middle class. Midwifery refused. Good house, rent £100 p.a. Premium only 1 year's purchase, part down and balance by arrangement.
9. DERBYSHIRE.—Good mixed class unopposed PRACTICE, in very picturesque surroundings, within easy reach of good town. Gross cash receipts for past twelve months £900, including panel of 476. Fees 3/6 to 7/6, medicine extra. Suitable house, with 2 reception, 5 bedrooms, etc. Half an acre of garden. Rent on lease £70. Excellent sport and schools. Premium £1,200 or near offer.
10. BORDERS OF BERKS AND HANTS.—In a delightful district, an old-established mixed class PRACTICE averaging for the past three years £904 p.a. (last year £973), including panel of 400. Visits 5/- to 12/6, medicine extra (3/6). One opponent. House contains ample accommodation (2 sitting rooms, 7 bedrooms, bathroom, etc.). Large garden and garage. Rent £50 p.a. Prem. £1,400. Excellent sport.
11. DEATH VACANCY.—BRISTOL SUBURB.—Well-established non-panel, non-dispensing upper and middle class PRACTICE, averaging about £600 p.a., but capable of good increase. Suitable house can be bought or rented. Premium one year's purchase, or near offer.
12. YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle class PRACTICE. Income for the immediate past twelve months approximately £4,000. Small selected panel of 430. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years' purchase.
13. NEAR HEREFORDSHIRE BORDER.—HOSPITAL TOWN.—Old-established mainly good class non dispensing PRACTICE, averaging about £1,200 p.a. Panel of 500-600. Fees 5/- to 10/6. Nice house in centre of town. Price for freehold £1,200, part on mortgage. Premium £1,800, £1,300 down and balance by instalments. Up to-date Cottage Hospital, and good scope for surgery.
14. YORKS.—PARTNERSHIP.—Within a few miles of large residential town, the half share of old-established unopposed country PRACTICE, owing to retirement of senior partner through age and indifferent health. Cash receipts for past three years average over £2,500 p.a., including appointments and panel of 1,200. Very little midwifery. Railway station. Good house available, with large garden. Electric light and water laid on. Price freehold £1,200, part on mortgage. Premium 2 years' purchase.
15. PARTNERSHIP.—COUNTY TOWN, within 150 miles North of London. A one fifth share is offered in a very old established good mixed-class Practice having good scope. Gross cash receipts for past twelve months nearly £6,000, including panel of 3,400. Fees from 4/-. Not much midwifery. Suitable house available. Prem. 2 yrs' pur.
16. WEST OF ENGLAND.—In a small pleasantly situated town amidst beautiful surrounding country, old established PRACTICE. Income nearly £1,350 p.a., including panel of 900. Visits 5/- to 21/-. Little midwifery. Very attractive house in own grounds of 2 acres, 3 large professional rooms (separate entrance), 2 reception, 5 bedrooms, bathroom, etc. Vendor's freehold. Price £2,400 (£1,800 can remain on mortgage). Premium £2,000. Good society, etc.
17. SHEFFIELD.—Old established mainly better- and middle class non-panel PRACTICE. Average income £700, but large scope. Appointment of £160. Fees 5/-, 5/- to 15/-. Excellent house with small garden. Ground rent £9. Premium for house and Practice, £1,250.
18. PLEASANT CATHEDRAL CITY, within 200 miles North of London.—Old established mixed class PRACTICE, averaging £1,600 p.a., including £800 from panel and over £100 from clubs. Visits 5/- upwards (occasionally 2 gns.) Very little midwifery from 2 to 5 gns. Large attractive house, with garden. Rent £80. Prem. 1½ yrs.' pur.
19. ESSEX.—Unopposed PRACTICE in very pleasant agricultural district, averaging £872 p.a., including panel of nearly 500, and appts. worth £140. Fees 3/6 to 10/6. Mid. 3 to 6 gns. (about 12 cases). Commodious house, with 2 reception, 5 bedrooms, and good professional accommodation. Large garden. Garage. Rent on lease £60. Good sport and schools within reach. Premium 1½ yrs.' pur.
20. LANCS.—Pleasant Town, near open country.—Well-established middle- and better class PRACTICE. Cash receipts last year over £980, including panel of 900. Visits 3/6 to 7/6, medicine extra. Mid. 2 to 10 gns. (about 20 cases). Suitable house, with 2 reception, 4 bedrooms, etc. Price for leasehold £1,100, £600 on mortgage. Premium 1½ years' purchase, part by instalments.
21. GLOS. — COUNTRY PRACTICE. — Old-established PRACTICE in picturesque surroundings, averaging about £1,250 p.a., including panel of over 1,100. Visits from 3/-. Commodious house, with 3 reception, 6 bedrooms, etc. Garden. Garage. Price for freehold £1,500, £1,000 on mortgage. Premium £1,850.
22. LONDON, SOUTH-WEST.—Very old established non-residential PRACTICE, averaging about £4,000 p.a. Panel of 1,500, but large scope for more. Fees 2/6 upwards. Suitable house or flat can easily be obtained to meet purchaser's requirements. Rent of surgery on long lease £100 p.a. Premium 1½ years' purchase.
23. LANCS.—LARGE TOWN.—Very old-established good industrial class PRACTICE, producing £2,500 p.a., including panel of 1,804, and appts. worth about £120 p.a. Fees 2/6 upwards. Very suitable for two friends in partnership, as two houses available. Good sport and schools. Premium 1½ years' purchase. A one-half share will be offered with view to succession in six or twelve months if desired.
24. CHESHIRE.—Industrial Town within easy reach of Manchester.—Well-established PRACTICE producing £2,600 p.a., with panel of 2,870. Fees 2/6 to 3/6, medicine extra. Good house, with ample accommodation. Price £1,000, or would be rented at £70 p.a. Premium 1½ years' purchase, half down and balance by instalments.
25. SOMERSET COAST.—PARTNERSHIP.—In a small increasing seaside resort, the five-twelfths share of a very old-established PRACTICE, producing last year £1,600, but offering exceptional scope. Panel brings in £480, and appointments. Visits 5/- to 4 gns. Mid. 4 to 6 gns; only about 12 cases yearly. Choice of 2 suitable houses (price freehold £950), with gardens. Electric light and gas. Premium 2 years' purchase.
26. SOUTH DEVON.—COUNTRY PRACTICE, steadily increasing, and situated in very pleasant agricultural district, within easy reach of coast. Gross cash receipts for past 12 months £2,326. Panel produces, with mileage, about £420. Fees 3/6 to 21/-. Only about 20 cases of midwifery from 2 to 5 gns. Suitable house, in main street, with 2 recep., 5 beds., etc. Garden. Garage. Rent on lease £50 p.a. Good sport. Prem. £2,800. Suitable two friends if wished.
27. SOUTH OF ENGLAND (Thriving Seaport Town, pop. over 30,000).—Old-established mixed-class PRACTICE. Income last year £623, but offering exceptional scope. Panel of about 430 and 2 small appts. Visits 3/6 to 5/-. Very attractive residence, with professional rooms, 2 reception, 4 bedrooms, bathroom, etc. Pretty garden. Garage. Rent on lease £100 p.a. Premium 1½ years' purchase.
28. YORKS (NORTH RIDING).—In a small pleasant market town, with pretty and prosperous surrounding country, very old established mixed-class PRACTICE averaging £1,247 p.a., including appts. worth £80 and panel producing last year £366. Visits 3/6 to 25/-. One opponent. Good house, facing south (3 reception, 5 bedrooms, bathroom, etc.). Garden. Garage. Electric light. Vendor's freehold. Price £1,350 (£1,000 on mortgage), or would let for few years at £80 p.a. Premium £1,500. Educational and social amenities.
29. KENT.—Pleasant Seaside and Residential Town (pop. 17,000).—Old-estab. non-dispensing middle and working-class PRACTICE, averaging for the past 3 years over £1,050 p.a. including transferable appt. worth about £200 and panel of 500. Visits 3/6 to 10/6. House contains 8 rooms, kitchen, bathroom, etc. Garden. Garage. Price freehold £1,500, but might be rented. Premium £1,500.
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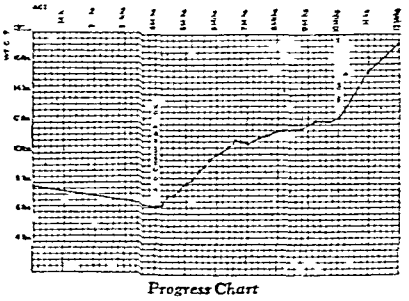
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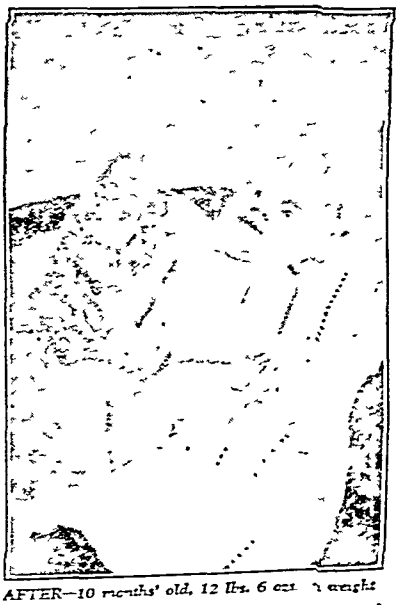
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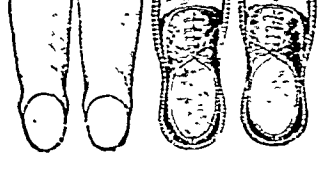
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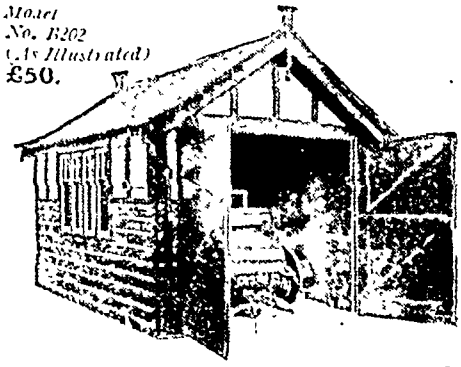
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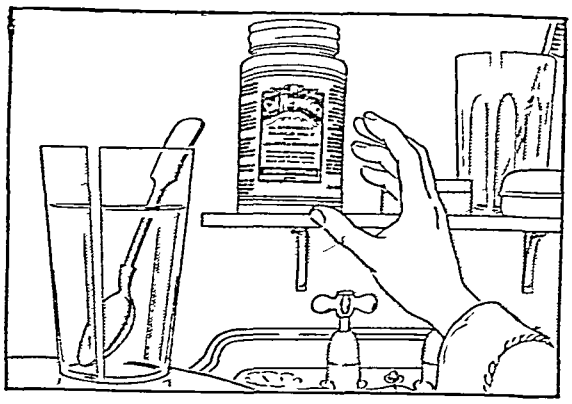
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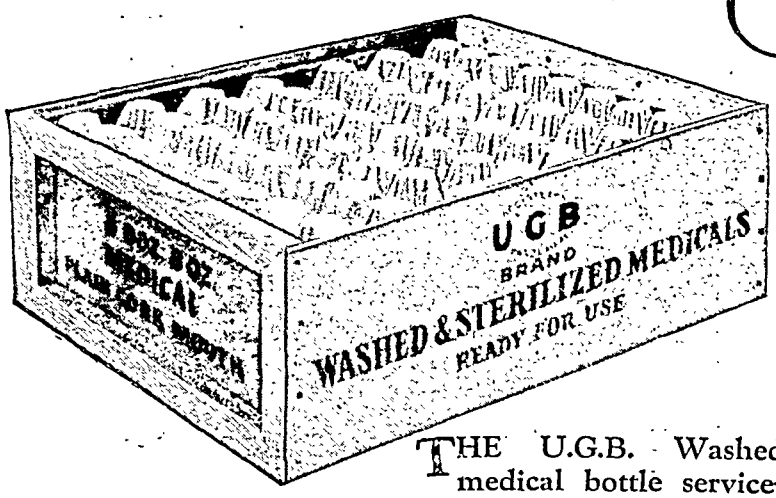
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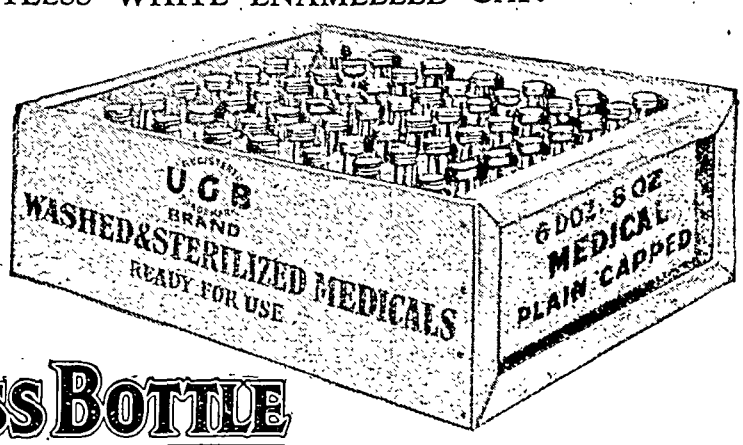
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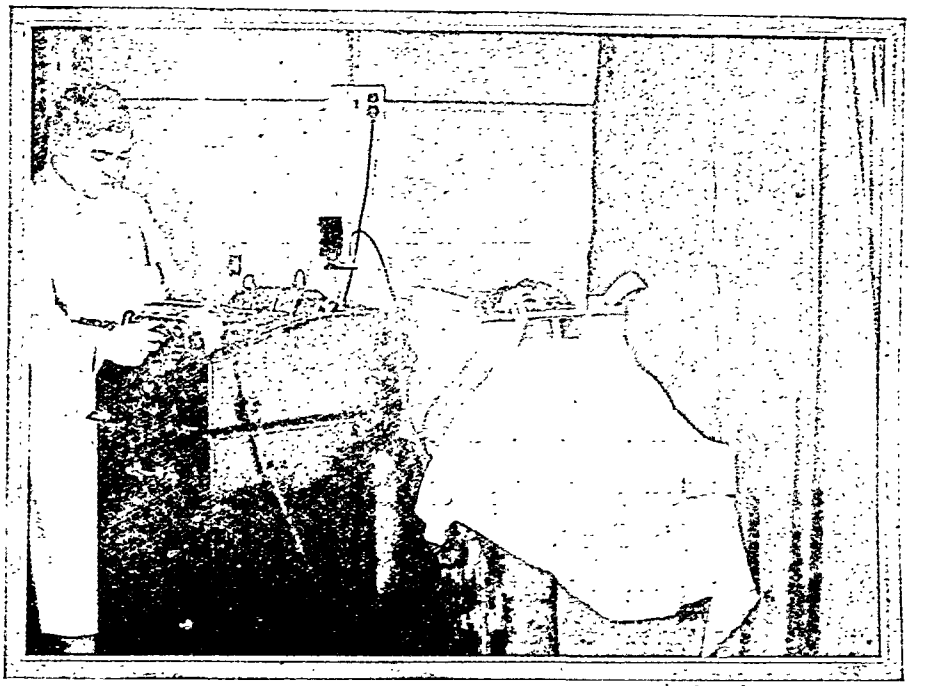
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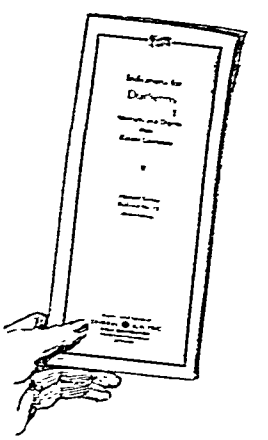


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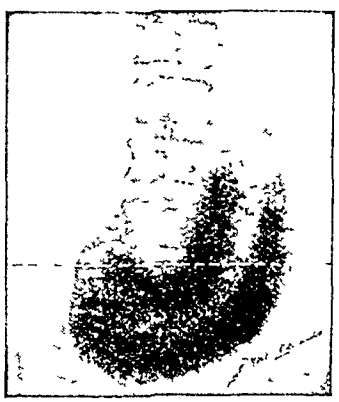
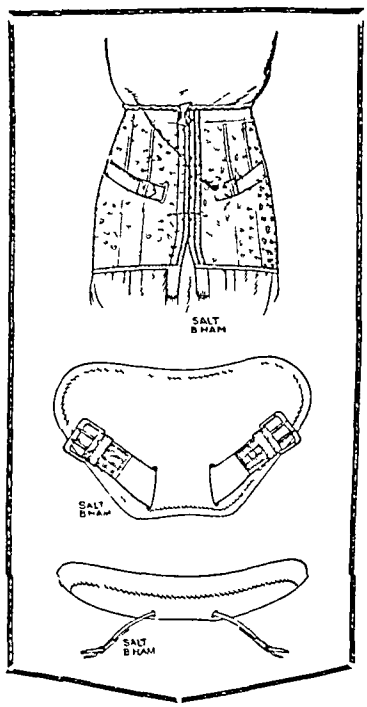


Fig A shows slightly dilated and much dropped stomach radiographed in the upright position immediately after partaking of a barium (6 oz) "Umbrose" meal The greater curvature projects 3½" below a line drawn between the iliac crests.



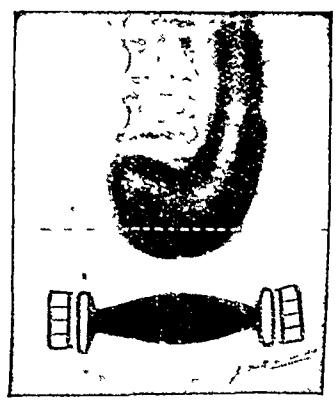


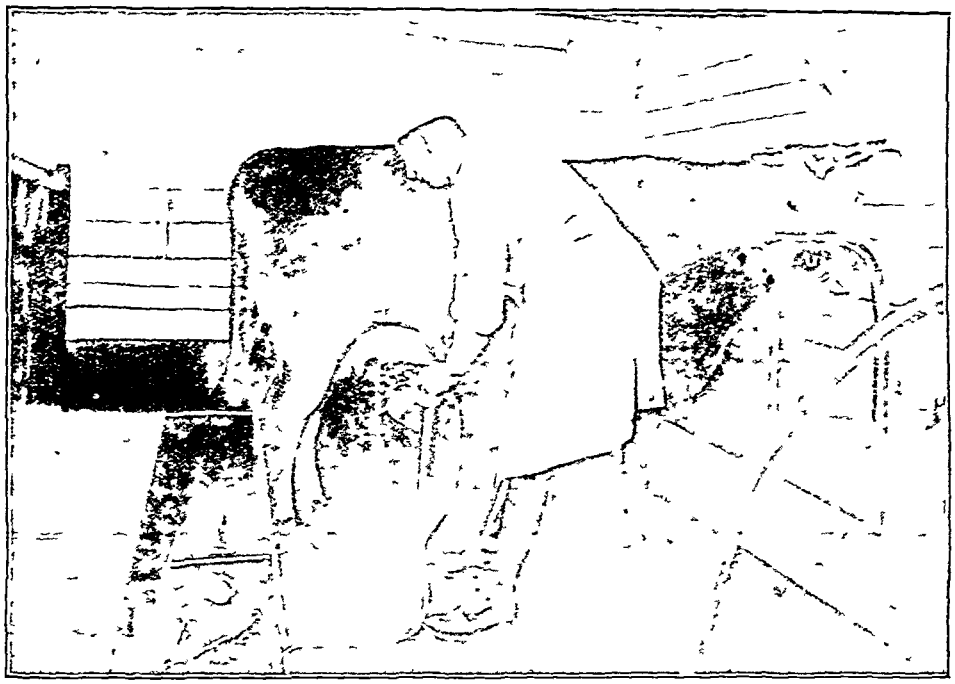
Fig B shows same stomach radiographed 15 mins later, the patient having lain upon a couch, the bottom feet of which were raised 9" The Belt was then applied, the patient allowed to walk about 5 or 6 minutes, and the radiograph taken in the upright position.

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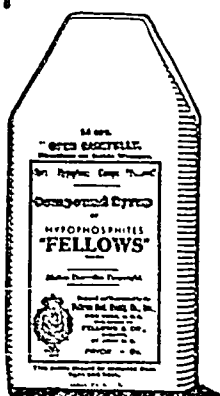
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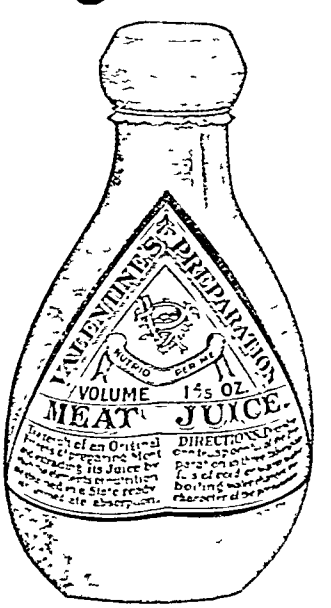
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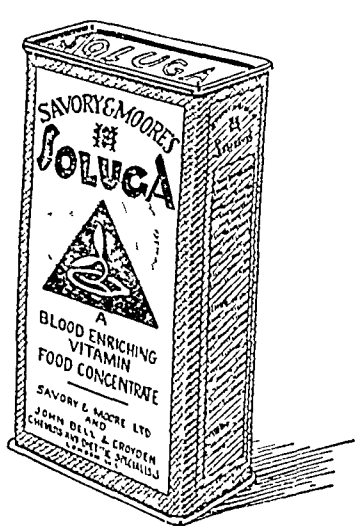
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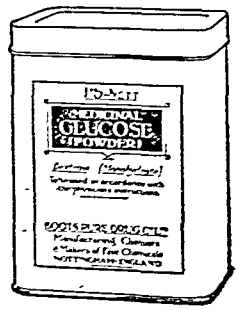
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W. Borchardt (*Dt. med. Woch.*, March 28th, 1930, p. 521) records the results of his experiments on young dogs in which anaemia had been artificially produced by the removal of about half their blood. In the first series some of the animals were fed with rib-marrow others with marrow from the long bones. Control animals received a corresponding amount either of fat or of liver extract. The basal diet in each case contained a sufficiency of iron (6 mg. per cent.). Only the animals receiving the rib-marrow showed a definite increase of weight, and their haemoglobin formation was more rapid than that of the others. In the next series the experiment was repeated, but the iron content of the diet was reduced to 1·4 mg. per cent. The result was similar but more striking, the dogs receiving the rib-marrow regaining their haemoglobin far more quickly than the others.

THIS extract from the "Epitome of Literature," published in the "BRITISH MEDICAL JOURNAL," dated May 3rd last, is important as representing, in 1930, a complete justification of the formula upon which

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A letter recently received.

The Medical Adviser of
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Dear Sir,

The case to which I referred was a child of six months who was brought to me after having treatment elsewhere for diarrhoea and vomiting. The child was practically a skeleton and apparently had been vomiting everything—even medicines—for many days. The mother thought, and her friends thought, the child was dying, and I happened to be the nearest doctor. I gave the child one teaspoonful of plain Kaylene in plain, cold, boiled water, and kept the mother and child in my consulting room to watch effects. If ever a child was drawn from the jaws of death, I think that little sufferer was. The Kaylene was retained; the gasping steadily lessened; the haunting look of that child's eyes became less distressing; in fact, the change for the better was so pronounced that in an hour's time I allowed the mother to take the child home.

Fortunately, I had sufficient Kaylene by me (a sample you kindly sent), and I gave the mother sufficient to give a teaspoonful every hour during the night. The chemists' shops were all shut by this time. I gave full instructions—strict instructions—not to give anything else but Kaylene and plain, cold, boiled water as I had done.

In the morning the mother came to see me and informed me that only twice during the night the child had loose stools but no vomiting, and had slept fairly well. The child had other two loose motions during the day, but not offensive ones like all the other stools. In the evening the child cried—the first time for two days—and as she looked, and was, so much better, I gave her some white of egg with plain, cold, boiled water. Still improving, I kept her on this for three days. She was doing well and I then allowed her milk. She made a complete recovery, and there can be no doubt whatever that Kaylene saved the child's life.

Yours faithfully,

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ARTERIO-SCLEROSIS

IT is an old adage that a man is "as old as his arteries," meaning that degenerative changes in the arteries are largely responsible for senility.

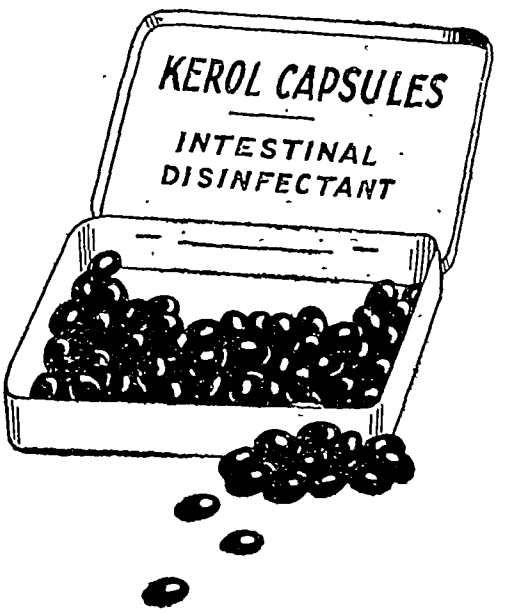
The modern view is that arterio-sclerosis is produced by increased blood-pressure, and that increased blood-pressure results from the absorption of "pressor" substances developed by putrefactive bacteria in the intestine.

(Prof. A Robin, among his suggestions for the treatment of arterio-sclerosis, emphasises in the first place the need to remove the alimentary toxic factors which are causative of arterial hypertension.—*Therapeutique Usella du Practicien*, p. 344.)

To retard the activity of the putrefactive bacteria, Metchnikoff introduced the soured milk treatment; but how much better it is to use an antiseptic substance. The ordinary so-called intestinal antiseptics, such as Salol, possess little real disinfectant power, and more potent germicides, such as Phenol, are absorbed, and, in sufficient dose, are toxic.

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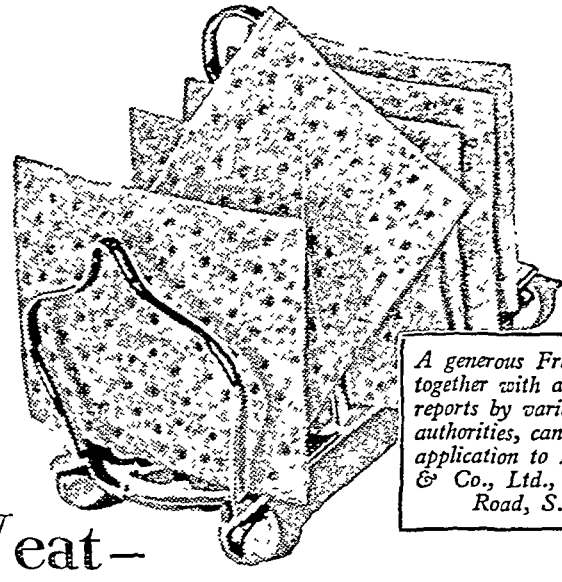
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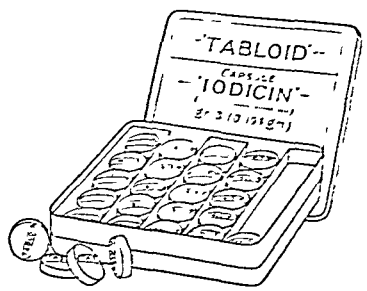
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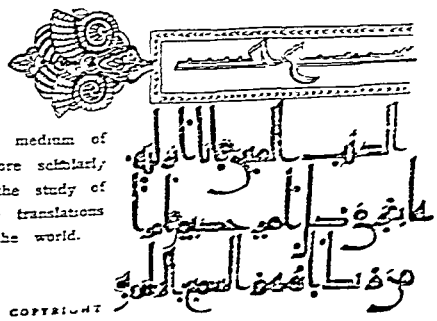
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A British Medical Association Lecture

ON

MASSIVE COLLAPSE OF THE LUNG

(ACTIVE LOBAR COLLAPSE).

DELIVERED TO THE DUNDEE BRANCH ON APRIL 29TH, 1930,

BY

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THIS condition has been described under various titles, such as acute massive collapse of the lungs, post-operative massive atelectasis, post-operative pulmonary atelectasis, obstructive massive atelectasis, acute lobar collapse, apneumatosis, and so on.

The title "massive collapse of the lung" was used by Pasteur in his last communication on this subject. It is clear, self-explanatory, avoids the use, as Gairdner puts it, of *sesquipedalia verba*, and covers all deflations of a large area of lung, whatever the cause may be. The condition is found associated with pleural effusions, pneumothorax, bronchial obstructions by growth or foreign bodies, pneumonia, pulmonary tuberculosis, and other inflammatory conditions of the lungs, with certain nerve lesions, and as a complication following surgical operations and injuries. In some of these conditions the lung plays a passive part, but in the post-operative and traumatic cases the lung plays an active part. This was recognized by Pasteur when he used the subtitle "active lobar collapse," and my observations in this paper are limited, more or less, to that type.

ACTIVE LOBAR COLLAPSE

I define this type as an airless condition of the lung, or part of the lung, of sudden onset, lobar in distribution, with coincident accumulation of tenacious mucus in the corresponding bronchi, and accompanied by characteristic physical signs, the chief of which is displacement of the heart towards the affected side.

The condition may be so slight as to pass unnoticed unless specially sought for, or it may be so extreme as to menace the life of the patient. It usually occurs within forty-eight hours of the operation or injury, but cases have been recorded after longer intervals.

In a typical case the onset is sudden, the patient is seized with a sharp pain in the side, has difficulty in breathing, and becomes more or less cyanosed. There is usually a moderate rise of temperature, and it generally precedes the onset. It is rarely above 102° F. There is also an increase in the rate of the pulse and respiration. The tendency is to lie on the affected side or, if pillowed up in bed, to curl up towards the affected side, which on inspection, is seen to be immobilized and retracted, with narrowing of the rib interspaces. Further examination reveals a dullness corresponding to the area of lung collapsed, and over this area there is an absence of breath sounds and tactile vocal fremitus. The heart is displaced towards the affected side, and the apex beat may have shifted two or more inches, in cases where the left lower lobe is collapsed, it is also displaced upwards. Cough is slight and sputum scanty, or they may be absent. There is a compensatory emphysema of the unaffected lung. Later on, these physical signs present great variation, the chest wall is not completely immobilized, the breath sounds become tubular and tactile vocal fremitus is increased. The cough increases, and there is expectoration of tenacious mucus, which, however, is never rusty. As time goes on the expectoration become more copious and less tenacious. Daily variation in the physical signs may occur, auscultation over one area of lung at different times giving quite different results.

The *x* ray examination, an extension of the physical examination by inspection, and in the following cases made in the wards by a portable apparatus, clearly shows

1 The site and extent of the lesion, as evidenced by a dense homogeneous shadow.

2 Displacement of the mediastinum and its contents towards the affected side, the heart shadow being merged with that of the airless lung in the lower half of the hemithorax, this giving an abnormal density. If the right upper lobe alone is affected there may be only displacement of the trachea.

3 Reduction in width of the chest cavity on the affected side with narrowing of the rib interspaces.

4 Elevation and fixation of the leaflet of the diaphragm on the affected side.

5 Pendulum movements of the heart—seen in the later stages when the immobilization of the chest wall is incomplete.

6 Evidence of injury—for example, fractured rib.

7 Compensatory emphysema of the unaffected lung.

The following selected cases illustrate most of these points.

CASE I

Male, aged 19 years. A case of acute appendicitis. Appendectomy at 2 a.m. on January 25th 1923. Anæsthesia—ethyl chloride and ether. Drugs before operation, atropine 1/100 grain after operation, heroin 1/12 grain repeated once.

At 5 p.m. on the same day he complained of a choking sensation, the temperature was 101.4°, pulse 100, and respirations 40. He had pain in the right side and wanted to cough but could not do so. He was cyanosed and had difficulty in breathing. The heart was displaced to the right and the chest wall was fixed on the right side. There was dullness to percussion over the right base, the breath sounds were absent over this area, and vocal fremitus diminished. The *x* ray examination revealed the typical appearances of massive collapse of the lower lobe of the right lung: (1) a dense shadow corresponding to the right lower lobe, (2) displacement of the heart and trachea to the right, (3) narrowing of the rib interspaces on the right side, (4) the line of the diaphragm could not be seen, (5) pendulum movements of the heart were not present, and (6) there was no *x* ray evidence of injury.

There was little alteration in his physical signs during the second day, but he "felt easier." On the third day he was decidedly improving, and the *x* ray examination demonstrated the pendulum movements of the heart. Some movement of the chest wall was taking place on the right side—breath sounds with some crepitations were heard low down over the dull area, and the sounds over other areas were bronchial in type. The temperature fell to 99.2° F. There was some cough and a little sputum. On the fourth day the *x* ray examination showed a continued clearing of the affected lung and less displacement of the heart. On the fifth day a bronchoscope was passed and a quantity of mucopurulent secretion drawn off. He continued to improve, and on the twelfth day the *x* ray appearances were practically normal.

CASE II

A miner aged 21, sustained an injury to his chest while working in the pit. He was taken home and on the following day his doctor, finding that he had a temperature and signs of pneumonia of the left lower lobe, sent him to the infirmary. He was admitted to a medical ward. On admission his temperature was 101° F., pulse 108, and respirations 36. There was dyspnœa and cyanosis. Physical examination marked dullness with increased V.R. and V.F. and bronchial breathing over the lower half of the left hemithorax. These signs varied from day to day. The heart was markedly displaced to the left 2½ inches, the apex beat being also displaced upward. He lay in bed curled up towards the left side, this was his most comfortable position.

The *x* ray examination, on the tenth day of his illness, showed an almost complete obscurity of the lower two-thirds of the left hemithorax, with displacement of the heart and trachea to left. The contour of the left leaflet of the diaphragm was visible. On the right side there were fractures of the fourth, ninth, and tenth ribs.

The sputum was scanty, tough and tenacious, but never purulent. He slowly improved, the highest temperature was 101.4°. It reached normal on the ninth day, but it was not until the twentieth day that the *x* ray appearances were normal.

This was a post-traumatic contralateral massive collapse of the lung.

and lower lobes of the right lung, with displacement to the collapsed side of the heart and trachea. The narrowing of the rib interspaces was also well shown.

Progress was uneventful. By the eighth day after the operation the temperature had reached normal, and on the sixteenth day the chest presented normal radiographic appearances.

CASE IV.

Female, aged 15 years. Appendicitis—appendicectomy—no complication. Anaesthetic: ethyl chloride and ether. Drugs: before operation, atropine 1/100 grain; after operation, heroin 1/12 grain, repeated once.

Six days after the operation this patient had a sharp pain in the left side of the chest and some dyspnoea. The temperature was 97.6°. Physical examination: marked dullness over lower half of left chest, V.R. and V.F. increased. Movements of left chest diminished. Heart displaced to the left. On the following day she was much better, having coughed up some thick tenacious sputum.

The *x*-ray examination was not made until two days after the onset of chest symptoms. It showed some obscurity of the lower lobe of the left lung, with displacement of the heart to the same side. Pendulum movements of the heart during respiration were noted. Five days later the chest presented normal *x*-ray appearances. The temperature never rose above 99° F.

CASE V.

Female, aged 9 years. This little girl's illness began suddenly on the morning before admission to the medical wards. She woke with a headache, felt shivery, and vomited once. During the day she coughed more than usual, for she had been troubled by a recurring cough for some years, and complained of pain in the left side. In the evening she became delirious. Next day the doctor sent her into hospital.

On admission her temperature was 102.6° F., respirations 40, pulse 154; the sputum was scanty, greenish, not rusty, and contained Group IV pneumococci. Physical examination: left lung dull all over, but especially inferiorly, where the breath sounds were hardly audible; elsewhere breathing was audible, and posteriorly about the middle was bronchial in character.

There was a tendency for the temperature to settle by lysis, and on the ninth day of her illness it had fallen to 97° F.; on the tenth day it rose to 100.6° F., and on the following day to 102° F., after which it became subnormal, ranging from 96° to 98° F. during the rest of her illness. It was not until the twelfth day that an *x*-ray examination was made, and it revealed almost complete obscurity of the left hemithorax, with displacement of the heart and trachea to the same side. There was no elevation of the diaphragm on the left side, but it was fixed.

The *x*-ray examination was repeated from time to time, and the gradual return to the normal watched—about twenty-eight days after the onset of her illness. Fifteen days later, however, while still in hospital, a further *x*-ray examination revealed a patch of consolidation in the middle lobe of the right lung, which cleared up in the course of a few days. There was no rise of temperature, nor did she seem in any way affected by it. A week later the chest was apparently normal, and she went home in good health.

CASE VI.

Female, aged 13 years. Appendicectomy, no complications. Anaesthetic: mixture and ether. Drugs: before operation, atropine 1/100 grain; after operation, heroin 1/24 grain, repeated once.

On the day following the operation she developed a cough and brought up small quantities of muco-purulent sputum. There were numerous rhonchi over both lungs—most marked at the right apex. Both lungs were equally resonant to percussion. On the third day after the operation (about forty-eight hours) the temperature rose to 102° F. She was very breathless; pulse was 140 and respirations 120.

Physical examination: Areas of patchy dullness alternating with areas of normal resonance over the right lung—tubular breathing and whispering pectoriloquy noted. Later there was dullness over the whole of the right lung and almost complete suppression of breath sounds. The heart was displaced to the right side.

The *x*-ray examination showed complete obscurity of the right hemithorax, with displacement of the heart and trachea to the same side. The condition quickly cleared up, and by the fifteenth day was apparently normal.

CASE VII.

Male, aged 32. Acute gangrenous and perforated appendix. Appendicectomy and drainage. Anaesthetic: ethyl chloride and ether. Drugs: before operation, atropine 1/100 grain; after operation, heroin 1/12 grain.

On the evening of the sixth day after the operation the temperature rose to 102° F. There was slight dyspnoea and cyanosis—dullness at the left base and tubular breathing over this area. The heart was displaced to the left, the apex beat being well outside the nipple line. The following morning the whole condition had practically cleared up, and the *x*-ray examination showed a little obscurity at the base of the left lung. He made an uninterrupted recovery.

CASE VIII.

Male, aged 8 years. Operation for repair of ventral hernia. Anaesthetic: ethyl chloride and ether. Drugs: before operation, atropine 1/100 grain; after operation, heroin 1/12 grain, repeated once.

On the day following the operation he developed chest symptoms. There was dullness and diminished breath sounds at the left base; the heart was displaced to the left, the apex beat half an inch outside the nipple line. There was marked cyanosis and breathlessness. The *x*-ray examination on the fourth day showed a typical massive collapse of the lower lobe of the left lung; the temperature had risen to 103° F. By the fourteenth day he had made a complete recovery, and I think was greatly benefited by the administration of CO_2.

COMMENTARY.

These cases illustrate the post-operative type, the post-traumatic type, and a type found in Case v which, I think, must be said to be associated with a pneumonic condition of the lung. They also illustrate the varying degrees of severity of the condition, so slight that it might easily have passed unnoticed, in others so severe as to cause doubts regarding the recovery of the patient. It will also be noted that in the post-operative cases the anaesthetic used was ether and that atropine was given before the operation, followed by heroin after the operation. In Case viii morphine was also given. In Cases ii and v no anaesthetic and no drugs of the nature of heroin and morphine had been administered. Most of the cases I have seen have occurred in young people, and the condition is a common accompaniment of lobar pneumonia in children. Cases have been recorded by Sewall associated with pulmonary tuberculosis, and Jacobaeus records similar cases; Jacobaeus also described its occurrence associated with pneumonia and with lipiodol injections of the bronchi. Others have recorded cases as occurring after slight injury, severe injury, and during infective processes. Regan records a case associated with acute poliomyelitis. The more one hunts for this condition, the oftener one finds it, and I cannot help feeling that Bowen is right in emphasizing the teaching of Sewall to "think atelectasis" when engaged in any phase of lung examination.

At this point it is necessary to differentiate clearly the condition under discussion—active lobar collapse—from massive collapse of the lung in cases of pleural effusion, pneumothorax, and bronchial obstruction by growth or foreign body. In these cases the collapse is comparatively a gradual process and the symptoms are rarely of a distressing character. Even in spontaneous pneumothorax the initial distress quickly passes off, and in complete obstruction by a foreign body the bronchus soon becomes *tolerant*, the collapse of the area of the lung supplied taking place slowly as the air is absorbed by the blood stream. In this process the lung plays a passive part. The density of the collapsed lung in these cases, if the collapse is complete, is just as great as it is in active lobar collapse. In a bronchial carcinoma it is impossible to separate out the shadow of the tumour from that of the collapsed lung, yet at the post-mortem examination the tumour was of relatively small size. Sante states that "the transparent structure of the lung collapsed in pneumothorax is difficult to understand and has never been successfully explained"; but in pneumothorax it is rare to find a completely collapsed lung. There is usually some air present, and if a portion of the lung is completely collapsed it gives a shadow just as dense as in active massive collapse. The conditions which Sante describes are not analogous. In the one air fills the pleural cavity and exerts an elastic pressure on the lung, seldom causing complete pulmonary collapse; in the other there is a complete deflation of the lung with a falling in of the ribs, elevation of the diaphragm, and displacement of the mediastinal contents to compensate for the space lost.

The name of William Pasteur of Middlesex Hospital must ever be associated with active lobar collapse, a clinical entity first clearly described him.

In 1890, writing on "Respiratory paralysis after diphtheria as a cause of pulmonary complications," he records his observations on fifteen cases of diphtheritic paralysis in which the muscles of ordinary respiration, especially the diaphragm, become more or less involved, with evidence of disturbed function of the lungs—"In other words there was evidence in the majority of cases of imperfect entrance of air into, and of some oedema of, the hinder parts of the lungs, more especially towards the bases, with condensation or consolidation of the organs in several of them."

In all these cases, with the exception of one, the condition was more or less bilateral. Regarding that one (Case vi) he writes: "I have little or no hesitation in attributing the physical signs to wholesale collapse of the right lung induced by the immobility of the right half of the chest, and the paralysis of the diaphragm."

In 1903 he delivered the Bradshaw Lecture, on the subject of massive collapse of the lung, using the term "massive" for the first time. In this lecture he refers to 64 cases of diphtheritic paralysis, in 28 of which the diaphragm was affected; 15 died, 12 recovered, and 1 was lost sight of. There were eight post-mortem examinations, and these revealed varying conditions from small patches of collapse on the posterior parts of both lungs to collapse of a whole lobe; in some of the cases a broncho-pneumonic condition with patchy areas of collapse in both lungs was recorded. He describes four cases of massive collapse of the lung found in the post-mortem room, one following laparotomy, the other three being medical cases associated with: (1) chronic ulcer of the stomach; (2) liver abscess; (3) hydrochloric acid poisoning with extensive damage to the oesophagus, stomach, and duodenum. He thinks that the extent and degree of collapse is as great in these cases as in those due to paralysis of the diaphragm, regarding it as caused by intense reflex inhibition of movements of respiration of sufficient intensity and duration to cause massive collapse of the lung, and suggests that some cases diagnosed as post-operative pneumonia are really massive collapse. He differentiates massive collapse, an active process in which the elastic property of the lung plays its part, from lobular collapse, a passive process of removal of air after plugging of a bronchus.

In 1910 he wrote on active lobar collapse of the lung after abdominal operations, and here is found the first full and complete account of the post-operative condition with its cardinal sign of cardiac displacement.

In 1914 his final paper was published under the title "Massive collapse of the lung" (*syn.* active lobar collapse). It is a clear statement of his work on this subject from the post-diphtheritic cases of 1890 to the post-operative cases which he correlated with them. He defines the condition as a

"total deflation (as opposed to lobular or patchy collapse) of a large area of lung tissue, of sudden onset—in the absence of any signs of obstruction of the airway or of any known cause of obstruction—due to failure of inspiratory power and attended by definite physical signs and symptoms."

He recognized two well-defined varieties: (1) cases in which the lesion is demonstrably due to paralysis of some of the essential muscles of respiration (diaphragm—intercostals); the collapse is usually bilateral; (2) cases in which collapse supervenes suddenly, without any premonitory signs of respiratory paralysis, and in which the lesion is apparently always unilateral.

He regarded failure of respiratory power as the essential cause of massive collapse, and post-operative collapse as being the result of (reflex) arrest of action of one-half of the diaphragm.

If Pasteur's definition of this condition be accepted so must also his theory, as the definition includes the theory, and it is for this reason that I, at the beginning of this paper, submitted another definition. Pasteur's theory might be called the theory of failure of inspiratory power, the lung playing an active part.

I have dealt somewhat fully with Pasteur's writings, first, because they are a striking example of a brilliant clinical investigation extending over a large number of years, in which the development of the author's ideas can be traced from the post-diphtheritic cases up to his classical description of the post-operative condition; secondly, because he is so often misquoted, and writers forget that he definitely regarded the lung as playing an active part, so much so that he uses as a synonym the title "active lobar collapse," although, in my opinion, he did not stress sufficiently the active part played by the lung.

In 1914, following Pasteur's paper, Elliott and Dingley published eleven cases; all followed abdominal operations—appendix, gall-bladder, gastro-enterostomy, and hernia. They admit that the bronchial muscles are strong enough to cut off the air entry to the alveoli, but think it most unlikely that they would be excited to such a reflex action locally and cause lobar collapse, nor would the condition be established without a preceding phase of asthma. They advance the theory that the cause is the absorption of air where the bronchioles are obstructed owing to inflammatory oedema and secretion, stating that in all their cases there was the possibility of such local obstruction, for every patient had muco-purulent expectoration before or immediately after the onset of the collapse.

They failed to induce collapse in animals by: (1) division of the phrenic nerve on one side; (2) hemisection of the spinal cord at the second and third cervical segments—paralysis of the intercostals and diaphragm on one side.

In 1918 Crymble recorded fifteen cases following gunshot wounds, and suggested that the contralateral cases were due to the patient lying on that side.

In 1920 Rose Bradford, writing on this subject, stated that while it seemed incredible the evidence would seem to indicate that a reflex spasm of the bronchioles was the cause of the obstruction.

Charlton Briscoe in 1920 analysed the possible causes of massive collapse, and concluded that it was produced

"by the onset of inflammation affecting the muscles of the crus situated behind the peritoneum, one half of the diaphragm and its synergistic and antagonistic muscles are out of action owing to inflammation of the muscle or the pleural membrane covering it."

In 1921 Sewall of Denver drew attention to the frequency of atelectasis in cases of pulmonary tuberculosis, and this has recently been emphasized by Jacobaeus.

In 1924 Regan reported a case following poliomyelitis.

In 1925 Jackson and Lee analysed the diverse condition under which massive pulmonary collapse occurs, and showed two factors to be practically constant: (1) obstruction of the bronchial tree, followed by absorption by the pulmonary circulation of the air imprisoned in the alveolar air spaces distal to the obstruction; (2) some interference with respiratory movements—partial or complete—but always resulting in decreased aeration of the pulmonary tissue on the involved side.

Later in the same paper they speak of two of the factors underlying pulmonary collapse, either massive or partial—namely, inhibition or arrest of respiratory movements, and subsequent obstruction of the bronchi with accumulated bronchial secretion.

In 1927 Sante reported three unusual cases, one of which was bilateral; and another bilateral case was reported in the same year by Bergamini and Shephard. Sante concludes that

"the cause is not known, but it seems most probable that some infection or insult to the region of vagus supply produces a reflex action on the bronchioles, permitting their temporary collapse. Once approximated the walls of these bronchioles are held in apposition by adhesion, collapse of the lung rapidly following owing to absorption of the alveolar air by the circulating blood. Relief of the obstruction results in sudden re-inflation of the lung."

Mastics, Spittler, and McNamee write of it as a common post-operative complication, and regard the majority of post-operative pneumonias, bronchitis, and broncho-pneumonia as cases of atelectasis.

Scott and Joelson think the original cause is not yet proven, but regard the fundamental condition which initiates massive collapse as being a nervous reflex which affects both lungs and commonly occurs in a minor degree. They suggest that the posture of the patient determines the localization of the condition. This had been suggested previously by Crymble.

In 1928 Corylios and Birnbaum came to the conclusion, from both the experimental and clinical work done by them, that the only cause is the complete occlusion of a bronchus by a plug of mucus acting as a foreign body, the other causes being predisposing factors.

In the present year they have published the results of further research work, and advance the mucus plug theory to explain not only massive collapse of the lung, but also pneumonia. They assert that in pneumonia it is the blocking of the lung air passages, bronchi, or bronchioles by plugs of thick sticky secretion which is the critical pathological factor. They regard massive lobar collapse as the condition from which post-operative pneumonia develops. They advocate the treatment of pneumonia, and, of course, of massive collapse by the inhalation of an oxygen mixture containing 5 per cent. carbon dioxide, and report several hundreds of cases treated in this way with excellent results.

In 1929 Bowen of Philadelphia published his admirable monograph on acute massive collapse. He deals with the subject in all its phases, and gives an exhaustive account of the literature with 220 references. He supports the theory of bronchial obstruction and advocates "bronchoscopic drainage, skilfully done" as an important method of treatment.

From the foregoing it is obvious that there are four main theories as to the cause of this collapse:

1. The theory of failure of respiratory power, the lung playing an active part. (Pasteur.)

2. The mucus plug theory. (Elliott and Dingley, Jackson and Lee, Coryllos and Birnbaum, Bowen, and many others.)

3. Reflex spasm of the muscles of the bronchioles. (Rose Bradford, Sante, and others.)

4. Inflammation of the crus and one half of the diaphragm or the pleural membrane covering it. (Charlton Briscoe.)

Pasteur's contention that the condition is brought about by paralysis of the diaphragm and other respiratory muscles explains the cases, which he first described, of respiratory paralysis after diphtheria in which he found an airless condition of the lower lobes of the lungs with some oedema, but it does not account for the massive collapse which we are discussing, in which the leaflet of the diaphragm is raised and fixed, but not paralysed. It is fixed in the expiratory position, which is the position of rest. A complete paralysis of one leaflet of the diaphragm is not followed by collapse of the lung, and Elliott and Dingley were unable experimentally to produce collapse by division of the phrenic nerve or hemisection of the spinal cord at the second and third cervical segments.

Briscoe's theory of retroperitoneal infection of the crus also fails, as too many cases have been recorded where there was no possibility of this taking place.

The theory of bronchial obstruction by mucus plugs is a very old one.

Gairdner in 1850 advanced his well-known ball valve theory to account for lobular collapse of the lung, and ridiculed the theory of Fuchs that the air imprisoned in the alveoli behind the obstruction was either received into the circulating blood or in some other way absorbed, as gaseous substances are when they are extravasated into the cellular tissue. He quotes the experiments of Mendelssohn and Traube, who introduced "leaden shot," balls of paper, and gum into bronchi in the dog, producing collapse of the corresponding portion of lung. He quotes the experiments of Reid, Longet, Shiff, and others on the effects of sections of the pneumogastric trunk, or of its visceral branches, on the lungs and bronchi. These experiments concurred in proving that these operations are followed by a very large accumulation of frothy mucus in the bronchi. The lung changes were imperfectly described. At the present day Gairdner's ball valve theory has been displaced by that of Fuchs's, which is ridiculed.

Lichtheim proved experimentally that areas of lung tissue distal to a plugged bronchus became atelectatic, if the circulation were not interfered with, but that no collapse occurred if the blood vessels to that part were tied.

Elliott and Dingley were the first of the modern writers to advance the theory of bronchial obstruction due to inflammatory oedema and secretion, and they have been followed by Jackson and Lee, Coryllos and Birnbaum, Bowen, and many others.

Now the accumulation of mucus in the bronchi is a slow process, the mucus becoming gradually tough and tenacious, and the absorption of air imprisoned in alveoli behind the obstruction is a slow process—the nitrogen is not readily absorbed; but the onset of massive collapse is sudden, often dramatically so.

The advocates of the mucus plug theory have to explain, first, why the mucus accumulates; secondly, why in a particular situation; and, thirdly, the formation of a plug large enough to cause a bilateral collapse, for such cases have been recorded.

The post-mortem examinations recorded by Pasteur and Rose Bradford did not reveal any gross bronchial obstruction such as would cause the collapse, and Rose Bradford further states that there is often no clinical evidence of bronchial obstruction.

The mucus theory by itself is untenable, but Jackson and Lee were careful to postulate two factors—namely, inhibition or arrest of respiratory movements, and subsequent obstruction of the bronchi with accumulated bronchial secretion.

The posture which patients tend to assume after certain operations or injuries would provide this inhibition or arrest of respiratory movements, and there is no doubt that experimentally the condition can be induced. This was accomplished by Mendelssohn and Traube in 1845–46, and in our own time by Coryllos and Birnbaum, and by Lee, Ravdin, Tucker, and Pendergrass. These latter introduced into the bronchus of a dog a mucus plug removed from a man by the bronchoscope. Gum arabic solution was also used by them. They found that they could produce a typical collapse if they inhibited the cough reflex. There is thus no doubt that, experimentally, mucus, *plus* the inhibition of the respiratory function, will cause a collapse of the lung in dogs; but does this occur in active lobar collapse as we know it in man?

In many cases there is no question of inhibition of respiratory function by posture. One case recorded by Rose Bradford occurred as the result of a gunshot wound. No anaesthetic had been given. The wound was so slight that the patient had not been confined to bed prior to the onset of the collapse. There were many cases investigated by the same writer in which neither the clinical examination nor the post-mortem examination lent any support to the mucus plug theory. He further states that in these cases, seen during the war, the essential factor in the etiology was the wound, and that the condition might ensue in its most marked form, where other supposed factors, such as anaesthesia, posture, injury to the diaphragm or its nerves, exudates, secretion, or blood in the bronchial tubes, could be excluded. He was driven to the conclusion that the cause was a reflex stimulation of constrictor nerve fibres to the muscles of the bronchioles or some such process leading to their occlusion. In this view he is strongly supported by Sante, who states that

> "all cases reported have followed either some toxic condition, such as diphtheria, poliomyelitis, streptococcus septicaemia, or some insult to the nervous supply of the vagus; abdominal or chest injuries or operations. Any one of these conditions could serve as the necessary reflex stimulus to the constrictor fibres of the bronchioles."

The post-mortem examinations are few, for nearly all the cases fortunately recover. Ritvo states that

> "the involved portion of the lung is blue or violet in colour, and sharply demarcated from the normal lung tissue. It is soft, tough and wet; it feels heavy, does not crepitate, and sinks when placed in water. Microscopically the alveolar surfaces are closely approximated, the alveolar spaces being obliterated."

Any theory to be sustained must account for: (1) the accumulation of mucus in the bronchial tubes; (2) the rise of temperature often before the collapse occurs, or no rise of temperature; (3) the sudden onset of the major symptoms—often dramatically so; (4) the varying time after operations or injury of the sudden onset; (5) the occurrence of cases apart from anaesthetics, operations, or serious injury; (6) the occurrence of cases as a complication of inflammatory diseases in the lungs; (7) the contralateral cases; (8) the bilateral cases.

Any one of the theories previously mentioned can account for some of the cases, but none of them can account for all of them.

It is only when the lung is considered as a "muscular organ," to use Macklin's term, playing an active part, that the mechanism of the collapse is fully explained.

As far back as 1822 Reisseisen traced the muscle coat, by dissections done with a hand lens, down to the finer bronchioles, and inferred that it continued to the ends of the air tract. Baltisberger states that there is hardly a cubic millimetre of lung tissue which does not contain smooth muscle, and Macklin's work shows that the lungs are muscular organs in a very real sense. This has become increasingly obvious in recent years, the musculature being of great functional importance and indispensable in respiration.

The bronchial musculature can be regarded as a contractile net embracing the mucosa of the entire bronchial tree from the larynx to the alveolar mouths. Intermingled with the muscle coat is a loosely woven layer of elastic fibres, the whole being described by Macklin as "myo-elastic tissue," the elastic property ensuring evenness of action.

During inspiration the musculature is in a state ready for dilatation, and this dilatation is associated with lengthening and separation of the bronchi, the angles becoming smaller. The inspiratory act is passive so far as the lung is concerned, active as regards the chest wall and

the diaphragm. It is during expiration, which is a passive movement in the external muscles, an active movement in the lungs and bronchial tree, that the lung plays an active part; shortening and narrowing of the bronchial tubes takes place, the angles becoming wider. It is in all probability a wave-like motion, resembling peristalsis, travelling from the terminal bronchioles upwards. This movement was suggested by Gairdner, who in 1850 described it as the deobstruent action of the bronchial tubes. It is one of the factors in the movement of mucus upwards in the bronchial tubes.

That spasm does occur in the lung is evident in cases of asthma, and recently Jacobaeus has found that, in lipiodol injections of normal bronchi, massive collapse does occur. In hundreds of pathological cases in which lipiodol injections into the bronchi were made he never came across any massive collapse, but in cases where the bronchi were normal he found it of common occurrence. It was not the quantity of lipiodol, which was in some cases relatively little and could not possibly have caused complete occlusion of the bronchi, which caused the condition, and he could only explain the phenomenon as due to some contraction or spasm of the bronchi. The capacity for contraction or spasm in pathologically changed bronchi is greatly reduced.

There is no doubt that in many inflammatory diseases of the chest massive collapse is found, and the more one looks for it the more frequently one finds it. It has been found in pneumonia and in pulmonary tuberculosis, and it is an accompaniment of lobar pneumonia in childhood. Out of eight cases of lobar pneumonia recently investigated in young children, six presented the cardinal signs of massive collapse, and I have come to the conclusion that, while it is a common accompaniment of lobar pneumonia in children, it is not uncommon in young adults.

I am of opinion that the primary cause of active collapse of the lung is a reflex disturbance of the sympathetic and vagus innervation of the lungs, resulting first in a dilatation of the bronchi with cessation of the wave-like movement and a consequent accumulation of mucus. This I regard as due to an overacting sympathetic, and it is at this stage that the slight rise of temperature so often occurs. The balance between the sympathetic and vagus may be quickly restored and the condition rapidly clear up with the return of cough and the expectoration of mucus. On the other hand, as the overaction of the sympathetic passes off, the vagus may reassert itself too strongly and cause a sudden spasm of the musculature involving a whole lung or a lobe of the lung, or even, in rare cases, both lungs, for the lung is a muscular organ.

It is not necessary to conceive of the spasm persisting any great length of time for the condition to be established; it not only empties the lung tissue more or less of its air content, but when the walls of the alveoli and terminal bronchioles are brought into apposition, the molecular adhesion effectively prevents the re-entry of air. This accounts for the sudden onset and the varying time after operation or injury at which it occurs.

The chest wall and diaphragm accommodate themselves as far as they can to the altered conditions in the chest, but they cannot fully compensate for the smaller space occupied by the lung, consequently the mediastinal contents are drawn over to the affected side, the chief physical sign being displacement of the heart. It is during this stage that the patient has pain in the side and is cyanotic. As he becomes accustomed to the sudden alteration in the chest conditions the pain passes off, sometimes in a few hours; the cyanosis is of varying duration and persists until there is sufficient diversion of the blood to the sound lung to ensure adequate aeration.

Fortunately, the termination of these cases is almost always favourable. If untreated one finds in the course of a day or two that the patient is coughing up mucus, which, however, is never rusty; in other words, the wave-like movement of the bronchial tubes is at work again: the balance between the vagus and sympathetic has been restored. Gradually air re-enters the alveoli, never all at once, unless some powerful force has been applied as in forcible compression of the chest with sudden relaxation which causes the ribs to spring out, and in some cases induces the entry of air in much the same way as the first entry of air to the lungs in the newborn.

I agree that there are many predisposing causes, such as drugs which inhibit the cough reflex, post-operative postures which interfere with the free movement of the chest wall and diaphragm, and any condition in the lung itself which interferes with the nervous mechanism of its musculature, but the primary cause is a sympathetic and vagal disturbance.

Yet one question remains. *Is there any analogous condition which might throw light on this subject?* I think there is. Acute dilatation of the stomach is recorded as occurring under very similar conditions, accompanying or following operative procedures or associated with traumatism. Post-diphtheritic cases and cases associated with multiple peripheral neuritis have also been recorded. The onset is sudden, often dramatically so, and the gastric dilatation must be regarded as a primary, not a secondary, phenomenon. There is a sympathetic nerve disturbance, and in many ways massive collapse of the lung and acute dilatation of the stomach may be regarded as analogous conditions.

I feel sure that, in the examination of the chest, the more one keeps in mind the possibility of active lobar collapse the oftener it will be found, more especially in children and young adults.

SUMMARY.

1. Collapse of the lung, lobular and diffuse, was well known to the clinicians from the time of Laennec onwards, but William Pasteur was the first to give a clear account of the condition known as massive collapse of the lung (*syn.* active lobar collapse).

2. Active lobar collapse must be clearly differentiated from massive collapse of the lung of a passive character.

3. The function of the musculature of the bronchial tubes may be deranged by various causes acting on the sympathetic and vagal innervation either directly or reflexly.

4. The weight of evidence is in favour of the theory that spasm of the bronchial musculature is the essential feature of active lobar collapse, but the disturbance of the sympathetic innervation must also be taken into account.

5. In the examination of the chest the more one keeps in mind the possibility of active lobar collapse, the oftener it will be found, more especially in children and young adults.

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Dr. Geraghty revealed small bilateral basal pleural effusions. There was achlorhydria and a mild secondary anaemia. The patient was on a low protein diet for about a month previous to admission.

Function Tests and Blood Chemistry.

The total protein, albumin, and globulin determinations were performed on plasma, by the combined methods of Howe,[9] Wu,[10] and Kock and McMeekin,[11] as described by Hawke and Bergeim[2], blood cholesterol was estimated as described by Myers and Wardell,[13] blood phosphorus by the method of Benedict and Theis,[14] and blood calcium by the method of Clark and Collip.[15] The Roth-Benedict portable spirometer was used for estimating the basal metabolic rate.

The phenolsulphonephthalein excretion test gave a figure of 60 per cent. in two hours, 600 c.cm. of urine was excreted in four hours after ingesting 1,000 c.cm. of water. The fixation test of the urine showed no inability of the kidney to concentrate. The following blood values per 100 c.cm. were obtained shortly after admission.

Urea 28 mg., uric acid, 2·5 mg., creatinin, 1·4 mg., non protein nitrogen, 30 mg., cholesterol 600 mg. (normal about 180), calcium 8·9 mg., and phosphorus, 1·4 mg. The plasma chloride content was 456 mg.

The basal metabolic rate was −12 per cent. at a period when the oedema was slight, and apparently confined to the shins and ankles. The differential blood count was normal. The urea concentration test gave 2·12 per cent. of urea in the first hour and 2·53 per cent. in the second. The blood serum was milky. The total amount of albumin excreted in twenty four hours was 4·8 grams. On admission there was oliguria (about 800 c.cm. in the twenty-four hours) but later the urine volume became about normal in amount, in correspondence with the fluid intake.

The erythrocytes numbered 4,000,000 and the leucocytes 6,000 per c.mm. The haemoglobin percentage was 60. The blood Wassermann reaction was negative.

Blood Protein Determinations.
(Grams per 100 c.cm.)

	Jan. 2	Jan. 8	Jan. 20	Mar. 12	April 7	Normal Figure
Total protein	2·5	2·2	2·3	5·58	5·8	6·5 to 8·2
Albumin .	1	2·1	2·5	3·7	3·1	4·6 to 6·7
Globulin ..	1·4	0·7	0·35	0·18	2·6	1·2 to 2·3

This table indicates that the case before treatment showed reversal of the normal albumin globulin ratio, and marked diminution of the total protein. Double refractive lipoid globules were found in abundance free in the urine, in the casts, and in desquamated renal epithelium by Dr. R. A. Q. O'Meara (see Part II). The retinal arteries showed a slightly increased light reflex, and there was evidence of compression of the retinal veins under the arterial crossings (beginning arterio-sclerotic changes), these findings were confirmed by Dr. D. O'Donoghue, assistant ophthalmologist to the hospital.

It is interesting to note that after a profuse diuresis induced by ammonium chloride and salvigan, the oedema practically disappeared, the blood pressure fell to 144/94, and the basal metabolic rate was −5 per cent.

Treatment.—The diet consisted of 120 to 140 grams of protein, about 60 grams of fat, unlimited carbohydrate, moderate restriction of salt, and about 1,200 c.cm. of fluid per day. Thyroxine was given for a few days, dilute hydrochloric acid and iron were administered. Periods of a few days on ammonium chloride were followed by a few single intramuscular doses (2 c.cm.) of salvigan to control the oedema, and there were occasional exhibitions of digitalis. The duration of observation was about five months. The patient was only confined to bed for the first few days, and thereafter was allowed exercise in moderation.

Result.—Great improvement in the general health ensued with disappearance of anaemia and of the pleural effusions, lowering of the blood cholesterol from 600 to 270 mg. per 100 c.cm., increase of the serum proteins as shown in the table, and lowering of the body weight from 151½ lb. to 124½ lb., due apparently to almost complete disappearance of the oedema and the pleural effusions. The blood pressure on discharge was at about the same level as on admission, the fall after the previously mentioned diuresis being transitory.

The patient is probably beginning to develop arterio-sclerotic changes, as is evidenced by the elevation of the blood pressure and the slight changes in the retinal arteries; this may possibly be due to involvement of the glomeruli in the pathological kidney process. The case is interpreted as being one of impure lipoid nephrosis.

It is a pleasure to acknowledge the efficient assistance of Dr. K. Malley, the house-physician, and Mr. M. Moriarty, M.Sc., the resident student, in the study of this case.

PART II.—PATHOLOGICAL.

BY

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LIPOIDURIA is an almost constant finding in lipoid nephrosis. It was regarded by Munk[5] as pathognomonic of the condition. This view, however, has been challenged since lipoids, similar in characteristics to those found in the urine in lipoid nephrosis, are found in other conditions as well. Not only do they occur in the urine in different types of renal disease, but also in certain chronic intoxications and metabolic disorders associated with increased blood cholesterol, such as diabetes. In lipoid nephrosis, however, they are usually present in abundance.

When seen with the ordinary microscope in a urinary deposit from a case of nephrosis they appear as fatty globules either free in the casts or in renal epithelium. The polarizing microscope, however, reveals the fact that many of the lipoid globules possess exceptional properties. When viewed with the aid of this instrument, the Nicol prism being crossed, many of them are seen to present a remarkable appearance, showing up brightly as Maltese crosses of light against the dark field. While the Maltese cross is the predominant pattern, other less striking patterns are also to be seen. One of these resembles a cross of light the centre of which has been blacked out, another a ring of light encircling a dark centre.

The physical properties of the globules which are responsible for these appearances, are summed up in the adjective anisotropic, by virtue of their anisotropism they are doubly refractive. In a sense they are unique, since anisotropism is a property of crystalline solids. The globules, however, are fluid, and their discoverer O. Lehmann has called their physical condition the liquid crystalline state of matter. Chemically they are esters of cholesterol, but not in the pure state, since esters of cholesterol alone are not doubly refractive. The work of Aschoff, Windaus, and others shows that they are admixed with free fatty acids, fats, or phosphatides.

In the urinary sediment from Professor Moore's case, anisotropic lipoids were present in profusion and were well demonstrated in photographs taken with the polarizing microscope. One of these photographs showed a cast in which the crosses of light, large and small, are apparent. In the neighbourhood of the cast could be distinguished the shadowy forms of renal cells which likewise contained anisotropic globules, other globules were free.

What is the pathology of the condition which gives rise to these bodies in the urine in lipoid nephrosis? Is the condition primarily a metabolic disease with secondary involvement of the kidney, or is it primarily a disease of the kidney from which the other phenomena of the condition follow? An extensive critical review of the literature of the condition, combined with personal study of a number of cases was given recently by Bell[16] who discusses in detail the clinical features of the disease and the post-mortem appearances in cases which terminated fatally. Using a modification of Mallory's aniline blue connective tissue stain, he has been able to demonstrate that the endothelial cells of the glomeruli of the kidneys are increased in both number and size, and that there is an addition of cells in both number and size, and that there is an addition of cells in both number and size, and that there is an addition of cells

occur nor does contraction commonly set in as a later event. In the usual form of glomerulo-nephritis, on the other hand, the degree of capillary blockage is much greater, leading to functionless hyaline glomeruli, atrophied tubules, contraction of the kidneys, and to uraemia. Lipoid nephrosis does not terminate in uraemia. In cases which do not recover, death is most commonly due to peritonitis, pneumonia, or septicaemia. The frequency of peritonitis is remarkable, as it accounts for almost half the deaths; where the responsible organism has been isolated it has been found to be pneumococcus.

There can be little doubt that the lipoid which is deposited in the renal cells, and which finds its way thence into the urine, is an outcome of the very high cholesterol content of the blood. Its constant deposition in the convoluted tubules, and to a lesser extent in the glomerular cells, suggests that an endeavour is being made to excrete the surplus. As to the cause of the cholesterolaemia we have no certain knowledge; it may be secondary to the great loss of albumin in the urine sustained by sufferers from this form of renal disease. As in diabetes, so in lipoid nephrosis, mobilization of fat from the reserves may occur in an attempt on the part of the system to feed tissues partially starved by the constant drainage from the body, in the one case of carbohydrate, in the other of protein. Of the fat so mobilized, the cholesterol fraction is stable and relatively valueless as a source of energy. It seems possible that this fraction is taken up by the renal cells, and in particular by the cells of the convoluted tubules, where it is deposited, some eventually passing away in the urine either by disruption or shedding of the cells. This process of excretion of cholesterol is analogous to a physiological process by which an isomer of cholesterol is excreted in the normal individual: the secretion of the sebaceous gland involves a degenerative process in which isocholesterol is first laid down in the gland cells, and later, either by disruption of the cells or by their separation from the gland, is discharged and lubricates the skin and its appendages.

Finally, as to the cause of lipoid nephrosis: in view of the probability that it is in reality a chronic mild glomerulitis, one should bear in mind that two bacterial toxins are definitely known to select the glomerulus of the kidney for attack. They are the toxins of the diphtheria bacillus and of the haemolytic streptococcus. The cause of lipoid nephrosis is unknown, but there is justification for suspecting a bacterial origin. One organism, the pneumococcus, suggests itself for study. Why is it that so many of the patients die of pneumococcal peritonitis?

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INSOLUBLE PRECIPITATES IN DIPHTHERIA AND TETANUS IMMUNIZATION.

BY

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THE addition of aluminium sulphate or potash alum to a diphtheria toxoid produces a relatively insoluble precipitate which has high antigenic properties. Glenny, Pope, Waddington, and Wallace (1926), and Glenny and Waddington (1928), have shown that such precipitated toxoid immunizes guinea-pigs more readily than the original toxoid.

In view of the promising results obtained,* it is possible that the most favoured method of human immunization against diphtheria in the near future may be by means of a suspension of toxoid precipitated by alum; it appears to be of interest, therefore, to present some results of animal experiments with both diphtheria and tetanus toxoid showing the extent to which the antigenic efficiency is increased by the addition of alum. During the course of our experimental work different quantities of alum from 0.1 to 2 per cent. have been added; in some instances the whole mixture of toxoid and alum has been used; sometimes the precipitate has been separated from the supernatant liquid and re-suspended after washing in saline. It is not within the scope of this paper to deal with these differences.

The immunity index method of Glenny, Allen, and Hopkins (1923), more fully described by Glenny and Waddington (1928), forms a convenient method of testing antigenic efficiency. Table I shows the immunity index given by the injection into guinea-pigs of 0.1 c.cm. of diphtheria toxoid with and without varying amounts of alum. It will be seen that when alum had been added to the toxoid, 29 guinea-pigs out of 41 were Schick-negative when tested three weeks later, and all were immune by the fifth week. Without alum none, out of 38, was immune after three weeks, and 8 were still Schick-positive seven weeks after injection.

* Since this paper was written, W. H. Park, at the Paris Congress of the International Society of Microbiology, reported 100 per cent. successful immunizations with alum toxoid in small groups of children.

A further series of guinea-pigs was injected with 1 c.cm. of diphtheria toxoid, and the antitoxic titre of serum was tested four to six weeks later. Of 53 guinea-pigs injected without alum, the majority contained 0.02 unit per c.cm. of serum, and the highest value recorded was 0.5 unit; of 23 injected with alum the majority contained 0.5 to 1 unit, and the highest recorded value was 7 units per c.cm. The results of the group are summarized in Table II.

TABLE I.—*Showing the immunity index of guinea-pigs injected with 0.1 c.cm. diphtheria toxoid with and without alum.*

	Number of guinea-pigs giving an index of					
	1	2	3	4	5	Over 5.
With alum	29	10	2	—	—	—
Without alum ...	0	10	12	5	3	8

Alum has also been added to diphtheria toxin used in the hyperimmunization of horses. The average antitoxic value of groups of 50 horses was 696 without alum; with alum 1,102.

TABLE II.—*Showing the antitoxic value of the serum of guinea-pigs four to six weeks after the injection of 1 c.cm. diphtheria toxoid with and without alum.*

	No. of guinea-pigs with antitoxic value of (per c.cm.)				
	Under 0.001 unit	0.001–0.01 unit.	0.01–0.1 unit	0.1–1 unit.	Over 1 unit.
With alum ...	—	—	1	9	13
Without alum	3	6	31	13	0

Many experiments have also been made with tetanus toxoid and alum. Table III gives the results of an experiment on guinea-pigs injected with 0.1 c.cm. tetanus toxoid diluted to 5 c.cm. with saline, or with 0.01 or 0.1 per cent. potash alum. The injections were repeated four weeks later, and the guinea-pigs were injected with tetanus toxin two to three weeks after the second

injection, as a test for the immunity produced. It will be seen that only 3 out of 13 guinea-pigs receiving toxoid without alum survived 1/50 of a test dose of toxin, and out of 4 none survived 1/10 of a test dose. Of the guinea-pigs given alum-toxoid, nearly all survived the injection of toxin, and 4 out of 4 survived 100 test doses.

TABLE III.—*Showing the number of guinea-pigs surviving different doses of tetanus toxin given two to three weeks after the second of two doses (given at four weeks' interval) of 0.1 c.cm. tetanus toxoid diluted to 5 c.cm. with saline or with alum.*

Toxin in terms of test doses.	Number of survivals out of total tested.		
	Diluent Saline.	0.01% alum.	0.1% alum.
0.01	2 out of 4	—	—
0.02	3 out of 13	2 out of 2	2 out of 2
0.05	—	1 out of 2	2 out of 2
0.1	0 out of 4	3 out of 4	2 out of 2
0.2	—	—	2 out of 2
1.0	—	2 out of 2	2 out of 3
10.0	—	2 out of 2	2 out of 2
100.0 (over 20,000 M L D)	—	0 out of 1	4 out of 4

Tetanus alum-toxoid has proved of great service in the immunization against tetanus of horses used for the production of therapeutic serum. The majority of horses given one injection of toxoid with alum have over 1 unit (U.S.A.) per c.cm. of serum four weeks later. Those given toxoid without alum rarely have over 0.001 unit. A comparison between the results with and without alum is given in Table IV. In a further series of 17 horses receiving toxoid without alum, 1 had 0.01 unit, and the others less than this amount, of 155 horses with alum, 124 gave over 1 unit; of these 86 had over 3 units, 20 over 10 units, and 1 had 25 units per c.cm. of serum as a result of a single injection. All the horses were tested before injection, and were proved to contain no normal tetanus antitoxin.

TABLE IV.—*Showing the antitoxic value of horses four weeks after a single injection with 50 or 20 c.cm. tetanus toxoid with varying doses of alum.*

Toxoid.	Percentage of Alum.	Number of horses with antitoxic value of (per c.cm.)			
		0.0002 unit	0.0002–0.01 unit	0.01–1 unit.	1–30 units
50 c.cm.	0.5–2.0	0	1	8	13
10 c.cm.	0.5–2.0	0	1	5	4
50 c.cm.	0.01	8	4	0	0
10 c.cm.	0.01	2	0	0	0

In the hyperimmunization of horses the addition of alum to tetanus toxin has doubled the value of the antitoxin produced. Glenny, Pope, Waddington, and Wallace (1925) showed that if horses were rested for a month or more after a primary stimulus before tetanus immunization was continued, much stronger antitoxin was produced. Ramon and Descombey (1930) have recently confirmed this. Horses with a primary stimulus of alum-toxoid that have been rested at least a month before the commencement of their main tetanus immunization produced an average of 800 (U.S.A.) units per c.cm.

A somewhat similar but smaller effect than that produced by alum has been obtained by Ramon (1926) by the addition of tapioca to toxoid. Ramon, observing that horses developing abscesses at the site of injection yielded serum of higher antitoxic value, tried various substances that would produce sterile abscesses, and eventually chose tapioca as the most suitable. It appears probable that in both cases increased antigenic response is due to delayed absorption. Alum was first tried by us in 1925, when we wished to determine the effect of delaying absorption by presenting toxoid in a relatively insoluble form. My colleague Mr. Pope suggested the use of precipitate as a suitable product. Recent work has confirmed that the original idea is probably correct. Dr. Bazin, continuing this work, has found that several substances which produce relatively insoluble precipitates of toxoid also increase antigenic efficiency. Other work not yet published, has established that toxoid, injected as a primary stimulus, is excreted with extreme rapidity, and that within a few days of injection not 1 per cent. remains in the animal body. The increase in efficiency of alum toxoid is therefore probably caused by its slow rate of absorption, so that antigenic stimulation is maintained for many days. The addition of alum to toxin has also been used with success in the immunization of horses against the toxins of scarlet fever, *B. welchii*, and dysentery.

Summary.

The immunity produced by the precipitate, formed by the addition of alum to tetanus and diphtheria toxoids, is greater than that produced by toxoid alone. The increase in certain experimental conditions has reached even a thousandfold.

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TETANY AFTER EXERCISE:

A CLINICAL AND CHEMICAL STUDY OF A CASE.

BY

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Physical Examination.—Nothing abnormal was found. Her pulse was rapid (100), but her heart was normal. Her hands tended to be—and were—rather cold. She was liable to chilblains on her fingers. Her teeth were somewhat soft, and required constant attention.

Experimental Investigation.

As the patient did not always develop tetany after exercise we were fortunate in being able to produce and study it on the morning when she came up from school to the hospital for examination. She was made to exercise vigorously on a stair for fifteen minutes until she was fairly exhausted. She then lay down on a couch, where she remained until she left the hospital. We noticed at once that her respiration rate did not slow down normally after exercise, and, indeed, she continued overbreathing for the next half-hour. Three minutes after she stopped running her pulse rate was 148, and her respirations 52 per minute. The latter were extremely deep as well as rapid; in fact, she seemed to be breathing as deeply and rapidly as she could. At the end of nine minutes* she announced that one of her attacks was coming on, as she could feel the usual tingling in her fingers and a tightness round the waist. In fifteen minutes tetany was fully established; her hands were fixed in the typical position and Chvostek's sign was present. The feet and ankles were slightly, but less, stiff. Knee-jerks were extremely active. The respiration rate remained between 40 and 50 per minute for thirty-two minutes, when she suddenly became apnoeic for about two minutes and the spasms rapidly relaxed. In forty minutes her hands were quite free. Her pulse rate was then 96, and her respirations 22 per minute and very shallow. By sixty-five minutes everything seemed perfectly normal, and she got up none the worse.

Chemical Investigations.

Samples of venous blood were obtained without constriction under paraffin before exercise and fifteen minutes after, when tetany had been fully established for five minutes. Urine was obtained before and again eighty-five minutes after exercise, the latter specimen by catheter as she was unable to pass any urine at this time. The volume of the catheter specimen was only 60 c.cm. The results are embodied in the above table with the changes shown in italics. The alveolar CO_2 was estimated at intervals, but the results were not embodied in the table, as we do not feel that they are very reliable, partly because the subject was not previously trained, and partly because the respirations during overbreathing were so rapid and uncontrolled. Before exercise a figure of 4.62 per cent. was obtained; three minutes after, 3.05 per cent.; and fifty minutes after, 3.8 per cent.

	Before Exercise.	During Tetany.	Methods Used.
	Milligrams.	Milligrams.	
Serum: Calcium	11.7	11 8	Kramer-Tisdall [3]
Plasma: Inorganic phosphorus	*3 6*	*2 51*	Briggs.[3]
Magnesium	2.24	2 19	Hammett and Adams.[4]
Sugar	104.0	102 0	MacLean.[3]
Chlorides	575.0	5:5 0	Whitehorn.[3]
Alkali reserve: CO_2	51 vols.	55 vols.	Van Slyke.[3]
*p*H	*7.37*	*7.42*	Quinhydrone electrode.
	Before Exercise	**85 Minutes after Exercise.**	**Methods Used.**
Urine: *p*H	*6.9*	*8.4*	B.D.H. capillator.
Ammonia	*traces*	*0*	Aeration.
Acetone	*0*	*trace*	Rothera.

Duplicate estimations were made in all tests.

* All the times recorded are after the cessation of exercise.

Discussion.

It was clear from these observations that our case fell into the class of tetany due to alkalaemia from over-ventilation. Tonic rigidity of the hands after overbreathing was first described in 1909 by Vernon,[5] and has since been experimentally investigated by Collip and Backus,[6] Grant and Goldman,[7] and Haldane and others.[8] A series of clinical cases has been placed on record by Goldman[1] and Adlersberg and Porges.[9]

It is obvious from the high normal level of the serum calcium that calcium deficiency was not a causal factor. It is possible that the rather high calcium value was due to the parathyroid therapy which had been stopped only four days previously.

The urinary findings are diagnostic. Ammonia disappeared from the urine; traces of acetone were excreted; and the *p*H changed to the maximum possible alkalinity. These changes have all been produced experimentally again and again, and leave no ambiguity. Diuresis is not unusual experimentally, but we did not obtain it.

The blood chemistry merits a little more discussion. Falls in blood phosphate of magnitudes equivalent to ours have been repeatedly obtained by Haldane and others. The majority of the experimental workers have obtained small rises in the serum calcium,[7 10 11] but this has not been universal, even after very prolonged overbreathing. The rise in the *p*H of the blood in this case is of the same order as obtained by Grant and Goldman,[7] but in one respect our results differ from those of the experimental workers. We obtained no fall in the alkali reserve; in fact, a small rise was observed. The fall usually obtained is explained as part of the buffering adjustment made by the body to maintain the normal *p*H of the blood. In our case this must have been entirely absent, and yet the change in *p*H was smaller than many other observers have obtained. We can offer no satisfactory explanation why our results should differ in this one respect from those of other workers, unless it be that our result was obtained with blood collected only fifteen minutes after exercise. The reduction of plasma bicarbonate of some 10 volumes per cent., recorded by other workers, has been after longer periods of overbreathing, usually thirty minutes or more.

The underlying cause of the hyperventilation we regard as "functional." The patient has never been troubled at home, but only at school, and, until recently, after definite matches into which the nervous strain of competition has entered. She has, moreover, been worse lately—since the shock caused by the sudden death of her head mistress. We classify her case, therefore, with those due to alkalaemia from over-ventilation recorded by Goldman[1] and Adlersberg and Porges[9] in hysterical and post-epileptic subjects.

Summary.

A case of tetany after exercise has been investigated and found to be due not to the exercise *per se*, but to an alkalaemia caused by prolonged (presumably functional) overbreathing after the exercise was completed.

Our thanks are due to the excellent co-operation of the patient in a rather arduous investigation, and to Mr. Mann of the Maudsley Hospital for estimations of the blood *p*H.

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FAMINE OEDEMA.

BY

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FAMINE, war or hunger oedema is defined by Nixon[1] as a form of dropsy associated with bradycardia, polyuria and asthenia, occurring in persons subjected to prolonged underfeeding. The "epidemic dropsy" of Bengal may be the same disease, Grieg[2] having found evidence of its association with faulty nutrition; but the dietetic origin of epidemic dropsy is not accepted by all. Famine oedema has been thought to follow either an actual lack of calories or deficiency in a particular food factor. Clinically oedema has been found at times associated with all the deficiency diseases except rickets. Bloch noted its occurrence in some cases of keratomalacia. Falta[3] recorded the fact that the victims of war oedema sometimes suffered from night-blindness. There is little doubt that both keratomalacia and night-blindness occur in those whose diets are deficient in vitamin A. Bigland[4] recorded famine oedema as a clinical entity in close association with an epidemic of pellagra, and found that more than half the pellagrins observed suffered from concurrent dropsy. The superadded oedema which makes the difference between a wet and a dry case of beri-beri is very similar in its nature to famine oedema, and wet beri-beri and famine oedema are so closely alike as to have been often confused. The 'ship beri-beri' described by Nocht[5] in which symptoms of peripheral neuritis rarely occurred, was possibly famine oedema. Similarly, dropsy is sometimes a symptom associated with scurvy, and cases of famine oedema have been recorded with spongy gums and other scorbutic lesions.

In man, vitamin deficiency diseases do not often occur in those whose diets are complete except for the one missing factor. Occasionally a full diet may be lacking in one vitamin only, as, for example, the diets of polar explorers which may be devoid of vitamin C, but otherwise complete; or perhaps the generous rations of an army in the field which may be deprived of the antineuritic vitamin by sterilization and prolonged cooking in water containing alkalis. But as a general rule vitamin deficiency disease occurs in the very poor, the half-starved and the victims of war or famine conditions, who can get only the very minimum of the cheapest food necessary to keep body and soul together.

The experimental reproduction of various deficiency diseases (such as keratomalacia, infantile beri-beri, scurvy and rickets, adult beri-beri cannot be precisely reproduced in the laboratory) which enables the distribution in foodstuffs of the various vitamins to be worked out has done much to explain the epidemiology of deficiency disease in man. It is not always easy, however, to explain the *geographical* incidence of deficiency disease in terms of the vitamin hypothesis—to explain why, for example, a wretched diet of milled cereals leads to pellagra in South Carolina, to beri-beri in Java and Newfoundland, to scurvy on the Rand. The diets associated clinically with various deficiency diseases often seem equally deficient in all the known vitamins in addition to fat, protein, and mineral salts.

It is therefore a feasible hypothesis, since "hunger oedema" has been noted in association with almost all the deficiency diseases and these in man are usually associated with general mal- or under-nutrition, to regard the oedema as due to a shortage in one of the dietary fundamentals other than vitamins, such as fat, protein, or mineral salts. It has occurred on a regime composed very largely of root vegetables, and the oedema noted in Germany during the war, in infants on a diet almost entirely cereal was probably a similar condition. The most exhaustive account of the disease is that of Schittenhelm and Schlecht, who during the war investigated an outbreak in a labour corps attached to the German Army. They came to the conclusion that excessive intake of fluid and protein starvation accounted for the condition.

Harden and Zilva[6] produced oedema in a monkey fed on a diet deficient in vitamin A. The basic diet consisted mainly of polished rice with an addition of yeast to supply vitamin B and a thin tar iron complex. Beri-beri attributes the oedema occurring in Danish children during the war to excess of carbohydrate, though in a certain proportion of cases showed xerophthalmia (vitamin A deficiency). In other cases of xerophthalmia and [illegible] malacia oedema did not occur, and these children had usually been nourished on skim milk which contained vitamin in abundance, though little vitamin A or fat.

There is in fact little convincing evidence to connect famine oedema with vitamin A deficiency. On the other hand the evidence seems to point to shortage of protein as the most likely cause. Kohlman[7] produced oedema in rats by feeding them on diets containing a high percentage of carrots and thus low in protein. Butter-fat and wheat germ were given as sources of vitamin A, B and D, and mineral salts were also supplied. Addition of purified casein to the diet prevented the appearance of oedema. It is probable that Kohlman's diets were low in the factor ("pellagra" vitamin (B)) but oedema does not usually point to deficiency of this factor.

Clinically famine oedema seems to respond to a good all round diet, probably containing all the dietary essentials. The oedema of wet beri-beri clears up rapidly under treatment by diets rich in vitamin B_1 (antineuritic), but such diets are usually rich in other factors also.

The case about to be recorded was observed at St. Anthony Hospital, North Newfoundland. For a variety of reasons the poorest Newfoundland families in late spring and early summer may be reduced to a diet made up almost entirely of white flour bread with very scanty additions in the form of molasses, salt meat and salt fish and little else. At times the additions may run out and the family be reduced to bread and molasses. Such a regime usually produces beri-beri, a common disease in Newfoundland.

Newfoundland beri-beri is identical with the tropical rice-eater's disease and both wet and dry forms may be observed, the latter being by far the commoner.

CASE

A. C., 39, [illegible] single woman, was admitted to St. Anthony Hospital on July 23rd, 1929, complaining of swelling in the abdomen and legs. She stated that she had begun to notice the swelling which had appeared first in the legs quite suddenly about three weeks before admission. She complained of considerable general weakness, especially marked in the arms and legs, as in beri-beri. There was no marked shortness of breath and vomiting and headache were absent. Constipation was a prominent symptom.

She gave the following dietary history. She and her father, an old man incapable of work, lived alone in circumstances of extreme poverty. For six months before admission they had been able to get only dry bread and molasses to eat and for some previous time their diet had not been far above the level. Sometimes on Sunday, when neighbours were charitable, they had a little salt meat and during the sealing season (April) they had three meals of seal meat. Otherwise the patient had subsisted for six months on bread, molasses and tea. She and her father had never been particularly hungry.

Examination showed a cachectic looking patient. The skin had a peculiar yellow tint. Severe emaciation was evident, which however was not marked by dropsy. The pulse rate was about 80, the [illegible] was no rise of temperature. The heart was not enlarged, the sounds were clear and had not the muffling and tachycardia of the beri-beri heart. The abdomen showed marked ascites and the legs were generally oedematous. Oedema was also present over the sacrum and the base of the lungs were congested. There was no evidence of peripheral neuritis. The right knee-jerk was sluggish, the left normal. No areas of anaesthesia could be discovered. Scorbutic signs were absent. There was a trace of albumin and casts. The output being about 10 oz. per day.

A blood count showed red blood cells 2,000,000 per c.mm. White blood cells 4,200, haemoglobin 60%, no change in size or shape [illegible] showed no marked alteration in shape or size. [illegible]

There was a previous history of [illegible] having been in hospital in 19[illegible] suffering from [illegible] which had proved [illegible]

subjects there was a lymphocytosis which usually began on the second day after administration of the drug and continued for at least four or five days. In the tuberculous cases a similar change occurred when benefit resulted from the treatment. The greater the benefit the greater and more prolonged was the rise in lymphocytes. When, however, an injection produced a bad effect on the disease the lymphocytes fell from the beginning. In three of the patients there was an increase in the eosinophils. Eosinophilia seems to be a frequent result of sanocrysin treatment in tuberculosis.[3]

As far as these results go they show that improvement under sanocrysin treatment in pulmonary tuberculosis is accompanied by leucocytic changes resembling those that occur during the spontaneous cure of the disease, and that similar variations in the leucocytes are produced in non-tuberculous subjects by small doses of this drug. When, however, sanocrysin produces a bad effect on tuberculous patients the blood changes resemble those that are seen when the disease is progressing. If, as is usually believed, the changes in the blood picture are an indication of the degree of resistance to the disease, it would appear that the action of sanocrysin in tuberculosis resembles that of a vaccine in that it stimulates curative processes which are already going on. This idea is supported by clinical experience, for it has been found[6 7] that sanocrysin gives the best results in patients whose resistance is not undermined, and in whom the natural forces of the body have to some extent checked the progress of the infection. On the other hand it does harm when, owing to overwhelming toxaemia or other causes, the tissues are not capable of responding to stimulation or when the dose is too large. The administration of this substance should therefore be controlled by the laws governing vaccine therapy, as has been suggested by Cummins.[1] The extent to which the size and spacing of doses can be controlled by the changes in the white blood cells is a matter for further investigation.

Burrel[6] is of the opinion that the production of a reaction and the stimulation of the tissues to kill tubercle bacilli are two different actions of the drug. The changes seen in the blood picture two hours after injection support this view. There is generally a fall in the total leucocytes with relative neutrophilia. The other complications that are occasionally seen—namely, albuminuria, gastro-intestinal symptoms, erythema, and rheumatic pains and aches—are probably due to direct toxic action of gold.

Summary.

The blood changes following injection of sanocrysin have been studied in four patients suffering from chronic pulmonary tuberculosis and in two unaffected persons. They suggest that the chief action of this drug in pulmonary tuberculosis is to stimulate the curative processes already going on in the body.

Our thanks are due to Major H. S. Anand, I.M.S., professor of physiology, King Edward Medical College, Lahore, for permission to work in his laboratory, and to Drs. Shujaat Ali and Baldeo Singh Bhandari for assistance during the investigation.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HENOCH'S PURPURA REQUIRING SURGICAL INTERVENTION.

CERTAIN unusual features in the following record of a case of Henoch's purpura may render it of general interest.

A man, aged 23, complained of joint pains on April 27th, 1929, and Dr. Scales of Radstock, who saw him on the same day, found petechial haemorrhages on both patellae and olecranon processes, associated with slight pyrexia. Seven days later abdominal pain developed; it was severe on movement, and there was vomiting and constipation. Four days after the onset of these symptoms I saw him with Dr. Scales. The vomiting and constipation were continuing, the patient looked ill, and the temperature was raised, the pulse rate being 120. The abdomen was distended and tympanitic, and the pain was severe.

The diagnosis of Henoch's purpura was considered doubtful on account of the patient's age, and since it seemed clear there was an abdominal emergency I operated the same day. Several pints of straw-coloured fluid came away, and some coils of distended small intestine appeared. On exploration I found a thickened piece of small intestine; it was deeply congested, with numerous subperitoneal haemorrhages throughout a length of two feet. The walls were greatly thickened by oedema, and the gut felt like a piece of hose-pipe. The intestine was distended above and collapsed below this. Since it was evident that acute obstruction existed, I performed a short-circuit of ileum to ileum, thinking the gut would recover. Forty-eight hours later an enema produced a satisfactory result. One week afterwards a faecal fistula appeared, only to close three or four days later. Whether this was due to the breaking down of my anastomosis or to gangrene of the loop I do not know. The patient's recovery was uneventful except for three attacks of colic when solid food was first eaten, but several more crops of petechiae, with pyrexia, appeared.

When seen on June 28th this year he was very fit and active. The bowels were acting well without aperients, but after a large meal there would be fullness and slight pain, with gurgling in the lower abdomen. This disappeared immediately on defaecation. There was a slight fullness of the lower abdomen, with visible peristalsis and gurgling at the upper end of the wound, which had firmly healed.

I consider the case unusual because Henoch's purpura is found in children, and resolves without operation. With reference to the last point, I operated on an adult male for a simple inguinal hernia, and exposed in it one foot of small intestine, with its walls half an inch thick. I resected it, and found the lumen the diameter of a lead pencil, the mucosa being normal. It is possible that this was a sequel to an attack of Henoch's purpura in childhood, or to an intussusception resolving spontaneously. I consider that it would have been sounder surgical procedure in the first case to have resected the gut.

I wish to thank Dr. Scales for his permission to publish this case.

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EPITHELIOMA OF THE LIP DEVELOPING ON THE SITE OF RECURRENT HERPES SIMPLEX.

IN view of its unusual etiology the following details of a case of epithelioma would seem to merit being recorded.

On June 12th I was consulted by a man, aged 57, a non-smoker, on account of a lesion of the lower lip. He stated that for the past two years he had suffered from frequently recurring crops of blisters on the left side of the lower lip. These blisters always appeared on the same spot, and although there were intervals between the attacks the lip never returned to its normal condition.

On examination a lesion about the size of a threepenny-piece was seen; it was situated on the left side of the lower lip, half-way between the centre of the lip and the angle of the mouth. Its anterior half was covered by a brown, readily bleeding scab, while in the posterior part several closely set unruptured herpetic vesicles were present. There was very little induration and no enlarged lymphatic glands were palpable.

In view of the chronicity, and of the clinical appearances of the anterior portion, I considered excision advisable, and performed the operation. I considered excision advisable, and performed the operation of patient to Mr. Duncan Wood, who performed the operation on the next day. The pathologist reported that the case was one of an epithelioma. The patient has since been given further treatment with radium.

This case is interesting on account of the unusual predisposing cause for the epithelioma. The patient is a non-smoker, and one can only assume that the chronic irritation of the recurring herpetic eruption led to the malignant changes.

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Reviews.

THE CEREBELLUM.

Wide discrepancies exist between the clinical and the physiological interpretation of the functions of the cerebellum, and the time appears ripe for a correlation of evidence derived from the two sources. One therefore approaches a new monograph on the subject of the cerebellum with a sense of high expectancy. The present volume,[1] the sixth of a series of neurological monographs published by the Association for Research in Nervous and Mental Disease, is based upon the proceedings of their "cerebellar" meeting held in New York on December 28th and 29th, 1926. It contains twenty-two separate papers on the cerebellum, some compiled from secondary sources, some from original work, but apart from the paper of Larsell the volume contains little that is new, however useful it may prove as a summary of existing knowledge. The material is arranged in five sections: morphology, physiology, pathology, clinical symptomatology, and treatment; individual papers have been carefully edited, but, like so many compilations of this character, the work lacks an underlying theme, and the reader rises from its perusal without fresh perspective and with a sense of general disappointment. The attempt to correlate cerebellar symptomatology of human beings with recent physiological work has been unsuccessful, for the writers representing these fields have not met on common ground, and none of them seems to be thoroughly familiar with both aspects of his subject.

The first section of the book contains O. S. Strong's stimulating paper on unsolved problems suggested by cerebellar connexions and cerebellar histology, followed by H. A. Riley's comparative study of the folial patterns of the mammalian cerebellum, both of which have already appeared in the *Archives of Neurology and Psychiatry* (vol. 19, 1–30, 1928; vol. 20, 895-1034, 1928). There are two well-illustrated papers on the proprioceptive end-organs, based on secondary sources, which contain useful bibliographical references; the first by A. Elwyn deals with the structure and development of the proprioceptive organs, and the second by C. M. Byrnes is concerned with their comparative morphology. Of exceptional merit is Olof Larsell's contribution on the comparative morphology of the membranous labyrinths and the lateral line organs in their relation to the development of the cerebellum, which is based almost entirely on the writer's own studies. This paper, and the fruitful discussion of it which followed after it was read, may be recommended as a clear and authoritative discussion of the phylogenetic origin of the cerebellum. He accepts Ingvar's division of the neo- and paleo-cerebellum as modified by Bremer. L. Hausman's studies of the comparative morphology of the cerebellar vermis are based upon first-hand knowledge, and provide a valuable discussion of the older parts of the cerebellum. The section on the physiology of the cerebellum, though weak, contains a useful summary by Professor F. R. Miller of the University of Western Ontario. Full details are given concerning his experiments, already familiar to workers in this field, on the stimulation of the cerebellar nuclei. Aubrey T. Mussen once more sets forth his evidence for the localization of function in the cerebellum on the basis of his stimulation experiments with the stereotaxic instrument of Horsley and Clark. Mussen claims to have destroyed the red nucleus without significant injury to the other parts of the nervous system, and sections are given showing the degenerations resulting from such a lesion, but no description is given of how this remarkable feat was accomplished. Mussen still maintains that the cerebellar hemispheres are excitable, and holds on slender grounds that a mosaic of sharply circumscribed centres can be delineated as in the motor cortex of the cerebrum. L. J. Pollock and L. Davis point out that when the cerebellum is removed from a decerebrate animal labyrinthine reflexes become augmented, and decerebrate rigidity increased. L. B. Hohman reports upon the degenerations resulting from isolated lesions in the cerebellar cortex of cats, finding among other things that there are no direct efferent pathways to the pons, mid-brain, or spinal cord, and that all cortical fibres have a first synapse in the deeper cerebellum nuclei, except those which pass from the anterior vermis to Deiter's nucleus.

The pathological section, which concerns itself wholly with cerebellar connexions, consists of two papers: one by L. H. Cornwall, who describes a series of histological observations in a kitten with congenital atrophy of the cerebellum, and another by N. Winkelman and J. L. Eckel on the origin of the cortico-cerebellar system, based upon fourteen human cases with lesions in various parts of the cortex. The clinical section contains an excellent paper by T. H. Weisenburg on cerebellar symptomatology, and other papers giving analyses of individual symptoms such as nystagmus (Favill) and arrhythmokinesis (Wertham and Lyman). In the section on treatment Adson and Parker point out the advantage of surgical diathermy, and they stress the value of the Cushing crossbow incision as giving a more satisfactory exposure for cerebellar explorations; the paper is well illustrated, and contains interesting statistical information. H. K. Pancoast and F. C. Grant describe a series of forty-eight tumours which have been treated by x rays and insist that only the more virulent—for example, the medulloblastoma of Cushing and Bailey—are benefited; they insist that adequate radiation depends upon exact localization at operation.

The book is thus indispensable as a guide to recent work, whatever the shortcomings may be of individual papers or of its general scope. Though there are minor typographical errors in nearly every bibliographical list, and though such grotesque spellings as "technic" for technique are permitted, the book has the saving grace of an admirable index.

[1] *The Cerebellum: An Investigation of Recent Advances.* Association for Research in Nervous and Mental Disease. Vol. xi of a series of Research Publications. Baltimore: The Williams and Wilkins Company; London: Bailliere, Tindall and Cox. 1929. (Med. 8vo, pp. xxiii + 649; 223 figures. 45s. net.)

LIVER TREATMENT IN ANAEMIA.

The short volume of the Modern Treatment Series by S. C. Dyke, entitled *Liver in the Treatment of Pernicious and Other Anaemias*[2] is just what has been wanted by all medical practitioners. The author is thoroughly well fitted for his task, and the book is written in a concise clean-cut style, which is most attractive. Facts are set down without padding, and where accurate knowledge is wanting this is clearly stated.

The first two chapters give a short history of the pathology and methods of diagnosis of pernicious anaemia, and although occupying only twenty-two small pages together, the account is clear and nothing of importance is lost. One point only may be mentioned. The author is dogmatic in his statement that the presence of the smallest amount of free hydrochloric acid in a single specimen (of a fractional test meal) is sufficient to negative a diagnosis of pernicious anaemia. This is in fact not strictly true, since rare cases of fatal pernicious anaemia, with all the characteristic morbid anatomy, have been recorded in which free hydrochloric acid was present in the gastric juice throughout the disease. Dealing with the liver treatment of pernicious anaemia Dyke, in a foreword, acknowledges his debt to Minot of Boston, who has criticized the pages dealing with the history of the new great advance in therapy, and this point naturally enhances the value of this section of the book. Ample credit is given to the pioneer work of Whipple and his colleagues on the post-haemorrhagic anaemias in animals, and the recovery which followed the administration of various diets. The whole history of Minot's early dietetic work, and his gradual recognition of 250 grams of liver as the basic and essential principle, is given in full. The development of the production of liver extracts, and also suitable menus for patients on liver diet, are detailed.

[2] *Liver in the Treatment of Pernicious and other Anaemias.* By S. C. Dyke, D.M.Oxon., M.R.C.P.Lond. The Modern Treatment Series. London: J. Cape. 1930. (Cr. 8vo, pp. 131; 6 figures. 5s. net.)

rise to them. Questions on adenoids do not appear in association with those on disease in children, a question on "quinsy" appears in one section and a question on "acute tonsillitis" in another, divided from it by more than fifty pages. It is curious, and seems worth notice, that two on adenoids and four on the tonsils were the only questions on these subjects during the nineteen years, and that during this period only two questions were asked about appendicitis. Questions on typhoid continue to be relatively frequent, while there seem to be none on influenza. In the section headed "Diseases of bone, fractures, and dislocations" are found nineteen questions on diseases, thirty-two on fractures, and only two on dislocations. Diseases of joints and deformities are in another section. The examiners' neglect of dislocations is rather remarkable.

A survey of this compilation leads to the impression that the questions in midwifery are the easiest to answer on paper (though among the most difficult to put into practical application thereafter), that there are a number of questions which have become almost traditional, and that it might be a very good thing if, one of these years, the examiners were to surprise the examinees with a whole series of questions entirely unrelated to those set forth in this book.

AMBROISE PARÉ.

So much has been written about the great man who was the Father of French Surgery that it is not easy to say anything new about him or to add much to what is already known. It is possible, however, to present the facts in a new way, and this DR. LÉON MICHELET has done with great success.[6] He has taken certain incidents in Paré's life and has surrounded each with a frame, which enables the reader to understand their true significance. To do this satisfactorily a writer must be well fitted with a knowledge of French history during the sixteenth century—general, social, and professional—and in each branch Dr. Michelet shows himself to be well equipped. The setting, of course, is imaginary, but it is so near what probably happened as not to be much out of keeping with the truth. The book can therefore be read with pleasure by the scholar who knows, as well as by the general reader who wishes to learn. Dr. Michelet has not tried to solve any of the problems in connexion with the life of Paré. He accepts the date of his birth as 1509, he believes him to have been a Protestant, and he uses as a frontispiece the portrait dated 1581. DR. VICTOR PAUCHET contributes a preface in which he seeks to interpret Paré's character from phrenology by Paul Nyssens of Brussels, from his handwriting by Camille Streletski, and by Dr. Leopold Levi using "endocrinological methods." These methods show, it is said, that the portrait—seemingly he only used one—proves Paré to have shown signs of "hyperpituitarism, hyperthyroidism, and hypergenitalism."

NOTES ON BOOKS.

WITH the help of DR. GEORGE ALEXANDRESCU, formerly assistant at the Institut d'Histologie, and physician to the hospital at Bucarest, DR. SERGE VORONOFF has published a short book on *Testicular Grafting from Ape to Man*,[7] which has been translated by Dr. Theodore C. Merrill. Dr. Voronoff wishes to emphasize the point that his results have been due to a special and personal grafting method "which has nothing in common with methods of other operators." He proceeds, therefore, to give a detailed description of his method, accompanied by very good illustrations of each step in the operation. The rest of the book deals with the results of the examination of testicular simian grafts removed from man after periods never hitherto attained. Histological sections, studied by Professor Retterer of Paris, have proved the prolonged survival of the glandular cells in the simian grafts, and the perfect correlation existing between physiological phenomena observed after grafting and histological changes in the grafts. The authors' conviction is that the true germinal cells of the graft, those of the primary tubules constituting the mother cells of the adult tubules, together with the cells of Sertoli, have the principal, if not the exclusive, function of producing the testicular hormone. They assert that the rôle of the interstitial cells in producing the hormone is completely disproved.

We have received from the Library of the North Caucasian Association of Scientific Research Institute a Russian monograph,[8] with a German summary, by Professor K. MIRAM, on a Red Cross expedition in September, 1928, to the Adyge district in North Caucasus. The purpose of the expedition was to inquire into the mode of life, physical development, and diseases prevalent among the Adyge, a primitive Circassian race, whose chief source of livelihood is agriculture and the breeding of cattle. Measurements showed that while the men exceeded Topinard's average in size, the women were 6 to 7 per cent. below it. The principal diseases found in the country were malaria, tuberculosis, goitre, syphilis, and gonorrhœa, the last of which was probably responsible for the decline in the population.

DRS. E. LESNÉ and M. COFFIN have contributed to the modern French series of "Paediatric monographs" a useful little book entitled "Vomiting in Infancy."[9] Their general scheme for examination of infants with vomiting as the main symptom is very sound and inclusive, while the classification of vomiting follows orthodox lines. Particularly interesting is the section on spasms of the stomach and pylorus, with useful hints on treatment, while there is a very good account of hypertrophic pyloric stenosis, with some of the results of operation in these cases. This is one of the first books to contain a record of pyloromotomies as performed by Fredet in France for this condition, and the results are contrasted with those obtained in other countries.

[6] *La Vie d'Ambroise Paré.* Par Dr. Léon Michelet. Préface du Dr. Victor Pauchet. Paris: Librairie Le François. 1930. (6½ × 10, pp. xii + 160, 1 plate. 25 fr.)

[7] *Testicular Grafting from Ape to Man.* By Serge Voronoff and George Alexandrescu. Translated by Theodore C. Merrill, M.D. London: Brentano's, Ltd. 1929. (6 × 8, pp. viii + 125, 39 figures.)

[8] *Die Adyge, ihre Lebensweise, Körperentwickelung und Krankheiten.* Von Professor K. Miram, Rostoff on Don. 1930. (7 × 9¾, pp. x+103.)

[9] *Les Vomissements chez le Nourrisson.* Par E. Lesné et Maurice Coffin. Monographies de Pédiatrie et de Puériculture. Paris: Gauthier-Villars et Cie. 1930. (5½ × 7½, pp. 139, 21 figures, 1 plate. 25 fr.)

PREPARATIONS AND APPLIANCES.

A PRIVATE INVALID CARRIAGE.

A PRIVATE invalid carriage has been built for the Daimler Hire Company by Mann, Egerton and Company, of London and Norwich, consulting engineers to the Medical Insurance Agency. It will be recalled that this firm designed, also on a Daimler model, the ambulance which was used to convey the King from London to Bognor Regis in the early part of last year, a vehicle which was described and illustrated in these pages at the time. The new carriage, built on a 57-h.p. Daimler chassis, which has the longest wheel base of any private car chassis made, is so evenly balanced that in spite of its ample proportions it appears to be no longer than the modern high-powered limousine. The stretcher bed which it contains has been designed to give entire comfort and to prevent road shock or vibration. A specially designed mattress on a chromium-plated frame is mounted on a swivel under-carriage, the whole arrangement swinging round to facilitate the removal of the stretcher. Comfortable seating accommodation is also provided for the professional attendant and for any friend accompanying the patient. The interior decoration and appointments—the pile carpet and sponge-rubber floor covering, the compact and unobtrusive arrangements for the washbasin and sick-room appliances, the heating by a specially designed hot water radiator, the ventilation by louvers fitted above the sidelights, the lighting by four electric lamps fitted flush into the roof, the precautions to prevent entrance of fumes and to deaden noise, combine to make the equipment of this vehicle a notable example of the art of ambulance design.

INVALID FURNITURE.

We have received from Messrs. John Ward, Limited (246, Tottenham Court Road, W.1), a catalogue of their latest invalid furniture, a branch of craftsmanship in which they have specialized for many years. Scores of models of couches and chairs are exhibited. One pretty device is a spring frame made up of very strong coil springs, laced together by a material which stops all creaking. So long as the patient lies flat nothing happens, but if the head is raised an inch or two from the pillow the top section of the frame gently follows it until the invalid is completely supported sitting up, and at the same time the other two sections—all three sections being hinged together—come into a position which raises the knees to a restful, half-bent attitude, and prevents slipping. The wheeled-chair is reproduced in as many designs as there are infirmities, perhaps in as many as there are patients' fads to be humoured, and the utmost ingenuity has been exercised in diminishing vibration and the other irritations experienced in a chair and couch existence. A study of the catalogue shows how very effective a part of the nursing service upholstery has become.

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EVOLUTION OF INFECTIOUS DISEASES.

Infectious disease is not the static thing which the young student of medicine pictures to himself, but a biological phenomenon reflecting the living characters of its reagents; it tends ever to change, to undergo evolution. The observations made over so short a period as a century reveals this tendency, for in this compass of time diseases like syphilis and pneumonia have undergone a change. But even though this tendency were not manifest a little reflection would teach us that it must exist, for the agents of disease are of the simplest forms of life which must at first have lived a saprophytic existence. Only later, when higher forms of life appeared, could some of these microbes take on a parasitic and pathogenic role, and it is impossible to conceive of this change being anything but gradual, so that an infectious disease as it presents itself to us to-day must inevitably differ from what it was like at its inception. How have these diseases originated? Will they always be with us, or will some disappear and new diseases take their place? Many have pondered on these questions, among them Charles Nicolle, eminent investigator and director of the Pasteur Institute, Tunis, who has now given us the fruit of his reflections in a small book entitled *Naissance, Vie et Mort des Maladies Infectieuses*.[1]

Nicolle pictures the birth of an infectious disease, the saprophytic bacterium gaining access to the mammalian tissues and perhaps once in a way establishing itself in this new environment, the newly acquired function being perpetuated and the power of invasion—virulence—becoming increased by passage, the whole process being governed by chance, with the successes vastly outnumbered by the many abortive attempts in this new direction. He imagines, and probably with reason, that an infectious disease in its infancy must pass through a phase in which infection is symptomless, an "*infection inapparente*"—a phenomenon which can be produced experimentally as Nicolle has shown us, and which occurs naturally and plays an important part in the spread and perpetuation of epidemics. Gradually, the fully developed disease is evolved, the transition from the endemic to the epidemic form occurring readily where direct contagion is possible, or, in the case of a disease common to man and other mammals spread by an insect vector, by the adaptation of the virus to an insect parasite peculiar to man. Nicolle cites the relapsing fevers as an example of the latter phenomenon—the European variety spread by the body louse being the only one to assume epidemic proportions; another example would be typhus and the typhus-like diseases, such as the scrub typhus of the Malay Peninsula and Rocky Mountain spotted fever.

The future of infectious disease is of even greater interest to us. In a strictly isolated and uncivilized community, debarred of all aid from medical science, one can imagine that in course of time the herd immunity to the prevalent diseases would be so raised that these would become progressively milder, some finally disappearing, having passed through the phase of "*infections inapparentes*" in the process. Presumably these disappearing diseases would be replaced by new ones. But no such strictly isolated communities exist nowadays, or, if they do, modern methods of communication will soon deprive them of their security, and the constant influx of susceptibles, the world-wide comings and goings, will see to it that Nature is deprived of her one method of dealing with infectious disease. On the other hand, civilization and learning have given us many weapons to use in our war against disease. A higher standard of social well-being and personal cleanliness has reduced the incidence of the body louse in this country, and in consequence typhus fever no longer occurs. Quarantine measures and the slaughter of affected animals have rid this island of such diseases as rabies and glanders. Specific prophylactic and therapeutic measures have enabled us to reduce the incidence of some diseases and render the effect of others less serious, so that in civilized communities contagious disease can be controlled. But with the ever-increasing facility of travel and communication existing diseases become more widespread, unless they are limited geographically for some special reason, as in the case of trypanosomiasis, for example, with the result that civilized man will suffer from a greater variety of contagious diseases, but will have less to fear from them so long as he fights them relentlessly, making full use of his knowledge and ingenuity.

Nicolle's essay reveals his fertile mind and literary abilities. Many will not agree with all he says; he does not expect general agreement; but if the book serves to stimulate thought, as it assuredly will, his purpose will have been achieved.

[1] *Naissance, Vie et Mort des Maladies Infectieuses.* Par Charles Nicolle. Nouvelle Collection Scientifique. Paris: F. Alcan. 1930. (4½ × 7½, pp. 218. 15 fr.)

THE BRITISH RED CROSS SOCIETY.

The British Red Cross Society, which was founded in 1870, celebrated its diamond jubilee on August 8th. Sixty years ago, during the anxious days of the Franco-German war, Colonel Loyd Lindsay, V.C., afterwards Lord Wantage, issued an appeal for the organization of a National Aid Society which should minister to the sick and wounded soldiers. Distressing reports of the sufferings which were being endured had reached this country, and there was an immediate and generous response—a fund opened by the Lord Mayor of London reached £200,000, and forty doctors were immediately sent overseas, twenty to France and twenty to Germany. Before hostilities ended two hundred workers entered the fighting area. The conclusion of this war left the society with surplus funds; these were partly expended on the training of women nurses at the Royal Victoria Hospital, Netley—a group from which evolved the Queen Alexandra Imperial Military Nursing Service. The society continued its activities through the Turco-Serbian war of 1876-77, the Russo-Turkish war which followed, the Zulu war of 1879, the Transvaal war of 1881, the Egyptian expedition in 1882, the Soudan campaign in 1884–85, the Serbo-Bulgarian war of 1885–86, the Rhodesian expedition in 1896, the Greco-Turkish war in the following year, and the Sudan campaign of 1898. During the South African war the Central British Red Cross Committee was responsible for two hospital trains and a hospital ship; it also supervised many hospitals which had been privately fitted out, and arranged for the supply of doctors and nurses, and the collection and dispatch of medical stores. In 1908 the Central British Red Cross Council and the National Society for Aid to the Sick and Wounded in War were incorporated by Royal Charter. In the recent war the society became a vast organization related with the Army Medical Services,

and a joint committee of the British Red Cross Society and the Order of St. John of Jerusalem received the official recognition of the War Office. This committee administered *The Times* Fund of £22,000,000, providing ambulances, hospitals, and sanatoriums, and easing the transport of wounded and disabled men on every front. The magnitude of the work undertaken needs no emphasizing, but mention may well be made of the efforts to trace wounded and missing soldiers, to aid the incurably maimed, and to relieve and rescue the hapless refugee populations of Southern Europe.

After the war the British Red Cross Society was encouraged by the League of Nations to direct its energies towards the maintenance of public health, and in 1919 a supplemental Royal Charter gave it authority to do so. During the last ten years the history of the society has been one of transition; gains have been consolidated, and new services organized. The majority of the auxiliary hospitals were closed on the discharge of their inmates, though a few remain as convalescent homes or special hospitals. Starting with the motor ambulances still in use when the war ended, a home ambulance service was built up in 1919 *to provide more efficient transport for the sick and* injured, especially in rural districts, and there are now more than 350 ambulances either affiliated or belonging to the service, including the mobile *x*-ray service. The society is also in charge of a blood transfusion service for London hospitals. About seven hundred lectures on health subjects are given in country districts every year; dispensaries are established in hop-fields, and dressing stations in the herring-fishing centres. The well-known Voluntary Aid Detachments, which during the late war released many thousands of trained men and women for service abroad, continue to provide an elaborate system of instruction, which is very widely welcomed. A more recent development of the society's work is the equipping of a clinic in London for the investigation, diagnosis, and treatment of chronic rheumatism.

THE PASTEURIZATION OF MILK IN CANADA.

In his annual report for 1929 Dr. A. J. Douglas, medical officer of health for Winnipeg, includes an interesting summary prepared by the chief dairy inspector of the city setting forth the extent to which the pasteurization of milk is practised in thirty-two Canadian cities, mostly with populations of 20,000 and over. In three of these—namely, Saskatoon, Sask., and the Ontario cities of Hamilton and Niagara Falls—all the milk sold is pasteurized. These are closely followed by Toronto and Windsor with 99.5 per cent. of milk so treated. Then come Ottawa, Fort William, and Verdun (Quebec) with 98 to 98.5 per cent. Of the thirty-two cities precisely one-half, including those named above, provide their inhabitants with a milk supply of which 90 per cent. or more has been pasteurized. In all the rest there is some pasteurization, and in most of those where the pasteurized moiety is low the rest of the supply or the whole supply is protected by the tuberculin test. Comparison is made in the report with the measures adopted in the United States, regarding which it is noted that in practically every large city 90 per cent. or more of the milk is pasteurized, while in twenty-one cities the whole supply is required to be submitted to this process. In the city of Winnipeg itself the proportion of pasteurization is 62.6 per cent., the balance of the supply being 1.4 per cent. certified and 36 per cent. derived from tuberculin-tested herds. The view is expressed by the chief dairy inspector that this proportion is too low, and that the effort should be made to reach the 99 per cent. level as early as possible. While the data summarized reflect the importance attached to pasteurization in North America, it is desirable at the same time to point out it is not necessarily, in the cases quoted, employed as a rival to other means of protection, as it often is in this country. The graded milks of the United Kingdom include, for example, a certified milk which is tuberculin tested, a Grade A milk (tuberculin tested), and a pasteurized milk, but the three grades are distinct from one another, and neither a certified nor a Grade A milk (tuberculin tested) may be pasteurized. In the Canadian summary, on the contrary, in several of the cities pasteurization appears to be applied to the milk of tuberculin-tested herds. The guiding principle is enunciated in the Winnipeg report in the following terms: "Pasteurization is the final safeguard which should be applied to all milk after all other precautions governing production and shipment have been taken; but pasteurization should not be used as a smoke screen for covering up or hiding the contaminating ills lurking behind unhealthy herds, unsanitary premises, battered equipment, unclean and careless methods." Experts in Great Britain will cordially agree with the latter portion of this pronouncement. With regard to the former they will prefer to think that where adequate precautions have been taken pasteurization *is needless. At the same time, it must be conceded* that where milk has been exposed to infection of human origin, despite routine precautions, pasteurization may prove of service in preventing outbreaks of milk-borne disease among consumers in Great Britain as in America.

MENTAL HYGIENE.

An important symposium is contained in the recently published Part III of volume cxlix of the Annals of the American Academy of Political and Social Science, Philadelphia, under the title *Some Social Aspects of Mental Hygiene*,[1] and edited by Dr. Frankwood E. Williams, medical director of the National Committee for Mental Hygiene, New York City. The twenty-one articles are all by American writers, and are arranged under three main headings—"General Aspects of Mental Hygiene," "Mental Hygiene in Education and in Mercantile Life," and "Institutional Treatment and Community Organization." The articles naturally vary in length, value, and importance, though there are but few without some noteworthy observation. Many of them are so sketchy as to be of little practical use either for thought or for application, but a few of them are of great value in both respects. Special attention may be drawn to the introductory article by the editor, entitled "Finding a way in mental hygiene"; to two articles by Dr. Edgar A. Doll, the director of research at the Vineland Training School, entitled respectively "The mental health value of special education" and "Community control of the feeble-minded"; to the contribution entitled "Mental hygiene in preventive medicine," by Dr. William Russell, professor of psychiatry in Cornell University; and to that on "The child of very superior intelligence," by Dr. Leta S. Hollingworth, professor of education, Columbia University. In an article, too, on "Eugenic sterilization in the United States: its present status," Mr. Frederick W. Brown, the director of the Department of Information and Statistics of the National Committee for Mental Hygiene, New York, gives a complete and convenient account of the sterilization laws in the twenty-four States which have such enactments, and the extent to which, and manner in which, those laws have been put into application. The author appends to his article a selected annotated bibliography on sterilization, both pro and con; and if in connexion with all this information there be read the second of the articles by Dr. Doll named above, the reader will have gathered much useful material for the reasonable discussion of a subject

[1] *Some Social Aspects of Mental Hygiene.* Edited by Frankwood E. Williams, M.D. London: P. S. King and Son, Ltd.; Philadelphia: The American Academy of Political and Social Science. 1930. (6½ × 9½, pp. iv + 214. Paper cover, 1 dollar; cloth, 1.25 dollars.)

which is rapidly ripening for appropriate action in this country. Educationally and medically, the other article by Dr. Doll above referred to, together with that by Dr. Hollingworth, will be found worthy of serious consideration. They draw attention to some rather neglected aspects of special education, and point the need, in this regard, for making provision for the specially gifted child, for the dull child with compensatory abilities, as well as for the feeble-minded child. Dr. Hollingworth's analysis of the position of the child of 8 or 10 years of age with an intelligence quotient of over 140 is largely new, and carries with it practical lessons both for the teacher and for the doctor. Dr. Doll's statement of the aims of education is particularly clear and suggestive. The two more general articles by Dr. Williams and Dr. Russell on the meaning and position of mental hygiene are to a considerable extent complementary. Together they give an admirable and thought-provoking picture of the way in which the medical profession, psychiatrists in particular, have come to have a much wider view of their sphere of work and a different conception of what "prevention" or "hygiene" means and involves. They describe not merely how the social worker has become of paramount importance to the physician and psychiatrist, but how the doctor himself has necessarily become a worker in the social field, with special qualifications for leadership therein. They emphasize, too, that attention to emotional health is of paramount importance even in a large proportion of those cases in which physical symptoms are manifest; and that therefore it is to emotional training, control, and regulation in childhood that attention may most usefully be directed.

WELFARE OF THE BLIND IN SCOTLAND.

THE Department of Health for Scotland has issued a circular[1] to the local authorities of Scotland regarding the altered arrangements for the welfare of the blind consequent upon the passing of the Local Government (Scotland) Act of 1929. It is pointed out that the local authorities have now considerable experience in the administration of matters affecting the blind, but that certain modification will be needed in the schemes provided under Section 2 of the Blind Persons Act of 1920. The services include the provision of domiciliary assistance of necessitous blind persons, the provision of employment, assistance in setting up in a profession or business, the maintenance of a register of blind persons, the medical certification of the blind, and the granting of assistance towards services of a national character. New arrangements should be made with voluntary agencies. These have in the past received grants from the central authority; now they will receive them from the local authorities through the block grants which the latter receive. The contributions should include amounts equal to those paid, or which should have been paid, by the local authorities direct in the standard year *plus* any additional amounts agreed in respect of new developments. It is noted that there may not be sufficient accommodation in workshops for all the trained blind, so that home workers, schemes such as has been so successful in England, are suggested as a useful form of development. These schemes provide for the care, assistance, and supervision of blind persons employed in occupations usually practised in workshops, and provision is made for the augmentation of earnings. Experience shows that the types of occupation might be extended. For the future the register of the blind will not be kept centrally, each local authority must keep one for its own area. Emphasis is laid on the necessity for the proper keeping of these registers, and for co-operating closely with the voluntary agencies in this work. The circular quotes an extract from the report of the Advisory Committee, and "the Department concur in the view." The proper certification of blind persons is all-important, and while, as a rule, voluntary agencies are unwilling to admit persons to their rolls who have not been certified as blind by an ophthalmic surgeon or a medical practitioner, the arrangements of the associations for certification are not uniformly satisfactory. We are strongly of *opinion that every case should be certified* by an ophthalmic surgeon; and, now that local authorities are to bear full financial responsibility for the services of the associations, they should, in our view, satisfy themselves that proper arrangements exist. Where these do not, they should, financially or otherwise, give every assistance to the associations to secure the necessary improvement in their arrangements. Special note is made of the need for a close co-operation between the committee of the local council charged with the general welfare of the blind and the education committee. It is particularly desirable that delays should not occur in making the necessary arrangements for cases that should be afforded technical education. In an appendix there is set out a "Revised Model Scheme" suggested for adoption by local authorities.

[1] Public Assistance. Circular No. 11. Department of Health for Scotland. Edinburgh, 1930. H.M. Stationery Office. 2d. net.

SCIENTIFIC EXAMINATION OF PROJECTILES.

ANOTHER volume has been added to the series of Notable British Trials, dealing with the trial of Browne and Kennedy for the murder of Police-constable Gutteridge.[1] The editor, Mr. Teignmouth Shore, remarks that "To the student of crime this case presents little of interest," but as a matter of fact there are several points of interest from the medico-legal, psychological, and legal aspects. It will be remembered that the murdered man met his death on the night of September 27th, 1927, having been shot twice through the left side of the face and also through each eye. A motor car bearing signs of blood staining was found abandoned on the following day, and in the car an empty 0.455 revolver cartridge was picked up. On January 20th, 1928, Browne was arrested for stealing a Vauxhall car, and when his premises were searched a Webley revolver and service ammunition similar to that used in the Gutteridge murder were found. Kennedy was arrested five days later at Liverpool. In a case such as this the police must have been aware that the murder was committed by a motor-car thief and from the fact that he was armed probably a person who had been in their hands before. As a motor thief must have a garage and workshop a very close watch was no doubt kept on all such premises in the metropolitan area. Whether the arrest of this particular criminal was due to chance does not transpire, but apparently the inspector in charge of the case had no suspicion that Browne was concerned in the Gutteridge case until he had taken his second statement. First, then, by happy chance one of the empty cartridge cases from the revolver fell into the car; secondly, by a strange coincidence, the murderer came into the hands of the police; and, thirdly, this person had foolishly kept the revolver from which the shot had been fired. It appears, however, that there was no direct evidence that could definitely connect the accused persons with the crime. There was no evidence as to their movements on that particular night. The conviction of the accused therefore depended entirely on the evidence that the cartridge case found in the abandoned car was fired from the revolver which was seized in the possession of Browne. This fact was conclusively proved by the experts called for the Crown, who demonstrated that the file marks and other tool marks on the breech shield of Browne's Webley revolver were impressed detail for detail on the copper cap of the cartridge case. This was the first

[1] *Trial of Frederick Guy Browne and William Henry Kennedy.* Edited by W. Teignmouth Shore. Notable British Trials. Edinburgh and London: W. Hodge and Co., Ltd. 1930. (Demy 8vo, pp. x + 218; 16 plates. 10s. 6d. net.)

occasion upon which such scientific examination of projectiles had been made use of in this country, although it has been in use in criminal investigations for many years elsewhere. We have on more than one occasion drawn attention in these pages to the value of such scientific examination. In the Gutteridge case this evidence showed that Browne's Webley revolver had been used for the murder, but it did not necessarily show that Browne had used it, although the medical evidence of the direction of fire indicated that the driver of the vehicle was the person who shot Gutteridge, and it was generally assumed, though not proved, that Browne was driving. In this regard the examination of the cartridge case for finger-prints might have been invaluable. The finger-prints of the person who charged the weapon and possibly of the one who emptied the chambers might well have been discovered on the empty case. We notice, however, that the constable who saw the cartridge picked it up, apparently without any precautions, handed it to the sergeant, who handed it to the inspector, who in turn handed it on to the chief inspector. After such handling the chance of finding finger-prints must have been negligible. A further item which calls for comment is the fact that although the bloodstain on the car was observed on September 27th, 1927, it was not until February 8th, 1928, that it was sent for examination to see if it were human blood. This blood and its freshness or otherwise might have been material evidence, and it should have been examined immediately. We might also draw attention to the fact that no examination of the powder stains on the victim were made, although evidence was given by one of the experts that one wound was due to a cartridge loaded with black powder and another due to cordite. The opinion of this expert was based on the photograph taken at the time, and is therefore of no particular value. It is surely not too much to expect of the police to satisfy themselves on these points when a chemical examination could yield decisive results. The attitude of mind of these two men is an interesting psychological study. If the deliberate shooting of a fellow being to evade possible arrest for theft indicates a contempt for human life then what can we think of the sub-sequent act of discharging two more shots into the eyes of the dying man? The life-history of Browne shows that from childhood he was anti-social in his outlook, and was contemptuous of authority. He had five convictions to his credit from 1911 to 1927 for various forms of theft, burglary, and fraud, and two further convictions for discharging firearms. These were those which were discovered, and we must assume that they represent only a small percentage of the actual crimes committed. For example, from October, 1927, to January, 1928, when he was arrested, he was concerned in eight different affairs of burglary and theft. The other man, Kennedy, had also a history of crime, but in his case there were six instances of indecent exposure, and with this history it is rather remarkable that some attempt was not made with the special defence of mental defect.

OPHTHALMIC HOSPITAL IN JERUSALEM

THE Order of the Hospital of St. John of Jerusalem maintains in Palestine an ophthalmic hospital. In the thirty-eighth report, which covers the year 1929, the warden, Lieut.-Colonel J. C. Strathearn, attributes a fall in attendances by patients mainly to the riots which occurred last year. The fellahin found it safer to stay indoors, and the total attendances fell from 94,832 in 1928 to 63,134 in the year under review, but there was a curious increase in the attendance of town-men from Jerusalem, where private specialists are mostly Jews. In the fervour of boycotting the Jews the Arabs flocked to the hospital, but it is regrettable to learn that the free-will offerings of several hundred better-class Arabs did not amount to £1. Notwithstanding the riots the number of new patients examined in the hospital during the year exceeded 15,000; and of these 13 per cent. were blind in one or both eyes. Most of the blindness could be traced to attacks of acute conjunctivitis, which is endemic in Palestine and is subject to epidemic exacerbations in the hot season. To treat this disease an annexe to the hospital was being built, but work was stopped by the municipality owing to the discovery that the "permit to build" had not been officially sanctioned. This permit may take months to procure since it has to be stamped by as many as twelve different individuals. Owing to recent epidemics of acute conjunctivitis the incidence of trachoma has risen, and last year this disease accounted for 92 per cent. of the new cases seen. In connexion with the hospital there is a "clinic scheme", and 14,000 additional patients were seen at six provincial centres. Here also the riots were a disturbing factor, and the decrease in trachoma operations suggested that the political disturbance had distracted the attention of the fellahin even from this painful and disabling malady. Further extension of the hospital is contemplated in view of the pressure on its accommodation in more normal years.

PATHOLOGICAL RESEARCH IN LEEDS.

IN the annual report for 1929 of the department of pathology and bacteriology of the University of Leeds Professors M. J. Stewart and J. W. McLeod describe some of the researches which have been conducted there. Among these is mentioned the continuation of experimental work on pulmonary asbestosis, in which the "peculiar bodies" which occur in the lungs of asbestos workers have been successfully reproduced in guinea-pigs by inoculating them subcutaneously with asbestos dust. A series of experiments is now in progress to elucidate the changes in the lungs in this disease. Clinical investigations from various points of view are also being made in pulmonary asbestosis. On behalf of the Yorkshire Council of the British Empire Cancer Campaign a study of the iodine content of the blood of patients suffering from cancer has been made, as a result of which it has been found that there is no constant change in this respect. Dr. Polson has examined the distribution of iron following the intravenous injection of colloid preparations into splenectomized rabbits; he is also continuing his work on other aspects of iron storage in this animal, including the varieties of damage inflicted on the liver. Latent tuberculosis in the tracheo-bronchial lymphatic glands has been studied, and a report is being prepared for publication. Tubercle bacilli of the human type were recovered from apparently normal glands in seven out of 109 cases, but in three of these a tuberculous lesion was demonstrated microscopically. With the aid of a grant from the Yorkshire Council of the British Empire Cancer Campaign a large series of cases of cancer of the skin are being investigated from the point of view of etiology. Progress has been made in obtaining a more accurate method of diagnosing gonorrhœa in female patients. Dr. R. D. Passey, professor of experimental pathology and director of cancer research, reports that further evidence has been accumulated in favour of the view that the onset of epithelial proliferation is regulated by the same principles of physical chemistry as govern the precipitation of negatively charged colloids. Certain other considerations indicate the possibility that precipitation of the colloids of the cell membrane is an essential phase in the sequence of changes which culminate in cell division. Other details of cancer research in connexion with Leeds University were mentioned in the annual report of the British Empire Cancer Campaign. Dr. Harold Channon and Mr. Collinson, who have been studying the blood fat content, have made the important observation that liquid paraffin is capable of being absorbed after ingestion by the mouth.

HEALTH OF THE UNITED STATES ARMY.

The annual report of the Surgeon-General of the United States Army for 1929 contains highly condensed information on the health of an army of 134,000 men—white, coloured, Filipinos, and Porto Ricans. The chief disabilities leading to retirement among officers were tuberculosis, arterio-sclerosis, and osteo-arthritis. The leading causes of discharge among the enlisted personnel were dementia præcox, mental deficiency, and "constitutional psychopathic state." But the admission rates for enlisted personnel varied greatly according to race and country. Thus the Filipinos headed the list in tuberculosis, while in alcoholism and venereal disease they were easily at the bottom, with the Porto Ricans not far above them. Both these races suffered heavily from malaria. The relative freedom of the Filipino from venereal disease is explained by his being generally a married man, accompanied by his family, and also by reason of his habits of sobriety. The table in the report showing the admission rates for alcoholism in the United States Army gives statistics from 1903 to 1928. Until 1910 the rate was between 21 and 27 per 1,000 officers and men; 1907 being the "wettest" year. In 1914 the rate had fallen to 13 per 1,000. In 1918 it was less than 1; but had risen to 7 in 1920, and has remained about the same ever since, being 7.6 for 1928. Apparently, however, when white troops get out of the States to a station like the Philippine Islands the rate jumps up again to the 1911–12 level of 17 per 1,000, nearly double the rate for white troops in the United States—8.79. On the face of it this Table 91 should be an interesting study for "wet" and "dry" politicians. In the figures in the report which illustrate the discharge rates for nervous and mental diseases, differently printed lines representing side by side the rates for 1911–16 and 1923–28, show that there has been a great increase in the incidence of mental disorder in white enlisted men, the rate of discharge from this cause having risen from 2.18 to 6.73 per 1,000.

THE LÜBECK DISASTER.

A further stage has been reached in the investigation of the cause of the deaths which occurred at Lübeck in June following the administration of certain B.C.G. cultures to infants. Mention was made in the *Journal* of July 26th (p. 152) of a report by Professor Bruno Lange incriminating the Lubeck Hospital in this connexion. We have now received a letter from Professor Calmette pointing out that the experts appointed by the German public health authorities and the Minister of the Interior have officially declared that the disaster was not caused by the B.C.G., but was due to an accidental contamination of the vaccine with virulent human tubercle bacilli, which occurred in the laboratory of that hospital. Professor Calmette adds that no responsibility can therefore be attached to the Pasteur Institute, nor to those who have recommended this method of treatment, which has now been employed in vaccinating thousands of children all over the world.

PROFESSOR ALLVAR GULLSTRAND.

Ophthalmology and physical science have lost a great worker by the death of Professor Allvar Gullstrand; few men of recent years have done so much work in elucidating the intricate problems of the optics of the human eye. Born at Landskrona, Sweden, in 1862, he was the son of a physician; he studied medicine at the universities of Upsala, Vienna, and Stockholm, and graduated at the last-named university in 1890. At the early age of 32 he was appointed professor of ophthalmology at Stockholm, and held this office from 1894 until 1913, when he became professor of physiological and physical optics, continuing in this post until 1927. While working at ophthalmology he completed some notable research, but in later years devoted himself almost entirely to what might be termed pure physics in his special branch of optics. In 1911 he was awarded the Nobel prize for medicine "for work on the diffraction of light by lenses as applied to the eye," and other honours were paid to him in recognition of his achievements; thus he received honorary degrees in science at Dublin, and in philosophy at Upsala and Jena, and was elected an honorary member of the Ophthalmological Society of the United Kingdom. His work in physical optics may be counted the more remarkable since his training was that of a medical student, and principally related to clinical medicine. At first his practice followed these lines in ophthalmology, but he early began to question the generally accepted views on the passage of light through the refracting media of the eye. He showed that the simple and somewhat crude conception of the refraction of the eye (based upon the conception that its media might be represented by a homogeneous medium, much like a glass lens system) was wholly incorrect, and gave but a poor idea of the complication of the media of the eye, and of their beautiful, even exquisite, adaptation to their peculiar purpose. His chief publications were: *General Theory of Monochromatic Aberration and its Consequences in Ophthalmology*; *Real Optical Images*; *Optical Images in Heterogeneous Media and the Dioptric of the Human Crystalline Lens*; *Studies in Dioptrical Methods of the Human Eye*; *General System of Optical Images*; *Aspherical Planes in Optical Instruments*; and *The Secondary and Tertiary Laws of the Optical System*. He was a singularly skilful and accurate experimental worker, and devised many instruments of remarkable precision, some of which have passed into the everyday use of ophthalmologists. Further, he could explain lucidly the intricate problems with which he dealt, and his charm of manner and patience made his demonstrations amazingly attractive.

MEMORIAL TO MARGARET MACDOWALL.

The death of Miss Margaret Macdowall in the early part of this year drew attention to the pioneer work on behalf of mentally deficient children which she had been conducting, first in Ealing, and later at Burgess Hill. References to this by Sir Maurice Craig and Dr. A. F. Tredgold appeared in the *British Medical Journal* of March 22nd (p. 569) and April 5th (p. 670). An appeal is now being made for donations towards a memorial which, it is thought, might well take the form of a new edition of her book, *Simple Beginnings in the Training of Mentally Deficient Children*. This book was published in 1919, and was warmly commended that year in the *Journal* of July 5th (p. 13); it is still in constant demand, but it has been out of print for some time, and the estimated cost of a new edition with some biographical notes added would be about £100. If, as is hoped, the response to the appeal brings in a substantial sum, it is proposed to use the balance and the proceeds from the sale of the book to create a fund for making grants in aid of the training of educated girls to work among mentally deficient children. The appeal, which will close on October 31st, is supported by Sir Maurice Craig and Dr. A. F. Tredgold, among others; donations should be sent to the treasurer, Mr. Harold Moreland, Cherrycroft, Gerrards Cross, Bucks.

The Council of the Royal College of Physicians of London announces in our advertisement columns this week that it is prepared to receive applications for the post of Milroy lecturer for 1932. The course consists of three lectures to be given in February or March. A copy of Dr. Milroy's suggestions, together with information as to the emoluments, may be obtained from the Registrar, to whom applications, containing a statement of the division of the subject selected by the candidate, should be sent by September 30th, 1930.

THE ELEVENTH INTERNATIONAL VETERINARY CONGRESS.

ABOUT 1,800 delegates from all the civilized countries of the world attended the Eleventh International Veterinary Congress, which was opened in London on August 4th by the Earl of Harewood. In declaring the congress open Lord Harewood said he did so with mingled feelings of pride and shame: pride in the fineness of British stock, and shame at the state to which the London Veterinary College buildings had fallen. The purpose of the congress was the dissemination of knowledge to veterinarians, to the public, and to Governments. The first congress had been called to consider important contagious diseases, such as cattle plague, which had now been brought under control. Interest was still taken, however, in foot-and-mouth disease, and he hoped that soon the present mode of control would be replaced by a more scientific method. Bovine tuberculosis was another disease requiring attention, and he was sure that in its eradication the veterinarian would receive the cordial support and encouragement of the medical profession. In addition to the public health and economic aspects of veterinary science, some attention should be paid to the humanitarian point of view, an aspect which would always commend the fullest public support.

Sir JOHN MCFADYEAN, M.B., P.R.C.V.S., was appointed president of the congress. In his address he sketched the history of the various international congresses from their beginning in 1863, when John Gamgee organized the first congress, which was held in Hamburg. The speaker remarked that, although the honour of this belonged to an Englishman, it was surprising to notice that apart from himself only one other Englishman was numbered among the 101 members. The attendances had gradually increased, and the proceedings had become better organized as time went on. The tenth congress had assembled in London just before the outbreak of war, in consequence of which it came to an untimely end. The present congress had broken all records in respect of the numbers present and of the subjects presented for discussion.

Variola in Animals.

In a paper read in the afternoon of August 4th, Mr. R. E. GLOVER (Cambridge) discussed the virus of contagious pustular dermatitis of sheep and goats, which he considered to be one of the vaccina-variola group. He said that the disease was found in various parts of Great Britain, and apparently only a single strain of the virus existed here. Some workers thought that variola, vaccina, and sheep-pox represented a single disease, adapted perhaps to different animals, and reacting a little differently according to the species. Others, while admitting a common origin of the variolous diseases, regarded them now as specific for the species which they affected, and incapable of conversion the one into the other. A similar conflict of opinion had existed about the relationship of vaccina, horse-pox, and the equine contagious pustular stomatitis. Glover considered that the question was still *sub judice*, while inclining to the view that dermatitis and vaccina were distinct. The condition known as malignant aphtha in ewes, however, was due to the dermatitis virus.

Dr. BRIDRÉ (Pasteur Institute, Paris) reviewed the various variolas in animals. He stated that vaccina occurred naturally in the cow, horse, camel, goat, and pig; the variolas of the goat, pig, and sheep were, however, specific to these animals. In the goat, the disease was benign; in young pigs and sheep it was serious. The virus was always present in the specific lesions, and was capable of passing through certain filters. The virulence might be reduced by passage to less susceptible animals; during outbreaks the virulence was sometimes suddenly exalted. Natural immunity was rare, and when it occurred it might be characteristic of a particular breed; thus Breton sheep were resistant to sheep-pox. Each of the variolas immunized against itself, while vaccina immunized against human variola, and vice versa. The acquired immunity was durable, but not of indefinite duration.

Dr. H. S. PFENKEL (Utrecht) discussed the so-called "natural" cow-pox, which was not uncommon in Holland. It had been impossible to demonstrate any relation between this disease and vaccinated persons, but the speaker believed that most cases were due to infections from newly vaccinated men. However, other possible sources might be found in horse-pox and fowl-pox. The whole problem, he added, was very complicated, and had an important public health aspect. The milking personnel might be easily infected from diseased nipples. Cow-pox was common, and men were so often infected that it had become an industrial disease. In Jenner's time this was a fortunate circumstance, but nowadays infected persons risked an unnecessary, disagreeable, secondary infection. This risk could be avoided by vaccinating the cow in a suitable place and during its non-milking period.

Control of Anthrax.

The control of the dissemination of anthrax by animal products was the subject of a sectional discussion. Dr. F. FISCHOEDER (Warsaw), who opened it, pointed out that countries importing skins could demand official certificates: (1) that the animals had been slaughtered in slaughter-houses under veterinary supervision; (2) that the animals had been inspected both before and after slaughter, and found free from infectious diseases—especially anthrax: and (3) that the hides had not come into contact with animals suspected of anthrax, or with objects capable of acting as carriers of the disease. Skins not accompanied by such a certificate should be excluded, or their importation made conditional upon the result of a thorough examination. A similar examination should be insisted upon in cases—even when accompanied by certificates—in which the veterinary inspection services were not regarded as satisfactory. Ascoli's technique might be used with advantage for the examination of hides, and skins which gave negative results might be admitted, a positive result, however, was not proof of the presence of anthrax, and cultivation and inoculation must be resorted to for the demonstration of the organisms.

Professor MUSSEMEIER (Berlin) stated that, while in animals anthrax was for the most part of alimentary origin, in man it was usually respiratory or cutaneous. Animal infection was usually traceable to the careless disposal of infected carcasses, and regulations had done much to reduce its incidence in Germany. The main risk in Germany arose from imported hides, bones, and foodstuffs. The statistics of anthrax infection in man, cattle, and pigs showed a curve parallel with that of the importation of hides and foodstuffs. Accordingly, the most strenuous efforts should be made by exporting countries to dispose of anthrax-infected carcasses in the safest manner. If this was not done, foreign bones and meat meals must be sterilized on arrival. The most serious danger was attached to dried hides, and there was no known method of rendering them safe without causing damage to them. The speaker recommended Ascoli's test in the case of hides, by either the exporting or the importing country.

Foot-and-Mouth Disease.

Professor J. LIGNIÈRES (Buenos Ayres), opening a discussion on foot-and-mouth disease on Tuesday morning, August 5th, reported that he had been able to isolate two types in the Argentine and Uruguay. The virus dried under favourable conditions might retain its vitality and virulence for some months, and so give rise to spontaneous outbreaks. The speaker considered that this was the explanation of some of the British outbreaks, rather than the Argentine meat blamed by some people. It was necessary, therefore, to insist on rigid disinfection of places, vehicles, and everything coming into contact with infected animals. The best disinfectant for efficacy, rapidity, cheapness, and absence of injurious action was sodium hydrate used in a 1 per cent solution for animals, and 2 per cent for inanimate objects. Professor Lignières added that he had devised a new method of vaccination against the disease, which was very simple in use. Details were withheld pending a thorough test of the method.

Sir JOHN MCFADYEAN, chairman of the organizing committee, doubted the advisability of conceding the request

of Professor Lignières for an international commission to be called into being to examine the efficacy of the new remedy, since its composition was not to be disclosed until subsequently. It might well be tried out first in the Argentine or some similar country. On being put to the vote the proposal of Professor Lignières was rejected by a large majority.

Dr. W. H. ANDREWS said that he accepted as proved the plurality of virus strains. In addition to the three generally recognized strains, however (O, A, and C), it appeared that there were also other immunological types which were not intermediate, but distinct. Two such strains had been recovered from outbreaks in England. Of 40 strains in Britain, 37 proved to be O strains, and there was no doubt that this was the predominant form in Europe. This plurality of virus types rendered prophylaxis much more complex, difficult, and costly. It had been proved possible to immunize animals simultaneously against more than one type, but there was still uncertainty as to the number of types existing. A characteristic attack practically always left an animal completely resistant to the homologous type of virus. The immune animal first lost its local or tissue immunity (in cattle in about seven months), but the humoral immunity was more lasting—on an average between one and two years. A few experiments at Pirbright suggested that humoral immunity would protect cattle against natural infection. Probably any method of active immunization would involve some risk in spreading the disease, but special measures, such as the creation of a zone of passively immunized animals, might render such methods of very great value to many countries.

Professor WALDMANN (Germany) stated that investigations had been greatly extended during the past decade. The virus had not yet been isolated, but filtration and ultra-filtration experiments indicated that its size was about 3 μ. There were three distinct strains which did not immunize against one another, and also variants which were correlated to the type they most closely resembled. The diseased animal and its stall constituted a serious source of danger. Infected animals excreted the virus in the milk, urine, faeces, and saliva for ten days after becoming ill; it persisted longest in the saliva. Temperatures below 10° C. conserved it; those above 30° C. were harmful; and moist heat over 50° C. killed it rapidly. It was very susceptible to putrefaction and sunlight. Artificial drying of the vesicular contents prolonged the life of the virus, and epithelium from the vesicles was far more resistant than vesicular fluid against all external influences. Active immunization was still unsatisfactory, but protection for ten days could be obtained with hyper-immune serum, which should be polyvalent. This method, however, was only of value for animals exposed to infection for a brief period, or during outbreaks on a farm.

Protective Inoculation against Rabies.

Professor A. AUJESKY (Budapest) expressed the belief that protective inoculation might be used after infection to save animals that had been infected, or, particularly in dogs, to prevent the spread of the disease. Any method employed after infection had occurred must establish immunity within a short time, by simple means, and with few injections at small cost; it must also be free from the danger of producing the disease itself or other undesirable sequels. The methods in use which satisfied these conditions were mostly those which made use of fixed virus attenuated with carbolic acid or by ether, and which required at most six or seven injections; a simplified "dilution method" was employed in Hungary. Animals in an advanced state of pregnancy withstood these methods well, and milk from inoculated animals might safely be sold. While inoculation should be early, it was well to remember that the incubation period was often several months, and therefore several weeks might elapse between infection and inoculation. Protective inoculation of dogs could only be considered as a support to existing regulations, and it did not render them superfluous. Regulations alone were sufficient to control rabies in a country where the disease did not normally exist, but where it was widespread protective inoculation should be used to assist the regulations. The Japanese method, with a fixed virus, carefully conducted, produced a good degree of immunity with a single injection; so also did Miessner's vaccine. Other methods should not be used in practice. Inoculation of infected dogs was best avoided as a rule; it should be limited to valuable animals in places where the law did not insist upon the destruction of dogs suffering from rabies. Cats should not be immunized against the disease.

Professor FINZI (Milan) considered that the efficacy of the campaign against rabies was dependent upon the rigid application of well-recognized sanitary police regulations. But where the disease existed these regulations should be supplemented by the compulsory curative and protective vaccination of dogs. The glycero-carbolized vaccines served this purpose. Curative vaccination was always recommended when the owner could not be compelled to have the animal destroyed. Fixed virus of canine origin could be used instead of fixed virus from rabbits when considerable quantities of vaccine were required. Owing to the small amount of nerve substance necessary the protective inoculation of dogs could be undertaken annually. The curative vaccination of the large herbivora against rabies should be considered as an economic question, and not intimately connected with the special problem of rabies prevention. Professor Finzi added that the antirabic vaccination of dogs should be made a compulsory addition to the enforcement of the sanitary police laws.

Vaccination Against Tuberculosis.

Professor ASCOLI (Milan) recorded his conclusion that the B.C.G. vaccine against bovine tuberculosis was innocuous; in a large series of experiments there had never developed at the site of inoculation a reaction lesion giving rise to tuberculous infection. The mistaken idea that the vaccine was virulent was due to the fact that at the place of inoculation there subsequently developed a regressive tubercle. His own experiments had afforded confirmation that inoculation experiments up to the fortieth passage of a virulent bovine strain on media containing bile revealed a gradual attenuation, as was shown by progressive limitation of the tuberculous infection. He believed that discordance between experiment and experience might be due to infections with the actino bacillus. A sufficiently large dose of the B.C.G. vaccine by mouth in the first few days after birth would confer protection upon calves against natural infection.

Dr. GUÉRIN (Paris) pointed out that it was a mistake to think that active vaccination against tuberculosis was of itself sufficient to ensure protection. Initial sanitary precautions were essential both in cattle and in men. Since it was only the presence of living tubercle bacilli in the body which produced resistance, the first organism to gain access must be a harmless but efficacious bacillus of the B.C.G. type. Prevention, therefore, must consist of rigid isolation immediately after birth, feeding on tubercle-free milk, and inoculation with B.C.G. If an animal in an allergic state resulting from the vaccine was subjected to superinfection with tubercle bacilli, there should be a balance between the number of infecting organisms and the number capable of being eliminated normally by the body; if the number was larger actual tuberculosis might result. The veterinary committee on B.C.G. instituted by the League of Nations in 1928 decided that vaccinated and control animals should continue to live the ordinary life on the farm, and should not be subjected to any artificial contagion. Dr. Guérin considered that tests on small laboratory animals with the B.C.G. vaccine were not conclusive, since initial hygienic measures were essential and ignorance of protective measures for small animals led to bad results. The more closely that investigators adhered to the conditions which were known to be essential, the more favourable were the conclusions reached as regards the efficacy of the vaccine. The speaker pointed out that those who desired to fight bovine tuberculosis must follow two rules. The B.C.G. method could be applied on all farms infected with tuberculosis where it was the custom to raise young animals to replace the old ones. These farms must be provided with a small isolation stable, carefully disinfected and kept in proper condition constantly, in which calves were put immediately after birth and prior to dressing the navel.

Mr. E. A. WATSON (Canada) reported a series of experiments with the B.C.G. vaccine in Canada. In general he had found no striking difference between animals vaccinated with B.C.G. or with virulent bacilli, and unvaccinated controls so far as the lesions were concerned. The B.C.G. vaccine might retard the development of infection, but this was a transient phenomenon. A comparative study over five to six years did not substantiate the claims made for B.C.G. vaccination as an efficient means of protection against bovine tuberculosis. The speaker considered that its use in Canada was contraindicated, because the incidence of the disease and the conditions which prevailed were favourable to the success of drastic methods aiming at the destruction of the sources of infection.

Deficiency Diseases.

Professors J. MARFK and O. WELLMANN (Budapest), reviewing the deficiency diseases which occurred spontaneously in domestic animals, defined five groups of avitaminosis. They pointed out, however, that attention must be paid to diseases of metabolism, and other factors in the food must be considered in conjunction with lack of vitamins. Diseases due to lack of vitamin A (antixerophthalmic) were rare in domestic animals, although nutritional diphtheria in birds was a possible example. Polyneuritis in poultry was due to lack of vitamin B (antineuritic), and beri-beri-like conditions had been observed in dogs and rabbits. C-avitaminosis caused scurvy, and various conditions had been attributed to lack of this vitamin in pigs and other animals. Rickets and osteomalacia were not essentially due to lack of vitamin D, but depended also on a deficiency of calcium or phosphoric acid. Rickets in animals corresponded with late rickets in man, the difference between this condition and infantile rickets lying in the more advanced stage of bone development at the time the disease appeared in animals and the far greater mechanical involvement of the skeleton. These differences, especially the fibrosis of the marrow, the excessive exaggerated formation and osteoclastic resorption of bone tissue, were characteristic of animal rickets, and did not permit of their separation from true rickets and their classification as fibrous osteitis.

Professor V. STANG (Berlin) thought that the importance of the individual vitamins was frequently overestimated. The conditions were not such that the presence or absence of a vitamin alone determined health or sickness, the results obtained in the treatment of deficiency diseases show that climate, soil, condition, and food were of greater importance. Diseases due to lack of vitamin A were rare in animals, and it was interesting to note that the cow could store up this vitamin, and secrete it in the milk, after a diet that had been poor in it for three months. Cattle also produced vitamin B in their bodies, and it was always present in milk. Cattle had either no need of vitamin C or else formed it in their own bodies—a point of importance in the production of milk for children. Vitamin D was important, but rickets was caused not only by its deficiency, but also by insufficiency of minerals. Unfortunately calcium and phosphorus metabolism had not yet been investigated with sufficient thoroughness to provide figures indicating the needs of the various species of animals, and the best proportions of the two substances. It was known, however, that there were marked differences between the mineral metabolism in growing animals, pregnant animals, and milk-producing animals. The type of mineral metabolism, according to recent investigations, varied during the course of lactation—a point of importance in milk production.

Standardization of Biological Products.

Dr. A. EICHHORN (New York), after reviewing the serums, vaccines, and diagnostic agents in common use, drew attention to the urgent need for their uniform standardization, and suggested the creation of an international committee for the purpose of collecting data and organizing the work. This committee would be authorized to have active work conducted in various institutions, would establish central distribution places for the cultures, toxins, and serums, would publish procedures of standard methods of production as well as of application, would prescribe the technique of the application of the various biological tests, and would furnish information for the uniform interpretation of the results.

Dr. G. FLEISCHER (Berne) agreed that standardization was necessary, but suggested that the Commission on Standardization of the League of Nations should be the authority.

Dr. J. R. MOHLER (Washington) thought that each nation should take steps to provide regulations controlling the production and distribution of viruses, and serums, and that such control should be under the veterinary authority of the State.

Meat Inspection.

On Friday morning, August 8th, a discussion was held on veterinary science in relation to public health, with special reference to the production and distribution of meat and milk.

Professor R. VON OSTERTAG (Stuttgart) said that the duties of veterinary medicine were not limited to the animal, there were far more important relationships with public health administration on account of the occurrence in animals of diseases which were transmissible to man. The production and sale of meat were important duties of veterinary science for the prevention of infection of human beings, as well as for other reasons. Meat production would be simple if agriculturists had only healthy animals to deal with. The most important of the diseases in live-stock were those which rendered meat production uncertain. Control of these diseases must be effected by thorough protection against the introduction of diseases from abroad, and suitable regulations for the prompt suppression of outbreaks within the country. Already cattle plague, pleuro-pneumonia, and sheep-pox were controlled, and anthrax and black-quarter were being brought under control. Other diseases of the greatest importance were swine fever, tuberculosis, and foot-and-mouth disease—the latter reducing the value of every infected animal by at least 50 to 100 gold marks. In Great Britain and the United States foot-and-mouth disease had been stamped out by slaughter; elsewhere, important progress had been made by the use of the Loeffler-Waldmann serum. Where tuberculosis was rare, its control had been effected by the use of serum, but where it was extensive, as in Germany, good results had been obtained by fighting the "open," dangerous forms only. Apart from regulations, veterinary medicine had important connexions with the production of meat, through the hygienic control of diseases associated with breeding, with animal parasites, and with avitaminosis. It had important duties in relation to basic rations, and to the determination of the most suitable kinds, breeds, and ages of animals for meat production. The supervision of the sale of meat was a purely veterinary duty, it dealt with the detection of animal diseases transmissible by ingestion to man, or which rendered the meat unsuitable in some other way for human consumption. The supervision of the sale of meat was associated with the veterinary inspection of animals for slaughter and of meat, and also with the veterinary control of foodstuffs. This formed the first line of defence against the dangerous animal parasites—anthrax, rabies, glanders, undulant fever, tuberculosis, and the diseases causing meat poisoning. The uniform method of examining animals and meat was ensured by regulations regarding ante- and post-mortem examination, transport of animals, and erection of public slaughterhouses, at least in the larger communities. The examination of animals and meat must be supplemented by the veterinary control of foodstuffs—including the detection of unauthorized preservatives and of adulteration—and of game, birds, fish, and amphibia. The remarkable results already obtained in connexion with the control of diseases transmissible to man (particularly the tapeworm and trichina worm) and other diseases, including meat poisoning showed the importance of veterinary control in the meat trade.

Dr. H. C. BERGER (The Hague) pointed out that meat inspection and meat hygiene must be founded on a legal basis. The laws might be carried into effect by the local or central authority, but the inspection must be uniform throughout a country. The supervision should be by Government veterinarians, who might, however, be

assisted by lay inspectors. Good hygienic conditions must be prescribed for all trade establishments handling meat or meat products; condemned meat must be destroyed, being preferably converted into valuable by-products. Public slaughterhouses should be established, and humane slaughter should be obligatory. Imported meat also should be inspected, and some international understanding should be reached.

Dr. H. S. FRENKEL (Utrecht) considered that as a foundation for a meat inspection law, principles based on veterinary science must be chosen; in prescribing these principles, bacteriological examination should be included. By means of this it was possible to promote both hygiene and economy. Ante-mortem inspection as well as post-mortem examination was essential.

Milk Inspection.

Professor R. VON OSTERTAG (Stuttgart) stated that to ensure the supply of a sound, harmless, and satisfactory milk, veterinary inspection was essential. The chief diseases which endangered the milk supply were foot-and-mouth disease, tuberculosis, contagious abortion, and "yellow" (contagious streptococcal mammitis), a disease becoming more and more a source of anxiety in dairies. Veterinary regulations also excluded such diseases as anthrax, rabies, cow-pox, diseases of the paratyphoid-enteritis group, and local udder diseases. The provision of clean milk resulting from the proper construction of cow-houses, attention to cleaning the udder, careful removal of milk from the cow-house, straining, and cooling were all matters of veterinary control.

Mr. A. GOFTON (Edinburgh) reviewed the development of milk legislation in Great Britain. He said that there was no Government veterinary public health service in existence, and that the veterinary officer only entered the sphere of public health in the local administration of towns and county districts. Milk legislation was not uniform. It was not until 1899 that the veterinary surgeon secured a legally recognized place in general milk legislation, and then only in respect of tuberculosis of the udder of cows. In England and Wales the Milk and Dairies (Consolidation) Act provided for the appointment of veterinary officers. Some few counties had appointed whole-time veterinary officers, others had appointed part-time officers; but many had no systematic inspection. In Scotland, a similar Act was in operation, but practically every county had a whole- or part-time officer. The Tuberculosis Order was complementary to the milk Acts, and gave certain powers to slaughter. It was not intended to control the disease, and was essentially a public health measure. The milk Acts were leading to an extensive survey of dairy premises, and to progress in raising the standard of housing for dairy stock. Together with various voluntary influences they had also been productive of improvements in the hygienic collection and distribution of milk. The grading of milk was only partial in its application. There were four grades recognized: "Certified," "Grade A (T.T.)," "Grade A," and "Pasteurized." The first two were the produce of tubercle-free cows. Licensed producers in Scotland were able to maintain the fat standard of 3.5 per cent. required, and most samples were well below the maximum bacterial standards permitted. The most common source of failure was in respect of the coliform test. Progress in the establishment of tubercle-free herds was slow, owing in part to lack of public support; in 1929 there were only 447 licensed tubercle-free herds in Great Britain.

Professor C. F. VAN OIJEN (Utrecht) pointed out that the veterinary surgeon had a dual relationship with milk: in studying and combating animal diseases which rendered the milk unfit for human consumption, and in the advancement of the production of first-grade milk and the study of the technical problems concerning the handling of milk and practical milk control. In really first-class milk *B. coli* should not occur, and there should not be found more than some few thousands of bacteria per cubic centimetre. By the practical sterilization of dairy utensils and cooling of milk under 10° C. milk might be produced on almost any farm possessing fair hygienic conditions. Veterinary surgeons could play an important part in propagating sound ideas about efficient milk production.

At the closing meeting of the congress on Saturday morning a number of resolutions were submitted for general approval. In connexion with foot-and-mouth disease, it was urged that every country should determine the type of virus present in each outbreak. The most effective disinfecting agents were moist heat and sunlight, potassium and sodium hydrate, and formalin. It was considered that the value of passive immunity had been established; its use under favourable circumstances should be encouraged, and all possible efforts should be made to discover an efficient method of active immunization. Owing to the widespread occurrence of bovine contagious abortion, it was recommended that there should be an international scientific investigation under the auspices of the International Bureau for Animal Diseases in Paris. Dealing with the danger of human infection with anthrax from unheated or insufficiently heated animal products, the congress decided that regulations were urgently required to ensure that only raw materials from animals free from anthrax were introduced into trade. If the veterinary regulations of exporting countries were inadequate to ensure this, it was essential that the products should be sterilized or tested as to their bacterial content by the importing countries before general circulation.

It was announced that the next congress would be held in 1934, in the United States, and probably in Boston. The Budapest medal was awarded jointly to Professors Hutyra and Marek of Budapest, the authors of the well-known *Comparative Pathology and Therapeutics of Domestic Animals*. The congress concluded with resolutions of thanks to the British Government, the City of London, and many individuals for their hospitality to delegates, and to the president, Sir John McFadyean; the secretary of the organizing committee, Dr. Fred Bullock; and others for the part they had taken in organizing the congress.

England and Wales.

Retirement of Two London Coroners.

Two London coroners, Mr. H. R. Oswald and Sir Walter Schröder, will retire on October 31st. Mr. Oswald was appointed in 1902 as coroner for the south-eastern district, and in 1919 as coroner for the western district. He has been president of the Coroners' Society of England and Wales, is a barrister-at-law, and prior to his appointment practised at the Central Criminal Court; he is also a doctor of medicine. Sir Walter Schröder was appointed coroner for the central district in 1910. He was first appointed a deputy coroner in 1894, and previous to his appointment as coroner had served for eleven years as deputy in the same district. He has been president and is now honorary secretary of the Coroners' Society, and has constantly been consulted upon important proposals affecting coroners and their duties, particularly in connexion with alterations of the law. The London County Council, in accepting the resignations, states that in carrying out their duties the two coroners have displayed conspicuous zeal and ability, and their relations with the Council have always been of the most cordial nature. An expression of the Council's warm appreciation of their long and faithful service has been conveyed to them.

These two resignations enable the London County Council to proceed with its proposals for the revision of London coroners' districts; particulars of the proposed alterations appeared in the *British Medical Journal* of August 17th, 1929 (p. 322). Instead of seven districts, there will in future be six—namely, the western, central, eastern, northern, southern, and south-eastern. The two coroners for the franchise districts of the Duchy of Lancaster (Clapham and the Savoy) and Westminster have agreed to tender at once their resignations of these districts (which are to be abolished), and will be allocated to two of the new districts. Three of the others will be filled by the remaining three county coroners, leaving one vacancy, for the new northern district; the necessary steps will be taken to fill it. The salary of the coroner for each of the proposed six districts will be £1,700 a year inclusive.

The London County Council has also taken the opportunity to consider the conditions which should be attached to such appointments. Coroners have not in the past been required to pass a medical examination, but in view of the grant of pensions to coroners the Council is of opinion that in future such appointments should be subject to that condition. A definite requirement to give whole-time service will be laid down, and the coroner will be expected henceforth to retire at the age of 65. No person will be accepted as a candidate for the appointment of county coroner unless he has attained the age of 35, and is under 50. He will also be required to provide at his own expense office accommodation and clerical assistance, to defray all other expenses of his office, to exercise his discretion so as to avoid the holding of unnecessary inquests, to hold inquests without juries in suitable cases, and to obviate unnecessary expenditure in the discharge of his duties.

The two coroners now retiring are eligible for pensions from the London County Council—in the case of Mr. Oswald of £900 a year, and in the case of Sir Walter Schroder of £731.

Pathological Laboratory Services in London Council Hospitals.

Consideration has been given by the London County Council to the question of an adequate laboratory service for the general hospitals transferred from the boards of guardians. There is a laboratory at each of the hospitals of the late Metropolitan Asylums Board; in addition, a research and pathological service was instituted in 1926, comprising two group laboratories for the purpose of carrying out advanced work which could not be done at the hospital laboratories. There is also a special laboratory at Belmont, Surrey, where all the diphtheria antitoxin required in the fever hospitals is prepared. In certain of the twenty-seven Poor Law hospitals taken over from the guardians rooms have been fitted for simple pathological work, but in others no accommodation is provided. There are only five reasonably equipped laboratories in these hospitals. In some cases the pathological work is sent out to private laboratories, or to laboratories in the voluntary hospitals. Finally, to complete the laboratory service at present under the control of the London County Council there is a small pathological laboratory at the County Hall for the existing public health and school medical work.

The central public health committee is of the opinion that it may eventually be found necessary to maintain a well-equipped and adequately staffed laboratory in every general hospital providing for the needs of acute cases of illness, and to establish one or more central laboratories to cope with the more difficult and intricate pathological work which requires more expert knowledge and more elaborate equipment. At present and for some time to come, however, a complete scheme is not practicable, but it is considered very desirable that certain arrangements should be made to meet immediate needs and to be of a nature capable of expansion. These arrangements include the provision and equipment of a suitable laboratory at each of the general hospitals for routine pathological work. It is also proposed that five laboratories, one in each of the five areas in which the County of London is divided for the purpose of hospital administration, should be "group laboratories," capable of dealing with more specialized pathological work. The central representative committee of the voluntary hospitals cordially agrees with these views, but suggests that in the formation of the proposed five "group" laboratories advantage should be taken of the facilities afforded by the existing pathological departments of the voluntary hospitals. This suggestion has been carefully considered, but the central public health committee is still of the opinion that the five "group" laboratories should be provided at the council hospitals. The hospitals selected for the purpose are Lambeth Hospital (where there is already a laboratory capable of enlargement), the Archway Hospital (Archway Road, Highgate), Lewisham Hospital, St. Mary Abbots Hospital (Kensington), and Hackney Hospital. At the Hackney Hospital the provision of the laboratory will be included in the extension of the hospital for which arrangements are in hand. In the cases of Lambeth Hospital, the Archway Hospital, and Lewisham Hospital plans showing the arrangements proposed to be made have been approved. Altogether the estimated cost of the necessary structural alterations and adaptations will be about £13,000. The present scheme is stated to be in the nature of a beginning only. Future development will proceed by way of adding to the facilities now to be provided or more probably by increasing the number of "group" laboratories. The staffing of the laboratories is to be the subject of a further report.

St. Chad's Hospital, Birmingham.

In the report of St. Chad's Hospital, Birmingham, for the year ended March 31st, 1930 the committee refers to its fifteen years' practical experience in providing medical and surgical treatment at a moderate inclusive cost. The hospital was established by a small number of Birmingham consultants primarily for the use of those patients who could not afford the heavy expense of a private operation and did not wish to avail themselves of the charitable services of voluntary institutions. In reviewing the administrative and financial difficulties associated with the scheme, the committee states that the problem of reducing the total cost of medical treatment and nursing home accommodation to at least half of the usual charges, while providing the facilities of voluntary hospitals, can only be solved by maintaining a consistently high standard of efficiency—a condition that precludes cheap nursing accommodation. It considers that reduction in this item alone is not only negligible in reducing the total costs, but leads to impaired efficiency in every direction or compels resort to subsidy or charity. Its experience has shown that the only way of satisfying both medical staff and patients is to accept the fact that efficient nursing home accommodation cannot be provided under about one guinea for each day's stay, the main reduction in total costs being obtained by arranging for smaller medical fees and for a fair assessment of the patient's financial position. In this connexion the services of the almoner at St. Chad's Hospital have been increasingly utilized and efforts have been made to deal with each case on its merits. Patients may be referred for assessment to the almoner by members of the hospital staff or by their own doctors whose approval is necessary before admission. Since the issue of the last report the hospital has acquired a supply of radium and a new maternity department has been opened including a labour ward and a nursery. During the year over 900 patients paid inclusive fees which were half the usual cost of treatment. 230 were accepted at the minimum rate. The committee suggests that a simple form of insurance might be provided by an outside body to cover the risk of illness requiring special treatment in a nursing institution or hospital for paying patients.

Records of Health Services.

A circular has been issued by the Ministry of Health referring to the annual returns required in future from local authorities in regard to maternity and child welfare, tuberculosis, and venereal diseases. Further particulars of the administration and progress of these services are stated to be necessary on account of the changes introduced by the Local Government Act 1929, transferring the supervision of the maternity and child welfare work of voluntary associations to local authorities, and Poor Law institutions to county and county borough councils. A separate return must be made of maternity homes and hospitals provided or subsidized by local authorities, and of maternity wards in institutions transferred to county and county borough councils. Returns furnished by local authorities relating to this service are to include the maternity and child welfare work of voluntary associations. In regard to venereal disease annual returns are required from medical officers of treatment centres and from pathological laboratories approved under the Public Health (Venereal Diseases) Regulations, 1916. Besides the customary returns of notifications of tuberculosis, information is required of the accommodation available at the end of the current year for the treatment of this disease in Poor Law institutions belonging to the council (or to the constituent authorities of the joint committee), and in

regard to the extent of residential treatment provided during the year in such institutions for persons chargeable to these bodies. An annual return must also be made by county and county borough councils specifying the amount and nature of the accommodation available for the treatment of the sick in institutions transferred to them, and in general hospitals provided under the Public Health Acts or the Local Government Acts. This return must also indicate as far as possible the use that has been made of the accommodation during the year. Local authorities are requested to furnish the returns referred to above not later than February 28th of the year following the period to which the returns relate. The circular also enumerates a number of returns which the Minister of Health has decided to dispense with in connexion with these services.

Scotland.

National Health Insurance in Scotland.

Mr. William Adamson, Secretary of State for Scotland, delivered an address on August 4th at the ninety-fifth Foresters' Court at Greenock. Mr. A. Marsden, who presided, said that there were often complaints in regard to the burden of social services at the present day, but in the popular enumeration of Britain's economic difficulties health insurance had met with less condemnation than most of the other principal components of this burden, because it had been generally recognized as genuine insurance with nothing of the dole about it, and because it was believed to be solvent, with a good margin to spare. The Secretary of State for Scotland said that the more he reviewed the various problems of the day the more he realized the value of the principles and ideals of friendly societies in the training which they provided for the best type of citizen. He was glad that this society had been able to provide additional benefit in the shape of dental and ophthalmic treatment, and its convalescent home scheme would be watched with interest by the Department of Health. They were watching with anxiety the increased rise in sickness and disablement expenditure which had extended to all the friendly societies, and they could not be content to leave things as they were. The nation was spending £200,000,000 annually on social services, and yet there was the extraordinary phenomenon of an increased number of claims for benefit under the national health insurance scheme. This problem concerned every single citizen, and was one for which no satisfactory explanation had yet been found. In Scotland machinery had been set up to compile statistics with the help of approved societies, showing the amount of sickness attributable to various ailments among men and women; the result would be made available both for doctors and for societies, and also for the guidance of local authorities. This was a kind of experiment, designed to find out not only weakness in the administration, but in order to detect the illnesses which were the common cause of incapacity. The speaker said he would visualize a still greater service than existed to-day, even without legislation, by the exercise of good will, so that a more definite relationship could be obtained with voluntary hospitals and other institutions. The meeting was continued on August 5th, when it was reported that there were now 105 convalescent homes established in various parts of the country for members of this approved society; more than £4,000 had been expended from the voluntary funds in the past year, in addition to a large sum administered under the Health Insurance Act. The results of the health insurance valuations of the society made by the Government actuary were reported; they revealed a gross surplus of £2,700,000, an increase of over £400,000 as compared with the 1922 valuation. At a continuation of the meeting on August 6th, an address given by Miss Ritson, the controller of health insurance pensions for Scotland, was discussed. The speaker had said that during the past two or three years things had not been going well with national health insurance, and the Government actuary had told them bluntly that they were spending more than they could afford. Two outstanding causes of the increase in expenditure had been the increasing number of claims of the short illness category, and an unparalleled call on the funds by married women. The question had been asked whether there was laxity in the administration of benefits, whether doctors were certifying wrongly, whether there was a steady deterioration in the health of the nation, and whether claims made in respect of these illnesses could not be prevented. All concerned should bend their efforts towards answering these questions. Malingering had not been proved, but everyone knew that sometimes just an effort of will was required to produce capability for work, and it might be that the nation was becoming more ready to accept the easy path, or to insist on having the path made easy. A resolution was adopted that medical practitioners should fix the date when a panel patient was next to present himself for consultation, and that this should not be left to the discretion of the patient.

Research at the Royal College of Physicians, Edinburgh.

Sir Robert Philip, who is curator of the laboratory of the Royal College of Physicians of Edinburgh, states in his annual report for 1929 that the group of research workers there has been well maintained, and that the results of their labours have been gratifying. The Freeland Barbour Fellowship for the period 1927 to 1929 has been awarded to Dr. J. S. Fraser, who has been investigating for several years problems connected with the pathology of the ear. During the year under review twenty-one research workers have been actively engaged. Of these, seven were Fellows and two were Members of the Royal College of Physicians, while three were Fellows of the Royal College of Surgeons. The report outlines the scope of the work which was undertaken, the problems dealt with being not only pathological and bacteriological, but also physiological, chemical, and statistical. In 1929, 14,768 reports on experiments were prepared, 3,358 involving histological examination, 9,094 bacteriological work, and 2,346 chemical experiments. As in former years, the excess of expenditure over ordinary income was met by the Carnegie Trustees.

Australia.

[From our Correspondent in Victoria.]

The University of Melbourne.

The council of the Victorian Branch of the British Medical Association has collected a fund to commemorate the original researches in anaesthesia carried out by the late Dr. E. H. Embley. A memorial tablet has been unveiled in the Wilson Hall at the University of Melbourne, and a tablet will be placed in the Medical Society Hall. It is also proposed to establish a triennial E. H. Embley memorial lecture on the recent researches, principles, and practices in anaesthesia. With the consent of the Chancellor and the council of the University, some of the friends and old students of the late Sir Baldwin Spencer have decided to place a bronze medallion in the library of the Zoology School. Sir Baldwin Spencer was for many years professor of biology, and rendered valuable services to the University; he also conducted extensive researches among the Australian aborigines, the results of which have been embodied in book form. Professor Spencer met his death while he was engaged in studying the aboriginal inhabitants of Patagonia. His death is a great loss, not only to his many friends and old students, but also to the University and the community at large. By arrangement with the Melbourne permanent committee for post-graduate work Professor P. MacCallum has delivered a series of ten lectures on recent advances in applied pathology. The lectures were well attended and were much appreciated. Under the auspices of the same committee Professor Evarts Graham, professor of surgery at the Washington University School of Medicine, delivered a series of six lectures between July 17th and 25th. The subjects of the lectures were: pulmonary suppuration, physiology and pathology of the

gall-bladder, surgical treatment of pulmonary tuberculosis, cholecystography, the clinical significance of tests of hepatic excretion, and the significance of changed intrapleural pressures in the problems of empyema and other thoracic diseases.

The Armit Fund.

As foreshadowed previously in the *Journal*, a fund has been established in recognition of the valuable services rendered by the late Dr. Armit to the medical profession in Australia. Dr. Armit, whose sudden death occurred on March 12th, came to Australia in 1914, and became editor of the *Medical Journal of Australia*, a position he ably filled until the time of his death. He worked exceedingly hard, not only in the interests of that periodical, but also for the profession as a whole, and his valuable advice was always freely available for those who sought it.

Diabetic Control in Victoria.

A scheme for controlling diabetic mortality in Victoria has been submitted by the trustees of the Thomas Baker, Alice Baker, and Eleanor Shaw Medical Research Institute to the State health authorities and the council of the Victorian Branch of the British Medical Association. The scheme, slightly modified, has been approved by the council, and the chairman of the Public Health Commission has been notified to this effect.

Correspondence.

PERFORATING DUODENAL AND GASTRIC ULCERS.

SIR,—I have read with interest Mr. J. H. Watson's paper in the *Journal* of August 2nd (p. 169), and I should like to comment on my experience of this condition, which I regard as the most fatal common surgical emergency. During the past twenty months I have operated on, or been closely associated with, thirty perforations. All the patients except one were men, the exception was a woman aged 53, with a high gastric ulcer, who recovered. Thus this disease is not almost entirely limited to males.

The men fell into three classes.

1. *The Driver Class.*—These patients were bus, tramcar, engine, and lorry drivers, or conductors whose arduous occupations call for long hours of application and do not allow adequate opportunities for suitable meals with most important, an adequate relaxation period afterwards. They frequently eat their meal (sandwich type) while actually working. There were thirteen of these in my series, and ten recovered.

2. *The Casual Class.*—This includes labourers, unemployed persons, barmen, waiters etc., men whose lives consist of times of plenty with dietetic excesses and indiscretions alternating with times of poverty and exposure. There were eight in this group and five recovered.

3. *The Veteran Dyspeptic.*—These were all over 50, and included men in responsible positions—foremen, clerks managers, and retired business men, the eldest being 70. I had eight of this class and three recovered.

The following table emphasizes Mr. Watson's point as regards the season, the winter six months easily predominating.

Season	Recovered	Died	Total
Winter six months	15	10	25
Summer six months	5	1	6

I divide the ulcers into two groups: the pyloro-duodenal (including ulcers within one inch of the pylorus, on either side, and duodenal) and the gastric. The analysis is striking with regard to the mortality of gastric ulcers.

Type	Recovered	Died	Total
Gastric	2 (28%)	6 (75%)	8 (37%)
Pyloro-duodenal	17 (77%)	5 (23%)	22 (63%)
Total	19 (63%)	11 (35%)	30 (100%)

A survey of my series evokes the following comments. Pyloro-duodenal ulcers perforate more frequently than gastric, but the latter carry a much heavier mortality. The common age-period is 30–60; all the patients save one had been subject, "on and off, to indigestion for years" (frequently the patient's own expression), so that primary acute perforating ulcer is not a usual occurrence. The average time between perforation and operation was five and a half hours in the cases which recovered and eleven and a half hours in the fatal ones.

The causes of death were as follows: (1) Shock and *toxæmia in four cases, the patients were living caricatures,*" and died in six, thirteen and a quarter, forty-four and forty-eight hours. (2) Left intraperitoneal posterior subphrenic abscesses occurred in two cases, seven weeks after operation, and were only found with difficulty at the necropsy. (3) Torrential hæmorrhages from erosions of the coronary and gastro-duodenal arteries respectively in two cases. The ulcers were huge, the arteries presenting like white gaping papillæ in the ulcer floor; the sites of perforation were eccentric, near the edge, soundly healed and removed from the artery. Mr. Watson's technique might have saved one of these patients, but the gastric ulcer was high and excision would have been an extensive proceeding. (4) Paralytic ileus, general peritonitis with broncho-pneumonia, and gross phthisis (two months later) were responsible for the other three deaths. Post-mortem examinations were performed on most of these patients, and I was struck by the size of the ulcers; they were much larger than I had appreciated at the operation, the perforations were never central, and in all cases save one, where there was a slight leak, they were soundly closed.

Mr. Watson's symptomatology corresponds with my experience, but I would emphasize the fact that the pain is of the severe type, which immobilizes its victims, usually on their backs. This is a differentiating point from disease of the gall-bladder, appendix, and the high intestinal colic of sudden onset when the pulse is slow and the temperature normal but the pain causes patients to twist and turn about. I have only seen one patient with a perforation sitting up.

I aim at having these patients in bed and the operation performed within three-quarters of an hour of their admission to hospital. I split the right rectus, widely and carefully oversew the perforation, applying the usual Judd's omental patch. I only drain when there is gross food-soiling or over twelve hours' duration of perforation. The average operation time is ten minutes. I have given up more extensive procedures since my patients have been such sick men.

Mr. Watson's statement that the mortality should not exceed 5 per cent. is surely a counsel of perfection which hardly allows for extraneous complications such as phthisis and gross heart lesions, irrespective of those directly associated with the ulcer—peritonitis, hæmorrhage, and subphrenic abscesses. The standard of medical treatment of dyspepsia is now much higher, so that only patients with the most resistant and inveterate ulcerations, and in a correspondingly poor general condition, will perforate. I anticipate fewer perforations now but a poorer operation subject.

All my patients were given the intensive alkaline treatment shortly after operation: saline administrations, with glucose by the rectum and subcutaneous and intravenous routes, and blood transfusions, were used liberally; no stone of treatment and nursing being left unturned. The abdominal wounds, with one exception (a small stitch abscess), healed well by first intention; this shows that the peritoneal exudate is at the most only mildly infected.

The only man with a gastric perforation who reached aged 65 and 66 also recovered.

The only man with a gastric perforation who reached was the oldest in the series, a well-preserved man aged 70. Perforation and recovery at this age must surely be unusual and is worthy of a special note. Two other patients, aged 65 and 66, also recovered.

I am much indebted to Messrs. L. Barrington-Ward, T. Twining-ton Higgins, F. Sandy, J. Hunter, and W. B. Gabriel for permission to use the data of their cases for the larger part of this series.

—I am, etc.,

HAROLD DODD, Ch.M.,
F.R.C.S. Eng.

London, W.1, Aug. 4th.

This letter is written without the slightest intention of criticising the reviewer, to whom I am greatly indebted for his many complimentary remarks, but rather in the hope that it may to some extent clarify some of the points regarding local anæsthesia which are as yet not completely understood by any of us.—I am, etc.,

Muirkirk, U.S.A. July 25th ROBERT EMMETT FARR, M.D.

BLOOD CULTURE IN UNDULANT FEVER

SIR,—I read with great interest Dr. G. S. Wilson's letter in the *Journal* of May 17th (p. 926) in which he remarks: "It may be pointed out that CO_2 is absolutely essential for the growth of the bovine *abortus* type, and that a reduced oxygen pressure, as was used, for example, by Dr. Buxton, is not sufficient to ensure growth." This has not been our experience in Southern Rhodesia, where infectious abortion in cattle has been carefully studied by the Veterinary Research Department since 1915. Even when the serum medium advocated by McFadyean and Stockman in their classical report was used, cultures were obtained without regard to the CO_2 or oxygen content, and, since the methods of haemoculture and Stafseth have been employed, primary cultures have been even more readily obtained without these refinements.

In 1921 it was pointed out by the writer that certain cases presenting symptoms resembling those of undulant fever were occurring in this country in human subjects, who, so far as was known, could not have obtained infection from goats, but had resided on farms where cattle were, or had been, infected with infectious abortion; he suggested that these cases were suffering from an infection caused by the *B. abortus* of cattle. Since then some two hundred such cases have been reported, and it is now generally recognized that infection does take place in the manner suggested. Recently Dr. G. R. Ross, Rhodesian Research Fellow, London School of Hygiene and Tropical Medicine, investigated some of these cases, and demonstrated to the writer the ease with which he obtained primary haemocultures, without consideration of the oxygen or CO_2 content.

The discrepancy between Dr. Wilson's experience and our own is of considerable interest, and suggests that we may be dealing with a strain of *Brucella abortus* peculiar to this country, or, at any rate, different from the one obtaining in Great Britain. In order that this may be investigated I am sending cultures of four strains of the local organism to the London School of Hygiene and Tropical Medicine, and I shall be pleased to forward similar cultures to any readers interested in the subject.—I am, etc.,

LL. E. W. BEVAN,
July 7th Director of Veterinary Research, S. Rhodesia.

ANTIMALARIA MEASURES.

SIR,—In the *Journal* of July 5th (p. 40) Sir Malcolm Watson charges me with misrepresenting him in respect of his remarks at a meeting of the Royal Society of Tropical Medicine and Hygiene in October, 1924. He did, indeed, subscribe to the view that the future lay "in patient and searching investigation and in careful and continued experiment," but unfortunately he qualified his agreement by adding, "but the war stopped all chance of investigation and experiment." Since the war ended in November, 1918, and this remark was made in October, 1924, it is not obvious, if he considered further research was necessary, why he should regard the war as having put a stop to further investigation. In India, at any rate, research work on malaria was resumed immediately after the conclusion of the war.

Certain other considerations convince me that I did not misrepresent Sir Malcolm Watson's views when I stated that he considered the time was gone when investigation could serve any useful purpose in malaria control. In the first place, a few months before the meeting of the Royal Society of Tropical Medicine and Hygiene in October, 1924, he visited my laboratory in Lahore, when I have a vivid recollection that he not only spoke slightingly of the value of laboratory studies in malaria, but displayed little interest in a specially arranged exposition of the technique employed in the study of the epidemiology of malaria.

Secondly, if Sir Malcolm Watson held in 1924, as there is every reason to believe he did, that we already possess, in the shape of antimosquito measures, an effective means of controlling malaria in almost all circumstances then he would necessarily consider that time devoted to basic research would be much better employed in the practical work of eradicating mosquitos.

If, however, I have misunderstood and in consequence misrepresented him, I must express my regret but it is he now states, he is and always has been a strong advocate of further research, then it can surely only be because he has all along recognized that antimosquito measures do not constitute the first and last word in malaria control and that it is necessary, therefore if the immensely big and difficult problem presented by rural malaria in the Tropics is to be solved, "to search out and study the secrets of Nature by way of experiment." To which of these two views Sir Malcolm Watson now subscribes is not very clear, but one thing is certain, he cannot have it both ways.—I am, etc.,

C. A. GILL,
Simla, July 25th Lieutenant-Colonel, I.M.S.

DIFFRACTION METHODS IN DIAGNOSIS OF PERNICIOUS ANAEMIA.

SIR,—In the *Journal* of July 19th (p. 96) Dr. Malloy makes a praiseworthy effort to simplify for the clinician the detection of enlarged red corpuscles, and hence the early diagnosis of pernicious anaemia. He does this by looking at a candle through normal and suspected blood films, separating the resultant haloes by voluntarily squinting or by a prism. His article might, however, be misleading unless comments are made upon a few of his points.

1. Normal red cells vary so much in different people (from 4·5 to 5 degrees on the halometer) that by Dr. Malloy's method a small normal might be diagnosed as pernicious anaemia.

2. He observes his patient's progress by storing his previous blood films and comparing the latest blood film with them. This gives a fallacious impression of cure, because—even after fixation by methyl alcohol—the halo usually contracts: thus, for example 4·78 degrees becomes 4·55 in a month. Here again measurements are essential.

3. Dr. Malloy states that with Eve's halometer different observers may obtain different readings with the same slide, they will do so unless they examine the same area of the slide (ensured by an ink circle) for readings vary in different parts of a film. The only safe rule is to record the largest halo found. The first six readings by a schoolboy, aged 15, unused to the halometer, varied only by 0·04 degree.

4. He writes, 'pre-pernicious anaemia by its very definition is not accompanied by anaemia." My definition of it was "pernicious anaemia before it had reached its pernicious stage" (*Journal*, July 13th 1929, p. 48).

5. Rough qualitative methods are not enough for the responsible clinician who has to diagnose, exclude, or record progress in pernicious anaemia. He needs a handy instrument which will quickly measure red cell diameters so that they can be recorded for the use of himself and others. The halometer does this reliably if the film is thin.

6. Dr. Stanley Davidson (August 2nd, p. 193) writes: "I warn the practitioner against assuming that diffractive methods are a safe short cut to diagnosis, and that any method can dispense with a complete blood examination." But the problem for the general clinician—at least nineteen times out of twenty—is not to diagnose pernicious anaemia but to exclude it in suspicious cases. I have found the halometer reliable in this respect also. If its verdict is positive by all means confirm the diagnosis of pernicious anaemia by all the elaborate and expensive tests available, but this cannot be done in every suspicious case.

The main point is that the patient should not be allowed to miss the great benefit of liver diet when the bone-marrow demands it, as revealed by the occurrence of megalocytosis. I have had cases showing this pleasing benefit

although they may not have been pernicious anaemias in the strict sense. I have come to regard a small blood halo as an S.O.S. signal for liver, the condition being remediable unless treatment is too long delayed.

Finally, it is increasingly recognized that a pathological report on an anaemia (primary, at any rate) is not complete without a measurement of the average red cell diameter.—I am, etc.,

Hull, Aug. 6th. F. C. EVE, M.D., F.R.C.P.

THE NERVOUS ELEMENT IN RHEUMATISM.

SIR,—Viewing the prominence given of late to the question of rheumatic disease, it surprises me that no mention has been made of the obvious importance of the nervous element in these complaints. In the course of ten years' interest in the causation and treatment of rheumatism, I have had an opportunity of observing patients and methods in many countries. In no instance can I recollect seeing a patient suffering from any form of subacute or chronic rheumatism who did not also exhibit a more or less pronounced degree of nervous debility. Yet treatment is almost invariably directed to the physical side rather than to the nervous. Of course, the accompanying neurasthenia may often be explained by the secondary effect of toxic absorption or pain, but we have all seen cases in which neither of these factors has been of sufficient intensity to cause nervous discharge. A careful questioning of these patients will usually reveal some deep-seated anxiety or worry, and clinical examination will show diminished metabolism. This, as is well known, is an invariable result of anxiety. If there should happen to be a history of a former joint or muscular strain or injury, symptoms will primarily appear in that locality.

I cannot therefore subscribe completely to a belief in the toxic origin of chronic rheumatism, and, least of all, of such affections as sciatica and so-called neuritis. Naturally, a partly exhausted nervous and physical system may provide a happy hunting ground for any wandering bacillus, and so cause a complication, such as happens in rheumatoid arthritis, but this seems to be very often secondary. I feel more inclined to regard many cases as being examples of literal neurasthenia—quantitative deviation of nerve energy—realizing that a divided psyche can produce a local or general tissue dysfunction. Brodie, in the early nineteenth century, called attention to this aspect, and Timbrell Fisher emphasizes the importance of the mind, especially in cases where a functional element has been imposed upon a definite organic joint disease. I would like to stress the fact, which Fisher also mentions, that the functional or nervous element is very often primary, and eventuates in an actively diseased tissue. This is becoming increasingly common, due possibly to the fact that we are more highly sensitive beings to-day than ever before, and that we live in an age of marked nervous tension.

A classification of rheumatic affections points to three origins—physical, nervous, and toxic. The first appears to be more common in rural communities, the second in urban, and the third may be found in either. As to treatment, which, after all, is the most urgent problem, I am largely in agreement with Fortescue Fox—heat, moisture, and passive movement. I would include thorough twice-daily bowel evacuation, and a fruit and vegetable diet, or a well-balanced vitalized food intake. The employment, in suitable cases (which are many) of psychotherapy—hypnosis, psycho-analysis, or suggestion—proves advantageous. In intelligent patients, with purely or partly functional disabilities, psycho-analysis is the treatment par excellence. I believe that the time is not far distant when we shall be able to appreciate fully the nervous factor in all rheumatic diseases. On the physical side, I have found no method so effective as the pyretic technique of the late Dr. Wilde of Bath. The word technique is used advisedly, because the successful use of Wilde's thermal couch demands strict adherence to the principles formulated by its originator. I have found it superior to radiant heat, diathermy, and immersion and steam baths.

The profession has often been reproached for abandoning this immense and interesting field to the unqualified practitioner. Now that the urgency of adequate therapy is being realized, I feel sure that a broader understanding of the psychopathology of these wearisome affections will do much to lighten the burden of both medical attendant and patient.—I am, etc.,

Sydney, New South Wales, June 27th. E. HASLETT FRAZER.

INTRAVENOUS SCLEROSING SOLUTIONS.

SIR,—As Mr. Treves Barber suggests in the *Journal* of August 2nd (p. 195), it is most important that cases with untoward symptoms should be recorded. The first time I ever injected sodium morrhuate solution there resulted a reaction identical with the one recorded by Mr. Barber, the patient, a woman aged 23, having a severe urticarial attack which lasted a week. The ultimate result was splendid. On the other hand, I have used the quinine urethane solution for four years with excellent results, and with very few exceptions the reactions have been reasonably mild. The much discussed quinine reaction of headache, dizziness, and buzzing in the ears has not occurred in the last 800 injections, and there has been only one case of cramp in the leg, a condition that is not infrequent after sodium salicylate injections.

Contrary to Mr. Noel Scott's experience (*Journal*, July 12th, p. 58), I find that the proportion of injections that do not "take" is nearer 5 per cent. than 20 per cent. I make it a practice not only to warm the quinine solution, but to heat it up, and keep it hot by continuous immersion in boiling water, a result easily achieved by the use of a small spirit lamp. The temperature of the solution by this method will be about 200° F. by the time it reaches the vein, which is sufficient to produce a slight "scalding" of the intima, and thus to enhance the subsequent action of the quinine.—I am, etc.,

Manchester, Aug. 2nd. F. REYNOLDS.

THE DANGER OF BLOOD TRANSFUSION IN NEPHRITIS.

SIR,—A recent fatal experience during the course of a blood transfusion in a child 3 years old, with a very severe haemolytic anaemia and jaundice of unknown etiology, has recalled other similar catastrophies encountered usually in subjects with previously damaged kidneys. The danger of giving blood transfusions in such circumstances does not seem to be generally appreciated, and this letter is written in the hope of averting further calamities of this nature.

My attention was first directed to the possible dangers of giving a blood transfusion where the kidneys were previously damaged, despite the usual precautions with regard to grouping, by the unfortunate result which followed in a case of subacute nephritis seen about three years ago. The nephritis, which was due to a septic arthritis of the knee, was indicated chiefly by slight oedema of the legs, albuminuria, and the presence of casts and a few red blood cells in the urine. The daily volume of urine was satisfactory, and the blood urea about 60 mg. per 100 c.cm. A second operation on the knee had become imperative, but, since the patient was profoundly anaemic, it was decided to give a transfusion of blood first. The immediate effect was to reduce the output of urine to a few ounces daily, and to cause marked haematuria. Fortunately the man recovered. Since then I have met with, or heard of, six other cases, including the one published by Dr. L. J. Witts (*Lancet*, 1929, i, 1297); three of them were fatal, and four of the patients were known to have had a previous renal lesion.

In this connexion it should be remembered that severe jaundice from any cause is apt to be accompanied by temporary renal damage. The chief danger in these cases seems to be the production of anuria, though the manner in which this is brought about is not very clear. The most careful blood grouping does not prevent a certain amount of haemolysis, the products of which are known to be renal poisons. It is possible that a normal kidney can deal with these poisonous products where a previously damaged

symptoms, which may occur actually during the course of the transfusion, in some cases, suggests a general reaction of the nature of a protein shock the anuria resulting from an extrarenal factor, as in anaphylaxis

Whatever the explanation may be, it would seem desirable to urge that except in extreme emergencies a blood transfusion should not be given without a preliminary examination of the urine, and if there is any doubt, the renal function should be tested Dr Witts, in the article mentioned, suggests the prophylactic use of alkalis in such cases with the object of warding off anuria I have had no actual experience of prophylactic alkalinization in such circumstances, but from a considerable knowledge of their value in renal cases under rather similar conditions I consider this suggestion to be of great importance, and would recommend its trial —I am, etc ,

London, W 1, July 30th A ARNOLD OSMAN

LOCAL RESISTANCE TO INFECTION

SIR,—With reference to the letters on local resistance to infection in the *Journal* of June 14th and 21st I would suggest that this is surely a question of blood supply Wounds surgical or otherwise, in the perianal areas, including the urethra and vagina, and intra- and peri-oral wounds heal quickly for the same reason that wounds of the scalp whether inflicted with blunt or sharp weapons, heal very rapidly in the most unpromising circumstances Ordinarily, given a chance by the apposition of edges, and in the absence of general lowered resistance, *wounds which bleed freely heal quickly*—if I may be allowed to coin a surgical aphorism Here, in the second city of the British Empire I have had perhaps unequalled opportunities of observing this phenomenon, *so experto crede* —I am, etc ,

WILLIAM NOTAN, M D ,
June 17th Police Surgeon of Bombay

FIRST AID IN SERIOUS ACCIDENTS

SIR,—In the *Journal* of August 9th (p 229), Dr Henderson raises a very important question, and one requiring earnest consideration So far as the Order of St John is concerned, I have already, by advice and in competition work, drawn the attention of its Brigade to the absolute necessity of delaying transport until the patient is in a fit condition The question shall be raised again at the next meeting of the Brigade subcommittee for I entirely agree with Dr Henderson's remarks —I am, etc

C J ELLIS, Colonel
Torquay, Aug 5th Assistant Surgeon in Chief St John Ambulance Brigade

The Services.

TERRITORIAL DECORATION

THE Territorial Decoration has been conferred on Captain Kenneth B Dickson, R A M C , T F under the terms of the Royal Warrant, October 15th 1920

DEATHS IN THE SERVICES

Colonel Charles Alfred Atkins, late of the R A M C died in London on July 8th, aged 91 He was born on February 27th 1839 was educated at St George's and took the M R C S in 1861 and the L R C P Lond in 1862 Entering the A M D as assistant surgeon on September 30th 1863 he became surgeon colonel on August 1st, 1893, and retired on November 3rd, 1897 He served under Sir Garnet Wolseley in the Ashanti war of 1873-74, when he was present at the attack and destruction of Essaman Ampinee and Adubiasi, the actions of Abrakampra Amoafuh, and Ordahsu, and the final attack on and capture of Kumasi the capital; was mentioned in dispatches, and received the medal with a clasp Also in the second Afghan war of 1879-80, when he took part in the battle of Charasiah, where his horse was shot under him; in the operations round Kabul from December 11th to 23rd, including the defence of Deh Mazung Gorge, the assault and capture of Asmai Heights, and the defence of Sherpur cantonments, and the final repulse of the enemy; and in Sir Frederick (Lord) Roberts's march from Kabul to Kandahar, and the battle of Kandahar, was mentioned in dispatches in the *London Gazette* of May 4th and December 3rd 1880 and received the medal with three clasps and the bronze star As a regimental officer in his early service he served in the 7th Foot or Royal Fusiliers

Obituary.

ALFRED BERTRAM SOLTAU, C M G C B E, M D, F R C P F R C S

Physician to the South Devon and East Cornwall Hospital

THE death of Dr Alfred Soltau on July 26th at the age of 55, has removed an outstanding personality and terminated a career of devoted service

Alfred Bertram Soltau was born in 1876, and received his early education in Tasmania, returning to England for medical training at the London Hospital He graduated M B in 1900 with first-class honours in obstetrical medicine, and honours in medicine and forensic medicine, he obtained the diplomas M R C S L R C P in the same year He proceeded M D and obtained the diploma F R C S Eng in 1902 the M R C P in 1919, and the F R C P Lond in 1925 He early decided to practise in Plymouth, where his family had resided for several generations He was appointed physician to the Devon and Cornwall Ear and Throat Hospital, and later to the South Devon and East Cornwall Hospital, holding this latter post for a quarter of a century he was also consulting physician to the Liskeard, Tavistock, Kingsbridge, and Okehampton Cottage Hospitals, and a past-president of the Plymouth Medical Society He devoted much time and energy to the service of the British Medical Association he was one of the honorary secretaries of the Section of Medicine in 1907 when the Annual Meeting was held in Exeter a member of the South-Western Branch Council from 1909 to 1914 and vice-chairman of the Plymouth Division from 1912 to 1914 He was a member of the Plymouth Voluntary Hospitals Committee and vice-president of the Plymouth area of the St John Ambulance Association He was chairman of the committee of the South Devon Hospital Fete in 1921 when £5 000 was raised and presided over the United Plymouth Hospitals Fete in 1925 when £20 000 was received He found time to take part in local politics and was president of the Plymouth Conservative and Unionist Association as well as being a member of the Plymouth Borough Council from 1919 to 1925, and chairman of the Public Health Committee He associated himself actively also with the Boys' Brigade, and with numerous social and charitable institutions in Devonshire



For many years one of his special interests was military medicine He received a commission in the Devon Volunteer Brigade Bearer Company in 1905 and was the first commanding officer of the 2nd Wessex Field Ambulance (T F) When the war broke out he went to France in 1914 in command of a field ambulance two years later he was promoted to the rank of colonel and appointed consulting physician to the First and Second Armies In 1918 he became consulting physician to the War Office and to the Ministry of Pensions for cases of gas poisoning He was mentioned in dispatches four times created C M G in 1916, and C B E in 1919 he received the Territorial Decoration in 1921 His foreign decorations included the Croix de Guerre (France) and he was Commendador D'Ordre d'Aviz (Portugal) From 1922 to 1927 he was A D M S of the 43rd (Wessex) Division, and in the latter year was appointed honorary colonel He was appointed honorary physician to the King in 1924 He was joint author of the section on gas warfare in the Official Medical History of the War, and also of the Ministry of Pensions notes on certain diseases of the war He was a contributor to the *British Medical Journal* and other medical publications

We are indebted to Professor T. R. ELLIOTT for the following tribute:

The example of Soltau's life will not be forgotten by those who saw his work and knew the difficulties that successively faced him, but never crushed his courage or his resolution. His driving motive was a desire to do work for the common weal, an instinct that with him was devoid of any ostentation or personal ambition. He chose work that needed doing, and devoted himself to it with an unselfishness that may well have been the source of the courage which enabled him to continue unflinching in the face of ill-health, unperturbed as to who gained the credit provided that the work was done. Such motives are the quiet inspiration of many a doctor; Soltau neither wrote nor talked much about them. His personality missed that touch of open sympathy and cheerful buoyancy which gives a ready influence over others, but his actions were constantly shaped by such aims, while his energy and ambition brought him to positions in which he was able to do work of high importance. The best of this was achieved in the war. Long before 1914 Soltau had taken his share in the real duties of Territorial training, and soon after the outbreak of war he was out at the front in France with his field ambulance, though his position as a consulting physician in Plymouth would ordinarily have entitled him to remain at home attached to a civil hospital. His work in charge of this unit allowed of no specialization in those early days, but his abilities gradually became known, and he was naturally chosen for promotion to the rank of consulting physician to the Second Army when these new army appointments were made under Sir Wilmot Herringham as general consultant to all the armies. Colonel Soltau at once proved his right conception of the duties of a consultant in aiding the military efficiency of the army. He did not concern himself greatly with giving advice in the diagnosis of difficult cases or in the care of distinguished patients, but he flung his energies into teaching, organization, and the study of such conditions as were then imperfectly understood but were causing large numbers of casualties. Wounds of the chest soon passed from the physician to the care of the surgeons, and Soltau then became one of the acknowledged authorities on gas warfare poisoning. Trench fever had been proved by others to be the outcome of verminous infestation and dirt. Soltau fastened upon this great cause of the wastage of man power and the numerous casualties from other minor skin infections; and his diligent analysis month by month of the huge loss from these simple medical ailments gave great impetus to the efforts of the army authorities for checking wastage by keeping the men's bodies clean. Colonel Soltau himself contracted trench fever in the relapsing form, and this, together with his long and strenuous service abroad, exhausted him so much that in September, 1918, he had to be sent home to lighter duties, mainly in connexion with the control of casualties from gas poisoning. He left behind him a noble reputation for his knowledge of fighting conditions, his modern comprehension of disease, and his energy and judgement in acquiring and imparting fresh information gave his work an unsurpassed value.

In the Official History of the medical services in the war a considerable part of the section dealing with gas warfare was written by Colonel Soltau, and his wide knowledge of service conditions was made available to readers of the *British Medical Journal* in his reviews of various volumes concerned with different aspects of the war. He then settled down to recover his consulting practice in Plymouth. Troubles beset him with recurring trench fever and then with a keratitis that repeatedly threatened almost complete loss of sight. But he thought little of himself, and worked steadily for the advancement of medicine in Plymouth, the enlargement of the hospital, the provision of a really good pathological service, and the spread of knowledge by post-graduate teaching. Beyond it all lay the vision of a teaching medical school for the south-west of England. His last illness developed quickly, and early this summer he knew that it would be fatal. Even then he did not repine, and the last time that he talked with me he dwelt on the satisfaction that he had found in the opportunities for unstinted service that the war gave; he upheld the life of the consultant outside London because in it a man could so easily add to his professional tasks the pleasure of taking a useful part in civic work.

Dr. ERIC WORDLEY writes:

Recalling only his many-sided Plymouth occupations, it can be seen what a full life Dr. Soltau led; yet, numerous as they were, they only formed part of his activities. His consulting practice, extending throughout Cornwall and a large part of Devon, would have overworked any ordinary man, but in all that he did his interests were centred on his love for his profession and hospital, and I think he gladly undertook many of these further responsibilities because he felt he could at some time contribute something of service to these two ideals. In committee and in debate he was an outstanding personality; he was the acknowledged leader of his profession, who always pierced to the heart of things and could make an assembly visualize the larger issue. He worked unceasingly to make the South Devon Hospital a general hospital in the true sense of the word; nothing to be attempted on its behalf was too much trouble for him. An inspiring and enthusiastic teacher, he was the prime mover in starting and keeping going post-graduate classes during the winter months in Plymouth, and he spared no trouble or exertion to make these a success. His advice was constantly sought by his colleagues in all manner of affairs, and he went to endless trouble on their behalf until he could work no longer. Since the summer of last year he was constantly suffering from very severe attacks of pain, almost of an anginal nature; he slept badly, and was growing increasingly tired. For all this, his high and self-imposed standard of work for its own sake, and for the sake of his profession, never relaxed. Plymouth and the hospital he loved have lost a very great physician at the very height of his powers. He had a very lovable disposition, and inspired all with whom he came in contact to give their best: but in many ways he was intensely shy and diffident, and many people took him for a rather aloof and forbidding personality. Nothing really was further from the truth, and once one had the privilege of penetrating beneath this mask there was not a more open-handed or generous character; he had a delightful humour, but he hated arrogance and pretension in all its forms. No man rendered more ungrudging and unselfish devotion to his professional colleagues in their own time of trouble or sickness; however pressing other cares might be, however tired he himself might be, he was ready at a moment's notice to devote all his time and energies to any medical man, whether a colleague or no. He was a great example of that greatest of all virtues—unselfishness.

[The photograph reproduced is by Elliott and Fry.]

With the death, on July 29th, of Dr. JAMES ALLAN GRAY, at his residence in Stirling Road, Edinburgh, there has passed away one who was for many years a well-known practitioner in Leith. Born more than seventy-five years ago, he received his medical education in Edinburgh and Vienna, graduated M.B., C.M.Ed. in 1876, and proceeded M.D. in 1880, when his thesis was awarded a gold medal. In the same year he obtained the diploma M.R.C.P.Ed., and in 1881 proceeded to the Fellowship. After acting as resident physician to the late Dr. Muirhead in the Royal Infirmary of Edinburgh he settled in practice at Leith, and was for many years one of the physicians to the Leith Hospital. He was also a lecturer on clinical medicine to the women students of Edinburgh, at a time when they were excluded from the male classes and the clinical teaching in the Royal Infirmary of Edinburgh. Dr. Gray took great interest in the Volunteer movement, and was for many years a medical officer to the 5th V.B. Royal Scots, retiring with the rank of surgeon colonel in 1906, having received, in 1902, the Volunteer Decoration for long service. He acted for many years as medical officer of health for the burgh of Leith before it was united with the city of Edinburgh. Amid the many duties of hospital and private practice Dr. Gray found time to contribute to current medical literature. A paper entitled "Remarks on the use of hyoscine" was published in the *British Medical Journal* in 1892. Dr. Gray was a member of the British

Medical Association; he conducted a large practice until a year before his death, and was greatly beloved and respected by a wide circle of patients and professional friends. Two years ago, on the completion of fifty years' practice in Leith, he was the recipient of a testimonial from his colleagues. The interment took place in Rosebank Cemetery on July 31st.

DR. HUGH BOYD CUNNINGHAM, who died recently, was one of the leading ophthalmic surgeons in the North of England. He received his medical education in Newcastle-on-Tyne, London, and Vienna, and graduated M.B., B.S.Durh. in 1905. He was senior surgeon to the Durham County and Sunderland Eye Infirmary, consulting ophthalmologist to the Sunderland Royal Infirmary and Children's Hospital, oculist to the Sunderland Education Authority, and medical referee to the counties of Northumberland and Durham. Widely known throughout the whole of the county of Durham, Dr. Cunningham won the affection and respect of his many patients. He took particular interest in the problems relating to miners' nystagmus. He was a member of the British Medical Association, and was secretary of the Sunderland Division from 1922 to 1923; he was also a prominent Freemason. One of the chief interests in his life was the Durham County and Sunderland Eye Infirmary, where his skill and organizing ability were very highly appreciated.

THE LATE SIR FRANCIS CHAMPNEYS, BT.

DR. F. J. ALLEN (Cambridge) writes: In the obituary notice (August 9th, p. 231) mention is made of some of the musical accomplishments of Sir Francis Champneys, including the composition of anthems. But there are other compositions of his with which some readers may be more familiar, though unconscious of their authorship. As a young man, and under the name of "Frank Champneys," he contributed five tunes to *Hymns Ancient and Modern*, of which three—namely, Assisi (No. 119), Sales (No. 212), and Xavier (No. 421)—are the cognomens of three saints in the Calendar who bore his own name "Francis."

Medical News.

THE Royal College of Physicians of London will be closed for the summer vacation from Monday, August 18th, to Saturday, September 20th, both dates inclusive.

PROFESSOR G. GREY TURNER, honorary surgeon to the Royal Infirmary, Newcastle-on-Tyne, has been invited to deliver the John B. Murphy Oration before the Clinical Congress of the American College of Surgeons in Philadelphia on October 13th.

AT the International Conference of Bee-keepers, which will be held in London from September 8th to 12th, Dr. Kretschy of Austria will give a lecture entitled "Our bee as doctor," and Dr. Maximillian Grünsfeld of Vienna will speak on bee poison at the bedside. Further information about this conference may be obtained from its honorary secretary, Mr. F. Essex Moorcroft, Apis Club, 19, Devereux Court, Strand, W.C.2.

THE Fellowship of Medicine announces that there are two weeks remaining of the special course in genito-urinary diseases at the All Saints' Hospital, comprising clinical cystoscopic demonstrations on men and women. From September 1st to 13th there will be an all-day course in diseases of children at the Queen's Hospital; instruction will consist of the showing of a variety of cases rather than set lectures or demonstrations. The Westminster Hospital will hold the yearly revision course from September 15th to 27th; all departments of the hospital will be utilized for instruction in the various branches of medicine and surgery. The subjects of courses arranged for October are: diseases of the throat, nose, and ear; children; gynaecology, tropical medicine; orthopaedics; a general revision course; and evening courses for the M.R.C.P. and the Final F.R.C.S. Full particulars of the winter programme, a list of the special courses in 1931, and also information about the general course provided by the associated hospitals, may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

THE Royal Microscopical Society, after having been housed in Hanover Square, London, for some forty years, has removed to new apartments in the British Medical Association House, Tavistock Square, W.C.1, its library and slide collections will be more adequately housed here, with its lecture halls, meeting rooms, and offices; a portion of its unique collection of historical instruments will also be on permanent exhibition. The ordinary meetings will be held as hitherto on the third Wednesday in each month from October to May inclusive, and henceforth in the Hastings Hall; by the almost unanimous vote of the Fellows these meetings will begin at 5.30 p.m. instead of at 8 p.m. as formerly. Sectional meetings will be held in the Pillar Hall.

THE KING has approved of the reappointment of Dr. Noel Leicester Clarke to be a nominated unofficial member of the Legislative Council of the Straits Settlements.

THE tenth Congress of the German Pharmacological Society will be held at Königsberg from September 4th to 7th, under the presidency of Dr. J. Schüler of Cologne. The principal subjects for discussion will be the problems of inflammation; the pharmacological problems of febrile diseases; allergy; and the problems of the reticulo-endothelium.

THE twelfth Congress of the French Society of Orthopaedics will be held on October 10th in the Paris Faculty of Medicine, when the subjects for discussion will be coxa vara in adolescents, and obstetrical paralyses in the upper limb. Members of the society—whether French or from other countries—who intend to take part are asked to communicate, before September 15th, with the secretary, Dr. E. Sorrel, 179, Boulevard Saint-Germain, Paris.

THE annual medical tour to spas and other health resorts in Italy, organized for British doctors by the Italian State Tourist Department, will take place from September 10th to 26th. As usual, it will be accompanied by an English-speaking Italian doctor. The journey in Italy will be made by special train; there will be no night travel. Accommodation is provided at first-class hotels, and a programme of receptions, entertainments, and sight-seeing has been arranged at each of the places to be visited, which include Merano, Carezza (Karersee), and other Dolomite resorts, Riva and Gardone on Lake Garda, Montecatini, and Viareggio. Full particulars may be obtained from the Italian Travel Bureau, 16, Waterloo Place, S.W.1.

AN account of a tour of some mental hospitals and clinics of the Department of the Seine, by Dr. A. E. Evans, which was published in the January issue of the *Journal of Mental Science*, has now been reprinted in pamphlet form, and may be obtained from Adlard and Son, Ltd., 21, Hart Street, W.C.1, price 1s. net.

A FURTHER series of brochures—Nos. 206 to 212—has been issued by the International Labour Office in continuance of its series entitled "Occupation and Health." The subjects are: flour mills; garages, industrial health (propaganda), house porters; industrial lighting, industrial physiology and jute. They may be obtained from the London office of this organization, 12, Victoria Street, S.W.1.

ON the passing of the Mental Treatment Act the Board of Control, with the approval of the Minister of Health, has appointed Mr. P. Barter of the Ministry of Health to be joint secretary of the Board. Mr. Barter was secretary to the Committee on Asylum Administration, 1921-22; the Royal Commission on Lunacy and Mental Disorder, 1924-26; and the Royal Commission on Local Government, 1926-29.

THE council of the Paris faculty of medicine recently elected Professor Balthazard, who occupies the chair of legal medicine, dean of the faculty by 34 votes, to 33 gained by Professor Roussy.

THE centenary of the birth of the celebrated French physiologist, Etienne Jules Marey, who died in 1905, was recently celebrated at the Academie de Medecine, when Professor Charles Richet gave an address on his work.

THE two Osiris prizes, each of the value of 100,000 francs, offered by the Institut de France for the most remarkable work in science, literature, and art, have been awarded to Paul Bourget of the Académie Française, and Emile Gley, professor of physiology at the Collège de France.

THE Grand Prix de l'Académie Française, of the value of 15,000 francs, has been awarded to Dr. Georges Duhamel for his collected works.

A NEW dermatological clinic has recently been opened at Leyden under the direction of Dr. H. W. Siemens.

IN Berlin, during 1929, 6,925 deaths, or 13 per cent. of the total mortality, were due to malignant growths. Cardiac disease, principally in advanced age, caused 6,776 deaths, and pulmonary tuberculosis 4,071 deaths, chiefly between the ages of 20 and 30. Most of the deaths from cerebral haemorrhage (5,560) and vascular disease (5,065) occurred in persons over 50.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the *Financial Secretary and* Business Manager.

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS.

DERMATITIS FOLLOWING FURUNCULOSIS.

DR. C. MURRAY HALSALL (Ilkley) writes: I should be grateful if someone would suggest a form of treatment which has been tried with success for dermatitis following furunculosis. My patient, a man aged 50, has had furunculosis for two years, and recurrent attacks of dermatitis for one year, with hardly any intervals.

TREATMENT OF DYSMENORRHOEA.

DR. E. R. B. MURRAY (Clitheroe, Lancashire) writes: Could any reader give me suggestions for the treatment of dysmenorrhoea in a young woman aged 22? She has had a dilatation and curettage, and subsequently the round ligaments were shortened. No organic disease was found. She still has very severe pain, especially during the first day. An exhaustive trial of medical measures has been made.

CLEANSING OF THE CHALICE.

"S. M." writes: I think it is worth while recording my experience in this connexion. I was at one time a strict and regular communicant, but having on one occasion to partake of the cup after a consumptive and a man with septic teeth had already drunk from it, I suggested to the officiating clergyman, who was and is a friend of mine, that at the least he might wipe the rim of the chalice with a "fair linen cloth." He told me to be of good cheer and to have no fear, because the cup was automatically sterilized when he sanctified it, and remained so in spite of septic teeth and mouth. After that I remained at home, and have never been to communion since. It is really time that some clergy learned that there is such a thing as hygiene. I am quite sure that the majority of them are just as particular as the rest of us about not drinking after other people from the same cup in their own homes.

DR. EVA MCCALL (London, W.1) writes: The notes in recent issues of the *Journal* as regards cleansing of the chalice recalls to my mind a statement made by a dermatologist, now dead, in the course of a post-graduate lecture. He said that he had ceased to partake of communion since the day when he found that his neighbour at the altar rail was a patient whom he had been treating for syphilis.

COLOUR-BLINDNESS.

DR. H. E. ROAF (London, N.W.), replying to "A. B." (August 2nd, p. 200), writes: By the use of red glass some colour-blind individuals can discriminate colours. Colour-blindness is no handicap for medicine, but it is a bar for the navy, mercantile marine, and railways, or work which necessitates the recognition of coloured signals.

INCOME TAX.

Residence in United Kingdom.

"J. B. M." is living in India but is thinking of taking a house in the United Kingdom for the use of his wife and children. Will that render him liable to English income tax on (*a*) sums remitted from India to England, and (*b*) income from English investments? Also, if he purchases a house and it remains vacant, will that affect his liability?

*** The establishing of a residence in this country for the use of his family will bring our correspondent within the category of a British resident, and will render him liable to account for United Kingdom income tax on the amount of remittances out of his foreign income, less, of course, the usual personal and children's allowances. The income from British investments is liable to British tax in any case. One exception to that rule, however, is interest on the 5 per cent. war loan, the recipient of which is exempt if not "ordinarily resident" in the United Kingdom. Assuming that the residence is to be established here for a temporary purpose, we consider that our correspondent would not thereby forfeit his claim to exemption in respect of war loan interest. It will be seen that the crux of the matter is residence and not merely the possession of property in the United Kingdom. If, therefore, a house be owned here, but is in fact not furnished and available for immediate occupation by the owner, its possession would not render him liable for income tax, except in respect of any rents derived therefrom.

Emoluments of Appointment.

"A. C.'s" employment began as from September 23rd, 1927, at the rate of £250 per annum. The emoluments for the year to April 5th, 1929, amounted to £299 10s. What special relief is he entitled to in the early years of his employment?

*** The basis of assessment normally is the income of the previous year, but as this might work unfairly as regards the early years of an appointment it was provided, by Section 45 of the Finance Act, 1927, that the basis of assessment should be as follows: (*a*) From commencement to following April 5th—amount of emoluments for that period. (*b*) Following financial year—amount of emoluments for that year. (*c*) Next financial year—same amount as in (*b*) unless the emoluments for the actual year are less, when the taxpayer can claim reduction to the actual basis. Applying these rules, "A. C.'s" liability would be on £299 10s. for 1928-29, and on the same amount for 1929-30, unless that year's salary was less, in which case he can claim "relief" by reduction to that figure. For 1930-31 he is assessable on the amount receivable for 1929-30.

LETTERS, NOTES, ETC.

OPPORTUNITIES FOR TEACHING IN GENERAL PRACTICE.

MR. H. W. WEBBER, formerly surgeon to the South Devon and East Cornwall Hospital, writes from King's Tamerton: Could not some plan be considered whereby the wealth of clinical material in the surgeries of general practitioners might be utilized for instructing students? An illustration will explain my meaning. Recently I was assisting a practitioner with his "evening surgery," and he asked me to overhaul a new case. The patient, a man aged 65, formerly a drill sergeant, complained at first of symptoms referable to the nervous system, but on proceeding with his history he mentioned shortness of breath and pain in the left side of the chest. On examination the pupil reactions, mouth, oropharynx, and neck presented nothing abnormal. The chest was a typical example of emphysema—no liver dullness, no superficial cardiac dullness, and the breath sounds characteristic. The apex beat of the heart was not palpable, its sounds weak and muffled, and no bruit was audible. There was nothing abnormal in the abdomen. The legs were oedematous below the knees. The urine was high-coloured, of specific gravity 1025, and contained no albumin. Now here was an excellent case for demonstration to a student, illustrating common diseases such as he would meet and be called on to treat in practice—emphysema and cardiac failure. I saw other interesting cases, including a hydrocele of the tunica vaginalis, a condition commonly met with in practice, and not unknown in the clinical part of final examinations. All general practitioners must meet with such cases as the above. I suggest that students who cared to do so might attach themselves to a practitioner during their holidays from work at the hospital. In the daytime they could pass the hours according to their inclination, and in the evening attend a surgery. They might make themselves useful by dispensing and bookkeeping, and in return the practitioner would, when a suitable case presented itself, demonstrate the points of interest in diagnosis and treatment. Perhaps the Association might keep a register of practitioners willing to undertake this work, and by this means intending students could get into touch with them.

POSITIVE SPUTUM IN ACUTE MILIARY TUBERCULOSIS.

DR. W. E. ROPER SAUNDERS (Staffs) asks us to express his regret that in the note in the *Journal* of April 19th (p. 768) he omitted to mention that the case described therein was brought to his notice when district tuberculosis officer for the Durham County Council by Dr. J. Jennings of South Street, Durham.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 38, 39, 40, 41, 44, 45, and 46 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 120.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

142. Post-vaccinal Encephalitis.

C. M. BELLI (*Rinascenza Medica*, July 1st, 1930, p. 305), in a review of post-vaccinal encephalitis, states that about 500 cases have occurred, mostly in England and Holland; there have been 50 in Germany, 12 in France, some in Switzerland, Greece, Austria, and the United States, but none in Italy and Spain. Most of the cases occurred in children vaccinated for the first time between the ages of 5 and 14 years; the disease spares babies vaccinated soon after birth, and is therefore absent in countries with compulsory vaccination. It is rarer in revaccinated persons. Heckman cured seven boys suffering from post-vaccinal encephalitis by inoculating serum obtained from parents who had been successfully vaccinated at the same time. Other evidence tending to associate this condition with vaccination is that vaccinia virus has been isolated from the brain of patients who have died of post-vaccinal encephalitis, and the similarity of the incubation periods. Epidemics of post-vaccinal and epidemic encephalitis do not coincide; moreover, post-vaccinal encephalitis has a quicker onset, shorter course, fewer sequels, and smaller mortality than the epidemic form, and its lesions predominate in the white matter. The motor paralyses are often confined to the vaccinated side. In England and Holland it has appeared without connexion with the type of lymph used. In Holland neurovaccine, prepared in Spain by direct inoculation into the rabbit's brain, was tried; there were 11 cases of post-vaccinal encephalitis in 40,000, while Spain recorded none in 2,000,000. The incidence is unaffected by virulence. Belli concludes, therefore, that it is unlikely that the vaccinia virus is the cause; there is no evidence of predisposition, and, in view of the rigorous control, it is improbable that impurity of the lymph plays a part. Kling, Lönberg, and Wassen found in brain sections oval or rounded corpuscles containing chromatin masses colouring deeply with Giemsa's stain; these they considered to be "latent" protozoa, activated by vaccination. The treatment includes the intravenous injection of sodium salicylate and the serum of a vaccinated patient. Belli urges that vaccination should be practised during the first year of life, except in illness or during outbreaks of epidemic encephalitis. Two short parallel scarifications should be made, not too close together. The lymph should be obtained from the calf or ass, and not from the rabbit.

143. Etiology and Prognosis of Auricular Fibrillation.

H. COOKSON (*Quart. Journ. Med.*, April, 1930, p. 309) describes certain obvious sequels of auricular fibrillation, such as the lowered ventricular efficiency following irregular and still more rapid contractions. Other less obvious factors coincide with the advent of arrhythmia. There are only three common etiological groups in which arrhythmia is persistent. Most frequently it is associated with rheumatic carditis. Age is a constant factor in the second group, while, in the third, exophthalmic goitre or some allied toxic thyroid condition is present. The second group, containing middle-aged or old patients, has been termed "arterio-sclerotic," but the associated sclerosis is not greater than that of the age period concerned. Conversely, in patients who have conspicuous sclerosis, normal rhythm is the rule; also, in coronary thrombosis, usually associated with atheroma, fibrillation is rare. Paroxysmal fibrillation occurred in only 7 per cent. of one group of patients, and histological evidence failed to incriminate the arteries. In ten cases of the so-called "arterio-sclerotic" type, only one patient showed considerable atheroma. Some of the other patients had definite atheroma of the peripheral arteries, and ischaemic renal changes. This series negatives the theory of coronary arterio-sclerosis as a cause of fibrillation. In ten other patients who had had normal rhythm the necropsy showed more extensive coronary atheroma than was found in patients who had had fibrillation during life. Cookson thinks that the term "arterio-sclerotic auricular fibrillation" must be rejected. Hyperplesis is too infrequent in these cases for it to be regarded as an important factor. The term "senile type" is unsatisfactory, since it exaggerates the average age incidence; numerically, this type is second only to the rheumatic type in causing persistent auricular fibrillation. The author suggests the term "non-rheumatic group" for this type, excluding, of course, the distinct and smaller group of toxic goitre cases. In a series of 361 cases of fibrillation, 69 per cent. had rheumatic carditis or a history of rheumatic fever; 22 per cent. were not rheumatic; 7 per cent. had associated exophthalmic goitre; and 2 per cent. had syphilitic aortitis. Contrary to the experience of other writers, Cookson found that among the non-rheumatic group a larger percentage developed heart failure at the onset of fibrillation. Auricular fibrillation is rare in the first decade of life and still rarer in the second, while the prognosis is very bad; the average length of life after onset of fibrillation in twenty-three patients under the age of 17 being ten months only. Among adults the average duration is 5.25 years. In mitral stenosis, embolism occurs as frequently in cases with a normal rhythm as in those with arrhythmia. When partial heart-block occurs apart from treatment the prognosis is better in patients who have arrhythmia, which does not appear to increase the gravity of a case in which complete block already exists. When the two disorders were associated Stokes-Adams attacks rarely occurred. The prognosis is adversely affected by bundle-branch block, but not by spontaneous premature ventricular contractions. The auricular oscillations of the electrocardiogram are usually smaller in the non-rheumatic than in the rheumatic type. There is little evidence of connexion between the duration of the fibrillation and the amplitude of these waves. Angina of effort, coexistent with fibrillation, occurred five times in 2,000 patients with arrhythmia. In coronary thrombosis the advent of fibrillation occasionally eases the pain: relief seems more likely if congestive failure occurs. Infective endocarditis and fibrillation are both common sequels of rheumatic carditis, but are associated very rarely. Sudden death is not infrequent in auricular fibrillation; the theories advanced to explain this were found inadequate in the series of cases studied.

144. Post-influenzal Angina Pectoris.

A. S. HYMAN (*Journ. Amer. Med. Assoc.*, April 12th, 1930, p. 1125) records nine cases of angina pectoris which occurred among 412 cases of acute influenza, and was first described by Sansom in 1892. Of the nine patients three died, one in the first attack, one in the second, and one in the sixth attack. Five had no previous cardio-vascular history, and one had a questionable history of high blood pressure a few years before. All the patients were middle-aged. Hyman found no relation between the severity of the original influenzal attack and the time of the onset of the first anginal seizure, or between the onset and the outcome. The electrocardiograph provides the only method for determining the extent and severity of the myocardial changes, which were marked in most cases. The author concludes that post-influenzal angina pectoris is a not uncommon sequel in convalescence from influenzal infections occurring in the middle-aged. If cardio-vascular changes are noted, the period of convalescence should be prolonged to allow the heart to recover fully. If angina pectoris is at all suggested by electrocardiographic examination expectant treatment should be started at once.

145. Scarlet Fever and Endocarditis.

H. ZISCHINSKY (*Jahrb. f. Kinderheilk.*, May, 1930, p. 337), who records several illustrative cases, states that scarlet fever plays no important part in the etiology of cardiac valvular defects. In a few very exceptional instances an endocarditis may be found at the necropsy in a case of scarlet fever. Such cases, however, represent a septico-pyaemic manifestation and are invariably fatal. In order to justify the diagnosis of scarlatinal endocarditis the following conditions must be fulfilled: either a recent endocarditis of the valves must be demonstrated, or the change in the clinical finding of endocarditis into a permanent valvular defect must be established by several subsequent examinations made for months or years.

146. Severe Cerebral Symptoms following Stovarsol Administration.

ALTHOUGH stovarsol has been recommended in recent years as a substitute for salvarsan in syphilis and other spirochaetal diseases, a case recorded by BERTA ASCHNER (*Wien. klin. Woch.*, May 8th, 1930, p. 581) shows the danger of excessive doses. A woman, aged 34, developed an attack of Vincent's angina. Eight tablets of spirocid, a stovarsol preparation, were administered daily for four days, succeeded by four tablets daily during the next four days. These doses are very large, for usually this quantity of stovarsol would be spread over two weeks, being administered every two or three days and followed by an interval; only exceptionally should a daily

dose of four tablets (0.25 gram) be given. On the ninth day an extensive arsenical dermatitis appeared, and two days later the patient suddenly developed severe mental confusion with a bilateral Babinski sign. The spleen was palpable. There were no paralyses or clonus, but the tendon reflexes were very brisk, and there was a bilateral pseudo-Babinski reaction. Kernig's sign was absent. The urine was then normal. Next day the patient was unconscious, with severe hyperaesthesia of the skin so that she screamed at the slightest touch, and could not urinate for several days, so venesection and sweating treatment were prescribed. Six days after the onset of these severe toxic symptoms the patient urinated spontaneously. Venesection was repeated and calcium was injected intramuscularly. During the night the patient recovered consciousness suddenly. Arsenic was then present in the blood and the urine, but complete recovery ensued.

147. Diphtheria of the Penis.

A. L. HOYNE and A. J. LEVY (*Journ. Amer. Med. Assoc.*, May 3rd, 1930, p. 1395) indicate the rarity of diphtheria of the penis by reporting a case, the only one which has occurred among 14,000 cases of faucial diphtheria treated at the Municipal Contagious Diseases Hospital, Chicago, since it was opened in 1917. Usually diphtheria of the penis is secondary to some other diphtherial lesion in the body, but some cases have been recorded in which the infection was primary in the genitals. The present instance, in which the patient was a boy aged 7, is the first on record occurring in a circumcised person; circumcision had been performed in infancy. The penile lesion was associated with severe faucial and nasal diphtheria. Recovery followed large doses of antitoxin.

Surgery.

148. A Plastic Operation for Facial Paralysis.

W. O. LODGE (*Brit. Journ. Surg.*, January, 1930, p. 422) describes an operation which is designed to ameliorate disfigurement and to prevent impending corneal ulceration in long-standing cases of lower-neuron facial paralysis, especially those due to mastoid disease, or accidentally inflicted during mastoid operations. Though suitable cases are rare, the results obtained in one case merit a more extended trial of the method. In this procedure, without leaving conspicuous scars, three new ligaments are grafted into the face, corresponding in position with the inferior portion of the orbicularis oculi, the levator palpebrae superioris alaeque nasi, and the zygomaticus major. These sustain the drooping lower eyelid and paralysed side of the mouth, and produce a more pleasing expression. The material employed is a continuous strip of fascia lata obtained from the thigh. General anaesthesia is induced, and the skin, conjunctiva, and buccal surface of the cheek are thoroughly disinfected with 2 per cent. mercurochrome solution. A probe is passed along the inferior lacrymal canaliculus to define its position; the angular vein and parotid duct must also be avoided in the subsequent operation. Two short incisions are made, exposing the temporal fascia and the internal palpebral ligament respectively. A third tiny incision is made at the junction of skin and mucous membrane at the angle of the mouth. The strip of fascia lata is threaded along a triangular course between the three facial incisions, among the atrophied muscles, with a packing needle, the internal palpebral ligament and orbicularis oris being encircled. The two free ends are drawn tight and woven into the fibres of the temporal fascia. The incisions are closed, and the tension is temporarily relieved with adhesive strapping. The result is not so good as is obtainable in cases of shorter duration by facio-hypoglossal anastomosis, but the method has one real advantage in producing an immediate effect.

149. Intravenous Urography.

A. L. WOLBARST and I. S. HIRSCH (*Med. Journ. and Record*, July 2nd, 1930, p. 1) claim that with the introduction of uroselectan an important advance has been made in urological diagnosis, and that pathological conditions, in which other measures cannot be employed, can be diagnosed with its aid. Uroselectan, which has an iodine content of 42 per cent., is non-toxic, very soluble in water, and neutral in reaction; under normal conditions it is excreted as such through the genito-urinary tract, practically to the extent of 90 to 100 per cent. within eight hours, which indicates that no chemical reaction takes place in the body. The iodine in the molecule exists in a very stable organically bound state; therefore the relatively large quantity of the calculated iodine element in uroselectan can be administered with impunity. Iodism has never been observed. The method is based on the excretion of the contrast substance by the kidneys. The more normal the kidneys, the greater their excretion and the more constant and complete is the outlining of the urinary tract. Since 85 to 90 per cent. or more of the iodine content can be recovered in the urine within six to eight hours in cases of normal kidney function, the drug affords a test of renal function in addition to its urographical rôle. In a large series of cases von Lichtenberg and Swick concluded that when no picture of the kidneys is obtained, either no kidney is present or the renal function has been largely destroyed. They sum up the indications for this method as follows: when cystoscopy and ureteral catheterization cannot be performed because of anatomical or other reasons; when because of obstruction in the ureter the contrast substance cannot be injected beyond the block; when direct pyelography cannot be undertaken without risk. The technique of intravenous urography, which is very simple, is described. The first radiogram is made twenty minutes after the injection, and a second examination is made twenty minutes later. The patient is then allowed to pass a little urine, to diminish the bladder shadow and to permit better visualization of the lower portions of the ureters. Three subsequent radiograms at intervals of twenty minutes are then taken. It is possible to draw reliable conclusions as to functional activity according to the time required to attain visualization, and by comparison of the two sides. The conclusions in regard to disturbed function are based on the time of visualization of the contrast substance and the degree of intensity of the shadow. The method may also be used in cases of enlarged prostate to ascertain the effect of stagnation on the upper urinary tract, and to demonstrate the dilatation of the renal pelvis and ureters.

150. S. LUBASH (*Amer. Journ. Surg.*, June, 1930, p. 1229) emphasizes three points in intravenous urography with uroselectan—namely, the importance of exercising compression over the bladder area with an ordinary Hickey rubber bag, increasing the dose of this drug to 60 grams, and postponing urination. It is claimed that by these means a denser radiogram is produced; the increased dosage has no untoward effect, and the external compression improves visualization. Pressure to just below the degree of discomfort is applied immediately after the last injection of uroselectan and until the first film is taken; it can then be slightly reduced, but is increased ten minutes before and during the exposure of the second film. The pressure is then completely relaxed, but is reapplied ten minutes before and during the third, fourth, and succeeding exposures. Swick, who last year introduced the non-toxic uroselectan for intravenous injection, advocates a 60-gram dose instead of the original one of 40 grams; the solution is prepared by dissolving the drug in warm twice-distilled water to a volume of 110 c.cm.; it is then filtered twice through ordinary filter paper, and sterilized in a water bath at 15 lb. pressure for half an hour. Urination is postponed until after the second exposure, but if this retention produces too great discomfort the passage of a small quantity sufficient for comfort may be allowed, or relief obtained by slightly reducing the pressure of the rubber bag.

151. Bronchiectasis.

P. N. CORYLLOS (*Archives of Surgery*, May, 1930, p. 767) distinguishes four different clinical varieties of bronchiectasis: (1) a bronchitic form in which the bronchial lesions are slight, the parenchyma of the lung is healthy, and the classical symptoms of bronchiectasis are absent; (2) early uncomplicated bronchiectasis in which bronchial lesions are still limited to the bronchi; (3) complicated bronchiectasis with more or less advanced pneumonitis or small multiple bronchiectatic abscesses; and (4) bronchiectatic abscesses. Bronchiectasis is a common pulmonary disease; it frequently follows measles, scarlet fever, and chronic inflammation of the paranasal sinuses in children. It has been stated that 25 to 50 per cent. of sanatorium patients have bronchiectasis, while 20 per cent. of all cases of chronic tuberculosis and 10 per cent. of cases of tumour of the bronchi and lungs, foreign bodies, or extrinsic compressions of the bronchi are complicated by bronchiectasis. Treatment depends on the form of the disease. In the bronchitic form, treatment of the paranasal sinuses, a hot dry climate, and postural and bronchoscopic drainage may check the disease. In early cases, particularly of unilateral bronchiectasis, therapeutic compression of the lung (pneumothorax, phrenicectomy, or thoracoplasty, associated with postural and bronchoscopic drainage of the bronchi and antispirochaetal treatment) have given satisfactory results. In the advanced form of bronchiectasis with pneumonitis and multiple bronchiectatic abscesses the only treatment is the surgical excision of the diseased portion of the lung by lobectomy, cautery pneumectomy, or exteriorization and ligaturing of the involved parenchyma of the lung. Since the disease is progressive, early treatment is of great importance. In order to

decrease the high mortality rate of 55 per cent. incidental to one-stage operations, a technique of multiple stage lobectomy is advised in which artificial pneumothorax, phrenicectomy, thoracoplasty, and lobectomy are performed in the order given. Two cases are recorded of advanced bronchiectasis; they were treated by graded operation with excellent results, and the complete recovery of the patients.

152. Incidence of Primary Carcinoma of the Lung.

FROM a statistical review of the literature P. D. ROSAHN (*Amer. Journ. Med. Sci.*, June, 1930, p. 803) concludes that primary pulmonary carcinoma is not so rare as was formerly believed, and that its incidence is steadily increasing. Of 3,034 adult necropsies performed at the Boston City Hospital from 1910 to 1928, 314, or 10.4 per cent., were cancer cases. Primary pulmonary carcinoma occurred in 23, or 0.7 per cent., of all adult necropsies, and 6.69 per cent. of all cancers. Combined statistics show that primary carcinoma of the lung discovered at post-mortem examinations from 1910 to 1919 comprised 0.44 per cent. of necropsies and 4.39 per cent. of all cancers. Since 1920 the figures have been 0.89 and 6.93 per cent. respectively. Opinions differ with regard to the question whether this increase, noted by practically all observers, is an absolute one, peculiar to the lung, or only relative to and coincidental with a general increase in systemic cancer. For reasons which are cited Rosahn inclines to the former view, and considers that, because of its increased frequency, clinicians should give this affection serious consideration in differential diagnosis in patients of the carcinomatous age presenting puzzling lung symptoms and signs. An early diagnosis will permit of accurate prognosis, and in selected cases, perhaps, surgical therapy.

153. Post-operative Intestinal Paralysis.

BARTHÉLEMY (*Bull. et Mem. Soc. Nat. de Chir.*, May 24th, 1930, p. 637) records four cases (one a personal case) of post-operative intestinal paralysis in which injections of hypertonic saline serum resulted in almost immediate relief. In the personal case, after a somewhat difficult retrocaecal appendicectomy, the usual symptoms of intestinal paralysis supervened—namely, drawn facies, weak pulse, abdominal ballooning, vomiting (which became bilious and finally faecal), and retention of both faeces and gas. A subcutaneous injection of peristaltine having produced no effect, an intravenous injection of 40 c.cm. of 20 per cent. saline serum was given on the third day after operation. This was followed in ten minutes by a small but uncontrollable vomiting, giving the impression of an intense gastric contraction which was not attributable to the trivial amount of the stomach's contents. Some hours later, and without other medication, the patient passed a large stool mixed with blood, and marked improvement was noted on the next day. A second injection of 40 c.cm. of the serum was given, and this was followed by a complete and rapid return to normal. Reference is made to the benefits of this treatment in cases of intestinal paralysis following acute gastric dilatation and colostomy. Barthélemy agrees with the suggestion of Gosset as to the probable action of injections of hypertonic saline serum on the intestinal musculature.

Therapeutics.

154. Idiosyncrasy to Alkaloids of the Cinchona Group.

W. T. DAWSON and F. A. GARBADE (*Journ. Amer. Med. Assoc.*, March 8th, 1930, p. 704), in a preliminary report, state that the accidental discovery by one of them of a personal idiosyncrasy to quinine led them to investigate his sensitiveness to both the other laevo-rotatory alkaloids of the group and their dextro-rotatory isomers. By means of Boerner's test (scarification of the skin through solutions of 1 to 10 per cent. of the alkaloids or their sulphates) sensitiveness to all the laevo-rotatory alkaloids was demonstrated, whereas a negative reaction was obtained with all the dextro-rotatory isomers; a positive reaction consists in the production, in 15 minutes, of an urticarial wheal. When a sulphate is used in acid solution the acid must be under 10 per cent., since otherwise a pseudo-positive reaction ensues. The laevo-rotatory substances are cinchonidine, hydroquinine, hydrocinchonidine, cupreine, hydrocupreine, ethylquitinine, and ethylhydrocupreine (optochin). The negative reactions in the isomers were checked by the oral ingestion of quinidine and cinchonine; ingestion of 0.5 grain of cinchonidine gave rise to mild cinchonism. Other alkaloids were not taken orally for fear of dangerous side-reactions. It was found in the case of two other persons that, in spite of a negative Boerner test, urticaria followed the ingestion of quinine. It is concluded that a positive test presages a stormy general reaction to one or more of the alkaloids, whereas an urticarial reaction may occur in spite of a negative test. The clinical importance of the test lies in the possibility of substituting a therapeutically active isomer where an idiosyncrasy is found to exist—for example, cinchonine for quinine in the treatment of malaria.

155. The Therapeutic Value of Magnesium Hyposulphite.

G. BOISSEL (*Presse Méd.*, May 17th, 1930, p. 670) in a series of cases reports several clinical facts about the useful therapeutic anaphylactic value of magnesium hyposulphite. Five cases of spasmodic coryza are quoted: two of classic hay fever, two without relation to the flowering season, and one a pastry-cook who, after several years, became very sensitive to flour—the last case described in detail. At first, four to six tablets, each of 0.5 gram, were given daily, but later 10 c.cm. of a 16 per cent. solution of the salt was injected intramuscularly. The results were very satisfactory and the conditions were greatly improved, although previous therapeutic methods had failed. Success has also attended treatment by magnesium hyposulphite in asthma, the crisis being relieved as rapidly as by adrenaline. It has also a preventive action, 10 c.cm. of a 10 per cent. solution being injected every four days, or even 2 or 3 grams being given by the mouth every twenty-four hours in some cases. Three other examples of successful results in skin disorders are described in detail, and it is also recommended for intractable vomiting in early pregnancy. The author discusses the therapeutic action of magnesium hyposulphite, and of the interaction of the salts of sodium and gold in tuberculosis, where his results have been relatively unfavourable.

156. Liver Treatment in Pernicious Anaemia.

H. M. CONNER (*Arch. Int. Med.*, May, 1930, p. 702) relates his experience at the Mayo Clinic in the successful treatment with an aqueous extract of liver of twenty patients suffering from pernicious anaemia. The extract was prepared according to the formula suggested by Porter, Williams, Forbes, and Irving in 1929, and during treatment the patients received regular hospital diet; beyond occasional diarrhoea no untoward symptoms were noted. A few days after starting the treatment the reticulated erythrocytes began to increase in number, reaching a peak from the third to the twelfth day; the increase, however, was not so great in those patients whose erythrocyte count was as low as 2,500,000 to 3,000,000 per c.mm. when the treatment was instituted. The initial dose was from 90 to 120 c.cm. daily, being reduced to half at the end of the first week; this was continued when the patient had returned home after twenty-four days in hospital, during which time the average erythrocyte increase was 1,500,000, or 437,500 for each week, being about the same as that obtained by liver diet. The reticulated erythrocytes increased to a maximum of 31.8 per cent. in one case, and their average highest percentage for all the cases was 12.5. The haemoglobin rose from an average of 36.9 to 63.3 per cent., the leucocytes from an average of 5,050 to 7,270 per c.mm., and the platelets from 151,800 to 202,500 per c.mm. The effect of the extract upon weakness, diarrhoea, sore tongue, paraesthesia, and gastric symptoms was similar to that noted during ordinary liver diet.

157. Treatment of Diabetes Mellitus.

N. B. FOSTER (*Journ. Amer. Med. Assoc.*, June 21st, 1930, p. 1971) remarks that with the advent of insulin the hope that the mortality from diabetes would show a definite decrease has not yet been realized; various reasons are ascribed for this. There is, he thinks, an astonishing fear in the medical profession of this remedy, which results in its being neglected often when it is indicated: another drawback is the too common unintelligent use of the drug. Acidosis is the special problem which arises sooner or later in diabetes; chemically its occurrence is due to the fact that so little dextrose is burned that fat combustion also is imperfect. Fatty acids, which are normally oxidized to carbon dioxide and water, oxidize in acidosis only to diacetic acids—the ketone stage. Two things are needed to control this abnormal fat oxidation: insulin, which will effect oxidation, and dextrose to be oxidized. The amount of insulin required is variable, but enough must be given. The urine should be tested every two hours during intensive treatment; if sugar appears, insulin should be used, but if it is absent dextrose may be given. The same principles govern the treatment of diabetic coma. Adequate amounts of insulin and dextrose should be administered, paying attention first to the acidosis, and letting the glycosuria wait. The dehydration of the patient must be also countered with saline solutions introduced by hypodermoclysis. The dose of insulin to administer cannot be fixed, and must be ascertained by trial. Foster discusses the reaction of diabetic subjects to physical exercise, and emphasizes the importance of obtaining the co-operation of the patient

in dieting, exercise, and taking insulin. In a second paper (*ibid.*, p. 1974) Foster deals with the question of foods and diets in diabetes. He shows that a maintenance diet is not necessarily adequate to the needs of active living, and may require adjustment. When the insulin dosage has been balanced, steps should be taken to ascertain if the diet meets the patient's normal demands; this can be determined by allowing him to continue his usual mode of life, with careful observation of his weight and strength. A basic fact in metabolism must be borne in mind when planning a reduction in diets. The patient's excess fat will decrease because it is called upon to supplement an inadequate diet. The patient is therefore actually on a high fat diet, and if acidosis is to be avoided the carbohydrates must not be too low, though the proportion of fat may be cut down to the minimum. In considering diets for children the requirements of growth must be also remembered. The author also discusses the problem of arterio-sclerosis complicating diabetes, and the special nourishment needed in pre-operative and post-operative periods is briefly indicated.

158. Palliative Intravenous Injections of Morphine.

H. JACOBAEUS (*Ugeskrift for Laeger*, April 3rd, 1930, p. 319) was induced to attempt relieving the pain of inoperable cancer some years ago by intravenous injections of morphine in a case in which he had found that even heroic hypodermic doses of morphine proved quite ineffective. The results were surprisingly good, and he now reports eight cases in which he has adopted this procedure with varying success. In a case of inoperable cancer of the uterus he gave 1.5 cg. morphine by intravenous injection at 10 a.m., and twice this dose by subcutaneous injection in the evening. The result was exactly the same every day: the patient was without pain and completely at rest till 6 or 7 p.m., and the subcutaneous injection was followed by a restful state during the first half of the night. In the course of the second half she became a little restless, and at 5 or 6 a.m. she had to have another subcutaneous injection of 3 cg. The effect of the intravenous injection was more rapid, complete, and lasting than the subcutaneous injection. In some instances the pain became less severe after the morphine had been given for a time by the intravenous route, and the author suggests that, after a time, morphine thus administered tends to reduce the brain's capacity for registering pain, at any rate for an appreciable period.

159. The Sulphocyanates in Hypertension.

J. F. BORG (*Minnesota Med.*, May, 1930, p. 293) is inclined to think that hypertension is due to spasm of the arterioles rather than to structural arterial changes; he considers that the action of the sulphocyanates in this condition has not yet been sufficiently explored. A series of 24 patients was treated by sulphocyanates, some being ambulatory; those in hospital were kept in bed for a week and given sodium bromide before treatment was begun. The starting dose was 2 grains thrice daily of sodium or potassium sulphocyanate, this being gradually increased after seven to ten days, if necessary, up to 10 grains; 12 of the 24 patients were suffering from symptoms referable to hypertension (headache, vertigo, etc.), 6 obtaining complete relief and 5 partial relief. The systolic blood pressure was reduced in 22 of the 24 cases (from 15 to 150 mm. Hg), and the diastolic pressure in 15 cases (usually more than 20 mm.), the maximum reduction occurring usually in about fourteen days. Toxic effects described are weakness, vertigo, erythema, and psychoses; although these are all of a temporary nature, they are of frequent occurrence (13 cases), and the author deprecates the use of sulphocyanate treatment unless the patient is under efficient observation and control.

Radiology.

160. Radiography in Recurring Dislocations of the Shoulder.

J. DIDIÉE (*Journ. de Radiol. et d'Electrol.*, April, 1930, p. 209) remarks that the exciting cause of recurring dislocations of the shoulder has been successively attributed to lesions of the musculature, then to lesions of the periarticular fibrous fasciculi, and, finally and more logically, to the skeleton itself; the alterations in the soft parts are the results rather than the cause of the recurrences. Such osseous alterations do not conform well with a theory of a purely traumatic pathogenesis, and the part played by traumatism in these dislocations is being gradually discounted. *X*-ray examination will reveal the type of abnormality present. Investigation of the shoulder, and especially of the humeral head, is a difficult matter, and without constantly keeping in mind the facts relating to the position of the arm, and in particular to its orientation, an exact and satisfactory interpretation cannot be made. The elements of the osseous surface which form the contours of the shadow differ according to this orientation, and ignorance of their position on the plate may give rise to serious errors. Two extreme orientations limit movements of the joint, external and internal rotation; they are not automatically produced by pronation and supination of the forearm. To determine them one landmark is useful, the epicondylar-epitrochlear axis (easily perceptible in all subjects), and the fixation of this axis into the space of the angle which it makes with the plane of the film permits of an exact precision. By varying this angle from 0 degree (axis parallel to the plate, external rotation) to 90 degrees (axis perpendicular to the plate, internal rotation) changes in the humeral head are shown, slightly apparent between 0 degree and 45 degrees and very marked between 45 degrees and 90 degrees. Didiée describes his technique in radiography of the shoulder, and adds that only by a minute analysis can a correct diagnosis and prognosis be made. This result must be obtained by a combination of the three incidences he describes, and which alone allows of making a complete survey of the epiphyseal mass and of omitting no detail. Two types of dislocation of the shoulder can be distinguished: one, of normal humeral heads, where violence alone explains the dislocation and the associated bony lesions; the other, of heads, primarily deformed, in which the trauma is less violent, and in which a complete or partial posterior notch is a possible factor in the recurrence.

161. Radiology of the Urinary Tract in Pregnancy.

FOR some years attempts have been made to discover chemical substances which will permit of the elective radiology of organs by injections into the general circulation, and Graham succeeded in rendering the gall-bladder visible by means of phthalein tetra-iodide. E. LEVY-SOLAL, J. DALSACE, V. MISRACHI, and I. SOLOMON (*Bull. Soc. d'Obstét. et de Gynecol. de Paris*, April, 1930, p. 228) state that such a substance with an elective urinary elimination is uroselectan, a 42 per cent. solution of a sodium salt of pyridine in iodine. The technique is as follows. In two injections separated by an interval of three minutes 100 c.cm. of a 40 per cent. solution of uroselectan are injected into a vein at the elbow. Radiographs are taken fifteen minutes, forty-five minutes, and one hour and a quarter after the injection. In normal cases about 90 per cent. of the product is eliminated in eight hours; at the end of that time the urine contains none of the solution, and the iodine is never found in a free state. Thus not only are excellent radiographs of the urinary tract obtained, but also some approximation of the renal functioning can be made. After the injection the urine contains a reducing body, which has yet to be studied. The advantages of this method, which is without any ill effects, are: the avoidance of the distension sometimes caused by pyelography and of an intervention which is occasionally traumatizing and delicate; particularly the obtaining of simultaneous bilateral examinations and the finding of anomalies not shown by pyelography; and its applicability in cases of impossible ureteral catheterization. Notes are recorded of the cases of two young pregnant women in which this procedure was advantageously employed.

162. Radiological Diagnosis of Intestinal Obstruction in Children.

FOLLOWING the observations made by Schwarz in 1911 G. WEBER (*Monats. f. Kinderheilk.*, May, 1930, p. 11) has examined radiologically a number of cases of intestinal obstruction, and finds that menisci between collections of fluid and gas stagnating in the loops of intestine proximal to the obstruction become visible if the rays fall parallel to the surface of the fluid collections, as is the case when the patient is screened standing up. Since it is not necessary to introduce any opaque fluid, the investigation only takes a few seconds, and does not entail any waste of time or risk to the patient. The method has been found particularly useful in distinguishing doubtful cases of intestinal obstruction in children from such conditions as acute enteritis. It is recommended that such cases should be screened thus without any preliminary enemata being given, since fluid retained from these may obscure the picture. The more extensive the collections of gas and menisci separating fluid and gas, the more probable is the diagnosis of an acute obstruction. A number of cases in which the clinical signs were obscure were diagnosed thus by positive radiograms, and the diagnosis was confirmed by operation. Weber points out, however, that no evidence of the nature of the obstruction is thus obtained, though in children the commonest cause is intussusception. If, however, an opaque fluid is administered subsequently, it is then sometimes possible to differentiate the rarer causes, such as bands and volvulus.

Obstetrics and Gynaecology.

163 Tuberculosis of the Vagina.

ALTHOUGH primary tuberculosis of the vulva and vagina is rare, owing to the resistance of the epithelial covering and especially to the horny layer, W. H. BATES (*Amer. Journ. of Surg.*, April, 1930, p. 810) maintains that its importance should not be overlooked. The pathology of this disease is shown by the appearance of one or more chronically inflamed indurated nodules in the vulva or vaginal wall. These may be separate or conglomerate, and may be ulcerated, with a slight discharge of sero-sanguineous pus which is usually not excessive. The edges of the ulcers are, as a rule, undermined, indurated, and irregular, with nodular bases which bleed only slightly when manipulated. Some of the tubercles may show excavation, while in other cases this is difficult to demonstrate. The inguinal glands in one or both groins are enlarged, and long-standing cases may show an extension of the tubercles into the adjoining tissues, particularly the perineum. The symptoms may be either local or general, depending on the degree of involvement. Pain may be absent, or may be present merely as a dull ache in the vulva and vagina. It is more severe in the pelvic and lumbar region when there is a pelvic involvement. There may be bleeding and oedema of the vulva, especially in children. These patients usually have poor appetites, and intermittent constipation and diarrhoea occur, with an intestinal involvement. Frequent urination with haematuria occurs when the urinary tract is involved, pulmonary involvement is attended with considerable coughing, and occasionally there is blood in the sputum, with night sweats. This condition must be differentiated from gonorrhoea, senile vaginitis, and ulcerative conditions due to trauma, prolapse, syphilis, and cancer, many tests, including biopsies and animal inoculations, are often necessary to establish the diagnosis. Most cases are complicated by tuberculous foci in other parts of the body, and the prognosis is exceedingly grave. Treatment has so far proved unsatisfactory. Medical measures are necessary in addition to rest, air, food, and sunshine. Surgery may be useful if the infecting focus is localized to a small area and the patient's health is not too poor, it is useless in disseminated cases. Cauterization should be considered in small areas of accessible foci.

164 Glandular Extracts in Uterine Inertia.

F. HOLTZ (*La Gynécol.*, March, 1930, p. 153) reports encouraging results from the use of thymophysin in primary and secondary uterine inertia. Thymophysin consists of a mixture of pituitary and thymus extracts, and was recommended by Lemesvary, it has been used since September, 1927, in 23 cases at Stockholm, and has been judged to be preferable to pituitary extract alone. A dose of 2 c.cm. has been found sometimes to occasion such strong uterine contraction that there is a danger of foetal asphyxia; the intramuscular injection recommended, therefore, is one of 1 to 1·5 c.cm., and the majority of the present author's cases received one dose only. Thymophysin was found to be effective in primary and secondary inertia, in the first and second stages of labour, and in premature as well as in full-time labour, it appeared to be useful also in one case of spontaneous abortion at the fifth month. It is said to be useless for induction of labour, and is contraindicated when strong uterine contractions or a marked increase of blood-pressure would be dangerous—for example, when there is foeto-pelvic disproportion, cardiopathy, renal disease, eclampsia, or the threat of uterine rupture.

165 Acute Diffuse Puerperal Peritonitis.

F. LANGELMANN (*Zentralbl. f. Gynäk.*, April 19th, 1930, p. 972) quotes from textbooks and the literature numerous statements that the prognosis in acute diffuse puerperal peritonitis is hopeless, or nearly so. In common with Leiser, however, he rejects such a pessimistic view, and records a series of 75 operations at Dortmund during six years, no fewer than 26 patients recovered. It is noted, however, that death occurred in each of 8 cases of post-partum peritonitis, in the remaining 67 cases of peritonitis after abortion there were 18 cases of streptococcal peritonitis with 12 recoveries, and 11 cases of peritonitis due to haemolytic streptococci with 6 recoveries. Among 13 cases of *B. coli* peritonitis the mortality was only 23 per cent. The 38 per cent. of recoveries in post-abortion cases is ascribed chiefly to early diagnosis and operation. As soon as peritoneal infection is suspected exploratory puncture of the pouch of Douglas is performed. If followed (if pus is obtained) by colpotomy drainage. If improvement does not result within a few hours a laparotomy follows, drainage being promoted in some cases by low counter-incision. Recently colpotomy in suspicious cases has been omitted, and at laparotomy (for this reason performed earlier) diffuse peritonitis is frequently found even when its clinical signs have been surprisingly insignificant. Langelmann holds that the drainage operation should be as simple as possible, to probe among the coils of intestine, or to explore the true pelvis from above in search of a localized abscess, is harmful. The diagnosis of puerperal peritonitis is dependent on spontaneous pain or tenderness in the upper abdominal zone; on increased muscular tension and on increasing abdominal girth. It may be assisted by puncture of the pouch of Douglas, or, as recommended by Bumm and Sigwart, of the abdominal wall. The leucocyte count is of little diagnostic aid.

166. Treatment of Salpingitis.

A. H. ALDRIDGE (*Amer. Journ. Obstet. and Gynecol.*, March, 1930, p. 381) reports an analysis of the operative results in 1,056 cases of salpingitis, and draws certain conclusions, classifying the operations as conservative or surgical according to the subsequent possibilities of future pregnancy. He considers that laparotomy is absolutely contraindicated for the cure of salpingitis while the infection is still active, a condition which can be diagnosed by the use of the sedimentation tests. Dangerous smouldering infections may persist in the pelvis unaccompanied by leucocytosis or pyrexia. Abdominal operations for active salpingitis are associated with an unjustifiable mortality, excessive morbidity, a high percentage of radical surgery, and disappointing sequels. When patients who have pelvic infections are subjected to long periods of convalescence and palliative treatment spontaneous cures occur not infrequently; should a subsequent operation become necessary the mortality and morbidity are appreciably lessened. Aldridge adds that drainage of the peritoneal cavity by the vaginal route is superior to other methods, since the period of post-operative morbidity from delayed wound union is materially decreased, as also is the incidence of post-operative incisional hernia.

167. Carcinoma of the Uterus treated by Radiotherapy.

H. M. MORAN (*Journ. of Cancer Research Committee of Univ. of Sydney*, February 1st, 1930, p. 215) publishes five recent cases of adenocarcinoma of the body of the uterus in which hysterectomy was contraindicated, and radiotherapeutic measures were consequently employed. He discusses the importance of early diagnosis, the radio-resistance and sensitivity of these tumours, the treatment of associated sepsis, and finally gives the technique and dosage, emphasizing the desirability of combining *x* ray with radium therapy. The total dosage must be calculated and, if possible, the two kinds of treatment should be continuous. A group of photomicrographs is given which show the progressive stages of the development of adenocarcinoma of the corpus uteri. The author concludes that where surgery is impossible or inadvisable radiotherapy is of definite value. Even where surgery is possible a preliminary four weeks' course of radiotherapy will probably minimize the risk from sepsis and cancer implantation. Post-operative irradiation is unlikely to be of much value after hysterectomy because an efficient dose cannot be delivered. The best technique comprises radium treatment, followed at once by deep *x* radiation.

168. Vaginal Antisepsis during Labour.

D. H. BESSESEN (*Minnesota Med.*, May, 1930, p. 318) urges the necessity of securing an efficient but mild antiseptic agent which could be applied to the perineum, vulva, and vaginal mucosa at intervals during parturition without causing tissue damage. He believes that in this way the number of infections during the puerperium could be reduced by half. H. Mayes paints the perineum with a 4 per cent. aqueous solution of mercurochrome, and rubs 4 c.cm. of this solution into the vaginal wall. Bessesen has been in the habit of painting the perineum with a 10 per cent. solution of mercurochrome, and introducing into the vagina a 5 per cent. solution of mercurochrome in glycerin, which also contains 1 per cent. iodine. He attributes a considerable reduction of morbidity in his obstetrical practice to this procedure.

169 A Post-climacteric Triad

H. C. GRAM (*Acta Med. Scandinavica*, April 22th, 1930, p. 139), who records sixty-nine illustrative cases, describes a triad consisting in adiposis dolorosa, arthritis deformans of the knee-joint, and arterial hypertension occurring in elderly women about the time of the climacteric. The subjective symptoms are vague rheumatic pains, pain in the knee, breathlessness, and palpitations. Multiparae seem to be specially predisposed. In a certain number of cases obesity and hypertension only, or obesity and arthritis of the knee-joints only, were found, and it was not until some years later that the triad was made complete.

Pathology.

170. Vaccination against Cerebral Tetanus.

S. MUTERMILCH and Mlle E. SALAMON (*C. R. Soc. de Biologie*, May 9th, 1930, p. 23) adduce fresh experimental evidence bearing on the old question of immunity to cerebral tetanus. They find that vaccination of the rabbit by the meningeal route confers a marked resistance, enabling it to withstand the subsequent injection of toxin into the brain; they believe that this is due to the presence in the cerebro-spinal fluid of antitoxin which has been formed locally. If the rabbit is vaccinated by the subcutaneous route, or if it is passively immunized by the subcutaneous injection of serum, it does not prove resistant to intracerebral injection of toxin. But, as Descombey has shown, it is otherwise with the guinea-pig; by a single subcutaneous inoculation of anatoxin it is possible to protect this animal against the intracerebral injection of toxin five weeks later, though not with absolute regularity. The authors concluded that in the guinea-pig there must be some passage of antitoxin from the blood to the cerebro-spinal fluid. To ascertain how this occurred they tried the effect of injecting quantities of broth into the brain, such as would be used in the injection of toxin. They found that the effect of the broth was to set up an aseptic meningitis, which was accompanied by the passage of antitoxin from the blood to the cerebro-spinal fluid. The reaction varied in different guinea-pigs, and in rare cases was insignificant. In rabbits the meningeal reaction was less than in guinea-pigs. The authors conclude, therefore, that resistance to cerebral tetanus is dependent on the presence of antitoxin in the cerebro-spinal fluid; that in animals vaccinated by the meningeal route the antitoxin is formed locally and accumulates in the fluid; and that in guinea-pigs vaccinated subcutaneously, though not in rabbits, the intracerebral injection of toxin is followed by an aseptic meningitis, which enables serum antitoxin to pass into the spinal fluid.

171. The Etiology of Arthritis Deformans.

P. MOULONGUET and G. MIHAILESCO (*Presse Méd.*, April 2nd, 1930, p. 453) describe experiments supporting the view that the pulverization of the articular surfaces is a factor of great importance in the pathogenesis of arthropathies and arthritis deformans. They conducted three series of experiments on the knee-joint of rabbits. (1) Fine bone dust of other animals (cat, rat, rabbit), either obtained immediately after death, or killed by boiling, or dried and sterilized by the autoclave, was injected through a wide needle. (2) Bone dust was introduced by means of a spatula after arthrotomy. (3) The lower end of the femur was trephined with a bit after arthrotomy and the bony particles were pressed into the upper cul-de-sac of the articulation. The animals were examined on the fifth, tenth, and twentieth days. On the fifth day the particles were found to be deeply embedded in the synovial membrane. On the tenth day no particles could be found in the joint cavity; all had passed into the surrounding membrane, and microscopical examination revealed them being broken down rapidly by microphages. Certain fragments, however, appear to be being changed into masses of calcareous salts. On the twentieth day, and only in the arthotomy cases, it was found that another change was simultaneously taking place, there being a constructive reaction ending in the formation of osteophytes and articular foreign bodies. The microscopic appearance of these foreign bodies bears extremely close resemblance to the pathological findings of arthritis deformans. The nature of the origin of the introduced osseous particles was of no moment, suggesting that the important factor was the mineral base rather than the substance proper. The authors discuss the possible method of formation of the new foreign bodies, and point out certain implications as regards the surgery of joints; they advocate the employment of cutting or punching instruments in preference to rasps and saws. Illustrations are given of the injected particles in their various changing forms.

172. Experimental Work on Dengue Fever.

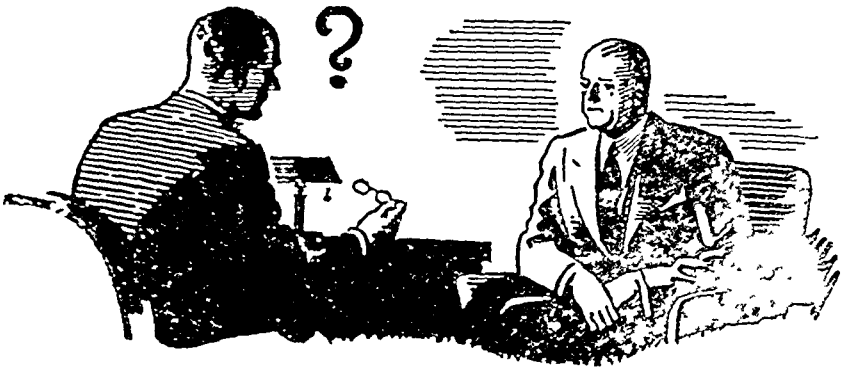
G. BLANC and J. CAMINOPETROS (*Ann. de l'Inst. Pasteur*, April, 1930, p. 367) give an account of experimental work during the epidemic of dengue at Athens in the autumn of 1927 and the summer of 1928. The serum of patients remained virulent, if kept in sealed tubes at 15 to 18° C., for at least 54 days. Evidence was obtained that man might become infected with the virus without developing symptoms of disease, and that this "inapparent infection" led to the development of immunity; during the course of the infection his blood was virulent for healthy volunteers. The guinea-pig inoculated with the blood of a dengue patient shows no pyrexia, but its blood becomes virulent for man five days later. Human volunteers inoculated subcutaneously with the ground-up bodies of *Aedes aegypti*, captured a week previously in the rooms of dengue patients, developed the disease seven to nine days later. Mosquitos of this species were able to transmit infection by biting; once they became infected, they remained so for practically the rest of their lives, provided they were kept at a temperature of 20 to 22° C. No evidence was obtained that *Culex pipiens* was able to transmit infection. The virus of dengue persists in the blood of patients for at least five days, and is infective for *Aedes*. Filtration experiments showed that in the body of the mosquito the virus was capable of passing through Chamberland L_2 and L_3 candles. Clinical experience indicated that one attack of dengue conferred immunity of considerable duration. Experimental evidence indicated that the serum of convalescent or recovered patients had no action on the virus, nor any prophylactic or curative effect in man. Successful vaccination experiments were, however, performed on a small number of volunteers by a first inoculation with virus treated with a 1 in 15 dilution of bile for five minutes, and a second inoculation a fortnight later with virus treated with bile diluted 1 in 20. Subjects vaccinated in this way withstood the subcutaneous injection of 2 c.cm. of virulent human serum.

173. The Distribution of Tubercle Bacilli after Tracheal Infection.

A. BOQUET, L. NÈGRE, and J. VALTIS (*C. R. Soc. de Biologie*, May 1st, 1930, p. 1227), using a very fine needle, injected 0.1 mg. of virulent bovine tubercle bacilli into the middle third of the trachea of 14 guinea-pigs. After varying intervals of time the animals were killed by bleeding, and 6 to 10 c.cm. of blood were injected subcutaneously into two normal guinea-pigs. Certain organs were removed aseptically, ground up in a mortar, suspended in saline solution, and injected into fresh guinea-pigs. It was found that the lungs and tracheo-bronchial glands were infective 30 minutes after tracheal inoculation, and that they remained infective continuously. The blood was infective after 30 minutes, negative after 90 minutes, positive after 7 hours, and then negative up to the end of a week, when it again became positive, and remained so. The spleen became positive after 7 hours, and remained so. It appears that the initial bacillaemia is very slight, and that the blood clears itself, remaining free from bacilli till a fresh invasion occurs from the developing lesions in the lungs and glands. In a second series of experiments a much smaller dose was used for tracheal inoculation—0.0001 mg. The results differed in some respects. The lungs were infective 30 minutes later, but the tracheo-bronchial glands did not become positive for 24 hours. The initial bacillaemia was not apparent; no organisms were detected in the blood for a fortnight. It is probable, however, that there was a slight bacillaemia shortly after infection, for the spleen was positive at 24 hours, though it subsequently became negative, remaining so till the end of a week. The authors consider that these experiments throw light on the mechanism by which tuberculosis of respiratory origin may become generalized, and explain how lesions in distal parts of the body may arise either soon after, or not for some considerable time after, the primary infection.

174. The Bacillus of Rhinoscleroma.

B. J. ELBERT and Mlle W. M. GUERKESS (*Ann. de l'Inst. Pasteur*, May, 1930, p. 548) have studied the properties of the organism described by Frisch in rhinoscleroma. This disease appears to be common in Russia and Poland, and has been encountered in several other parts of the world. Twice as many women are said to be attacked as men, and 70 per cent. of the patients are between the ages of 10 and 30. Several members of a family are often affected. The bacillus of Frisch can be recovered from the mucosa of the nose, pharynx, or larynx, and is present in the rhinoscleromatous infiltrations. The colonies on agar are round, convex, mucoid, with a mother-of-pearl tinge; they are opaque in the centre, and slightly translucent at the periphery. In broth there is a uniform turbidity, and often a mucoid surface pellicle. There is a nail-head growth in gelatin without liquefaction. Acid without gas is produced in glucose and sucrose, but not in lactose. The organism will not grow on agar containing 50 per cent. ox bile: no indol is produced. Colonies examined microscopically in the early stages of growth are said to have a characteristic appearance. These properties distinguish it from Friedländer's bacillus and from *Bact. aerogenes*. These three organisms can likewise be separated from each other by the absorption of agglutinins test. Whether these organisms, however, are distinct species, or only varieties of one and the same species, is doubtful. The authors have observed one strain of Frisch's bacillus, which after several months of cultivation in the laboratory took on the serological properties of *Bact. aerogenes*; and another strain which, though serologically identical with Frisch's bacillus, corresponded in other particulars with Friedländer's bacillus. Patients suffering from rhinoscleroma give a positive complement-fixation reaction with Frisch's bacillus, and agglutinate this organism to a titre of over 1 in 200.



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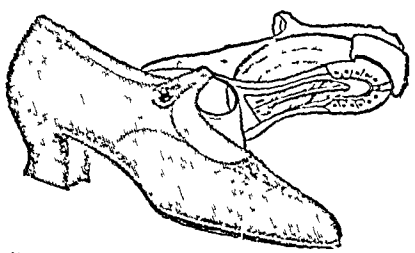
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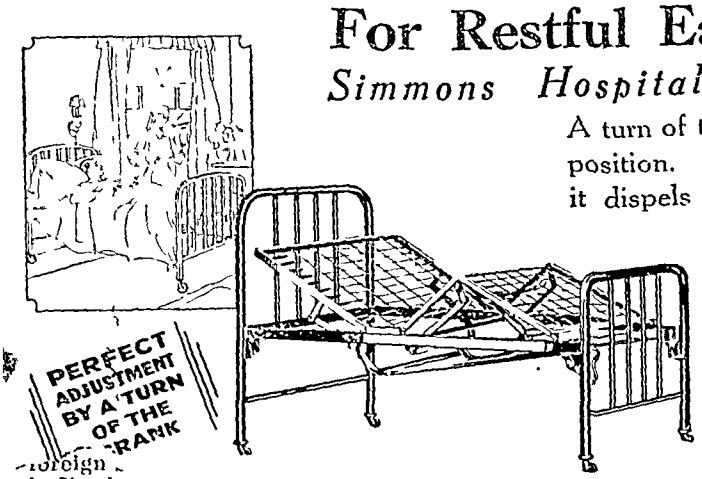
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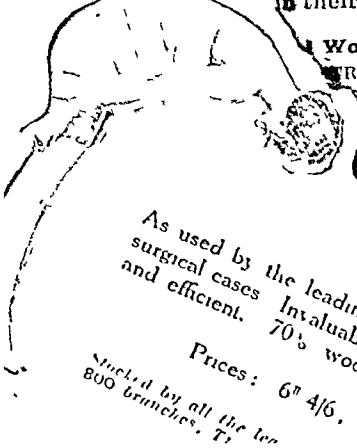
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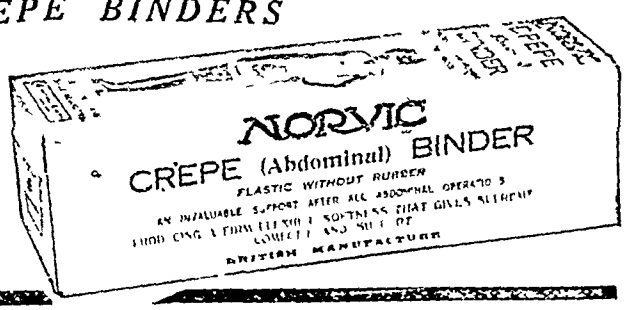
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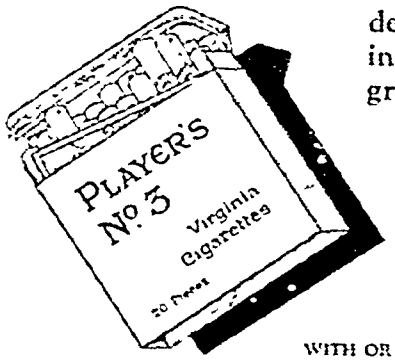
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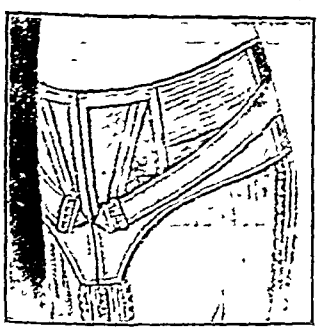
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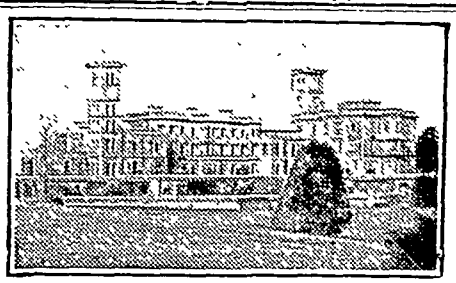
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Electric Light. Central Heating. Electric Lift. Three Billiard Tables. Ball Room. Winter Garden. Swimming Bath. Hard and Grass Tennis Courts, Badminton. Croquet Lawn. Golf Course.

Prospectus from Manager. *Phone: Peebles 2.*

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Aix and Vichy Douches, Massage and Hombières Treatment. An Electric Installation for Baths and other Medical purposes, Downing Patent Heat D'Arsonval High Frequency, Diathermy, Nauheim Baths. New Soapless Foam Baths etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams: SMEDLEYS, MATLOCK." Phone No. 17.

For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

President: PHYSICIANS: G. C. R. HARBINSON, M.B., B.Ch., B.A.O. (DUBL.), F. MACLELLAND, M.D., C.M.(Edin.)

MATLOCK

BOURNEMOUTH HYDRO,

with Vitaglass Sun Lounge and Marine Balcony on the South Coast.

Every kind of Bath. Pompeian Lavacra. Every kind of Massage. Ultra-violet Light. Every kind of Electric Vibration. Every kind of Diathermy. Every kind of Diet. Electric Lift. High Frequence. Electric Light.

Prospectus from Secretary. *Tele. 5-1*

Resident Physician: W. J. JOHNSTONE, M.D. / L. T. POPE HUTCHINSON, M.D.

VICTORIA SANATORIUM

(an entirely British Sanatorium) DAVOS (GRISONS), SWITZERLAND. Terms from £5 a week. Medical Supt. BERNARD HUDSON, M.D. (Cantab.) M.R.C.P. Swiss Federal Diploma.

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(ITALY—near Turin, Milan, Genoa, and the Riviera)

THERMAL AND CLIMATIC RESORT OF ROMAN FAME.
HOT, SULPHUR, NATURAL, RADIO-ACTIVE MUD BATHS.

OPEN ALL THE YEAR ROUND.

Cure of most unusual potency for ARTHRITIS—RHEUMATISM —GOUT—SCIATICA—SPRAINS—DISLOCATIONS—ETC.

GRAND HOTELS DES THERMES
(All under one roof)

Running Water in every room—Private Baths—Apartments.

LONDON HOSPITAL MEDICAL COLLEGE.

F.R.C.S.

A COURSE OF INSTRUCTION for the Final Fellowship Examination will begin on Monday, September 1st.

Fees: (exclusive of Operative Surgery) 20 guineas. Operative Surgery 5 guineas.

A separate entry can be made for all Classes other than those of a strictly Clinical character.

(Men students only are eligible for admission.)

Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, London Hospital Medical College, Mile End, E.1.

LONDON HOSPITAL MEDICAL COLLEGE.

Primary Fellowship Examination.

A COURSE OF INSTRUCTION for the above Examination will begin on Monday, September 1st. The fee for the Course is 15 guineas.

Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, Mile End, E.1.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL COLLEGE.

Final F.R.C.S. Class.

A Course of instruction, suitable to the requirements of candidates for the Final F.R.C.S. Examination in November, will begin on September 4th, 1930.

For syllabus and full particulars apply to the DEAN, Medical College, St. Bartholomew's Hospital, London, E.C.1.

MARLBOROUGH COLLEGE,

Near MACCLESFIELD.

Specialises in

CAREERS FOR GIRLS.

List and Prospectus from Principal.

Special Terms to Medical Men.

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL, N.15.

The Practice of the Hospital is limited to Medical Practitioners. Particulars from I. H. C. BUSIANS, F.R.C.S., Dean.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD, E.C.1.

Built MIDWIFERY TRAINING SCHOOL
MEDICAL forms of Tuberculosis to Hospital
practical Treatment by artificial pneumothorax when necessary, without extra charge. X-ray plant. Electric light. Radiators in all rooms.

Full day and night Nursing Staff.

Resident Physicians: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, MARGARET A. HARRISON, M.B., B.S. Lond.

The Cotswold Sanatorium, Cranham, Gloucester. *Telephone:* 41 WITCOMBE.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London.)

Tropical Medicine and Hygiene.

The School provides two courses yearly, each of 22 weeks. The Autumn Course commences on September 30th, 1930, and the Spring Course on February 2nd, 1931. Composition fee, to include hire of Microscope, etc., £34 5s.

Diploma in Public Health.

The next course of study, covering a period of twelve months, commences on September 29th, 1930, and is so designed that Students wishing to do so can proceed to the New Academic Diploma instituted by the University of London. The composition fee of 54 guineas covers the cost of the necessary practical work and instruction in Infectious Diseases, etc.

Diploma in Bacteriology.

The course of study, covering one academic year, commences early in October. Composition fee £47 15s.

Epidemiology and Vital Statistics.

Special three-monthly advanced courses. Composition fee £7 7s.

Applications for Prospectuses and for other information should be addressed to the Secretary, Keppel St. (Gower Street), London, W.C.1.

LONDON (Royal Free Hospital) SCHOOL of MEDICINE for WOMEN.

(UNIVERSITY OF LONDON.)

8, Hunter Street, Brunswick Square, W.C.1.

Full COURSES are arranged for the M.B., B.S. Degrees of the University of London, and for the Diplomas of the Royal Colleges of Physicians and Surgeons (including Pre-Medical Course).

Special Classes for the Primary Fellowship Examination.

Arrangements for Dental Students in conjunction with the Royal Dental Hospital (pending completion of the Eastman Dental Clinic and Dental School).

Clinical Instruction is given at the Royal Free Hospital, and also at the National, Cancer, Great Ormond Street Children's, Elizabeth Garrett Anderson, South London, and Royal Ophthalmic Hospitals.

Scholarships, Bursaries, and Prizes are awarded annually to the value of £1,450.

WINTER SESSION will begin on WEDNESDAY, OCTOBER 1st, 1930.

Prospectus and information as to Scholarships, residence in the School, Chambers, etc., from the Warden and Sec., Miss L. M. BROOKS.

FLORENCE E. BARRETT, C.H., C.B.E., M.S., M.D., Dean.

TAUNTON SCHOOL,

TAUNTON.

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examination, University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September, 1926. Prospectus from Head Master.

F.R.C.S.(Edin.)

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Jan. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinb'h.

LONDON HOSPITAL MEDICAL COLLEGE AND DENTAL SCHOOL.

THE WINTER SESSION will open on WEDNESDAY, OCTOBER 1st.

THE HOSPITAL is the largest in England. There are 839 beds in constant use. Last year, In-patients, 13,992; Out-patients 89,972 (attendances 566,489), Dental patients 5,622, Major operations, 7,422.

THE MEDICAL COLLEGE AND DENTAL SCHOOL are essentially modern, with large laboratories equipped with the latest and most approved appliances.

SCHOLARSHIPS AND PRIZES to the value of £1,158 are awarded annually, including four Open Entrance Scholarships to the value of £350, and two Entrance Scholarships open to students of the Universities of Oxford and Cambridge to the value of £200.

RESEARCH FUNDS of approximately £113,000 give unrivalled facilities for medical research.

APPOINTMENTS.—Over 160 appointments are made annually from Students of the College recently qualified.

SPECIAL COURSES are held for all the University Examinations for the Primary and Final Fellowship Examinations of the Royal College of Surgeons, and for the Membership Examinations of the Royal College of Physicians.

HOSPITAL PRACTICE.—Exceptional opportunities are offered to qualified Practitioners wishing to attend the General Practice or the Practice of a Special Department of the Hospital.

Club's Union, Athletic Ground of 13 acres, Students' Hostel, etc.

For prospectus and particulars, apply to the Dean (Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S.), who will be pleased to make arrangements for anyone wishing to see the Medical College and Dental School. Mile End, E.1.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London.)

PRIMARY F.R.C.S. COURSE.

A Course of Instruction for the DECEMBER EXAMINATION will begin on MONDAY, SEPTEMBER 1st, 1930, and will be conducted as follows:

ANATOMY AND EMBRYOLOGY.—Prof. J. ERNEST FRAZER, F.R.C.S. (Professor of Anatomy in the University of London).

PHYSIOLOGY AND HISTOLOGY (with Practical Classes).—Prof. B. J. COLLINGWOOD, O.B.E., M.D. (Professor of Physiology in the University of London).

Fee for the Course, 16 gns., or 9 gns. for either section separately. This fee includes membership of the Students' Club during the period covered by the Course.

For further particulars apply to the School Secretary.

LIVERPOOL SCHOOL OF TROPICAL

(UNIVERSITY) Miles from Cheltenham.

COURSES offered from North and East three miles (X-ray controlled), Tuberculins

Instruction and the Ordering of

CLASSES taught by Practising Ophthalmic in London. £8 8s. for 10 lessons.—

123, B.M.A. House, Tavistock

POST-GRADUATE SPECIAL COURSES for SEPTEMBER.

DISEASES OF CHILDREN, at Queen's Hospital. | MEDICINE AND SURGERY, at Westminster Hospital.

LIST OF POST-GRADUATE SPECIAL COURSES FOR 1931 NOW READY.

APPLY FOR PARTICULARS OF WINTER PROGRAMME FOR 1930.

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1.

Telephone: MAYFAIR 2236.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anæsthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

THE LONDON LIGHT AND ELECTRICAL CLINIC,

RANELAGH ROAD, S.W.1.

Under the personal direction of Sir Leonard Hill, M.B., F.R.S., etc., a Post-Graduate Course for Medical Men, of six weeks' duration, will commence on October 1st, 1930.

The subjects. Actinotherapy; Electrotherapy.

Fee for the full Course, £6 6s 0d. For syllabus and full particulars apply to the Secretary.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL

MEDICAL SCHOOL.

(Founded 1816)

Telephone: TEMPLE BAR 1497 BROAD STREET, HOLBORN, W.C.2. (Near British Museum Station)

The Hospital has just been re-built and has 86 beds, including fourteen private rooms for paying patients. The new building has been specially designed for clinical teaching and post-graduate study.

Classes for the D.O.M.S. Examination commence October 1st.

Out-patients are seen daily at 1 o'clock. Operations are performed at 3 p.m.

Qualified medical practitioners and registered students may join at any time. For particulars apply to the Dean or Secretary at the Hospital.

HIGHER MEDICAL QUALIFICATIONS

Why not add one of the following degrees or diplomas to your name?

Diploma in Psychological Medicine.
Diploma in Laryngology, etc.
Diploma in Ophthalmology.
Diploma in Radiology.
Diploma in Tropical Medicine.
Diploma in Bacteriology.
Diploma in Public Health.
Mastery of Midwifery.

You can qualify for any of the above by our Courses of Combined Postal, Clinical, and Practical Instruction.

We Specialise in Post-Graduate Coaching for all Examinations.

Special Preparation for all Surgical Qualifications—F.R.C.S. England, F.R.C.S. EDINBURGH, F.R.C.S. IRELAND, M.S. LONDON, M.CH. CANTAB., AND ALL THE HIGHER SURGICAL DEGREES AND DIPLOMAS.

You can ensure Success by taking a Course of Tuition for your Examination at the

MEDICAL CORRESPONDENCE COLLEGE

19, WELBECK STREET, CAVENDISH SQUARE, LONDON, W.1.

Courses always in progress for all the above Examinations, and also the 1st, 2nd & Final M.B., B.S. London, and all other Universities 1st, 2nd & Final Conjoint, Edinburgh Triple & L.M.S.S.A., D.P.H. (Cantab., Lond., Mict., Dublin, &c.) M.D. London, M.R.C.P. London and Edinburgh, M.D. Thesis (all Universities, British and Colonial). All Dental Examinations.

WHY FAIL AT ANY MEDICAL OR SURGICAL EXAM?

VALUABLE BOOK FREE!

Write at once for our "Guide to Medical Examinations," stating in which Examination you are interested, and a copy will be sent post free by return.

Medical Correspondence College, 19, Welbeck St., W.1. Welbeck 8901.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1.

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,500 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

M.D. THESIS

(Camb., Edin., Glasg., Durh., &c.)

SKILLED COACHING, GUIDANCE, and ADVICE

From Specialist Tutors, in conformity with the Regulations of the various Universities.

Apply for particulars and free booklet, "Hints on writing a Thesis for the M.D. Degree," to the SECRETARY, Medical Correspondence College, 19, Welbeck Street, London, W.1.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD Estab. 1632. Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence, in the Summer holidays, at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."
"Thoroughly physiological principles."—"Lancet."
"The method is scientifically correct and perfectly effective."—"Guy's Hospital Gazette."

STAMMERING, CLEFT PALATE SPEECH, LISPING. 39 of Miss BEHNKE, 39, Earl's Court Sq., S.W.5.

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5.

for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinics and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR DIEDEN, the Secretary.

F.R.C.S.(Edin.)

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Medical and Dental Students.

Special Classes for Pre-Med. cal and Dental Exams., Matric., and Prelims. Chemistry, Physics, and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327, Oxford Road, Manchester.

UNIVERSITY OF BIRMINGHAM

FACULTY OF MEDICINE

(Associated with the General, Queen's, and Special Hospitals for Clinical Teaching.)

THE SESSION OPENS ON OCTOBER 6th, 1930.

The University grants Degrees in Medicine, Surgery, and Public Health, and a Diploma in Public Health; also Degrees and a Diploma in Dental Surgery.

The courses of instruction are also adapted to meet the requirements of other Universities and Licensing Bodies

HOSPITAL APPOINTMENTS.

A large number of Resident Hospital appointments in Birmingham and District are open to qualified students of the School.

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES.

Entrance and other Scholarships and Exhibitions and various Prizes and Medals are awarded annually in the Faculty of Medicine.

SCHOOL OF DENTISTRY. (University of Birmingham and Birmingham Dental Hospital.)

The School of Dentistry, in conjunction with the General and Queen's Hospitals, affords a complete curriculum for the Dental Diplomas and Dental Degrees of the University and all other Licensing Bodies A Dental Scholarship of the value of £46 17s 6d. is offered annually.

PRE-MEDICAL AND PRE-DENTAL EXAMINATIONS.

The necessary Courses of Instruction in Chemistry and Physics and in Biology may be attended in the University.

RESIDENCE FOR UNDERGRADUATES AND OTHER STUDENTS.

There are Halls of Residence for Men and for Women Students. A register of approved lodgings is also kept by the Secretary of the University.

For Syllabus and further information apply to Prof. J. C. BRASH, M.A., M.D., Dean.

UNIVERSITY OF LONDON, KING'S COLLEGE.

FACULTY OF MEDICAL SCIENCE.

COMPLETE COURSES OF STUDY ARE PROVIDED FOR THE PRELIMINARY AND INTERMEDIATE EXAMINATIONS OF:

(1) The University of London.
(2) The Conjoint Examining Board of the Royal Colleges of Physicians and Surgeons, and also for
(3) The Degree in Dental Surgery (B.D.S.).
(4) The Primary Fellowship Examination of the Royal College of Surgeons.
(5) The First Professional Examination for the Licence in Dental Surgery of the Royal College of Surgeons.

The College, with a full complement of University Faculties, offers to Medical Students the advantages of a broad university education before they proceed with the purely clinical subjects in the associated or other hospitals.

Valuable Scholarships and Prizes are awarded on the results of examinations held annually.

The hostel for men students (King's College Hall, Champion Hill, S.E.5) contains accommodation for 80 students The hostel for women students is at 58, Queensborough Terrace, Bayswater.

For detailed prospectus of the Medical and Dental Courses and for further information apply to the Dean, Prof. D M. BLAIR, M.B., Ch.B., or to

S. T. SHOVELTON, M.A.,
Strand, W.C.2 Secretary.

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

FACULTY OF MEDICAL SCIENCES.

SPECIAL COURSE FOR THE PRIMARY FELLOWSHIP EXAMINATION OF THE ROYAL COLLEGE OF SURGEONS.

Special Short Courses in Anatomy and Physiology will begin on Monday, September 1st, 1930, in preparation for the December examination.

Anatomy—E. P. STIBBE, F.R.C.S.
Physiology.—W. H. NEWTON, M.Sc., M.B., Ch.B.; H. P. GILDING, M.A., B.M., B.Ch.

The Course in Anatomy includes Histology, and is made up of lectures and demonstrations Students are permitted to use the Dissecting Room and Museum of Anatomy.

The Course in Physiology includes Biochemistry, and consists of lectures and demonstrations, together with revision of practical work in those branches of the subject which are of particular importance in medical practice.

Full particulars may be obtained on application to—

University College, London (Gower Street, W.C.1.) C. O. G. DOUIE, Secretary.

UNIVERSITY OF CAMBRIDGE

Diplomas in (*a*) PUBLIC HEALTH, (*b*) HYGIENE (for foreign graduates), (*c*) TROPICAL MEDICINE AND HYGIENE.

Courses of Instruction in the Subjects of the Examinations commence October 8th, 1930. Full particulars to be obtained from Mr. J. E. PURVIS, Public Health Chemical Laboratory Medical School, Cambridge.

MIDDLESEX HOSPITAL,

LONDON, W.1.
(*University of London*)

PRIMARY F.R.C.S. EXAMINATION.

ANATOMY.

Personal instruction is given daily by Professor T. YEATES, M.B., C.M.

PHYSIOLOGY.

This Section of the Course is under the joint direction of:
Professor SAMSON WRIGHT and
Professor E. C. DODDS,
and includes Biochemistry, General Physiology, and Histology.

Instruction is given daily except on Saturdays.

The Course will be resumed on September 1st at 9.15 a.m.

FEE: Twenty guineas.
Single Subject: Twelve guineas.

For further information apply to the Dean or the School Secretary.

Examining Board in England

BY THE
ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE
ROYAL COLLEGE OF SURGEONS OF ENGLAND.

PRE-MEDICAL EXAMINATION.

This Examination will commence on Tuesday, September 23rd, 1930.

FIRST EXAMINATION (OLD REGULATIONS).
This Examination will commence on Tuesday, September 23rd, 1930.

SECOND EXAMINATION (OLD REGULATIONS).
This Examination will commence on Thursday, September 25th, 1930.

FIRST EXAMINATION (NEW REGULATIONS).
This Examination will commence on Thursday, September 25th, 1930.

THIRD OR FINAL EXAMINATION.
This Examination will commence on Monday, September 29th, 1930.

Candidates who have completed the prescribed courses and who desire to present themselves for examination must forward the necessary schedules or schedules, through the post, to the Examination Hall, Queen Square, London, W.C.1, twenty one days before the Examination commences.

HORACE H. REW,
August 6th, 1930. Secretary.

Examining Board in England

BY THE
ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE
ROYAL COLLEGE OF SURGEONS OF ENGLAND.

DIPLOMA IN PUBLIC HEALTH.

Part I of this Examination will commence on Monday, October 6th, and Part II on Monday, October 13th, 1930.

DIPLOMA IN GYNAECOLOGY AND OBSTETRICS.

This examination will commence on Thursday, October 23rd, 1930.

Particulars of these examinations, dates of entry, etc., may be obtained from the Secretary, Examination Hall, 8-11, Queen Square, London, W.C.1.

HORACE H. REW,
August 6th, 1930. Secretary.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1.
(FOUNDED IN 1882.)

Principal: Mr. E. S. WEYMOUTH, M.A. (Lond.).
POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES:

M.D.(Lond.),	1901-29 (9 Gold Medallists during 1913-29)	319
M.S.(Lond.),	1901-29 (including 4 Gold Medallists)	21
M.B.,B.S.(Lond.),	*Final* 1906-29 (Completed Exam.)	257
F.R.C.S.(Eng.),	*Primary*	154
	(1906-29) *Final*	149
M.R.C.P.(Lond.),	1914-29	168
D.P.H.	(Various) 1906-29 (Completed Exam.)	286
F.R.C.S.(Edin.),	1918-29	43
M.R.C.S.,L.R.C.P.	*Final* 1910-29 (Completed Exam.)	433
M.D.(Dur.)	(Practitioners) 1906-29	37
M.D.	Various. By Thesis. Numerous successes.	

Preparations for Medical Preliminary, and Chemistry, Physics, Anatomy, Physiology, and final subjects for the Conjoint Board; M.B.(Cantab., etc.); also D.P.M., D.O.M.S., D.T.M. & H., D.L.O., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES.

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS:—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations*, Postal Courses, and Oral Classes. Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examinations Suggestions for the Special Diploma Examinations. Refresher Course. Openings for Women Hints for writing theses

Medical Prospectus gratis along with list of Tutors, etc., on application to the Principal, Mr. E. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6313.)

LONDON SCHOOL OF CLINICAL MEDICINE,

Seamen's Hospital, Greenwich.

A Course will be held at the above, commencing September 29th, 1930, in SURGICAL PATHOLOGY (fee £6 6s.) and OPERATIVE SURGERY (fee £6 6s.). Fee for both Sections £10 10s.

Those wishing to join the class should communicate with the Dean.

Royal College of Surgeons of ENGLAND.

LICENCE IN DENTAL SURGERY

Notice is hereby given that the next FIRST PROFESSIONAL EXAMINATION will commence on FRIDAY, SEPTEMBER 26th, and that the SECOND PROFESSIONAL EXAMINATION will commence on FRIDAY, OCTOBER 31st, 1930.

Candidates are required to give not less than twenty-one days' notice in writing of their desire to present themselves for these examinations to Mr. H. H. Rew, Examination Hall, Queen Square, London, W.C.1, from whom all further particulars relating thereto may be obtained.

DIPLOMA OF FELLOW.

Notice is hereby given that the next PRIMARY and FINAL EXAMINATIONS for the Diploma of Fellow will commence on TUESDAY, DECEMBER 2nd, and THURSDAY, NOVEMBER 20th, 1930, respectively.

Candidates are required to give not less than fourteen days' notice of their desire to present themselves for either of the examinations.

Particulars relating to these examinations may be obtained from Mr. H. H. Rew, as above.

HORACE H. REW,
Director of Examinations.

August 6th, 1930.

THE MIDDLESEX HOSPITAL.

LONDON, W.1.

RADIUM TREATMENT OF MALIGNANT DISEASE.

Applications are invited from Medical Men interested in the Medical and Executive Radium Treatment, for a substantive post at this to be created. Previous experience essential.

For particulars of the duties of the post, and for details of the scheme of which it is a part, apply to the Secretary-Superintendent, Middlesex Hospital, W.1.

The Milroy Lectures on State MEDICINE AND PUBLIC HEALTH.

The Council of the Royal College of Physicians are prepared to receive applications for the office of MILROY LECTURER for 1932.

Applications must be addressed to the Registrar, Royal College of Physicians, Pall Mall East, S.W.1, on or before September 30th, 1930, and should contain a statement of the division of the subject selected by the candidate.

The course consists of Three Lectures.

The Lectures are to be given on Tuesdays and Thursdays in February or March, 1932.

A copy of Dr. Milroy's Suggestions on the subject of the bequest, and information as to the conditions, may be obtained from RAYMOND CRAWFURD, M.D., Registrar.

Guy's Hospital Dental School, London Bridge, S.E.1.

Applications are invited for the post of WHOLE-TIME TEACHER of CONSERVATIVE DENTAL SURGERY. The holder will act as Director of the Conservation Room and as Lecturer on Operative Dental Surgery. The appointment will be made for two years in the first instance, with eligibility for re-appointment thereafter. Salary at the rate of £1,000 per annum in the first instance. Further particulars with regard to the conditions, the status and prospects of the post may be obtained from the Dean, with whom applications (30 copies) should be lodged by September 15th. The applications should include a detailed statement of the applicants' previous experience and the names of two referees. Applicants must hold a qualification in Dental Surgery, registrable in the United Kingdom.

University of Manchester and MANCHESTER COMMITTEE ON CANCER.

JOINT COMMITTEE ON CANCER RESEARCH.

Applications are invited for a post as ASSISTANT in the Cancer Research Laboratories in the University. Experience in tissue culture research and bacteriology is required. Chemical experience also desirable. Salary £400 to £550 per annum according to qualifications and experience. Duties to commence September 29th. Applications must be submitted not later than September 7th to the Registrar, the University, Manchester, from whom further particulars can be obtained.

Birmingham and Midland HOSPITAL FOR WOMEN.

HOUSE SURGEON (man or woman) wanted for six months from October 1st next. Salary to be at the rate of £75 per annum. Applications, with copies of testimonials, to be sent to Mr. H. C. ASTON, 45, Newhall Street, not later than August 30th.

County of London.

APPOINTMENT OF CORONER.

The LONDON COUNTY COUNCIL invites applications for the appointment of a Coroner for the County of London. The salary attached to the office is £1,700 a year, inclusive, and it is probable that the selected candidate will be allocated to the prospective new northern district of the County. The Coroner will be required to provide the necessary office accommodation and clerical assistance and also defray all other expenses of the office, except actual disbursements under the approved schedule of fees, etc. Candidates, who must be not less than 35 or more than 50 years of age on January 1st, 1931, must possess both a legal and a medical qualification. Pensions are payable on retirement under an approved scale. The candidate elected must give an undertaking to give his whole time to the duties of his office. Due weight will be given to the claims of those applicants who served, or attempted to serve, with H.M. Forces during the war.

Applications must be made on the official form, a copy of which (with full particulars) may be obtained by sending a stamped addressed foolscap envelope to the Clerk of the Council, The County Hall, Westminster Bridge, S.E.1. Completed forms must be received by the Council not later than Friday, September 19th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

The Royal Infirmary of EDINBURGH (1,010 Beds).

DEPARTMENT OF OPHTHALMOLOGY.

Applications are invited for the undermentioned appointments which will become vacant on October 1st.

(1) Combined post of SENIOR CLINICAL ASSISTANT and CLINICAL TUTOR (non-resident). Emoluments £145 per annum. Candidates must undertake to hold office for at least one year. Previous experience in Ophthalmic work essential.

(2) Which post is open to a Non-resident CLINICAL ASSISTANT. Emoluments £25 per annum. Candidates must undertake to hold office for at least one year. Previous experience in Ophthalmic work essential.

Both posts afford valuable experience to a Graduate intending to specialise in Ophthalmology.

Applications should be sent forthwith to the SUPERINTENDENT from whom further particulars may be obtained.

By Order of the Board of Managers,
HENRY MAW,
August 4th, 1930. Secretary & Treasurer.

City of Birmingham.

PUBLIC HEALTH DEPARTMENT, TUBERCULOSIS SECTION.

ASSISTANT MEDICAL OFFICER.

Applications are invited from single male Medical Practitioners for the post of Assistant Medical Officer. The successful candidate will be employed both in a Sanatorium and in a Dispensary.

The salary attached to the appointment is at the rate of £350 per annum, with Board, residence, laundry, and attendance, valued at £150 per annum. The officer appointed will be required to pay the Council all fees, allowances, and emoluments (other than the foregoing) received by him, and will be expected to join the Municipal Superannuation Scheme after medical examination.

Further particulars of the appointment and forms of application may be obtained from the Chief Clinical Tuberculosis Officer, 44a, Broad Street, Birmingham, to whom applications, stating age, experience, and qualifications, should be forwarded not later than August 29th.

The Council House, E. H. C. WILTSHIRE,
Birmingham. Town Clerk.

Royal Salop Infirmary, SHREWSBURY (150 Beds).

APPOINTMENT OF RESIDENT HOUSE SURGEON.

Applications are invited from fully qualified men for the appointment of Resident House Surgeon, vacant immediately.

Salary £160 per annum, with board, residence, etc. The appointment is for six months in the first instance, subject to re-appointment for a further period of six months.

Resident Staff comprises Resident Surgical Officer, House Physician, and House Surgeon.

Applications, in triplicate, stating age, qualifications, experience, nationality, and accompanied by copies of three recent testimonials, to be sent to the undersigned forthwith.

J. W. NOBLE,
August 11th, 1930. Secretary Supt.

County Council of Durham.

ASSISTANT WELFARE MEDICAL OFFICER.

The County Health Committee invite applications for the appointment of an Assistant Welfare Medical Officer (woman) at a commencing salary of £500 per annum, rising by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the County Council according to scale.

The appointment will be held subject to three months' notice on either side, and to the following conditions:

(1) The officer appointed must be a registered Medical Practitioner between the ages of 25 and 45 years, must devote the whole of her time to the duties of the office, and must not engage in private practice.

(2) She should either have held a previous appointment as Medical Officer of an Antenatal Clinic, with the approval of the Minister of Health, or have had at least three years' experience in the practice of her profession and special experience of practical midwifery and antenatal work. The holding of a Diploma in Public Health, and practical experience in bacteriological laboratory work, will be deemed additional qualifications for the post.

(3) She will be subject to the directions of the County Medical Officer.

(4) She will be required to reside in Durham City, or such other place as required by the Council.

(5) She must be prepared, if called upon, to act as Locum Tenens to other Members of the Medical Staff of the County Medical Officer.

(6) The appointment will terminate on Marriage.

(7) The candidate appointed will be required to pass the County Council's medical examination, and will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, endorsed "Assistant Welfare Medical Officer," with copies of not more than three recent testimonials must be forwarded on or before 30th instant to the County Medical Officer, Shire Hall, Durham, from whom further particulars may be obtained.

Shire Hall, HAROLD JEVONS,
Durham. Clerk of the Council.
August 11th, 1930.

County Borough of Birkenhead.

PUBLIC ASSISTANCE COMMITTEE.

RESIDENT ASSISTANT MEDICAL OFFICER.

The Birkenhead Corporation invite applications for the appointment of Resident Assistant Medical Officer at the INFIRMARY, Tranmere, Birkenhead, which contains 600 beds.

Salary after the rate of £350 per annum, rising by annual increments of £25 to £450 per annum, together with the usual residential allowances.

The appointment is subject to the provisions of either the Local Government and Other Officers Superannuation Act, 1922, or the Poor Law Officers Superannuation Act, 1896, whichever is applicable to the successful candidate.

Candidates must be duly qualified and registered under the Medical Acts. The appointed candidate may be required, at the discretion of the Council, to undertake such other duties of a medical or surgical nature in the Public Health Services of the County Borough as may be assigned to him.

Further information may be obtained from the Medical Superintendent of the Infirmary.

Forms of application to be obtained from the Secretary, Public Assistance Offices, 3, Conway Street, Birkenhead, on receipt of a stamped addressed foolscap envelope, which must be returned to the undersigned not later than Saturday, August 30th, endorsed "R.A.M.O."

Canvassing the members, directly or indirectly, will disqualify any candidate.

E. W. TAME,
Town Hall, Town Clerk.
Birkenhead.
August 8th, 1930.

Chesterfield and North Derbyshire ROYAL HOSPITAL (190 Surgical and Medical Beds).

HOUSE SURGEON.

Applications are invited from duly qualified men for the above post, which becomes vacant on July 31st.

The appointment is for six months.

Salary is from £100 to £175 per annum, according to experience, with board, apartments, and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned.

G. SUNNUCK,
August 12th, 1930. Supt. & Secretary.

ROYAL AIR FORCE MEDICAL SERVICE

A limited number of candidates will be selected for COMMISSIONS as MEDICAL OFFICERS in the ROYAL AIR FORCE early in SEPTEMBER.

CONDITIONS OF APPOINTMENT.

Candidates will be selected after interview by a selection board without competitive examination.

They must be of pure European descent. They must be British Subjects, the sons of British Subjects and registered under the Medical Act.

Selected Candidates will be appointed to Short Service Commissions (for 3 years extendable to 5), and those under 28 years of age at the time of entry will be eligible for subsequent selection to Permanent Commissions, should they be desirous of remaining in the service.

Resident hospital appointments held since qualifying, will, under certain conditions, qualify candidates for antedate of commission; the age on entry to qualify for a Permanent Commission, if necessary, being increased by a period equal to the 'antedate.'

Excellent opportunities exist for clinical professional work, both Medical and Surgical, as well as for the study and practice of Hygiene, Pathology, Ophthalmology, and other special branches, adequate provision being made for permanent officers to attend Post-graduate courses of study.

OUTFIT ALLOWANCE.

An officer, who has not previously held a commission in H.M. Forces, will receive an outfit allowance of £50 on joining.

PAY, ALLOWANCES, PROMOTION, ETC.

The following table shows the current rates of PAY per annum for the various ranks.

IN ADDITION to pay, officers receive quarters, rations and attendance, or are given cash ALLOWANCES in lieu as shown in the table.

MARRIED OFFICERS who have attained the age of 30 YEARS receive either Married Quarters or ALLOWANCES at the MARRIED RATES.

Service	Rank	Pay	Allowances in lieu of Rations	
			Married	Single
On entry	Flying Officer	£405	—	£122
After 2 years on promotion to	Flight Lieut. ...	£441	£237	£192
Rising by increments after 2 and 4 years to	,, ,,	£702	£237	£192
After 10 years' total service on promotion to	Squadron Leader ...	£558	£237	£192
Rising by increments after 2, 4, 6, 8, and 10 years to	,, ,,	£849	£236	£192
By selection to ...	Wing Commander ..	£1,034	£237	£192
Rising by increments after 2 and 4 years to ...	,, ,, ...	£1,071	£237	£192
By selection to	Group Captain ...	£1,189	£309	£251
By selection to ...	Air Commodore ..	£1,357	£365	£312
By selection to ...	Air Vice Marshal .	£1,697	£429	£373

Rates of allowances abroad are fixed in relation to costs in the particular country.

The rates of pay of the Royal Air Force Medical Branch are fixed on an inclusive basis, and the fact that specialist pay and charge pay are not payable as separate emoluments was taken into account when the rates were fixed.

GRATUITIES.

Short service officers who complete their full period of service on the active list may be granted gratuity as follows on transfer to the reserve:

After 3 completed years .. £350.
After 5 completed years .. £700.

Permanent officers who are allowed to retire voluntarily before qualifying for retired pay may be granted gratuity as follows:

After 10 but less than 15 years' commissioned service .. £1,500.
After 15 or more than 15 years' commissioned service .. £2,500.

RETIRED PAY.

The current rates of service retired pay range from £455 a year, normally earned after 20 years' service, to £939 10s., the maximum for which an Air Vice-Marshal is eligible (at current rates).

Rates of retired pay are subject to alteration upwards or downwards within certain limits according to fluctuations in the cost of living.

Full particulars as to the conditions of service are contained in Air Ministry Pamphlet 25, a copy of which, together with form of application, can be obtained on application to the Secretary, Air Ministry (D.M.S.), Adastral House, Kingsway, LONDON, W.C.2.

Leicester Royal Infirmary.
(450 Beds)

HOUSE SURGEONS AND CASUALTY OFFICER

Vacancies are expected in the above offices on October 1st. Salaries at the rate of £125 per annum. Applicants must have held a Resident Hospital post, or had similar experience of Hospital work. Election about the middle of September for duty on October 1st.

Applications to the undersigned by Monday, September 1st.

HARRY JOHNSON,
House Governor & Secretary.

Aug. 11th, 1930.

The Northern Infirmary,
INVERNESS

Wanted for September 1st next, HOUSE PHYSICIAN and JUNIOR HOUSE SURGEON (combined post) fully qualified and registered, male, unmarried. Salary £100 per annum, with board, residence and laundry.

Applications, stating age, medical school and experience with copies of qualifications, and testimonials to be sent not later than 23rd inst. to Mr ROBERT GILPERT, Hon. Secretary to the Institution, 20, Church St., Inverness.

August 7th, 1930.

Stockton and Thornaby Hospital,
STOCKTON-ON-TEES
(140 Beds)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about September 15th.

Salary £150, with board, residence, and laundry. Candidates must be duly qualified, and unmarried.

Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

J. WILKINSON, Secretary.

The London Lock Hospital,
91, Dean Street, W.

The Board of Management invite applications for the following appointments:

(1) SURGICAL REGISTRAR. (The present holder is an applicant for re-appointment.)

(2) ADDITIONAL SURGICAL REGISTRAR. Required in view of the increasing work at the Male Lock Hospital.

Honorarium in each case £100 per annum. The appointments are for one year. Candidates, who must be doubly qualified and duly registered, are invited to send in their applications, together with three copies of testimonials only, to the Secretary at 283, Harrow Road, W.9, not later than 10 a.m. on September 8th. Selected candidates will be required to attend a meeting of the Medical Committee on September 11th. Copies of the Laws and By-laws relating to these appointments can be obtained on application to the Secretary. Candidates must be Fellows (or Members) of the R.C.S. England, or Surgical Graduates of a University of the United Kingdom. Duties to commence October 10th.

By Order of the Board,
HY. J. EASON,
Secretary.

August 7th, 1930

The London Lock Hospital,
91, Dean Street, W.

The Board of Management invite applications for the post of HOUSE SURGEON at the Male Lock Hospital.

Candidates must be doubly qualified and duly registered. The appointment is at the rate of £200 per annum, with furnished rooms, full board, and laundry. The appointment is for six months. Duties to commence October 5th. Applications, enclosing copies (only) of three recent testimonials, to be sent to the undersigned at the Male Lock Hospital, 91, Dean Street, W., on or before September 8th.

By Order of the Board,
HY. J. EASON,
Secretary.

August 7th, 1930.

The London Female Lock
HOSPITAL, 283, Harrow Road, London, W.9

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital. Salary at the rate of £150 per annum, with furnished rooms, full board, and washing. Candidates, who must be doubly qualified and duly registered, should send in their applications by September 8th, accompanied by copies of three recent testimonials, to the Secretary, from whom further particulars can be obtained. The appointment is for six months commencing October 4th.

By Order of the Board,
HY. J. EASON,
Secretary.

August 7th, 1930

London Hospital, E.1.

Applications are invited for the post of MEDICAL FIRST ASSISTANT AND REGISTRAR. The appointment is for one year, but is renewable annually, on application, for two further periods of one year. Salary £300 per annum, payable by Hospital and Medical College jointly.

Candidates must be fully qualified medically. Applications should arrive at the Hospital not later than by the first post on Saturday, October 18th.

Further particulars may be obtained from the House Governor.

A. G. ELLIOTT, House Governor.

London Hospital, E.1.

Applications are invited for the post of SURGICAL FIRST ASSISTANT AND REGISTRAR. Candidates must be Fellows of the Royal College of Surgeons. The salary is £300 per annum, which is paid by the Hospital and Medical College jointly. The appointment is for one year but is renewable annually, on application, for two further periods of one year.

Applications should arrive at the Hospital not later than by the first post on Saturday, October 18th.

Further particulars may be obtained from the House Governor.

A. G. ELLIOTT, House Governor.

Midland Hospital,
Eagle Row, BIRMINGHAM.

A vacancy occurs for the post of HOUSE SURGEON at the above Hospital immediately. Salary £200, with board, residence, and laundry.

Applications, stating age and qualifications, accompanied by recent testimonials, should be forwarded at once to JAMES O. AYRES, Secretary.

The Victoria Hospital for
CHILDREN, Tite Street, Chelsea, S.W.3.
(138 Beds.)

The Committee of Management invite applications for the post of HOUSE SURGEON. The appointment is for five months—viz., September 1st, 1930 to January 31st, 1931. Salary at the rate of £100 per annum, with board, lodging, and washing.

Candidates must attend the Hospital for the purpose of an interview at 5.30 p.m. on Tuesday, August 26th. (No travelling or other expenses will be paid.) They must hold Medical and Surgical qualifications, and be registered under the Medical Act.

Applications, with copies of three recent testimonials, should be sent to the Secretary not later than first post on Monday, Aug. 25th.

By Order,
D. ST. JOHN BAMFORD,
Secretary.

Dorset County Hospital,
DORCHESTER.

APPOINTMENT OF HOUSE SURGEON.

The Committee of Management are open to receive applications for the position of House Surgeon to take up his duties on or about September 1st.

Every candidate for the office of House Surgeon must be unmarried and possess a registered qualification to practise Medicine and Surgery from some recognized Body in Great Britain or Ireland. Salary £160 per annum, with board and lodging. The appointment is for a period of not less than six months.

All applications, accompanied by three recent copies of testimonials, should be sent to the Secretary, Dorset County Hospital, on or before August 25th.

Candidates must be of British nationality.

Derbyshire Royal Infirmary,
DERBY.
(General Hospital—346 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON.

Candidates must be qualified and registered under the Medical Acts.

The appointment is tenable for 12 months.

Salary will be £150 per annum, with apartments, board, etc.

There are 40 beds for Ophthalmic cases and a large Out-patient Department.

Applications, with copies of testimonials, to be sent to the undersigned.

WALTER BANKS,
Supt. & Secretary.

August 11th, 1930.

Elsie Inglis Memorial Maternity
HOSPITAL,
Spring Gardens, EDINBURGH.
(60 Beds.)

Applications are invited from qualified Medical Women for the post of HOUSE SURGEON for above Hospital. The appointment is for six months from October 1st, with board, residence, and laundry.

Applications, with copies of testimonials, to be received by the Secretary on, or before, September 1st.

Hertford County Hospital.

Applications are invited for the post of HOUSE PHYSICIAN (male). Salary £150 per annum, with board, residence, and laundry. The appointment is for six months in the first instance.

Applications, with copies of three recent testimonials, should be sent to the undersigned as early as possible.

PERCY G. BROOKS, Secretary.

General Lying-In Hospital,
York Road, Lambeth, S.E.1.

RESIDENT MEDICAL OFFICER required for October 1st next. Appointment for three months; £100 per annum, with board.

Applications, with three testimonials, to be sent to the Secretary not later than Sept. 5th.

Lowestoft and North Suffolk
HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum, with board, residence, and laundry. Duties to commence in August.

Applications, together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

Eccles and Patricroft Hospital,
near MANCHESTER.

JUNIOR HOUSE SURGEON required immediately. Commencing salary £125—£150. Six months, renewable. General Hospital.

Apply, with testimonials, to Secretary, as above.

West Norfolk and King's Lynn
GENERAL HOSPITAL.

The Board of Management invite applications for the post of SENIOR HOUSE SURGEON (male or female). Duty to commence October 1st next. Salary £150 p.a. 60 Surgical beds. Over 1,500 Operations 1929. Preference given to candidates with previous experience. Appointment is for six months in first instance.

Also JUNIOR HOUSE SURGEON (male or female) who will have charge of Medical and Ophthalmic beds. Salary £100 p.a.

Applications, stating experience, and full particulars, with three recent testimonials, to be received not later than September 2nd, to be sent to—

JOSEPH E. SEARJEANT,
House Governor & Secretary.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Duties to commence as soon as possible.

The duties include charge of four beds devoted to complicated Midwifery cases.

Salary at the rate of £150 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable, and the salary for the second six months will be at the rate of £175 per annum.

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned.

Dated this 26th day of May, 1930.

ARTHUR H. LIMB, Secretary.

Birkenhead General Hospital.
(156 Beds.)

Applications are invited for the following Resident posts:

HOUSE PHYSICIAN (gentleman). Salary £100, with board.

CASUALTY OFFICER (gentleman). Salary £100, with board.

Both appointments are for a period of six months commencing October 1st, but may be extended with the Committee's approval.

Applications, stating qualifications, experience, and nationality, with three testimonials, to be sent to the undersigned as early as possible.

W. H. DANIELS, A.C.I.S.,
Secretary-Superintendent.

Birmingham and Midland Skin
HOSPITAL, John Bright Street, BIRMINGHAM.

Applications are invited from registered Medical Practitioners to act as CLINICAL ASSISTANTS in the Out-patient Consulting Room each afternoon, except Saturday and Sunday.

Honorarium at the rate of 26 guineas per annum for one afternoon per week.

Applications (one copy), stating age, qualifications, experience, present engagements and afternoons at liberty, should be addressed to the Secretary not later than September 3rd.

The work of the Hospital can be seen each afternoon by doctors and bona fide students.

HUBERT SUMNER, Secretary.

The Guest Hospital and Eye
INFIRMARY, DUDLEY.
(General Hospital—104 Beds.)

Applications are invited for the post of ASSISTANT HOUSE SURGEON. To commence duties immediately. Salary £160 per annum, with furnished apartments, board, and laundry. Candidates must be fully qualified and registered. Applications, stating age, qualifications, and experience, and accompanied by copies of testimonials, to be sent to the undersigned.

H. RAYMOND HURST,
Secretary.

The Guest Hospital,
Dudley. August 9th, 1930.

The Hospital for Sick Children,
NEWCASTLE UPON TYNE.

The Committee of Management have declared a vacancy for an HONORARY ASSISTANT SURGEON.

Applications, stating age and qualifications are invited for this appointment, and should be sent to the Secretary, Mr NEIL BRODIE, 18, City Road, Newcastle upon Tyne, accompanied with three testimonials, on or before September 8th. Canvassing a disqualification.

Royal United Hospital, Bath.

Wanted at once, an ASSISTANT HOUSE SURGEON. Salary £120 per annum.

The appointment will be for not less than six months, and candidates must be male, unmarried, and of British nationality.

Applications, with three testimonials, must be addressed to the undersigned.

J. LAWRENCE MEARS,
Secretary-Superintendent.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B M A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District	Town or District
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH, GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
MARDY, GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY, GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE *(Assistant School Medical Officer)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector)*

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B M A House, Tavistock Square, W C I.

Town or District.	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch
NEW SOUTH WALES *(All Friendly Societies' Appointments)*	Dr R. H TODD (Hon Sec, New South Wales Branch) Savings Bank Building, 21, Elizabeth St Sydney, N S W.	**SOUTH AUSTRALIA.** *(Lodge Appointments)*	Secretary, South Australian Branch, 207 North Terrace Adelaide	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments)*	Dr G F V ANSON (Hon Sec, New Zealand Branch, British Medical Association P O Box 155, Wellington, New Zealand
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute)*	The Hon Sec, Queensland Branch), British Medical Association B M A Building, Adelaide St., Brisbane	**VICTORIA.** *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon Sec, Victorian Branch) British Medical Association Medical Society Hall, Eastern Melbourne Victoria	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices)*	Hon Sec, Western Australian Branch British Medical Association No 6 Bank of N S W Chambers St George's Terr Perth, Western Australia

August 13th, 1930 By Order of the Council. ALFRED COX, Medical Secretary

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Ministry of Pensions

BIRMINGHAM PENSIONS HOSPITAL COMMITTEE.

HIGHBURY HOSPITAL MOSELEY, BIRMINGHAM

Applications are invited for the post of RESIDENT ASSISTANT MEDICAL OFFICER at the above Hospital

The cases treated are surgical (mainly orthopædic) and medical Salary £300 per annum with lodging, fuel and light The appointed candidate to be prepared to take up duties early in September

Candidates selected for appointment will be required to pass their travelling expenses Applications stating age, experience and war service (if any), together with copies of recent testimonials to be received not later than Friday, August 22nd addressed to Chairman of the Committee, Highbury Hospital Moseley Birmingham

Cumberland Infirmary, Carlisle

The following posts are vacant on October 1st Six months' appointments Male Previous experience desirable Salary in each case at the rate of £155 per annum, board, residence etc

(1) SECOND HOUSE SURGEON
(2) HOUSE SURGEON to Special Departments (Eye Ear, Nose, and Throat)

Applications stating age, etc, with copies of not more than four testimonials must be received by first post on Wednesday August 20th by the undersigned, who will supply further particulars if desired

Separate applications required for each post

J. G HOWITT,
August 1st, 1930 Secretary

Manchester Royal Eye Hospital.

JUNIOR HOUSE SURGEON required Salary £120 per annum, with residence, board, etc

Applications (with copies of testimonials) endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management not later than August 22nd

H R NORTH, Secretary

Queen's Hospital, Birmingham

(MEDICAL SCHOOL.) (350 Beds)

Applications from fully qualified candidates are invited for the post of MEDICAL REGISTRAR

Salary £200 per annum with board residence and laundry

The appointment in the first instance is for the period November 12th 1930 to September 30th 1931, with eligibility for re-election for two further yearly appointments from the latter date

Full particulars can be obtained from the undersigned to whom applications accompanied by three recent testimonial should be sent by Monday Sept mber 8th next

Birmingham G HURFORD,
July 29th 1930 House Governor

North Riding Infirmary,

MIDDLESBROUGH
(General Hospital—150 Beds)

JUNIOR HOUSE SURGEON (male) required to take up duties early as possible The appointment will be for a period of six months Three residents are employed Candidates eligible for the higher posts as they become vacant Salary at the rate of £150 per annum, with board, residence, etc

Applications, stating age, nationality and experience, with three recent testimonials should be sent to the undersigned forthwith

CHARLES POSTGATE
Secretary Superintendent

Gloucestershire Royal Infirmary

AND EYE INSTITUTION GLOUCESTER.
(153 Beds)

Applications are invited for the post of HOUSE PHYSICIAN Salary £150 per annum with board residence, and laundry The appointment is for six months, which may be extended for similar periods by re-election from time to time

Applications stating age qualifications and nationality with copies of not less than three recent testimonials, should be sent to the undersigned

F J SYMONS
July 31st, 1930 Secretary.

Royal South Hants and

SOUTHAMPTON HOSPITAL
SOUTHAMPTON

Two ASSISTANT HOUSE SURGEONS required to commence duties September 1st Six months' engagement Salary £180 per annum with rooms board and laundry Applications, stating age to be sent to the undersigned together with copies of testimonials (limited to three) as soon as possible

HY TRUSSON, Secretary

Rochdale Infirmary and

DISPENSARY. (110 Beds)

Wanted JUNIOR HOUSE SURGEON (male) Salary £175 per annum, including board residence, and laundry. Applications, stating age, nationality, etc, together with copies of three recent testimonials, to be sent to the Secretary endorsed House Surgeon' Conditions of appointment may be had on application to the Secretary

Infirmary Office, W WYNNE,
Rochdale Lancs Secretary

Warwick County Mental

HOSPITAL HATTON

JUNIOR ASSISTANT MEDICAL OFFICER wanted Salary £250 per annum, with board residence laundry, and attendance An extra £50 per annum is given on obtaining D P M The appointment is subject to the provisions of the Asylums Officers Superannuation Act 1909 Applications, stating age etc together with copies of recent testimonials to be sent to the Medical Superintendent.

Connaught Hospital,

Orford Road Walthamstow, E17.
(100 Beds)

Required SENIOR RESIDENT HOUSE SURGEON (who will be R M O) Appointment to start on September 1st, and to be for six months Salary £150 p a with free quarters, board and laundry Applications with three testimonials or copies, to reach the Secretary by Wednesday, August 20th

(Appointments continued on p 44)

ASSISTANCIES.

Wanted. — Assistantship, with early view to Partnership, by M B, B S., M.R.C.S., married. Eight years' experience G.P., Poor Law work, and Public Vaccinator. Keen to work up Branch Surgery. Midlands preferred. Own car. Small capital. —No 5502, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Young, single, male, indoor ASSISTANT. Panel and private Practice Commencing salary £250, rising to £300 in six months, if suitable. Commission on mids. Testimonials and photograph — Address, No 5414, B.M.A. House, Tavistock Square, W.C 1.

Wanted immediately, outdoor male ASSISTANT, single, some experience of G.P. desirable. Semi rural Practice, Yorks Salary £350 p.a., with furnished rooms, fire, light, and attendance Good prospects — Address, with references, No 5597, B.M.A. House, Tavistock Square, W.C 1.

Wanted. — Assistantship with early view to Partnership, by M.B, B Ch Q.U B, married, Protestant; six years' experience G.P. Would be keen to work up Branch Surgery. North of England pref. Small capital Interview necessary. Free end of Sept. —No 5232, B M.A. House, Tavistock Sq , W.C.1.

Wanted.—Assistant for large Practice (panel and private) in northern city. Excellent house and £400 per annum. (Caretaker in residence at present.) Prospects later for suitable man. Full particulars.—Address, No 5522, B M A. House, Tavistock Square, W.C 1

Wanted.—Indoor male Assistant, end of August, mixed urban Practice, with appointments. Good experience. Light work. Excellent quarters £300 per annum Hants —Address, No 5582, B M A. House, Tavistock Square, W C 1.

Wanted, experienced Woman ASSISTANT for good class Country Practice in Midlands Able to dispense and drive car. £250 indoor and half midwifery fees Increase after six months — Address, No 5595, B M A House, Tavistock Square, W C 1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view. State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted. — Whole or part-time ASSISTANTSHIP, preferably in London area, by Woman M B, B S Lond. (1926), ex H S, H P, and Ophth. H S Experience in panel and private Free in October. Own car. —No 5521, B M.A. House, Tavistock Sq , W C 1.

Wanted.—Outdoor Male Assistant for panel and private Practice, Lancashire Young, energetic. Own car preferable Salary £450 p a and petrol Reply with photo — Address, No. 5594, B M A House, Tavistock Square, W C.1.

Wanted. — October 1st, male ASSISTANT, married, to take charge of Branch. Salary £350, free unfurnished house and midwifery fees G.P. and Hospital experience essential Usual bond.—Address, No 5507, B.M A. House, Tavistock Square, W C 1.

Wanted in Colliery Practice in Glamorganshire, an indoor male ASSISTANT Salary £300 a year, rising by increments of £25 to £400 Experience in Anæsthetics and motor cyclist preferred — T J. BELL THOMAS, M R C S , Maesteg

Wanted. — Indoor Assistant, young, male, English, Scotch, or Irish, for panel and general Practice, small town, Lincolnshire, with Hospital experience preferred Able to drive car. Usual bond —Address, No 5590, B M A House, Tavistock Square, W C.1.

Wanted. — Assistantship by Woman M B., B Ch , ex H.S. and H.P., 3 years' experience panel and private. Excellent references Able to drive car Free October.— Address, No 5504, B.M A. House, Tavistock Square, W C 1.

Wanted.—Outdoor Male Assistant in a South Wales Colliery Practice. No dispensing Salary £375 per annum, with furnished rooms, attendance, etc. Usual bond —Address, stating age, references, etc., No 5524, B M A. House, Tavistock Square, W C 1.

Wanted. — Assistant (male) for October 1st outdoor Married or single State full particulars — Address, No 5508, B M A House, Tavistock Square, W C.1.

Wanted.—Assistant (married), end of September in mixed industrial Practice in Yorkshire Salary £350 p.a. to commence. Rooms, light, and fuel free. Usual bond. — Address, No 5538, B.M.A. House, Tavistock Square, W C.1.

Wanted—near Birmingham, outdoor male ASSISTANT, end of September. Some experience, either hospital or G P. desirable. Periodic increments to salary.—Add., No. 5585, B M A House, Tavistock Sq., W.C 1.

Wanted. — Indoor Assistant immediately, man or woman under 30. Protestant. Panel and private practice. Give full essential particulars —Address, No. 5520, B M.A. House, Tavistock Square, W.C.1.

Wanted. — Indoor Assistant immediately, man or woman under 30. Protestant. Panel and private practice. Give full essential particulars —Address, No. 5596, B M A. House, Tavistock Square, W.C 1.

Wanted.—Indoor Male Assistant, British, for panel and private Practice in West. Car provided. Dispenser kept. Salary £300 —Address, with references, No 5532, B M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistant, outdoor, with view if suitable. Industrial centre North. Knowledge of Surgery preferred. Usual bond. — Address, No 5405, B M.A. House, Tavistock Square, W.C.1.

Wanted. — Indoor Assistant, male or female. Country Practice. Able to drive car. Salary commencing £260. Usual bond. — Address, No. 5517, B.M.A. House, Tavistock Square, W C.1.

Wanted.—Experienced outdoor male or female ASSISTANT, with or without view, for panel and private Practice, South Midlands — Address, No 5536, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistants, male and female. Knowledge of Welsh an advantage, not essential —Full particulars to A. RAINFORD, 40, Hamilton Street, Hoole, Chester

Assistant, unmarried, indoor, wanted, view Partnership Good class Country Practice, Warwickshire Graduate London, Oxford, Cambridge, or T C.D. D P H. an advantage. Ex H.S or H P. pref. C. of E — No. 5429, B M.A House, Tavistock Sq , W.C 1.

Assistant wanted immediately for new branch cash Surgery, North London Live above surgery Young married man preferred. Salary £350, plus small commission. Partnership later if satisfactory — No. 5509, B.M A House, Tavistock Sq., W.C 1.

M. R.C.S., L.R.C.P., 26 years, ex H S. (2), H P., R S O., post-graduate courses, desires ASSISTANTSHIP, with or without view. Some surgical scope preferred.—Address, No 5528, B.M.A. House, Tavistock Square, W.C 1.

Outdoor Assistant (lady) required in panel Practice in new London suburb Cyclist —Address, stating essential particulars, No 5410, B M.A. House, Tavistock Square, W.C 1.

Radiologist, West End, with increasing Practice, requires OCCASIONAL ASSISTANCE, desires to meet another Radiologist who could have part time use of rooms and give occasional assistance Nominal rent to suitable man, with usual remuneration for assistance rendered — Address, No 5443, B M.A. House, Tavistock Square, W.C.1.

Scotch University Graduate (1927), married, 18 months' Resident House appts., 1 year General Practice, experienced major surgery, wishes ASSISTANTSHIP with early view. Excellent tests Small capital. —No 5442, B M A. House, Tavistock Sq , W C 1.

Straits Settlements. — Wanted, well-qualified ASSISTANT at once. Climate very healthy and life extremely pleasant. Must be efficient, loyal man —Address, No 5432, B M A. House, Tavistock Square, W.C 1.

Young male Doctor, English or Irish, wanted to ASSIST in a Lancashire seaside resort. Doctor would reside in branch surgery. Salary £260 p a , with full board. Photograph necessary.—Address, No 5519, B M,A. House, Tavistock Square, W C 1.

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Lady Dispenser-Bookkeeper desires part or full time post with Doctor in country. Apothecaries Hall certificate. Accounts, correspondence, dressings, etc Experienced — Address, No. 5527, B M.A. House, Tavistock Square, W.C.1.

Lady Dispenser - Bookkeeper (Hall), requires POST with Doctor. Experienced in private and panel work. Good testimonials —Address, No 5529, B M A. House, Tavistock Square, W.C.1.

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Experienced Practitioner, M.D., B.S., M.R.C.S. (late aged 54), 6 years G.P., desires JUNIOR PARTNER in first-class panel non-dispensing Practice in good residential town. Prefer S. or E. Coast. Would invest good sum in fresh part with view expansion.—Address No. 5589, B.M.A. House, Tavistock Sq., W.C.1.

Lancs Town. — Partnership in old-estab. PRACTICE. Cash receipts 1929 £2,524. Panel 1930. Good house, 3 reception, 5 bedrooms. Garage and garden. Premium—1/2 share £1,500 (including book debts).—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

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Wanted.—Practice, with panel. Total income must be over £1,000. Any large town. Small car essential.—Address, No. 5513, B.M.A. House, Tavistock Square, W.C.1.

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Old Kent Road. — Required, PRACTICE within 10 minutes walk from East Street.—Address, No. 5104, B.M.A. House, Tavistock Square, W.C.1.

Cheshire Town, near Manchester —Average cash receipts £800. Panel 450. Good-class semi-detached house, 3 reception rooms, 4 bedrooms. Garage and garden. Premium 1½ years' purchase.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

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LITERARY.

Authors and Composers are invited to forward MSS of all descriptions for prompt PUBLICATION. £50 cash for poems. No reading fees; current catalogues free. —STOCKWELL, Ltd., 29, Ludgate Hill, London.

For Sale.—Twelve Etchings, coloured, "London Scenes," from water colours by Edwin King. Brand new. Cost £3 3s each plus cost of framing. Offers.—Address, No. 5523, B.M.A. House, Tavistock Square, W.C.1.

Safety First. — Ernest Grimaldi, Ltd., have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements This valuable experience is at your disposal. Your present car accepted in part exchange. All used cars sold carry 12 months' written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy. List of cars available for immediate delivery posted on request. Extensive list of testimonials available for inspection. Personal attention guaranteed. —ERNEST GRIMALDI, Ltd., 148/150, Gt. Portland Street, W.1. Museum 3931 & 7236.

APPOINTMENTS.—Contd.

Miller General Hospital, Greenwich Road, S.E.10.

CASUALTY OFFICER (male and unmarried) required. There are four other residents Salary £150 per annum, with board, residence, and laundry. Duties to commence as soon as possible

Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary as soon as possible.

August 12th, 1930

Wanted. — Whole-time Radiologist, General Hospital, WELLINGTON, NEW ZEALAND. Salary commencing £950 — For further particulars, apply, "Radiologist, Wellington," c/o High Commissioner, New Zealand, Strand, W.C.2.

City of Liverpool.

PUBLIC ASSISTANCE COMMITTEE.

DISTRICT MEDICAL OFFICERS.

The Committee invite applications from fully qualified Practitioners as District Medical Officers for the following Districts:

No. 1.—The area bounded by the northern boundary of the township of Kirkdale to the L.M. & S. Railway (Southport Line) continuing with the Railway to Bankhall Street and then by Stanley Road and Boundary Street to the River.

No. 3.—The area bounded by Saltney Street, Sherwood Street, Gerrards Bridge, Lilary Street, Vauxhall Road, Arley Street, Summer Seat, Limekiln Lane, Collingwood Street, Great Homer Street, Fox Street, Rose Place, Scotland Road, Addison Street, Marylbone, Tithebarn Street, Oldhall Street, Union Street, Lancelots Hey, junction of Queens Street, thence to the River.

The gentlemen appointed will be required to reside in their respective districts, to attend at fixed surgery hours, to devote the time necessary for the efficient discharge of the duties devolving under the orders of the Ministry of Health and the Council, and to provide at their own expense an approved deputy during absence on annual leave or otherwise.

Salary at the rate of £250 per annum for each position less superannuation contributions, but exclusive of an agreed allowance for surgery accommodation. The appointment in the first instance will be made for twelve months and will be subject to the provisions of the Poor Law Act, 1930, the Public Assistance Order, 1930, the Standing Orders of the Council, and the usual conditions governing the office.

Applications, stating age, qualifications with dates, and present engagement, with copies of three testimonials, to be received by the undersigned not later than Saturday, August 30th.

Public Assistance Offices, WALTER MOON,
Brougham Terrace, Town Clerk.
Liverpool. August 12th, 1930.

City of Liverpool.

PUBLIC ASSISTANCE COMMITTEE.

RESIDENT ASSISTANT MEDICAL OFFICERS.

Applications are invited for the appointment of Resident Assistant Medical Officers at the *undermentioned Hospitals for a period of one* year from October 1st, at a salary after the rate of £200 per annum, together with the usual residential allowances.

Candidates must be single, fully qualified, and registered.

WALTON HOSPITAL. (1,650 Beds)
SMITHDOWN ROAD INSTITUTION. (1,000 Beds)
MILL ROAD INFIRMARY. (650 Beds)

Specialised Hospital work is carried out including General Medical, General Surgical, Gynaecological, Obstetrical, Pathological, X-ray, Electro-therapeutic, Massage, and Sunlight. Various Consultant Specialists are attached to the staff of each Hospital, which are recognized training schools for Nurses A large number of operations are performed annually at each Hospital

ALDER HEY CHILDREN'S HOSPITAL (900 Beds)

Treatment for every type of childrens' ailment with the exception of infectious diseases. A special feature is made of orthopaedic surgery. Various Consultant Specialists are attached to the Staff. Recognized training school for Sick Children's Nursing.

Applications, stating age, qualifications, etc., with copies of three recent testimonials, to be received by the undersigned not later than August 30th

Public Assistance Offices, WALTER MOON,
Brougham Terrace, Town Clerk
Liverpool August 12th, 1930

Swansea County Borough.

RESIDENT MEDICAL OFFICER

INFECTIOUS DISEASES HOSPITAL.

The Council invite applications for the above appointment from duly qualified unmarried Medical Practitioners The salary will be at the rate of £350 per annum, together with emoluments Previous experience in an Infectious Disease Hospital is desirable

Applications (on special forms with particulars of duties, can be obtained from the Medical Officer of Health, Public Health Offices, Swansea) to be sent in not later than Aug. 29th

---

Resident Medical Officer required immediately for LEEDS JEWISH HERZL-MOSER HOSPITAL

Salary £100 per annum, full board Ample time for Post Graduate work

Apply, Secretary, Herzl Moser Hospital, Leopold Street, Leeds

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880.)

12, Stratford Place,
Oxford Street, W.1.

Tele. Address: Triform, Wesdo—London.
Telephone: Mayfair {1782 / 1783}

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Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them.

NORTHERN BRANCH.

The Manchester Medical Agency, lately under the control and management of the Manchester Medical Committee, has now been taken over by the British Medical Bureau as their Northern Branch.
Medical Practitioners in the North requiring the services of the Bureau are recommended to consult the Branch Manager, at the Offices, 33, Cross Street, Manchester.
Telephones: CENTRAL 3925; after Office Hours: RUSHOLME 2549.
Telegrams: "LOCUM, MANCHESTER."

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 WEST END OF LONDON. — Good-class non-dispensing PRACTICE about £4,000 p.a. Fees £1 1s. and £2 2s. Admirably situated house (8 bed and dressing rooms) for sale. Premium for Practice £4,000.

2 SOUTH DEVON. — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage, in acre of garden, for sale. All kinds of sport. Premium £1,500.

3 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs.' pur.

4 YORKSHIRE (W.R.).—Practice averaging £1,700 p.a. in manufacturing town. Panel 1,737. House (4 bedrooms), garage, and small garden, for sale. Scope. Premium 1½ years' purchase

5 WEST MIDLANDS. — Partnership in Practice of about £2,850 p.a. in country town. Panel 1,700. Exceptional and extremely attractive house (11 bed and dressing rooms); garages and garden, for sale. Good social centre. Premium one-half share 2 years' purchase.

6 WEST OF ENGLAND. — Partnership in old-established Practice in pleasant Country Town. House to rent or purchase. Share worth about £1,000 p.a. at 2 years' purchase.

7 LONDON, S.E. — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2,000. House (5 bedrooms, etc.). Garden. To let. Premium one-fifth share 2 years' purchase.

8 MIDLANDS.—Practice over £800 p.a. in first-rate Town. Panel 500. Detached house (4 bedrooms, 3 attics). Garage and garden. Rent £110 p.a. Prem. 1½ yrs.' pur.

9 SOUTH OF ENGLAND.—Partnership in Practice nearly £5,000 p.a. in Country Town, close to fashionable Health Resort. Panel over 5,000. Nice compact house (5 bedrooms), with garage and garden, to rent. Hospital. Great scope. Premium, one-fourth share, £2,500.

10 SOUTH DEVON. — Partnership in non-dispensing Practice, about £2,400 p.a., in favourite watering-place Panel 950. Good Hospital. One-third share at 2 years' purchase. Preliminary Assistantship.

11 S.W. OF ENGLAND.—Unopposed PRACTICE, about £1,150 p.a., in delightful country district. Very fine house, with beautiful gardens, tennis lawn, etc., for sale. *Premium* 1¼ years' purchase.

12 YORKSHIRE (N.R.). — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450. Visits 3/6 to 10/6. Modern house, 12 rooms. Garage and good garden. Rent £42 p.a. Premium 1½ years' purchase.

13 YORKSHIRE (W.R.). — Old-established PRACTICE of £1,500 p.a. in pretty country district, close to large town. Panel £500. Visits 5/- to 15/-. New house, with garage, garden, and paddock. Electric light. Rent £100 p.a. Premium 1½ years' purchase.

14 SOUTH OF ENGLAND.—Old-established unopposed PRACTICE of £1,600. Panel about 1,400. Nice double-fronted house (5 bedrooms, etc.), good garden. Rent £90 p.a. on lease. Premium £2,500.

15 LONDON, N.—Practice about £1,700 p.a. in thickly populated district. Panel 1,500. Corner house (2 bedrooms) to rent. Considerable scope. Premium 1½ years' purchase.

16 LONDON, N. — Partnership in Practice, about £2,300 p.a. in growing residential district in outer London. Panel 1,100. Good scope. Hospital. Premium, one-third share, 2 years' purchase.

17 SOUTH AFRICA.—Old-established PRACTICE of over £1,800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5,000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order, with 2 acres grounds, to be let. Very good scope. Hospital. Premium £1,200 or offer.

18 SOUTH MIDLANDS.—Country Practice of just over £1,000 p.a., within 50 miles of London. Panel 700. Good house, with modern sanitation, excellent garden and paddock, to rent. Premium £1,500, to include drugs and fittings.

19 DEATH VACANCY.—SOUTH COAST.—PRACTICE over £850 in favourite watering-place. Panel about 200. House (5 bedrooms) in half acre garden, for sale.

20 LONDON, S.W.—Partnership in Practice about £2,500 p.a. in first-rate suburb. Panel 1,250. Double-fronted house (7 bedrooms), garage and lovely garden, for sale. Share about £1,000 p.a. at 2 years' purchase. Partner must be well qualified, preferably M.D. or F.R.C.S.

21 HOME COUNTIES. — Easily worked Country PRACTICE about £2,000 p.a. in Agricultural District 40 miles from London. Panel 800. Centrally situated house (4 bed and attics), garage, and garden, for sale. Premium—Practice—1½ years' purchase.

22 SHROPSHIRE.—Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1,100. Very nice house, garage, and large garden, for sale. Sport. Premium one-half share 2 years' purchase.

23 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,600 p.a., in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

24 SOUTH DEVON.—Country Practice nearly £1,500 p.a. in beautiful district, near coast. Panel 634. House (7 bedrooms), with electric light and central heating, garage, and large garden, for sale. Sport of all kinds. Premium 1½ years' purchase.

British Medical Bureau

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Practices and Partnerships for Disposal (continued).

25 LONDON, N. — Sound, easily worked PRACTICE, nearly £2,600 p.a., in residential district. Small select panel. Good corner house (5 bed and dressing rooms), with very good garden, for sale. Small Hospital. Premium—House and Practice—£4,250 cash.

26 MIDDLESEX. — Practice about £500 in growing district of pleasant suburb under 10 miles from London. Panel 450. Large house to rent on lease. Great scope. Premium £750 or near offer.

27 LONDON, E. — Practice £900 p.a. in populous area. Panel 1,240. Shop-fronted premises to rent. Plenty of scope. Premium 1½ years' purchase.

28 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Small compact house (5 bedrooms), with nice garden, for sale. Sport. Premium—Practice and house—£2,000.

29 SOUTH OF ENGLAND.—Partnership in good-class non-dispensing Practice, £6,000 p.a., in attractive watering place. No panel. House (3/4 bedrooms), garage, and garden to rent. One-third share at 2 years' purchase. Partner should be 35-40 years of age, and hold F.R.C.S.England.

30 MIDLANDS.—Practice, over £1,700 p.a., in important City. Panel 1,570. Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale. Scope for increase. Premium £2,250.

31 LONDON, S.E.—Partnership in Practice £6,600 p.a. in outlying Suburban District. Panel 2,000. Premium one-sixth share, 2 years' purchase.

32 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first-rate town within 100 miles of London. Good house (6 bedrooms) to let. Share worth about £1,400 p.a. for disposal at 2 years' purchase.

33 MIDLANDS. — Partnership in Practice over £4,100 p.a. in flourishing town. Panel nearly 3,000. House (3 bedrooms) to rent. One fifth share, 2 years' purchase. Preliminary assistantship. Applicant must be married or about to be.

34 MIDLANDS.—Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years' purchase.

35 SURREY. — Partnership in Practice, £2,690 p.a., in growing and prosperous town. Panel 950. Excellent scope. Premium, one-third or two-fifths share, 2 years' purchase.

36 LONDON, N.W.—Practice of between £1,100 and £1,200 p.a. in suburban district. Panel 650. Corner house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

37 MIDDLESEX. — Partnership in Practice, nearly £3,500 p.a., in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage, and garden, for sale. Premium, one half share, 2 years' purchase.

38 CHESHIRE.—Partner required in increasing better-class non-panel Practice in first-rate residential district. Cash receipts past year over £4,500. A University Graduate who must have held Resident Hospital appointments preferred. One fourth share at 2 years' purchase.

39 LONDON, S.W.—Practice about £630 in suburban district within half an hour of Charing Cross. Panel about 400. House to rent on lease. Very good scope. Premium £900.

40 MIDLANDS.—Fourth Partner required in good middle-class non-dispensing Practice £8,000 p.a. in prosperous town. Very small panel. Small house to rent. One-sixth share at 2 years' purchase. Partner should be aged about 30 and well qualified.

41 LANCASHIRE.—Practice in rapidly growing district near coast and popular resort. Receipts last year £1,183. Panel 260 about. Very nice compact freehold house (4 bedrooms, electric light, etc.), with beautiful garden, for sale. Premium for Practice £500.

42 WEST MIDLANDS.—Practice about £1,050 p.a. in residential country district. Panel over 500. Excellent house (5 bedrooms), with electric light, etc., garage, and 3 acres land for sale or rent. Premium 1½ years' purchase.

43 YORKSHIRE (N.R.).—Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms), garage, garden, etc., for sale or rent. Very good trout fishing. Premium £1,250.

44 LONDON, S.E.—Partnership in increasing middle-class Practice £4,600 p.a. in suburban district. Panel 3,300. Premium one-third or one-fourth share 2 years' purchase. Partner aged about 30, with experience in minor surgery.

45 SOUTH MIDLANDS. — Practice over £1,200 p.a. in Market Town. Panel 900. Pleasantly situated house (6 bedrooms), with good garden, for sale. Scope. Premium 1½ years' purchase.

46 SOUTH MIDLANDS. — Practice of £756 p.a. in County Town. Small panel. Large freehold house (9 bedrooms), garages, and garden, for sale. Good hospital. Premium 1½ years' purchase.

47 SOUTH COAST. — Non-dispensing PRACTICE about £550 p.a. in popular resort. Small panel. House (5 bedrooms), with garage, to let. Plenty of scope. Prem £500

48 LONDON, S.W. — Good-class non-panel PRACTICE in pleasant residential outlying suburb Receipts formerly about £1,500 p.a. House in good position Premium based on results.

49 SOUTH-WEST OF ENGLAND.—Practice averaging £1,666 p.a. in seaport town. Panel over 2,000 House, with 5 or more bedrooms, for sale. Premium £2,500.

50 YORKSHIRE (W.R.). — Practice nearly £1,500 p.a. in manufacturing town. Panel about 750. Good house, with nice garden, to rent or purchase. Premium 1½ years' purchase.

51 KENT AND SURREY BORDERS.—PRACTICE about £800 p.a. in growing and pleasant residential district. Choice of residence for sale. Good scope. Premium £1,200.

52 LONDON, W. — Good middle-class non-panel PRACTICE £1,160 p.a. in Western suburb Attractive detached house (8 bedrooms, including attics) for sale. Considerable scope. Premium £1,150.

53 S.E. COAST. — Practice of nearly £1,100 p.a. in favourite Health Resort. Panel 500. House (5 bedrooms) for sale. Good scope. Premium £1,500.

54 LONDON, S.W.—Partnership in non-dispensing Practice about £5,300 in first rate residential suburb Small select panel. Hospital. Premium one third share 2 years' purchase.

55 OPHTHALMIC PRACTICE in good Town 30 miles from London.—Receipts past twelve months £407 (one day a week only). Hospital. Premium £800

56 EASTERN COUNTIES.—Country Practice in agricultural district. Receipts 1929, £1 400 (average £1 200 p.a.) Panel 425 Very nice house (6 bedrooms) electric light garage, and garden (over acre) for sale Premium 1½ yrs pur

57 NEAR EAST.—Practice, with some major Surgery if desired. Good Hospital. Two appointments. Low premium for quick sale.

58 YORKSHIRE. — Partnership in Practice £2,300 p.a. in seaside town. Panel over 900. Excellent house (8 bedrooms) for sale or rent. Premium two-fifths or one half share 1½ years' purchase.

59 WEST OF ENGLAND.—Assistant required (with view to Partnership) in busy Town and Country Practice of £1,700 p.a. Good Hospital. Two-fifths share at 1½ years' purchase to suitable man (English or Scotch).

60 SOUTH COAST. — Small easily worked PRACTICE of £410 p.a. in fashionable Health Resort No night work or midwifery. Large house. Premium—House and Practice—£6,000.

"MEDICAL PARTNERSHIPS, TRANSFERS AND ASSISTANTSHIPS" (BARNARD & STOCKEN). Post free 12/6.

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No charge is made to Principals for the introduction of Locum Tenens or Assistants.
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1. CHESHIRE.—Coast Town, within reach of Liverpool.—Well established PRACTICE, averaging over £1,200 p.a., including panel of 780. Fees from 3/6. Mid. 2 to 5 gns. Double-fronted house, with 3 reception, 4 bedrooms, etc. Price, freehold, £1,400, £800 on mortgage. Premium 1½ years' purchase, £1,100 down, and balance as arranged.
2. NORTH OF ENGLAND.—In a small pleasant town, old-established sound PRACTICE averaging over £1,200 p.a., including nearly £500 from panel and appts. Good house (3 reception, 5 bedrooms, bathroom, etc., electric light and every convenience, garage, garden). Price, freehold, £1,500. Mortgage for full amount can be arranged. Premium £1,450.
3. CROYDON AREA.—PARTNERSHIP.—A two fifths or one third share is offered in a well established and increasing middle class Practice, averaging £2,600 p.a. (last year £2,740). Panel of 935. Fees 3/6 to 21/. Midwifery 4 to 15 guineas. Choice of houses. Premium 2 years' purchase, part by arrangement.
4. DEVON.—VILLAGE PRACTICE, situated in very attractive district, within 5 miles of a Hospital town. Receipts for past 12 months £942, including panel producing about £230 p.a. Fees 2/6 to 10/6. Very good ten roomed house, with professional rooms, garage for two cars, cottage, etc. Large garden. Price for freehold £3,000, £2,000 on mortgage. Premium £1,500.
5. SOUTH-WEST OF ENGLAND, within ten miles of coast.—Steadily increasing Country PRACTICE in agricultural district, producing for the past 12 months over £2,300. Panel, with mileage, brings in over £400. Fees 5/6 to 21/-. House contains 2 reception, 5 bedrooms, etc. Garden. Garage. Rent on lease £50 p.a. Premium £2,800.
6. LONDON, S.W.—Riverside Suburb.—Old established non panel, non-dispensing PRACTICE, averaging about £1,400 p.a., with good scope. Fees 5/ to 10/6 and some at 21/-. Good corner house, with 7 bedrooms, etc., in excellent repair, on 54 years' lease (ground rent £19 p.a.), price £2,000, half on mortgage. Premium £2,000.
7. MANCHESTER.—Chiefly working class PRACTICE. Average income £1,000, including panel of 1,000. Moderate expenses. Corner house, with 3 reception, 8 bedrooms, etc. Garage. Rent on lease £65 p.a. Premium £1,500, or near offer.
8. NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old-established mixed class Practice. Income for immediate past year over £4,250. Panel of 3,500. Fees 3/6 to 7/6. Very good house, with 4 reception, 6 bedrooms, etc. 1½ acres of garden. Price for freehold £2,500. Premium 1½ years' purchase.
9. EASTERN COUNTIES.—Old established, unopposed, and rapidly increasing Country PRACTICE, in very pleasant sporting and agricultural district, averaging nearly £1,200 p.a. (last year over £1,400). Panel of 500. Very good house (3 sitting, 6 bedrooms, bathroom, etc.). Garden, with tennis lawn. Garage. Electric light. Price, freehold, £2,000, £700 on mortgage. Premium 1½ yrs.' pur.
10. EASTERN COUNTIES.—About 50 miles from London and within 10 miles of county town.—Old established PRACTICE in pretty country district for immediate disposal, Vendor having accepted an appointment. Receipts average nearly £900 p.a., including panel of 600, and Union £60. Nice house, with ample accommodation, garden, and garage. Can be bought or will be let. Premium 1½ years' purchase, part by instals.
11. PARTNERSHIP.—HOME COUNTY.—Within 40 miles of London.—In small village (with large surrounding population) in very pleasant district, the third share (with option to five twelfths in 3, and half in 5 years) of old estab. mixed class Practice, offering excellent scope. Present income £3,000 p.a., including panel producing over £1,200, and appt. worth £160. Visits 3/6 to 2 gns. Good house at moderate rental. Premium 2 years' purchase, cash. Good society and sport. Ingoing Partner should be about 30, English or Scotch, and married or about to become so.
12. YORKS.—In a clean and thriving manufacturing town, old-established non panel PRACTICE, partly Homœopathic, and held 50 years by Vendor who is retiring. Cash receipts average about £2,400 p.a. Patients better and middle class. Midwifery refused. Good house, rent £100 p.a. Premium only 1 year's purchase, part down and balance by arrangement.
13. DERBYSHIRE.—Good mixed class unopposed PRACTICE, in very picturesque surroundings, within easy reach of good town. Gross cash receipts for past twelve months £900, including panel of 476. Fees 3/6 to 7/6, medicine extra. Suitable house, with 2 reception, 5 bedrooms, etc. Half an acre of garden. Rent on lease £70. Excellent sport and schools. Premium £1,200 or near offer.
14. BORDERS OF BERKS AND HANTS.—In a delightful district, an old-established mixed class PRACTICE averaging for the past three years £904 p.a. (last year £973), including panel of 400. Visits 5/- to 12/6, medicine extra (3/6). One opponent. House contains ample accommodation (2 sitting rooms, 7 bedrooms, bathroom, etc.). Large garden and garage. Rent £50 p.a. Prem. £1,400. Excellent sport.
15. YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle class PRACTICE. Income for the immediate past twelve months approximately £4,000. Small selected panel of 430. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years' purchase.
16. NEAR HEREFORDSHIRE BORDER.—HOSPITAL TOWN.—Old established mainly good class non dispensing PRACTICE, averaging about £1,200 p.a. Panel of 500-600. Fees 5/- to 10/6. Nice house in centre of town. Price for freehold £1,200, part on mortgage. Premium £1,800, £1,500 down and balance by instalments. Up to date Cottage Hospital, and good scope for surgery.
17. YORKS.—PARTNERSHIP.—Within a few miles of large residential town, the half share of old established unopposed country PRACTICE, owing to retirement of senior partner through age and indifferent health. Cash receipts for past three years average over £2,500 p.a., including appointments and panel of 1,200. Very little midwifery. Railway station. Good house available, with large garden. Electric light and water laid on. Price freehold £1,200, part on mortgage. Premium 2 years' purchase.
18. PARTNERSHIP.—COUNTY TOWN, within 130 miles North of London.—A one fifth share is offered in a very old established good mixed-class Practice having good scope. Gross cash receipts for past twelve months nearly £6,000, including panel of 3,400. Fees from 4/-. Not much midwifery. Suitable house available. Prem. 2 yrs.' pur.
19. WEST OF ENGLAND.—In a small pleasantly situated town amidst beautiful surrounding country, old established PRACTICE. Income nearly £1,350 p.a., including panel of 900. Visits 5/- to 21/-. Little midwifery. Very attractive house in own grounds of 2 acres, 3 large professional rooms (separate entrance), 2 reception, 5 bedrooms, bathroom, etc. Vendor's freehold. Price £2,400 (£1,800 can remain on mortgage). Premium £2,000. Good society, etc.
20. PLEASANT CATHEDRAL CITY, within 200 miles North of London.—Old established mixed class PRACTICE, averaging £1,600 p.a., including £800 from panel and over £100 from clubs. Visits 5/- upwards (occasionally 2 gns.). Very little midwifery from 2 to 5 gns. large attractive house, with garden. Rent £80. Prem. 1½ yrs.' pur.
21. ESSEX.—Unopposed PRACTICE in very pleasant agricultural district, averaging £872 p.a., including panel of nearly 500, and appts. worth £140. Fees 3/6 to 10/6. Mid. 3 to 6 gns. (about 12 cases). Commodious house, with 2 reception, 5 bedrooms, and good professional accommodation. Large garden. Garage. Rent on lease £60. Good sport and schools within reach. Premium 1½ yrs.' pur.
22. LANCS.—Pleasant Town, near open country.—Well established middle- and better class PRACTICE. Cash receipts last year over £980, including panel of 900. Visits 3/6 to 7/6, medicine extra. Mid. 2 to 10 gns. (about 20 cases). Suitable house, with 2 reception, 4 bedrooms, etc. Price for leasehold £1,100, £600 on mortgage. Premium 1½ years' purchase, part by instalments.
23. GLOS. — COUNTRY PRACTICE. — Old established PRACTICE in picturesque surroundings, averaging about £1,250 p.a., including panel of over 1,100. Visits from 3/-. Commodious house, with 3 reception, 6 bedrooms, etc. Garden. Garage. Price for freehold £1,500, £1,000 on mortgage. Premium £1,850.
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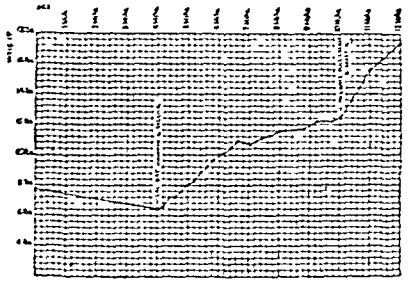
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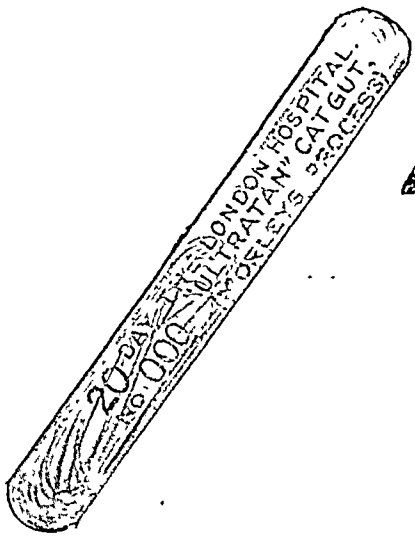
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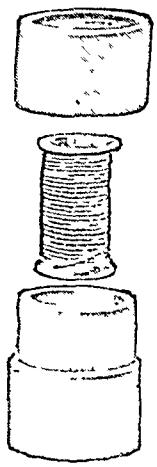
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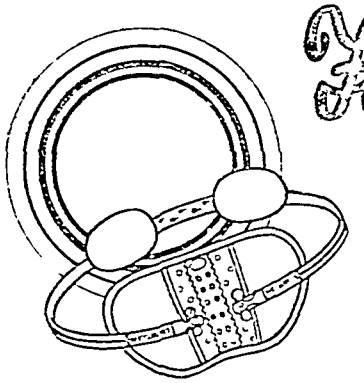
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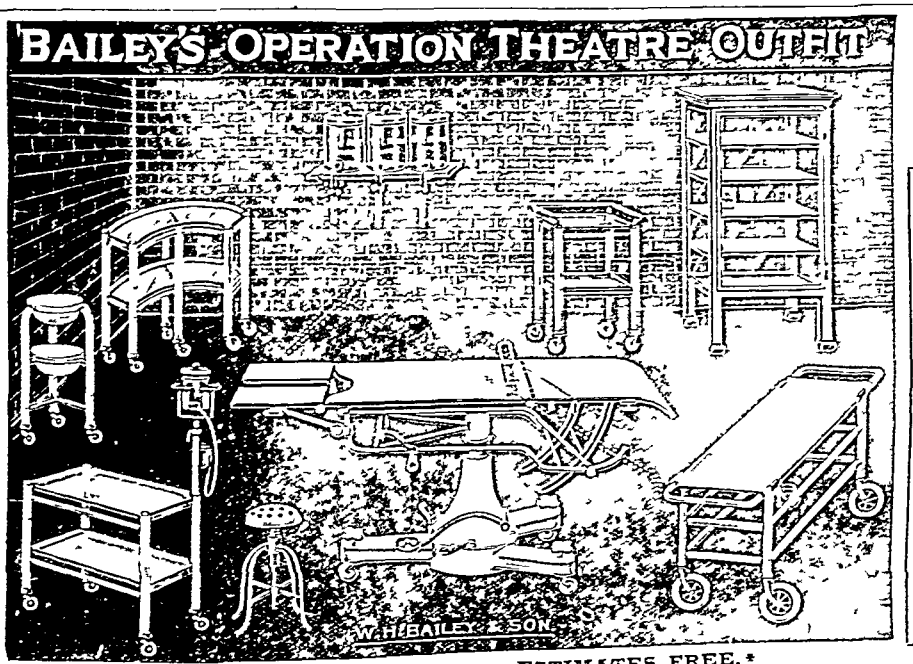
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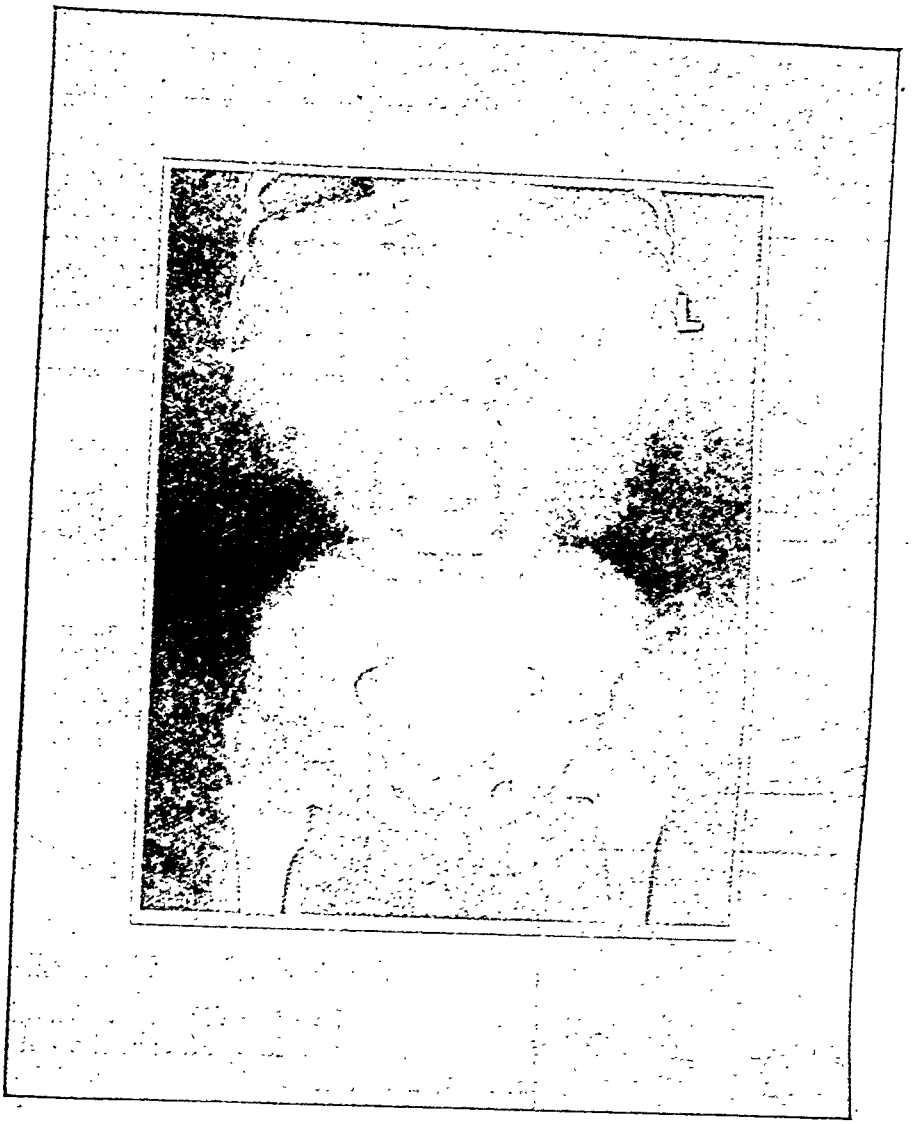
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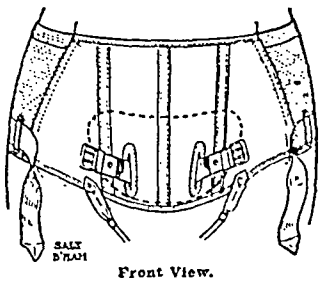
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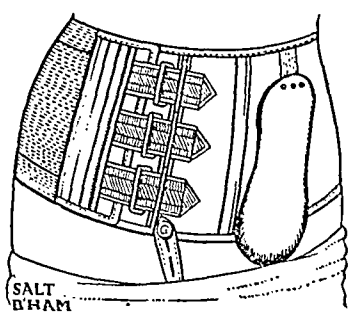
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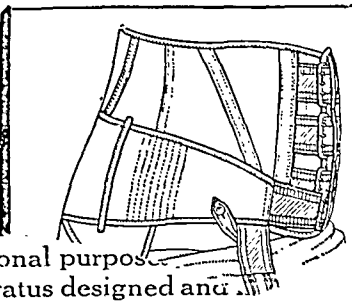
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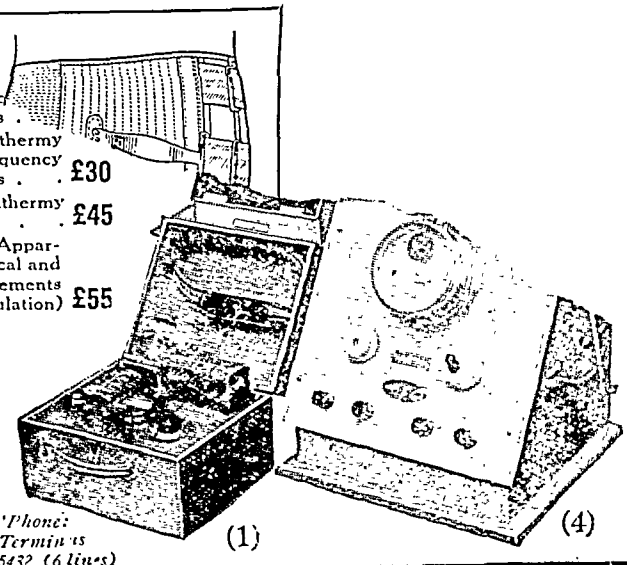
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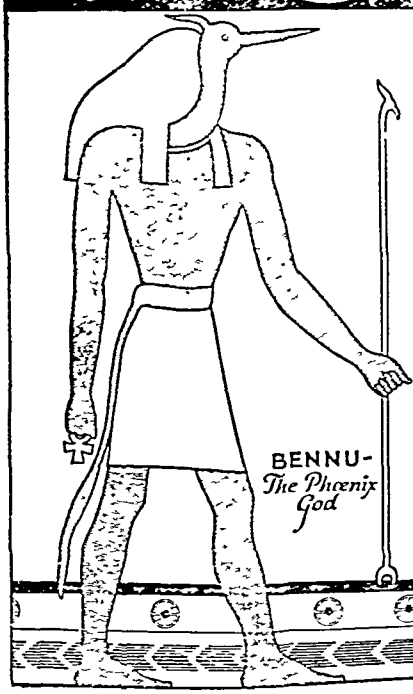
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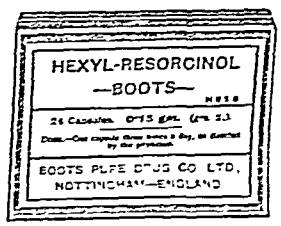
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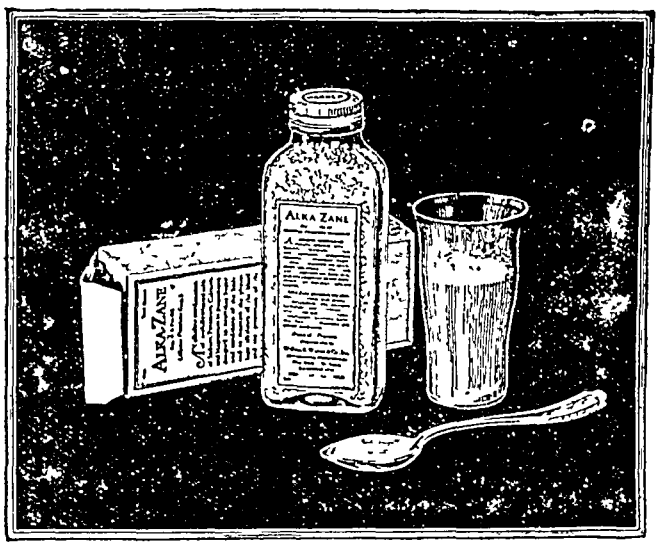
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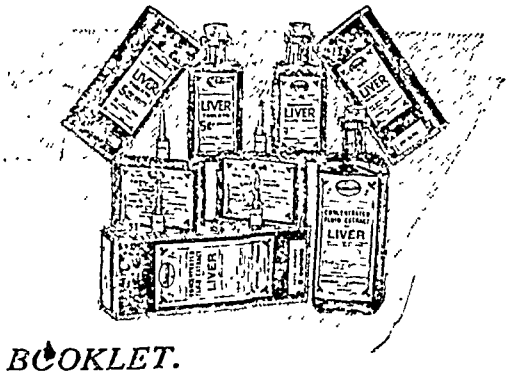
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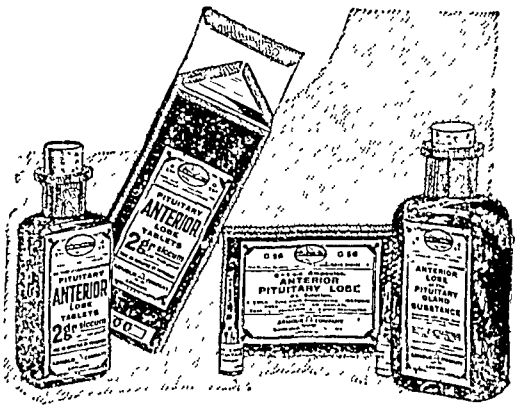
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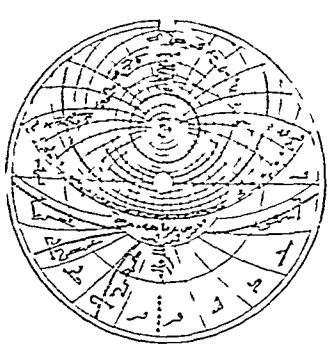
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PORTION OF AN ANCIENT ARABIAN ASTROLABE INSCRIBED IN KUFIC CHARACTERS Steady pioneer work in astrology was carried on by the Arabians, especially in Spain They gave to the world the knowledge of astronomy of the ancients, developed this knowledge and made it more and more applicable to practical human needs In A.D 800 the *Almagest* of Ptolemy was translated into Arabic at Baghdad The Arabs seem to have been at work on improving the Astrolabe as early as A D 700 During the eleventh century the technical terms relating to this instrument were everywhere Arabic The great Arabic scholar, Adelard of Bath wrote a treatise on the Astrolabe for Henry Plantagenet in the 12th century in which he explains the opinions of the Arabs As nonomical tables for the meridian of London were drawn up in the 11th century and these were based upon those made for Toledo by an Arabic designer of instruments al Zarkali (1080) who also determined more accurately the angle of the ecliptic An Astrolabe inscribed in the early western characters of the Arabic such as the one here reproduced may date to A.D 700 or may be a later copy of an earlier original

DATE A.D.c 700—c. 1300

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Observations on THE USE OF RADON SEEDS IN THE TREATMENT OF CARCINOMA.

BY

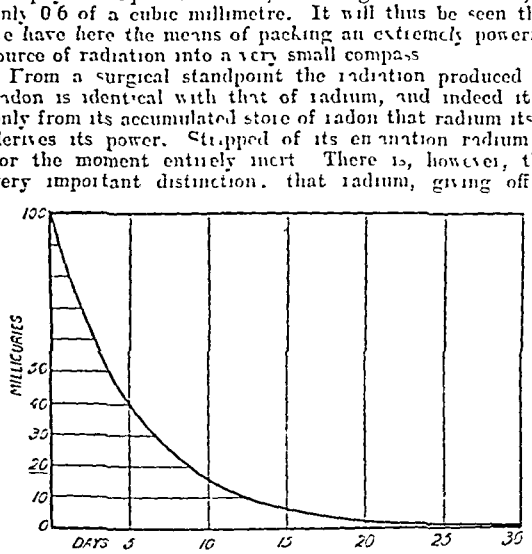
H. S. SOUTTAR, C.B.E., M.D., M.Ch., F.R.C.S.,

SURGEON TO THE LONDON HOSPITAL

THE use of radium emanation in the form of seeds presents very considerable advantages in practice, and for nearly two years I have adopted it whenever possible, to the exclusion of other methods. In the course of that time I have developed certain modifications in technique which I have found advantageous, and although it is obvious that observations on cases treated over so short a period can only be of a tentative nature, I feel that they may not be devoid of interest.

Radon, or radium emanation, is a heavy gas of atomic weight 222, and it is formed by the decay of radium at an absolutely constant rate, which is independent of the physical condition of the radium, its solution temperature, or pressure. Radon itself decays, but by the end of a *month, if undisturbed, the radium and its emanation have* virtually reached a state of equilibrium, when the production of radon is balanced by its decay and no further accumulation can take place. The amount of radon in equilibrium with one gram of radium is defined as one curie, and the volume of this very potent source of energy, the physical equivalent of 1,000 milligrams of radium, is only 0·6 of a cubic millimetre. It will thus be seen that we have here the means of packing an extremely powerful source of radiation into a very small compass.

From a surgical standpoint the radiation produced by radon is identical with that of radium, and indeed it is only from its accumulated store of radon that radium itself derives its power. Stripped of its emanation radium is for the moment entirely inert. There is, however, this very important distinction, that radium, giving off a



constant stream of radon gas, furnishes through this a constant and unvarying source of radiation, but radon, separated from its parent, steadily decays. Commencing with 100 millicuries of radon, we have left at the end of 3·82 days only 50 millicuries, in 9 days only 20, and at the end of a month practically the whole has gone. If, then, we use radon we must recognize that we are using a diminishing source, and make a corresponding allowance in the amount we apply.

This steady decay in power might be a fatal objection to the use of radon in surgery, but this is not in fact the case. All the evidence at present available goes to show that the effect produced upon a tumour is proportional to the total energy delivered, and that it is a matter of apparent indifference within certain limits whether this energy is produced slowly or rapidly, or whether its rate of production is constant or diminishing. It may, indeed, eventually prove that a powerful attack gradually withdrawn is more effective than a continuous bombardment at constant pressure.

It is usual to collect the radon in fine glass capillaries but these must be screened by metal sheaths to cut off beta rays which have no selective action on the cells of carcinoma and produce a general local necrosis of the tissues. The most effective screen is platinum, and with a platinum sheath whose wall is 0·3 mm. in thickness, all but a very small fraction of the beta rays are absorbed. I have found however, that with such small amounts of radon as are used in seeds—usually from 1 to 2 millicuries—silver of the same thickness forms a perfectly satisfactory screen at a fraction of the cost, whilst it is an old observation that silver, owing to its slight antiseptic properties, is better tolerated in the tissues if left in permanently. The only exception is in the case of a growth close to a mucous or cutaneous surface, and here platinum should be used, as these surfaces are peculiarly sensitive to beta rays. The seeds may be attached to fine silk threads to be removed, but personally I only adopt this course in such special regions as the eyelids. In most regions the seeds may be left in per*manently without any ill effect.* The seeds I use are of one standard size, 5 mm. in length and 1·1 mm. in diameter. The wall is 0·3 mm. in thickness, so that a lumen is left 0·5 mm. in diameter, allowing ample room for the glass capillary. The seeds contain 1, 1·5 or 2 millicuries of radon, and they may be inserted in large numbers. Thus for a breast case 50 × 2 mc. seeds would be used, unless the patient were very stout or very thin, or the tumour exceptionally large, in which case the number or strength of the seeds might be modified. In a tongue one might use 10 × 1·5 mc. (preferably platinum), but a similar or larger quantity might be required for secondary glands in the neck. In the œsophagus I should use 12 × 1·5 mc. seeds in an ordinary case, in the rectum perhaps 30 × 2 mc.

These examples will serve to show the adaptability of seeds to various conditions and the flexibility of these small standard units to meet varying requirements as to dosage. In general, the aim in view is to produce a near uniform radiation of the region under treatment by as accurate a "random" distribution as it is possible to obtain. It is obvious that the smaller the unit the more easy will it be to obtain a true "random" distribution. In such a distribution it is obvious that the effects of crossfire will be important, but it is not usually realized how considerable this effect may be.

It is a generally accepted standard of dosage that one millicurie of radon during its decay will produce a gamma radiation sufficient to destroy all carcinoma cells within a distance of 0·5 cm. This is of course a very rough estimate, for no account is taken of the considerable variation in the sensitivity of various types of cancer. Taking, however, as a rough basis of calculation it would be [illegible] that the correct dose would be 1 millicurie per cubic centimetre of tissue, 1 centimetre in diameter, and that a sphere 3 cm. in diameter would require 512 millicuries, since its volume is 512 times that of the unit sphere. Let us see how this estimate is affected by crossfire.

Let us represent the density of radiation at any point P by the letter R, taking as unity the density of radiation produced by 1 mg. of radium at a distance of 0·5 cm. Suppose the space around P to be filled by radium at a uniform density δ, so that every cubic centimetre of space contains δ milligrams of radium.

Consider a spherical shell described about P as centre, of radius r and thickness dr. The area of this shell is $4\pi r$, and its volume $4\pi r\,dr$, so that in this shell are contained $4\pi r^2 dr\,\delta$ *milligrams of radium*, all at a distance r from P. The density of radiation dR at the point P due to the spherical shell is proportional to this and to the inverse square of the distance, and we therefore have

$$dR = 4\pi r^2 dr\,\delta \times \frac{1}{4r^2}$$

since the radiation of 1 mg. at a distance of 0·5 cm. is taken as unity. Thus $dR = \pi\delta\,dr$, and hence on integration we have $R = \pi\delta r$.

In the case, then, of a spherical tumour of radius r and the density of radium required to [illegible] uniformly at the centre is given by $\delta = \frac{1}{4\pi r}$. The total radium required is therefore $\frac{1}{4\pi r} \times \frac{4}{3}\pi r^3 = \frac{r^2}{3}$.

If we are using radon the amount requ[illegible]

this has been followed by a rapid diminution in their size or even by total disappearance, and the fact that recurrence has in some instances occurred in more distant groups does not invalidate the local effectiveness of the seeds. It rather tends to show that the seeds must be distributed on a much wider scale, or that their action should be backed up by the more diffuse form of radiation which can be obtained from a collar.

The Breast

The breast is a site so easily accessible for the introduction of needles that it might be thought that seeds presented few advantages. This is, however, far from being the case. The seeds can be introduced through a few minute punctures, not more than six being required in even the most extensive case. With the introducer which I have described their distribution can be controlled with mathematical precision, and x-ray photographs have convinced me that they do not wander from their site in any reasonable time. The punctures through which they are introduced heal almost immediately, so that there is no possibility of sepsis to complicate the treatment whilst the patient is saved from the considerable annoyance caused by threads and the removal of needles.

The seeds are introduced according to the very satisfactory plan worked out by Gask and Keynes for the introduction of radium needles. The region just beyond the growing edge of the actual tumour itself is infiltrated with long columns of seeds, perhaps five rows with five seeds in each row, and above this into the base of the tumour itself further rows of seeds are inserted at right angles to the original set. Thus, the first layer of seeds will probably lie in the pectoral fascia, while the second lies in the substance of the tumour, assuming that the latter is of considerable dimensions. The cannula is now introduced through a puncture in the axilla and passed up beneath the pectoral muscles along the axillary vein, until it can be felt just below the middle of the clavicle. A long line of seven or eight seeds is now deposited, and this line is duplicated by another at a somewhat lower level, which really lies for the most part, in the pectoralis major. Through the same puncture a line of seeds can be introduced along the axillary border of the pectoralis minor and upon the surface of the serratus magnus just behind this. Finally separate seeds are introduced, one in each of the intercostal spaces just outside the sternum, and two into the sheath of the rectus.

Although this is the general arrangement of the seeds it may have to be modified to suit special circumstances. On occasions I have had to deal with tumours so large that I felt obliged to concentrate the whole of the seeds upon the tumour itself, leaving the lymphatic infiltration to a later date. One has to remember that the exposure of a patient to too large a dose may have serious constitutional results.

The Oesophagus

The treatment of carcinoma of the oesophagus by means of radium presents very considerable difficulties. There is the difficulty of obtaining access to the tumour, secondly of forming any estimate of its dimensions, and thirdly of introducing radium. The last difficulty is to a large extent overcome by the use of seeds, whilst access to the upper end of the tumour can be obtained fairly readily by a properly designed oesophagoscope. Some idea of the length of the tumour can be formed from a radiogram after the swallowing of a bismuth emulsion, but it must be admitted that it is impossible to form any but a very vague idea of the extent of the growth. It has been suggested that free access and more complete information would be gained by thoracotomy, but few of the patients with this disease are in a condition for such a formidable procedure, whilst there is so far no evidence to show that the results would be at all improved by its use.

My present method of procedure is as follows. Using the largest possible tube of my own oesophagoscope with proximal illumination, an excellent view of the upper end of the growth can be obtained. By means of a special introducer the seeds are passed down the lumen of the tube and implanted in the growth under the full control of vision.

The introducer consists of a short cannula carried at the end of a long wire, with a plunger which can be operated from the proximal end. Each seed is placed separately into the distal end of the introducer and secured with a little vaseline. The instrument is inserted into the growth, and on pushing home the plunger the seed is deposited. By deflecting the oesophagoscope in different directions, and by inserting the introducer to different depths the seeds may be deposited through the growth with much greater uniformity than might be imagined. About twelve seeds of 1·5 mc. each are inserted. There is no reaction but in about a week improvement in swallowing may be expected to commence and in a favourable case the patient should in three weeks be able to swallow ordinary soft food without difficulty.

This method of treatment has the advantage of simplicity and apparently of safety, for I have never so far seen any untoward result. An obvious criticism is that there is no guarantee that the seed will not be implanted in the mediastinum or elsewhere outside the growth. As however, it is impossible for organisms to grow in the neighbourhood of an active seed the risk is more apparent than real. The great advantage over intubation is that there is no need to pass a bougie through the lumen always a difficult and dangerous procedure.

The Rectum

The rectum is a region peculiarly adapted to the use of seeds, especially if the growth is situated within reach of the finger. In this case the growth itself and the whole of the pelvic tissues around it can be easily infiltrated with seeds through two small punctures in the perineum and the simplicity of the procedure and the absence of sepsis are then very valuable. I shall describe the method as it was applied with complete success to a carcinoma of the posterior wall of the ampulla in closing the sacrum. With the patient in the lithotomy position two small punctures were made in the perineum one on each side of the tip of the coccyx and thirty seeds of 2 mc. each were introduced in long columns so as to be deposited as uniformly as possible in and around the growth. The magazine introducer was used and its position was controlled by means of a finger in the rectum in contact with the growth. Care was taken to establish a substantial barrier of seeds in the hollow of the sacrum behind the rectum in order to irradiate both the base of the growth and the rectal glands.

presentation of actual cases is the only sound foundation upon which to build at the present time, for only in this way can the powers and the limitations of radium be shown.

The following notes have been suggested by a study of the cases, and express concisely the conclusions which may be drawn.

The Skin.—The skin is undoubtedly the most successful situation for the application of radium. Both basal and squamous carcinomas respond readily, and although in the former case the absence of secondary deposits is an advantage, this is somewhat balanced by a more marked tendency to local recurrence. Of the 11 cases under review, the tumour has disappeared in all, and there has been no recurrence, local or otherwise, after periods extending up to seventeen months.

The Lip.—In every instance there was a rapid local response, and 3 out of the 5 cases have remained well for six, thirteen, and fifteen months. The one fatal case was really untreatable when first seen.

The Tongue.—These were all advanced cases, untreatable by any other method. In every instance, however, there was a rapid local response, with, in every case but one, a total disappearance of the primary tumour. In the 4 cases where the glands were treated by radium they responded at once. In 5 of the 7 cases distant secondary deposits appeared, and in only one (21) is there any possibility of a permanent cure. This also was, however, a totally inoperable case.

The Mouth.—These were all entirely inoperable cases, 5 of a very advanced and extensive nature. In the only case where the growth was limited (26), although surgically inoperable, there has been no recurrence after two years. In 4 of the other cases the local growth disappeared, but recurred later. In 1 there was a local reaction of quite unexpected severity, masking the immediate effect upon the growth.

The Breast.—The 24 cases have been classed as early, advanced but operable, and inoperable. Of the 11 cases in the first group all but one have been followed up to date, and these all remain free from recurrence at periods of from six to twelve months. In 4 cases the tumour was first excised locally from doubts as to the diagnosis, but in the other 7 cases the disappearance of the tumour was entirely due to radium. Of 7 cases classed as advanced but operable, 1 was not traced, 1 was amputated after fifteen months for local recurrence, and 5 remain well after periods of from six to sixteen months. Of 6 cases which were totally inoperable, 1 died five months later from general dissemination, 1 remains locally well but has probably a thoracic deposit, and 4 remain well after periods of from six to eleven months. Out of 24 cases local recurrence has so far appeared in one case only. In 2 cases, however, the tumour did not respond, but in one of these removal of the tumour showed dense fibrosis with scattered groups of carcinoma cells.

SKIN.

No	Age and Sex.	Duration.	Characters of Growth.	Dosage.	Result.
1	F. 74	5 weeks	Small ulcer below outer canthus left eye. Squamous carcinoma.	2 × 2 mc.	Disappeared in 5 weeks. (9 months.)
2	M. 44	13 years	Circular ulcer 2 cm. diameter in front of left ear. Squamous carcinoma.	12 × 1.5 mc.	Disappeared in 4 months. (6 months.)
3	M. 67	42 years	Recurrent basal-celled carcinoma invading voluntary muscle of cheek.	4 × 1.5 mc.	Disappearance of local recurrence. (6 months.)
4	F. 68	6 months	Ulcer 2 cm. diameter outside external canthus right eye. Enlarged pre-auricular glands. Squamous carcinoma.	6 × 2 to ulcer; 7 × 2 pre-auricular glands; 7 × 2 upper cervical glands	Rapid healing of ulcer and disappearance of glands. (4 months.)
5	F. 63	10 months	Hard ulcerated mass size of pea upper margin left pinna. No secondary glands palpable.	2 × 2 mc.	Disappeared in 4 months. (17 months.)
6	M. 83	6 months	Ulcer 3 cm. diameter left cheek. Squamous carcinoma.	10 × 2 mc.	Disappeared in 1 month. (12 months.)
7	F. 61	14 years 6 months	Carcinoma of skin. Secondary in gland of groin.	14 × 2 mc into gland	Disappeared in 5 months. (9 months.)
8	M. 80	2 months	Ulcer 1 in. diameter behind left mastoid. No enlarged glands. Squamous epithelioma.	10 × 2 mc.	Rapid healing.
9	F. 79	Many years	Infected ulcerated mass 3 cm. diameter over left parietal region. Section: sebaceous carcinoma.	6 × 2 mc.	Complete healing in 4 months. (7 months.)
10	F. 76	7 years	Large vascular tumour 3 in. long, 1 in. wide, upper part of left neck reaching as high as the ear. No secondary glands. Probably a basal carcinoma.	15 × 2 mc.	Two months later tumour had entirely disappeared without ulceration. (5 months.)
11	M. 72	37 years	Extensive scarring from recurrent rodent ulcer. Nodule in left lower eyelid, one year.	2 × 1.5 mc.	Perfect result locally. (2 years.)

LIP.

No	Age	Duration	Characters of Growth.	Dosage.	Result
12	68	12 months	Huge fungating growth 4 in. × 2 in. with indurated base completely replacing lower lip and extending almost to point of chin. Squamous carcinoma.	32 mg., radium 5 days	Rapid disappearance of growth and reappearance of lip. Death after 10 months from secondaries in lungs.
13	61	6 months	Typical epitheliomatous growth 1 in. diameter in centre of lower lip.	5 × 1.5 mc.	Healed in 8 weeks. (15 months.)
14	47	9 months	Indurated ulcer 2 cm. diameter just above upper lip on right side. Section: squamous carcinoma.	12 mg., radium 5 days	Healed in 10 weeks. (13 months.)
15	68	8 months	Fungating epithelioma 3 × 1 cm. on right side of lower lip.	10 × 1.5 mc.	Healed in 4 months. (6 months.)
16	86	5 months	Fungating epithelioma in centre of lower lip.	8 × 2 mc.	Rapid disappearance of growth.

TONGUE.

17		12 months	Extensive leukoplakia with deep carcinomatous ulcer on dorsum, extending to epiglottis. Fixation and swelling of tongue. Secondary glands on both sides.	9 mg. radium 16 days	Ulcer disappeared and tongue became mobile. Healing complete in 6 weeks. Glands removed later. Died 4 months, distant secondaries.
18	49	3 months	Tumour involving whole of left side of tongue. Deep ulceration and complete fixation. Secondary glands beneath jaw.	30 mg. radium 6 days, tongue and glands	Rapid disappearance of tumour and healing of ulcer. Died 2 months, distant secondaries.
19	70	12 months	Deeply ulcerated carcinoma occupying posterior half of right side of tongue and extending to epiglottis. Glands in neck. Squamous carcinoma.	8 × 1.5 mc.	Rapid local improvement. Glands removed later and 8 × 1.5 mc. inserted. Died 6 months, distant secondaries.
20			Large ulcer on right side of tongue, extending to epiglottis. Glands in anterior triangle. Squamous carcinoma.	21 mg. radium 5 days	Rapid healing of ulcer. 8 months later new carcinoma on left tip of tongue, 8 × 1.5 mc. Healed but recurred. Died 11 months, distant secondaries.
21			Ulcer on left side of posterior surface of tongue extending to epiglottis and on to the fauces. Carcinoma, not squamous. Glands behind right border of tongue and floor in angle of jaw. Squamous carcinoma.	20 × 1.5 mc tongue and glands	Rapid disappearance of ulcer and of glands. Well after 8 months.
22				12 × 2 mc. tongue 28 mg. radium 6 days glands and floor of mouth 12 × 2 mc.	Rapid healing of tongue and disappearance of glands. Recurrence after 5 months in more distant glands. No recurrence in tongue or glands. Three months later cavity persisted. Radon again inserted. After 9 months no evidence of carcinoma in tongue. Secondaries in glands dissected out.

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The cases show that, as a rule, carcinoma of the breast readily responds to radium, both in the primary tumour and in secondary deposits. In inoperable cases brilliant local results may be expected but as in these cases the ultimate outlook depends on the existence of secondary deposits, local disappearance must not be interpreted as cure. In operable cases we feel that the results so far obtained justify the use of radium by the method we have indicated. In these cases, however, it is of the utmost importance that they should be kept under the closest observation so that any recurrence may receive immediate attention. The treatment of carcinoma of the breast by radium must at present be regarded as in the experimental stage although personally we regard the experiment as a very hopeful one.

The Oesophagus.—Carcinoma of the oesophagus is at the present time and perhaps essentially an incurable condition and one can only aim at enabling the patient to swallow. The 20 cases here reported show beyond question that in a large proportion of cases this can be achieved by means of radium giving relief for periods up to fourteen months. In 15 of these cases the relief was such that the patient could swallow soft solids with ease and in 4 he returned to an almost normal condition. In 5 other cases there was definite improvement. There is thus no doubt that carcinoma of the oesophagus responds readily to radium introduced by the technique. We may have been unduly cautious in dosage, but those who are familiar with the direct examination of these cases will realize the risks involved. We can happily claim that no untoward event has followed on the operation in any instance so that in skilled hands the method would appear to be reasonably safe.

Various Sites.—These were all experiments in otherwise hopeless cases. In 3 however, there was very striking improvement and relief over a long period. In many ways Cases 81 and 82 showed the most remarkable results in the whole series, although followed later by secondary deposits. In the case of carcinoma of the rectum the tumour has entirely disappeared and the patient is *in perfect health after sixteen months.*

THROMBO-ANGIITIS OBLITERANS IN NON-HEBREW SUBJECTS, AND REPORT OF A CASE OF CHRONIC ULCUS CRURIS IN A YOUNG MAN.

BY

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A CONSIDERABLE proportion of cases of thrombo-angiitis obliterans have been reported during recent years as occurring in Great Britain and Ireland, in English, or at least non-Hebrew, families.* The following men were recently almost simultaneously in patients at the German Hospital, and their symptoms present certain special points of interest. The first two are certain cases, the third one is altogether doubtful.

CASE I.

An Englishman (no Hebrew ancestry), aged 22 years, was admitted on July 24th, 1929, on account of cyanotic discoloration of the region of the left great toe, and pain and symptoms typical of thrombo-angiitis obliterans dating from January 1928. In other respects the patient appeared healthy, and his Wassermann reaction was negative. From the age of 16 he had been accustomed to smoke cigarettes up to twenty daily.

On September 7th, 1929, a modification of periarterial sympathectomy was performed on the left thigh by Mr. Wright during Mr. Rast's absence. The operation was followed by an immediate rise in the superficial temperature of the affected limb and by diminution of pain, but the improvement was not lasting, nor was the result of diathermy really satisfactory. Although slight "mummification" developed at the tip of the left great toe the condition is now rather better than worse, and amputation has not yet been resorted to. The clinical picture is the typical one seen by us in Hebrew cases, but the patient's age is younger than that of most Hebrew sufferers. Though the local condition in this case is very bad it was almost as bad for a long while in one of the earliest of Dr. Weber's Jewish cases of the kind—a man who is still living and has all his limbs.*

CASE II.

An English assistant in a drug factory without any Hebrew or foreign ancestry, and aged 33, was admitted on June 1st, 1929, with a large chronic deep ulcer, like a tabetic perforating or pressure ulcer, about the size of a penny at the back of the right heel. This had started as a mere crack in the thick skin in February, 1928, and had gradually enlarged since then so far as the patient himself knew there had been no traumatic or other cause for its commencement. He complained of pain in his right heel and right calf with that of a toothache. For about six month before the appearance of the ulcer there had been pains in the calf of the right leg on walking, these were of the usual intermittent claudication type as in typical Hebrew cases of thrombo-angiitis obliterans. The patient had been a great smoker in the army during the war. Before the commencement of the ulcer there had likewise been attacks of pallor and numbness in the toes of the right foot, but otherwise the patient had enjoyed good health.

No pulsation was felt in either arteria dorsalis pedis. Apart from the thrombo-angiitis obliterans we found no abnormal symptoms by examination of the thoracic and abdominal viscera, the nervous system, the eyes, and the blood and urine. The brachial blood pressure was 135/75 mm. Hg. The Wassermann reaction was negative. The knee-jerks were rather active. Warm weather somewhat lessened the pain. On July 9th, 1929, Dr. A. P. Cawadias examined the patient's limbs with Pachon's oscillometer, and found the oscillometric index as follows:

	Right side	Left side
Calf of leg	0	1
Thigh	6	6
Upper arm	5½	5

Both legs therefore showed arterial sclerosis.

After treatment by insulin and other methods—following upon periarterial sympathectomy on August 30th—had been tried in vain, Mr. Rast resorted to amputation of the right leg on September 14th, owing to gangrene in the stump after an amputation had to be performed on September 21st through the middle of the thigh. The patient left the hospital on October 12th in good condition, *though he still had a little pain in the amputated limb.* Since then he is reported to have been doing well. On macroscopic and microscopic examination of the parts from both amputations the arteria tibialis anterior seemed normal, but the arteria tibialis posterior appeared to be rather small and was blocked by a canalized thrombus. The popliteal artery removed at the second amputation was blocked by more recent partly organized thrombus.

In this case the deep ulcer at the heel was an unusual early symptom in thrombo-angiitis obliterans. In the hospital at the same time with this patient was a somewhat older man, aged 50, complaining of a chronic calf ulcer under the left great toe, but his blood-serum gave a strongly positive Wassermann reaction, and mercurial treatment led to an excellent result. It is interesting that in the older man the pulsation in the arteries of the feet on both sides was excellent and by Pachon's oscillometer Dr. A. P. Cawadias found the oscillometric index at the right calf to be 4 against 5 at the left calf, so that the chronic ulcer in the left foot had not caused blood-supply on the left side and had only the oscillometric index somewhat greater than the left than on the right leg.

CASE III.

An Englishman, aged 25 years (without any Hebrew ancestry), was admitted on May 21st, 1928, on account of an indolent chronic ulcer on the left leg with much pigmentation in the neighbourhood on the outer leg. He had similar pigmentation and scars of previous ulcers. He said he had never had anything definite of varicose veins, and the leg ulcer had started after an attack of pneumonia about the winter 1925–26. He was of slender build and rather pale, but otherwise apparently healthy. He smoked and that he had been accustomed to smoke about twelve cigarettes daily since the age of 16. There was nothing special in the family history except that his father had suffered from chronic ulcers on both legs for thirty years before his death at the age of 66. Examination of the thorax and abdominal viscera, the nervous system, eyes, urine and blood revealed nothing abnormal, but the Wassermann reaction was positive. A periarterial sympathectomy on the left thigh in February, 1929, at the hospital had done no good.

After prolonged rest in bed and the ordinary methods of treatment Mr. Rast finally performed

* See, for instance, Telford and Stopford, *British Medical Journal*, 1924, ii, p. 1025; Sir W. J. de Courcy Wheeler, *ibid.*, 1927, i, p. 265; Iarnoch and MacRae, *Journ. Lab. and Prac.*, 1927, vol. 30, p. 33; R. O. Girdwood, *ibid.*, 1927, vol. 30, p. 643; *Girdwood, ibid.*, 1928, vol. 31, p. 543.

* F. Parkes Weber, *Lancet*, 1908, ii, p. 1221; 1925, i, p. [illegible]

the end of the transfusion the patient's face began to swell, and for ten minutes I was almost afraid to look at him, as the swelling continued. There were no other symptoms or signs; adrenaline, which was given at once, probably prevented more serious complications, such as oedema of the lungs or glottis. It was ten hours before the face was normal, yet at no time did the patient feel backache, dyspnoea, or shivering, while the pulse remained between 70 and 75 per minute.

Some physicians are of the opinion that there is more danger in giving a blood transfusion to a patient with pernicious anaemia than to patients with other forms of anaemia. I have noticed slight reactions quite as often in other types of anaemia; so far from being a dangerous proceeding, blood transfusion is practically devoid of risk if the grouping is correct, and it is often a life-saving measure.

After a transfusion there is frequently an immediate rise of temperature. This rise occurs in spite of using a donor of the same group as the patient, the temperature quickly falling to its usual height or to a lower level. In most cases of pernicious anaemia, when the patient has been running a temperature, there is a decided tendency for it to fall during the succeeding days and for a general improvement to set in, with an increase in the haemoglobin and in the number of red blood corpuscles, but this is not always the case, as will be shown later.

In severe cases of pernicious anaemia, with a low haemoglobin percentage and red blood cell count, it may happen that in spite of liver treatment no improvement takes place or improvement is very slow. This applies to raw liver, cooked liver, and to at least three varieties of liver extracts on the market. This poor response to liver is most noticeable when the patient is very anaemic and has a temperature above 100° F., and where the outlook is unfavourable or at any rate alarming. It is to this type of case that I wish to direct attention, for the results of a timely blood transfusion in these cases may be excellent.

The first three cases, described below, will bring out the points I wish to emphasize.

CASE I.

A woman, aged 49, had been in ill-health for over a year. Three weeks before I saw her she had become very anaemic; examination indicated a typical case of pernicious anaemia. The blood count was as follows: red blood cells 1,250,000 per c.mm.; haemoglobin 30 per cent. The temperature was 100° F.; faintness followed the slightest exertion.

Treatment was started at home, and she was admitted to hospital on the following day. She was given daily half a pound of whole liver, and liver extract equivalent to half a pound of liver; in addition liquor arsenicalis was prescribed for her. The temperature (Chart 1) became higher and higher on each succeeding day. Six days after beginning treatment her condition

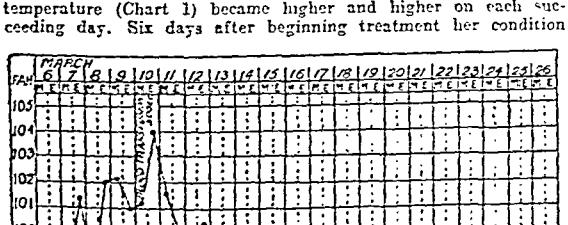


CHART 1.

was far worse than on admission. The red blood cells were then 1,000,000 per c.mm., and the haemoglobin 26 per cent. A transfusion of 500 c.cm. of blood was given, and improvement, it will be seen, set in forthwith, the temperature falling. A week after the transfusion the blood count was: red blood cells 1,800,000 per c.mm.; haemoglobin 40 per cent. Two weeks after this the red blood cells were 3,290,000 per c.mm.; haemoglobin 63 per cent.

A more typical and less dramatic case is the following one.

CASE II.

A man, aged 32, was admitted in a more or less desperate condition. A diagnosis of malignant endocarditis was made from the presence of haemic murmurs and a high temperature. The blood count was as follows: red blood cells 830,000 per c.mm.; haemoglobin 26 per cent.; the average diameter of the red blood cells was 7.8 μ.

He was put on whole liver, half a pound daily, and liquor arsenicalis, but his condition did not improve; during the first five days of liver treatment his temperature became higher (Chart 2). He was delirious at night, and in his lucid moments complained of feeling light-headed. He was given a transfusion of 600 c.cm. of blood, and his temperature then began to fall. His general condition improved, but he was still mildly delirious

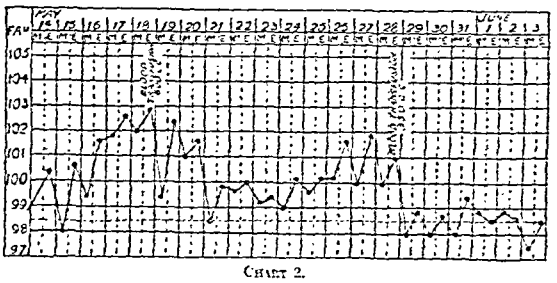


CHART 2.

at night. The blood picture was as follows: red blood cells 1,450,000 per c.mm.: haemoglobin 32 per cent.

This condition persisted for a further ten days. At the end of this period he was still running a temperature, which tended to become higher, in spite of the fact that he had had raw liver for fifteen days. A blood count at this stage was as follows: red blood cells 1,560,000 per c.mm.; haemoglobin 33 per cent.

At this point a second blood transfusion was given; after this he began to make good progress, the temperature gradually falling, with distinct improvement in the blood picture. A blood count taken a week later showed the red blood cells to be 3,400,000 per c.mm. He was discharged two weeks later, and was able to get about perfectly well.

CASE III.

A woman, aged 46, was treated with liver for pernicious anaemia, and told to continue taking this in the form of liver extract. For a few weeks she did as she had been advised, but after this apparently she did not take it regularly, until about a year later, when she began to feel weak and noticed that she was again becoming anaemic. When I examined her I was told that she had taken the equivalent of a quarter of a pound of liver daily as extract for the past three weeks. She was mildly delirious at times, but a more alarming sign was persistent dyspnoea. The practitioner who attended her told me that her temperature had kept between 101° and 102.5° F. for several days. The red blood cells were 1,300,000 per c.mm.; haemoglobin 28 per cent.; but from her general condition a fatal issue seemed certain. From that day she received arsenic and half a pound of raw liver daily, and on the next day I gave her a transfusion of 500 c.cm. During the next four days there was a decided tendency for the temperature to fall, and, although this was followed by a rise, the temperature was normal at the end of ten days, and the patient was convalescent in two weeks.

It may be contended that these three patients—and others similarly affected to whom I gave blood transfusions—would have improved on liver alone if left sufficient time, but I was not prepared to run any risks, as I have seen four patients that have died who were given liver and arsenic, and in three of these four blood transfusion had been performed by me. Patients without pernicious anaemia, the red blood cell count was above 1,500,000 per c.mm., were never given blood transfusions, and I think they surely improved on whole liver. I do not wish, however, to convey the impression that a blood transfusion is essential for all patients with a low red blood cell count, and I admit that even those with a high rise of temperature may possibly weather the storm, but the risk appears to me to be great.

Of the four cases that died, one was the Group I patient referred to above, who died eight hours after the transfusion. Of the remaining three cases, two were given liver extract and no whole liver, as it was thought that they would be unable to take the necessary amount of whole liver, and it was hoped that the extract would be of equal benefit. One of these received a blood transfusion of 600 c.cm., the other received two transfusions of 500 c.cm. on each occasion. The fourth patient was not given a transfusion, as she was our first case of pernicious anaemia to receive liver, but she vomited repeatedly, and this probably accelerated her death.

of liver extract was given. The injections were repeated two and four days later respectively.

On March 15th the condition of the child showed definite but slight improvement. Teaspoonful doses of liver extract were tried by the mouth and were retained. Two more injections of spleen and liver were given at two-day intervals and then the injection of liver extract was stopped but the injections of plasma were continued at four-day intervals until it had been given. The dose of the liver extract given by the mouth was gradually increased until two teaspoonfuls of the liquid extract were being taken three times a day. The child continued to make rapid and uninterrupted progress.

On April 30th she was looking very well and was up and running about. All physical signs including all traces of the cardiac murmur had disappeared. The liver extract by the mouth had been raised ten days previously to two teaspoonfuls (twice a day). A blood count performed on April 30th showed haemoglobin 82 per cent., red cells 6,330,000 per c.mm., leucocytes 16,200, and colour index 0.7. The differential count was: polymorphonuclear neutrophils 56 per cent., polymorphonuclear eosinophil 1 per cent., lymphocytes 41 per cent., and large mononuclear 2 per cent. Films showed nothing else of note, the condition of all the cells being normal.

The child was seen again on June 26th, when she appeared perfectly well. She had returned to school and played games with a normal amount of energy. No sign of any lung trouble. The dose of liver extract had been reduced to one teaspoonful twice daily, which she is continuing to take.

In conclusion I wish to express my thanks to Dr. C. P. Lapage, of Manchester, for his interest and advice, to Dr. Munn, of Halifax, and to the pathologists of Halifax Infirmary and St. Mary's Hospital, Manchester.

HAEMORRHAGIC NON-PUSTULAR SMALL POX

BY

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AND

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The case here reported is one of several which clinically and pathologically portray a picture of haemorrhagic non-pustular small pox occurring in the colony of Hong-Kong. It is interesting to note that most of these cases occurred in pregnant women during the eighth month of pregnancy, and hence gave us serious thought as regards revision of the diagnosis. After very careful consideration of all the facts we felt, however, that we should still stand by our provisional diagnosis.

History

The Chinese are very reluctant to give facts relating to their indisposition, and hence we are not able to supply fuller details, although we consider the history very incomplete. The patient stated that she was 22 years old and that on November 23rd, 1929, she complained of pain in the sacrum of a very severe character, she resorted to the Chinese method of thumping the affected part in an endeavour to get relief, but was not successful. Three days later there was fever, and the movements of an eight months foetus were felt, uterine pain was felt resembling that of commencing labour. The lips rapidly became cracked, and sordes developed on the mucous membrane. An aphthous condition appeared on the gums and ulcerations here and there on the tongue. Soon afterwards there were rigors and cold sweats, with nausea and vomiting, all these signs and symptoms occurred for the first time within a very short period of each other.

The patient said that her condition was due to "Lup sik" (fever after sexual intercourse), which had taken place ten days previously. The Chinese have a superstition that a woman in advanced pregnancy may die if she has sexual intercourse with her husband, and state that the condition is allied to a "severe type of pneumonia". There was no cough in spite of the rapid respiration, and there were no convincing signs of pneumonia.

Condition on Admission

On November 28th, 1929, she sought admission to the Tung Wah Hospital, stating that her eyes had become very sore on the previous day. She had suffered conjunctivitis and marked lachrymation. The face was flushed, and the body showed a nodular rash, which was not itchy. It was ascertained that the patient was a primipara and had only been married in the previous July. She had never had swelling of either the face or the feet. She was vaccinated against small pox in her native village some time ago; how long ago and whether the vaccination was carried out correctly or not, could not be ascertained, but there was no clinical evidence of vaccination ever having been performed.

Complaint was made of severe aching of the bones with great discomfort. Not once during her period of pregnancy had she ever left her bedroom. There was no evident history of syphilis. The faeces were yellow and soft in appearance, and since admission the bowels had been open three or four times daily. No blood or mucus was seen. The urine was a little concentrated and when passed was said to produce a burning sensation. No albumin was found in a catheter specimen, and the specific gravity was normal. For some time there had been weakness of the legs, but no further history or physical signs of note were obtained.

The patient died in the Tung Wah Hospital on November 29th, and was sent to the Victoria public mortuary where a post mortem examination was made by one of us on the following morning.

Post mortem Findings

The liver was markedly amyloid and much increased in size. The left kidney pelvis was full of organized blood clot. The bladder contained no urine, there was slight injection of the mucous membrane. The mesentery showed marked numerous petechial haemorrhage. The spleen was congested but otherwise normal in appearance. In the intestines, including the colon, there were many circular and irregular oval dark red or black patch haemorrhages of average size (0.5 cm.) remote from the mesenteric margin.

The uterus contained an apparently normal eight months foetus. The stomach showed large oval dark red haemorrhages on the greater curvature chiefly. There were also marked petechial haemorrhages on both the pericardium and epicardium more marked within two inches of the apex. The lungs were only congested, and the larynx and pharynx were injected with no evidence of diphtheria or other infection. On the gums there were petechial haemorrhage, no blue line, and no dental caries. The brain and meninges were injected but there was no evidence of cerebro-spinal meningitis or of any other brain or cord condition.

The breasts were well developed and contained lacteal fluid, in the fatty areolar tissue there were petechial haemorrhages. The joints showed no evidence of haemorrhage nor of any abnormality. The pupils were dilated slightly reddened and beginning to sink. The blood vessels were thickened. There was a diffuse purplish rash over the whole of the face, neck, front and part of the upper extremities but it only extended for two inches below the coracoid. It could be felt as a raised area in a traving-out of petechiae. Haemorrhages were present to the unaffected parts. A frozen section [illegible] sights was like that seen in [illegible] fever. Intestinal [illegible] and inhibitum [illegible] appendix [illegible] to other abnormality was noted.

DIFFERENTIAL DIAGNOSIS

The following alternative diagnoses were [illegible] haemorrhagic small pox (the purpuric [illegible] of Tidy) purpura haemorrhagica and [illegible] severe typhoid fever (no typhoid spleen and Peyer's patches were evident). Henoch's purpura (age limit 5 years only), lead poisoning (the macroscopic [illegible] present, but there was an appearance resembling basophilic stippling), drop-foot-drop mechanical purpura (possibly caused by rigors, as this is due to pressure of the foetus), acute leukaemia (no glands were enlarged as would be expected), chloroma (not examined, but no evidence of green marrow), cerebro-spinal meningitis (the pathology was negative), infective endocarditis with secondary septic manifestations, toxic nephritis or premonitory [illegible] conjunctivitis which required further diagnosis [illegible] since the local condition was considered [illegible] origin), and typhus fever. After a very careful consideration of all the signs and symptoms and post mortem findings, the differential diagnosis was gradually reduced to one or three conditions—namely, haemorrhagic small pox or the non-pustular variety, typhus fever, [illegible] purpura. Lead poisoning had been excluded by examination of all the organs by the Government [illegible]

chemist, Mr. E. R. Dovey, who also assured us that all other poisons were absent, so far as chemical analysis could show.

As regards the rash, those produced by quinine, belladonna, iodides, etc., were carefully eliminated. Typhus fever was not considered in view of the previously mentioned findings—bearing in mind that the rash never appears on the face in typhus, whereas in the present case there was a marked diffuse haemorrhagic rash, and noting that the spleen was not enlarged, leucocytosis was absent, and marked leucopenia was present, with general anaemia.

The total red blood corpuscles numbered about 2,000,000 per c.mm. The white cell count was constantly about. polymorphs 26 per cent., lymphocytes 73 per cent., and mast cells 1 per cent. No eosinophils were seen at any time, and no malarial parasites were detected.

The possibility of mechanical purpura of pregnancy was excluded on the grounds that there was no evidence of circulatory obstruction at all. Neither the uterus nor the foetus showed anything abnormal.

Microscopical sections were made from various parts of every organ, but all that could be noticed was simple haemorrhagic infiltration of the various organs, and nothing more.

Since one of us is now in England, and can deal with any correspondence, we shall be grateful for any criticisms and suggestions which may throw further light upon these cases.

We wish to take this opportunity of thanking the members of the University and Government staff who so kindly regularly assist us in our investigations.

THE BASIC BLOOD PRESSURE IN RAYNAUD'S DISEASE.

BY

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THE basic blood pressure is that pressure exerted on the blood by the contractile walls independently of the additional pressure due to the systolic contraction of the heart. During estimations of the systolic pressure, when the inflated armlet prevents the systolic pressure from being transmitted beyond the point of application, the blood in the vessels beyond the armlet is under a basic pressure which can be estimated by my method described in the *Journal* of February 8th (p. 242).

After examining a large number of apparently healthy men I find that the normal basic blood pressure is about 50 mm. of mercury. When the second sphygmomanometer points to 70 mm. it is evident that the pressure is too high, and that the cells in the blood are being compressed to an extent which handicaps them seriously in their work. Variation of pressure on the blood disturbs the surface tension, osmotic effects, and metabolic reactions of its cells, and a permanently high figure has a serious action on the cellular actions, reactions, and interactions, with a consequently marked effect on the general nourishment of the body. Furthermore, if the pressure is very high the patency of the vasa vasorum is reduced, and the blood supply to the muscular fibres of the arterial walls is hindered to a serious extent. Under such circumstances it follows that these arterial muscular fibres are poorly nourished and their movements become sluggish. This, I suggest, is the state of things in a patient suffering from Raynaud's disease.

In cases of this disease which I have examined the systolic pressure is high, but the basal blood pressure is raised disproportionately, and I think most stress should be laid on the disproportion. In one severe case of a woman, aged 42, the systolic pressure was 200 mm. and the basal blood pressure 100 mm. This patient's nose and hands were badly affected, and her general health was so interfered with that she could not keep herself warm by the exertion involved in routine work.

My findings are increased in value as a result of the good work by Sir Thomas Lewis and Professor William Kerr, to which reference was made in the *Journal* of July 20th, 1929 (p. 111), and of January 11th, 1930 (p. 82). These observers draw attention to the fact that undue cooling of the hand failed to bring on an attack, because, as they point out, "the minute vessels of the skin of these patients react, as do those of normal skin, to excessive cold by dilating."

I venture to suggest that what really happens is this: in Raynaud's disease the basal blood pressure is high, the blood cell reactions are hampered, and there is a hindrance to the entry of this blood to the vasa vasorum, with the result that the muscle fibres are badly supplied with nourishment and are therefore not able to react satisfactorily to ordinary stimuli. Excessive cold, however, is sufficiently stimulating to make even these sluggish muscular fibres react, and, as Lewis and Kerr state, "the occurrence of a full cyanotic tint is not observed." Their observations, it is interesting to note, have made them come to the same conclusion as I have—that there is an abnormality of the vessel, and also that the closure is not reflex.

I feel inclined to differ from them when they use the term "spasm," which seems to suggest a hypercontractibility of the muscular fibres of the arterial wall. Such a hypercontractibility is not what one would expect to find in a badly nourished muscle, but rather a sluggishness of the movements. As I pointed out in the *Practitioner* of [illegible] 1929: "To suggest that the diseased muscular cells of the auricle are capable of developing fresh dysrhythmic excitation seems contrary to the usual rule of fibrillation, whereas on the other hand the diseased muscular cells forming the thin wall of the auricle lend themselves readily to a state of tremor." In Raynaud's disease the greater the heat applied within reasonable bounds, or the higher the temperature of the room, the more frequently do the arterial muscular fibres move, with a consequent dilatation, because the general raising of the temperature has helped to reduce the basal blood pressure to such an extent as to allow a freer entrance of blood into the vasa vasorum.

The connection [illegible] of a study of this sort is not so much in the milder [illegible] with Raynaud's disease itself, since, save for because it [illegible] forms, it is a rare complaint, but rather principles, [illegible] helps to emphasize one or two important supply to the [illegible] first being the importance of a proper blood secondly, the [illegible] muscular fibres of the arterial walls, and necessarily the [illegible] blood pressure taken over the arm is not body. The [illegible] pressure on the blood in all parts of the disease is evident [illegible] greater liability of the coronary arteries to their muscular [illegible] case of the fact that the blood supply of there is a [illegible] sometimes is often inadequate; as a consequence rise to many [illegible] made [illegible] ness of their movements which gives It is fairly obvious [illegible] cells [illegible] abnormal contractions of the heart. to the powerful [illegible] The [illegible] easily understandable that, owing pressure in the [illegible] 57.5 per [illegible] tractions of the heart muscle, the of all. [illegible] locytes [illegible] mary arteries must be the highest [illegible] pe of [illegible] ated [illegible] to [illegible] inves[illegible] ly t[illegible] nt [illegible] hocy [illegible] he [illegible] anis[illegible] ase

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE SAUERBRUCH-HERRMANNSDORFER-GERSON DIET.

THIS subject is in the forefront of medical interest and discussion in Germany at the present time, and there are many large institutions in which a special kitchen has been provided for the nutrition of patients on these lines. The work of Sauerbruch and Herrmannsdorfer extends over a period of five years; that of Gerson has been still longer. It is advisable to point out that the claims made by Sauerbruch and Herrmannsdorfer refer to the treatment primarily and mainly of surgical tuberculosis—that is of cases of lupus, and tuberculosis of the skin and bones as well as of the lungs. Stated shortly, these claims are largely the results of observations made by Herrmannsdorfer as to the influence of diet in the healing of wounds, and of the special value of the salt-free diet, and a diet

rich in vitamins supplemented by special mechanical preparations, in influencing the reactions of the tissues in a manner favourable to a normal healing process.

Gerson is of opinion that the nutritional state of the tissues—the constitution—can be profoundly influenced by a dietetic regime in which the essential points are summarized as follows: (1) the withholding of common salt in the dietary with the administration of an almost chloride-free diet; (2) a high vitamin content in the dietary, into which fresh vegetables and fruits largely enter, and (3) the administration of special mineral salts—mineralogen—prepared from the vegetable kingdom, and an additional vitamin in the form of a special phosphorized cod-liver oil preparation.

The Dietary System.

The essentials in the diet system are as follows: (1) the all but complete exclusion of sodium chloride (Heirmannsdorfer), salt being entirely excluded in the Gerson regime, and a halogen-free vegetable kitchen salt preparation—eugusal—being used as an effective substitute; (2) fresh uncooked vegetables and fruits bulk largely in the diet, either in the form of vegetable extracts prepared by pressing uncooked vegetables, such as carrots, beet, spinach, turnips, or in the form of salads, with fruit juices similarly prepared by pressing and straining, (3) marked restriction in the amount of fresh meat foods, 600 grams weekly being allowed in Heirmannsdorfer's system, while Gerson allows meat once or twice weekly; (4) one pint or more of fresh uncooked milk daily, sour milk, eggs (especially yolks), oatmeal, wholemeal bread, and farinaceous foods in restricted amounts; and (5) various spices are used to increase the flavour of the dishes. The regime also includes two medicinal preparations:[1] mineralogen, a special blend of mineral salts of vegetable origin, and a phosphoric acid cod-liver oil preparation, both being administered three times daily.

If care is taken, an entirely adequate, palatable, daily dietary can be prepared. At the conclusion of the treatment the patients get back gradually to a more conventional regime, which, however, still comprises the greater use of fresh vegetables and fruits and a judicious restriction of meat foods.

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MENINGITIS IN A BREAST-FED BABY

THE interesting feature of the case recorded below is the source of infection. The child had been entirely breast-fed, and had been perfectly well since birth. The father and mother and eight other children are all well, and apparently free from infection. The only history of tuberculosis that could be obtained was that the former occupant of the house had died of phthisis on June 29th, 1926, but as this was three years before the birth of the baby it is unlikely that it is of any significance.

John R., aged 9 months, was admitted as a case of bronchitis. Temperature was 100° F., respiration 40, and pulse 120. There were scattered moist sounds over the posterior aspect of the chest. He was pale and rather listless, but he took his feeds well and on the morning of the third day his temperature had returned to normal. It rose again that evening to 100°, and he took his feeds rather unwillingly. The next morning he was drowsy, but there were no definite symptoms; the chest had improved; the abdomen was full and soft, and not tender on palpation, there was no head retraction, and no vomiting had occurred.

On the following day he was very drowsy. Examination revealed that he had a hemiparesis of the left side; the left side of the face was immobile when he cried, and his arm and leg were flaccid. The eyes were examined, but there was no papilloedema, the discs being paler than normal. On the sixth day he had three convulsions, and a lumbar puncture was performed, 16 c.cm. of an opalescent fluid was obtained and examined by the pathologist to the hospital. He reported that the cellular content was almost entirely polymorph in character, and only a few lymphocytes were seen. Despite the unusual cell count, ten tubercle bacilli were found, all in one small group.

I would like to thank Dr. Armstrong for his permission to publish this case, and for his kind assistance.

D. M. MACK.
Liverpool Children's Hospital.

[1] *Pharma.* Max Loebinger and Co., Charlottenburg, Berlin.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

DORSET AND WEST HANTS BRANCH.

The Problem of the Care of the Neurotic Patient.

IN a paper read at a meeting of the Dorset and West Hants Branch, on July 2nd, Dr. J. A. PRIDHAM pleaded for a more scientific and rational investigation and treatment of patients suffering from neurosis or psychosis, partly for the sake of the patient, and partly for the credit of the medical profession.

Dr. Pridham remarked that these patients wandered from doctor to doctor and to every variety of unregistered practitioner, spending fortunes on patent remedies. With each doctor they might acquire a new diagnosis and treatment; they might also be subjected to unnecessary operations and to other useless procedures, and not unnaturally they turned away in disgust from the orthodox physician. It might easily happen that some quack or some patent remedy relieved the particular trouble; this "cure" was then proclaimed abroad, and the credit of the profession suffered accordingly, the fact that new symptoms shortly appeared not affecting the position. Such patients had frequently been labelled as suffering from organic disease, and in this way certain methods of treatment, orthodox or not, had gained spurious reputations. The power of suggestion strongly affected this type of individual, and any form of treatment might produce good results if it utilized this power. The public should not be blamed for resorting to persons outside the orthodox ranks, since so many doctors would have nothing to do with a patient when once a diagnosis of neurosis had been made. In too many cases the patient realized that he was regarded as a malingerer, or despised as a poor sort of creature.

Dr. Pridham recalled that, when a student at hospital, he attended one afternoon the out-patient department of a certain physician who was justly believed to be clever and competent. An old woman came haltingly up the room, and the students were asked to observe her peculiar crippling gait, which the physician pointed out was not characteristic of any known disease, and was in fact hysterical. The patient was dismissed, and we were left with the impression that she was not a sick person needing relief, but someone to be laughed at and anyway quite outside the scope of medicine. Yet this old woman had travelled hopefully to the hospital, expecting to be cured of what was to her a serious disability. The speaker expressed the view that this unreasonable attitude of mind was the result of the reaction of medicine from the centuries of ignorance and of the blind acceptance of unsound theories. With the renaissance of science, theories had to be based on observations of fact. The scientific physician learned that he must found his study of disease on the facts of anatomy, physiology, and pathology. He was far too occupied with these studies to be able or willing to be interested in maladies that revealed no trace of organic origin; in fact, he did not regard them as maladies at all, but rather as a peculiar form of amusement of the patient. This opinion was often only slightly veiled, and it was hardly surprising that the patient thought little of the orthodox healer. This mental attitude still persisted among a large number of doctors. Another source of error was the battle which still raged between the somatists or mechanists and the psychologists. The former maintained that all disorders, including the neuroses, were due to organic disease, known or unknown. It could be admitted that a sound mind was unlikely to exist in an imperfect body, for the imperfection of the body might prevent the normal development of the mind, or it might prevent the mind from functioning naturally. But the opposite argument also held good—namely, that a diseased mind might harm a sound body. A ship might be commanded by a capable captain, but if it was badly constructed the most capable captain might be unable to prevent disaster; on the other hand, a good ship commanded by a fool might go on the rocks.

Reviews.

FAITH AND SCIENCE IN SURGERY.

LAST May, when congratulating Sir JOHN BLAND-SUTTON on his seventy-fifth birthday, we expressed a hope that we might have further proofs of his ability to charm us. One such proof has lately come to hand in a reprint of ten addresses, *On Faith and Science in Surgery*,[1] delivered in the lustrum 1925-30 in various cities of Great Britain and Canada, re-edited and freely illustrated with wood engravings. Some part of these have already appeared in our pages with some of the woodcuts which adorn them, but they are none the less welcome in their present form. Sir John has not only the faculty of presenting new facts attractively: he has the power of seeing long-known facts from new points of view, and of shaking the reader's complacency by reminding him of gaps in his knowledge and of defects in his surgical equipment. Like Mr. Silas Wegg (in this respect alone), he has a habit of "dropping into poetry" and of driving home some of his arguments and aphorisms with rhymes, such as those in the Mitchell Banks Lecture of 1925. He is by no means satisfied with catgut for sutures or ligatures, for he lays it down as an axiom that "no material should be employed that cannot be sterilized by heat without destroying its efficiency," and also, "surgeons still require a reliable ligature." Perhaps the procedure of Gallie, commended by Sir John Bland-Sutton, may satisfy the counsels of perfection by employing strips of the patient's own fascia as ligature and suture materials. The surgeon might at any rate have the satisfaction in such cases of throwing the blame on the patient for any failures of material.

"To operate for acute cholecystitis and not remove the gall-bladder is as reprehensible as operating for gangrenous appendicitis and leaving the appendix." Thus does the author sum up his lecture on faith in drugs, in which he prescribes "Attic salt for gall-stones." Yet how shall we expect the layman to realize the facts when, as Sir John relates: "In 1894 a medical student submitted to cholecystotomy for calculus obstruction: the fistula has been discharging mucus and bile to the present time—thirty years. This man clings obstinately to his gall-bladder, and has used more than a ton of cotton-wool for absorbing the escaping bile." The article on conjoined twins and monstrosity and its illustrations are attractive, and that on the parasitic origin of man is most instructive and impressive from its clear simplicity of statement of profound truths. The addenda remind us of the author's pioneer work on avian tuberculosis, and to some ancient instances of couching for cataract. We must not conclude without commending the illustrations. In these days clear woodcuts are most refreshing, and in particular such illustrations as those of the wonderful nest of a tailor-bird or the quadruplets from an armadillo.

There is much virtue in these one hundred and nine pages.

LECTURES ON BIOLOGICAL MEDICINE.

As representing the medical revival in Italy nothing could be more appropriate than the volume of Lectures on Biological Medicine,[2] edited by Professor MARTELLI of Naples. Professor Martelli is the editor of the "Medical Renaissance," and the present volume contains a number of carefully chosen articles by various distinguished representatives of Italian medicine which have appeared in that periodical during the last few years. The result is a volume bearing some resemblance to the well-known work of Trousseau, with the addition of certain artistic features which mark its Italian origin. Most of the articles deal with familiar subjects, such as appendicitis and typhoid fever, and need not be enumerated; but Professor Martelli has contributed an original article on the new horizon in medical biology, which is of particular interest at the present time. He pictures the various stages which modern medical science has traversed, beginning with the anatomical period initiated by Morgagni, culminating in the cellular pathology of Virchow. This stage passed away when it was realized that the study of the corpse alone, although indispensable, failed to give an explanation of the genesis of disease—an essential to successful treatment. The discoveries of Pasteur, with their revelation of the *immense world of the infinitely little*, ushered in the etiological period. So great at the time was the enthusiasm aroused by bacteriological research, that the body itself tended to drop out of view, but when the enthusiasm declined somewhat it was discovered that these parasites alone offered no sufficient explanation of disease—that they might be present without causing disease, and that in epidemics not every exposed individual became infected. The existence of a definite receptivity or constitution was recognized, "our Giovanni" being a pioneer in the movement. Thus was introduced the modern pathogenic period with its elaborate technique. The point of Professor Martelli's argument is that a further stage has to be reached before the final aim of medicine—namely, that of prophylaxis, can be attained. Present knowledge and clinical acumen too often end merely in the contemplation of the results of disease. Such conditions as pulmonary cavitation, hepatic cirrhosis, and sclerosis of the spinal cord, for example, are not, he contends, diseases, but the results of disease and evidences of the failure of the body in its contest with pathogenic agents. It is futile merely to contemplate, like Marius among the ruins, the havoc produced on the body. The author perceives an early stage of variable duration in different diseases, during which the healthy organism is struggling against the settlement of the pathogenic agent within it. It is to this pre-pathogenic stage, that research should be directed as affording the best hope of discovering the means of successful prophylaxis. He has himself studied the signs and symptoms of this stage in connexion with certain diseases, and he has endeavoured, in his teaching, to demonstrate that, in the case of leukaemia, for example, it is quite possible to recognize them. He recommends investigators to concentrate their attention on what Héricourt has called these "frontiers of disease."

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[1] *On Faith and Science in Surgery*. By Sir John Bland-Sutton, Bt. London: W. Heinemann (Medical Books) Ltd. 1930. (Demy 8vo, pp. xii + 103; 40 figures. 7s. 6d. net.)

[2] *Lezioni di Medicina Biologica*. Dettate per *Rinascenza Medica* e raccolte da C. Martelli. Napoli: *Rinascenza Medica*. 1930. (Sup. roy. 8vo, pp. xii + 513; 15 plates, 32 figures. L. 80.)

under discussion. Above all, he lays stress on the important fact that, given patience and care on the part of the physician, and much fortitude on the part of the patient, really good results may be obtained.

MENTAL HYGIENE.

Foundations of Mental Health[1] is a translation of the last published book of the late Professor LEONARDO BIANCHI. The author was not only a psychiatrist of the highest eminence, but also a statesman, who, as Minister of Public Instruction in Italy, was entrusted with the direction of the educational affairs of his country, and continued up to the end of his life to exert a profound influence in matters concerning the health and welfare of the community. The last work of this eminent clinician and scientist on what is perhaps one of the most important medical and social problems of the present day—namely, the mental health of the race—will naturally be read with interest by English-speaking readers; for while, as Dr. Francis X. Dercum observes in an introductory note, this book is written from experience based upon a study of Italian people, the problems considered are those which are presented by all other races and nations. In successive chapters Professor Bianchi discusses the conditions in which human beings are generated, including the laws regulating heredity; the conditions in which infancy is developed, with special regard to weak constitutions and anomalies of character; the school period; the value of physical, moral, and sex education; criminality and its causes; the general unfavourable conditions in which national groups are living; habits threatening health, as alcoholism; the conditions favouring diffusion of diseases disastrous to individuals and to family life, as syphilis; and the causes of the enormous increase of mental diseases and their remedial measures. This book is written with vigour and courage, and Professor Bianchi does not shrink from denouncing errors or weakness in the Church, in the educational system, or in the habits of the people. In the sphere of morals he counsels restraint and self-denial, and in that of religion the necessity for the educationist to explain the perfect agreement between the moral content of the Christian religion and the naturalistic interpretation of the universe.

TAYLOR AND POULTON'S "MEDICINE."

THIS well-known *Practice of Medicine*[5] is now in its fortieth year, for in 1890, four years after the appearance of the much larger *Principles and Practice* of Hilton Fagge, the late Sir Frederick Taylor brought out the first edition of a book which by the piety of his successors still perpetuates his name, and by its size and detail contrasts with the conjoint *Textbook of Medicine* (1929), edited by Dr. J. J. Conybeare, yet another member of the great school of Guy's Hospital. Since the thirteenth edition in 1925 Dr. POULTON has made many changes and additions, but by judicious pruning of the text has kept the volume of practically the same size. The difficulty that one man must feel in covering the whole ground of medicine is ever increasing, and in this edition Dr. R. D. Gillespie becomes responsible for a new section on mental diseases, and Dr. Dyce Sharp has revised and largely rewritten that on tropical diseases, in which those due to parasitic worms are now included. There is a new article on chronic gastritis, in which the view is taken that in the absence of severe anaemia or of gastric carcinoma a persistent achlorhydria points to chronic gastritis. A great deal of new knowledge has of course been incorporated—for example, the liver treatment of Addisonian or glossitic anaemia, J. W. McNee's classification of the forms of splenic enlargement associated with anaemia, and in Dr. H. W. Barber's account of cutaneous diseases. A noticeable feature of the volume is the number of excellent radiograms, and it is a matter for pleasant surprise that the cost of this valuable book has been actually reduced since the last edition. The amount of work devoted to this edition, even allowing for the editor's generous acknowledgments of help from others, must have been enormous, and the result is certainly most successful.

NURSERY MANAGEMENT.

PROFESSOR MARION L. FAEGRE and JOHN E. ANDERSON, director of the Institute of Child Welfare, University of Minnesota, have collaborated to produce an interesting little book on *Child Care and Training*.[6] Attention of late years has been much directed to the care of the pre-school child, and more and more emphasis is laid on the results of early training, not only in the adaptation to life of individual children, but in the development in all children of what is often called "character." That character is less the outcome of heredity than of environment is one of the points stressed in this book, and parents are repeatedly urged to provide the atmosphere which will develop the most useful tendencies in their children. This is not an easy matter for most adults, who may find themselves humbly lacking in the serene and omniscient qualities that appear to be essential for the perfect parent. But the authors of this book are at pains to describe possible errors and to offer examples of suitable modifications of behaviour of the parents. The early acquisition of good habits in eating and sleeping, coupled with a bond of trust between children and parents, makes a good basis for later management. Chapters on play and books and reading are written with great insight into the point of view of the child, and there is an interesting discussion of the development and proper guidance of curiosity. The book as a whole embodies a review of modern ideas on child guidance.

In *The New-born Infant*[7] Dr. EMERSON L. STONE offers an amplification of a series of lectures given to fourth-year medical students. As he justly points out, there is a gap in the supervision of the newly born child between the time when the obstetrician loses sight of the case and the time when the infant is first taken to a paediatrician or a welfare clinic; yet in the first few weeks of life bad habits may be formed, and serious digestive or other disturbances may arise, which might be avoided by careful management from the outset. Such management he outlines in the book, discussing diverse views held on many points of treatment, and indicating his own preference in each case. The first chapter deals with the immediate care of the newly born child, including the treatment of asphyxia; Dr. Stone, while deprecating the use of violent forms of artificial respiration, approves mouth-to-mouth breathing and the use of hot and cold baths. Passing on to the nursing of the normal infant the author gives useful advice on the care of the child and the establishment of regular habits in feeding, sleep, and excretion. A chapter on dietary disorders of infancy, grouped under symptomatic headings, is well arranged and contains valuable information briefly set forth. The remainder of the book is devoted to birth injuries, disorders and diseases of infancy, and the management of the premature child. The arrangement throughout is clear and concise, and the book should be useful to those who are concerned with the early care of children.

Modern Babies and Nurseries,[8] by Mrs. LEN CHALONER, is intended primarily for the use of the mother. It gives in a clear and attractive manner much practical advice on the management of children both in infancy and early

[1] *Foundations of Mental Health.* By Leonardo Bianchi. Authorized translation from the first edition of *Eugenica, Igiene Mentale, e Profilassi delle Malattie Nervose e Mentali.* By G. A. Barricelli, M.D. With an introduction by Francis X. Dercum, M.D. New York and London: D. Appleton and Co. 1930. (5½ × 8½, pp. xvi + 278. 10s. 6d. net.)

[5] *Taylor's Practice of Medicine.* Fourteenth edition. By E. P. Poulton, M.D., F.R.C.P., with the assistance of C. Putnam Symonds, M.D., F.R.C.P., H. W. Barber, M.B., F.R.C.P., and R. D. Gillespie, M.D., M.R.C.P., D.P.M. London: J. and A. Churchill. 1930. (Roy. 8vo, pp. xvi + 1074, 64 plates, 103 figures. 25s.)

[6] *Child Care and Training.* By Marion L. Faegre and John E. Anderson. Revised edition. Minneapolis: University of Minnesota Press. 1929. (5¼ + 8¼, pp. vi + 274; illustrated. 2 dollars.)

[7] *The New-born Infant.* By Emerson L. Stone, M.D. Philadelphia: Lea and Febiger. 1929. (5¼ × 8, pp. xii + 183. 2 dollars net.)

[8] *Modern Babies and Nurseries.* By Len Chaloner. With an introduction by Sir Gilbert Barling, Bt., M.B., F.R.C.S. London: Milford, Oxford University Press. 1929. (Pott 8vo, pp. viii + 122. 2s. 6d. net.)

childhood. There is much sound information, based on experience, in the chapters on nursery furnishing and labour-saving devices, and in a later chapter some suggestions on a subject rarely treated—the conduct of a seaside holiday. The book is conveniently small and attractively written.

THE ACTION OF MUSCLES.

THE first edition of Sir COLIN MACKENZIE'S small volume on *The Action of Muscles*[9] was reviewed in our pages twelve years ago. The initials "A. K." at the end of the notice testified at once to the importance of the book and to the value of the opinions expressed by the reviewer. Sir Colin Mackenzie took up the work which was interrupted by the early death of Charles Beevor, whose Croonian Lectures, delivered at the Royal College of Physicians, revealed a wealth of observation and of acute deduction therefrom. The new edition now under notice differs little from the old, the principal addition being a special section dealing with the erect posture. But to the practitioner the value of this book depends mainly upon the chapters upon re-education and that coaxing of paralysed muscles to resume their functions with which Sir Colin Mackenzie made such an impression in the military orthopaedic hospitals during and soon after the war. We have no doubt whatever that this second edition will be as quickly sold out as was the first one.

NOTES ON BOOKS.

The Clinical Pathology of Thoracic Puncture Fluids,[10] by Dr. S. ROODHOUSE GLOYNE, is a book that should prove of value to laboratory workers who have no special knowledge of chest conditions. After describing the anatomy and physiology of the pleura, including an account of the lymphatic vessels, the author discusses the pathogenesis of pleural effusions, paying particular attention to the development and location of adhesions. The technique of exploratory puncture is next considered, and this is followed by a straightforward description of the simple physical, chemical, cytological, and bacteriological methods of examining the fluid withdrawn, together with an interpretation of the findings. Considering the small size of the book the cost is perhaps rather high; this is, no doubt, to be ascribed to the inclusion of a coloured plate and a number of photomicrographs, which incidentally add but little to the clarity of the text. A future edition might well include one or more differential tables giving the main properties of those fluids that are most commonly encountered.

We have received the fifth volume[11] (Herzkrankheiten II-Krebsforschung) of the new German Dictionary of Practical Medicine, edited by Professors GEORG and FELIX KLEMPERER, of which the preceding volume was published earlier in the year (see *Journal*, February 15th, p. 291). The twenty-eight articles, all by well-known authorities, are as follows: diseases of the myocardium and cardiac nerves (continued), by Professor W. H. Veil of Jena; hay fever, by Dr. H. Petow of Berlin; Hirschsprung's disease, by Professor R. Mühsam and Dr. E. Mühsam of Berlin; diseases of the testis and hydrocele, by Professor B. O. Pribram of Berlin; mountain sickness and aviators' sickness, by Professor A. Loewy of Davos; homoeopathy, by Professor Georg Klemperer; hydrocephalus, by Professor R. Henneberg of Berlin; hydrotherapy, by Dr. Georg Hanffe of Wilmersdorf; hypnosis, by Professor J. H. Schultz of Berlin; diseases of the hypophysis, by Professor C. Hegler of Hamburg; hysteria, neurasthenia, and neurosis, by Professor K. Hansen of Heidelberg; icterus, by Professor H. Eppinger of Freiburg; impotence, by Professor P. Furbringer of Berlin; infection and immunity, by Professor H. Hetsch of Frankfort; influenza, by Professor N. Ortner of Vienna; inhalation treatment, by Professor Seyderhelm of Frankfort; whooping-cough, by Professor W. Birk of Tübingen; the feeding of children, by Professor A. Schlossmann and Professor A. Eckstein of Düsseldorf; Little's disease, by Dr. E. Haase of Berlin; poliomyelitis, by Professor J. Zappert of Vienna; tuberculosis in children by Professor St. Engel of Dortmund; climate and climatotherapy, by Dr. M. van Oordt of Sonnenhof; deformities of the knee and hip-joint, by Dr. O. Stracker of Vienna; constitution, by Professor T. Brugsch of Halle; headache, by Professor F. Hartmann and Dr. E. Hofmann of Graz; cosmetics, by Dr. A. Joseph of Berlin; spasms, by Professor P. Schuster and Dr. H. Pineas of Berlin; and investigation of cancer, by Professor F. Blumenthal of Berlin.

The student of bacteriology as a pure science will find his subject admirably set out in Morrey's *Fundamentals of Bacteriology*.[12] The medical reader will not fail to find much in it that is of great interest, but he may be struck by the apparent neglect of things medical. For the bias of the book (as befits the word fundamental) tends rather towards the general than to the particular, and although the physics and chemistry of bacterial life is surveyed very ably, it may be suggested that for teaching purposes the appreciation of the general principles described might be more keenly appreciated if particular instances were adduced more fully. As a theoretical account of the subject the manual has much to recommend it, but it is for the student who has already made some practical acquaintance with bacteria. The preparation of media, the standardization of their reaction, and the technique of sterilization are of course dealt with fully, and from the laboratory point of view. Perhaps a strict adhesion to the title brings it about that there is no systematic account of such organisms as the *C. diphtheriae* or the *Eberthella* group, and the essence of serological reactions is given less from the practical than from the theoretical standpoint. The history of bacteriology is interestingly sketched, and the large part played in its growth by the study of pathogenic organisms is given its due place. The didactic attitude of the volume is reflected by the superabundance of italics and inverted commas, whose frequency is apt to destroy their object. Illustrations and indexing are good. For the student of general bacteriology the book is certainly well suited.

Among the papers included in the *Transactions of the Medico-Legal Society*[13] for the session 1928-29 is an account of the causes and symptoms of status lymphaticus by Dr. Godfrey Carter; an acute analysis by Dr. F. J. McCann of the duties of the doctor to patients mortally endangered by criminal abortion; and a sympathetic study of juvenile delinquency by Dr. Weatherly, who emphasized the importance of first determining the cause of antisocial behaviour. The most closely argued debate was evidently that in which Lord Riddell and Dr. McCann as protagonists discussed the subject of the sterilization of the unfit; and opinion was sharply divided on most points. Other papers—none of them without some incisive quality—dealt with fume diseases, firearm injuries, and acute arsenical poisoning. Dr. Temple Grey gave an instructive account of the medico-legal expert in France.

The thirty-eighth edition of *The Annual Charities Register and Digest*[14] shows the care and assiduity in compilation which has distinguished the previous editions of this established work of reference. As a practical handbook for social students, and as a convenient, though comprehensive, guide for those who are interested in philanthropic activities, it continues to provide in a handy classification much concise and illuminating information of the means by which distress in affliction and sickness is relieved—in hospitals, homes, and special institutions. An elaborate appendix deals with benevolent institutions, friendly societies, and trade societies, and contains a miscellaneous section in which details are given which may be of general use to hospital almoners.

[9] *The Action of Muscles*. By Sir Colin Mackenzie, M.D., F.R.C.S., F.R.S.Edin. Second edition. London: H. K. Lewis and Co., Ltd. 1930. (Demy 8vo, pp. xvi + 283; 109 figures. 12s. 6d. net.)

[10] *The Clinical Pathology of Thoracic Puncture Fluids*. By S. Roodhouse Gloyne, M.D., D.P.H. London: J. Bale, Sons and Danielsson, Ltd. 1930. (Demy 8vo, pp. vii + 85; 8 figures. 10s. 6d. net.)

[11] *Neue Deutsche Klinik*. Herausgegeben von Professor Dr. Georg Schwarzenberg. 1930. (Sup. roy. 8vo, pp. iv + 783; 187 figures, 2 plates. Paper cover, R.M.33; bound, R.M.40.)

[12] *The Fundamentals of Bacteriology*. By Charles Bridges Morrey, M.D. Fourth edition, thoroughly revised. Philadelphia: Lea and Febiger. 1929. (5¼ × 8¼, pp. xiii + 347. 175 figures, 6 plates. 15s. net.)

[13] *Transactions of the Medico-Legal Society, 1928–29*. London: Gerald M. Sh[illegible], M.D., M.R.C.P., D.P.H. [illegible] Cambridge: W. Heffer and Sons, Ltd. 1930. (Demy 8vo, pp. [illegible] illustrations. 12s. 6d. net.)

[14] *The Annual Charities Register and Digest*. The [illegible] London: Longmans, Green and Co., Ltd. [illegible] Society. 1929. 5¾ × 8¼, pp. viii + 553. 8s. 6d. net.

PREPARATIONS AND APPLIANCES.

METALIX-PORTABLE X-RAY TUBES.

DURING the last three years we have frequently mentioned the "metalix-portable" x-ray apparatus, manufactured by Philips Lamps Limited (145, Charing Cross Road, W.C.2), which aroused considerable interest at the trade exhibition held in connexion with the British Medical Association's Annual Meeting at Cardiff in 1928. A catalogue describing these tubes and their accessories has just reached us. It gives details of the complete range of the tubes, and furnishes a good deal of information, especially by means of photographs, as to their use from the point of view of the general practitioner. The apparatus is made ready for transport in two packages: one consists of the transformer weighing 40 lb., and the other, containing the tube itself, the time switch, and other accessories, weighs 30 lb. The whole installation can be easily taken to the patient's house and safely operated from the domestic electrical supply. The brochure is exceptionally well produced.

Nova et Vetera.

LIVES OF ENGLISH SURGEONS.

The Thelwall Thomas Memorial Volumes.

The revisers of *Plarr's Lives of the Fellows of the Royal College of Surgeons of England*,[1] which work was begun by the late librarian of the College as long ago as 1912, tell us in their preface to the two handsome volumes now published of the history of the undertaking so happily brought to fruition. Mr. Victor G. Plarr for some years diligently collected obituary notices, but his collection was found by Sir D'Arcy Power and Mr. W. G. Spencer in 1923 to be too diffuse and not sufficiently well arranged for immediate publication. It was therefore put aside temporarily, though Mr. Plarr continued to add to it. Since his death in January, 1929, the work of editing and adding to the biographies has been carried on by Sir D'Arcy Power, Mr. W. G. Spencer, and Professor G. E. Gask, who have brought it up to the date of the end of 1929, if not later.

The cost of these volumes has been defrayed out of a bequest made to the College by the late Mr. Thelwall Thomas of Liverpool, who died in 1927, and the book is accordingly entitled "The Thelwall Thomas Memorial."

A considerable number of the deceased Fellows have been personally known to the revisers, who have therefore been in a position to add characteristic details from their own knowledge. A memoir of Mr. Plarr follows the preface, after which comes a transcript of the charter of 1843, and a list of the 300 Fellows chosen from the surgeons of the day in London and the provinces, and elected *en bloc* on December 11th, 1843. In August, 1844, 240 more Fellows were elected in the same way, including twenty-nine chosen from the service of the Honourable East India Company.

These "Lives" include some 2,600 Fellows, and form a chronicle and brief abstract of the time as far as English surgery is concerned, for they include, besides the 300 (of whom one at least accepted the honour under protest, as disapproving of the innovation), Fellows by examination, Honorary Fellows, for the most part foreign, and those who, from their services to the art, have been thought worthy of election to the Fellowship after holding the diploma of Membership for a number of years (at present twenty). There have also been a very few who have been elected *ad eundum*, as possessing the diploma of Fellowship of Ireland or Edinburgh. These Fellowships have only been granted in very special circumstances.

Sir D'Arcy Power's experience as a contributor to the *Dictionary of National Biography* has doubtless stood him and his colleagues in good stead in deciding what to admit and what to omit, and he has, wisely as we think, decided in favour of accepting anecdotes and statements which throw a light on character, and at the same time prevent this vast mass of data from being dry and dull. Unfortunately, it is unavoidable that a large number of the persons discussed were not known to any of the editors, either personally or by hearsay, and the records of their careers have the formal character of too many obituary notices. The result is that there is a certain inequality of treatment. For instance, Sir Richard Owen, great comparative anatomist as he was, was notoriously grudging in acknowledgement of other men's work, and apt to claim credit which was due to others. In the notice of Sir James Paget it is stated that Owen examined his preparation of *Trichina spiralis*, determined the nature of the worm, named it, and took the credit. But in the article on Owen there is no hint at this weakness of character. Some of the anecdotes of distinguished Fellows are well known to the elders of to-day, and may perhaps by some be thought trite, but it is right that they should be put on record as some evidence of what were the personalities of the Victorian, Edwardian, and early Fifth-Georgian surgeons. For the eighty-six years since 1843 have seen great changes and enormous improvements, and even in the lifetime of the revisers there have been surgical revolutions. Even for them it must be hard to realize that they knew the day when Sydney Jones of St. Thomas's was reckoned the best operator in London, and when surgeons would travel long distances to see him do lateral lithotomy, Syme's amputation, or excision of the upper jaw, which operations were then held to be the highest tests of skill. Not one of these would divert attention from the morning paper to-day.

As might be expected, the length of the notices varies widely. Some are two lines long, and all lengths are to be found between that minimum and the seven and a half pages devoted to Sir Victor Horsley. The notice of Sir Frederick Treves is an epitome of the history of the surgical treatment of intestinal obstruction and appendicitis. It leaves us with the impression that Treves was a greater artist with the pen than with the scalpel.

We have looked at every one of these 1,348 pages without finding a record of any Fellow being convicted of crime, although a former President of the College is credited with the "abduction" of the lady who became his wife. Unfortunately, the stress of professional worries proved too much for some, and the list of suicides is a heavy one. But, on the whole, the Fellows seem to have lasted well. We have gained the impression that an unusual proportion passed the Psalmist's maximum of life. They went and came to and from all parts of the earth, and the Roll of Honour of Fellows who gave their lives as medical missionaries is a brilliant if short one. Others devoted themselves almost wholly to science. Such were George Newport, Kitchen Parker (who "was once known to speak for four hours continuously on the lower jawbone of the raven, without saying anything that was other than valuable"), George Bennett of Sydney (the notice of whom extends to two pages), Caleb Burrell Rose, Swan, Symington, Thane, etc.

Among those who followed a military career are John Wylie of the Indian service (elected in 1844), who in the fight of Corygaum, near Poonah, in 1817, distinguished himself by attending to the wounded when he could spare time from leading the sepoys to the attack. The account of this affair in the "Lives" occupies two pages of small print, none of which could be spared. Wylie afterwards was among the first lot of medical officers to receive the C.B. This entry is a good specimen of the scale on which this work has been carried out. Space has not been grudged for the insertion of any matter of interest. John Haddy James, one of the original 300, was the subject of a regimental order of the 1st Life Guards which must surely be unique. It was dated on the day of Waterloo, and ran as follows: "Assistant Surgeon James is not in future to expose himself under fire," as it appears that he had done previously. Another distinguished army surgeon was George James Guthrie, who, at the age of 16, after due examination, was posted to the 28th Regiment as hospital mate—his colonel was 24. It was in Guthrie's quarrel in later years that another Fellow—the pugnacious Frederick J. H. Hale Thomson—fought a duel with Sir Charles Forbes on Clapham Common, as recorded, with much more interesting matter, under Thomson's name. Thomson terminated his stormy career by taking an overdose of chlorodyne.

In selecting the first 300 Fellows the claims of general practitioners were not overlooked, if we may take Thomas Callaway of the Borough High Street as an example. We are told that his practice was more medical than surgical, and a large yellow chariot and footmen seem to have played an important part in it. His son was a Fellow by examination who gained the Jacksonian Prize for an essay on dislocations and fractures of the clavicle and shoulder-joint in 1846.

We think it will be evident from what we have said that the high expectations formed on account of the repute of the author and revisers of these volumes have been amply fulfilled. The feast offered is a rich one, and we have only picked out a few of the numerous plums. A cynic has altered the old adage to "De mortuis nil nisi *bunkum*," and "debunking" the dead has become a favourite pastime among rising young writers. Such has

[1] *Plarr's Lives of the Fellows of the Royal College of Surgeons of England.* The Thelwall Thomas Memorial. Vols. i and ii. Revised by Sir D'Arcy Power, K.B.E. (Mil.), F.R.C.S.Eng., with the assistance of W. G. Spencer, O.B.E., M.S., F.R.C.S.Eng., and Professor G. E. Gask, C.M.G., D.S.O., F.R.C.S.Eng. Bristol: J. Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd. 1930. (6½ × 10½, vol. i, pp. xxvi + 752; vol. ii, pp. 596. Cloth, 42s. net; half bound, 57s. 6d. net.)

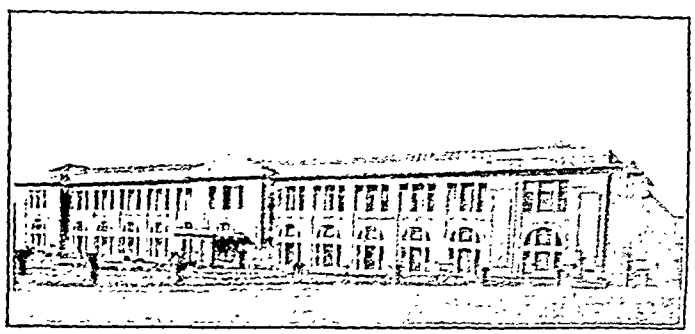
not been a guiding principle of Sir D'Arcy Power and his coadjutors. Rather have they thoroughly acted up to the spirit of the lines by Dr. Johnson, quoted on the fly-leaf facing the first "Life":

"To calumniate the Dead is Baseness:
To flatter them is surely folly."

In a work of this vast scope there must, of course, be mistakes. It is intended to issue a supplement in ten years' time, which will include a list of errata and corrigenda.

MEDICAL EDUCATION IN BURMA.

In Rangoon, the capital of Burma, there is nearing completion one of the most comprehensive university building schemes in the Empire. Burma is situated on the eastern side of the Bay of Bengal, and is peopled by races of Mongolian descent, allied to the Chinese and Siamese, who are their nearest neighbours. It has been attached to India for administrative and fiscal purposes since its conquest during last century, but it has nothing in common with that country in language, customs, religion, or descent. The conception of a great residential university for Burma was due to Sir S. Harcourt Butler, who served two terms as Governor. He acquired for the purpose four hundred acres of land five miles out of Rangoon, on the banks of the Victoria Lake, one of the healthiest and most beautiful spots in the neighbourhood, and the sum of nearly one million pounds was placed by the Burma Government at the disposal of the University Building Trust for building and equipping the new university. Numerous private donors have given valuable financial assistance, the civil and mining engineering buildings having been presented by the Burma Oil Co., Ltd., at a cost of £100,000, and the students' union, boat club, university library, theatre, and gymnasium have been given entirely by private well-wishers.



COLLEGE OF MEDICINE, RANGOON UNIVERSITY.

With the exception of the medical college building, which has been erected in close proximity to the General Hospital, the whole university is being constructed on this estate, the organization of which has grown to such an extent that the question of forming a university municipality, separate from that of Rangoon, is being considered. The university is entirely residential, and is organized as two constituent colleges, University College and Judson College, the second being largely supported by mission funds from America, and the teaching staff being chiefly American. From University College, the larger institution, it is expected that the medical department will separate off as a third constituent college of the university within the next few months, as a matter of administrative convenience. The arts and science buildings are situated on either side of the main university avenue, University College being on the east side and Judson on the west. At the head of the main avenue stands the convocation building, the chief architectural feature of the estate. In its main hall there is seating accommodation for over two thousand persons, and this building also contains the council and senate chambers and the university offices. The undergraduates are comfortably housed in nine three-story halls, each accommodating a hundred and twenty students in separate rooms, with quarters for a number of assistant wardens and tutors. There are also houses for wardens and for most of the full-time members of the staff. Modern sanitation and plumbing, with supplies of hot and cold water, are provided in all buildings, and electric light and power and modern cooking ranges are universally available. Ample playing grounds have been laid out for all forms of games; the university rowing club is in a specially flourishing condition, and the military training corps has a large membership.

At the beginning of the present century Rangoon was very backward so far as her public buildings were concerned, the hospitals and schools, especially, being out of date. Since then conditions have changed with almost bewildering rapidity. The result is that the General Hospital (550 beds), the newly constructed Dufferin Hospital for Women, and the Mental Hospital are of the most modern type, well planned and splendidly equipped. There are, therefore, in Rangoon, with its 400,000 inhabitants, all the clinical facilities for medical education of university standard, and in 1923 the first batch of M.B. students, having passed the university intermediate examination, entered on the newly instituted courses in temporary buildings. The M.B., B.S. degrees of the University of Rangoon were conferred for the first time in July, 1929, on ten recipients, nearly all of whom at once enrolled as members of the British Medical Association. After matriculation, students in Burma must spend a minimum of seven years at the university in order to obtain the M.B., B.S. degrees. The first two years are occupied in intermediate work in arts and science for the university intermediate examination, the remaining five being spent as in England—two years preclinical and three years clinical.

The new medical college building was opened in October, 1929, and in design and equipment is unsurpassed by any medical teaching institute in Asia. It takes the form of a square two-story building, with a frontage of 300 feet; it is arranged round a quadrangle, into which the two superimposed main lecture theatres project. The ground floor accommodates the departments of physiology (including histology and biochemistry) and forensic medicine, three lecture theatres, the examination hall, offices, cloak rooms, lavatories, and students' common rooms. On the second floor are the departments of anatomy, [illegible] surgery, pharmacology and materia medica, pathology and bacteriology, the library, a large lecture theatre, and several small seminar rooms. Animal rooms and gas plant are situated in separate buildings at the rear of the [illegible] structure. Hygiene is taught in the [illegible] Institute of Public Health, the director of which [illegible] the university lecturer in hygiene. University [illegible] provided clinical and post-mortem [illegible] modern type at the hospitals. Apart from [illegible] completeness of equipment and the [illegible] anatomical material, the points which [illegible] experienced visitor are the splendidly arranged [illegible] stocked museums in the pathology and forensic [illegible] departments. This is due, not only to the keenness of the staffs concerned, but to the facts that there are over one thousand complete necropsies performed annually in the Rangoon General Hospital and that crime with violence is notoriously prevalent.

There are seven university medical chairs—anatomy, physiology, pathology, forensic medicine, surgery, medicine, and obstetrics. The heads of the remaining departments have the status of university lecturers. All the heads of departments of medical teaching are European, as is, practically speaking, the case in the arts, science, engineering, and law departments also. The dean of medical studies is Lieutenant-Colonel T. F. Owen, I.M.S., professor of forensic medicine. In conjunction with the consulting architect, Mr. S. P. Bush, A.R.I.B.A., he has played the leading part in designing and equipping the college of medicine

British Medical Journal.

SATURDAY, AUGUST 23RD, 1930.

A CENTURY OF HEALTH PROGRESS IN GLASGOW.

If at the first the great cities of this country fostered the evils which conduce to disease prevalence and mortality, they have in most cases in the course of years succeeded in discovering and working out appropriate and effective remedies. During the earlier part of the nineteenth century, when the local massing of the industrial population ensured the rapid spread of any communicable disease from its point of origin, the city of Glasgow was repeatedly swept by the major infections. The frequency of those outbreaks then forms a striking contrast to the comparative immunity which the city now enjoys, despite the fact that its population has not only become more industrialized than ever but has also increased to a notable degree in its total number. This change for the better, while doubtless attributable in part to causes of a general nature, is due also in substantial measure to the competence and ability of the medical administrators to whom the health affairs of the city were entrusted. Its first medical officer was Sir William Gairdner, its second was Dr. J. B. Russell, and its third was Dr. A. K. Chalmers. Though now retired from office, Dr. Chalmers has not abandoned the life-long habit of public service, but has devoted the beginning of his leisure to the preparation of a review of the sanitary progress of the city. In *The Health of Glasgow, 1818-1925*,[1] he has traced the course of the movement in the city which sought to adapt the new industrial conditions to the requirements of healthy living so as to produce a race which, though industrialized, should yet be fully vigorous.

As the history of sanitary reform in Glasgow has been to a large extent the history of reform in its housing conditions, Dr. Chalmers opens with an account of the improvement in housing standards. He recognizes that every form of shelter which man has devised to protect himself from the elements limits to some degree the free play around him of forces essential to his well-being, especially fresh air and sunlight. The fever of 1818 had directed attention to the prevailing squalor of the affected districts, yet the wynds and closes of Glasgow in 1849, a year of epidemic cholera, were still such as to be described by contemporary writers as "frightful abodes of human misery." The rapid growth of the city accentuated the grosser defects of the tenement system of housing and increased the difficulty of applying remedies on the large scale. A provisional datum of habitability was first laid down in a local Act of 1862. Succeeding Acts from 1886 to 1900 progressively increased the stringency of requirements till the general Housing Act of 1919 ushered in the era of State-aided housing schemes. The improvement of housing standards as reflected in the increased number of apartments in new houses is well brought out in a table which covers the period from 1872 to 1926. In 1872-73, of 4,463 new houses authorized 1,338 were of one apartment, 2,198 of two apartments, 802 of three apartments, and the rest of four apartments and over. In 1925-26, of 6,796 new houses authorized none were of one apartment, and only 318 were of two apartments, while 4,649 were of three apartments, and the rest of four apartments and over.

In the campaign against tuberculosis the Corporation of Glasgow was early in the field. In 1889, within five years of Koch's discovery of the bacillus, it obtained a decision in court upholding its condemnation of a tuberculous carcase, and in 1890 its amending Police Act contained provisions for dealing with tuberculous meat and milk. An inquiry made in Glasgow in 1897 revealed a correspondence between a high number of persons per room in houses and a high phthisis death rate. In 1899 a public health laboratory was opened for the examination of sputum and other discharges. In 1900 notifications of phthisis began to be received from general and Poor Law hospitals and dispensaries, and in 1903 a medical assistant was appointed to follow up phthisis cases. In 1906 the first dispensary for consumptives was opened, and four years later pulmonary tuberculosis became generally notifiable in Glasgow. The National Insurance Act of 1911 and the Treasury grant which it empowered led to a wide extension of institutional accommodation for tuberculosis, which culminated in Mearnskirk Sanatorium.

An early step for the control of infant mortality was the inauguration in 1904 of the depot at Osborne Street for the preparation of milk for infants. Consultations for infants were begun in 1906 with a nucleus of the babies supplied by the depot, and classes were set on foot for the education of mothers in infant hygiene. In 1906, also, the first woman medical officer was appointed. In 1907 the Notification of Births Act brought the occurrence of births under the notice of officials within thirty-six hours. When the Osborne Street Depot, having served its purpose, was closed in 1909, official health visitors were added to the public health staff. The provision for the treatment of expectant and nursing mothers and pre-school children empowered by the Notification of Births (Extension) Act of 1915, although welcomed by Dr. Chalmers, was regarded by him as essentially auxiliary so far as Glasgow was concerned, inasmuch as it could only produce the best results if associated with reform in the housing conditions of the city on a wider scale than had up till then been attempted. Nevertheless, he utilized the facilities of the Act to their full extent, devising schemes for the basic services with extensive primary and secondary developments in every field of maternity and child welfare work. He notes that the operation in Glasgow of the Midwives (Scotland) Act, 1915, was followed by a rise in the number of notifications of puerperal fever—not, he considers, because of any increased frequency in the occurrence of cases, but because of the resulting keener scrutiny of the causes of febrile states in parturient women. He emphasizes the unsatisfactory nature of the home treatment of ophthalmia neonatorum, as a result of which provision was made for the admission of infants affected, and their mothers, to Baird Street Reception House.

Cholera was among the first of the major infections to feel the curb of sanitary reform. During the third pandemic in 1854 there were 3,886 deaths from cholera in Glasgow: during the fourth, in 1866, after the introduction of Loch Katrine water, only 68. Typhus yielded in its turn; in 1847 it caused 4,346 deaths, and it is now approaching extinction. The typhoid death rate in 1868 was 595 per million: by 1921-25 it had fallen to 11. Experience in Glasgow does not support the view that carriers are the dominant factor in the spread of the enteric fevers; missed cases were found to be more frequently in operation. The suppression of the older infections has been followed in Glasgow as elsewhere by the rise of

[1] *The Health of Glasgow, 1818-1925.* An outline by A. K. Chalmers, LL.D., M.D., etc. Glasgow: Printed by authority of the Corporation. 1930. (Roy. 8vo, pp. xviii + 451; illustrated.)

that new tribe of diseases which specially affect the central nervous system. Cerebro-spinal fever reached epidemic proportions in 1906-7, encephalitis lethargica in 1923-24, and poliomyelitis in 1928. On the coming into operation of the Public Health (Venereal Diseases) Regulations, 1917, Glasgow initiated active measures for the diagnosis and treatment of these diseases. Dr. Chalmers does not (for the time being at least) favour the general notification of venereal disease except in cases where it can be shown that third parties suffer, for example, from congenital syphilis and ophthalmia neonatorum. He thinks there is some risk that too much attention may be given to the provision of facilities for treatment and too little on the basis of avoiding exposure to infection. Of the men presenting themselves at one of the municipal treatment centres during a recent year more than half were found to be habitual libertines. "If this," he says, "is a fair sample of the patients attending male clinics elsewhere, then we must frankly recognize that the treatment centres are being put to a use foreign to the intention for which they were created, and that a corresponding proportion of their annual cost is being diverted to the furtherance of promiscuity."

Glasgow, like other cities in this country, has at times a smoky atmosphere. The amount of soot deposited is measured by means of nine soot-collecting gauges in parks and gardens. The deposit over a period of five years is quoted as 326 tons per square mile per annum; this is less than in Liverpool, Birmingham, and London, but more than in Salford. The vertical steam boiler is a frequent source of industrial smoke. Service in the prevention of industrial smoke is rendered by classes for the instruction of steam boiler firemen in the principles of coal combustion and furnace management held under the auspices of the local branch of the National Smoke Abatement League. To check domestic smoke the corporation supplies a smokeless fuel named kinoole, the radiant heat of which is claimed to be more effective than that of bituminous coal.

Though Dr. Chalmers has dealt with the health of Glasgow on the broadest lines, and made little direct reference to his personal work, the part he played in moulding the policy of the city and giving expression to it in action is much too important for any modesty to disguise, and his book stands as a worthy memorial to his distinguished record as an administrator. It will be read with appreciation by the expert and with profit by all interested in public health problems, especially those which are now emerging as a result of the coming into operation of the Local Government Acts of 1929.

BACTERIAL METABOLISM.

THE study of bacterial metabolism is one of the directions in which the chemical side of biological study is advancing most rapidly. Pasteur was the father, both of bacteriology as we know it to-day and of bacteriological chemistry, and although the main interests of bacteriology were soon diverted, in response to the needs of medicine, to the morphological and descriptive side of the subject, yet the needs of commerce served to ensure the continuation of researches into the chemical phenomena of fermentation. Progress in this direction has been steady, and if the extent to which bacteria and moulds now serve the purposes of large-scale synthetic chemistry is not widely realized, it is because manufacturers are naturally loath to court publicity for their methods, rather than because the place of bacteria in commerce is not assured. As for the importance of the nitrifying micro-organisms in agriculture, this has been established by the work of Vinogradoff; indeed, we know that upon these organisms the maintenance of plant life, and therefore of animal life, depends.

To assess fairly the relationship in which bacteriological chemistry stands to medicine is no easy task. Every researcher in bacteriology must at some time have felt the need for a fuller knowledge of the principles governing the composition of his media. In the past, these media have been made up on almost purely empirical lines, with the result that failures to obtain satisfactory results have been frequent and disheartening. The study of bacteriological chemistry is tending steadily to give us a fuller and sounder knowledge of such matters; and the application of the principles involved in the conception of "reduction potential" may well prove to be very fruitful. For medicine, however, laboratory culture media are but a means to an end. The study of infections involves the study of bacteria in a natural cultural medium, a medium, moreover, that plays no passive part. We might hope that the study of metabolic processes of bacteria would help us in more ways than one. In the first place, no other living cells lend themselves so readily to the exact control of environmental conditions. Food and oxygen supply can be measured exactly, and products accurately estimated. If from such experiments we could safely draw inferences as to the activities of animal cells, we should have at our disposal a most valuable means for studying metabolic processes. Such inferences can, however, be drawn only with great caution. In certain respects, bacteria differ widely in their behaviour from the cells of higher organisms. Thus, for example, many species of bacteria can live on media in which the sole source of nitrogen is ammonium chloride, and others can derive their energy from the oxidation of sulphur or of hydrogen. Again, we are accustomed to think of the cells of animals as, to some extent at least, capable of regulating their metabolism in response to their own needs, rather than as being dependant, as bacteria appear to be, on the materials offered to them in the medium. In some ways bacteria in culture seem to behave rather as enzyme and substrate; metabolic processes continue until either the supply of substrate is exhausted or the reactions are brought to a close and growth is stopped by concentration of end-products.

A recent monograph by Miss Marjory Stephenson[1] on the subject we have been discussing gives a most admirable view of the ground already won, and points out some of the lines along which fresh advances are likely to be made. So far as we are aware there is no other book from which may be drawn such concise and adequate information about the chief phases of bacterial metabolism. The study of bacterial metabolism must surely throw light on the relations between infecting organism and infected animal, on the production of toxin, and on the defence mechanisms of the bacteria against the bactericidal efforts of the host. The work of Heidelberger and Avery seems to point the way for investigations of this kind, since they have demonstrated the relationship between the special carbohydrate cell constituents and immunological specificity. It is known, for instance, from the work of Griffith, that cultivation of "S" pneumococci in media containing homologous antiserum results in the production of "R" types—a finding that can only mean a modification of bacterial metabolism by the antibodies present in the medium.

[1] *Bacterial Metabolism.* By Marjory Stephenson, M.A., Molteno Biochemistry. London and New York: Longmans, Green and Co. 16s. net.

THE ANNUAL MEETING IN CANADA.

CANADA'S warm welcome of the visiting members of the British Medical Association, forecast in the *British Medical Journal* of July 19th, is now beginning to materialize. At the end of their sea journey they received a most cordially worded telegram from Professor Harvey Smith, the President-Elect, announcing that the hand of friendship and fraternity awaited them throughout the Dominion of Canada. The steamship *Duchess of Bedford*, conveying Professor Burgess, President of the Association, Dr. Brackenbury, Chairman of Council, and a party of members numbering 290, was boarded at Father Point by Dr. A. T. Bazin, President of the Canadian Medical Association, with Dr. Kenny, and members of the Winnipeg reception committee; unfortunately, the arrival of the ship had been delayed by fog, and so a proposed luncheon in Quebec and the Lieutenant-Governor's garden party had to be abandoned. A banquet, jointly arranged by the Canadian Medical Association organizations of the Province and City of Quebec and the medical profession of that city, was held at the Chateau Frontenac Hotel; it was attended by 400 guests. In the unavoidable absence of the Prime Minister of Quebec, eloquent speeches of welcome were delivered by the Hon. Athanase David, K.C. (Provincial Secretary of Quebec), the Mayor of that city, and Dr. Bazin, to which Professor Burgess and Dr. Brackenbury replied.

THROMBO-ANGIITIS OBLITERANS AND ARTERIO-SCLEROSIS.

THE report on arteritis of various kinds, and gangrene due to arteritis, by Dr. G. Spehl of Brussels and Professor E. Tytgat of Ghent, presented in June, 1930, to the Belgian Surgical Society[1] deals at considerable length with the pathological and therapeutic (especially surgical) questions concerning the nature of these conditions and the possibility of preventing or limiting resulting gangrene. The authors quote Leibovici's opinion that the endarteritis obliterans of von Winiwarter and Friedländer is due to juvenile atheroma, and should be distinguished from Buerger's thrombo-angiitis obliterans, but they state that this distinction is not universally accepted, and that the anatomical-clinical signs of Buerger's disease, though at first characteristic, may be less so later on. Both Buerger and Leibovici agree that in cases of arteritis there are two stages: in the first there is an inflammatory infiltration of all the coats with sometimes purulent or miliary giant-cell foci near the internal elastic lamina; in the second stage the affected vessel undergoes connective tissue obliteration by oganization of the obstructing tissue. Buerger insists that the obliterating endarteritis is due to the organization of the clot and not to a process of proliferating endarteritis as described by von Winiwarter in 1879; the condition is quite distinct, therefore, from arterio-sclerosis (atheroma). The latter may, however, in a few cases, be combined with thrombo-angiitis obliterans. In regard to the various modern pathological-anatomical and therapeutic views the authors cite sufficient authorities to render their work a kind of "critical review" of recent literature (mainly in the French language) on the whole subject, especially in regard to the efficacy and scientific bases of the methods of examination and treatment. Leriche claims that there is an "internal" stage of arteritis which precedes the subsequent "external" stage, in which the adventitia is affected, with involvement of neighbouring veins and nervous fibres and ganglia, and the periarteritic "matting." In the first stage gangrene is rare, whilst it is common when the whole thickness becomes involved; the gangrene, in his opinion, is not caused by obliteration of the arterial trunk alone, but is largely dependent on the superadded vasomotor disturbance resulting from the periarteritis. This conception constitutes the basis for the treatment of ischaemic symptoms and threatened gangrene by periarterial sympathectomy and similar operations—with the purpose of preventing the onset of gangrene and troublesome trophic (ischaemic) ulcers and pains, and with the hope of limiting the gangrenous process when it has already appeared (and thus avoiding unnecessarily extensive amputation). But according to the results obtained the value of Leriche's operation is very doubtful in cases of commencing gangrene, whether due to thrombo-angiitis obliterans or to juvenile or senile atheroma. W. A. Oppel's (1911) theory of gangrene by permanent angiospasm due to hyperadrenalinaemia (according to Ghiron adrenaline experimentally gives rise to vascular lesions comparable to those of thrombo-angiitis obliterans) has been the basis for the operation of epinephrectomy, but the authors conclude that the operation is one the physiological bases of which are not sufficiently solid, and that in spite of the good results reported by Oppel and diminished operation mortality in the hands of skilled surgeons, it can hardly take a recognized place in surgical therapeutics. Wieting's arterio-venous anastomosis is already almost forgotten as a method of treatment, and from an impartial analysis of recorded results the authors think it unnecessary to draw it back from oblivion. Diathermy appears to be of considerable use in some cases. In regard to modern methods of exploring the state of the circulation in cases of gangrene or threatened gangrene the authors regard Moskowicz's test as the best. The oscillometric method with Pachon's instrument (too little employed in England) is undoubtedly helpful. Both these methods should be used. The value of arteriography (with lipiodol, sodium iodide, or sodium bromide) is not sufficient to counterbalance its dangers and other disadvantages. Spehl and Tytgat refer to many other points regarding pathogeny, diagnosis, and treatment, for which their report and the references they give should be consulted; and those whom thrombo-angiitis obliterans attracts as a subject for study will no doubt turn with interest to the paper by Dr. Parkes Weber and two of his colleagues published in our present issue at page 279.

[1] Les Artérites et les Gangrènes par Artérite. Georges Spehl (Adjoint du Service Clinique de ... et Edgard Tytgat (Professeur ... Université de Gand). Rapport ... Société Belge de Chirurgie, 1925. Translated by A. K. Chalmers, ... Journal de Chirurgie ... Printed by authority of the Corporation. ... + 451; illustrated.)

NOISE AND THE TOWN DWELLER.

IN an age of motor traffic, sirens, pneumatic road-drills, and intra-urban train services, it has become impossible for the city dweller to escape from noise even during his hours of sleep. Though the man whose house abuts on the railway will admit that he no longer notices the passing of a train, there can be little doubt that noise has a harmful effect on the mind, even of those who appear to be indifferent to it. The effort of concentration is considerably increased in noisy surroundings, and it has been repeatedly demonstrated that existing neurasthenia is aggravated by noise, and improved by a quiet environment. The effects are inevitably serious on young children and infants, whose nervous systems are insufficiently developed to withstand a prolonged strain; the child who has slept in the midst of uproar will awake listless and tired, and if the conditions persist his growth will suffer. The nursery schools have shown the value of a midday rest to the child who is kept awake late in a noisy and overcrowded home. In the annual report of the Willesden Urban District Council some of the difficulties in the path of legislation to reduce noise are discussed. Clearly the repair of the roads and the warnings of motor traffic are among unnecessary evils of our civilization, nor is it very easy to legislate for the suppression of the crying infant, the barking dog, or the incipient pianist. By means of a meter been found to convert sound into measurable electric waves

2,198 New In 1925-26, ... were of one apart- ments, while ...

it has been possible to determine the effects of noise on the human body. Among other results it has been found that a sound of a given magnitude produces a reaction of fear in the newborn infant, that noise raises the blood pressure in the adult, and that a degree of noise insufficient to waken a sleeping person will cause the muscles to contract and to remain tense for as long as thirty minutes before they relax. Deafness, dizziness, and headache are the lot of those who earn their livelihood by boiler-making or cotton-weaving, and it has been estimated that for normal persons it requires 19 per cent. more energy to perform duties in noisy surroundings than to perform the same duties in a quiet environment; the strain on those whose mental or physical health is not normal can be imagined. The Middlesex County Council has provided certain by-laws to reduce street noises, but these are directed chiefly against street criers and singers, and cannot affect traffic noise. The fact that many of our large hospitals are situated in the midst of busy thoroughfares makes the problem more urgent, since noise is clearly on the increase. Into the Middlesex County Council Bill, which is to come before Parliament next session, a clause has been introduced to give the local authorities the same powers with reference to noise that they have with reference to nuisance under the Public Health Act. This will apply to excessive, unreasonable, or unnecessary noise, wherever it is injurious to health, or where it is capable of being mitigated, having regard to all the circumstances, such as cost. In New York the Noise Abatement Commission has suggested fines for those who create unnecessary noise; sound-proof buildings and zones of silence round hospitals have also been advocated. A greater hope of prevention lies in removal of the cause by the provision of silencers, abolition of strident horns, destruction of worn-out machines, the use of pneumatic tyres, and the substitution of electric welding for riveting. It is estimated that at least 75 per cent. of street noise could be abolished by these measures, and a movement in favour of noise abatement would do much to pave the way for the necessary legislation.

CONGRESS OF MILITARY MEDICINE. AN AMERICAN ECHO.

THE official report of the fifth International Congress of Military Medicine, which was held in London in May, 1929, has already been published, but the American member of the permanent committee of the congress, Commander W. S. Bainbridge of the United States Naval Reserve, has compiled a shorter report[1] principally for American readers. He has summarized the congress discussions, and he adds some descriptive touches, which, with the illustrations, as the foreword says, "all but take you to the meeting." Reproductions of the photographs of the personalities and events of the congress greatly brighten up the pages; the only failure is a sheet reproduction of the group of the delegates taken in the courtyard of the British Medical Association House, in which it is very difficult to recognize a single figure. Resplendent uniforms and decorations, while brilliant to survey, are apt to deteriorate sadly under the combined processes of photography and block-making. The compiler has done his work well, and the opinions and recommendations put forward during some very useful sessions are adequately set out, he carries the story a stage further, for he was the member of the committee appointed to visit, after the congress, certain European countries with a view to completing the work which had started in London, and also to ensure that good national delegations will be sent to the sixth congress at Budapest next year. He states that with this object in view he has held conferences with the chiefs of the medical services and other important people of seventeen nations. One remarkable personage he visited, and on whom he bestowed an American decoration, was General Ludvik Fisher, Surgeon-General of Czechoslovakia, who has created in his country a medical service which now embraces nineteen hospitals and seven spas. General Fisher practised for many years as a surgeon in Chicago, but, always a Czech at heart, he returned to help his country in the war, and helped her so effectively that the old Austrian Government put a price on his capture, though the new Austrian Government has done him honour. Commander Bainbridge believes that excellent as was the London congress, when forty nations participated (as against twenty when the first congress was held in Belgium in 1921), next year's event at Budapest will surpass that record. For the first time Germany will be sending delegates to what in its origin was a conference of the military medical services of the allied and associated Powers. The report concludes with a pleasing tribute to British hospitality, and an appreciation of some of those who had most to do with the arrangements in London, especially the president, Lieut.-General Sir Matthew Fell, and the energetic organizing secretary, Major A. D. Stirling.

[1] Report on the Fifth International Congress of Military Medicine and Pharmacy, London, May, 1929. By W. S. Bainbridge, United States Naval Reserve. Collegiate Press, Menasha, Wis.

GIZA MEMORIAL OPHTHALMIC LABORATORY.

IT might be anticipated that the centres of medical teaching and research which are scattered throughout the more distant parts of the Empire, being to some extent isolated and cut off from the stimulation of close contact with the scientific thought of the Mother Country, would tend to fall behind in originality and enthusiasm. This at any rate cannot be said of the Giza Memorial Ophthalmic Laboratory at Cairo, to judge by the last report we have received of the work done there. The laboratory forms a memorial to the men of the Egyptian Labour Corps and Camel Transport Corps who died while serving the armies of the Empire during the great war. It may be remembered that the funds for its erection were voted in 1921 by the Imperial War Graves Commission in London, and the cost of its equipment was granted by the Egyptian Government. The result has been the foundation of one of the finest ophthalmological laboratories in the world, and its existence and success were largely dependent upon the energy and enthusiasm of Mr MacCallan, who suggested and inaugurated the scheme. There is now a well-equipped laboratory for pathology and bacteriology, provided with a library and the staff for a course of post-graduate training in the diseases of the eye in association with the Ophthalmological Hospital at Giza. The work of the laboratory shows a very large amount of interesting clinical material, and the cases described in some thirty pages. The most interesting part of the report however deals with the research work which the laboratory has undertaken under the direction of Mr Rowland Wilson. As would be anticipated in the laboratory, a considerable amount of attention is given to trachoma. With regard to the etiology of this disease the results have been somewhat negative and have tended to decrease the importance of the bodies of Provazek and Lindner, as well as the specific organisms which have been cited from time to time as being etiological factors in the disease. A long paper is contributed on the [illegible] of follicular conjunctivitis in monkeys, and it is evident that the appearances resembling this disease that occur in these animals have not been proved to be definitely related to trachoma. The observations which are recorded on the difficulties which have been met in determining the pathogenicity of the various organisms discovered very definitely that the results of investigations [illegible] recently carried out by Noguchi require further careful

INTERNATIONAL CONGRESS OF DERMATOLOGY AND SYPHILOLOGY.

THE eighth International Congress of Dermatology and Syphilology was held at Copenhagen from August 5th to 8th, almost a thousand members and their friends assembled for its formal opening by the president, Professor RASCH, in the ceremonial hall of the Christiansborg Palace. The King of Denmark was present, and after speeches of welcome by the Prime Minister, the mayor of Copenhagen and others, the president presented some of the principal foreign delegates.

The first subject of discussion was the etiology and pathogenesis of eczema. Professors DARIER (Paris) and JADASSOHN (Breslau) analysed the present state of knowledge, both tending to emphasize the importance of the phenomena of sensitization, as did many of the subsequent contributors. Dr. ARTHUR WHITFIELD (London) submitted an interesting communication on the subject of autosensitization. Professor SABOURAUD (Paris) pointed out that in reality the whole problem was the determination why some individuals were sensitive, while the majority were not. The second day was devoted by the dermatologists to the discussion of papers of varying degrees of interest, among the most important being one contributed by Dr. BARBER (London) on recent advances in the investigation and treatment of allergic eruptions. It is possible that he and his colleague Dr. Oriel have isolated a specific antigen upon which these eruptions depend. The early morning of the third day was spent in studying a highly interesting series of clinical cases collected by the local dermatologists, among which various forms of sarcoids and a large number of cases of Darier's disease figured prominently. Subsequently the congress members and their friends were transported in motor charabancs to Marienlyst, one of the delightful little seaside resorts in the neighbourhood of Copenhagen, where lunch was provided, after which all visited the Castle of Cronborg and the ramparts traditionally associated with the ghost of Hamlet's father, they were then taken through charming scenery to the palace of Friedrichsborg, which was also inspected, and back home to Copenhagen. A meeting on August 9th was devoted to the consideration of the treatment of tuberculosis of the skin, the opening paper being delivered by Professor AXEL REYN, who has been continuing the great work initiated by Finsen at the institute which bears his name. The chief point of general interest which emerged from the discussion was that there was a fairly general agreement that the new dietetic treatment of lupus, consisting in the employment of food acid in character and free from ordinary salt although not without a favourable influence on the disease was quite insufficient to cure it.

Two days were spent by the syphilologists in considering the more interesting and obscure phases of that protean complaint. It was decided that an important matter for investigation was the case of patients who in spite of careful and persistent treatment continued to have a positive Wassermann reaction. Should treatment be continued indefinitely, or did a time come when it was no longer necessary? Were such patients more liable to relapse than those whose reactions ultimately became negative? Secondly, it was decided that it would be desirable that all nations should adopt the standard notation laid down by the organization of the League of Nations in describing the degree of positivity of the Wassermann reaction. Great Britain had adopted this notation so long ago as 1923, but many other nations had failed to do so. It was felt that if clinicians would demand the adoption of the standard notation the pathologists would be compelled to fall into line. The last day of the congress was entirely devoted to listening to the remaining separate papers. Since in addition to the set discussions there were no fewer than 177 papers accepted by the committee of the congress, it will be readily appreciated that hard work and strict timekeeping were necessary in order that the programme should be completed by Saturday evening, August 10th. This was accomplished, thanks to the masterly organization and excellent arrangements of the local committee. The general secretary, Dr. Svend Lomholt, was indefatigable and ubiquitous and his efforts were most ably seconded by his colleagues, Drs. Kissmeyer and Haxthausen.

A special word of appreciation is due to the lavish hospitality with which the members of the congress and their friends were overwhelmed. Each evening there was a social function, and during the day arrangements were made to entertain the members' wives while their husbands were engaged in the scientific work of the congress. The social side of the meeting culminated in a banquet on Friday evening, this gave the foreign representatives an opportunity to congratulate the Danish dermatologists on the success of their arrangements and to return thanks for the hospitality which they had received. It was generally agreed that Copenhagen had set a high standard for other cities to attempt in the management of international congresses.

STORAGE OF X-RAY FILMS.

THE X-RAY AND RADIUM PROTECTION COMMITTEE'S RECOMMENDATIONS.

AFTER the disaster at the Cleveland Hospital, Ohio, last year, the British X-Ray and Radium Protection Committee considered the whole matter and issued a memorandum on the handling and storage of x-ray films (*British Medical Journal*, November 16th, 1929, p. 923). At the suggestion of Dr. Stanley Melville, honorary (medical) secretary of the committee, and at the request of a number of correspondents, we now republish the specific recommendations therein set out.

School Medical Inspection in the Irish Free State.

In the report of the Department of Education (Irish Free State) a survey is made of the *medical inspection of* school children. The report states that medical inspections in the Dublin schools during the year revealed 10,642 defects requiring treatment, and 4,057 necessitating observation—a total of 14,699 defects. *Decayed teeth* accounted for 6,996 of this total; there were 2,293 cases of enlarged *or septic tonsils and adenoids*, and 2,240 cases of diseases of the eye. The parents of children needing *immediate treatment* were advised to make use of the city hospitals, the choice of the institution being left to the parents themselves. The extent to which this arrangement was taken advantage of is revealed by the returns received from the hospitals. During 1929 the number of children treated for defective vision was 986, and of these 854 were supplied with glasses free of charge; 350 children were treated for external eye disease, 1,108 children had septic tonsils or adenoids removed; and 3,718 children were treated for defective teeth. In Cork city, where a scheme of medical inspection has been in operation since 1924, the number of school children examined during 1928 was 2,208, and the following defects were noted: nose and throat, 453; defective vision and affections of the eyes, 633; and dental caries or other defects, 3,531. In the borough of Clonmel six schools had come under the operation of the scheme of school medical service, and thirteen inspections were made during 1929. The number of children inspected was 1,483, and the following figures are recorded: number of children suffering from defective teeth, 940, from goitre, 26; from enlarged tonsils and adenoids, 185; from tuberculosis, 3; from serious defects, 6; from malnutrition, 12; and from anæmia, 31. The number of children badly kept was 25. In County Cork 10,829 children were *examined in 1929*; of these, 6,133 individual children, or 56·6 per cent., *suffered from defects which required treatment or observation*. A total of 9,683 defects were discovered, of which 6,238 *required treatment*, 2,754 children (25·4 per cent of the total number examined) suffered from more than one defect. There were 2,899 cases of dental disease, 1,721 cases of nose or throat diseases, 989 cases of defective vision (including squint), 817 cases of uncleanliness, and 659 cases of malnutrition. Only a trifling number of parents attended at the inspection, but it is stated that there had been evidence at the re-inspection of various schools of considerable remedying or improvement of the defects noted at previous inspections. In County Kildare the inspections were very well received. Over 95 per cent of the children actually attending the schools were presented for examination, and the parents of nearly 50 per cent. of the children examined were present at the inspections. The examinations disclosed the following conditions: defective teeth, 3,081; enlarged tonsils and adenoids, 1,212, defects of the eye, 1,094; and malnutrition 730. In County Louth the results of the inspection showed dental caries, 51 per cent.; diseased tonsils and adenoids requiring special treatment, 16 per cent.; minor throat conditions, 13 per cent.; defective vision, 6.3 per cent.; squint, 1.9 per cent.; and other diseases of the eye, 1·1 per cent.

Northern Dispensary Doctors and Medical Benefits.

In view of the early introduction of medical benefits in Northern Ireland the medical officers of certain Northern dispensary districts desire an alteration of hours. The matter was referred to at the meeting of the Newtownards Board of Guardians recently, when a suggestion was made by the medical officers of the various dispensary districts for a change in the dispensary hours. The guardians, however, in a subsequent discussion, dealt with the matter as though the dispensary doctors had asked for a reduction in the hours of attendance; owing to this *misunderstanding* it was suggested that the doctors should accept reduced salaries if granted a reduction in the hours of attendance. The clerk pointed out that the doctors were making no application for a reduction in the number of hours, but only that their times of attendance should be altered.

England and Wales.

London Ambulance Service: Conveyance of Maternity Cases.

Now that the London County Council is responsible for a combined ambulance service, including its own accident service and the services lately controlled by the Metropolitan Asylums Board and some of the boards of guardians, the question of the arrangements for the conveyance of maternity *patients to hospital*, has been considered. The "accident" ambulances have hitherto carried parturient women free of cost, if the case is an urgent one, and provided that either a doctor or a midwife accompanied the patient. They have also carried non-urgent maternity patients between the hours of 11 p.m. and 8 a.m. on the *production of letters of admission to the maternity hospital*, in such cases it is sufficient for a female friend to *accompany the patient. It does not appear to the Council* that there is any evidence that a day-time ambulance *service for non-urgent maternity patients is needed.*" Six borough councils have asked that such a service should be instituted, but beyond a general expression of opinion they have brought forward very few supporting circumstances, while nine borough councils considered that there was no need for such an extension. It is not thought advisable at present to make the general ambulance service, which deals with the transport of patients, infectious and non-infectious, to and from the Council's hospitals and institutions, available for non-urgent maternity patients, though this will probably come about in time after the necessary rearrangements have been completed. Meanwhile any arrangement for the conveyance at the public cost of non-urgent maternity patients during the day-time is regarded as the responsibility of the several metropolitan borough councils as authorities under the Maternity and Child Welfare Act. The London County Council is prepared to place its ambulance service at the disposal of such patients if a metropolitan borough council desires it, provided it undertakes to pay an agreed sum, and that the service is limited to patients approved by the borough medical officer of health.

Co-ordinated Hospital Service for Leeds.

A scheme has been approved for the utilization of the Poor Law institutions of Leeds for general medical treatment in accordance with the provisions of the Local Government Act. The Poor Law hospitals of Leeds are three in number—namely St. James's, St. Mary's (Bramley), and the Rothwell Infirmary; they will be transferred from the public assistance committee to the health committee to form part of a public hospital service [illegible] congestion in the voluntary hospitals or the [illegible] relieved. St. Mary's Hospital is old [illegible] unsuitable for modern purposes. St. James's H[illegible] on the other hand is [illegible] and staff, is capable with certain [illegible] adapted for the reception of the [illegible] has the advantage of a central situa[illegible] has been managed by the guardia[illegible] lines of a general hospital [illegible] *surgeons of consulting* rank all exce[illegible] on the staff of the Leeds General Infir[illegible] *X-ray and ultra-violet* radiation apparatus has [illegible] installed there is an operating theatre, and also a laboratory with a trained pathologist. It is proposed to transfer a proportion of the infirm sick at present in St. James's Hospital to the other two institutions, so as to make available a surplus of beds to meet the demand for the accommodation of the acutely sick. An out-patient department will also be instituted at St. James's Hospital which will deal only with patients who have already received treatment in the hospital and still require a certain amount of after-care. Such a department, it is thought, [illegible] only add to the effectiveness of the treatment but will have the effect of curtailing the period of residence of some patients, and thus of indirectly increasing the total bed accommodation. Under the rearrangement St. James's

complications comprised the following: 21 cases of accidental haemorrhage, 6 of placenta praevia, 17 of puerperal pyrexia, and 3 deaths. One of the deaths was in an unbooked case of abortion with severe concealed haemorrhage at twenty-four weeks gestation; another was in a patient who was admitted at thirty-two weeks gestation with severe bronchitis and albuminuria, and the third in a woman who had been under the care of her own doctor for influenza and died at the moment of delivery. There were 32 neo-natal deaths—26 among infants born in the hospital, 6 on the district; 49 infants were stillborn—36 in the hospital, 13 on the district. Of the 1,262 survivors, 1,185 were over birth weight on discharge, 62 were equal to birth weight, and 15 were under birth weight. During the year the attendances at the ante-natal clinic totalled 7,811, 1,379 of these being made to the medical officer's clinic. The following complications due to childbearing were treated during pregnancy: 56 cases of albuminuria, of which 33 were treated in hospitals and 23 at home, 1 case of hyperemesis, 5 of pyelonephritis, 3 of bacilluria, 4 of chronic nephritis, 14 of purulent vaginitis, and 27 of dangerous varicose veins. In addition, 63 cases of diseases not due to childbearing were treated at the ante-natal department.

Cumberland Infirmary Extensions.

Two new wards for in-patients and a pathology department were opened at the Cumberland Infirmary on July 31st by Lord Howard of Penrith, with Mr. W. Theodore Carr, president of the infirmary, in the chair. The wards have been named the "Balfour Paul," and "Woodside" wards, the former being presented by members of the family of the late Mr. C Balfour Paul—for many years honorary surgeon to the Cumberland Infirmary—and the latter by Mr. Andrew Gibson, Woodside, Carlisle. The pathology department has been erected out of funds provided by the Carlisle Pageant Committee, and generous contributions have been made for its maintenance, including £1,500 from Mr. P. H. Holt of Yrithbie, Annan, who originally initiated the scheme. Referring to the work that had been done at the infirmary since the foundation stone of the central building had been laid over ninety years ago, the president said that the institution and its staff had played a very important part in the development of antiseptic surgery, and in the evolution of the use of anaesthetics. It was in Carlisle that Lister had accidentally discovered that carbolic acid was being used to take away the smell of the local sewage, a fact which had suggested its application in surgical operations. Since 1919 extensive improvement had been made in the facilities for the treatment of disease and injury so that the hospital was now among the most efficient in the country. The president expressed the hope that it might soon become a school for nurses, and provide the medical profession with opportunities for post-graduate study. With the opening of the new wards the extension scheme of the infirmary has now been completed, at a total cost of £55,000. Each of the new wards accommodates fourteen beds and is of fire-proof construction, being built of bricks and roughcasting, with slated and asphalted roofs. The floors are of polished pitch pine, and the absence of corners prevents the accumulation of dust. Both have small independent wards attached, one with two beds and the other with three, constructed on the same style as the main wards. Near the Balfour Paul ward a chemical room has been fitted up, and a bed-lift can be operated between the new ward corridor and the ground floor passage. A special room, equipped with steel lockers, has been set apart for storing patients' clothing. The new wards are connected by a corridor with the infirmary buildings, and by a flight of steps with the out-patients' department. The pathology department, which is a building about 70 feet long and 40 feet wide, has been erected on an independent site to the north of the infirmary. It has a well-equipped laboratory, and a balance and a sterilizing room with the necessary apparatus in addition to offices and stores. Gas, water, and electric light and power fittings are all of stainless metal. To commemorate the services of Mr James Carr, who was a member of the infirmary governors for many years, a special ward for nurses—to be known as the Margaret Carr ward—has been erected in conjunction with the Balfour Paul and Woodside wards. It contains three beds, which will be reserved for sick nurses. The Page ward, which is now in course of extension, will ultimately be divided into two sections, one for men and the other for women, where special treatment will be given for diseases of the ear, nose, and throat. The alterations are estimated to cost about £2,000.

Artificial Light Treatment for Tuberculosis in Lancashire.

In a report, recently presented to the Lancashire County Council, Dr. G. Lissant Cox, central tuberculosis officer gives an account of the treatment of non-pulmonary tuberculosis during 1929 at twelve of the county tuberculosis dispensaries where artificial light centres have been established. The apparatus employed in the majority of cases consisted of two carbon arc lamps, one of a sun ray pattern for general treatment, and a Kromayer mercury vapour lamp for local treatment. In obstinate cases ancillary forms of treatment, such as curetting, cauterizing, and aspiration, were found helpful. Dr. Cox concludes from a survey of the year's work that the artificial light treatment continues to give favourable results, particularly in cases of tuberculosis of the skin, and tuberculous adenitis with abscess formation and skin involvement. 60 patients suffering from lupus and scrofuloderma were cured out of 109 who began treatment during the year, while 87 out of 133 were treated with apparent success for the second condition during the same period. In 60 cases of skin disease which became "quiescent and apparently cured," the average duration of the disease before the patients began light treatment was ten years eight months; treatment was given for ten and a third months on an average. The report draws attention to the fact that of 252 patients who showed apparent recovery on finishing treatment in 1929 the consultant tuberculosis officers would normally have recommended 211 for treatment at hospitals. By their treatment at dispensary light centres about £2,552 is estimated to have been saved. It is also emphasized that most of the patients were able to continue their normal occupations during the course of treatment. Patients attending the centres during 1929 numbered 842, as compared with 726 in the preceding year.

cost only £2 2s., it would cost the community 10,000 guineas to save one life.

This is a very heavy burden to put upon a country already tottering on the verge of bankruptcy. The benefit that might be derived from such colossal expenditure is, on the available evidence, too slight to warrant the risk of a financial catastrophe, for bankrupt England would become a shambles, compared to which the Reign of Terror would seem as peaceful as the annual outing of a philanthropic society.—I am, etc.,

Rutland, Aug. 16th. G. H. CRISP.

TECHNIQUE OF INJECTING VARICOSE VEINS

SIR,—As the writer of a brief letter, some three years ago, to the *Journal* recommending the use of intravenous sclerosing solutions for varicose veins, more especially in treating varicose ulcers and dermatitis, and one who has used this method extensively, I have been very interested in the recent communications on this subject appearing in the last few issues. I rarely encountered cases which did not respond to quinine urethane solution, if given in sufficient amount, but in those that did not do so I found that sodium morrhuate in 10 per cent. solution with phenol 0·5 per cent. invariably worked.

Regarding the occurrence of any untoward symptoms, such as hypogastric cramp-like pains (? uterine) or fainting, I have had none of the former with sodium morrhuate, but in a few faintness came on in a few seconds after injection with both these solutions when given to the same patients. In such I think this is often due, especially in using sodium morrhuate to fear or apprehension in nervous persons.

I prefer to have the patient sitting on an ordinary chair, as mentioned by Dr. Scott in his article in the *Journal* of July 12th, and to make the injections from below upwards. By this means it is much easier to enter the vein and, what is more important, to be sure that the needle remains in it during the injection (by withdrawing the plunger of the syringe and noting if blood flows into the barrel). If one performs the injection in this position, when the patient has not been walking about too much just previously, or has been wearing supporting bandages and removes these immediately on sitting down, then I find there is just sufficient distension of the veins to permit easy access, and the solution injected is not too much diluted by the residual blood in the vein to be effective. I now prefer 10 per cent. sodium morrhuate, since I find it more satisfactory than the 5 per cent. solution. The 5 per cent. strength is useful for small veins. Probably the reason for my considering the stronger solution more satisfactory is that owing to my usually injecting the veins when partially filled with blood, as above, the solution becomes too diluted to cause a chemical endovenitis unless I use the stronger one. For varicose ulcers, and some cases of varicose dermatitis, I find a local dressing of "anasthesine" (Hoechst) often helps to allay the pain and irritation while the veins concerned are being dealt with.

One other point that I think is of importance in treating patients sitting on a chair, when using sodium morrhuate solution, is not to apply any constricting bandage to the limb for at least three hours afterwards, but merely to seal the puncture wound. By putting on a tight bandage at once after the injection the fluid thus introduced is apparently often forced out of the veins before it has had sufficient time to affect their endothelium, or it only remains in too weak a dilution to be effective. After this period a bandage may be applied, it helps to cause the walls of the veins to adhere and obliterate their lumen. When using quinine urethane solution I give the injection sitting; after a few seconds I raise the limb to a horizontal position, retain it there about a minute, and then let it drop, repeating this procedure two or three times before bandaging the leg up.

I find about 2 c.cm. of 10 per cent. sodium morrhuate solution for each injection to be an average amount to give, and frequently give 10 c.cm. altogether at one sitting. With reference to its main advantages as compared with sodium salicylate or quinine urethane solutions, they are five in number—namely (1) less toxic, (2) much less bruising or tendency to haematoma resulting from its use, (3) if any escapes into the perivenous tissues there is less likelihood of a slough resulting, (4) produces a similar end-result quicker than either of the other two, (5) owing to the oily nature of sodium morrhuate it is more suitable for a lubricant for the piston of a syringe. After use I cleanse the syringe with ordinary water and then put it in "surgical spirit" (John Richardson and Co., Leicester), this fluid prevents corrosion and discoloration as occurs with ordinary methylated spirit, owing to there being some oleum ricini in the former. I do not use a tourniquet, except in rare cases.

If any fluid should escape into the surrounding tissues during the injection, as evinced by the patient complaining of a burning sensation or a stinging pain at the site, I find the best thing to do, in order to prevent a slough resulting, is to leave the needle *in situ*. I first endeavour to aspirate the fluid injected, usually without much success, then to inject some normal saline solution quickly and aspirate this if possible in a few seconds. I repeat the process two or three times, and then withdraw the needle, letting the blood escape freely from the puncture wound for about a minute. Finally, I massage the part involved for five minutes. By this means an effort is made to remove rapidly or else dilute any remaining fluid as quickly as possible.

One can generally tell almost at once after injection into a vein whether it is going to be successful or otherwise, since the patient mentions, usually within a few minutes, something in the veins, variously described as warm running water, pins and needles, etc. With sodium morrhuate solution one can frequently see and feel the area of vein that is going to be affected by the injection as it swells up and becomes hard to the touch. I noted when using quinine urethane solution that occasionally fine fibrillary muscular twitchings occurred over the area where the patient stated he felt "pins and needles," etc., more especially does this happen in the feet. I have not as yet, used lithium salicylate solution 30 per cent. as mentioned by Dr. Scott, and I would like to know if he finds it to be locally very toxic should any escape into the perivenous tissues. At times, however careful one may be, some of the solution injected will migrate into surrounding parts, probably owing to thin-walled veins and loss of their normal structure.—I am, etc.,

Leicester, July 27th. T. A. T. SILCOCK, M.D., D.P.H.

SUBACUTE COMBINED DEGENERATION OF THE CORD

SIR,—The names of Professor Gulland and myself appear frequently in the very interesting article by Dr. J. P. McGowan on subacute combined degeneration of the cord in primary anaemia of the fowl in the *Journal* of August 9th (p. 204). I should therefore be obliged, in Professor Gulland's absence, if you would publish the following observations by myself on it.

Dr. McGowan has reported the occurrence of marked sideriotic changes and of alterations (quantitative and qualitative) in the bone-marrow in seven cases of subacute combined degeneration of the spinal cord in fowls. In only one of these cases was any marked anaemia present. I have had no experience of pernicious anaemia in fowls, but this finding would be remarkable in the human subject, in whom such bone-marrow abnormality is invariably accompanied by a high degree of anaemia. Further siderosis in the human subject is evidence either of excessive blood destruction or of defective blood formation, and in either case clear evidence of anaemia is present during life. In pernicious anaemia during the remission that is when little or no anaemia is present) the bone-marrow returns to the normoblastic mode of blood formation, and becomes indistinguishable from marrow found in healthy patients. At a necropsy last year on a patient suffering from pernicious anaemia, who had died as the result of an accident at a time when he had a practically normal blood count, no siderosis was found in any of the organs, and a diagnosis of pernicious anaemia could never have been made from the post-mortem findings.

With regard to the central nervous system changes described by Dr. McGowan, it is impossible to say from his illustrations whether they are analogous to the changes occurring in the human being. The method used for staining the sections was Marchi's, which, although excellent for showing degenerating myelin, is of no value for demonstrating the presence or absence of astrocytic activity and neuroglial formation. Weigert's neuroglial fibril stain, or Cajal's gold chloride impregnation method, is required for this purpose. Accordingly, unless this has been carried out (and Dr. McGowan makes no statement to this effect) it is impossible to attach much weight to the statement that no neuroglial proliferation was present. From what has been stated, the question whether the blood and central nervous system changes occurring in fowls are identical with those of human pernicious anaemia must for the present remain doubtful.

Dr. McGowan's hypothesis regarding the etiology of pernicious anaemia may be summarized thus. The specific type of bone-marrow change in pernicious anaemia is produced by a toxin, and the changes in the central nervous system, stomach, and liver are the result of anoxaemia of these tissues, consequent upon the anaemia. The toxin theory of pernicious anaemia is one of the oldest theories existing, and one which I, as a bacteriologist, always hoped would prove to be the correct one. After several years' work on the intestinal flora in cases of pernicious anaemia, and after a careful review of the literature dealing with the toxin theory, we were forced to discard this view owing to the absence of any proof as to the nature, source, and mode of action of the hypothetical toxin. Dr. McGowan has returned to the toxin theory without attempting to bring forward any evidence on which to base his contention. He agrees with our statement that in the liver there is present an agent which is necessary for normal blood formation. The essential point of his contention, however, is that the primary cause of the upset of marrow function met with in pernicious anaemia is a toxin, and that the amount of specific factor produced by the still normal liver is insufficient to control this abnormal marrow. Further liver deficiency may now, he admits, be brought about by the anaemia resulting from faulty marrow function, and thus a vicious circle is established. It appears simpler to explain the marrow changes by a mere deficiency of the specific factor, without the addition of a hypothetical toxin of whose existence we have no evidence. That a deficiency of the specific factor is the essential feature in the production of pernicious anaemia is shown by the fact that replacement therapy causes a return to normal blood formation. The problem whether the original site of manufacture of the specific factor is the liver itself, as suggested by Dr. McGowan, or whether the deficiency is due to defective protein metabolism in the stomach, as suggested by Castle, is one which we have discussed in full in our monograph, and which still remains unsettled. We are inclined strongly, however, to the latter hypothesis, and believe that the specific factor is merely stored in glandular organs, particularly in the liver (because of its size and of its normal storage functions), and also in the stomach and kidneys.

Dr. McGowan states that the pathological changes in the spinal cord and stomach are the result of an anoxaemia, secondary to bone-marrow changes. This appears to us to be in direct conflict with certain fundamental facts universally recognized by all who have made a study of pernicious anaemia in human beings. Dealing first with the central nervous system, it is beyond dispute that severe cases of subacute combined degeneration occur in which the blood count and blood picture may be normal, and which have never previously shown any symptoms or signs of anaemia. Accordingly, if anoxaemia is present in such cases, it must be of relatively small degree. In many of these cases there is no history of any previous period of any kind of ill-health whatsoever. We cannot agree with the analogy drawn by Dr. McGowan from the case of the fowl, in which apparently a considerable degree of anaemia may exist for long periods without being recognized. We believe that the human subject suffering from any pronounced degree of anaemia would be recognized, or would recognize himself, as being definitely out of health, though admittedly his illness might not be recognized as "pernicious anaemia." On the other hand, we have all seen large numbers of cases of pernicious anaemia which have reached either rapidly or slowly a high degree of oligocythaemia (one million or less red blood corpuscles per c.mm.), without any symptoms or signs of central nervous system disease being present.

In his present paper Dr. McGowan describes fowls with subacute combined degeneration of the cord, yet with little or no anaemia, and in past papers he has frequently reported cases of severely anaemic fowls with no central nervous system changes. These facts clearly show that there is no relation between the degree of anaemia and the degree of central nervous system degeneration, and are accordingly in direct opposition to his hypothesis.

The explanation of achlorhydria as a result of anoxaemia is also fraught with difficulty. Dr. McGowan claims that in anaemic pigs there occurs a lowering of the alkali reserve of the blood, accompanied by achlorhydria. That this may be so we do not doubt, but that anaemia *per se* is the cause of the achlorhydria in pernicious anaemia is contraindicated by the following facts. Many patients who later develop pernicious anaemia are definitely known to have been achlorhydric for a very long period—in some cases since childhood. Also, the percentage of children with achlorhydria born of pernicious anaemia parents is far higher than that among persons of their own age born of normal parents. This is also true of children born of parents suffering from subacute combined degeneration of the cord. Such patients in the prepernicious anaemia stage have a normal blood count, and in consequence it is difficult to understand on what basis Dr. McGowan can suggest that anoxaemia is present. It would appear remarkable that the anoxaemia which, in his view, must have been responsible for causing the achlorhydria should, although existing over such a prolonged period, have caused no damage to the central nervous system.

It was for the foregoing reasons, and particularly because of the absence of relationship between the degree of anaemia and the degree of central nervous system involvement, that we were forced to enlist the help of the constitutional element in explaining the disease. Moreover, we stated that we were fully aware of the danger of too readily invoking "diathesis" at the expense of experimental and clinical investigation as a means of explanation. Dr. McGowan states that if a constitutional predisposition can be held responsible for the lesions of the central nervous system in pernicious anaemia, it can logically be held responsible "for the sequelae and complications of each and every individual disease in which complications and sequelae are irregular in their occurrence." Far from disagreeing with this point of view, we would state that this seems the only logical explanation in many such cases. It is, in short, merely one way of stating the accepted doctrine of "the seed and the soil," and emphasizing the importance of natural immunity.

Dr. McGowan is to be congratulated on his careful researches into the blood and central nervous system changes occurring in fowls, which must prove extremely interesting and stimulating to all working on the subject of human pernicious anaemia. We feel, however, that to return to the "toxin" hypothesis of pernicious anaemia, especially when unsupported by any facts regarding the nature and source of the toxin, is to introduce further confusion into an already confused subject. Nor do we feel that Dr. McGowan's explanation of the tissue changes in the stomach and spinal cord, as being due to anoxaemia, is in keeping with the well-proven facts stated above.—I am, etc.,

STANLEY DAVIDSON, M D , F R C P.
Department of Medicine, University of Edinburgh, Aug. 13th.

SIR,—Dr. J. P. McGowan has described a disease occurring in the fowl in which anaemia and degenerative changes in the spinal cord occur. It is difficult to understand how, with no other evidence than his observations on seven fowls, he can reject the mass of evidence collected in the last ten years, which proves that achlorhydria is a predisposing cause of pernicious anaemia and subacute combined degeneration of the cord, and that neither the

achlorhydria nor the cord degeneration is a result of the anæmia. The frequent familial occurrences of achylia gastrica, pernicious anæmia, and combined degeneration of the cord, either separately or together, is also denied by him, apparently for no other reason than that in the absence of personal experience of the disease except in fowls, he has not paid attention to the extensive literature on the subject.—I am, etc.,

New Lodge Clinic, Windsor Forest, Aug. 13th. ARTHUR F. HURST.

ETIOLOGY OF PUERPERAL SEPSIS.

SIR,—Dr. Colebrook's paper in the *Journal* of July 26th (p. 134) resuscitates and confirms Schottmuller's well-known views on the occurrence of anaerobic streptococcal infection in puerperal fever. In Dr. Colebrook's opinion one-half at least of the cases of puerperal fever are to be attributed to these anaerobes. To the practising obstetrician it may well appear that yet another group has been added to the terrifying array of pathogenic streptococci. Dr. Colebrook's observations, however, are open to a different interpretation.

The outstanding clinical characteristic of the group of 18 cases described is thrombo-phlebitis of the pelvic veins. A notoriously dangerous procedure, intrauterine manipulation, is recorded in 10 out of 13 cases; clinical details are lacking in the remainder. The cases are not contagious. The anaerobic streptococci cultivated by Dr. Colebrook from the blood are mixed with other organisms in half the cases. Our personal experience of these anaerobic streptococci indicates that they are normal saprophytic inhabitants of the genital tract and are of low pathogenicity.

May it not be that the provocative factor is intrauterine manipulation, or trauma, and that the infection by various endogenous streptococci and other organisms is a sequel?

Are we not therefore considering the bacteriology of a familiar and troublesome clinical condition, long recognized by obstetricians as puerperal thrombo-phlebitis, rather than a new form of puerperal fever due to a distinct and, to this extent, specific group of streptococci?—We are, etc.,

R. R. ARMSTRONG.
H. BURT-WHITE.

London, E.C.1, Aug. 10th.

SIR,—Much is being published about puerperal and its causes, but it appears to me that one chief causes has been overlooked—namely, the unfit many of the young women of to-day for child-b The dress worn by women nowadays is so scant then physical development is easily seen, and it is able how many of them have the small pelvis charac of the male. Under this condition pregnancy small child in early days may be satisfactory, bu on, when full development has taken place and joints have become more fixed, is it surprising tha injury is done to internal parts during parturitic that septic developments result?

I am acquainted with the case of a young suffering from congenital hip deformity, who friendly with a young man, before deciding on an ment she consulted a woman doctor, was examine told she could safely marry. I think this pre-m examination is of equal importance, in certain cas pre-natal examination, and that its practice woul the severe criticisms now being passed on doct nurses.—I am, etc.,

G. F. G

London, S.W.2, Aug. 11th.

IDIOPATHIC HÆMORRHAGE IN THE NEW

SIR,—The interesting communication by Drs. Boyd and J. A. Elliot in the *Journal* of Aug (p. 213) prompts me to draw attention to an ar haemorrhage in the newborn in *Modern Techn Treatment* (vol. ii, p. 69), and to mention three melæna neonatorum which I have seen. The fi in the post-mortem room of the Edinburgh Hosp Sick Children, and the origin of the bleeding was f be a small polypus on the mucosa of the duodenum had become partly separated at its base.

The other two cases occurred in general pra September, 1927, and December, 1929. Both patie gul babies, born naturally at full time and of healthy mothers, the one a three-para, the other a primipara, neither of whom lost much blood during and after the third stage of labour. The two children began to bleed about thirty hours after birth, in the second case there was hæmatemesis and slight bleeding from the cord-stump as well as melæna. Both were treated within two hours of the appearance of the haemorrhage, both recovered and are now quite healthy. In each instance 10 c.cm. of the mother's blood was injected subcutaneously in the mid-scapular region of the infant's back. In the first case an injection of calcium chloride was made into the buttock also, and 10 minims of 1 in 1,000 adrenaline chloride was given by the mouth, with the hope of its acting as a local styptic, in the second case no other treatment was given except the injection of whole blood, which was performed within the hour after the onset, the child never appeared exsanguinated. Warm, boiled water was given by the mouth, the babies were kept warm, and were moved as little as possible.—I am, etc.,

SIDNEY E. CROSKERY, M.D.

Tunbridge Wells, Aug. 9th.

SIR,—The memorandum of Drs. Boyd and Elliot calls to mind two such cases in my practice during the past twelve months.

The first infant passed fresh blood per anum on the second day, perhaps a teaspoonful in all. This was repeated on two or three successive days, but with the exhibition of sterile water and liquid paraffin for a day or two the condition cleared up. In the second case a 7-para was delivered of a boy easily and without intervention. On the second day a small quantity of blood was vomited. Influenced by the first-mentioned case I treated the child on expectant lines, but with less happy results, for on the morning of the following day a copious haemoptysis occurred, completely saturating the bedding. An hour later the child was extremely pale, pulseless and apparently moribund, so 3 c.cm. of normal horse serum was immediately given intramuscularly into the glutei, and the [illegible] head to foot and placed near the fire.

Colonel JOHN SOUTHEY POSTOCK, C.B.E., late R.A.M.C., Commandant of the Royal Army Medical College, Millbank, died suddenly at The Priory, Burford, Oxon., on August 12th, aged 55. He was born on June 5th, 1875, the eldest son of Dr. E. I. Bostock, whose six sons all served in the war, three of them being killed. John Bostock was educated at Lancing and at Edinburgh University, where he graduated M.B., Ch.B. in 1900. Entering the R.A.M.C. as lieutenant on January 29th, 1901, he became major in 1912, brevet lieutenant-colonel in 1915, and brevet colonel on January 1st, 1918. He served throughout the war of 1914, having accompanied the original Expeditionary Force, and sharing in the retreat from Mons. He was mentioned in dispatches in the *London Gazette* of June 23rd, 1915. At a later date towards the end of the war he was in command of the great war hospital at Eastbourne, and was then Director of Medical Services at the Ministry of Pensions from 1919 to 1923, when he was appointed principal medical officer at Hong-Kong. Six months ago he succeeded Major-General Douglas, V.C., as commandant of the R.A.M.C. College, Millbank. He was awarded the C.B.E. in 1923. In 1909 he married Olivia Emslie, daughter of Mr. Emslie J. Horniman of Chelsea, and had two sons and one daughter. He was throughout his service a most popular officer, alike among his contemporaries and with those who were junior to him. A junior R.A.M.C. officer who had served under him contributes the following appreciation: "John Bostock," for that was how he was known among us all, was a man with exceptional charm. Wherever he went he created an atmosphere of geniality and friendship. Whether as depot commandant in relation to recruit or as senior officer to senior officer, "John Bostock" could always make his personality felt. Almost at the zenith of his career he has been called away. His selection for the post of commandant of the R.A.M.C. College was considered a really happy one; here was the ideal man for the position. He could make the newcomer welcome as no other man could, and could represent the Corps to its distinguished visitors with a natural warmth and elegance. There must be few among his brother officers who do not feel the loss, not only as a really personal one, but also to the Corps as a whole.

Universities and Colleges.

UNIVERSITY OF LONDON.

DR. E. GRAHAM LITTLE, M.P., has been re-elected chairman of the Council for External Students of the University of London for 1930-31.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.

THE undermentioned scholarships have been awarded for 1930:

University Scholarship (£100): H. F. Mossop. Hector Mackenzie Exhibition (£25): J. H. Gosset. Entrance Scholarship in Arts (£50): R. R. McSwiney and I. A. L. Belcher. Entrance Scholarship in Science (£100 and £30): (1) G. W. Hearn; (2) W. F. Hadden and J. L. Lesh. William Tite Scholarship (£25): L. E. Jones.

Medical News.

THE second annual dinner of the Chartered Society of Massage and Medical Gymnastics will be held at the Midland Hotel, Manchester, on Friday, October 3rd, at 7.30 p.m. Further information may be obtained from the secretary of the society, Tavistock House (North), Tavistock Square, London, W.C.1.

NOTICES of the triennial dinner of the Manchester Royal Infirmary Old Residents' Club on October 25th have recently been circulated. Any old residents at the Infirmary who have not received them are asked to communicate with the secretary of the club at the Royal Infirmary, Manchester.

AN introductory course on psychological medicine for the general practitioner will be given at the Tavistock Square Clinic for Functional Nervous Disorders, 51, Tavistock Square, W.C.1, on Wednesday afternoons, beginning on October 1st, and continuing until December 17th. Dr. D. Graham Howe and Dr. H. Crichton Miller will each deliver twelve lectures, and the fee for taking both series is £1 11s. 6d.; the fee for the course can be obtained by application to the honorary lecture secretary at the clinic.

THE Fellowship of Medicine announces that from September 1st to 13th there will be an all-day clinical course at the Queen's Hospital for Children. An all-day revision course at the Westminster Hospital from September 15th to 27th will comprise instruction in all departments of medicine, surgery, and the specialties; visits will be paid to two mental institutions connected with the hospital. There will be a further revision course at the Metropolitan Hospital (especially designed for panel practitioners) from September 29th to October 11th, a course in diseases of the throat, nose, and ear at the Central London Throat, Nose and Ear Hospital from October 6th to November 1st; one in tropical medicine at the Tropical Diseases Hospital from October 7th to 30th; and one in gynaecology at the Chelsea Hospital from October 13th to 25th. Evening courses will also be arranged in that month for the M.R.C.P. and the final Fellowship examinations. Full particulars of the post-graduate work arranged by the Fellowship of Medicine, and the 1931 list of special courses, may be obtained from the secretary, 1, Wimpole Street, W.1.

A POST-GRADUATE course in diseases of the heart and blood vessels will be held from October 13th to 25th, at the Broussais Hospital, 96 Rue Didot, Paris, under the direction of Dr. C. Laubry. Clinical and radiological demonstrations will be arranged as well as formal lectures, and a certificate will be issued at the end of the course. The fee for the course is 1,000 francs. Further information may be obtained from Dr. Y. Meyer at the hospital.

THE German Neurological Society will hold its annual meeting at Dresden on September 18th, when the principal subject for discussion will be the theory and practice of the problem of resistance in nervous diseases, introduced by Drs. Boeke of Utrecht, Spatz of Munich, Foerster of Breslau, and Goldstein of Berlin.

IT is announced that the fourth Congress of the World League for Sexual Reform on a Scientific Basis has been postponed for three days, and will now be held in Vienna from September 16th to 23rd. The subjects for discussion include: sexual difficulties of the young, of adults, and of mentally abnormal persons; the internal secretions, the relation of sexual abnormalities to the administration of justice; birth control; and the rights of children. Further information may be obtained from the secretary of the congress at the Congress Bureau, Postfach 63, Vienna I/15.

THE second Congress of the Federation of the Latin Medical Press will be held at Brussels from September 28th to 30th in connexion with the centenary celebration of Belgian independence. Topics of discussion include the medical journal and contemporary medical journalism, the rights of editors, the production of a dictionary of medical terms, and the part played by the medical press in diffusing important scientific and professional views. Further information may be obtained from Dr. R. Beckers, general secretary of the conference, 36, Rue Archimède, Brussels.

THE thirty-ninth French Congress of Surgery will be held in Paris under the presidency of Dr. Maurice Arnray, surgeon to the Hôpital Lariboisière, from October 8th to 11th, when the following subjects will be discussed: [illegible] arthritis, introduced by Pierre Brocq of Paris and [illegible] traumatic spondylitis (Kümmel-Verneuil disease), introduced by Frœlich of Nancy and Albert Mouchet of Paris; and preparation of patients for operation, introduced by Lenormant of Lille and Sauvé of Paris. Further information can be obtained from the general secretary, Rue de [illegible] 12, Paris, VIe.

AN address entitled "Diet and dental disease: What we have learned from animal experiments" delivered by Mrs. Edward Mellanby as the Fourth [illegible] on Paget Memorial Lecture to the Research [illegible] on June 3rd, is published [illegible] (reported in the *British Medical Journal* of June 14th (p. 1101).

THE sixth annual report of the National Institute for the Deaf, which was presented to the annual meeting of the society last May, has now been printed, and may be obtained from the offices of the institute, 2, Bloomsbury Street, W.C.1. A reference to the annual meeting appeared in our columns on June 7th (p. 1070).

DR. THEODOR AXENFELD, professor of ophthalmology at Freiburg, and Hofrat Ernst Fuchs, professor of ophthalmology at Vienna, have been elected honorary members of the Japanese Ophthalmological Society.

THE following appointments have recently been made in French faculties of medicine: M. Maillard, professor of biological and medical chemistry; M. Wunschendorff, professor of pharmacological chemistry and toxicology at Algiers; and M. Leulier, professor of pharmacy and pharmacology at Lille.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

175. Electrocardiographic Changes in Quiescent Rheumatic Heart Disease.

M. J. SHAPIRO (*Amer. Heart Journ.*, April, 1930, p. 504) summarizes the electrocardiographic changes that have been found in acute rheumatic fever. These are: (1) prolongation of the P R interval (in 87 per cent. of cases); (2) alterations in the Q R S deflection, the R T interval, and the T-wave; and (3) irregularities of rhythm. In the present investigation electrocardiographic tracings were taken from 119 children with definite histories of rheumatic infection; 73 of these children had definite rheumatic heart disease. The P-wave was notched in 4 per cent. and unduly large in 4 per cent. In 8 per cent. the P R interval was prolonged to 0.2 second or more. Notching at the peak of the Q R S deflection in Lead I or II, or both, was found in 3 per cent., and this complex was widened in the same number. Absence or abnormality of the isoelectric period was present in 63 per cent. of the patients; in a few of these the T-wave started as a direct continuation of the interrupted R-wave, suggesting the change commonly seen in coronary occlusion. In three instances the T-wave was negative in Lead I or II, or both. Auricular and ventricular extrasystoles were rare. A control group of 50 children with normal hearts showed no changes in the P R interval or Q R S complex, nor were any other significant variations observed. Repeated tracings taken over a period of a year in a group of 20 rheumatic children were contrasted with those obtained by repeated examination of 10 normal children. In the latter group the tracings remained unchanged, while among the rheumatic group alterations took place from time to time in the P-wave, the Q R S deflection, the T wave, and the R T or S T interval. The author concludes that the electrocardiographic changes present in children suffering from quiescent rheumatic heart disease are similar to those present in acute rheumatic fever, but the frequency is less in the quiescent group.

176. Prolonged Form of Meningococcal Sepsis.

I. LUNDHOLM and R. STROMAN (*Acta Pediatrica*, May 20th, 1930, p. 518) describe a case, in a 12-months old girl, of protracted remittent fever without ague or general symptoms, but with intermittent eruptions over the extremities and the trunk of pink papules or nodules; these were fairly evenly rounded, uniform in size, and non-confluent, some having small petechiae in the centre. There was no loss of consciousness, no stiffness of the neck, no symptoms of meningitis, and, on lumbar puncture, the cerebro-spinal fluid was clear and not under tension. A blood culture yielded Gram-negative diplococci which, morphologically and biologically, were typical meningococci. The authors remark that the prognosis is usually favourable in these cases, but it should be guarded, since meningitis, which is usually fatal, may not appear until after the lapse of several months, and also because there may be a recrudescence of the disease after even a two weeks' remission. An intramuscular injection of 20 c.cm. of antimeningococcal serum was given, and three weeks later a further 1 c.cm. was injected subcutaneously, but this caused a marked urticaria and menacing general symptoms, so its use was discontinued. A colloid gold salt was administered for three days; there followed unusually marked remissions of fever, and new recrudescences of the exanthem for three days. On the fourth day the patient developed a sore throat, which passed off after three days, whereupon she was free from symptoms of meningococcaemia. This termination is not attributed to the therapy, but is stated to be in some measure characteristic of the disease.

177. Raynaud's Disease and Arsenic Retention.

A. F. KRAETZER (*Journ. Amer. Med. Assoc.*, April 5th, 1930, p. 1035) calls attention to recent work by Throne and Myers on arsenic retention and eczema, and mentions many unsuspected or little known sources of arsenic; among them are woollen and cotton fabrics, silk impregnated with tin, tobacco, and some common medicaments such as rhubarb and soda, sulphur, and calamine and zinc lotions. He records the case of a woman, aged 38, who had worked for fourteen years in a greenhouse where insecticide sprays containing arsenic were in daily use. After attacks each spring of pruritic rashes on the hands with frequent soreness of the throat, chronic constipation, and general poor health, she began to exhibit signs of Raynaud's disease in the fingers and toes, which caused great pain and inconvenience. The attacks were almost invariably brought on by motoring in cold weather. Physical examination of the patient showed signs of arsenic retention, and thirty-six hours after the intravenous injection of 1 gram of sodium thiosulphate the urine was found by the Marsh test to contain 0.062 mg. of arsenic per 100 grams of dried material. A five weeks' course of bi-weekly injections of 1 gram of sodium thiosulphate was given, after which the dose was continued once a week. At the same time the patient was placed on a low carbohydrate diet, with enemas of sulphonated bitumen, and quarter-gram doses of thyroid extract twice a day. Diminution of the severity of the trouble was soon noticed and was steadily maintained. The toes soon cleared up; the agony during the recovery stage after putting the hands in warm water became less acute and then disappeared. The congestion stage shortened and then vanished, so that at the end of two months she was free from attack, even after driving her car in cold, wintry weather.

178. Encephalitis following Varicella.

S. GRAHAM (*Arch. Dis. Child.*, April, 1930, p. 146) records two cases in boys, aged 3 and 6 respectively, in whom a mild attack of varicella was followed by encephalitis. The most prominent feature of each case was a pronounced degree of ataxia, but neither showed any paralysis. In each case lumbar puncture gave issue to a clear colourless fluid under slight hypertension, and containing an increased number of leucocytes. Both patients made a complete recovery. Like all the other examples of varicella encephalitis on record.

179. Syphilis Contracted during Post mortem Examination.

M. KITCHEVATZ (*Bull. de Derm. et Syph.*, April, 1930, p. 424) reports the case of a young medical student who pricked his finger while making a post mortem examination of a child who had died from congenital syphilis. He painted the wound with iodine and washed it well in soap and water, but about a fortnight later he noticed a small red nodule; this was opened and sero-sanguinolent fluid was evacuated. The lesion was treated as a whitlow, and no suspicion of syphilis was entertained. The swelling was painless, but later on the glands at the elbow and axilla enlarged, and the hand became swollen; it was then thought to be tuberculous. A dermatologist subsequently diagnosed a chancre, and further examination provided ample evidence of syphilis.

Surgery.

180. Spasmodic Torticollis.

C. H. FRAZIER (*Annals of Surgery*, June, 1930, p. 849) describes four cases of spasmodic torticollis treated successfully by operation. The muscles concerned in the movements of spasmodic torticollis are the sterno-mastoid, which rotates the head toward the opposite side while tilting it toward the homolateral side; the upper portion of the trapezius, which causes homolateral rotation and homolateral retraction while pulling the shoulder upward; and the splenius capitis and the splenius cervicis, which with the semispinalis capitis and the longissimus capitis cause homolateral tilting and contralateral rotation. The most powerful rotators are the rectus capitis posticus major and minor, and the obliquus capitis inferior. Before the operation the muscles at fault must be identified: usually the sternocleidomastoid is affected on one side and the posterior group on the other. In all severe cases of the spastic torticollis in which a focal organic lesion of the neostriatum is at fault operation is the only means to give relief. The operation must include severance of the spinal accessory nerve, and the first three cervical roots must be rendered functionless in the four cases reported the roots on both sides were included. They were crushed with an artery clamp or a ligature of arterial silk after which the spinal accessory nerve was exposed by retraction of the cord by gentle traction on a dentate ligament. In the operation for the relief of spasmodic torticollis [illegible] of choice and not of necessity it must be covered [illegible] was the operation undertaken in these four cases in which convalescence was uninterrupted.

contained 2 c.cm. of extract. Starting with one ampoule, and rapidly increasing to six given in one dose daily, the condition of the patient improved, and after six days had gained 3 kilos in weight, and showed an increased red cell count of 900,000 per c.mm. and a gain of 15 per cent. in haemoglobin. After this initial improvement, in spite of the great amelioration of the general symptoms, the condition of the blood remained stationary. It was now found that raw liver could be taken well without causing vomiting or diarrhoea; the injections were therefore stopped and the liver diet was restarted. Marked improvement resulted, and about two weeks later the red cell count was 4,360,000 and the haemoglobin percentage 75.

Anaesthetics.

188. Sodium Amytal as a General Anaesthetic.

A. I. LUDLOW (*China Med. Journ.*, April, 1930, p. 348) records a series of eight cases in which he has used sodium amytal (the sodium salt of iso-amyl-ethyl-barbituric acid) as a general anaesthetic in adults in Korea for operations in various parts of the body. Intravenous injections were used and induction was simple; the rate of administration did not exceed 1 c.cm. a minute, and the patient was deeply asleep in three to five minutes. There was usually some resistance at the skin incision, on rough handling of the peritoneum, and in a case of anal fistula, but no unpleasant sensations were reported on the return to consciousness. In these cases chloroform (or ether) had to be called upon for a time, but in two cases—one a dissection of the axilla, the other an operation upon the sterno-mastoid—no other anaesthetic was used. Anaesthesia was helped by a preliminary dose of morphine, and by the administration of the amytal in two portions, separated by a few minutes. A 10 per cent. solution was used, and about 15 to 20 mg. for each kilogram of body weight was found to be the quantity of the drug required. Except in the case of one alcoholic patient there was no post-operative trouble, though one or two patients became restless; discomfort, nausea, vomiting, and bronchial irritation were all absent. The patients slept for from three to twelve hours after the operation.

189. Local Anaesthesia in Minor Gynaecological Operations.

H. GAUDIER (*Bull. Soc. d'Obstét. et de Gynécol.*, April, 1930, p. 253) comments on Ceytlin's method of local uterine anaesthesia, which consists essentially in the interruption of the uterine nerve supply at a point where it is most easily accessible and the nerves are grouped in a minimal space—namely, at the convergence of the ramifications to the plexus of Frankenhauser; this point is situated below and a little behind the crossing of the ureter and uterine artery. Thus it is a parametro-ganglionic anaesthesia by an infiltration of the cervical tissues, differing from other forms of local anaesthesia. The following is the technique employed. The cervix is seized and drawn down with forceps, lateral traction being made to expose the lateral cervical region. At the insertion of the vaginal mucosa on the cervix a needle is inserted, parallel to the cervix, to a depth of 2 cm.; the fact that it has not entered a vein should be verified by aspiration, and then 10 c.cm. of a 1 per cent. adrenalinized solution of allocaine is slowly injected. The opposite side is similarly treated. Uterine anaesthesia is complete in five to eight minutes; it lasts on an average for half an hour, and under it such operations as dilatation of the cervix and curetting are painless. Djellert reports no ill effects after this anaesthesia in 205 operations. The special indications for its use are dilatation of the cervix, curettage, and intentional abortion; contraindications are the general ones of minor gynaecological interventions, such as infections of the parametrium and the adnexa. The advantages of this method, besides its simplicity, are: it does not modify the elasticity of the cervical tissues in conserving the facility of uterine contractions; it is haemostatic to a certain degree; and it does not cause shock.

190. Avertin Anaesthesia.

S. M. VASSALLO and T. A. JERMY (*Kenya and East African Med. Journ.*, April, 1930, p. 12) point out that the administration of an anaesthetic in the Tropics often presents difficulties, both as regards the anaesthetist and the patient. Although the use of a local anaesthetic possesses great advantages, it is usually unsuitable for native cases, since the patients are often terrified by the appearance of the surgeon and the steps of the operation. It seemed to the authors that the new anaesthetic, avertin, might obviate some of these difficulties. Avertin (tribromethylalcohol) is obtainable in solid or liquid form, 1 c.cm. of the latter being the equivalent of 1 gram of the former. Solid avertin is a white crystalline powder which sublimates easily, has a melting point of 80° C., and at 37° C. dissolves in water to a concentration of 3 per cent. At a higher temperature dibromacetylaldehyde is produced, and since this is extremely irritating to the intestinal mucous membrane even in small quantities, the temperature of 37° C. should not be exceeded in the preparation of the solution, which is freshly prepared for each case: it should be kept tightly corked, since it crystallizes very readily on exposure to the air. The dose required for anaesthesia varies from 0.1 to 0.15 c.cm. per kilo of body weight; the authors have found that a dose of 0.12 c.cm. induces the best anaesthesia. The addition of 100 c.cm. of milk to the water employed as a solvent appears to induce a slower and deeper anaesthesia. The solution is introduced slowly into the rectum, the process taking about four minutes; the end of the tube is kept in place until deep sleep occurs, when the fluid remaining in the rectal ampulla is drained off. The patient lies on his side throughout the induction. Anaesthesia follows within eighteen minutes of the beginning of the induction. The respiration is the only sure indication; when anaesthesia is complete the breathing is moderately shallow, absolutely regular, and mechanical. Avertin produces a slight fall in the blood pressure; in fatal cases the respiration ceases before the circulation. The authors remark that this method of anaesthesia causes no shock; it has been employed by them in thirty cases with favourable results. Only one fatality occurred, but as no post-mortem examination was allowed the cause of death is unknown. The after-effects seem to be unimportant. The authors consider the chief indications for this anaesthetic procedure are long operations which are likely to be accompanied by shock, and operations where the patient presents derangements which make general anaesthesia undesirable.

Obstetrics and Gynaecology.

191. End-results in Cancer of the Cervix.

REPORTING results of treating carcinoma of the female genital organs during 1913–24 at Stuttgart, P. FELDWEG (*Zentralbl. f. Gynäk.*, March 29th, 1930, p. 779) states that it was possible to trace the fate after at least five years in 723 cases, in 23 per cent. of which the cure had persisted for five years. Of the 405 cases treated from 1918 to 1924, 26.4 per cent. showed no recurrence. Cervical carcinoma, during 1918–24, gave 23.8 per cent. of cures in 281 cases, of which 161 were operable, 103 inoperable, and 12 "terminal" on admission. During eleven years 92 Wertheim operations for cervical carcinoma were attended with a primary mortality of 8.7 per cent., and 38 per cent. of five-year cures; adjuvant radiotherapeutic measures were used in about half these cases. During the same period 374 cases of cancer of the cervix were treated by radiotherapy only, with 16.8 per cent. of cures. Of the 176 operable cases within this group, 28.4 per cent. were cured [illegible] during the period 1918–24 the cures among [illegible] treated reached 34.7 per cent. It is stated [illegible] two years radical operation for cervical cancer [illegible] abandoned.

192. Suppurative Puerperal Thrombophlebitis

LEQUEUX (*La Vie Méd.*, April 26th, 1930, p. [illegible]) points out the importance of distinguishing between [illegible] caemia and suppurative puerperal [illegible] of the pelvic veins: the former yields only to [illegible] while the latter is amenable to [illegible] (venous ligature). In suppurative [illegible] the clinical course is generally [illegible] febrile puerperium, in which no cause [illegible] been recognized, a rigor occurs from the fourth to the [illegible] day and ushers in an abrupt elevation of temperature which as a rule soon falls to the normal. At intervals of a few hours or days the rigor and high pyrexia recur, and the patient's condition gradually becomes worse, local signs being absent or insignificant; blood cultures are almost invariably negative. The diagnosis of suppurative pelvic thrombophlebitis is clinched by the sudden appearance of a thoracic syndrome—dyspnoea, cough, and pain in the chest—due to a septic embolus. Death of the patient follows from pulmonary abscess or abscesses, or from purulent pleurisy, the results of the first or of succeeding emboli. Simple thrombophlebitis also is characterized by pyrexia, rigors and [illegible] pulmonary symptoms; but apyrexial intervals are frequent, rigors are less intense, and pulmonary embolisms, if septic, are dangerous only by their mechanical consequences. Suppurative thrombophlebitis is a local [illegible] the danger of which lies in its septic and multiple pulmonary metastases; in the majority of cases it is lethal. Puerperal pyaemia is a

different form of infection, resulting directly from septic endocarditis, which may be produced by bacteraemia, or by attachment to the endocardium of a septic embolus from the pelvis. Lequeux states that of late years necropsies in puerperal sepsis have shown a 20 to 50 per cent. incidence of pelvic thrombophlebitis, intravenous suppuration, however, not being always noted.

193. Radical Treatment of Incomplete Abortion.

A. G. SCHULZE (*Minnesota Med.*, May, 1930, p. 310) discusses the treatment of incomplete abortion, and records a series of 235 consecutive cases treated by instrumental curetting in which no death occurred. He finds that it is advisable that the patient should have been afebrile for five days before any operation is performed. An examination is then made under anaesthesia, 1 c.cm. of pituitrin is administered, and the os is dilated if necessary. After the curetting a pack of plain dry gauze is inserted; this is immediately removed, and is replaced by a strip of gauze soaked in 3 per cent. iodine. This strip is also removed, another strip of iodine gauze being then inserted and left in for twenty-four hours. The author considers this method safer than conservative treatment or digital curetting. Perforation of the uterus never occurred in the series, and uterine muscle was only once reported as being present in the curettings. The average stay of the patients in hospital was five days before the operation, and seven days afterwards.

194 Fibroma of the Ovary.

ACCORDING to M. VITALI (*Ann. Ostet. e Ginecol.*, April, 1930, p. 364) fibromas constitute about 2 per cent. of ovarian tumours, and are rarely associated with pain or with abnormalities of menstruation. At the operation about one in five is found to be twisted to an extent not usually exceeding 90 degrees about a pedicle which commonly consists of the utero-ovarian and ovaro-pelvic ligaments, but may include the Fallopian tube. Not infrequently at operation an ovarian fibroma is found which, although having undergone one or more complete torsions, has caused no acute symptoms. In other cases torsion is associated with severe pain, which may become worse (leading to an operation of urgency), pass away, or recur. Rupture of the pedicle and gangrene of the fibroma may follow, but as a rule the consequences of torsion are less serious in fibroma than in an ovarian cyst. A case is described in which after rupture of a left tubal pregnancy the operation revealed also on the other side an ovarian fibroma, twisted through 720 degrees, and causing tubal torsion; the ovary and tube had contracted many adhesions, but no morbid symptoms had directly resulted.

195. Pregnancy and Dentition.

W. LINTZ (*Med. Journ. and Record*, May 7th, 1930, p. 452) reports an investigation of a series of pregnant and non-pregnant women with regard to the influence of this condition on the teeth. He finds that the upper teeth are lost first, and that the figure for missing teeth was 44 per cent. in pregnant women, as compared with 17 per cent. in the non-pregnant. He concludes that a woman loses an average of two teeth for each pregnancy, and that the remaining dental apparatus in the non-pregnant is in a much better condition than in the pregnant. The molars are the first teeth to disappear, and the canines the last. The critical age for loss of teeth is said to be 40, after which there is a decided increase in the loss for each year.

Pathology.

196. Experimental Syphilis in the Guinea-pig.

TANI, M. KAKISHITA, and K. SAITO (*Zentralb. f. Bakt.*, June 1d, 1930, p. 73) find that guinea-pigs inoculated intra-esticularly with suspensions of syphilitic rabbit's testicle do not contract syphilis. If, however, the inoculation is made intracutaneously into the scrotum, about 55 per cent. o. the animals show chancres. The incubation period may last from one to six weeks, but is generally about seventeen prostand the lesions persist as a rule for about a fortnight. tate to express' that in these rabbits swellings sometimes agent from the glandu[illegible]eal fold; examination of the fluid hypertrophy and urinary[illegible]arification revealed the presence beginning of obstructive[illegible]gically indistinguishable from *Trep.* oedematous prostates 5 were therefore made to determine prostatic massage oculation into the perineal fold would Before a course oopment of syphilis. It was found that should be taken to oxic rabbit's testicle uniformly gave rise tion of the vesical neck, tion. The inoculation was made of the prostate. inner raw part of the perineal fold, which appears when the scrotal sac is drawn outwards with the fingers. After an incubation period of about eleven days a swelling appeared; this spread over the whole inner surface of the inoculated side, and later on to the opposite side. It lasted as a rule for about seven weeks. By scarifying the lesion and inoculating the juice into the perineal fold of a fresh guinea-pig, it was possible to reproduce the disease in at least six successive animals. Inoculation by this route with rabbit material was uniformly successful, and it would therefore appear to be more satisfactory than scrotal inoculation. This route was likewise found to be suitable for the direct inoculation of human syphilitic material.

197. Anaemia in Jaundice.

F. M. JORDAN and C. S. MCVICAR (*Amer. Journ. Med. Sci.*, May, 1930, p. 654) have tried to explain the etiology of anaemia which occurs in jaundiced patients, 347 cases of which have been studied. Anaemia was regarded as present if the haemoglobin percentage was below 70, and the red cell count under 4 million per c.mm. Anaemia was found in 108 cases, of which 33 were associated with carcinoma, 31 with intrahepatic jaundice, 30 with cholelithiasis, and 14 with stricture. In this series of cases the intensity of the anaemia was apparently independent of either the intensity or the duration of the jaundice. It is concluded that relatively severe secondary anaemia may occur in cases of jaundice due to any cause and independently of infection or loss of blood. It is suggested that nutritional factors are of great significance in the etiology of anaemia occurring in jaundiced patients; it has been shown that in dogs the amount of regeneration of haemoglobin can be controlled by varying the diet; it was found that in animals given the basal diet ligation of the common bile duct inhibited regeneration of haemoglobin, whereas animals fed on liver diet were more resistant to this effect of obstruction. It was also shown that the degree of jaundice, measured by the serum bilirubin figure, varied with the degree of haemopoietic stimulation and the consequent activity of the metabolism of pigment, rather than with the total amount of circulating haemoglobin.

198. Carbohydrate Metabolism in Diphtheria Intoxication.

F. F. SCHWENTKER and W. W. NOEL (*Bull. Johns Hopkins Hosp.*, April, 1930, p. 259), who injected rabbits with diphtheria toxin and made clinical observations on diphtheria patients, come to the conclusion that there is a marked abnormality in the carbohydrate metabolism in diphtheria intoxication. This is manifested by a primary increase in glycogenolysis in the first stage of the toxaemia and a resultant rise in blood sugar. Subsequently a marked hypoglycaemia ensues in very severe cases. In the more protracted cases, however, a decrease in glycogenesis follows; this is probably due to a suppression of the production of insulin with a resultant hyperglycaemia. The liver and muscles show a pronounced diminution in glycogen in all cases. The authors therefore maintain that the symptoms of diphtheria intoxication are in large part due to secondary nutritional disturbances in all the essential body tissues. The administration of insulin in these cases causes assimilation of the dextrose, most probably through the usual glycogenic channels.

199. The Calcifying Action of Irradiated Ergosterol.

PFANNENSTIEL demonstrated the remarkable calcifying property of irradiated ergosterol when given in large, almost subtoxic, doses, and this has led to a study of the action of this substance on the evolution of tuberculous lesions. Levaditi, Li Yuan Po, and Spiess have recently published the results of their experiments on rabbits, and A. POLICARD, PAUPERT-RAVAULT, and P. BARRAL (*C. R. Soc. de Biologie*, June 20th, 1930, p. 633) now report the results of similar experiments on guinea-pigs. The animals were inoculated with the same strain of *B. tuberculosis*, and were given varying doses of ergosterol in the form of vigantol or sterogyl, which were administered both immediately after the inoculation and after the lapse of some time. It was found that the irradiated ergosterol caused, but only in large doses, an accumulation in the tuberculous lesions of fixed mineral matter, composed mostly of calcium salts. The calcification was produced particularly in the caseous areas, and only by employing such doses as would cause calcareous deposits in normal organs. The present authors conclude that this action of irradiated ergosterol has a certain importance, and that some day the calcification of pulmonary, ganglionic, and osseous tuberculous lesions may be considered. They agree with the previously mentioned investigators that the employment of such an active substance necessitates great prudence. The cachexia, loss of weight, and the heterotopic calcifications it produces emphasize the scrupulous care necessary in its therapeutic use in large doses.

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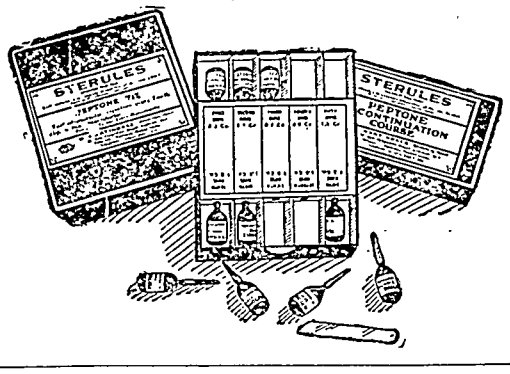
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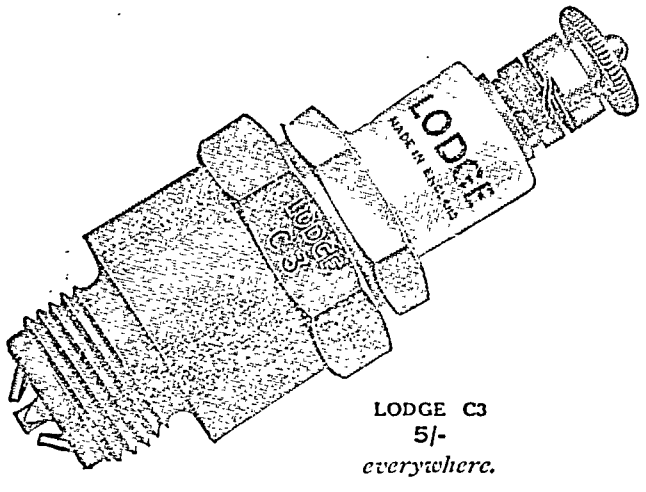
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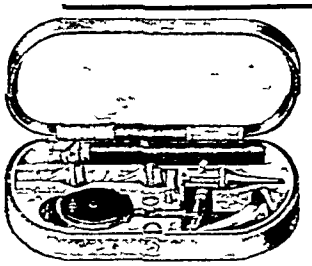
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A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS. Within two miles of the G.W. Railway and L. M. & S. Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom. It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres. Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital.

For particulars as to terms, etc., apply to—ARTHUR TOWNSEND, M.D., Resident Supt. Telephone: No. 7 Barnwood.

THE MOAT HOUSE,

TAMWORTH, STAFFS.

Established 1816. For the TREATMENT of a few LADIES suffering from NERVOUS and MENTAL DISORDERS. Voluntary patients received. For terms apply to Proprietor and Licensee: Dr. LOWSON. Tel.: 108 Tamworth.

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES. Ten only received. Apply, Medical Officer or Mrs. PEELE. *Telephone:* 2708.

ALCOHOLISM

DRUG ADDICTION & NEURASTHENIA

CALDECOTE HALL, NUNEATON.

At this beautifully situated country mansion residential Treatment of the above afflictions is carried out on the most modern scientific principles, both physical and psychological, under the supervision of the Res. Med. Supt., Dr. A. E. Carver, M.D., D.P.M. Fees moderate.

Further particulars from the Central Sec., 40, Marsham Street, London, S.W.1.

In cases of urgency 'phone NUNEATON 241.

BROOKE HOUSE,

CLAPTON, LONDON, E.5.

Telephone: Clissold 1648.

PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders. The hospital is situated in nine acres of pleasure grounds. Both voluntary and patients under certificates received. For further particulars apply Dr. GERALD JOHNSTON and Dr. ERNEST ROLLINS, Resident Physicians.

CLARENCE LODGE,

CLAPHAM PARK, LONDON.

Situated in 3½ acres of secluded gardens.

HOME FOR TWELVE MENTAL PATIENTS (LADIES). Well-appointed private house. Home comforts and Trained Nursing Staff. Eminent Mental Specialist Visiting Physician.

Station: Clapham Common Tube *Telephone:* Brixton 0494. Apply, Miss THWAITES.

BOREATTON PARK,

BASCHURCH, SALOP.

A first-class Country Mansion adapted for the reception of a limited number of Ladies and Gentlemen mentally afflicted.

Large gardens, deer park, private golf links, fishing. Grounds extend to over 200 acres.

Voluntary Boarders accepted.

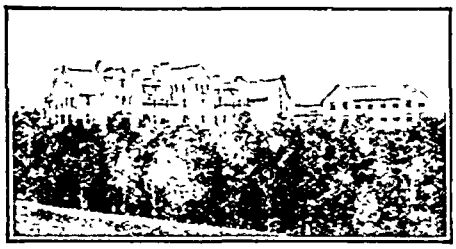
Apply for particulars to Dr. SANKEY.

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT.

PRIVATE PATIENTS are received at a weekly charge of TWO GUINEAS and upwards.

Voluntary BOARDERS can now be admitted.—Apply to the MED. SUPERINTENDENT.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director: **David Lawson, M.D., F.R.S.E.**

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES.

Physician Superintendent. J. M. JOHNSTON, M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary.

Inclusive Terms: SEVEN GUINEAS A WEEK.

THE COTSWOLD SANATORIUM

Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 560 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays is available, when necessary, without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins, and Wireless in all rooms. Full day and night Nursing Staff.

Resident Physicians: ARTHUR H. HOFFMAN, M.D. St. Andrews, GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub., and MARGARET A. HARRISON, M.B., B.S.Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

LINFORD SANATORIUM,
RINGWOOD, NEW FOREST, HANTS.

Established 1898 for the treatment of Tuberculosis. Radiators and Electric Light throughout. Hot and cold water and shower bath in nearly all rooms. Powerful X-ray Plant. Ultra-violet Rays. Full Nursing Staff. All forms of treatment available. Farm of 120 acres, including 40 acres of wood. Herd of Tuberculin-tested Guernsey cows kept. Resident Physicians—Arthur de W. Snowden, M.D., B.Ch.(Cantab.), A. G. E. Wilcock, M.R.C.S., L.R.C.P., Colin Cassidy, M.B., B.Ch.(Cantab.).

NORDRACH-UPON-MENDIP SANATORIUM
FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS WAS OPENED IN JANUARY, 1899.

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra-violet ray installations. Full nursing staff. The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland. The patients' rooms are heated by hot-water pipes and electrically lighted. Fees 4, 5, and 6 guineas per week.

Physicians ROWLAND THURNAM, M.D., JAMES HENDERSON, M.B., Ch.B.Glas.

For full particulars apply to *The Secretary*, Nordrach-upon-Mendip, Blagdon, Bristol. *Telegrams*: Nordrach, Blagdon. *Telephone*: 23

SMEDLEY'S

Unrivalled suites of Baths for Ladies and Gentlemen, including Turkish and Russian Baths, Air and Vichy Douches, Massage and Plombieres Treatment, an Electric Installation for Baths and other Medical purposes, Browning Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Baths, etc. Special provision for invalids. Milk from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

'Grams.: "SMEDLEY'S, MATLOCK." 'Phone: No. 17. For Prospectus and full information please write MANAGER, M.J.

GREAT BRITAIN'S GREATEST HYDRO

Resident Physicians: G. C. R. HARRINSON, M.B., B.Ch., B.A.O. (R.U.I.). R. MACLELLAND, M.D., C.M. (Edin.)

MATLOCK

GRAMPIAN SANATORIUM,
KINGUSSIE, INVERNESS-SHIRE

Specially built for the treatment of [illegible] Tuberculosis, and [illegible] mountain air. Electric [illegible] Sheltered situation [illegible] walks. Electric light throughout. Radiators in all bedrooms. Central heating throughout. X-ray Plant. Inclusive terms for patients—Seven guinea[s] [illegible] all [illegible] Fees [illegible] inclusive of Medical Supervision. For particulars apply to the Secretary.

BOURNEMOUTH HYDRO,

with Vita-glass Sun-lounge and Marine Balcony on the South Coast.

Every kind of Bath. Plunge Baths. Every kind of Massage. Electrical Baths. Every kind of Electrical Douche. Every kind of Douche. High Frequency. Electric Lift. Prospectus from Secretary. Telegrams [illegible]. Resident Physician, L. T. LOVE HUTCHISON, M.D.



HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON, and FRIMLEY SANATORIUM.

Special Wards for Paying Patients.

3 to 4 Guineas per week.

Apply to the Sec., Brompton Hospital, S.W.3.

VICTORIA SANATORIUM

(an entirely English [illegible] DAVOS (GRISONS), SWITZERLAND. Terms from £5 a week. Medical Supt., DONALD HUNTER, M.D. (Cantab.), M.R.C.P. Swiss Federal Diplo[ma]

UNIVERSITY OF BIRMINGHAM

FACULTY OF MEDICINE

(Associated with the General, Queen's, and Special Hospitals for Clinical Teaching)

THE SESSION OPENS ON OCTOBER 6th, 1930

The University grants Degrees in Medicine, Surgery, and Public Health, and a Diploma in Public Health, also Degrees and a Diploma in Dental Surgery.

The courses of instruction are also adapted to meet the requirements of other Universities and Licensing Bodies.

HOSPITAL APPOINTMENTS

A large number of Resident Hospital appointments in Birmingham and District are open to qualified students of the School.

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES

Entrance and other Scholarships and Exhibitions and various Prizes and Medals are awarded annually in the Faculty of Medicine.

SCHOOL OF DENTISTRY. (University of Birmingham and Birmingham Dental Hospital)

The School of Dentistry, in conjunction with the General and Queen's Hospitals, affords a complete curriculum for the Dental Diplomas and Dental Degrees of the University and all other Licensing Bodies. A Dental Scholarship of the value of £40 10s. 0d. is offered annually.

PRE-MEDICAL AND PRE-DENTAL EXAMINATIONS

The necessary Courses of Instruction in Chemistry and Physics and in Biology may be attended in the University.

RESIDENCE FOR UNDERGRADUATES AND OTHER STUDENTS

There are Halls of Residence for Men and for Women Students. A register of approved lodgings is also kept by the Secretary of the University.

For Syllabus and further information apply to Prof. J. C. BRASH, M.A., M.D., Dean.

LONDON HOSPITAL MEDICAL COLLEGE & DENTAL SCHOOL.

THE WINTER SESSION will Open on Wednesday, October 1st.

The Hospital is the largest in England. There are 839 beds in constant use. Last year number of in patients, 13,992, new out patients, 89,972, attendances 566,489, new dental patients 5,622, major operations 7,422.

The MEDICAL COLLEGE and DENTAL SCHOOL are essentially modern with large laboratories equipped with the latest and the most approved appliances. The STAFF is so large as to permit of individual attention being paid to all Students.

MEDICAL UNIT.—A Clinical Unit in Medicine, under the charge of a whole-time Director, provides for the more elaborate methods of diagnosis and treatment and takes a leading part in the initiation and co-ordination of medical research.

RESEARCH FUNDS to the value of over £113,000 permit of financial assistance being given to Students and Graduates engaged in Medical Research.

SCHOLARSHIPS and PRIZES to the value of £1,158 are awarded annually, including four Open Entrance Scholarships to the value of £350, and two Entrance Scholarships open to students of the Universities of Oxford and Cambridge to the value of £200.

APPOINTMENTS.—Over 160 Appointments are made annually from Students of the College recently qualified.

SPECIAL COURSES are held for all the University Examinations for the Primary and Final Fellowship Examinations of the Royal College of Surgeons and for the Membership Examination of the Royal College of Physicians.

HOSPITAL PRACTICE.—Exceptional opportunities are offered to qualified Practitioners wishing to attend the General Practice or the Practice of a Special Department of the Hospital.

A Clubs' Union, an Athletic Ground of over 13 acres, and a *Students' Hostel* promote the recreation, health and comfort of the Students.

For Prospectus and Particulars apply to the Dean (Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S.), who will be pleased to make arrangements for anyone wishing to see the Medical College and Dental School.

MILE END, E.

VALUABLE BOOK FREE!

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Do you wish to specialize in any branch of Medicine or Surgery?

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You can prepare for any of these qualifications by postal study at home. We specialize in Post-graduate tuition. Clinical and practical courses in any subject. Attendance at Hospital practice arranged.

THE SECRETARY,
MEDICAL CORRESPONDENCE COLLEGE,
19, Welbeck Street, Cavendish Square, London, W.1. Telephone: WELBECK 8601.

Sir,—Please send me a copy of your Guide to Medical Examinations, for which I enclose

Name ...

Address ...

Examination in which interested ...

M.D. THESIS

(Camb., Edin., Glasg., Durh., &c.)

SKILLED COACHING, GUIDANCE, and ADVICE

From Specialist Tutors in connection with the Regulations of the various Universities.

Apply for particulars and free booklet, Hints on writing a Thesis for the M.D. Degree, to the SECRETARY, Medical Correspondence College, 19, Welbeck Street, London, W.1.

STAMMERING, SPEECH DEFECTS.

BEHNKE METHOD. Estab. 1902. Cases are resident, treated at 27, Earl's Court Square, S.W.5, and in residence in the Summer holidays, at Miss BEHNKE's house on the Chiltern...

"Present-day success in the ... of stammering ... cases ..."
"The weekly psychological ..."
"The ... is ... performed effective"—Lancet.

STAMMERING CLEFT PALATE Speech ... 1930 ... of Miss BEHNKE, ... Earl's ...

POST-GRADUATE MIDWIFERY.

Qualified Medical Women are ...

The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5

for practical fortnightly Courses in Midwifery. These include delivery of normal cases, attendances at all abnormal cases, operations, ward rounds of visiting staff, V.D. clinic and ante-natal clinics. For further particulars, fees, etc., apply to EDGAR D. BOOTH, the Secretary.

F.R.C.S.(Edin.)

CLASSES, with Museum and Anatomical Demonstrations, for next Exams. will commence shortly. Correspondence work at any time. Particulars from CECIL WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams., Matric., and Previous.
Chemistry, Physics, and Biology Labs.
MANCHESTER TUTORIAL COLLEGE,
327, Oxford Road, Manchester.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anæsthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6.

MIDDLESEX HOSPITAL,

LONDON, W.1.
(University of London)

PRIMARY F.R.C.S. EXAMINATION.

ANATOMY.

Personal instruction is given daily by Professor T. YEATES, M.B., C.M.

PHYSIOLOGY.

This Section of the Course is under the joint direction of:

Professor SAMSON WRIGHT and Professor E. C. DODDS,

and includes Biochemistry, General Physiology, and Histology.

Instruction is given daily except on Saturdays.

The Course will be resumed on September 1st at 9.15 a.m.

FEE: Twenty guineas.
Single Subject: Twelve guineas.

For further information apply to the Dean or the School Secretary.

THE MIDDLESEX HOSPITAL,

LONDON, W.1.

RADIUM TREATMENT OF MALIGNANT DISEASE.

Applications are invited from Medical Men interested in the Methods and Results of Radium Treatment, for a whole-time post about to be created. Previous experience is essential.

For particulars of the duties of the post, and for details of the scheme of which it is a part, apply to the Secretary Superintendent, Middlesex Hospital, W.1.

The Royal Infirmary of EDINBURGH (1,010 Beds)

DEPARTMENT OF OPHTHALMOLOGY.

Applications are invited for the undernoted appointments which will become vacant on October 1st:

(1) Combined post of SENIOR CLINICAL ASSISTANT and CLINICAL TUTOR (non-resident). Emoluments £145 per annum. Candidates must undertake to hold office for at least one year. Previous experience in Ophthalmic work is essential.

(2) Whole-time appointments as Non-resident CLINICAL ASSISTANT. Emoluments £200 per annum. Candidates must undertake to hold office for at least one year. Previous experience in Ophthalmic work is essential.

Both posts afford valuable experience to a Graduate intending to specialize in Ophthalmology.

Applications should be sent forthwith to the SUPERINTENDENT from whom further particulars may be obtained.

By Order of the Board of Managers,
HENRY MAW,
August 4th 1930 Secretary & Treasurer

Middlesex Hospital,

MEDICAL SCHOOL, W.1.

RADIOLOGICAL RESEARCH.

There is a vacancy in the Barnato Joel Laboratories, the Middlesex Hospital, for a qualified Medical Man, preferably with D.M.R.E. Diploma, as ASSISTANT in radiological research bearing upon the treatment of malignant disease. Salary £350 p.a.

Applications should be made to the Dean of the Medical School before September 14th.

South London Hospital for

WOMEN, Clapham Common, S.W.4

The Board of Management invite applications from qualified Medical Women for the appointment of CLINICAL ASSISTANT to Medical Out-patients to attend on Thursday mornings.

Applications with testimonials, to be forwarded to the Secretary at the Hospital.

UNIVERSITY OF LONDON KING'S COLLEGE.

PRIMARY F.R.C.S.

Course in Anatomy and Physiology for the December examination will commence on Tuesday, September 2nd at 10 a.m.

Instruction in both subjects will be given daily. Facilities for dissection will be available. The course in Physiology will include practical work in Biochemistry, and demonstrations in Experimental Physiology and in Histology.

Fee for the complete course: Twenty guineas.

Applications for admission should be addressed to the Dean of the Medical Faculty, King's College, Strand, W.C.2.

UNIVERSITY OF CAMBRIDGE

Diplomas in (*a*) PUBLIC HEALTH, (*b*) HYGIENE (for foreign graduates), (*c*) TROPICAL MEDICINE AND HYGIENE.

Courses of Instruction in the Subjects of the Examinations commence October 8th, 1930. Full particulars to be obtained from Mr. J. E. PURVIS, Public Health Chemical Laboratory, Medical School, Cambridge.

University of Manchester and MANCHESTER COMMITTEE ON CANCER

JOINT COMMITTEE ON CANCER RESEARCH.

Applications are invited for a post as ASSISTANT in the Cancer Research Laboratories in the University. Experience in tissue culture research and bacteriology is required. Chemical experience also desirable. Salary £400 to £650 per annum according to qualifications and experience. Duties to commence September 29th. Applications must be submitted not later than September 7th to the Registrar, the University, Manchester, from whom further particulars can be obtained.

The University of Manchester.

PILKINGTON FELLOWSHIP IN CANCER RESEARCH.

The above Fellowship of the value of £300, tenable for one year, is offered for competition. *Applications must be received by the Registrar* not later than November 15th, 1930, and the election to the Fellowship will be made to take effect as from the beginning of January, 1931.

Further particulars may be obtained from the *REGISTRAR*.

County Palatine of Chester.

CHESHIRE COUNTY COUNCIL

APPOINTMENT OF DEPUTY COUNTY MEDICAL OFFICER OF HEALTH.

The Cheshire County Council invite applications by registered male Medical Practitioners who possess a Diploma or Degree in Public Health, for the appointment of Deputy County Medical Officer of Health for the County of Chester.

The salary payable will be £1,000 per annum, in addition to travelling expenses on the prescribed scale, and office accommodation and clerical assistance will be provided.

The appointment will be an established post for the purposes of the Local Government and Other Officers Superannuation Act, 1922, and the salary will be subject to the deductions prescribed by that Act.

Applications are limited to persons not exceeding 45 years of age.

Forms of application and further particulars of the appointment can be obtained from the undersigned. Applications, accompanied by three *recent* testimonials, to be received not later than September 8th.

Canvassing, either directly or indirectly, is prohibited.

County Offices, Northgate Street, Chester. REGINALD POTTS, Clerk of the County Council.
August 8th 1930

DIPLOMA IN PUBLIC HEALTH, &c.

THE ROYAL INSTITUTE OF PUBLIC HEALTH.

Patron:
HIS MAJESTY KING GEORGE V.

Principal: Colonel SIR WILLIAM SMITH, M.D., D.Sc., LL.D., F.R.S.T.d., Barrister-at-Law.
Director of Bacteriological Laboratories: E. GOODWIN RAWLINSON, M.D., D.P.H.Oxon. Three Assistants.
Director of Chemical Laboratories: ALAN WEST STEWART, D.Sc., A.I.C., Public Analyst for the Metropolitan Boroughs of Islington and Paddington, etc. Three Assistants.
Lecturers on Public Health, etc.: ALBERT E. THOMAS, M.A., M.D.Oxon., D.P.H.Oxon., Barrister-at-Law, Medical Officer of Health for the Borough of Finsbury; CECIL W. HUTT, M.A., M.D.Camb., D.P.H.Oxon., Medical Officer of Health for the Borough of *Holborn*, Examiner for the *D.P.H.*, Conjoint Board of Physicians and Surgeons, London; GRORILLA E. OATES, M.D.Lond. (State Medicine), D.P.H.Camb., Barrister-at-Law, Medical Officer of Health for the *Borough of Paddington*.

The Course of Instruction can be commenced at any time.

The Principal will be pleased to interview intending candidates for the purpose of advice.

Further particulars can be obtained from the Secretary, 37, Russell Square, W.C.1.
Telephone: MUSEUM 0766.

Leyton Education Committee.

SCHOOL NURSE.

Applications are invited for the appointment of a School Nurse in connection with the work of the School Medical Service.

Candidates should be State Registered Nurses and under 40 years of age.

Previous experience in school nursing and additional qualifications will be a recommendation.

Salary at the inclusive rate of £150 per annum, rising by annual increments of £10 to a maximum of £220 per annum, together with allowances of £5 per annum for travelling, and £5 per annum for uniform.

The successful candidates will be required to pass a medical examination and the appointment will be subject to the Local Government and Other Officers Superannuation Act, 1922.

The person appointed will work under the *direction of the School Medical Officer*.

Application forms, which should be returned duly completed by August 29th, may be obtained from the Director of Education, Town Hall, Leyton, on receipt of a stamped addressed foolscap envelope.

Town Hall, Leyton, E.10. JNO. ATKINSON, Town Clerk.
August, 1930.

County Borough of Southend-on-SEA

ASSISTANT MEDICAL OFFICER OF HEALTH (Male).

Applications are invited for appointment as Assistant Medical Officer in the Council's Public Health Department at a salary of £600 *per annum*, with annual *increments* of £25 to a maximum of £700 per annum less deductions under the Local Government and Other Officers Superannuation Act. The candidate appointed will be required to assist the Medical Officer of Health, who is also School Medical Officer, *in the general work of the Public Health Department* including the Council's Hospitals, the Tuberculosis Dispensary and the Venereal Diseases Treatment Clinic but his main duties will be *in connection with the School Medical Service*.

Applications on forms to be obtained from the Medical Officer of Health, Public Health Offices, Clarence Street, Southend-on-Sea, should be returned to him with *copies of three testimonials*, on or before Saturday, September 6th.

Town Clerk's Office, Southend-on-Sea. H. J. WORWOOD, Town Clerk.
August 16th, 1930.

County Council of Durham

ASSISTANT WELFARE MEDICAL OFFICER

The County Health Committee invite applications for the appointment of an Assistant Welfare Medical Officer (woman) at a commencing salary of £600 per annum, rising by annual increments of £25 to £700 per annum. Travelling expenses will be paid by the County Council according to scale.

The appointment will be held subject to three months' notice on either side and to the following conditions:

(1) The officer appointed must be a registered Medical Practitioner between the ages of 25 and 45 years, must devote the whole of her time to the duties of the office and must not engage in private practice.
(2) She should either have held a previous appointment as Medical Officer of an Ante-natal Clinic with the approval of the Minister of Health or have had at least three years' experience in the practice of the profession and special experience of practical midwifery and ante-natal work. The holding of a Diploma in Public Health and practical experience in bacteriological laboratory work will be deemed additional qualifications for the post.
(3) She will be subject to the directions of the County Medical Officer.
(4) She will be required to reside in Durham City or such other place as required by the Council.
(5) She must be prepared, if called upon, to act as Locum Tenens to other Members of the Medical Staff of the County Medical Officer.
(6) The appointment will terminate on marriage.
(7) The candidate appointed will be required to pass the County Council's medical examination and will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922.

Applications, endorsed "Assistant Welfare Medical Officer," with copies of not more than three recent testimonials, must be forwarded on or before 30th instant to the County Medical Officer, Shire Hall, Durham, from whom forms of application can be obtained.

Shire Hall, Durham. HAROLD JEVONS, Clerk of the County Council.
August 11th, 1930

County Borough of Darlington.

HEALTH VISITOR

The Corporation invite applications for the appointment of Health Visitor.

Applicants must hold the following qualifications:

(a) the new Health Visitor's Certificate of the Royal Sanitary Institute, or
(b) the Certificate for Health Visitors prescribed by the Board of Education Regulations of 1919, or
(c) have held a post as Health Visitor approved by the Ministry of Health.

The duties are chiefly concerned with maternity and child welfare, and the successful applicant will be required to carry out such duties under the direction of the Medical Officer of Health.

The salary for the appointment (under the Corporation's scale) as at present adjusted by reference to the rise or fall in the cost of living is £172 16s., and is subject to such other conditions of such scale as are applicable, and additional allowances amounting to £11 in respect of travelling and uniform are made.

The salary is subject to a deduction of 5 per cent. under the Local Government and Other Officers Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Applications, stating age, qualifications, and experience, must reach the Medical Officer of Health, Feetham, Darlington, not later than Monday, September 1st.

Town Clerk's Office, Darlington. H. HOPKINS, Town Clerk.
July 26th, 1930

Royal Victoria and West Hants Hospital, Bournemouth

(Boscombe Branch—170 Beds.)

A HOUSE SURGEON (male, British nationality) required to commence duty immediately. Salary £150 per annum, with board, lodging, and washing. The appointment is tenable for six months, and candidates must be registered according to the provisions of the Medical Act.

Applications, stating place of birth, with copies of three testimonials, to be sent immediately to the undersigned.

Women and married men are ineligible.

GORDON M. SAUL, Secretary.
August 18th, 1930

City of Liverpool.

PUBLIC ASSISTANCE COMMITTEE

RESIDENT ASSISTANT MEDICAL OFFICERS

Applications are invited for the appointment of RESIDENT ASSISTANT MEDICAL OFFICERS at the undermentioned Hospitals for a period of one year from October 1st, at a salary after the rate of £200 per annum together with the usual residential allowances.

Candidates must be single, fully qualified and registered.

WALTON HOSPITAL (1,650 beds)
MILL ROAD INFIRMARY (800 Beds)
SMITHDOWN ROAD INSTITUTION (1,000 Beds)

Specialised hospital work is carried out including General Medical, General Surgical, Gynæcological, Obstetrical, Pathological, X-ray, Electrotherapeutic, Massage, and Sinclair. Various consultant specialties are attached to the staff of each hospital, which are recognized training schools for nurses. A large number of operations are performed annually at each hospital.

ALDERHEY CHILDREN'S HOSPITAL (900 Beds.)

Treatment for every type of children's ailment with the exception of infectious diseases. A special feature is made of orthopædic surgery. Various consultant specialists are attached to the staff. Recognised training school for sick children's nursing.

Applications stating age, qualifications, etc., with copies of three recent testimonials to be received by the undersigned not later than August 30th.

WALTER MOON, Public Assistance Officer, Town Clerk.
Brunham Terrace, Liverpool.
August 12th, 1930

County of Ross and Cromarty.

PUBLIC HEALTH DEPARTMENT

Applications are invited for Two ASSISTANT MEDICAL OFFICERS OF HEALTH for the Public Health Department. One post to be a Senior Assistant in the Island of Lewis with inclusive duties. Salary £700, rising by annual increments of £25 to maximum of £800. The second to be a Junior Assistant whose duties will be mainly a visiting School Medical Officer, general work, and holiday duty. Salary £500, rising by annual increments of £25 to a maximum of £700. Copies of three testimonials to be forwarded with the Schedule.

Intending applicants should apply for schedules specifying terms and conditions of appointment, to the undersigned, with whom the completed schedules must be lodged before August 29th.

County Clerk's Office, Dingwall. JOHN FRASER, County Clerk.
August 8th, 1930

Swansea County Borough

RESIDENT MEDICAL OFFICER

INFECTIOUS DISEASES HOSPITAL.

The Council invite applications for the above appointment from duly qualified unmarried Medical Practitioners. The salary will be at the rate of £350 per annum together with emoluments. Previous experience in an Infectious Disease Hospital is desirable.

Applications (on special forms) with particulars of duties, can be obtained from the Medical Officer of Health, Public Health Offices, Swansea) to be sent in not later than Tuesday, 29th.

Royal Manchester Children's Hospital,

OUT-PATIENTS DEPARTMENT, Cambridge St., MANCHESTER.

Wanted for the Out-patients' Department Two ASSISTANT MEDICAL OFFICERS, non-resident. Salary £150 per annum, who will be appointed for six months.

Candidates must be double-qualified and on the *Medical Register*. Particulars of the duties can be obtained from the Secretary. The hours of duty are from 9 a.m. till 1 p.m. or until the work of the Dispensary is finished. Patients' attendances number 87,000 per annum. Duties to commence October 1st.

Applications, stating age and accompanied by copies of not more than three testimonials to be sent to the undersigned not later than September 10th.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY, Secretary.
August 22nd, 1930

County Borough of Birkenhead.

PUBLIC ASSISTANCE COMMITTEE

RESIDENT ASSISTANT MEDICAL OFFICER.

The Birkenhead Corporation require a duly qualified Medical Officer at the PRENMARY Home, Birkenhead, which contains 600 beds.

Salary at the rate of £200 per annum, rising by annual increments of £25 to £250 per annum, together with the usual emoluments.

The appointment is held subject to the provisions of the Local Government and other Officers' Superannuation Act, 1922, and the Rules of Superannuation of the Council.

Candidates must be duly qualified and registered under the Medical Acts. The appointment can also be terminated at the discretion of the Council to undertake such other duties as a Medical Officer may reasonably require in the Public Health Services of the County Borough as may be assigned to him.

Further information may be obtained from the Medical Superintendent of the Infirmary.

Forms of application to be obtained from the Secretary, Public Assistance Office, 6, Conway Street, Birkenhead, on receipt of a stamped addressed foolscap envelope, and must be returned to the undersigned not later than Saturday, August 30th, endorsed "RESIDENT."

Canvassing the members of the Council, directly or indirectly, will disqualify any candidate.

Town Hall, Birkenhead. E. W. TUME, Town Clerk.
August 8th, 1930

City of London Mental Hospital,

near DARTFORD, KENT.

JUNIOR MEDICAL OFFICER required. Preference will be given to applicants holding Diploma in Psychological Medicine. The person holding such Diploma must agree to obtain same within a reasonable period, whether any increase of salary (£50 per annum) will be granted. Salary £400 per annum rising by annual increments of £25 to £450 plus £50 for Diploma in Psychological Medicine, and emoluments valued at £100 per annum. Duties according to Superannuation Act, 1909. Applicants must be male, single, and under qualified. Preference will be required to pass a medical examination before appointment. The appointment will be subject to a satisfactory period of probation.

Applications on forms to be obtained from the undersigned must be sent in not later than September 12th next.

5, Church Passage, Guildhall, London, E.C.2. L. T. FELTON, Clerk to the Asylum Committee.

Bootle General Hospital,

LANCASHIRE (200 B.)

Applications are invited from Registered Medical Practitioners for the posts of SENIOR RESIDENT MEDICAL OFFICER, with special reference to Fevers, and one JUNIOR HOUSE SURGEON, for six months, ending March 31st, 1931.

Salaries at the rate of £200 per annum for Senior Officer and £150 per annum for Junior Officer, with board, residence, and laundry.

Duties to commence October 1st, 1930.

Applications, stating age and experience, together with copies of three recent testimonials, to be sent under cover to me on or before August 30th, 1930.

J. S. BEARDSALL, Secretary and Superintendent.

Royal Sussex County Hospital,

BRIGHTON (235 Beds.)

CASUALTY HOUSE SURGEON required immediately. Salary £120 per annum, with board, lodging, and laundry. Candidates must be single and Fellows of the Royal College of Surgeons of England, Edinburgh, or Glasgow, and registered under the British Empire, and be duly registered under the Medical Acts. They must be unmarried and when elected under the age of 30 years of age.

Applications, with copies of recent testimonials, should be sent to the undersigned.

L. L. W. LANCASTER-GALE, Secretary-Superintendent.

Royal Northern Group of Hospitals

ROYAL CHEST HOSPITAL, City Road, E.C.

TEMPORARY PATHOLOGIST required for a period of about two months, beginning about the middle of September next, at the rate of £300 per annum.

Applications, with copies of testimonials, to be sent to the undersigned.

GILBERT C. PAINE, Secretary.
Royal Northern Hospital, Holloway, N.7.

Medical Sickness, Annuity & Life Assurance Society Ltd

Lincoln House, 390, High Holborn, LONDON, W.C.1.

Notice is hereby given that the ANNUAL GENERAL MEETING of the Members of the above Society will be held at the First Avenue Hotel, High Holborn, London, W.C., on Wednesday, October 8th, 1930, at 4.30 p.m.

By Order of the Board,
BERTRAM SUTTON,
August 23rd, 1930. Manager & Sec.

Cardiff City Mental Hospital,

WHITCHURCH, near CARDIFF.

A POST GRADUATE RESEARCH STUDENTSHIP is available for one year, with possibility of renewal. The candidate, who must be medically qualified, is expected to undertake research in the Laboratories. A certain amount of clinical work attaches to the post. There are ample facilities for study for the D.P.M.

The Studentship carries, besides full board and accommodation, an honorarium of £100 per annum augmented by locum work carried out within the Hospital to approximately £180.

Further details on application to the Medical Superintendent.

Preston and County of Lancaster

ROYAL INFIRMARY.

Applications are invited for the following posts:

(a) HOUSE SURGEON under Consulting Surgeon.
(b) HOUSE SURGEON, with general duties, including charge of beds and Casualty Department.

Six months' appointments. Change of duties may be arranged as vacancies occur. Number of Resident Staff six.

Salary in each case £150 per annum, with board, residence, and laundry.

Applications, stating age, qualifications, and training, together with testimonials, to be forwarded immediately to the undersigned.

JOHN GIBSON,
Superintendent & Secretary.

The Hostel of St. Luke

(Clergy Nursing Home),
14, Fitzroy Square, London, W.1.

The Committee of Management invite applications for the post of RESIDENT MEDICAL OFFICER (male) to the above Hostel.

Candidates must have had previous experience as House Surgeon at a General Hospital. The appointment is for one year at least. Salary at the rate of £200 per annum, with board, residence, and laundry. A fortnight's holiday will be allowed every six months, and the Locum will be paid by the Committee of the Hostel.

Applications and enquiries should be addressed to the Secretary of the Hostel, at 14, Fitzroy Square, London, W.1, and reach him before September 6th. The successful applicant will be required to take up his duties on September 14th.

Royal Infirmary, Blackburn.

(250 Beds, Five Residents.)

THIRD and FOURTH HOUSE SURGEONS (male) required as early as possible at salaries of £175 and £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties September 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, Blackburn. NATHAN A. SMITH, Gen. Supt. & Secretary.

This Institution is recognized for the Surgical practice required for the F.R.C.S. Final Examination.

The Sheffield Royal Hospital.

RESIDENT ANÆSTHETIST required (male). Salary for the first six months at the rate of £80 per annum, after which £100 per annum, with board, residence, and laundry. There are twelve Resident Medical Officers, and the duties will vary after three months. Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent and Secretary.

Resident Medical Officer required

immediately for LEEDS JEWISH HERZL MOSER HOSPITAL.

Salary £100 per annum, full board. Ample time for Post Graduate work.

Apply, Secretary, Herzl Moser Hospital, Leopold Street, Leeds.

Royal Victoria Infirmary,

NEWCASTLE UPON-TYNE, and the UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE UPON-TYNE.

BIOCHEMISTRY.

Applications are invited for the post of Biochemist in the Pathological Department of the Royal Victoria Infirmary, Newcastle upon-Tyne.

Candidates must have had special training and experience in Biochemistry in relation to Medicine. Preference will be given to a candidate holding a Medical qualification.

This is a wholetime appointment and the salary is £450 per annum.

Applications, with three recent testimonials, should be lodged on or before August 30th, with the House Governor and Secretary, Royal Victoria Infirmary, Newcastle upon-Tyne, from whom further particulars may be obtained.

S. DUNSTAN,
August 9th, 1930. House Gov. & Sec.

Liverpool Stanley Hospital.

There will be vacancies on October 1st next for One Male HOUSE PHYSICIAN and One Male HOUSE SURGEON. Salary at rate of £100 per annum, with board, residence, laundry, etc. Candidates must be fully qualified and on the *Medical Register*. Applications, with copies of three recent testimonials, to be lodged with the undersigned by August 29th.

ERNEST W. OSBORN, Secretary.

Westmorland Sanatorium,

GRANGE OVER SANDS.

ASSISTANT MEDICAL OFFICER required. Salary £350, with board, residence, and laundry. Applications, stating age, qualifications, and experience, and accompanied by copies of not more than three recent testimonials, should reach the undersigned on or before August 25th.

J. MUNRO CAMPBELL,
Medical Superintendent.

Royal United Hospital, Bath.

Wanted at once, an ASSISTANT HOUSE SURGEON. Salary £120 per annum.

The appointment will be for not less than six months, and candidates must be male, unmarried, and of British nationality.

Applications, with three testimonials, must be addressed to the undersigned

J. LAWRENCE MEARS,
Secretary Superintendent.

The Royal Infirmary, Sunderland

(290 Beds).

Wanted about middle of September, One HOUSE PHYSICIAN (male). Salary £140 per annum, with board, residence, and laundry. State age and qualifications, and submit copies of three recent testimonials, by not later than August 30th, to—

S. C. FRYERS,
House Governor & Secretary.

Taunton and Somerset Hospital,

TAUNTON. (104 Beds.)

SENIOR HOUSE SURGEON, and a HOUSE PHYSICIAN (males) required. The Senior must have held a Hospital resident appointment for at least six months. Salaries £150 and £100 respectively, with board, residence, and laundry.

Three residents altogether.

Applications, with testimonials, to F. J. J. STACEY, Secretary.

Worthing Hospital.

Applications are invited for the post of HONORARY ASSISTANT SURGEON to the Ear, Nose, and Throat Department. Applications, accompanied by testimonials, should be sent on or before September 4th, to the Secretary, from whom further particulars may be obtained.

House Surgeon (lady) wanted

for GREENOCK ROYAL INFIRMARY for Surgical side, for a period of six months. Salary at rate of £100 per annum. Apply to Secretary, JAMES A. LOVE, 2, Hamilton Street, Greenock.

Wanted. — Whole-time Radiologist,

General Hospital, WELLINGTON, NEW ZEALAND. Salary commencing £950. — For further particulars, apply, "Radiologist, Wellington," c/o High Commissioner, New Zealand, Strand, W.C.2.

Seamen's Hospital Society,

Greenwich, S.E.10.

The Committee invite candidates for appointment of Two HOUSE PHYSICIANS at the HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C. Candidates must be male, doubly qualified and registered. The elected candidates will be required to take up duty on October 1st. Salary at the rate of £150 per annum, with board, residence, and washing. The appointment will be for six months.

Applications, stating age, together with copies of not more than three recent testimonials, to be sent in on or before September 15th to the undersigned from whom further particulars can be obtained.

Greenwich. R. E. V. BAX,
August 18th, 1930. Secretary.

Seamen's Hospital Society,

Greenwich, S.E.10.

HOUSE PHYSICIAN and HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from October 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male.

Applications, with copies of three testimonials, to be sent in by September 16th to the undersigned

Greenwich. R. E. V. BAX,
August 18th, 1930. Secretary.

Seamen's Hospital Society,

Greenwich, S.E.10.

MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road, E.16, for six months from October 1st. Salary £110 per annum, and a proportion of fees, with board, residence, and washing. Candidates must be male.

Applications, with copies of three testimonials, to be sent in by September 16th to the undersigned

Greenwich. R. E. V. BAX,
August 18th, 1930. Secretary.

Seamen's Hospital Society,

Greenwich, S.E.10.

HOUSE SURGEON required at TILBURY HOSPITAL, Essex, for six months from October 1st. Salary £150 per annum, with board, residence, and laundry. Candidates must be male.

Applications, with copies of three testimonials, to be sent in by September 16th to the undersigned.

Greenwich. R. E. V. BAX,
August 18th, 1930. Secretary.

Hounslow Hospital, Staines Rd.,

HOUNSLOW, MIDDLESEX.

Wanted, at once, HOUSE SURGEON. Salary £200 per annum, with board, residence, etc. The appointment will be till December 31st, with possibility of renewal.

Applications, stating qualifications, age, and experience, and enclosing copies of testimonials (two of each), should be sent to Hon. Secretary, Medical Committee, Hounslow Hospital.

Swansea Hospital.

(316 Beds.)

HOUSE SURGEON wanted, gentleman, single. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS, Secretary.

Royal South Hants and Southampton Hospital,

SOUTHAMPTON.

Two ASSISTANT HOUSE SURGEONS required, to commence duties September 1st. Six months' engagement. Salary £180 per annum, with rooms, board, and laundry. Applications, stating age, to be sent to the undersigned, together with copies of testimonials (limited to five), as soon as possible.

HY. TRUSSON, Secretary.

Eccles and Patricroft Hospital,

near MANCHESTER.

JUNIOR HOUSE SURGEON required immediately. Commencing salary £125—£150. Six months, renewable. General Hospital.

Apply, with testimonials, to Secretary, as above.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh).

(a) British Islands.

Town or District.	Town or District	Town or District
CONTRACT PRACTICE.	**CONTRACT PRACTICE** (contd.)	**PUBLIC HEALTH**
EBBW VALE, MON. *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Fem.)*
GILFACH GOCH, GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT. *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH. *(Medical Officer of Health)*
MARDY, GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY, GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector)*

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments)*	Secretary, South Australian Branch, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch, British Medical Association, P.O. Box 156, Wellington, New Zealand
QUEENSLAND. *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec., Queensland Branch), British Medical Association, B.M.A. Building, Adelaide St., Brisbane	**VICTORIA.** *(All Institute or Medical Dispensaries)*	Dr. FRANK DAVIES (Hon. Sec., Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6, Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

August 20th, 1930. By Order of the Council. ALFRED COX, Medical Secretary.

The London Lock Hospital,
91, Dean Street, W.

The Board of Management invite applications for the following appointments:

(1) SURGICAL REGISTRAR. (The present holder is an applicant for reappointment.)

(2) ADDITIONAL SURGICAL REGISTRAR. Required in view of the increasing work at the Male Lock Hospital.

Honorarium in each case £100 per annum. The appointments are for one year. Candidates who must be doubly qualified and duly registered, are invited to send in their applications, together with three copies of testimonials only, to the Secretary, at 233, Harrow Road, W.9, not later than 10 a.m. on September 8th. Selected candidates will be required to attend a meeting of the Medical Committee on September 11th. Copies of the Laws and By-laws relating to these appointments can be obtained on application to the Secretary. Candidates must be Fellows (or Members) of the R.C.S. England, or Surgical Graduates of a University of the United Kingdom. Duties to commence October 10th.

By Order of the Board.
HY. J. EASON,
August 7th, 1930. Secretary.

The Victoria Hospital for
CHILDREN, Tite Street, Chelsea, S.W.3.
(138 Beds.)

The Committee of Management invite applications for the post of HOUSE SURGEON. The appointment is for five months—viz., September 1st, 1930 to January 31st, 1931. Salary at the rate of £100 per annum, with board, lodging, and washing.

Candidates must attend the Hospital for the purpose of an interview at 5.30 p.m. on Tuesday, August 26th. (No travelling or other expenses will be paid.) They must hold Medical and Surgical qualification, and be registered under the Medical Act.

Applications, with copies of three recent testimonials, should be sent to the Secretary not later than first post on Monday, Aug. 25th.

By Order,
D. ST. JOHN BAMFORD,
Secretary.

The London Lock Hospital,
91, Dean Street, W.

The Board of Management invite applications for the post of HOUSE SURGEON at the Male Lock Hospital.

Candidates must be doubly qualified and duly registered. The appointment is at the rate of £200 per annum, with furnished rooms, full board and laundry. The appointment is for six months. Duties to commence Oct. 1st or 5th. Applications enclosing copies (only) of three recent testimonials, to be sent to the undersigned at the Male Lock Hospital, 91, Dean Street, W., on or before September 8th.

By Order of the Board.
HY. J. EASON,
August 7th, 1930. Secretary.

North Riding Infirmary,
MIDDLESBROUGH.
(General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON (male) required to take up duties early as possible. The appointment will be for a period of six months. Three residents are employed. Candidates eligible for the higher posts as they become vacant. Salary at the rate of £150 per annum with board, residence, etc.

Applications, stating age, nationality and experience, with three recent testimonials, should be sent to the undersigned forthwith.

CHARLES POSTGATE,
Secretary-Superintendent.

Birkenhead General Hospital.
(156 Beds.)

Applications are invited for the following Resident posts:

HOUSE PHYSICIAN (gentleman). Salary £100, with board.
CASUALTY OFFICER (gentleman). Salary £100, with board.

Both appointments are for a period of six months commencing October 1st, but may be extended with the Committee's approval.

Applications stating qualifications, experience, and nationality, with three testimonials, to be sent to the undersigned as early as possible.

W. H. DANIELS, A.C.I.S.,
Secretary-Superintendent.

The London Female Lock
HOSPITAL, 233 Harrow Road, London, W.9.

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital, at the rate of £150 per annum, with furnished rooms, full board and washing. Candidates, who must be doubly qualified and duly registered, should send in their applications by September 8th, accompanied by copies of three recent testimonials, to the Secretary, from whom further particulars can be obtained. The appointment is for six months, commencing October 4th.

By Order of the Board.
HY. J. EASON,
August 7th, 1930. Secretary.

Gloucestershire Royal Infirmary
AND EYE INSTITUTION, GLOUCESTER.
(153 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN. Salary £150 per annum, with board, residence, and laundry. The appointment is for six months, which may be extended for similar periods by rotation from time to time.

Applications, stating age, qualifications, and nationality, with copies of not less than three recent testimonials, should be sent to the undersigned.

F. J. SYMONS,
Secretary.
July 31st, 1930.

Ingham Infirmary,
SOUTH SHIELDS.

Wanted, JUNIOR HOUSE SURGEON (male). Salary £150 per annum, with board, lodging, and washing. Candidates must be fully qualified and registered Physicians and Surgeons. The appointment will be terminable by one month's notice. Applications, stating age, and accompanied by copies (which will not be returned) of recent testimonials, to be sent to the undersigned from whom further particulars may be obtained.

JOHN POTTER, Secretary.

(Appointments continued on p. 42)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
T/A: ARTICULATE, WESTCENT, LONDON.
Tel.: MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES.

Up to Six Lines (32 Words) 9s.
Each Additional Line, 1s. 6d.
(a line averages 5 words)
Address must be paid for.

All advertisements should reach the above address by not later than first post TUESDAY preceding publication.

ASSISTANCIES.

Wanted immediately. — Young Scotch or English ASSISTANT, preferably married, for large panel and private Practice in Midland Town. Salary £400 and house. Must have capital as early Partnership is desired to suitable man who would have excellent opportunities.—Address, No. 5705, B.M.A. House, Tavistock Square, W.C.1.

Wanted, Assistant (Scotsman), with own car, ex H.S. and H.P., obstetrical and G.P. experience, in mixed Practice in Cornwall. Salary, £300 indoor, and £400 outdoor to married man, with £100 a lowance extra to run car.—Address, No. 5714, B.M.A. House, Tavistock Square, W.C.1.

Wanted at once, Assistant, mixed seaside Practice, young Englishman. No objection recently qualified. Give all essential particulars on first application. Usual bond. — Address, No 5708, B M A. House, Tavistock Square, W.C.1.

Wanted in November, for pleasant North of England town, outdoor male ASSISTANT. Some G.P. experience necessary. Salary £375 p.a. and allowance for car. Photo and references required.—Address, No. 5704, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view. State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Assistantship, with early view to partnership, by M.B., Ch.B. (Glas.). Aged 28. Ex H.S. 4 years' G.P., private and panel. Good tests. Some capital available.—Address, No 5734, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistantship, with definite view in large progressive practice, premium out of income, by very experienced married man, 36 years, English, C. of Eng'and, absolutely reliable, keen, and ambitious.—Address, No. 5731. B.M.A House, Tavistock Square, W.C.1.

Wanted.—Assistant, indoor, male, young, for private and panel Practice. Some experience. Protestant. Commencing salary £300.—Address, with photo and reference, No. 5721. B.M.A. House Tavistock Square. W.C.1.

Wanted. — Assistant, outdoor, with view if suitable. Industrial centre North Knowledge of Surgery preferred. Usual bond. — Address, No. 6405, B.M.A House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, in Colliery Practice. Salary £400 p.a., with rooms, attendance, etc. — Apply, to H. SINCLAIR, Maesteg, Glamorgan.

Wanted. — Assistant (indoor or outdoor) by Indian Doctor in London. Work light. Suit elderly man or Post-graduate. State essential particulars.—Address, No. 5715, B.M.A. House, Tavistock Square, W.C.1.

Aber. Graduate (1924), ex H.S., H.P., 4 years G.P., excel. refs., keen. Well received, own car, desires ASSIST. (view), partnership or early succession, prefer. hospital town. — Address, No. 5703, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, with early definite view to Partnership or Succession, wanted by M.B., Ch.B.Edin., single, 26 years, keen, energetic, 4 years' experience G.P., Hospital Midwifery. Excellent testimonials. Own car. Small capital. Preferably panel and industrial. —Address, No 5709, B.M.A. House, Tavistock Square, W.C.1.

Assistant, man or woman, indoor, wanted, with or without view, Country Town, Midlands. Ex H.S. or H.P. preferred. State age, height, religion, and full particulars. Only letters replied to where essential particulars are stated.—Address, No. 5718, B.M.A. House, Tavistock Square. W.C.1.

Assistant, indoor, experienced and good pro-ence. Preferably with capi al for later partnership. Residential suburb of Midland city. Panel 1 000 No appointments. Apply with essential details.—Address, No. 5733, B.M.A. House, Tavistock Square, W.C.1.

Assistant, unmarried, indoor, wanted, view Partnership. *Good-class Country Practice, Warwickshire.* Graduate London, Oxford, Cambridge, or T.C.D. D.P.H. an advantage. Ex H.S. or H.P. pref. C. of E.— No. 5429, B.M.A. House, Tavistock Sq., W.C.1.

M. B., F.R.C.S., 5 yrs.' Hospital experience, single, desires ASSISTANCY, view Partnership. Near West End London preferred. — Address, No. 5735, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice. Permanency and part-time Bookkeeper-Dispensers, Secretary - Dispensers, Nurse - Dispensers, and *Chauffeuse Dispensers.*—*Write*, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

Gentlewoman.—Middle-aged Trained Nurse wishes POST as Nurse Companion or Housekeeper, London or near preference. Good references. Personal interview desired.—Address No. 5724, B.M.A. House, Tavistock Square, W.C.1.

Post with good experience wanted abroad by Lady Doctor, M.R.C.S., D.T.M. & H., ex H.P., H.S., qualified 1925.—Address, No. 5701, B.M.A. House, Tavistock Square, W.C.1.

Requird for service abroad, a MEDICAL OFFICER. Contract 1—3 years. Knowledge of Ophthalmology a qualification. Terms attractive, accommodation free. First-class passages paid to and from destination. For further particulars. — Address, No 5736, B.M.A. House, Tavistock Square, W.C.1.

Qualified Man (Oxford man), desires PART-TIME POST in the evenings —Address, No. 5738, B.M.A. House, Tavistock Square, W.C.1.

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PRACTICES

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For Sale.—Progressive Practice, suitable for husband and wife (no Lady doctor in district). Great scope. Takings for past year about £800, small panel. Near London. Extensive building. House £1,700, part on mortgage.—Address No. 5512, B.M.A. House, Tavistock Square, W.C.1.

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(FOUNDED 1880.)

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2 SURREY.—Increasing Practice in developing part of residential district 30 minutes from London. Income last year nearly £500. Small panel. Modern freehold corner house (5 bedrooms), garage, and garden, for sale. Good scope. Premium £475

3 KENT and SUSSEX BORDER.—Practice averaging £1,100 p.a. (including over £300 from panel) in beautiful country district. Very convenient house (6 bedrooms) for sale. Sport. Premium 1½ years' purchase.

4 LONDON, N.W. — Practice averaging £1,330 p.a. in residential district. No panel or midwifery. Large well situated house, with garage and garden, to rent. Premium 1 year's purchase.

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8 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs.' pur.

9 YORKSHIRE (W.R.).—Practice averaging £1,700 p.a. in manufacturing town. Panel 1,737. House (4 bedrooms), garage, and small garden, for sale. Scope. Premium 1½ years' purchase

10 WEST MIDLANDS. — Partnership in Practice of about £2,850 p.a. in country town. Panel 1,700. Exceptional and extremely attractive house (11 bed and dressing rooms); garages and garden, for sale. Good social centre. Premium one-half share 2 years' purchase.

11 WEST OF ENGLAND. — Partnership in old established Practice in pleasant Country Town. House to rent or purchase. Share worth about £1,000 p.a. at 2 years' purchase.

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13 MIDLANDS.—Practice over £800 p.a. in first-rate Town. Panel 500. Detached house (4 bedrooms, 3 attics). Garage and garden. Rent £110 p.a. Prem. 1½ yrs.' pur.

14 SOUTH OF ENGLAND.—Partnership in Practice nearly £5,000 p.a. in Country Town, close to fashionable Health Resort. Panel over 5,000. Nice compact house (5 bedrooms), with garage and garden, to rent. Hospital. Great scope. Premium, one-fourth share, £2,500.

15 SOUTH DEVON. — Partnership in non-dispensing Practice, about £2,400 p.a., in favourite watering-place. Panel 950. Good Hospital. One-third share at 2 years' purchase. Preliminary Assistantship.

16 S.W. OF ENGLAND.—Unopposed PRACTICE, about £1,150 p.a., in delightful country district. Very fine house, with beautiful gardens, tennis lawn, etc., for sale. Premium 1½ years' purchase.

17 YORKSHIRE (N.R.). — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 460. Visits 3/6 to 10/6. Modern house, 12 rooms. Garage and good garden. Rent £42 p.a. Premium 1½ years' purchase.

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19 LONDON, N.—Practice about £1,700 p.a. in thickly populated district. Panel 1,300. Corner house (2 bed rooms) to rent. Considerable scope. Premium 1½ years' purchase.

20 SOUTH AFRICA.—Old-established PRACTICE of over £1,800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5,000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order, with 2 acres grounds, to be let. Very good scope. Hospital. Premium £1,200 or offer.

21 SOUTH MIDLANDS.—Country Practice of just over £1,000 p.a., within 50 miles of London. Panel 700. Good house, with modern sanitation, excellent garden and paddock, to rent. Premium £1,500, to include drugs and fittings.

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Practices and Partnerships for Disposal (continued).

22 DEATH VACANCY.—SOUTH COAST.—PRACTICE over £850 in favourite watering place Panel about 200 House (5 bedrooms) in half acre garden, for sale

23 LONDON, S.W.—Partnership in Practice about £2,500 p.a. in first rate suburb Panel 1,250 Double fronted house (7 bedrooms), garage and lovely garden, for sale Share about £1 000 p.a. at 2 years purchase Partner must be well qualified preferably M.D. or F.R.C.S.

24 HOME COUNTIES. — Easily worked Country PRACTICE about £2 000 p.a. in Agricultural District 40 miles from London Panel 800 Centrally situated house (4 bed and attics) garage and garden, for sale Premium—Practice—1½ years purchase

25 SHROPSHIRE.—Partnership in Practice about £2 200 p.a. in attractive residential country district Panel 1 100 Very nice house, garage and large garden, for sale Sport Premium one-half share 2 years purchase

26 YORKSHIRE (W.R.). — Compact easily worked PRACTICE averaging £1 600 p.a. in manufacturing town Panel over 1,300 Splendidly situated house (4 bedrooms) for sale Scope Premium 1½ years' purchase

27 SOUTH DEVON.—Country Practice nearly £1,500 p.a. in beautiful district near coast Panel 634 House (7 bedrooms) with electric light and central heating, garage and large garden, for sale Sport of all kinds Premium 1½ years' purchase

28 LONDON, N. — Sound, easily worked PRACTICE nearly £2 600 p.a. in residential district Small select panel Good corner house (5 bed and dressing rooms) with very good garden for sale Small Hospital Premium—house and Practice—£4 250 each

29 MIDDLESEX. — Practice about £500 in growing district of pleasant suburb under 10 miles from London Panel 450 Large house to rent on lease Great scope Premium £750 or near offer

30 LONDON, E. — Practice £990 p.a. in populous area Panel 1 240 Shop front'd premises to rent Plenty of scope Premium 1½ years purchase

31 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town Receipts average £940 (including £300 from panel) Small compact house (5 bedrooms), with nice garden for sale Sport Premium—Practice and house—£2 000

32 SOUTH OF ENGLAND.—Partnership in good-class non-dispensing Practice, £6 000 p.a., in attractive watering place. No panel House (5/4 bedrooms) garage and garden to rent One third share at 2 years purchase Partner should be 35 40 years of age and hold F.R.C.S. England

33 MIDLANDS.—Practice, over £1,700 p.a., in important City Panel 1 570 Centrally situated house (7 bed and dressing rooms) with garage and garden, for sale Scope for increase Premium £2 250

34 LONDON, S.E.—Partnership in Practice £6 600 p.a. in outlying Suburban District Panel 2 000 Premium one-sixth share, 2 years purchase.

35 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London Good house (6 bedrooms) to let Share worth about £1 400 p.a. for disposal at 2 years purchase

36 MIDLANDS. — Partnership in Practice over £4,100 p.a. in flourishing town Panel nearly 3 000 House (5 bedrooms) to rent One fifth share 2 years purchase Preliminary assistantship Applicant must be married or about to be

37 MIDLANDS.—Partnership in Practice in Market Town Young unmarried man preferred Share worth about £800 p.a. at 2 years purchase

38 SURREY. — Partnership in Practice, £2 600 p.a., in growing and prosperous town Panel 900 Excellent scope Premium one-third or two-fifths share 2 years' purchase

39 LONDON, N.W.—Practice of between £1 100 and £1 200 p.a. in suburban district Panel 600 Corner house (4 bedrooms) for sale Scope Premium 1½ years purchase

40 MIDDLESEX — Partnership in Practice, nearly £3 000 p.a. in rapidly growing residential town under 20 miles from London Panel about 1 150 Semi detached corner residence (6 bedrooms) garage, and garden, for sale Premium, one half share 2 years purchase

41 CHESHIRE.—Partner required in increasing better class non-panel Practice in first rate residential district Cash receipts past year over £4 500 A University Graduate who must have held Resident Hospital appointments preferred One fourth share at 2 years purchase.

42 LONDON, S.W.—Practice about £630 in suburban district within half an hour of Charing Cross Panel about 400 House to rent on lease Very good scope Premium £900

43 MIDLANDS —Fourth Partner required in good middle class non-dispensing Practice £8 000 p.a. in prosperous town Very small panel Small house to rent One-sixth share at 2 years purchase. Partner should be aged about 30 and well qualified

44 LANCASHIRE.—Practice in rapidly growing district near coast and popular resort. Receipts last year £1 185 Panel 260 about Very nice compact freehold house (4 bedrooms, electric light etc.), with beautiful garden for sale Premium for Practice £500

45 WEST MIDLANDS.—Practice about £1,050 p.a. in residential country district Panel over 500 Excellent house (6 bedrooms) with electric light etc garage and 3 acres land for sale or rent Premium 1½ years purchase

46 YORKSHIRE (N.R.) —Practice £920 p.a. in small attractive Country Town Panel 450 Good house (5 bedrooms) garage, garden etc., for sale or rent Very good trout fishing Premium £1 200

47 LONDON, S.E.—Partnership in increasing middle class Practice £4 600 p.a. in suburban district Panel 3 300 Premium one third or one fourth share 2 years purchase. Partner aged about 30 with experience in minor surgery

48 SOUTH MIDLANDS — Practice over £1 200 p.a. in Market Town Panel 900 Pleasant well situated house (6 bedrooms) with good garden for sale Scope Premium 1½ years purchase

49 SOUTH MIDLANDS — Practice of £756 p.a. in County Town Small panel Large freehold house (9 bedrooms) garages and garden, for sale. Good hospital Premium 1½ years purchase

50 SOUTH COAST — Non-dispensing PRACTICE about £550 p.a. in popular resort Small panel House (5 bedrooms) with garage, to let Plenty of scope Prem £500

51 LONDON, S.W. — Good-class non-panel PRACTICE in pleasant residential outlying suburb Receipts formerly about £1,500 p.a. House in good position Premium based on results

52 SOUTH-WEST OF ENGLAND —Practice averaging £1 656 p.a. in seaport town Panel over 2 000 House, with 5 or more bedrooms for sale Premium £2,500

53 YORKSHIRE (W.R.) — Practice nearly £1 500 p.a. in manufacturing town Panel about 750 Good house, with nice garden, to rent or purchase Premium 1½ years purchase

54 KENT AND SURREY BORDERS.—PRACTICE about £800 p.a. in growing and pleasant residential district Choice of residence for sale Good scope Premium £1,200

55 LONDON, W. — Good middle-class non-panel PRACTICE £1 160 p.a. in Western suburb Attractive detached house (8 bedrooms including attics) for sale Considerable scope Premium £1 150

56 S.E. COAST — Practice of nearly £1 100 p.a. in favourite Health Resort Panel 500 House (6 bedrooms) for sale Good scope Premium £1 000

57 LONDON, S.W.—Partnership in non-dispensing Practice about £3,500 in first rate residential suburb Small select panel Hospital Premium one third share 2 years purchase

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(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2.

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NORTH WALES PRACTICE.—ASSISTANTSHIP with view to purchase. Salary £250 (indoor). Receipts over £700. Panel £300 p.a. Appointments. Hospital. House to rent. Nice country, sport of all kinds. Welsh not essential. Premium £800. Terms considered.

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BERKS.—Town PRACTICE within 60 miles of London. Middle and working class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years purchase.

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1 PARTNERSHIP—Within 40 miles of London—Pleasant Town (pop over 6 000) with large surrounding district)—A two-fifth share (to commence) is offered in an old-established healthy increasing Practice Income last year about £1 750 including panel about £250 Small House available (rent £60) or large house for purchase (price freehold £1 300) Premium one-fifth 1 years purchase Excellent future prospects

2 KENT—Country PRACTICE near Coast—Old established mixed-class Practice averaging about £1,100 p a Panel of nearly 400 Fees 3/6 upwards Convenient house with 3 reception 6 bedrooms etc Good garden Price for freehold £1 800, £400 on mortgage Good sport and schools within reach Premium 1 year purchase

3 LANCS—Large Town, within easy reach of Manchester—PARTNERSHIP—A one-third or one-half share (with succession later) in an old established good mixed-class Practice, offering large scope Gross cash receipts for past 12 months £2 645 Panel of over 2 400 Fee 2 6 upwards Suitable house available, on rental Premium 2 years purchase Ingoing partner must be a Roman Catholic, married and with Hospital experience

4 CHESHIRE—Coast Town within reach of Liverpool—Well established PRACTICE averaging over £1,200 p a, including panel of 780 Fees from 3/6 Mid 2 to 5 guns Double-fronted house with 3 reception 4 bedrooms etc Price, freehold, £1,400, £800 on mortgage Premium 14 years purchase, £1 100 down

5 SOUTH OF ENGLAND—In a small pleasant town old established sound PRACTICE averaging over £1,200 p a, including nearly £300 from panel and appts Good house (3 reception, 5 bedrooms bathroom, etc electric light and every convenience garage and) Price freehold £1,300 Mortgage for full amount can be arranged Premium £1 450

6 CROYDON AREA—PARTNERSHIP—A two-fifths or one-third share is offered in a well-established and increasing middle-class Practice averaging £2 600 p a (last year £2 740) Panel of 935 Fees 3 6 to 21/ Midwifery 4 to 15 guineas Choice of house Premium 2 years' purchase part by arrangement

7 DEVON—VILLAGE PRACTICE, situated in very attractive district within 5 miles of a Hospital town Receipts for last 12 months £942 including panel producing about £230 p a Fees 2 6 to 10 6 Very good ten roomed house with professional rooms garage for two cars, cottage, etc Large garden Price for freehold £5 000 £2 000 on mortgage Premium £1 500

8 SOUTH WEST OF ENGLAND—Within ten miles of coast—Steadily increasing Country PRACTICE in agricultural district producing for the past 12 months over £2 300 Panel with mileage fees in over £400 Fees 5/6 to 21/ House contains 2 reception 5 bedrooms etc Garden Garage Part on lease £60 p a Premium £2 800

9 LONDON, S W.—Riverside Suburb—Old established non-panel non-dispensing PRACTICE averaging about £1 400 p a with good scope Fees 5/ to 10 0 and some at 21 Good corner house with 7 bedrooms, etc, in excellent repair on 34 years lease (ground rent £19 p a) price £2 000 half on mortgage Premium £2 000

10 MANCHESTER—Old established Panel PRACTICE Average income from £1,000, including panel of 1,000 Moderate expenses Corner house with 3 reception 8 bedrooms etc Garage Let on lease £65 p a Premium £1 500 or near offer

11 NEAR HUDDERSFIELD—PARTNERSHIP—A Half share in an old established mixed-class Practice Income for immediate past year over £4 250 Panel of 3 500 Fees 3 6 to 7 6 Very good house with 4 reception, 6 bedrooms etc 1¼ acres of garden Price for freehold £2,500 Premium 1½ years purchase

12 EASTERN COUNTIES—Old established unopposed and rapidly increasing Country PRACTICE, in very pleasant sporting and agricultural district, averaging nearly £1 200 p a (last year over £1,400) Panel of 500 Very good house (3 sitting 6 bedrooms bathroom, etc) Garden, with tennis lawn Garage Electric light Price freehold £2 000, £700 on mortgage Premium 1½ years purchase

13 EASTERN COUNTIES—About 50 miles from London and within 10 miles of county town—Old-established PRACTICE in pretty country district for immediate disposal, Vendor having accepted an appointment Receipts average nearly £900 p a, including panel of 600 and Union £50 Nice house with ample accommodation garden and garage Can be bought or will be let Premium 1½ year purchase part by instals

14 PARTNERSHIP—HOME COUNTIES—Within 40 miles of London—In small village (with large surrounding population) in very pleasant district, the third share (with option to five twelfths in 3 and half in 5 years) of old-established mixed-class Practice offering excellent scope Present income £3,000 p a including panel producing over £1 200 and appts worth £160 Visits 3,6 to 2 gns Good house at moderate rental Premium 2 years' purchase each Good society and sport Ingoing Partner should be about 30, English or Scotch and married or about to become so

15 YORKS—In a clean and thriving manufacturing town old established non-panel PRACTICE partly Homœopathic and well to do Fees Vendor who is retiring Cash receipts average about £2 400 p a Patients better and middle class Midwifery refused Good house rent £100 p a Premium only 1 year purchase, part down and balance by arrangement

16 DERBYSHIRE—Good mixed class and PRACTICE in very picturesque surrounding within easy reach of good town Gross cash receipts for past twelve months £900 including panel of 476 Fees 3 6 to 7 6 and one extra Suitable house, with 2 reception, 5 bedrooms etc Half an acre of garden Rent on lease £70 Excellent sporting schools Premium £1 200 or near offer

17 BORDERS OF BERKS AND HANTS—In a delightful district, an old established mixed-class PRACTICE averaging for the past three years £904 p a (last year £973) including panel of 400 Visits 5/ to 12 6 medicine extra (3/6) One opponent House contains ample accommodation (2 sitting rooms, 7 bedrooms, bathroom, etc) Large garden and garage Rent £50 p a Prem £1,400 Excellent sport

18 YORKSHIRE—GOOD TOWN—PARTNERSHIP—A one-half share (guaranteed to produce £2 000 p a in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4 000 Small selected panel of 450 One appointment worth nearly £650 p a Fees 3,6 upwards Opportunity strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase.

19 NEAR HEREFORDSHIRE BORDER—HOSPITAL TOWN—Old-established mainly good-class non-dispensing PRACTICE averaging about £1 200 p a Panel of 500 600 Fees 5/ to 10/6 Nice house in centre of town Price for freehold £1 200 part on mortgage Premium £1 800 £1,300 down and balance by instalments Up-to-date Cottage Hospital and good scope for surgery

20 WALES—PARTNERSHIP—Within a few miles of large residential town the half share of old established unopposed country PRACTICE owing to retirement of senior partner through age and infirmity Different Health Cash receipts for past three years average over £2 500 p a including appointments and panel of 1 200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on Price freehold £1 200 part on mortgage Premium 2 years purchase

21 PARTNERSHIP—COUNTY TOWN within 150 miles North of London—A one-fifth share is offered in a very old-established good mixed-class Practice having good scope Gross cash receipts for past twelve months nearly £6 000 including panel of 3 400 Fees from 4 Very much midwifery Suitable house available Premium 2 years purchase

22 WEST OF ENGLAND—In a small pleasantly situated town and beautiful surrounding country old established PRACTICE Income nearly £1 350 p a including panel of 900 Visits 5/ to 21 Little midwifery Very attractive house in own grounds of 2 acres 3 large professional rooms (separate entrance) 4 reception 6 bedrooms bathroom etc Vendor's freehold Price £2 400 (£1 800 can remain on mortgage) Premium £2 000 Good society etc

23 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed-class PRACTICE, averaging £1 600 p a including £800 from panel and over £100 from clubs Visits upwards (occasionally 2 gns) Very little midwifery from 2 to 5 gns large attractive house with garden Rent £80 Premium 1½ years purchase part by instalments

24 LANCS—Pleasant Town near Liverpool—Well established mixed and better class PRACTICE Cash receipts last year over £960, including panel of 900 Visits 3/6 to 7/6 medicine extra Mid. 2 to 10 gns (about 20 cases) Suitable house with 2 reception, 4 bedrooms, etc Price for leasehold £1,100 £600 on mortgage Premium 1½ years' purchase part by instalments

25 CORNWALL—COUNTY PRACTICE.—Old-established PRACTICE in picturesque surroundings averaging about £1,250 p a including panel of over 1 100 Visits from 3/ Commodious house with 3 reception, 6 bedrooms, etc. Garden Garage Price for freehold £1 500 £1 000 on mortgage Premium £1,250

26 LONDON, SOUTH WEST—Very old-established non-residential PRACTICE averaging about £4 000 p a. Panel of 1 500 but large scope for more Fees 2/6 upwards. Suitable house or flat can easily be obtained to meet purchaser's requirements Part of surgery on long lease £100 p a. Premium 1½ years purchase

27 LANCS—LARGE TOWN—Very old-established good industrial class PRACTICE producing £2 500 p a., including panel of 1 800 and two friends in partnership as two houses available Good sport and golf Premium 1½ years purchase. A one-half share will be offered with view to succession in six or twelve months if desired

28 SOMERSET COAST—PARTNERSHIP—In a small increasing seaside resort the five twelfths share of a very old-established PRACTICE producing last year £1,600 but offering excellent scope Panel and takings in £480, and appointments Visits 5/ to 4 gns Midwifery 4 to 6 gns, only about 12 cases yearly Choice of 2 small houses (price freehold £950) with gardens Easter Lent and Golf Premium 2 years purchase.

29 YORKS—Thriving Sheffield Town (pop over 50 000)—SOUTH OF ENGLAND PRACTICE. Income last year £625 Old-established mixed-class PRACTICE. Income last year £625 but offering exceptional scope. Panel of 450 and 2 small appts Visits 5/6 to 5/ Very attractive residence with garden and rooms, 2 reception 4 bedrooms bathroom etc Price garden Garage. Rent on lease £100 p a Premium 1½ years' purchase.

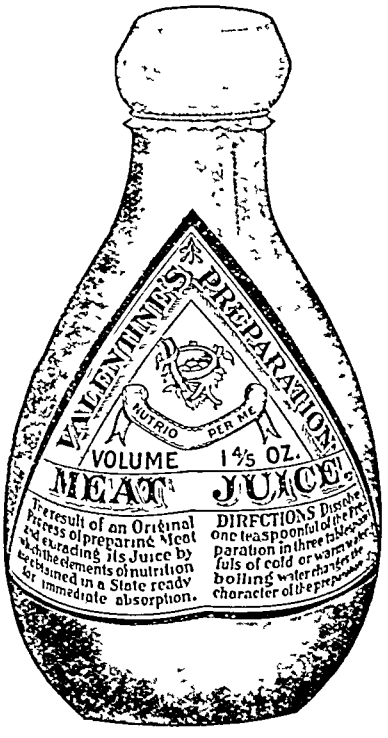
30 MANCHESTER—PRACTICE situated in a growing district offering very large scope Income about £1 700 p a., including panel producing £450 Fees 3 6 upwards Excellent detached house, well situated with 3 reception 5 bedrooms etc. all in good order Price £1 800 Premium 1½ years' purchase.

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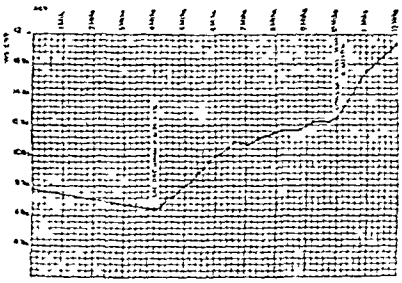
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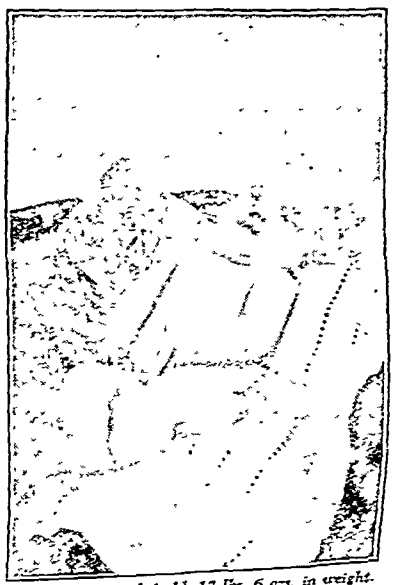
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ANNUAL MEETING, WINNIPEG, AUGUST 26th—29th.

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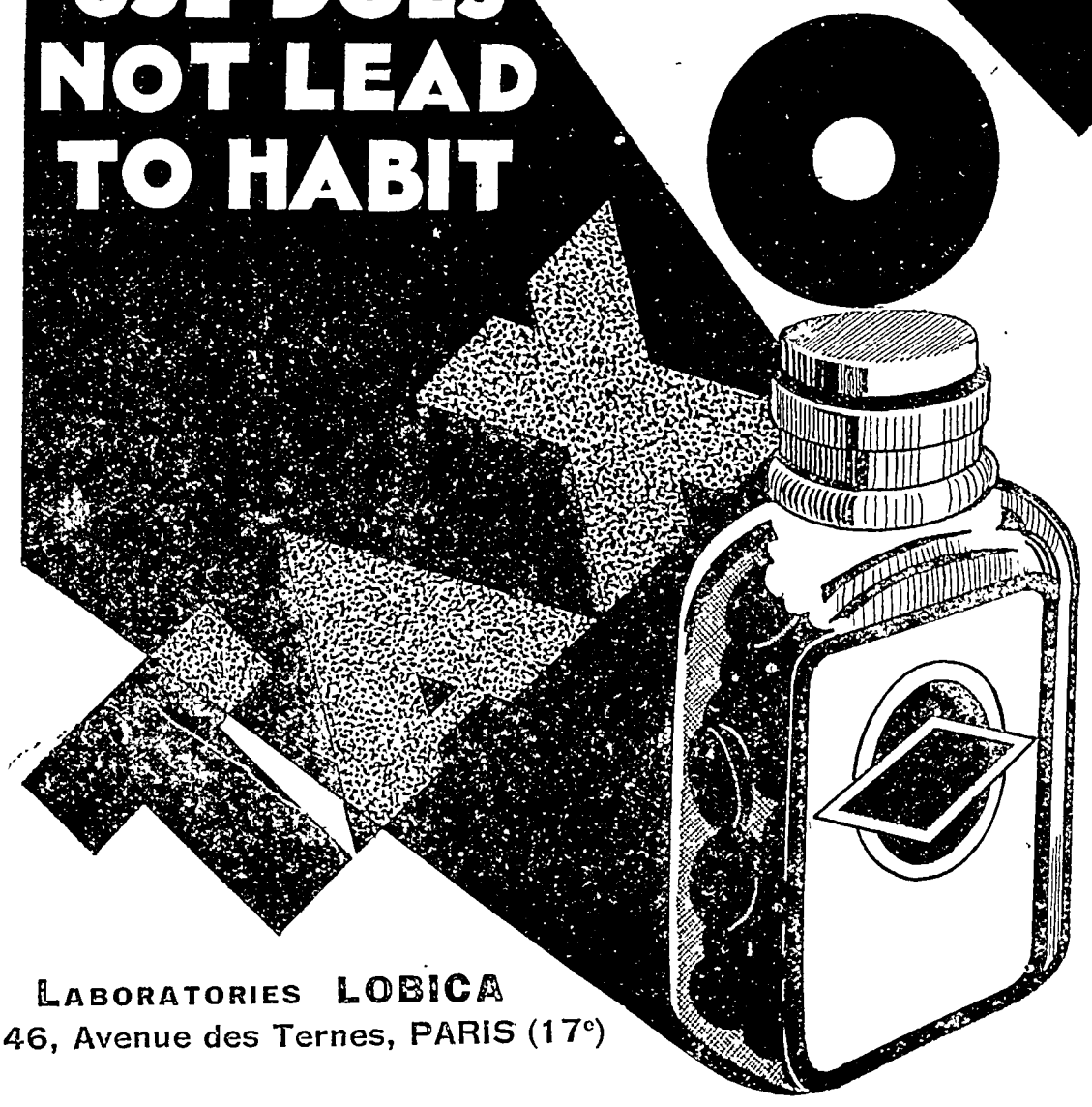
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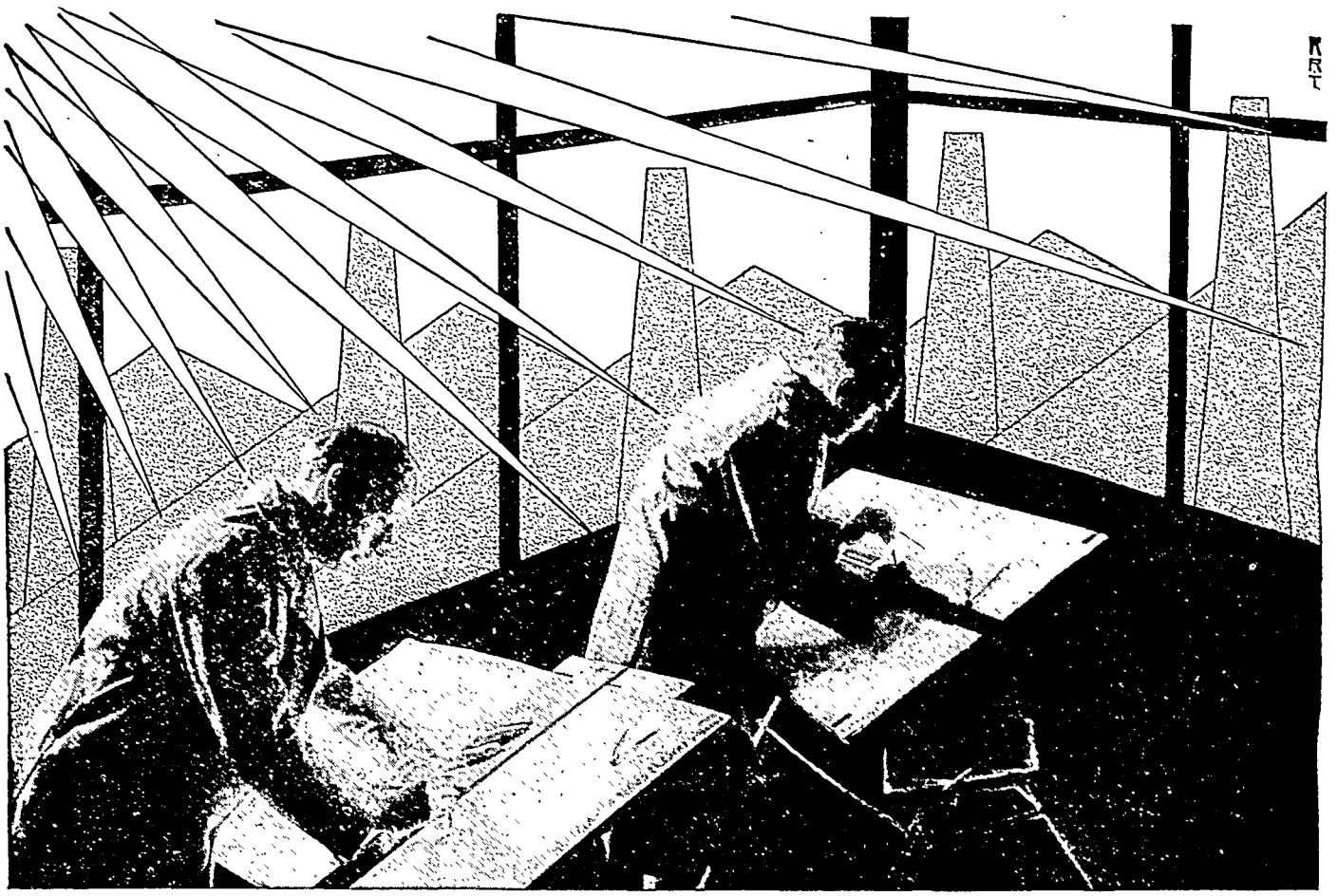


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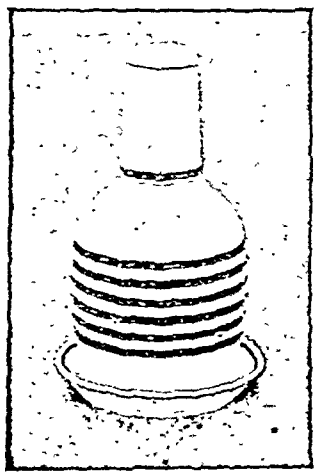
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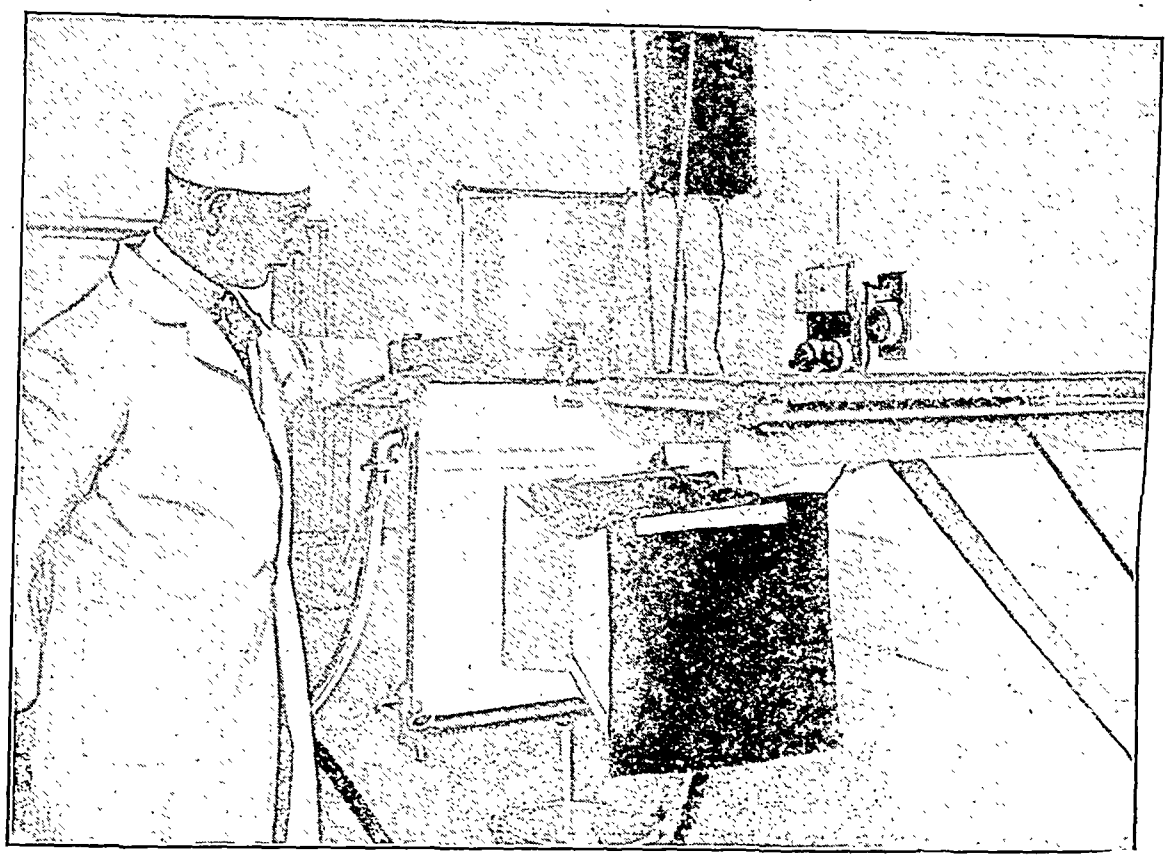
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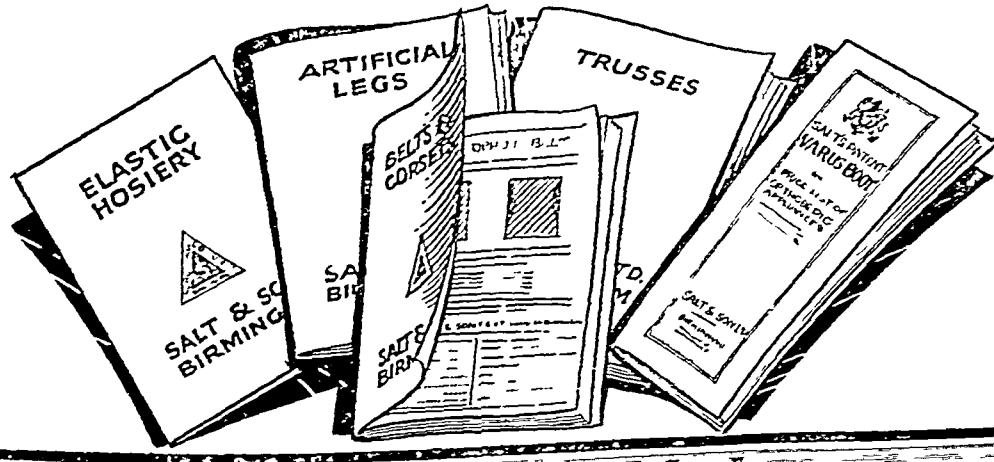
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In the morning the mother came to see me and informed me that only twice during the night the child had loose stools but no vomiting, and had slept fairly well. The child had other two loose motions during the day, but *not offensive ones like all the other stools. In the evening the child cried—the first time for two days—and as she* looked, and was, so much better, I gave her some white of egg with plain, cold, boiled water. Still improving, I kept her on this for three days. She was doing well and I then allowed her milk. She made a complete recovery, and there can be no doubt whatever that Kaylene saved the child's life

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THIS extract from the "Epitome of Literature," published in the "BRITISH MEDICAL JOURNAL," dated May 3rd last, is important as representing, in 1930, a complete justification of the formula upon which

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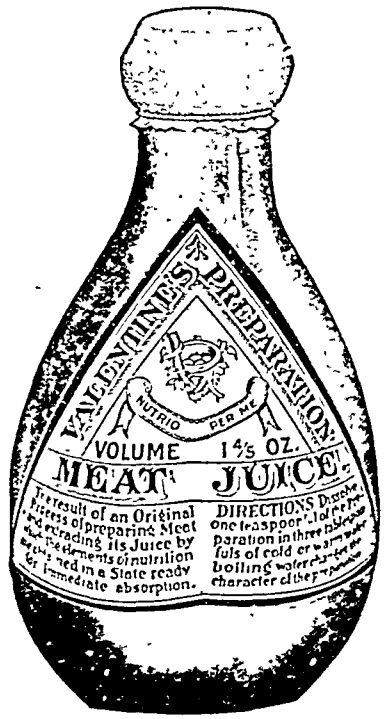
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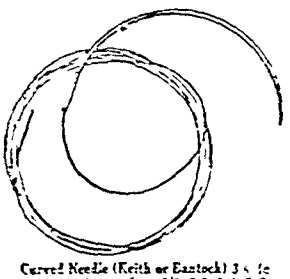
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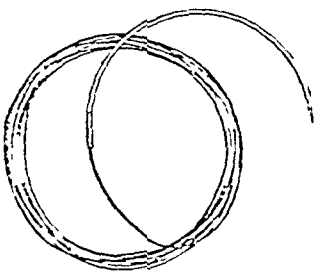
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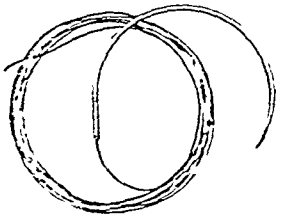
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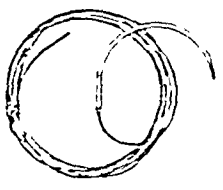
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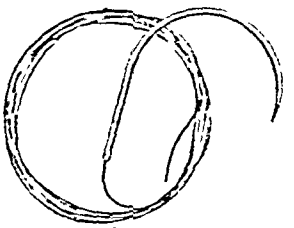
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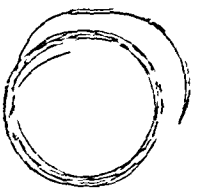
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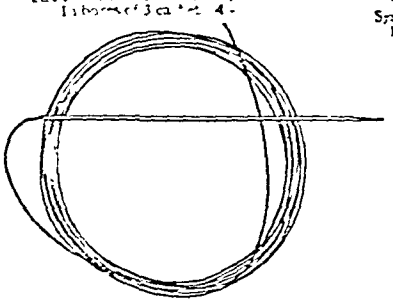
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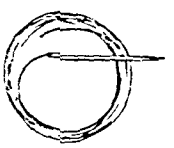
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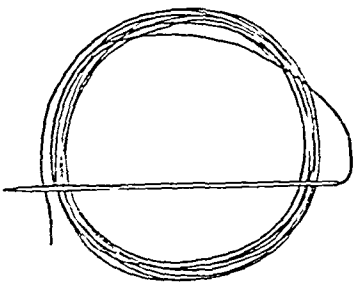
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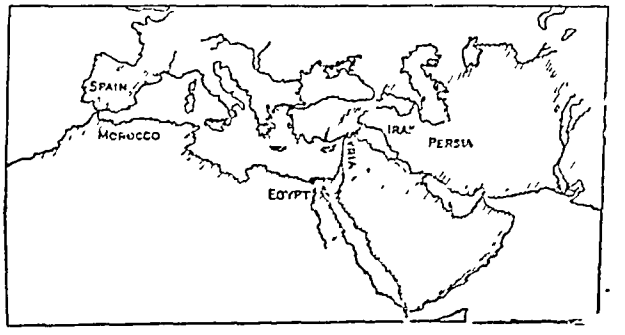
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MAP ILLUSTRATING THE ARABIAN EMPIRE AT ITS GREATEST EXTENT.—When Mahomet arose and achieved the unification of the whole of the Peninsula, Arabia became the centre of an irresistible power, which, spreading rapidly east and west, overthrew the existing social framework—Byzantine and Persian—and imposed its own religion, organisation and way of life. The great outward expansion was achieved after Mahomet's death—between A.D. 635 and 641, when Syria, Iraq, Egypt and Persia were embodied in the new empire. The Arabs pushed westward in North Africa and established themselves in Morocco during the eighth century. The greatest of their conquests—that of Spain—was made in the short space of two years, A.D. 711-712.



DATE. A.D. c. 700-800

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THE TECHNIQUE OF RADIUM THERAPY TO-DAY.*

BY

DUNCAN C. L. FITZWILLIAMS, C.M.G., M.D., CH.M., F.R.C.S.,

SURGEON AND LECTURER IN CLINICAL SURGERY, ST. MARY'S HOSPITAL.

RADIUM therapy has been dealt with largely by the lay press, which has done much good in educating people in the subject, but, as is so often the case, a false impression has been given by the application of the journalistic touch to a most important subject. Two erroneous views are, I think, widely held by the laity in consequence: one is that radium will cure all cases of carcinoma, and the other is that for want of radium many unfortunate people are dying daily throughout the country.

The use of radium has now reached a position where we know that in the treatment of carcinoma it is on a par with the knife, and in certain cases surpasses the use of that instrument; but even the knife has never been able to deal with all cases of carcinoma. In the second place, *there is at the moment more radium in this country* than there are people trained and capable of using it. On the Continent radium has been studied for many years, while in this country scientific methods have been comparatively lately introduced.

Radium gives off three forms of rays: alpha rays, which are of no importance; beta rays, which are disadvantageous for medicinal purposes, and must be screened off by platinum, lead, or other impermeable metals, since they destroy normal as well as abnormal tissues; gamma rays, which produce therapeutic effects, but must be as pure as possible. *The gamma rays act more powerfully on immature* tissues than on fully developed and highly differentiated ones. Cancer cells, being immature and hardly differentiated—in many cases consisting of masses of almost wholely undifferentiated cells in stroma—are very much more sensitive than the normal tissues. They can therefore be killed without permanent injury being inflicted upon the normal tissues. We also know that cells in the course of rapid division, such as cancer cells, are more sensitive than cells which divide and multiply at longer intervals.

METHODS OF APPLYING RADIUM.

General radium therapy is the introduction into the system of radio-active substances which will circulate throughout the body and act upon the primary growth, the glands, and the metastases. It is the ideal method, but unfortunately at present it is beyond our powers, since the introduction of such substances would injure vital organs and the individual would be killed before the carcinoma could be destroyed. The future may reveal to us a means of treating carcinoma by this method, and the introduction of a vaccine, a serum, or a metal such as lead, or selenium may open up to us a way of approaching our ideal. Meanwhile we are limited to the introduction of radium foci locally. Radium acts in accordance with Newton's law—that is, its action is the inverse of the square of the distance from the substance on which it operates; these foci must therefore be brought into close contact with the carcinoma, and in order to do this it is convenient to have many foci so that the dose may be evenly distributed over a large area.

Radium must not be confounded with its emanation—radon—which is collected in capillary glass tubes and which acts like radium, though only for a very limited time. In twenty-four hours it loses 18 per cent. of its power; in three days 50 per cent.; in eight days 80 per cent.; while in fourteen days only 8 per cent. remains. This limits its use to centres where a radon plant is available, otherwise exact dosage is difficult or impossible to calculate, since it is not always known when it was prepared and how much has been dissipated.

Seeds are tiny glass tubes filled with radon, which may be enclosed in a platinum sheath to shield the tissues; they are about 6 mm. long and less than 1.5 mm. thick. Various instruments have been invented for their introduction. They are inserted into the tissues and left there, the radon dissipating in the usual time; if they contain radium they must be attached to a silk thread and recovered.

Needles contain radium in metal capillary tubes called "cells," which are enclosed in platinum tubes, sharpened at one end and with an eyelet at the other. They are of different lengths, and contain one, two, or more cells, each containing 0.5 to 1 mg. of radium. Needles range in length from 20 mm. to 60 or 80 mm., and differ in strength according to the number of cells they contain. The needle is threaded with a flexible substance or thin wire, and is then thrust into the tissues; after a certain time it is recovered by traction on the thread. The thickness of the wall of platinum in each needle varies from a minimum of 0.5 to 0.8 *mm., or even 1 mm. for* longer needles.

Tubes are composed of platinum, and contain larger quantities of radium ranging from 5 to 100 mm. or more. As a rule they are of no great length, 20 to 40 mm., while their walls may be 2 mm. in thickness. As a rule they are placed in special containers of silver, which fit the situation in which it is desired to place them —the uterus, rectum, or oesophagus.

Bombs are thick leaden cavities, sometimes six inches in thickness, in which large quantities of radium (perhaps 4 grams), suitably screened, are placed; a window can be opened, and the rays allowed to act upon the area required for a very short time. They have been tried in Brussels and Paris, and now there is one at the West*minster Hospital. Though they have been in use for some* years abroad it is significant, I think, that, so far, no results have been published.

The dose of radium should be distributed as equally as possible over the malignant cells so as to destroy them, while avoiding injury to the surrounding tissues. This is not always easy to effect. In a large tumour the cells in the centre cannot escape, and can probably do nothing *but degenerate; they are therefore not to be feared, for* the actively growing and infiltrating cells at the margin are the agents by which spread and metastases are brought about.

In a flat ulcer needles can be introduced into the tissues underneath, and can be placed parallel; but in deeply *situated growths infiltrating the tissues, such as the tongue,* the needles have to be arranged parallel with the sides, so that they gradually converge from the surface.

1. *The Internal Method of Application, or Intra-cavitation.*—This is the introduction of radium into a natural cavity such as the vagina, uterus, rectum, mouth, or oesophagus. The radium is kept in place a certain time to allow it to take effect, and special apparatus may be required; for instance, a dental plate may have to be used to keep the radium in contact with a growth of the palate. Considerable experience is needed to gauge the dose required.

Internal radium therapy is limited in action by many factors, such as the depth from the surface in the oesophagus and rectum, by the thinness of the walls in the oesophagus, or the narrowness of the tube in the urethra. For instance, in the urethra or oesophagus it is almost impossible to destroy a growth on one side and not injure the wall of the canal on the other; this has been a frequent cause of death in cases of disease of the oesophagus.

Perhaps the best results have been obtained in cases of carcinoma of the cervix. The uterus is an organ possessing great radio-resistance, and will stand ten times the dose that the skin will tolerate, so that there is a large margin to work on. The figures of Paris, Stockholm, and Brussels do not differ materially, so I will take those of Paris.

The cases are divided into three classes: degree 1, operable cases in which the carcinoma is apparently early and local; degree 2, borderline cases where the disease is in a more advanced state on the cervix, and the glands

[3634]

*A British Medical Association Lecture (abridged) delivered before the South Wales and Monmouthshire Branch of the British Medical Association on May 31st.

are possibly affected; degrees 3 and 4, inoperable cases, where the disease is still more advanced, and the adnexa of the uterus are infiltrated. In degree 4 other metastases are present, and the case is hopeless.

In the Paris report there were 61 available cases; the number freed from symptoms was 37, or 60 per cent. of clinical provisional cures. The percentage of five-year cures increased from 20 in 1919 to 81 in 1923. In degree 2 there were 176 available cases, of which 66 were freed from symptoms, or 37 per cent. of clinical provisional cures. The percentage of five-year cures increased from 33 in 1919 to 43 in 1923. In degrees 3 and 4 there were 373 available cases; 81 were freed from symptoms, or 28 per cent. of clinical provisional cures. The percentage of five-year cures increased from 3 in 1919 to 31 in 1923.

These figures are as good as those of the best surgical clinics, and have improved remarkably during the last few years. They probably will improve still more, but all cases will not be cured. There is a great difference in the percentage of cures among those seen and diagnosed and treated early and those seen at a later date. Although squamous-celled carcinoma of the cervix gives such good results, adenocarcinoma of the body of the uterus is highly resistant and gives very bad results; indeed, its treatment by radium has practically been abandoned.

2. *Interstitial Method.*—This consists in the introduction of needles into the tissues. In order that the dose may be evenly distributed a large number of foci or needles are required. Interstitial radium therapy is applied to a host of tumours throughout the body—to either carcinoma or sarcoma of the tongue, the breast, the prostate, or to superficial ulcers and metastases. Carcinoma of the skin gives perhaps the best results; about 90 per cent. can be cured either by this method alone or in some combination.

The tongue yields very striking results, and again I will cite the Paris figures. Of 344 available cases complete cure ensued in 82 (23 per cent.); cure of the tongue, with death from glandular involvement, in 69 (20 per cent.); and failure in 193 (56 per cent.). This far surpasses any results produced by surgery so far.

Interstitial radium therapy has been developed by what is termed "radium surgery" or "surgery of access"; in this the tumour is exposed so as to allow the needles to be inserted. This is best exemplified in carcinoma of the rectum where a modified Kraske operation is performed; the bowel containing the growth is exposed, the needles are inserted so as to form a barrage round the tumour, and the wound is temporarily closed. At the end of a week the wound is reopened, the needles are removed, and the wound is then permanently closed. Very accurate dosage is needed to destroy the tumour, and the method so far is inferior to the knife. Investigation is rapidly travelling along these lines; carcinomas of the larynx and of the prostate are being treated thus, the first with unexpectedly good results.

3. *Surface Irradiation.*—If radium is applied close to the skin an erythema dose is delivered over a very small area, and a burn is rapidly produced. Columbia paste or wax, consisting of 100 grams each of beeswax and paraffin, with 200 grams of fine sawdust, is used, either 1.5 or 2 cm. in thickness. This allows the rays to spread out sufficiently so that an erythema dose will take some time, and the radium can act longer on the subjacent tumour. The wax is warmed in hot water of about 117° F. until it is as soft as a piece of cloth; it is then moulded to the part, a cold cloth being applied to harden it, and the hardening completed by plunging the mould into cold water. The needles are warmed and applied to the outer side; they will stick to the mould or can be fastened to it by plaster, and are covered with a thin layer of lead to protect other parts of the body. The mould is kept in place for fourteen to twenty-one days, until an erythema dose has been administered. Large areas can be irradiated in this manner with very excellent results, especially in superficial metastases.

4. *Distance Radiation.*—This consists of a similar apparatus to the last, but large doses are placed upon blocks of wood at a distance from the skin. It is becoming less and less used. Bombs are a development of this method.

DOSAGE.

The dose of radium given is usually stated in milligram hours; the number of milligrams applied is multiplied by the number of hours of exposure given. Thus 1,000 mg. of radium applied for one hour will equal 1,000 mg. hours, but the same dose can be given by 1 mg. of radium applied for 1,000 hours, or 500 mg. for two hours, or 100 mg. for ten hours, but the clinical results will not be the same.

In early days large doses were given for short periods, but the work of Professor Regaud of Paris showed that large doses with short exposures did not sterilize rabbits, while smaller doses for longer periods did so. This is probably connected with the division of cells, for more mitoses will take place over a long period than over a short one. On the other hand, we know that exposure to radium stops mitosis at once, so there must be some other factor not yet understood. This has revolutionized our dosage, and we are using smaller doses over longer periods. Such a method of dosage is only rough-and-ready, for while needles inserted into the tissues give off energy all round to the tissues, when radium is applied to the skin, the skin will receive less than half the energy given off. In Brussels an attempt is being made to measure accurately the dose received by the tissues, and it seems probable that our methods of dosage will be altered very considerably in the near future.

All degrees of burn can be produced by radium. The first degree is called the erythema dose, and it is tried to bring about a severe first degree of burn where the skin peels afterwards. More than this destroys the tissues, and such burns take long to heal and are painful; they should therefore be avoided. Radium is believed to act best in a virgin soil, and a second dose some months later does not seem to produce as good results as the preceding one. If a second dose follows after only a short interval the same good results are seen. Gynaecologists have developed this idea; they give three doses at intervals of a few days, with excellent results, in carcinoma of the breast.

RESULTS OF RADIUM THERAPY.

The results of radium are well seen on superficial growths on the skin and mucous membranes; the surface cleans up, and becomes smooth and healthy-looking; the rolled-over edges of an ulcer disappear, the mucous membrane becomes white like leukoplakia, and within a week a marked improvement is seen. These changes remain for a period of five to eight weeks, during which time healing advances, and in about two to three months a carcinoma of the tongue may quite disappear. A superficial rodent ulcer will heal in the same time; if, however, it is of long standing and the bone is affected it may take longer to clear up completely. Tumours of the breast will disappear if not too large, and superficial recurrences will certainly clear up, while carcinomatous ulcers can be made to heal, but others may form, or the patient may succumb to internal metastases which have previously started to grow.

One remote result must be remembered. After exposure to radium the tissues are altered, and some quite slight injury may cause their death and necrosis. What this change is we do not know, but we see necrosis of the jaw develop from wearing false teeth, death of areas of skin appear after too hot a bath, and other results ensuing months after the treatment. Healing is very slow, and subsequent operations have to be very carefully considered. This change is not seen earlier than two months, and sometimes more.

THE LIMITS OF RADIUM TREATMENT.

Many of the present limits of radium treatment will probably be overcome in the future; accessibility of the growth is a fundamental necessity. For this reason carcinoma of the oesophagus defies us, though surgery of access enables us to expose the rectum. This may soon render it possible to deal with intestinal carcinoma, but at the moment we can do little. Gastric cancers have been brought to the surface, stitched under the skin, and then treated, but prolonged relief can scarcely be looked for in internal carcinomata which are only suspected from symptoms and which are therefore diagnosed late. Cancer

of the prostate is in the same unenviable position, being diagnosed late and being inaccessible.

Sometimes a carcinoma in its primary form readily reacts to radium, but the glands when infected may not react at all, block dissection of the glands still seems the best treatment in carcinoma of the tongue. Some carcinomata, such as that of the body of the uterus, are resistant and not apparently affected by radium. *Accuracy of dose* in all cases is essential, and that is the great difficulty at the present moment.

Cure is a term we hardly like to use in connexion with carcinoma, for though a round-celled sarcoma may disappear in a few weeks, the patient will probably die from secondary infection in the lungs, just as after an amputation. Delay, however, is less likely with radium, for there should be less shrinking from radium treatment than from amputation. If it can be impressed upon the public that early diagnosis will remove the disease without a mutilating operation a bigger step forward will result than has ever been made in the history of this disease.

THE FUTURE OF RADIUM TREATMENT.

It must be clearly understood that the treatment of carcinoma by radium requires the knowledge and the experience of a specialist. Haphazard administration must involve disappointment and bring the method into contempt. It is a regrettable thing to have to say that radium treatment in this country has survived in spite of, rather than because of, institutions which have loaned radium to people totally ignorant of the subject; the indiscriminate distribution of radon about the country must cease, and radium centres are now being established to supply the needs of different areas. France has already formed a large number of such areas; an expert visits the centres and even subcentres at regular intervals.

Post-graduate teaching is now available at the Mount Vernon Hospital, which, it is hoped, will become the cancer centre of the Empire, and attract research students to it from all parts. This institution has linked itself with the Radium Institute, and a school will be opened in the autumn for the instruction of post-graduates in radium treatment. Very close co-operation is needed between the different branches of the profession, including surgeons, laboratory workers, biologists, and physicists, this has been brought to a high state of efficiency in Paris, Brussels, and Stockholm, and the results there are correspondingly good.

No carcinoma investigation is worth anything unless a really good follow-up department is in use. A patient may be relieved for a time, and a secondary mass appear, which can be dealt with efficiently if seen and recognized at once; patients must therefore be examined at all centres periodically. It is hoped that special travelling facilities by rail may be arranged so that they can come for examination at the London centre of the hospital at a reduced fee. In Sweden all carcinoma patients can travel to the centres free of charge. Results cannot be expected until five years have elapsed, so patience is needed, but it is hoped that organization will soon place London in the forefront of the battle against malignant disease.

THE TREATMENT OF PRURITUS ANI AND ANAL FISSURE.

BY

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RECENT communications to the *British Medical Journal* by J. P. Scatchard (June 28th, p. 1203) and by A. S. Morley (July 12th, p. 79) indicate that the treatment of anal pruritus and fissure by the method which I described a year ago[1] is proving successful. The method recommended was the subcutaneous injection of a solution composed of anaesthesin 3 *per cent.*, benzyl alcohol 5 per cent., and ether 10 per cent., in sterilized oil, and termed "A.B.A." Since the publication of that paper I have had a large experience of this method, and the present time seems favourable for the elaboration of certain points in the indications and technique which I have found of value.

Pruritus Ani

In pruritus ani it is only the intractible cases which need treatment by injection of A.B.A., the majority of cases will clear up by simple attention to cleanliness, by the use of lotions and powders rather than ointments, and by careful search for and treatment of any local cause of the pruritus. The attention which has recently been drawn by Colonel W. P. MacArthur (*Journal* June 28th, p. 1195) to the importance of threadworms in this connexion is very opportune. In cases of pruritus ani of long standing in which no local cause can be found, I believe the injection of A.B.A. to be the method of choice, and superior in every way to under-cutting operations. With increasing confidence in the use of this solution, I have found that 10 c.cm. may safely be employed at the first treatment. This amount is injected in relation to the posterior half of the perianal region through four punctures, 2½ c.cm. being injected at each point indicated in the accompanying diagram (Fig. 1). The reason for selecting this part for the first injection is an anatomical one. The sensory nerve supply to the anus and anal canal is supplied by the inferior haemorrhoidal nerve, and by the perineal branch of the fourth sacral nerve; these nerves approach from the posterior and postero-lateral aspects of the anus. An injection of 10 c.cm. of A.B.A. as described above gives the pruritus, so to speak, an immediate knock-out blow, and very little more has to be done. A week later 5 c.cm. of A.B.A. are injected by two punctures into the right anterior anal quadrant (Fig. 2), and the left anterior anal quadrant is dealt with similarly during the following week. Perianal dermatitis is treated on the accepted lines, cracks and fissures are swabbed with silver nitrate solution, iodine, or friar's balsam, and the patient applies a simple lead or magnesia lotion. Relief of irritation is experienced within a few hours after the first injection. A feeling of numbness develops and lasts for many weeks, so that ample time is afforded for treatment of the dermatitis, and for the patient to forget his anal troubles.

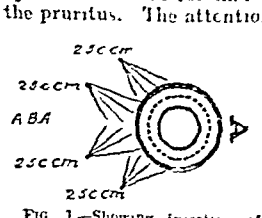


FIG. 1.—Showing injection of 10 c.cm. of A.B.A. into the two posterior quadrants at the first treatment.

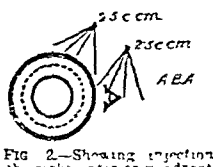


FIG. 2.—Showing injection of the right anterior quadrant at the second treatment. At the third session the left anterior quadrant is injected in a similar way.

In the average case, therefore, I find that the injection of three doses—10, 5, and 5 c.cm.—of A.B.A. is sufficient for cure. I have given this large dose many times and have had no complications. The solution must be injected deeply in a fan-like manner as described in my original paper, with strict attention to asepsis, and the injection should be made so deeply that no superficial swelling is noticeable afterwards. I might add that A.B.A. is now dispensed by Messrs. Allen and Hanburys in 5 c.cm. ampoules, which is a more effective amount for use than the original 2 c.cm. ampoules.

As an alternative to A.B.A., I have for some months been trying a solution of percaine in oil, the remarkable anaesthetic properties of this substance in regard to duration of anaesthesia are well known. The new solution has been prepared for me by Allen and Hanburys, and is composed as follows: percaine 0.5 per cent., benzyl alcohol 10 per cent., phenol 1 per cent., in 5 c.cm. of sterilized oil. The phenol was added in order to assist the solution of percaine, alkalis having to be avoided, and also on account of its antiseptic effect. Goldbacher[2] has shown that 5 per cent. phenol in oil can safely be injected subcutaneously in pruritus cases. This new solution produces a more rapid effect than A.B.A., and the duration of the

hypo-aesthesia in cases of pruritus is very satisfactory. The percaine content in 10 c.cm. of this solution (0.05 gram) is well within the limits of safety for adults, and I have only once had any general reaction: this was in the case of a man with pruritus, who, on a hot summer's day recently, became slightly pale and faint after the injection, but quickly recovered.

Anal Fissures.

In the case of anal fissures, A.B.A., or the percaine in oil solution, can be trusted to produce sphincteric relaxation, 5 c.cm. being the usual amount which I now inject into the sphincter. A superficial fissure will heal readily: a fissure with a sentinel tag will heal when the tag has been snipped off, but it is not possible to secure healing of a deeply undermined fissure without a drainage operation. A fissure of this last type is really a submucous pocket or a blind internal fistula, and must be drained back by a surgical operation. Injection of A.B.A. in such a case may relieve the symptoms, and will permit a thorough examination to be made, but it will not cure the condition.

The operation for drainage of a deep undermined fissure is best performed under a low spinal anaesthesia by the technique described by my colleague at St. Mark's Hospital, Mr. J. K. Hasler.[3] With the patient in a sitting position 0.4 or 0.5 c.cm. of stovaine billon in saline solution is injected intradurally through any convenient lumbar interspace. The patient remains sitting for a few minutes before being placed in the lithotomy position; he is then found to have a saddle-shaped area of anaesthesia in the perineum corresponding to the distribution to the skin of the fifth, fourth, third, and sometimes the second sacral nerves. The operation is performed as follows. The sphincter is gradually stretched until five or six fingers can be admitted readily. The undermined pocket is then drained posteriorly, and the sentinel tag is excised. Instead of the usual "lozenge" or diamond-shaped incision which has hitherto been recommended, I now make an incision with square ends, which has great advantages; it gives better drainage, and renders healing of the wound in the anal canal quite inevitable (Fig. 3).



Fig. 3.—Indicating incision with square ends, recommended by the author for drainage of a deeply undermined fissure.

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ANAESTHETIC EXPLOSIONS.

BY

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Two cases of alleged explosion of chloroform vapour have recently come to my notice. Chloroform is not inflammable; in fact, it cannot be made to burn by itself. A mixture of 2 parts of chloroform with 1 part of ether, or a mixture of chloroform, alcohol, and ether will, however, burn, giving off strong acrid fumes containing chlorine.

I have tried to discover whether in favourable circumstances the vapour of chloroform can be caused to ignite, for in one case there was an explosion when an electric cautery (Cameron's "cauterodyne") was being used in the mouth. I first passed a stream of oxygen through chloroform in a Junker's bottle, and failed to ignite the vapour issuing from it. I thought that the extremely high temperature of the electric spark might in some way render the oxygenated vapour combustible, so I prepared an experiment in which chloroform was boiled in a tin canister with a stream of oxygen bubbling through. The flame of an oxy-acetylene blowpipe was applied to the vapour, and, subsequently, a fragment of steel was kindled in the vapour with the aid of a jet of oxygen. This procedure resulted in such brilliant scintillations being given off that the heat must have been well over 4,000° C.—the temperature of the flame—and at least as high as the sparks from the electric cautery.

In both cases the chloroform vapour decomposed at once into billows of pungent and acrid black fumes; these did not catch fire, and the decomposition did not continue when the flame was removed, indicating that it was not the chloroform vapour that became ignited in the two cases. Since there is no doubt at all about the facts in the two cases of explosions at operations, I can only say that the occurrences must have been caused either by the inadvertent addition of ether, or by the burning of combustible gases arising from hot and charred tissues in such a confined space as the mouth. This is a probable explanation in the second case, and accounts, of course, for the flickering always seen when using such cauteries.

At least a hundred explosions probably occur every year with ether in this country, causing trifling or severe burns of the eyebrows, lips, and pharynx, but not extending into the lungs, because the mixture is too weak to burn there. The explosions are caused by the ignition of the richer mixture introduced into the mouth by a tube or occurring in the immediate proximity of the soaked coverings of the mask. I feel sure that two or three minutes after stopping the administration of ether the expired air contains too little of the gas to ignite.

For several years I have continually used the ether bomb apparatus, often within two or six feet of an open fire, and frequently much nearer a cautery, without any ignition taking place. The quantity of ether is too small, or too quickly diluted, although, where there is an electric radiator in the room, the pungent fumes of slow combustion can always be smelt above it within a few minutes of the vaporization of even a small quantity. An explosion was reported to have occurred from the introduction of the apparently sound lamp of an oesophagoscope into the pharynx; it must be concluded that the connexion in the lamp socket was sufficiently imperfect to cause minute sparkings, because I have found that a needle introduced into an air-ether mixture has to be at least red-hot to ignite it.

The ordinary optimum mixture of petrol vapour and air in a motor car engine is 1 in 13; in the case of alcohol it is, I believe, 1 in 14, and in that of ether the proportion is probably the same. A weaker mixture would, however, ignite, and so would a stronger, but the limits (without compression) are not wide and the ignition point is considerably raised. When a combustible gaseous mixture is raised to a certain temperature it "fires"; this is its "ignition point." The term "flash point" refers to a liquid, being that temperature at which it gives off inflammable vapour. The temperature at which a hot body introduced into an inflammable mixture will cause ignition depends partly upon the nature of the body.

In this connexion a case was recorded in the *British Medical Journal* of October 17th, 1925, where a dental warm air syringe set fire to ether vapour in the mouth of a patient and resulted in fatal haemorrhage. The nearest flame was said to have been six feet away, and the nozzle of the syringe was certainly not red-hot. In the correspondence which followed this report the possibility of catalytic action, similar to that induced by spongy platinum, was mooted, and also the chance of burning spirit being carried on to the nozzle from the lamp employed to heat it. I can find very few references to explosions.

By far the most serious fires with ether have been caused by bottles being dropped in rooms with open fires or electric radiators. Ethyl chloride will not ignite in air, but it burns with an apple-green flame on the addition of a little extra heat, and more freely with oxygen; curiously enough, however, the condensed substance burns freely with a luminous and smoky flame, which is coloured green near the liquid surface. The explanation of this may be that the jet of gas becomes too rapidly diluted with air, partly owing to the velocity at which it passes out of the nozzle.

In the case of ethylene and acetylene the matter is more serious. I have never used the latter as an anæsthetic, but I give an oxygen-ethylene mixture for dental surgery as a routine, because I find it better than nitrous oxide. I have been told that bad explosions have occurred with both these gases, and that fatal consequences have ensued. In these cases, however, an explosive mixture exists not only in the patient's lungs, but in the bag used, and there is a grave risk of an explosive mixture accumulating in a room since so much larger quantities are used. With even saturation in a small room of 1,000 cubic feet a cylinder of 500 gallons would have to be emptied to provide with air a mixture of 1 in 12. This is a considerable volume of ethylene, but saturation will not ordinarily be even; an accumulation of sufficient concentration is always present near the facepiece, so that a lighted cigarette (or, it is conjectured, a spark from a static charge gained by the gas in issuing from the cylinder union) could cause a violent and tragic explosion.

Dr. F. W. Higgins, working at Manchester University in connexion with mining gases, found that the ignition point of an oxygen-ethylene mixture was unusually low, and that the ignition point of a nitrous oxide ethylene mixture was still lower. In dental practice I use quantities of 10 to 50 gallons frequently, with nitrous oxide and oxygen added, *often in a room containing an open fire.* I am careful about lights (dentists often have a small Bunsen burner alight) near the patient. A short time ago I kept a man under with an oxygen-ethylene anæsthetic mixture in a dental chair for over an hour and a quarter with nothing but a nose-cap; his condition afterwards was not abnormal.

In view of the likelihood of minute sparking in lamp holders, whether of the ordinary design (bayonet) or any other, I dislike electric lights too near. Where they have to be used it is advisable to make sure that the electrical connexion between the lamp and the socket is sound

CEREBRAL HAEMORRHAGE IN A YOUNG WOMAN.

BY

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THE following case presents several features of interest, being the account of an apoplectic fit actually observed during a medical examination, so that an opportunity for first-hand information of its onset and progress was presented. It may be recalled that in *The Story of a Surgeon* Sir John Bland-Sutton mentions a case that he personally observed. The type of hyperpiesia in the present case is also discussed, and the occurrence of an unusual example of automatic speech is described.

A school teacher, aged 30, consulted her doctor because of painless haematuria, and was found to have a systolic blood pressure of about 300 mm. Hg. In consequence she was admitted to the Prince of Wales's Hospital under Dr. Browning Alexander to be investigated. The patient had had measles and chicken-pox as a child, but no scarlet, rheumatic, or other severe fever. Her appendix had been removed five years previously, and she had diphtheria severely a year later, being confined to bed for two months. Subject to headaches for many years, she had suffered more acutely for the last three months. Occasionally there was an aura of black spots, and she had often felt sick during the attacks, though vomiting was rare. Two months before admission she had an attack of severe backache, which persisted for five weeks. For two weeks there had been a blurring of vision in the right eye, and she remembered a similar blurring in the left eye some time back; latterly her nose had bled on two occasions. There had been no frequency of micturition, and the menses were always regular; latterly she had felt breathless at times, and had had palpitations. None of the symptoms troubled her sufficiently to seek medical advice until the appearance of blood in the urine a few weeks before admission. There was nothing of importance in the family history.

Condition on Admission

The patient was thin; the skin was rather dark and the eyes were perceptibly prominent. The thyroid was not enlarged, but the tonsils were definitely infected.

The pulse was regular, forceful, and rapid (110 to 120 per minute). The radial artery was tough and tortuous, and the blood pressure was 280/210. The apex beat was just out of the nipple line; the sounds were forceful, but no bruits were heard.

The basal metabolism inferred by Read's formula was +8. No abnormalities were found in either the lungs or abdomen. The pupils were equal and the reactions normal. The biceps, triceps, supinator, knee- and ankle-jerks were present and equal, the abdominal reflexes were not obtained, and the plantar reflexes were both flexor. The muscles were small, but their power was good.

The Stroke

At 6.45 p.m., directly after the blood pressure had been taken and the preceding observations had been made, something amiss was suspected. Whereas a few minutes before the patient had responded to the examination a little nervously perhaps, but otherwise in a perfectly normal manner, an interrogation was now received with eyes open and consciousness apparently undisturbed, but with an abortive effort to speak that resembled the functional aphasia of a nervous person in a witness-box. The words would not form, and the patient smiled her helplessness away. There was confusion, but no anxiety on her face, and believing that she was indeed temporarily unnerved, she was reassured, and the examination was suspended for a few minutes.

Returning after five minutes, the motor aphasia was found to be more definite, and for the first time a facial asymmetry was noticed. The nervous system was then re-examined, and the following facts were observed: a complete right facial palsy; a *flaccid paralysis of the right arm and weakness of the right leg;* a right-sided blunting of sensations of touch and pain; and an extensor right plantar reflex. The patient was quite conscious, and understood all that was said to her. She was restless, anxious, and sweating.

At 7 p.m. amyl nitrite was inhaled, and she vomited a little. The systolic blood pressure was now 160 mm. Hg. She was drowsy, and later she went to sleep. At 11 p.m. she was still asleep, and the hemiplegia was quite complete. The systolic blood pressure was 240 m.m. Hg.

Subsequent Progress

The following morning the patient was conscious but drowsy, when spoken to she smiled, and said repeatedly, "I see." She was incontinent of urine and faeces. The urine contained a trace of albumin, but no blood was detected by chemical tests. The blood urea was 51 mg. per cent. Both fundi showed many old haemorrhages, with one fresh one on the margin of the right disc, otherwise the discs were normal.

On the fifth day following the stroke the sphincter control returned. The patient understood all that was said to her, and read the daily papers with interest, but she was still only able to reiterate "I see." The right-sided paralysis was still present but the jerks were not exaggerated, and the paralysis was still flaccid. No clonus was obtained. The right plantar reflex was doubtfully extensor, the left one flexor. Mr. Flemming reported on the eyes as follows: "Eye movements jerky, but no true nystagmus. No evident paralysis or strabismus. The fundi show a slight neuritis, with much haemorrhagic exudation round the discs. Some radiating lines of exudation from the maculae, as in albuminuric retinitis. Arteries thick, and veins dilated and tortuous."

Towards the end of the second week the speech began to improve. She was able to answer questions, concentrating persistently, but at times the word would not come. Both plantar reflexes were definitely flexor.

One month after the stroke the improvement was more marked, the facial palsy, as well as speech and muscle movement, being much improved. The musculature was very flabby, and there was wasting of the right arm and leg, where the jerks were difficult to elicit. The right plantar reflex was doubtfully flexor. Sensation remained diminished. The sight was deteriorating, and there was marked swelling of both optic discs.

On the thirty-sixth day she had severe headache, and vomited twice. Following this the power of speech, except for the same phrase of "I see," was lost, but an hour later it had returned to its former level. Four days later the tonsils were enucleated under a general anæsthetic by Mr. Ibbotson, since it was considered they were a definite toxic factor. Bleeding was minimal, and the patient stood the operation very well.

On the forty-seventh day the patient felt faint quite suddenly, consciousness, however, being undisturbed. The pulse rate fell from its usual figure of 100–120 to 70 per minute, and the heart sounds were faint. The pupils were small, and reacted to light sluggishly, but no further changes were noted in the central nervous system. The patient lay quietly, with her eyes closed, but speech was undisturbed. The systolic blood pressure had dropped from its usual height to 165 mm. Hg. One hour later it was 170, three hours later 210; five hours later 220, and eight hours after the onset it was 230 systolic. A similar attack had been noticed by the nurses two days previously.

For nearly two more months the patient continued to progress slowly. The pulse rate seldom varied further than the range of

110–120, the systolic blood pressure kept around 220 mm. Hg, and the temperature remained between 98° and 99° F. Repeated examinations of the urine showed little or no albumin; the daily output averaged about 60 ounces during the first three weeks of her stay, and then gradually dropped to about 30 ounces. The blood urea test was repeated several times, but always gave a figure well within the normal. The Wassermann reaction was negative in the blood and in the cerebro-spinal fluid, a lumbar puncture having been performed ten days after the stroke. The fluid was not under pressure, and no blood pigment was found. The sugar estimation was 0.087 per cent., and the chlorides 0.74 per cent. The right-sided paralysis improved steadily, and towards the end of the period a fair amount of power had returned. The arm recovered sufficiently to enable her to feed herself. Passive and active movements were given daily.

Three months after the stroke the general condition began to deteriorate, and evidence of a failing heart appeared. A low-grade pneumonia set in, the patient became delirious, and the blood pressure gradually fell, so that within a week it had dropped to 140. The urine flow diminished, albumin was found in appreciable amounts, and the blood urea increased to 190 mg. per cent. There was a polymorphonuclear leucocytosis, but the temperature remained subnormal. Death ensued nineteen weeks after the initial stroke.

Post-mortem Report.

The body was thin, and there was wasting of the musculature, especially of the right upper and lower limbs. The lungs showed a terminal congestion, and there were some pneumonic patches at the right base. The heart was small and atrophied; aortic arterio-sclerosis was not marked. The liver showed nutmeg change, and the spleen was small and fibrotic. The kidneys were also small and fibrotic, and there was terminal congestion; the cortex was fairly well preserved.

A large old haemorrhage occupied practically the whole of the basal ganglia of the left lobe of the cerebrum, with the original site in the anterior part, about the level of the genu of the internal capsule. The arteries were not unduly changed, and thickening was not a feature.

Hypertension to the extent exhibited by the patient is of rare occurrence at that age, the more so when it does not fall into one of the three common groups of cardiac, renal, or arterial disease. The kidneys were damaged, it is true, but the changes were consistent with what would be considered a normal response to the high blood pressure; the arteries were surprisingly healthy, and their changes cannot be accepted as primary in origin. Moreover, the two attacks during which the blood pressure fell to normal limits strengthen the opinion that the arterio-sclerosis was slight, and that the contractions and relaxations in these vessels were active movements bespeaking an intact musculature. Most diseases of doubtful origin have been ascribed at various times to infections, both focal and acute; this patient had infected tonsils, and she had had diphtheria four years previously. However, Walker and Hare consider that there is no evidence of pressors in infections, and their figures show that a history of diphtheria is more common in normal people than in hypertonics.

There remains, consequently, the consideration whether the case is to be regarded as one of "essential hypertension," due, as some observers believe, to a constitutional state, inherited as a dominant Mendelian characteristic, and rendered active in response to varied stimuli. Having regard to this possibility, permission was given lately to determine the blood pressures of other members of the family, though further examinations were not permissible. The following were the readings obtained: father, aged 59, 155/90; mother, aged 60, 215/140; sister, aged 29, 130/90; sister, aged 21, 155/90. The mother has had rheumatic fever on two occasions, but is in perfect health, and is not supposed to have any heart involvement. The younger sister was quite well until two years ago, when she was in a mental home for a few months, suffering from depression and delusions of unworthiness which had followed an unfortunate love affair. Her recovery has been complete. There is a brother who was not available for examination. Whereas such a casual examination does not permit of a definite conclusion being stated, there seems to be fair evidence in favour of the view that the patient came from a hypertonic stock, and that her case can be placed in the class of "essential hypertonics" mentioned above.

Sir Thomas Horder, in a recent discussion on high blood pressure at the Harveian Society, spoke of "essential hyperpiesia" as being possibly the expressio flame of endocrine disturbance, adrenal, pituitary, patient certainly exhibited symptoms attributable to a thyro-adrenal complex—the persistent tachycardia, the dilated pupils, and the moderately prominent eyes. Read's formula, which is considered to be a reliable inference of the basal metabolism, was in this patient slightly raised above the normal figure, and, consequently, it seems justifiable to conclude that the condition was one of congenital hyperpiesia of endocrine origin.

In right-sided hemiplegia, when the speech centre is involved, the aphasia may be complete except for "automatic speech," which may be the first hint of the returning function. In this connexion Kinnier Wilson relates how a patient, on witnessing the spectacle of a Zeppelin in flames, exclaimed "Hallelujah," and then lapsed into a silence as complete as before. In the case under discussion the words "I see" occurred repeatedly after the initial stroke, and subsequently, when speech was lost again. It may well be that the words were occasioned often during her avocation as a school mistress, and that, becoming spontaneous by constant use, they formed the whole extent of her expletives, and at times after her stroke, the sole intact connexion between her speech centre and the exterior.

I wish to thank Dr. Browning Alexander for his permission to publish this case, and Dr. Trounce for his report on the previous history of the family.

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A CASE OF OLD-STANDING TUBERCULOUS KIDNEY.

BY

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THE case here recorded is of interest as showing that even advanced tuberculous changes in the kidney are compatible with prolonged life and comparative good health.

A man, aged 47, was admitted to Guy's Hospital in June, 1930. A brother had died from consumption at the age of 21; the patient lived in the same house with him during most of his illness. At the age of 18 the patient noticed that his urine was turbid, and he consulted the late Professor Julius Dreschfeld in Manchester, who made a diagnosis of tuberculous kidney. For some years the patient was kept under observation, and on several occasions had attacks of haematuria, often severe. At this time he had occasional fever and urinary symptoms such as frequency, but his general health remained sufficiently good for him to work for engineering examinations, and by about the age of 21 he was quite fit, apart from some frequency of micturition and occasional burning sensations in the region of the bladder. From this time until the outbreak of war he led an active life as a civil engineer; in 1914 he joined the Royal Engineers and went to France, serving in a Field Company.

In 1915, while on active service, he passed a few very minute stones, but did not have to report sick. In 1916, while still in France, he had a severe attack of pain in the bladder, and passed very large quantities of pus in the urine. He was invalided to England, and suprapubic cystotomy was performed in a military hospital, but no stones were discovered. The wound healed satisfactorily; the patient made an apparently complete recovery, and was able to return to active service in France in 1917. While on service he was exposed to conditions of great hardship; after six months his symptoms recurred and he was again invalided home. With medical treatment and a vaccine he again recovered completely, and was able to join the Royal Air Force in 1918. After the war he led an active life as an engineer and lived many years in the East. During this period his general health remained good and he put on a great deal of weight, eventually reaching close on 20 st. From time to time there was pyuria and slight frequency.

On May 1st, 1930, he suddenly became very ill; the urine became scanty and extremely purulent, and there was practically anuria for four days. The temperature was high—up to 101°—with severe diarrhoea and vomiting. With transient periods of improvement his illness lasted for six weeks, and he was often thought to be moribund; on several occasions he had severe rigors with high fever. Until he was transferred to Guy's Hospital there were no facilities for investigation, but clinically now was considered to be uraemic, possibly as a result of calculous -ria

On admission to Guy's Hospital the temperature was 102°, and the urine contained much pus, *B. coli* and streptococci being recovered. The blood urea was 110 mg. per cent., but the patient was passing fair quantities of urine and the vomiting was no longer severe. He was given large quantities of fluid with full doses of potassium citrate. On physical examination he was still well covered, though he stated that he had lost 6 st. in weight. His systolic blood pressure was 105 mm. Hg, but pulmonary emphysema made it impossible to discover the size of the heart. On rectal examination the prostate was found to be moderately enlarged; it felt as hard as a stone.

After a few days in hospital he had recovered sufficiently to enable an *x*-ray examination of the urinary tract to be undertaken. The films revealed the remarkable condition shown in Figs. 1 and 2. Practically the whole of the left loin was filled

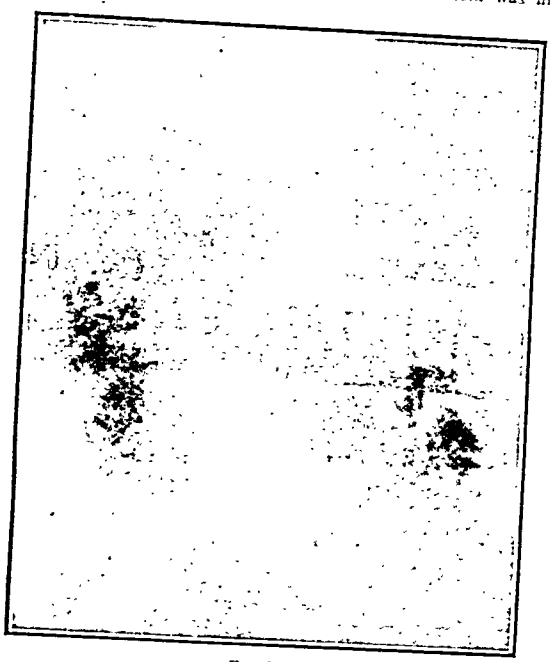


FIG. 1.

by an enormous shadow, which roughly conformed to the shape of the kidney. The outline of the left ureter could also be seen as an opaque line extending down to the bladder. In the *x*-ray plate of the pelvis (Fig. 2) the prostate appeared as a dense opacity. Several mobile opacities were seen near the hilum of the left kidney, but these were shown to be calcified mesenteric glands and not stones.

A few days later the patient was cystoscoped. The bladder was small, but there was no difficulty in the passage of the instrument in spite of the calcified prostate. The left ureteric orifice could not be seen, but there was much cystitis, and the right ureteric orifice was ulcerated. After intravenous injection of methyl violet the dye did not appear from the right ureter for fourteen minutes.

The patient remained in hospital for about three weeks and made a steady recovery. The blood urea dropped from 110 mg. on admission to 50 mg. on discharge. Good amounts of urine were passed throughout, and the urine became practically clear.

This case is of interest as an example of abortive attempts at healing by a tuberculous kidney. The whole of the organ appears to have become replaced by a tuberculous pyonephrosis of enormous dimensions, and the tuberculous caseous material has become so infiltrated with lime salts as to produce a dense shadow to *x* rays. The ureter of the affected kidney has never been permanently occluded, as evidenced by the shadows in the *x*-ray film. Inquiries from the patient elicited the fact that from time to time he experienced a sensation "as if a tap had been turned off in the bladder." This was followed by the passage from the urethra of cretaceous material, which the patient described as like tooth-paste in colour and consistency. It would appear, therefore, that from time to time some of the caseous material from the kidney was passed in the urine. No tubercle bacilli could be found, and probably the tuberculous process is completely arrested. The acute symptoms with which the patient started his recent illness were presumably due to an exacerbation of his chronic urinary infection preventing satisfactory functioning of his right kidney.

The case tends to show that, even when there is high resistance to tuberculous infection, involvement of the kidney may lead to serious consequences as the result of secondary urinary infection; it emphasizes the importance of nephrectomy whenever the condition of the other kidney warrants this step being taken. Undoubtedly a tuberculous kidney may be completely transformed into an innocuous calcareous mass, but such spontaneous cure is probably

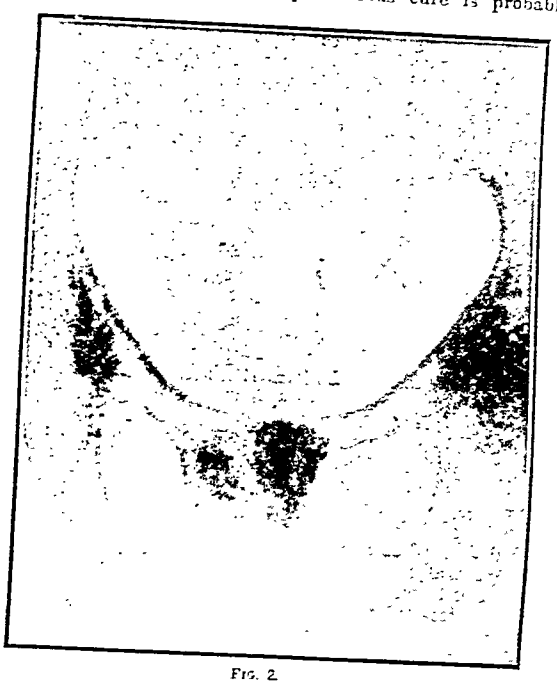


FIG. 2.

very rare. The only example I have met of such a condition was in a woman, nearly 80 years old, who was killed in an accident. One kidney was a hard calcareous mass about two inches in length; the other kidney showed much hypertrophy.

HAEMORRHAGIC DRY BRONCHIECTASIS.

BY

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THE importance of the pathological condition here described lies in the tendency that arises, on account of the haemoptysis (which is the main symptom) to group all these cases as tuberculous. To diagnose a case as tuberculous which is not, is to do the patient a great disservice; it may completely alter his prospects in life. There is no doubt that the diagnosis of tuberculosis has generally become more accurate during the past twenty years; it has ceased to be the lumber-heap of unclassified conditions it was wont to be. In order that this improvement may continue it is opportune to lay stress on this not infrequent pitfall in diagnosis.

CASE V.

A man, aged 50, twenty years previously had had a subphrenic abscess and an empyema, which was drained. Since then he had worked as a stevedore. Two years ago there was a haemoptysis of 10 oz., and eighteen months later one of 5 oz. When seen in the out-patient department he was having a haemoptysis of 10 oz.



CASE V.—After lipiodol.

The patient was a robust, healthy man, with no physical signs except for a few added sounds round the empyema scar. A skiagram before lipiodol injection showed no abnormality, but after the lipiodol injection a cavity 1½ in. by 3 in. was demonstrated behind the cardiac shadow.

CASE VI.

A girl, aged 17, had had pertussis when 4 years old, and since then bronchitis. During the last four years there had been repeated haemoptysis, and she had twice been in a sanatorium.

Her general condition was fair, but there was dullness, with added sounds at the left base. A skiagram showed the triangular shadow behind the heart, and lipiodol injection demonstrated bronchiectasis within this shadow.

CASE VII.

A woman, aged 31, had had pneumonia fourteen years previously, with an empyema which had been treated by open drainage. She had never been ill since, until one year ago there was a haemoptysis of 1 oz. Since then she had occasionally coughed up half an ounce of sputum in the day.

She was found in very good condition on examination, and had just gone through her third pregnancy. There were physical signs of fibrosis at the left base, but no clubbing. The skiagram was suggestive of fibrosis at the left base, and lipiodol demonstrated cylindrical bronchiectasis.

CASE VIII.

A woman, aged 40, had been quite well until one month before attending the out-patient department, when she had a haemoptysis of 10 oz., since when occasional expectoration had occurred.

She was a stoutish woman, with no clubbing, but there were definite signs suggesting bronchiectasis at the right base. Lipiodol injection showed a well-marked bronchiectasis.

CASE IX.

A woman, aged 23, had had influenza one year previously. During the three months before she was seen in the out-patient department there had been repeated small haemoptyses. There was a small amount of sputum.

The general condition was fair, but there was an impaired note and diminished breath sounds at the right upper lobe. The sputum examination had been repeatedly negative for tubercle bacilli. The skiagram suggested that there was a small cavity in the region affected, and lipiodol demonstrated dilated bronchi. Six months later the patient had another haemoptysis of 10 oz., but the general condition remained unaltered.

In all the above cases the sputum had been examined for tubercle bacilli, and found negative.

In 1924 Bezançon, Weil, Azanlay, and Bernard[3] recorded two such cases under the heading of "Sèche hémoptorique de la dilatation des bronchis." In 1927 Reinberg reported six more cases. In 1929 Burrell and Trail[4] briefly described one case. The patient of Burrell and Trail and two of Reinberg's patients had been in sanatoriums, and one of ours had been similarly treated. Two others had been suspected of being tuberculous; one had attended a tuberculosis dispensary for twelve years.

The haemoptysis is usually copious, from 3 to 15 oz. Such a large haemoptysis is not commonly seen in an initial haemoptysis in pulmonary tuberculosis; in association with this there is an absence of constitutional signs. The haemorrhages are usually recurrent, and one of our own patients has worked as a domestic servant for the previous seven years, having large haemorrhages every few months, and, except for a day or two's rest on each occasion, continuing her duties. Cases ii, iv, v, vii, viii, and ix were treated in the out-patient department during the period they were having haemorrhages. The physical signs are indefinite, and it is often impossible to detect anything more than a slight degree of fibrosis, the interpretation of the signs being rendered more difficult by the fact that often there has been an empyema or pneumonia in the past on that side.

The majority of patients give a history of a previous inflammatory condition of the lung—7 of the cases we record here (3 empyemata), and 5 out of 6 of Reinberg's cases. The history of a previous acute inflammatory condition of the lung is in keeping with the usual etiology of bronchiectasis, and one might reasonably assume the progression of the disease, through a symptomless dry bronchiectasis to the later stage when the bronchiectatic dilatations become infected and begin to secrete, as being the usual evolution of the disease in cases arising after pneumonia and such conditions. One of the Bezançon cases was watched from the dry to the moist stage, and doubtless now that the condition is recognized a follow-up of cases in the future will show this to be a common sequel.

The interval between the acute illness and the haemorrhage which brought the patient for medical advice is instructive, twenty, fourteen, eight, two (6 cases), and one year elapsing in some of our cases, in Reinberg's cases the longest period was twenty-eight years and the shortest five years. We feel confident that many practitioners will remember one or more cases which probably came in this category, and that the condition must be by no means uncommon.

Treatment.

In none of the cases reported in the literature, nor in our cases reported here, has any radical measure been undertaken to deal with the disease, because all the patients have been in good condition, and one has hesitated to suggest artificial pneumothorax, phrenic avulsion, or thoracoplasty, these methods being the only available ones for dealing with the disease.

One of us had a phrenic avulsion performed on a case (not in the series) in which an artificial pneumothorax could not be induced, on account of severe haemoptysis, with an apparently good result; if the haemoptysis threatens life (Devic and Berthier[5] reported four fatal cases) one of these measures would have to be undertaken. It is, however, a point for consideration whether one should conduct some treatment to avoid infection of the cavities; this question can only be solved by watching the course of the cases now that we have recognized the condition, since it is seen that many of them escape infection for years.

The *x*-ray appearances of all such cases are of interest; often the condition is not distinguishable at all without the use of lipiodol. Space prevents us giving more than nine examples.

Conclusion.

Cases presenting the symptom of haemoptysis, when the physical signs are inconclusive, and where skiagrams show no definite evidence of pulmonary tuberculosis, should be subjected to the investigation of a lipiodol injection of the bronchial tree, and subsequent radiology.

Our thanks are due to Dr. Sparks and Dr. Wylie for the radiograms reproduced.

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The cases that originally did badly show deplorable results later, whereas those in which there was an immediate response now give far superior results. The difference is so marked that it can be used for purposes of prognosis; it seems reasonable to infer that a patient who does badly during and immediately after antigen treatment has a bad prognosis, whereas those who improve after the treatment have a much better chance of ultimate survival.

The after-history of the groups testifies to the accuracy of the original clinical work, and it is only just to record my deep obligation to all the Salford practitioners who sent patients and reported upon them.

The accuracy with which the groups were originally formed lends increased value to the clinical opinions given on the same cases now, but it is recognized that there is no agreement among clinicians as regards data useful for prognosis; so the percentage of those now alive has, therefore, been given, for at least there can be no question as to the living and the dead. It will be seen that the proportion of survival after two to three years is three times as high in the group that responded immediately to treatment. It may be added that in the case of the 32 patients who remain improved the benefit is such that 19 are at work without ill effect; the majority of the remainder are women doing housework, which is difficult to assess. In any future series the obviously hopeless cases would be refused treatment, and the results no doubt would show a higher proportion of success.

Attention was concentrated upon pulmonary tuberculosis because it constitutes the largest section of the disease, and has a bad prognosis as it is usually treated. Other forms of tuberculosis have been investigated, and it has been found that the most spectacular results were obtained in young adults with tuberculous enteritis but with no clinical evidence of pulmonary involvement. In this class the antigen rapidly brought down the temperature, and the patients usually gained 30 or 40 pounds in weight during the treatment; all clinical signs cleared up, and the patients remain apparently cured. The utility of the antigen is necessarily limited by the comparative rarity of the condition.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TUBERCULOUS ADENITIS WITH DERMAL BULLAE.

THE following case appears to be worthy of record in view of the unusual occurrence of tubercle bacilli.

A plumber, aged 41, was admitted to the West Riding Sanatorium on October 1st, 1929; he had been healthy until four years previously, when the illness commenced. A brother had died of pulmonary tuberculosis.

On the right side of the neck above the clavicle was a diffuse, fairly tense, tender, and fluctuating swelling; in the posterior part of this could be felt deeply some harder masses of obviously enlarged and matted cervical glands. There was in this region the scar of an old gland operation. The skin over the swelling was quite healthy, but below the angle of the jaw on each side was an ulcerated area similar to the ones to be described. The swelling had commenced a month before admission, but the ulceration was of much longer duration.

The left forearm and hand were swollen; the skin was extensively and irregularly involved in a sloughy, ulcerative condition, particularly in the interdigital clefts and on the back of the hand. On the forearm about the elbow were three clear-cut shallow ulcers, one to two inches in diameter, with a low granulating surface. Purulent subcuticular bullae had formed over the rest of the forearm; some of these had ruptured, leaving a sloughy base, this being apparently the early stage of the more clearly marked ulcers previously mentioned. The appearance was that of a pyogenic infection of the skin with little inflammatory reaction. Fresh pustules appeared, containing greenish pus and having no inflammatory areola, and these also underwent a similar breaking down. The arm was not examined radiologically, but there did not seem to be any involvement of the bones. This condition had commenced about four years before.

A similar condition commencing at the same time on the left hip had cleared up; more recently, two small ulcers in the region of the great trochanter had again appeared, but presented no special features. There was no indication of pulmonary tuberculosis, and the sputum, when obtained, was found to be negative for the tubercle bacillus.

Three days after admission the cervical swelling was explored in its lower part, and 34 c.cm. of thick, greenish pus with a foul odour were aspirated. A smear of this pus stained by Ziehl-Neelsen's method showed enormous numbers of typical tubercle bacilli and polymorphonuclear leucocytes, many of which contained clumps of the bacilli. Rather less than three weeks later 52 c.cm. of pus were withdrawn, and 8 c.cm. of Calot's fluid were injected. Three days later still the abscess was found to be very tense; the pus had suddenly made its way to the skin at two points close together in the upper part of the swelling, the appearance being as if two large deep-seated pustules had formed. Despite the aspiration of another 65 c.cm. of purulent fluid the abscess burst. This pointing and bursting took place with an entire absence of inflammatory reaction, which otherwise might have suggested a secondary infection of the abscess. Smears of pus from an unruptured pustule on the forearm also contained the tubercle bacillus, although in much smaller number than in the case of the pus from the cervical abscess.

The patient's general condition was poor from the outset; his temperature was high and swinging (100°-103°), with a pulse persistently over 110 at night, and he showed evidence of grave toxaemia. He gradually sank and died on December 7th.

This case seems to be of interest in three particulars.

1. The presence of the tubercle bacillus in the pus from the cervical abscess in such enormous numbers is very unusual; the organism is rarely to be found at all in the pus from a tuberculous abscess.

2. The rapid manner in which the abscess filled up and finally burst, with no preliminary warning changes in the skin, was surprising.

3. The extensive and atypical lesions on the forearm simulated a low-grade pyogenic infection; they were, however, proved to be tuberculous by the finding of the organism in the pus from an unruptured bulla. No doubt the lesions were later contaminated by pyogenic organisms, but the initial lesion would appear to have been tuberculous.

I am indebted to the medical superintendent, Dr. Thompson Campbell, for permission to report on this case.

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CONGENITAL UMBILICAL HERNIA OF LIVER AND BOWEL.

THE rarity of the following condition entitles it, perhaps, to publication.

A baby, two weeks premature, was brought to the Bradford Children's Hospital thirteen hours after normal birth, the mother had had two other healthy children. It appeared healthy and well developed, except that the recti muscles were separated for one and three-quarter inches at the umbilicus, through which there was an expansion of the base of the umbilical cord, forming a thin transparent sac about the size of an orange. The sac was very tense and elastic, and it was obvious that the contents consisted of at least two different structures; the larger appeared dark red and opaque, the smaller part being translucent. The umbilical cord was continuous from the lower aspect of the expansion as a normal cord.

Under chloroform and ether anaesthesia an attempt was made to reduce the contents of the sac, but this was unsuccessful; the part of the cord forming the wall of the sac was then incised, and the sac was opened. Part of the contents was found to consist of a dark red, almost spherical, mass with paler areas; it resembled liver substance and was about the size of a small orange. The wall of the sac was adherent to the mass along its mid-line on the anterior surface, and had to be dissected off. There was also small bowel in the sac, which was returned to the abdomen; the red mass was traced upwards and appeared to be continuous with the liver. Since the child's condition was poor, it was not considered advisable to explore further. Owing to the smallness of the orifice, compared with the hernia, the mass was with difficulty returned to the abdominal cavity. The excess of the sac and the cord were excised, and the abdomen was closed. The child only survived three and a half hours after the operation.

The mass was found to consist of liver representing more than half of that organ; at its extremity was the ligamentum teres. The line along which it had been dissected from the sac was its anterior peritoneal reflexion. On its lower surface was the gall-bladder, practically concealed in liver substance, and three-quarters of the bile duct. No other developmental abnormalities were found.

I am indebted to Mr. Gordon D. Latimer, assistant surgeon to the hospital, for permission to record the case.

KATHLEEN A. ALLISON, M.B., Ch.B.
Bradford.

CLINICAL OBSTETRICS.

PROFESSOR PAUL T. HARPER'S *Clinical Obstetrics*[3] is a comprehensive and sound survey of the subject it approaches, but there are now so many such works that one looks in vain for fresh information in each new volume. Without depreciating the many excellent textbooks on midwifery which are the work of single authors, we cannot but feel that there is now likely to be more value in the work of several collaborators, where the experience is wider and merely personal dicta are less frequent. The value of the present work is somewhat lessened by the illustrations, which are often far from clear, and in our opinion are for the most part executed in a style hardly suitable for the purpose. The chapter on placenta praevia is excellent and full, though its arrangement might have been clearer; and it is surprising to find no reference to the use of Willett's forceps, which in this country have been proved to be of inestimable value in dealing with this condition. Professor Harper also recommends the injection subcutaneously of alpha lobelin in cases of serious asphyxia neonatorum; others have found its action to be quicker and more efficacious if injected into the umbilical vein. In the chapter on version we looked for an opinion on the methods of Potter, who performs version in all cases and always delivers by the breech. Professor Harper is only half-hearted in his disapproval of this practice. There can be no doubt that the technique of version and breech delivery has improved immensely during the last few years, but many obstetricians still believe that it is a method to be reserved for cases of emergency. It is usually the task of the surgeon to assist and not to reorganize the methods of nature.

RADIOGRAPHIC TECHNIQUE.

Roentgenographic Technique[4] is the title of an elaborate book by Dr. DARMON ARTELLE RHINEHART, restricted to this side of radiological practice. The author claims that all books on this subject already published are either out of date or else incomplete in some particular; and, to quote from the preface:

> "By introducing a series of experiments for determining the operating peculiarities of each Roentgen-ray machine, by providing a simple experimental method of measuring the Roentgen-ray output of each equipment, and by basing exposure on the thickness and roentgenographic density of parts of the body, a method of perfecting a roentgenographic technique has been devised that may be used in any Roentgen-ray laboratory, irrespective of the apparatus it may contain."

When we come to examine this book in detail we find that its twenty chapters run to some three hundred and seventy pages, together with a comprehensive index. There are also numerous illustrations, diagrams, and charts. Each chapter has a short bibliography attached bearing on its subject-matter, the articles referred to being almost entirely drawn from American journals. The opening chapters deal shortly with electricity and electric currents, *x*-ray machines, tubes, dangers, the nature of *x* rays, intensifying screens, the Potter-Bucky diaphragm, and the dark room and development of films. The author follows these with a description of some ten experiments, which might be said to be the subject-matter of his book. The first three of these include the directions for making a working calibration of any *x*-ray machine producing rectified current, irrespective of type. The following three experiments are included to illustrate and explain the laws which govern exposures. A basic roentgen technique is explained, and followed by descriptions of a few more points which bear on the subject. It is all very interesting, and it is obvious that the author has put in an enormous amount of time and work in elaborating his technique, but it is a fair criticism to say that it is by no means so simple as is suggested, and it appears to be very doubtful if it will come into general use either in hospital or in private *x*-ray clinics.

Further advanced experiments follow, the objects of which are to teach a method of photographically measuring the *x*-ray output of an *x*-ray machine, to make a determination of the relationship between thickness and voltage, and to prepare a thickness-voltage chart. The latter part of this book deals, in about two hundred pages, with a detailed description of the technique required for obtaining radiographs of the various regions of the human body. Each part of the anatomy is treated separately, and numerous photographs as well as radiographs illustrate the text. We have nothing but praise for this portion of the book; the illustrations are excellent, and are so arranged as to show quite clearly the exact position of the part under examination and its relationship to the *x*-ray tube and to the film, whilst alongside of this is a reproduction of the resulting radiograph. We are able to congratulate the author on a masterly production.

DIATHERMY IN OTO-LARYNGOLOGY.

THE latest addition to the Anglo-French Library of Medical and Biological Science, produced under the general editorship of Drs. Crookshank and Cruchet, is *Diathermy, Medical and Surgical, in Oto-Laryngology*,[5] by Dr. DAN MCKENZIE. This belongs to the more practical side of the collection, but it exhibits a happy choice wherein practice follows a strictly scientific application of the physical properties of electrical currents. The editors therefore merit a word of congratulation as well as the author.

The general principles and application of diathermy have become tolerably familiar during the last twenty years, as its use has become general. The field of medical diathermy is still extending in various directions, but surgical diathermy has proved particularly acceptable to laryngologists. Dr. Dan McKenzie shows, however, that medical diathermy also is a valuable agent in otology and laryngology. Patients with laryngitis, coryza, eczema, furunculosis, and tinnitus may derive benefit from this treatment, and the author sets out fully the indications and methods of application. The use of surgical diathermy falls into two main divisions—for non-malignant conditions and for cancer. It can be used for the gradual destruction of tonsils as an alternative to excision, for the removal of innocent tumours, and for the treatment of hyperplastic laryngitis and lupus. Its chief use, however, has always been for the treatment of cancer, and a complete account is given of what can be accomplished and how the best results are to be obtained. The pharynx and tongue are the principal sites, but its possibilities in other places are also explored. The relative merits of excision, radium, and diathermy are assessed briefly, and it is also shown how they can be combined with advantage. A sufficient description of the underlying principles is given, with an account of the different ways in which the electric current can act through the medium of the various instruments.

The book has been written from an extensive clinical experience, and is far more than a compilation. It collects, however, under one cover much information which otherwise could only be acquired from scattered sources, so that it has a double interest for the laryngologist, and provides him with many additional therapeutic resources.

INFANT NUTRITION.

DR. W. MCKIM MARRIOTT'S contributions to the study of paediatrics are so well known that the appearance of a textbook by him on *Infant Nutrition*[6] is most welcome. He has written a fine comprehensive volume which begins with chapters on metabolism, the nutritional requirements of infants, digestion in infancy, and so passes by logical steps to the actual feeding details. Dr. Marriott's interest in acid milks might well have resulted in a one-sided exposition of artificial feeding, but this is not so, and the case for lactic acid milk is presented so fairly and soberly

[3] *Clinical Obstetrics*. By Paul T. Harper, Ph.B., M.D., Sc.D., F.A.C.S. Philadelphia: F. A. Davis Company. 1930. (6 × 9½, pp. xix + 627; 81 plates. 6 dollars net.)

[4] *Roentgenographic Technique*. By Darmon Artelle Rhinehart, M.D. London: H. Kimpton. 1930. (6 × 9½, pp. x + 368; 159 figures. 28s. net.)

[5] *Diathermy, Medical and Surgical, in Oto-Laryngol*... McKenzie, M.D., F.R.C.S.Ed. The Anglo-French Libr... Biological Science. London: Kegan Paul, Trench ... 1930. (5½ × 8¼, pp. xiv + 134; 22 figures. 10...

[6] *Infant Nutrition*. By Williams McK... H. Kimpton. 1930. (Sup. roy. 8vo...

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AN OUTBREAK OF MINOR SMALL-POX IN LEICESTERSHIRE.

THE prevalence of minor small-pox in Leicestershire during the past twelve months has afforded an excellent opportunity of observing its clinical and epidemiological features. It is hoped that, in the absence of a comprehensive literature, the following remarks concerning the type of the disease will prove of some help to those who may, without previous experience, be confronted with a case, or perhaps with a group of cases. Our experience has been that cases occurring for the first time in any one locality usually pass unrecognized.

GENERAL CHARACTERISTICS OF THE EARLY STAGE.

Incubation.—The incubation period is exceedingly variable. From my records of cases the commonest incubation period is approximately fourteen days. Two cases have occurred, however, in which the incubation period was only ten days, while in another case its duration was twenty-one days.

Infectivity.—The infectivity of minor small-pox is exceedingly interesting when compared with that of true small-pox. The infective potency appears to be very low. In several instances single cases have been observed in large unvaccinated households, the remainder of the family, though freely exposed during the period of highest infectivity—that is, while the rash is coming out—having all escaped. The most, and possibly the only, infectious period of minor small-pox is while the rash is developing; from our experience minor small-pox does not appear to be infectious during the prodromal stage, or after the rash has ceased to erupt.

Extension of the Infection.—The commonest line of spread appears to be among persons sharing the same bedroom, although one unvaccinated girl escaped infection in these circumstances. Another common mode of extension is courting by young couples; infection regularly spreads among these people if vaccination is refused, and is frequently responsible for a fresh outbreak in a new neighbourhood. A definite case of propagation by fomites has not come under our observation, though cases have been reported by some authorities.

Prodromal Stage.—This is usually the only period of the disease in which the patient complains. The sudden onset, great prostration, and rapid recovery before the appearance of the rash are the most significant features of this stage. About 90 per cent. of the patients suffer for a few days before the development of the rash; the remaining 10 per cent. may present no prodromal symptoms whatsoever, or on close interrogation give a history of malaise and headache, lasting several hours, about four days before the appearance of the eruption. The prodromal stage usually continues for forty-eight hours up to five days, the average being four days. The symptoms in order of frequency are frontal headache, lethargy and malaise, backache, feverishness with perspiration, vague pains in the legs, nausea with occasional vomiting (the latter being invariably present in children), and hoarseness. The common clinical history is as follows. A man ceases work at midday with frontal headache and malaise. The next day is spent in bed, with headache, fever, giddiness, and generalized pains—a typical clinical picture of influenza. On the following day he feels better, gets up, and returns to work on the fourth or fifth day, the rash appearing on one of the two days. On no occasion has a prodromal rash been seen, although an erythema sometimes occurs on the flanks of fair people during the prodromal stage.

THE RASH.

The rash begins as small macules, which rapidly become papules within twenty-four hours. The papules are circular, and turn into turbid vesicles on the second or third day of the eruption. These vesicles, which are again invariably circular (the most important point in diagnosis), enlarge on the fourth or fifth day and become typically pustular. Throughout the whole evolution of the rash the eruption is always circular. The lesions are deeply situated, and may give a shotty feel; umbilication occurs only in the bigger pustules. The size of the lesions is variable; as a whole, they are considerably smaller than those presented in true small pox, measuring from one-tenth to two fifths of an inch in diameter. In minor small-pox the eruption frequently occurs in crops, and so closely resembles chicken-pox; the crops may appear any time during the first week.

The distribution of the rash is of extreme importance. The eruption usually begins round the lower edges of the cartilages of the nose, along the supraorbital ridges, and over the malar prominences. The concentration of the rash on the face is variable, and only three or four lesions may occur; sometimes several hundred are present, but most commonly the papules number from ten to thirty. The rash next develops on the shoulders and back, a common site being along the vertebral border of the scapulae. It is most important to note the presence of the eruption on the forearms. Though the papules appear more densely on the extensor surface, they are usually found over the flexor muscles and over the brachioradialis. An invaluable aid in diagnosis is to find papules on the wrist and hand. In this situation the lesions are commonly seen in the palm and on the dorsum of the fingers and hand; other favourite sites are the thenar eminence, around callosities, and over sites of irritation. The upper arm is less densely infected than the forearm.

The appearance of the rash on the lower extremities somewhat resembles that on the upper extremities. Papules are usually found on the buttocks. The lateral aspects of the knees are sites of relative density. The soles and malleoli are also sites which are frequently affected.

The occurrence of a palate rash is sometimes observed and papules may be occasionally seen at the junction of the hard and soft palates at the very onset of the eruption; this is of great assistance in diagnosis. On one occasion a contact whose symptoms had been similar to those of the prodromal stage of small pox was immediately isolated as suffering from small pox on the development of a papule on the palate and a macule on the face.

As in true small pox, the occurrence of the eruption on the abdomen, in the axillae, and in the folds of the groin is very rarely seen. The reason for this is that these situations are less exposed to irritation than are such places as the extensor surface of the forearms and the lateral aspects of the knees; in these areas the rash is usually concentrated. On two occasions, however, in children under the age of 12 months, we have seen profuse eruptions of small-pox papules in the groins, on the perineum, and over the lower abdomen. The natural explanation is that these situations are exposed to considerable irritation in infants.

A noteworthy point has been the sudden way in which the incidence of small pox decreased during the month of June. There has also been a definite modification in the eruption, which on three occasions aborted in the papular stage; to use a colleague's definition, "it almost appears to have reached vanishing point."

Several cases of small-pox *sine eruptione* occurred. One unvaccinated male adult presented a typical syndrome of prodromal symptoms fifteen days after his sister had been removed to hospital suffering from small pox. This patient complained of lethargy, frontal headaches, severe perspiration, and pains in the back. A close watch was maintained but no eruption occurred.

DIFFERENTIAL DIAGNOSIS.

Apart from an epidemic, or at least some preceding cases, the prodromal stage of small pox is hardly ever recognized. In an epidemic it is frequently confused with influenza, lumbago, mild gastro-intestinal disturbances associated with slight fever, and toxaemia. Recognition of the prodromal stage is a signal for the prompt vaccination of contacts where possible, and for the removal of the patient to hospital when the rash appears.

The small pox rash is most frequently confused with acne, chicken pox, and Bockhart's impetigo. Apart from a chicken-pox epidemic occurring simultaneously, the most common and difficult point arising in diagnosis is the differentiation of minor small-pox from acne in the pustular stage. In such a case the eruption is discrete and circular, often on the face and back, and so resembles minor small-pox in the early pustular stage; on further investigation of the distribution, however, no pustules are found on the extremities, there is no history of prodromal symptoms, excessive scarring of old acne is present, and there is often the history of similar pustules for some weeks.

Difficulty is presented in distinguishing severe chicken pox from minor small-pox in young adults. This primarily arises before the appearance of the eruption, severe chicken pox being frequently preceded by symptoms resembling those of the prodromal stage of minor small pox, and lasting up to forty-eight hours. A woman, aged 28, who had had prodromal symptoms, was covered with pocks over the face, back, and arms—a similar distribution to that of small pox. On close examination with a lens, however, every pustule was seen to be slightly irregular in outline, not one in many hundreds being found uniformly circular, as is the almost invariable rule in minor small pox. The lesions presented a knotty feel on the forearms, a characteristic often seen in chicken pox as well as in small pox. Another case of chicken pox recently observed presented no less than six lesions on the plantar surface of the right foot and eight on the dorsum. These pustules occurred in an otherwise typical but fairly severe case of chicken-pox, diagnosed by the polymorphic appearance of the eruption and its distribution.

VACCINATION.

In a total of 625 patients suffering from small-pox there has not been a single one who has been vaccinated within thirty-seven years (except contacts vaccinated late after exposure to the disease). This is a most instructive and interesting observation. In order to discount its value it has been suggested that in Leicestershire, being the county with the lowest percentage of

British Medical Journal.

SATURDAY, AUGUST 30TH, 1930.

THE PRESIDENTIAL ADDRESS.

THE welcome which the British Medical Association is now receiving in Canada, and especially in Winnipeg, is fully expressed in the presidential address by Professor Harvey Smith, which we have the pleasure of printing this week. The keynote of that address is the "earnest hope that this meeting in Canada will serve to strengthen between the Dominion, the Mother Country, and the various other units of the Empire the ties of scientific fellowship, fraternal good will, and patriotic unity," together with an acknowledgement of the "mutual understanding and cordiality" existing between those units and the United States of America. The President declares that "the bonds of Empire are growing stronger, and there is increasing evidence that Canada shares with the Mother Country a common outlook and a common destiny," and that, moreover, "Canada, in growing strong and prosperous and confident, has become increasingly capable of fulfilling the great duty of interpreting the British Empire to the United States."

A gathering which can in some degree help to forward these wide purposes, and is designed to advance them greatly in the sphere of medicine, is indeed a memorable one. The previous meetings of the British Medical Association in Canada—that in Montreal in 1897 and that in Toronto in 1906—were remarkable, but the present meeting is even more so. As the President tells us, "a prophecy made in the 1860's, before the Red became a Canadian river, and when Western Canada was a wilderness, that such a gathering as the present would be possible on the banks of the Red in 1930," would have been regarded as quite visionary. Yet so rapid has been the development that "we have still with us in Winnipeg several residents who are survivors from the era before Manitoba entered the Confederation as the fifth of the nine provinces of to-day. They remember when there was still to be seen crossing the area now within the city an old trail along which the buffalo used to travel to a drinking-place on the bank of the Red River. They remember the festival known as the White Dog Feast, for which the Indians used to assemble every summer. That festival was held for the last time on Point Douglas, which is within the city of Winnipeg, in June, 1873. In performing the elaborate ceremonial at that festival the medicine men officiated, but more as priests than as physicians." There is thus a reminder of the progress of medicine as well as of the development of Canada. Professor Harvey Smith recalls that the first hospital in Canada was the Hôtel-Dieu in Quebec, founded in 1639.

It is natural to think first of the advance of medicine as a science and as an art or craft, and of the education by means of which this science and art has been extended and made known. In these respects the President tells us that "Canada regards Great Britain as its fountain head." It has to be confessed that, if not in the material and in the excellence, yet in the organization of its post-graduate teaching, this country has compared unfavourably with certain centres on the continent of Europe and in the United States, and that the President's reproach in this regard is justified. There has been much, perhaps unavoidable, delay in making good these deficiencies of organization; but it may now be confidently expected that in the early future there will be in London, by the co-operation of the Government, the London County Council, the University of London, and the clinical and teaching staffs of the schools of medicine, well-organized post-graduate facilities second to none elsewhere. Practitioners from Canada, as well as those from the other oversea Dominions and elsewhere, may rest assured that every endeavour will be made to meet their needs and their conveniences, and to make them welcome.

Professor Harvey Smith has some wise words to say on medicine in its more social aspects. He tells us that "the economic organization of medicine has not kept pace with its scientific progress," and says: "Conditions of practice have been changed vitally, in method and in outlook, by the prodigious growth in medical knowledge, and the keener appreciation, both of the public and of our profession, of the right of citizens to good health and skilled medical care. . . . A prolific source of criticism and of dissatisfaction arises from the failure of our profession to provide competent service to the various sections of the community under a financial plan that will meet the needs of every class of citizen." He points out that if the medical profession does not itself make this provision the State will be driven to do so, and may do it on lines which the profession would not fully approve. He draws attention to certain movements in this direction in British Columbia, in Alberta, in Saskatchewan, and in other parts of the Dominion, and to the fact that "both the Canadian Medical Association and the Department of Pensions and National Health at Ottawa are making a study of medical care and its cost, with a view to submitting constructive recommendations at a later date." In his judgement there is only one possible solution—"voluntary health insurance, instituted, organized, and controlled by the medical profession, and widely applied," and he lays down the principle that "the field of public health must and should be the interest of Government, but private practice must remain in the hands of the individual physician if the public is to receive the highest and best type of medical care." He refers in this connexion both to the National Health Insurance Acts of this country and to the proposals for a general medical service for the nation recently adopted by the British Medical Association.

It is clear that the problems to which these observations refer, and which these Acts and proposals are intended to meet, though fundamentally similar, are not identical in the two countries. Nevertheless, experience in the one should not be without its lessons for the other. The differences are evident in that section of the address in which the President touches on the question of specialism in medicine and the desirability of its statutory definition and regulation. The need for such regulation is not felt in this country to the same extent or in the same way as in Canada; nor would the profession here, in present conditions, view with approval such legislation with regard thereto as has recently been enacted in the Province of Alberta, and which the President himself regards, from his point of view and in the circumstances of Western Canada, as an "excellent lead." But "the science and the art of medicine are not circumscribed by any geographical boundaries. They belong to humanity." There is no doubt that the Annual Meeting of the British Medical Association in Winnipeg

attention during this meeting of the British Association are: some effects of low-frequency vibration on body and mind; outstanding features of the "circular type" of character; the relation between thought and fantasy in young children; the mental processes involved in learning a foreign language; the place of industrial psychology in a university city; psychological factors in peripheral vision; the psycho-physics of desire, perseveration and the introvert; the interest to the psychologist of conditioned reflexes; and psychological analogues of the conditioned reflex. In the Chemical Section the presidential address will be delivered by Professor G. T. Morgan on "A State experiment in chemical research." A paper will be read by Sir William Pope, who will also take part in a discussion on the present position of the British dyestuff industry. A comprehensive discussion on chemotherapy will include the application of arsenicals to tropical medicine and the mechanism of their action. In the Zoological Section the presidential address will be delivered by Dr. W. T. Calman, who will consider the taxonomic outlook in zoology, and Professor F. A. E. Crew will read a paper on the effects of density on a mouse population. Other subjects to be dealt with in this Section include the phylogeny of the placenta, evolution of the primates; and the musculature for opening and closing the mouth in vertebrates. A wide choice of excursions has been arranged for delegates.

TREATMENT OF PNEUMONIA WITH VITAMIN A.

THE investigations of Mellanby and Green of the value of vitamin A as an anti-infective factor—above all, their application of the results obtained in the course of animal experiment to the treatment of a series of cases of puerperal sepsis—have naturally directed the attention of a number of observers to the possibility of treating other infections by the same agent. It may be recalled that in a paper published in the *British Medical Journal* of October 20th, 1928 (p. 691), Mellanby and Green recorded experiments by which they had shown that whereas animals fed on a vitamin A-free but otherwise adequate diet died from infective and pyogenic conditions, control animals receiving this accessory food factor remained in good health; animals which had developed infective lesions often recovered completely if they were given vitamin A abundantly and in good time. Applying these findings to human infections (*Journal*, June 1st, 1929, p. 984), they treated five cases of puerperal septicaemia due to *Streptococcus haemolyticus* (the organism in each case being isolated from the blood), and the result—namely, recovery in every case—was in such marked contrast to those previously obtained at the same hospital in the treatment of cases of puerperal septicaemia that there seemed good reason for believing that the recovery could be attributed to the treatment they had administered. An attempt to apply similar treatment to a series of cases of pneumonia in native mine labourers is recorded by Drs. S. Donaldson and J. Tasker in the *Proceedings of the Transvaal Mine Medical Officers' Association* for February and March, 1930. During the period August, 1929, to February, 1930, inclusive they treated 299 cases of uncomplicated lobar and bronchial pneumonia, adopting ordinary routine methods in 100 cases, treatment by means of ox liver in 99 cases, and treatment by means of concentrated vitamin A preparations in 100 cases. Patients were placed in one or other of these three groups strictly in rotation, and no attempt was made to select cases for treatment by any of the methods adopted. The administration of massive doses of vitamin A was maintained in each case for two days following the fall of temperature to normal, and in this series the case mortality was 8 per cent.; in the control cases treated by ordinary routine methods the mortality was 13 per cent.; and in the cases treated by ox liver it was 9.09 per cent. Very slight differences between the three groups were found in the average duration of supernormal temperature per case and in the average duration of persistence of physical signs, but there was a striking contrast between the incidence of cases showing delayed resolution in each group, the number in the control group being 17, in the liver group 7, and in the vitamin A preparations group 12. The authors of the paper admit freely that pneumonia is so varying in its clinical aspects and mortality that they would not be justified in drawing any far-reaching conclusions from their comparatively small series. They throw out, however, the interesting suggestion that if, as is probably the case with vitamin C, a depleted reserve in the body must be re-established before the massive doses of vitamin A can exercise a beneficial effect, it is possible that in a disease like pneumonia, rapid in onset and course, time is too limited for the necessary reserve to be built up, and very good results may therefore not be hoped for.

THE TRAFFIC IN DANGEROUS DRUGS.

THE Permanent Central Opium Board has been in session for the sixth time in pursuance of its duty to watch continously the course of international trade in dangerous drugs, and to ascertain whether excessive stocks have accumulated in any country in such a way as to suggest the possibility of illicit traffic. The recent arrival and disposal of 250,000 lb. of opium in China will doubtless engage the attention of the Board, the chairman of which declared "there is only one way to stop the illicit traffic, and that is to stop the surplus of drugs that is being produced throughout the world", a steamer shipped this contraband cargo at Bushire. By the provisions of The Hague International Opium Convention of 1912 statistical information as regards the trade in raw opium, prepared opium, morphine, cocaine, and their preparations was to be furnished in detail, as expeditiously as possible, by the contracting Powers. The Geneva Convention of 1925 which in the opinion of some strengthened and in the opinion of others in some respects weakened The Hague Convention, similarly required such information to be furnished to the Central Board and to the contracting Powers. Thirty-four Powers have now thus bound themselves to supply the statistical information required, under one or other of the foregoing conventions. Turkey and Persia, both large producing countries, have not hitherto deposited their ratifications, while China and the United States, it will be remembered, withdrew from the Geneva conferences which led up to the Convention of 1925. China, after ridding herself of opium before the civil war, has again become a large producing country; the efforts of the Nanking Government and the Young China Party are unable to overcome the action of the military provincial governors in fostering this profitable industry. The United States, which initiated the Shanghai Opium Commission of 1909 and the three Hague conferences of 1911-12, 1913, and 1914, and remains bound by the conventions drafted by those conferences, is no party to the Geneva Convention of 1925. The reason of that abstention was that by this latter treaty "the American principle for a limitation of production to medical and scientific purposes has not been included as a contractual obligation," as the chairman of the conference frankly admitted. It is nevertheless interesting to note, as pointed out by Mr. Alec Wilson in his *World Peace and American Policy*, that it was the deep interest which the United States took in the drug traffic that first led to direct contact between Washington and Geneva after America's refusal to join the League of Nations, a contact which has become closer year by year. The comparative non-success of the League in grappling with the enormous illicit traffic

in dangerous drugs serves to emphasize the necessity for a policy of limitation of production to medical and legitimate purposes, as advocated in these columns for many years, and approved by the Assembly of the League of Nations at its last meeting. How such limitation is to be secured by international co-operation, whether by a method of "rationing," or a "scheme of stipulated supplies" as approved by some Governments but not favoured by the Advisory Committee at Geneva, or on some other principle, will doubtless engage the consideration of the Permanent Central Control Board.

INTERNATIONAL CAMPAIGN AGAINST TRACHOMA.

AT the thirteenth International Congress of Ophthalmology, held at Amsterdam last year, it was resolved to found an International Anti-Trachoma Organization. This body has now been formed at Geneva, where the preliminary arrangements were recently concluded. The sessions, which took place in the Palace of the League of Nations, were attended by forty delegates representing twenty-one States. Professor Emil de Grósz, who presided, was elected president of the organization for five years, and Mr. A. F. MacCallan, C.B.E., F.R.C.S., of London was elected a vice-president. The secretary-general is Dr. Wibaut of Amsterdam. Other members will include representatives of the Hygiene Committee of the League of Nations, the Association Internationale contre la Cécité, and of the International Ophthalmological Council. Among the aims of the organization are: (1) to further co-operation for the prevention of trachoma, both nationally and internationally; (2) to support and propagate all measures directed against the disease; (3) to organize conferences with the object of elucidating the problems of its etiology, diagnosis, treatment, extension, and prevention, of discussing associated scientific and social questions, and of preparing necessary legislation. Reference was made to a special law that had been passed in Hungary as early as 1886 initiating a campaign against trachoma, and the opinion was expressed that such precautionary measures should be advocated in all countries exposed to risk. Japan was reported to have established a thousand centres for the treatment of half a million patients suffering from the disease. About a thousand specially trained doctors were stated to be engaged in this service, which had been estimated to cost the country half a million yen every year. At one of the sittings an address was delivered by Dr. Olitsky of New York on the significance of the bacillus discovered by Noguchi, and a demonstration was given by Mr. M. S. Mayou, F.R.C.S., of London. The League of Nations has issued a circular letter requesting its members to support the work of the organization. Professor Gourfein entertained the delegates to a luncheon at his Geneva clinic, and a dinner was arranged by M. André Patry, a Geneva oculist.

FOETAL GROWTH.

THE growth of the foetus, which forms the subject of an elaborate treatise recently published by Professors Scammon and Calkins,[1] may for merely descriptive purposes be studied by qualitative methods, the varying proportions exhibited by the component parts of the body during foetal development being ascertained by simple inspection. The obstetrician, however, requires a more accurate method, at least in connexion with the foetal head, and is forced to employ quantitative methods and exact measurements. The development of the body *in utero* also forms an important chapter in the biology of growth at a period when body changes are at their maximum; and, if the theory still holds that racial development is to some extent a reflex of embryonic development on a larger scale, the subject must be one of importance to the anthropologist. In this connexion a recent observation by Sir Arthur Keith, in reference to the relatively large cranial capacity of certain of the earliest prehistoric races and its reduction in later periods, is of interest. The opinion, he states, is gaining ground that the retention of infantile characters plays a part in the evolution of new human races. Scammon and Calkins's work deals with foetal growth from the third month, when all the organs have been laid down, onwards to the full term. It is based on thirty-five thousand determinations of seventy-one external dimensions of the body, the measurements being made on upwards of four hundred selected human foetuses. The analysis of the data collected is expressed in both graphical and numerical forms, and those who have unwisely neglected to familiarize themselves with mathematical reasoning may possibly not feel altogether at ease among the mathematical formulae. The conclusions of the research are, however, quite clear and comprehensible. The most important result of the work is the establishment of a new principle, that in general the linear growth of each individual part of the body takes place in uniform ratio during the foetal period, or, graphically expressed, that it is represented by a straight line. Presumably, each part has its particular and uniform rate of growth, so that the proportions of the various regions change during the foetal period, the lower limbs becoming relatively larger and the head relatively smaller. This newly recognized law is in complete harmony with the previously known "law of developmental direction" or "law of cephalocaudal development," defined by Jackson and Scammon as the tendency of development (including growth and differentiation) to start in the head region and progress towards the caudal region; and similarly, in the transverse plane, to progress latero-ventrally in the trunk and proximo-distally in the limbs. It is interesting to note that the general features of this law were adumbrated in Aristotle's *De Animalia*. Scammon and Calkins have included a complete tabulation of the extensive data collected by them, together with the determination of exact formulae for the foetal body length according to age, and for the different external dimensions in relation to body length.

[1] *The Development and Growth of the External Dimensions of the Human Body in the Fetal Period.* By Richard E. Scammon and Leroy A. Calkins. Minneapolis: The University of Minnesota Press.

MOSQUITOS IN BRITAIN.

IT is well known that the presence of mosquitos is not a serious menace to human health in these islands. We have, it is true, no fewer than three species of anopheles, none of them very rare, and each one known to be a carrier of malaria in other countries; but, owing probably to conditions of temperature, locally acquired infection is a rarity. Occasional deaths occur from septicaemia consequent on the bites of mosquitos, but these events also are exceedingly unusual. We may say, then, that the British mosquitos should be considered as a nuisance rather than as a menace to health, and this is fortunate, for we have some twenty-six species indigenous to our country. Some of those which breed in ponds cause inconvenience, as anyone may experience who visits the public woodlands round London at this time of the year; but by far the greatest nuisance is occasioned by two species which breed only in salt marshes round our coast. The same varieties of mosquito, or their near relatives, have attracted a great deal of attention in parts of Canada, New England, and elsewhere, and it may be stated generally that the salt marsh mosquitos are distinguished by inflicting an unusually painful bite, by their diurnal activity, and by their very great range of flight. They travel in from the Essex marshes and bite people in the London docks, so that it is

not surprising that in America, that continent of wide spaces and great distances, they are reputed to travel as much as forty miles. So far as Great Britain is concerned, the control of the mosquito which breeds in salt marshes has been worked out and applied by Mr J. F. Marshall of the British Mosquito Control Institute at Hayling Island. We understand that his home is on the island. But a few years ago it was customary for the residents to vacate their homes in July and August, and leave the island as far as possible to the mosquitos. Times have changed, the mosquitos have vanished, and the island is now populated at that season by holiday makers. In a pamphlet before us[1] Mr. Marshall discusses the organization of control. He shows that nothing effective can be done unless the particular species is identified; this is because different sorts of mosquito breed in different places, and it is idle to blame the domestic water butt if the insects are coming from a pond in a neighbouring wood. When the insect has been identified, its breeding-place may be located and abolished without great difficulty, for example, in the case of the salt marsh mosquito which breeds in brackish water that is not used by cattle, the mosquito larvae may be controlled by oiling the water or poisoning it with an appropriate dose of creosol. We commend the work of the British Mosquito Control Institute to medical officers of health, and others who are often asked for information which they are not always able to give. We can testify to the value of the advice which may be obtained there.

SUGAR DETERMINATION IN CONDENSED MILK.

A REPORT[2] by Dr. Monier-Williams, issued by the Ministry of Health, and entitled "The determination of sucrose, lactose, and invert sugar in sweetened condensed milk," will be of great interest to analysts, and to those concerned with questions of the standards of purity of manufactured foods. The booklet deals, primarily, with chemical methods. The problem of separating and estimating a mixture of carbohydrates is a difficult one: the measures taken by the author to surmount the difficulties are ingenious, and should prove helpful to other workers. Apart from purely technical matters, an interesting point which emerges is the significance of the presence of an appreciable amount of invert sugar in the milk. This, it appears, can be taken as an indication of dirty or inefficient conditions of manufacture, or of insanitary conditions at the source of milk supply. This fact should prove of the utmost value to those whose duty it is to see that proper precautions are observed alike by producers and manufacturers.

ROYAL MEDICAL BENEVOLENT FUND.

THE proceedings at the ninety-fourth annual meeting of the Royal Medical Benevolent Fund were reported in our issue of March 22nd (p. 561), and now the full record of the work done in 1929 has been issued to subscribers. Once again an earnest appeal is made to all members of the profession to support the Fund as generously as their means permit. Since 1835 nearly £300,000 has been expended by way of grants and annuities to medical practitioners or their families in distress. Grants are made only after careful inquiry, the amount depending on the needs of each case and on the total sum available at the moment. The income at the committee's disposal for the award of grants is derived wholly from subscriptions and donations, while annuities are paid out of the income from invested capital. More subscriptions mean more help to urgent cases of the kind with which our readers must be familiar from the pathetic notes supplied by the committee and published at intervals in these pages. Annuitants (numbering 119 last year) are chosen by the committee from the most necessitous of the grantees who have reached the age of 60: to extend this good work legacies are needed. The Guild, or Women's Branch, was formed twenty-one years ago to aid the Fund by obtaining further subscriptions and making the work better known, and by helping those beneficiaries of the Fund who are referred to it by the Case Committee. This help is given by means of grants for relief, maintenance, and education, gifts of clothing, home visits, and personal service. The education of children and their subsequent training to earn a livelihood are the Guild's special care. The address of the Fund is 11, Chandos Street, Cavendish Square, W.1, and of the Guild, Tavistock House North, Tavistock Square, W.C.1.

[1] Marshall, J. F.: *The Organization of Mosquito Control Work*. British Mosquito Control Institute, Hayling Island, Hants. 9d.

[2] Ministry of Health. Reports on Public Health and Medical Subjects No. 57. London: H.M. Stationery Office. 1930. 6d. net.

THE EDUCATIONAL NUMBER, 1930.

OUR next issue, dated September 6th, will be the annual Educational Number of the *British Medical Journal*. Its contents, as in previous years, will include a full account of the requirements of the General Medical Council and of the universities and other licensing bodies in Great Britain and Ireland, as well as information about the opportunities offered by the various medical schools and other teaching institutions, and the fees charged by each. The details given have been revised and brought up to date by the authorities concerned. These sections, the object of which is to furnish a handy guide to intending students of medicine, are supplemented by articles intended for newly qualified practitioners on such matters as post-graduation study in Great Britain, the public health services, tropical medicine, psychological medicine, and the various special diplomas. In the sections dealing with the public services will be found a concise account of the *present terms and conditions of service in the R.N.M.S.*, the R.A.M.C., the I.M.S., and the R.A.F.M.S., which the Representative Body of the British Medical Association has decided are satisfactory and such as can be commended to the notice of the younger members of our profession. The opening article for this year's Educational Number, entitled "A Review of the Medical Curriculum," has been written by Dr. H. R. Dean, professor of pathology in the University of Cambridge.

We learn that the reception room in the Winnipeg Winter Club, where members registered on arrival, has been a busy centre from Monday morning onwards. Early on Tuesday the President-Elect opened the scientific and commercial exhibitions, both of which are housed there. Next came the Adjourned Annual General Meeting of the British Medical Association, preliminary business having been disposed of in London on July 22nd. After the ceremonial induction of Professor Harvey Smith as President for 1930-31 at the hands of Professor Arthur Burgess, the Premier and the Mayor made speeches of welcome, and delegates from this country and elsewhere were formally introduced to the President. Professor Harvey Smith then delivered his Presidential Address, of which the text appears in the opening pages of our special *Canadian Supplement*. At 3 o'clock the members assembled again and walked in procession to the Cenotaph, after which a religious service was held in the grounds of the Parliament Buildings. Tea in the Winter Club, a lacrosse match, and private dinner parties were followed by the President's reception, and dancing and music, in the Parliament Buildings. The opening meetings of the Scientific Sections on Wednesday, August 27th, were well attended, and much interest was shown in the discussions arranged. Up to Tuesday night the number of registrations was 2,900.

MEDICAL CONDITION OF THE CASUAL POOR.

Report of the Departmental Committee.

In September, 1929, the Minister of Health appointed a departmental committee to consider the problems concerned in the relief of the casual poor, under the chairmanship of the Rev. L. R. Phelps, and this committee has now issued its report. Its terms of reference were "to inquire into the administration of the laws relating to the relief of the casual poor, and to make recommendations with special regard to the assistance of persons seeking work, and to persons suffering from physical or mental disability." Of the hundred pages of the publication fifty-one are devoted to the report and the recommendations, the remainder being utilized for appendices, the first fifteen pages of which are occupied by the reprinted history of vagrancy, contained in the report of the Committee on Vagrancy of 1904-6. Nearly thirty pages, however, are filled with the report of a special investigation made for the departmental committee by Dr. E. O. Lewis, inspector of the Board of Control.

It should be noted that the publication under review is limited to the consideration of the "casual poor" only, a casual poor person being defined by the Poor Law Act of 1930 as any destitute wayfarer or wanderer applying for or receiving (poor) relief. It does not include, consequently, the homeless poor who do not apply for relief. Of these "casuals" there have scarcely ever been less than nine thousand accommodated nightly during the past three years, and the average number may be put at twelve thousand. Dr. Lewis made a careful, though necessarily not an exhaustive examination, of a 5 per cent. sample of this population, the actual numbers being 542 men and 50 women, drawn from about an equal number of casual wards in industrial centres and in agricultural areas. The primary object of the inquiry was the investigation of abnormal mental conditions among those examined, though a considerable amount of information was gathered in regard to the physical and social conditions of those coming under observation.

Mental Deficiency.

Of the 592 casuals examined 93 were mental defectives (about 15.7 per cent.); if this percentage is applied to the total casual population of 12,000, it is estimated that there are nightly about 1,800 mental defectives in casual wards in England and Wales. These persons were all feeble-minded (none of them imbeciles or idiots), with an average mental age of 8 or 9. They were for the most part sub-normal in physique and poorly clad as compared with the ordinary casual, their clothing being torn and dirty, and their feet frequently showing sores from the lack of necessary attention. Taking those of higher mental grade than these defectives, the majority were still found to belong to the dull section of the community, although there were several of normal intelligence, and some even above the average, but these formed a small minority.

Of the whole group examined 32, or 5.4 per cent., were insane; of these 20 were suffering from senile dementia, 2 from dementia praecox, 4 were manic-depressives, 3 had a toxic psychosis, and 3 were paranoiacs. In addition to the mentally deficient and the psychotic, there were 34 (5.7 per cent. of the whole) who were psychoneurotic. The anxiety neurosis was the commonest form, but there were several cases of the psychasthenic type, and a few (for the most part women) hysteric, though the coincidence of chronic alcoholism in practically every one of these made it difficult to say whether the hysteria was dependent on an original mental instability or was mainly alcoholic. A diagnosis of chronic alcoholism was made in 75 cases altogether, including those just mentioned.

Other Morbid Conditions.

Affections of the circulatory system were found in 43 cases. Comparatively few respiratory and digestive diseases were detected, bronchitis being the most common, but 5 persons had symptoms of gastric or duodenal ulcer. Defects of vision were not uncommon, and the disability was, as a rule, imperfectly corrected by the glasses worn or possessed. There were 17 cases of hernia, 6 of hydrocele, and 2 of varicocele, the last two conditions being for the most part extensive owing to neglect of operations which had been proffered. The small number of cases of osteo-arthritis and of skin conditions was surprising.

Medical Recommendations.

The chief practical conclusion arrived at by Dr. Lewis, especially on a review of the mental conditions found, is that there is need for the periodical medical examination of all casuals. He emphasizes the point that medical practitioners who undertake these examinations should have a special knowledge of psychiatry and kindred studies, and be keenly interested in this branch of medicine. It is stated that the Mental Deficiency Committee estimates the incidence of mental defect in England and Wales to be about 8 per thousand of the population, whereas similar tests indicate about 15 per cent. in this group of casuals.

Dr. Lewis adds that in his experience the casuals he examined compared favourably with those men and women found frequently in the common lodging-houses of some provincial towns where there is lax supervision; he pleads for closer co-operation in the administration of casual wards and common lodging-houses.

Summary of General Recommendations.

In its general recommendations the committee envisages the continuing of the casual ward system for some years, though it looks forward to the time when the stopping of vagrancy at its sources may render them unnecessary. It recognizes that the taking over of the functions of the guardians by the county and county borough councils will make the task of dealing with the casual easier, but recommends that a further process of co-operation of authorities should be encouraged by the splitting up of the country into some dozen areas, under *ad hoc* vagrancy committees, with a special visitation officer in each area, a hostel and training centre for the reception of casuals desiring to come off the road, a medical staff, and an advisory committee linking up the various voluntary agencies with the local representatives of the Ministries of Health and Labour, the watch committee or standing joint committee, and the public assistance authorities.

Casual wards should be distributed along the main lines of vagrant traffic at intervals of about fifteen miles, and be separate from any other institution. They should be staffed with trained officers whose whole time would be devoted to the relief of casuals; in certain cases they might be assisted by part-time officers. Detention should continue for two nights, except in the case of those who carry "vacant tickets" and are being passed on quickly by employment exchanges in search of work. Every effort should be made to keep off the roads men who are fit and ready for work; their care should be the concern of the Ministry of Labour, and not of the vagrancy committees. Proper arrangements should be made for bathing, sleeping, cleansing, feeding, and work, along the lines already laid down by order, and maintained by the better authorities. It is reported, however, that "in a certain number of casual wards the conditions now existing are infamous and intolerable."

The committee adds: "With certain safeguards against the admission to casual wards of persons who could if they liked provide for themselves, a general raising of the standard of accommodation and treatment would not tend to attract men to a life of vagrancy, but would have the result of improving the self-respect of the casual population and making it easier for them to regain their proper places in the life and work of the community." Detention colonies should not be looked upon as the special province of vagrancy committees, but they should provide for the whole of the class which "needs something by way of compulsion to rehabilitate it."

Provision should be made for more systematic medical inspection; and while parliamentary powers would be required for the introduction of any complete system of registration of casuals, some steps might be taken to prepare a central register of those who frequent casual wards, with reference to their age (under 5, 14, and 25), to their degree of physical or mental fitness, and to the amount of assistance previously received from training courses.

Women casuals should be relieved in the main part of the Poor Law institution, and not in the casual ward; the work of women inspectors should be extended. A tribute is paid to the good work of the Salvation Army, the Church Army, the *Morning Post* Embankment Home, and similar agencies; it is suggested that their methods should be studied, and the best features be adapted to public institutions. The comment is made: "We should welcome the provision of similar homes in other parts of the country."

Co-operation between vagrancy committees, employment exchanges, and voluntary bodies, however important and even necessary they may be, will not result in satisfactory progress unless with full co-operation of the general public, who should be made to feel that the provision for the casual wayfarer was such as to render begging for food and shelter unnecessary and unjustifiable.

A STANDARD FOR THE ANTIRACHITIC VITAMIN D.

STATEMENT BY THE MEDICAL RESEARCH COUNCIL.

THE following statement has been sent to us by the Medical Research Council for publication.

The Medical Research Council's Committee on Accessory Food Factors has long attempted to find generally acceptable conventions for the quantitative record of the activities characteristic of the different accessory factors, or so-called "vitamins." As in other instances, any unit of activity based on the production of a stated degree of a biological effect, however carefully this may be defined, must be liable to wide variation with differences in the conditions under which the test is conducted. This is especially so in testing for a vitamin action, where the effect on which measurement is based is the correction of an abnormal condition produced by a deficient diet. The severity of the condition to be treated will vary with differences in the dieting and treatment of the experimental animals, as well as with racial and individual differences in the stocks. Other biological standards, such as those for serums and hormones, held by the Council's Department of Biological Standards, are based on stable standard materials, in terms of each of which a unit of activity is defined which is independent of the details of the biological method used in its measurement. Here a measurement of activity in units is made on a strictly comparative basis, with reference to the standard.

With regard to the antirachitic vitamin known as vitamin D, this necessity for a common material standard was recently emphasized in the following recommendation by the committee:

"Any unit or standard based directly on the response of the experimental young rats to administration of antirachitic material is unsatisfactory, owing to the disproportionate variation in the response to equal doses of apparently similar animals, when tested at different seasons of the year or bred in different laboratories. The vitamin D unit should rather be referred to a stated quantity of some standard antirachitic material, with which comparison can be made by any reliable biological method."

Standard Adopted by Pharmaceutical Society.

The discovery of the method of producing this vitamin artificially from ergosterol has led to its manufacture on a large scale, its issue in many forms for therapeutic use, and its addition to various types of food materials. The proper desire of manufacturers to use and to supply such preparations with a quantitative indication of activity has led to the appearance of several unofficial "units," mostly defined in terms of some biological effect, and having no clearly determined relation to one another. The need for a common basis of measurement is therefore accentuated, in this case, by an existing and growing confusion. One of the provisional units current in this country —namely, that adopted by the Pharmaceutical Society's Laboratories when reporting on the vitamin D content of materials submitted to them for assay—has, indeed, been based on a material standard consisting of an oily solution of irradiated ergosterol, supplied to them for this purpose by the National Institute for Medical Research. Only a small quantity of this material had been prepared, however, and sufficient data were not available to justify the assumption that it would have the stability necessary for a standard and allow the committee to recommend it for general use.

Establishment of a New Standard.

It was accordingly decided to arrange for the preparation by the National Institute of a similar solution, on a scale sufficient for its eventual distribution to the numerous laboratories or institutions likely to require it, and to organize an investigation of its properties by different experts working on behalf of the committee. A quantity of ergosterol from yeast, purified and dried by methods carefully recorded, was subjected, in an accurately made alcoholic solution, to irradiation with the rays from a mercury arc, the physical details of the procedure being measured and recorded with the greatest practicable accuracy. All conditions known to influence the amount of vitamin D formed should therefore be reproducible at any future date, or in any other laboratory, leaving only the final adjustment of a new standard to equivalence with this original one to be made on the basis of comparative biological assay. The irradiation products were carefully freed from alcohol, dissolved in pure, unadulterated olive oil, and the volume adjusted to produce a known concentration, in terms of ergosterol used. The solution was then placed, and its main bulk has since been kept, in the Institute's refrigerating chamber, at a temperature of −4° to 0° C.

Evidence of the stability of such a preparation, under different conditions and over a sufficiently long period, being of central importance for a decision as to its use as a standard, the investigations promoted by the committee have, of necessity, been of a corresponding length. The experimental results from the different contributing laboratories have recently been completed, and have now been carefully reviewed by the committee, which has stated its conclusion from them in the following terms:

"From these tests it appears that specimens of irradiated ergosterol, prepared in the manner described above, do retain their activity unchanged for two years if maintained at or below 0° C. If they are kept at room temperature loss of activity may occur."

Definition of Unit Activity.

The evidence of the different investigators being uniformly favourable as to the suitability of this solution in other respects for use as a standard in comparative biological measurement of vitamin D, the committee decided to recommend its adoption as a standard, and the definition of a unit in terms of it, and adopted the following resolutions:

(*a*) That the standard solution of irradiated ergosterol prepared and maintained by the National Institute for Medical Research be recommended for adoption as a standard for the comparative estimation of vitamin D.

(*b*) That the unit of vitamin D be defined as the antirachitic potency of a quantity of this preparation corresponding to 0.0001 *mg.* of the ergosterol used in its production.

(*c*) That either the *x*-ray method, the "line test," or chemical analysis of the bones of the experimental animals, be recommended for use in the estimation of vitamin D.

(*d*) That supplies of the standard material be made available for general distribution from the National Institute for Medical Research, Hampstead. As the supply is limited it is hoped that users will themselves prepare standard solutions of irradiated ergosterol for use in individual tests, retaining the National Institute's material for reference. It is important that all such standard materials be kept at temperatures not exceeding 0° C.

It may be mentioned that the unit recommended has the same value, in terms of the weight of the original ergosterol represented, as that used for some years past in the Pharmaceutical Society's laboratories, on the basis of the provisional standard solution supplied to them. The standard solution now recommended for general use cannot be assumed to be exactly equivalent to this, though comparative tests have not revealed a measurable difference. Apart from such difference as may exist, the unit now proposed will, therefore, correspond to one of those already current.

It is of convenient size, as representing the order of dose required for daily administration to a rat, to produce healing of rickets in a curative test; that is to say, the daily dose suitable for the conditions of a particular test will be neither a large multiple nor a small fraction of the unit proposed.

The committee mentions three biological methods of estimating antirachitic effect which it is able to recommend, although its recommendations on this matter are obviously not meant to be exclusive. It has mentioned the methods in which, from experience of its own investigations, it has confidence; but its statement is not intended to preclude the use of other biological methods that already exist, or of better ones that further investigation may produce, provided that in every case the test is based on a comparison with the fixed standard.

Distribution of Standard Solution.

As indicated in another of the committee's recommendations, the quantity of the standard solution available will not allow it to be circulated in large quantities. Its distribution will, of necessity, be limited to those institutions which have the staff and equipment needed for its accurate application in biological assay, including proper facilities for its preservation without loss of activity. Unless the number of institutions requiring it prove to be much greater than that to which other standards are distributed, it should be possible to supply samples once or twice a year to each regular recipient for some years to come, before the preparation of a new batch of the standard solution will be required. It is proposed to make the first issue about the end of September, and a memorandum giving details for the use of the standard will be sent with each first sample. It will greatly facilitate the completion of arrangements if applications from institutions wishing to receive the standard are made as early as possible, so that the department may be able to estimate the number of separate samples likely to be required for the first and subsequent issues. All such applications should be made to the director of the Department of Biological Standards, National Institute for Medical Research, Hampstead, London, N.W.3.

Ireland.

Obstetrics and Gynaecology in Dublin.

THE August issue of the *Irish Journal of Medical Science* is of particular interest to obstetricians and gynaecologists, as has been the case with the corresponding numbers of this periodical in previous years, being largely devoted to the publication of the reports of three Dublin hospitals—namely, the Rotunda Hospital, the Coombe Hospital, and the National Maternity Hospital. Reference was made last week (p. 298) to the valuable report issued by the Master of the Coombe Hospital of the work carried on there during 1929. In his account of the progress of the Rotunda Hospital, the Master, Dr. Bethel Solomons, expresses the hope that the new wing will be completed early next year; there will then be available an additional operating theatre, the long needed increase of accommodation for the nursing staff, and a new story for the pathological laboratory. During the twelve months from November 1st, 1928, to October 31st, 1929, 2,382 women were admitted to the wards of this institution, of whom 2,034 were delivered; 1,805 women were delivered in their own homes. Certain tabular changes have been made in the present report as compared with those of previous years. Thus, a smaller statistical table relating to disproportion is substituted for the more extensive one hitherto compiled, and the Caesarean section table has been rearranged to distinguish three procedures—namely, the classical, the lower segment, and repeat operations. Only one case of ophthalmia neonatorum occurred during the year, and tribute is paid to the efficiency of the 1 per cent. solution of silver nitrate, which is applied as a routine prophylactic. Among fifty-seven oil and quinine inductions of labour there were two infantile deaths; these did not appear to be attributable to this procedure, which is regarded as being very safe. Difficulty is still experienced in persuading patients to attend the ante-natal clinic; it is suggested that in order to diminish maternal mortality it may be necessary to withhold maternity benefit in such cases, or to take some other similarly drastic step. The fact is emphasized that in the great majority of the cases dealt with in the Rotunda Hospital during the year there had been no ante-natal care. Disproportion cases numbered 108; they ended spontaneously in thirty-four instances, in version and delivery in seven, and in Caesarean section in thirty-five, while forceps were required on forty-seven occasions, and destructive operations on five. There were thirty-seven cases of marked inertia; this was nearly always treated on academic lines. Dr. Bethel Solomons continues to classify this condition as early and late, primary and secondary, believing that in this way simplicity in treatment is facilitated. In one case of inertia most satisfactory results followed the intrathecal injection of 1 c.cm. of stovaine. In the whole series of cases, forceps were applied on 138 occasions, an incidence of 6.7 per cent. The gynaecological side of the hospital was again very active, although it was necessary to close one of the large wards during the building of the new wing, extra beds being placed in the other wards. In spite of this diminution of the accommodation the number of admissions (748) was larger than ever, and the record for the hospital was again beaten; of this number 654 were operation cases. The Master of the National Maternity Hospital, Dr. Patrick T. McArdle, reports that during the twelve months April 1st, 1929, to March 31st, 1930, 961 patients were delivered in the wards and 614 in the maternity service. In the gynaecological department 371 operations were performed. There were 7,843 attendances at the dispensary, including ante- and post-natal maternity patients, and infants under one year of age; there was an increase of 1,657 patients over the total of the previous year. The morbidity rate in 961 intern patients (calculated by the standard of rise of temperature to 100° F. on any two occasions) was 3.01 per cent. The death rate in the hospital for acute septicaemia was 0.104 per cent. The number of cases of acute eclampsia seems to be diminishing, but the admission of cases of eclampsism is increasing, this being due to the larger number of patients now attending the ante-natal dispensary. Eclamptic patients are treated on conservative lines, the only operative procedure being delivery by forceps as soon as the os is dilated. The convulsions are controlled by the free use of morphine and chloroform, the colonic lavage being repeated if the fits recur. During the year fifty-nine patients were delivered by forceps, representing 6.1 per cent. of the total deliveries. It is still considered necessary to employ the Kielland forceps in cases of high transverse arrest of the vertex in flattened pelves, also in rotating persistent occipito-posterior, mento-posterior, and low transverse arrest of the vertex. This issue of the *Irish Journal of Medical Science* contains also a thoughtful account by Dr. F. W. Doyle of the employment of gas and oxygen anaesthesia in obstetrics. It is held that the results so far obtained are sufficiently encouraging to stimulate an interest in what appears to be an ideal anaesthetic and analgesic, from the point of view of the requirements of obstetrical work. Dr. Bethel Solomons reports a case of adenocarcinoma of the cervix in a nulliparous woman. Dr. R. E. Tottenham contributes a short account of obstetrical and gynaecological clinics in Vienna, Paris, Sweden, and Denmark.

Improvement of County Homes.

At the Public Health Conference in Dublin, Mr. A. P. Delany, local government inspector, read a paper on the improvement of the county home. He said that although certain enactments had been passed by the Irish Parliament before the Act of Union, the Poor Relief (Ireland) Act, 1838, which was modelled in all essentials on the English Poor Law Amendment Act, 1834, was the measure with which until quite recent years they had been familiar in Ireland. The number of unions formed at first was 130; these were increased in 1848 to 131, and in 1850 to 163. Between 1850 and the outbreak of the European

war in 1914 five unions were dissolved, and the areas which they served were added to adjoining unions. Of the remaining 158 separate unions, 131 were in the present area of the Saorstát. With the establishment of the Free State the workhouse disappeared, at any rate in name; it was now the county home. Mr. Delany feared that the change of name was the principal change that had occurred, and that the characteristics were largely unaltered. It could hardly be necessary to say that a county home should not continue the bad aspects of the workhouse, which it replaced; it should not be a compound where the poor were herded like cattle, or have the primitive horrors of a prison. If the county home had any of these features the schemes introduced nine or ten years ago had failed and, however unpleasant it might be to admit it, they were still administering the workhouse system.

The Down County Mental Hospital.

The Down County Mental Hospital, Downpatrick, was founded in 1869, and has since then undergone a considerable amount of structural alteration and extension; at present it has accommodation for 420 men and 420 women. In his annual statistical report for the year ending December 31st, 1929, Dr. M. J. Nolan, the resident medical superintendent, mentions that at the close of the year under review there were in residence 400 men and 374 women. He remarks that this margin of vacancies, besides being of great advantage from an administrative standpoint, is of very considerable monetary value to the county, since it enables the committee to undertake the treatment of paying patients from outside the district. During 1929 there were admitted 69 men and 62 women, this figure exceeding by 34 the number admitted in 1928. Of 55 patients who were discharged, 47 had recovered, 7 had been relieved, and 2 were unimproved. The death rate during the year was considerably increased by a wave of high mortality which swept over the country, resulting in the deaths of many senile patients and of younger patients, following influenza. Dr. Nolan points out that the probable improvement in the administration of lunacy laws which future years will bring must necessarily entail some degree of increased expenditure on the Down County Mental Hospital. It is hoped that during the present year a fully equipped building for electro-medical and hydrotherapeutic treatment will be brought into being, and additional verandahs and shelters provided. The scope of treatment is being widened by the extension of occupation therapy, and special rooms are provided for such activities as basket-making, raffia, leather, and wool work.

Scotland.

Department of Health.

DR. J. L. BROWNLIE, M.D., D.P.H., who is at present county bacteriologist and pathologist in Lanarkshire, has been appointed a medical officer of the Department of Health for Scotland. Dr. Brownlie graduated in medicine at Glasgow University in 1913, took the diploma of public health (Cambridge) in 1916, and proceeded M.D., with high commendation, in 1918. Among his previous appointments are those of resident medical officer for several years in Glasgow fever hospitals, and that of assistant bacteriologist for six years in the Glasgow Corporation Laboratory. He has completed some promising research work, and made a number of contributions to medical literature.

Presentation to Dr. P. Murray Kerr.

Dr. P. Murray Kerr, T.D., J.P., who recently retired from the post of senior surgeon to the Dumfries and Galloway Royal Infirmary, was the recipient of a public testimonial at a large gathering on August 20th. A native of Dumfries and graduate of Edinburgh University, Dr. Kerr succeeded his father in practice in 1890, and has been associated with the infirmary for thirty-six years. For a time he was president of the Border Counties Branch of the British Medical Association. In addition to his many medical activities, he has been closely identified with numerous aspects of public life in the town and district. A keen Volunteer and Territorial, he succeeded to the command of the 5th King's Own Scottish Borderers in 1911. In 1915 he went out to the Dardanelles as its commanding officer, but contracted dysentery and had to be invalided home. In 1920 he was made honorary colonel of the battalion. In the early part of this year he was appointed honorary sheriff-substitute of Dumfriesshire. Provost Brodie made the presentation of an illuminated address, a radio-gramophone, and a cheque to Dr. Kerr, and referred appreciatively to his services as surgeon, citizen, and soldier. With him was associated Mrs. Kerr, to whom a tribute was paid by Sir James Crichton-Browne. Many letters of apology for absence were read, including one from Dr. Joseph Hunter, M.P., a former colleague.

Scottish Vital Statistics.

The main features of the vital statistics of Scotland for the second quarter of the year are a birth rate of 20·4 per 1,000, a marriage rate of 6·8, a death rate of 13·1, and an infantile mortality rate of 73 per 1,000 registered births. The birth rate is 0·9 below the mean of the rates for the second quarters of the preceding five years, and 5·5 below the mean of those for the second quarters of the preceding ten years. The death rate, 13·1 per 1,000, is 2·7 less than in the previous quarter, and slightly below the mean for the second quarter of recent years. The infantile mortality rate of 73 per 1,000 is the lowest recorded for any second quarter since 1913, the earliest year for which quarterly infantile mortality rates for Scotland are available.

England and Wales.

The New Housing Act.

THE Ministry of Health has issued a circular (No. 1133) to county councils, county borough councils, and other local authorities in England and Wales which are concerned, directing their attention to and setting out the provisions of the Housing Act 1930 which came into operation on August 16th. In an introductory note the Minister reminds authorities of the principal objects of the Act which are to facilitate the task of clearing away existing slums and to prevent the deterioration of other areas and the consequent creation of new slums. To meet the economic difficulty of rehousing slum dwellers at rents which they can afford to pay, increased financial assistance on a new basis has been provided, this will be available to local authorities for rehousing not only persons displaced from clearance and improvement areas, but also those who have to leave individual houses about to be demolished. The Minister urges on local authorities the need for working to a definite system, which will co-ordinate the work of clearance and rehousing under the new Act with the ordinary building of new houses with assistance under the Housing (Financial Provisions) Act, 1924. Under the new Act it is the duty of every local authority to consider the housing needs of its area, and, as often as occasion arises or within three months of receiving notice from the Minister, to submit proposals for the provision of new houses. Furthermore, the authority of every area having a population of over 20,000 should submit in the present year a programme of the steps it proposes to take during the ensuing five years for dealing with the housing problem of its area. The Minister takes the view that local authorities will avail themselves of the financial assistance under the Act of 1924 to meet their ordinary housing needs, depending on the assistance provided by the new Act to meet the expense of moving dwellers in unhealthy areas to better homes. He draws the special attention of councils and rural district councils to the provisions contained in Part IV of the Act regarding housing in rural districts, pointing out that the proper housing of agricultural workers forms a vital element in any progressive agricultural policy, and appeals to the responsible local authorities to formulate plans without delay for dealing comprehensively with the housing needs of rural areas. Copies of the circular may be obtained from His Majesty's Stationery Office (price 6d.).

Malaria Therapy in the Cardiff Mental Hospital.

At the City of Cardiff Mental Hospital, according to the annual report for 1929, the serum of every newly admitted patient is tested for the Wassermann and Sachs Georgi reactions, in order to ensure that no early case of general paresis shall be missed. Dr. P. K. McCowan, the medical superintendent, is of opinion that the early diagnosis of general paresis has become more than ever an urgent practical problem, since it has been established that a considerable proportion of sufferers from this condition can be highly benefited by malaria therapy. At the institution under his supervision the routine serum examination is followed by a complete examination of the cerebro-spinal fluid of every patient with a positive reaction or in whom there are any clinical signs whatever suggestive of syphilitic involvement of the central nervous system. Cases diagnosed as general paresis are treated by a combination of induced malaria and the administration of tryparsamide, preferably in this order; but to patients whose physical condition contraindicates the induction of malaria the arsenical treatment is given first. In the ordinary way tryparsamide is given two months after the subsidence of the malaria, the interval being allowed on the grounds that it seems inadvisable to give an antimalarial drug when it is known that the good results of malaria therapy continue to show themselves for some months after the malaria has stopped. The preliminary dose of tryparsamide is 1.5 grams, and this is followed by seven weekly doses of 4.5 grams. The results have been very satisfactory, especially in early cases.

Mental Diseases Research in Birmingham.

In his report for the year ended March 14th, 1930, Dr. F. A. Pickworth, director of the laboratories of the Joint Board of Research for Mental Diseases of the City and University of Birmingham, records further progress in the investigations he and his co-workers have been conducting on the primary changes that occur in chronic mental disease, especially those in the neighbourhood of the brain. Post-mortem examinations have substantiated their previous findings, to which reference has been made (*Journal*, July 27th, 1929, p. 162), that macroscopical changes in the sphenoidal sinuses and the antra are present in persons with chronic mental disorder. In some cases they have found adhesions in the region of the middle fossa, between the pia-arachnoid and dura mater; from this they deduce that previous mild sepsis has extended by way of the fifth nerve to the brain membranes. In many post-mortem examinations, even on elderly patients, they have detected distinct adenoid remnants, with a pustular condition of the tissues in the neighbourhood of Rathke's pouch. The investigation of the spread of actual organisms to the brain membranes is being continued, and to this end a number of experiments with animals are in progress. In the bacteriological laboratory it has been found, as in previous years, that a large proportion of newly admitted patients give a positive agglutination reaction to the paratyphoid and dysentery groups of organisms.

Correspondence.

MASSIVE COLLAPSE OF THE LUNG.

SIR,—Dr. Woodburn Morison's ingenious explanations of the pathogenesis of massive collapse of the lung, which were published in the *Journal* of August 16th (p. 237), add peculiar interest to his recent British Medical Association Lecture on this clinical condition, and help us to understand many of the difficult problems this subject presents.

In his summary Dr. Morison maintains that "the weight of evidence is in favour of the theory that spasm of the bronchial musculature is the essential feature of active lobar collapse, but the disturbance of the sympathetic innervation must also be taken into account." He recognizes two stages in acute lobar collapse, the first being a dilatation of the bronchi of the area of lung involved, due to reflex irritation of the sympathetic, and leading to accumulation of mucus in the bronchi; from this stage early recovery is not infrequent.

This active dilatation, so he suggests, is usually succeeded by bronchiolar spasm, which causes the lobar collapse, and in support of his contention he states that in cases of asthma it is evident that spasm does occur in the lung. Now this is rather begging the question, for it is not evident that spasm does occur in cases of asthma; if it does it is quite exceptional. But why introduce the idea of "spasm," which is merely an ingenious hypothesis in cases of massive collapse? Is not the pathogenesis of acute lobar collapse more simply and completely explained by a paresis or paralysis of the physiological rhythmical dilatation and contraction of the bronchi in inspiration and expiration, which I described in 1903 in the March number of the *Bristol Medico-Chirurgical Journal*? At birth the solid lung is expanded and the alveoli are filled with air by this physiological mechanism, and if for any reason the mechanism fails in any area the corresponding lung remains in a condition of atelectasis. In later life bronchioles, previously dilated and now actively dilating and contracting, may become paralysed when the regions of the lung they supply revert approximately to the pre-natal state of collapse. When such paralysis is a temporary inactivity and passes off, the rhythmical contraction and dilatation is resumed, and the collapsed lung becomes re-inflated, just as it did originally at birth.

The ball-valve theory of Gairdner to account for lobular collapse of the lung is rightly set aside by Morison as untenable; the mucus that often collects and fills the lumen of a paretic bronchus is a passive collection, quickly expelled as soon as the bronchus resumes its normal physiological contractions and dilatations. Furthermore, it seems more probable that sudden spasm of the bronchi and bronchioles must lock up the air in the corresponding pulmonary alveoli, and then no collapse could occur until such contained air was absorbed, a process by no means sudden.—I am, etc.,

Bristol, Aug. 25th. PATRICK WATSON-WILLIAMS.

OBSERVATION AND EXPERIMENT.

SIR,—In the *Journal* of August 16th (p. 266) Dr. Manson expresses the hope that medicine will pass beyond the practical aim of curing illness and seek to become a true science giving "its own unique contribution to abstract thought and philosophy." In order to do this, he rightly says that the phenomena of the "sick man" must be studied. That means that medicine must concern itself with the individual rather than with the disease. As soon as it does so the student will find that he is confronted with problems, not only of anatomy and physiology, but also of psychology; the result of this triune study may well prove a revolution in medical thought and practice. It is not so long since it was considered a daring innovation to suggest that functional complaints such as the various neuroses might have purely functional causes, while to hint that organic disease might be influenced by emotional stress was rank quackery.

To the interested onlooker, however, it is apparent that a leaven is working in the profession which is considerably modifying the dogmatic materialism of the past. Within the last year the medical officer of health of a large industrial centre has published a book in which he refers to both cancer and phthisis as being primarily neuroses, and, moreover, suggests that wrong thinking may prove to be the determining factor which changes a harmless microbe into a virulent one. He thus makes a very definite approach towards the standpoint of Christian Science, which, after all, must have some sort of foundation on which to support its vast edifice. About the same time a well-known dental surgeon published a paper in which he asserted that mental worry was the cause of pyorrhoea—thus removing the quadruped from the rear of the vehicle and putting it for the first time in its proper place. Still more recently an eminent surgeon has committed himself to the statement that most of us suffer off and on from ulcer of the stomach or duodenum, and that worry and overwork may cause the symptoms to become acute.

A much more notable advance is made by Dr. Hazlett Frazer, whose letter was also published in the *Journal* of August 16th. He courageously claims for nervous strain a very important part in the etiology of rheumatic affections, and even advocates treatment by psychological analysis. Startling though this suggestion may seem to some, to future generations it will perhaps appear more remarkable that for centuries the medical profession should have been aware of the fact that a fit of temper frequently results in an attack of gout, and yet fail to make the deduction that mental states may be the deciding factor in other metabolic changes. There has been some recognition of the fact that worry predisposes to diabetes, but hitherto these things have been treated as isolated facts, and not built, as they should be, into the integral structure of medicine. Even though every woman knows that nerve strain, or even actual willing, can delay the incidence of the menses, it was possible for a distinguished gynaecologist the other day to mention a thorough knowledge of anatomy and physiology as the essential equipment for his specialty, and omit all reference to the woman's psychology. Still, as I have said, the leaven is working, and when at length a true science of medicine is in existence it may well be that psychology will play the part of the corner stone which was once rejected.—I am, etc.,

Birmingham, Aug 23rd. R. MACDONALD LADELL.

CHLOROFORM IN LABOUR.

SIR,—I had hoped to see some comment on the article on the action on the human uterus of anaesthetics, by Drs. A. W. Bourne and J. H. Burn, in the *Journal* of July 19th (p. 87). The aim of the writers was good, for investigation into that subject is overdue; but their results appear to invite discussion. In the absence of more authoritative criticism, may I raise a few points on their observations regarding chloroform?

After an introduction concerning the apparatus used they proceed, "We now describe records showing the effect of . . . chloroform"; later they say, "It seems elementary that for any final decision . . . there should be a clear mental picture of what this action is"; then they furnish two records—one lasting for twelve minutes of anaesthesia (how deep they do not state) in the first stage of labour; the other taken during a fifteen minutes' administration in a "fully developed second stage," where the depth, they admit, never attained "full surgical anaesthesia." A single confinement might have yielded both records, or the data may have been drawn from two confinements; but obviously the scope of the investigation was very restricted, and the authors do not state whether the patient was a primipara, young or old, weak or strong, or nervous or indifferent. "But," they conclude, "from the point of view of the patient there seems little doubt that the use of chloroform is not in keeping with modern enlightenment." I submit that they have not shown the effect of chloroform (but only a part of its effect in one or two individuals), that their conclusions are premature, and that we still lack that "clear mental picture" without which it is idle to credit ourselves with "modern enlightenment."

My points (based on the clinical experience of over thirty years in general practice) are as follows.

1. Idiosyncrasy plays a big role in chloroform anaesthesia: in one person a few drops may secure profound unconsciousness, while an ounce fails to achieve it in another. To generalize from one or two experiences, therefore, is never safe, and to dogmatize is unwarranted.

2. In some cases, notably in those susceptible individuals who swiftly attain deep anaesthesia under very little chloroform, uterine contractions continue almost unabated throughout; usually, however, the first effect of the administration is to diminish or stop the pains for a period of ten, fifteen, or twenty minutes, after which labour in most cases appears to go on with at least the same energy as (and sometimes more than) previously. I do not possess "a simple apparatus for recording graphically the changes in the intrauterine pressure"; but I have attended hundreds of women in deep anaesthesia who have delivered themselves unaided by forceps.

3. I am glad to note the evidence of the authors that "in a series of 562 cases [with chloroform] there has been no increase in the incidence of post-partum haemorrhage." That is a fact to drive home. My experience goes further. Thirty years ago, when the use of chloroform was occasional and tentative, post-partum haemorrhage was a very real risk, arising fairly often, now it is non-existent, or seems so. In twenty years, with practically every patient deeply anaesthetized, I have never had a serious instance of haemorrhage. The common cause of post-partum haemorrhage is exhaustion.

4. An obstetrician accustomed to secure full surgical anaesthesia from the moment his patient is having pains every five minutes, with a thinned os dilated to an inch and a half in diameter, will seldom quarrel with chloroform. I assume that he keeps a watchful eye and ear upon his patient. A woman in labour is for such anaesthesia the safest subject known to us. We know, also, that while morphine in quarter-grain doses will stop labour, half-grain doses induce a sleep in which the pains continue; the same argument, I submit, applies to chloroform.

5. The discussion at the Annual Representative Meeting on the special committee's report (*Supplement*, August 2nd, p. 88) raises an analogous point, hinting that chloroform anaesthesia may predispose towards "instrumental delivery at too early a stage." That observation may be connoted with the dictum of Drs. Bourne and Burn that "the reduction in the efficiency of the contraction which it [chloroform] causes is often of benefit in avoiding perineal tears." Both suggestions imply the use of chloroform in inadequate doses. Given adequately, labour continues and the doctor is not tempted to resort to forceps sooner than he should. Pituitary extract acts normally in the deepest anaesthesia. Chloroform will not work miracles, except in an occasional neurotic case, but it gives oblivion to tortured women, enables the doctor to use his judgement in peace, and, even after a prolonged deep anaesthesia, the patient awakes astonishingly fresh.

6. Finally, I should like to suggest that this deep anaesthesia permits such freedom in manipulation that its general adoption would wipe out many vexed questions of "difficult labour," and render obsolete whole chapters and books on the subject.—I am, etc.,

Belfast, Aug 11th. ROBERT WATSON.

X-RAY TREATMENT OF TONSILS.

SIR,—In reply to Dr. Webster's letter of August 9th (p. 228) I would point out that in his original letter of February 1st he suggested radiation weekly up to 4H with 4 mm. Al filter. By June 28th (p. 1197) this has become "50 per cent. or less of the erythema dose with a 4 mm. Al filter fortnightly." In the confusion I have been guilty of misquoting the time period; however, I rather gather that Dr. Webster prefers to remain indefinite about his dosage, especially as to whether the tonsils themselves are to receive 50 per cent of an erythema dose even fortnightly.

In connexion with my objection to the secondary radiation of the thyroid and accessory structures, I am very surprised that Dr. Webster has not found cases of injury to tissue caused by repeated diagnostic exposures. I have seen several cases of baldness following the over-enthusiastic x-ray examination of sinuses, and I know other workers who have also had similar experiences. Regarding the pathological argument, Dr. Webster in the *Journal* of June 28th stated that haemolytic streptococci in tonsillar crypts were probably not malign, rather the contrary, as these organisms were essential factors in the normal antibody laboratory. He now changes his ground to an argument that the reticulo-endothelial system as a whole forms antibodies; this proposition, so far as I am aware, is pretty generally agreed upon; but surely the tonsils form a very small part of this vast system. May I repeat that I cannot agree that haemolytic streptococci are beneficial to the

Obituary.

HUGH SMITH, M.D., F.R.C.S.,

Consulting Physician, Somerset Hospital, Cape Town.

We regret to have to record the death of Dr. Hugh Smith, which took place at his home in Cape Town on July 2nd.

Hugh Smith, who was born in London in 1863, received his early education at the City of London School, subsequently entering the London Hospital after winning an entrance scholarship. In 1886 he obtained the diploma M.R.C.S., and in the following year he graduated M.B.Lond. with first-class honours in medicine; he proceeded M.D. in 1889, in which year he also became a Fellow of the Royal College of Surgeons. After holding several resident appointments, among them that of house-physician to Hughlings Jackson, he commenced general practice in North London in 1891, remaining there until 1900, when he went to Cape Town to join the late Sir Alfred Thompson in partnership. In 1902 he became honorary physician to the Somerset Hospital at Cape Town, and was appointed consulting physician on his retirement from this post in 1919. During the war he was consulting physician to the military hospitals at Wynberg and Maitland. Until the time of his death he was lecturer in dermatology in the faculty of medicine of the University of Cape Town, and during the greater part of his professional life in that city he was also consulting dermatologist to the Somerset Hospital.

Dr. Hugh Smith was recognized as a reliable and careful physician, imbued with the highest ideals of his profession, and devoted to the service of his colleagues and the public. He was an active member of the British Medical Association, holding office as president of the Cape of Good Hope (West) Branch in 1914, and being a member of the Branch Council from 1915 to 1925. He was also president of the medical congress which met at Cape Town in 1921, and served on the South African Committee of the British Medical Association. His publications included articles on cerebral tumours. He is survived by his widow.

Dr. WILLIAM CRAIG was the senior medical practitioner and one of the most prominent citizens in the town of Cowdenbeath, Fife, where his death took place on August 14th. A native of Dumfries, he graduated M.B., C.M. at the University of Edinburgh in 1886, proceeding M.D. in 1900. In addition to conducting a busy practice, he had held the position of medical officer of the burgh for the long period of thirty-seven years. In all activities promoted for the welfare of the district he took an active part, and among the many institutions which benefited by his guidance and help were the literary society, the golf club, the angling club, and the curling club. He was also prominently identified with Beath parish church. Dr. Craig is survived by a widow and a family of three, one of whom is a member of the medical profession.

Dr. FREDERICK GEORGE LLOYD of Oakwood Court, Kensington, who died on August 6th, in his sixty-sixth year, was educated at St. Bartholomew's Hospital, and became M.R.C.S., L.R.C.P. in 1892. He was subsequently resident medical officer at the West London Hospital. In 1896 he was in medical charge of the transport *Harlech Castle*, which brought back many of those who had taken part in the Jameson raid. During the Boer war he was for some time attached as surgeon to the Brigade of Guards Hospital, London, and afterwards served as a civil surgeon in H.M. Field Force, receiving the medal and clasps. During the more recent war Dr. Lloyd served at home, and was for a time in medical charge of the late Lord Dunraven's yacht *Grianaig*, which was used as a hospital ship. A regular attendant at the meetings of the West London Medico-Chirurgical Society, of which he had been a member since 1902, he was for some time on the council, and also a vice-president, reading papers from time to time. In the session of 1920–21 he opened a discussion on the interim report of the Consultative Council of the Ministry of Health on Medical and Allied Services. He also took a keen interest in the voluntary hospital question, and spoke on it frequently in various places. He was very popular with his patients and colleagues.

Dr. JAMES BURNETT LAWSON, who died at Rothesay on August 9th, at the age of 71, was a well-known figure throughout the West of Scotland. He was a graduate of Glasgow University, where he received the degrees of M.B., C.M. in 1883 and of M.D. in 1886. Soon after graduation he built up a large practice in Rothesay, from which he retired some time ago on account of ill-health. For many years he held the offices of medical officer of Rothesay parish and of Bute schools; he was also medical officer to the Admiralty. He was a justice of the peace, president of Bute Benevolent Society, and for some time a member of the town council. Only a few weeks ago he received a public testimonial in recognition of his services. Dr. Lawson was possessed of much literary ability; his writings include *Glimpses of Rothesay and its People Fifty Years Ago* and *A Cameronian Officer*, the latter a memoir of his son, Lieutenant James B. Lawson, who was killed in the war. He contributed articles on "Phthisis pulmonalis with emphysema" to the *Glasgow Medical Journal* in 1890, and on "A general practitioner's experience of lunacy certification" to the *Practitioner* in 1925. Dr. Lawson is survived by his wife, two sons, and two daughters.

Dr. JOHN HUMPHRY WILLIAMS, J.P., who died on August 17th, at the age of 72, had practised in Flint during the greater part of his life. He received his medical education at Edinburgh, where he graduated M.B., C.M. in 1881, and proceeded M.D. five years later. He was medical officer of health for the borough of Flint, Connah's Quay Urban District, and Chester Port, and honorary surgeon to Flint Cottage Hospital. He held a commission in the R.A.M.C.(T.). He was a member of the British Medical Association, and was chairman of the Denbigh and Flint Division in 1922, he served on the executive committee in 1928. A colleague writes: Dr. Williams was a prominent member of and a regular attendant at, meetings of the British Medical Association and of the local panel committee. As "Father" of the Flintshire County Council, he was prominent on the Liberal side, enjoying debates, politics, hard-fought elections, and platform speaking. He was a particularly well-read man, fluent in two languages. As a physician he was excellent and most hard-working, snatching his recreation in the form of public work. Dr. Williams was highly respected and beloved by his colleagues, patients, and political opponents, by reason of his blunt honesty and kindness of heart. He leaves a widow, daughter, and two sons.

The following well-known foreign medical men have recently died: Dr. C. LENORMANT, professor of surgical pathology in the Paris faculty of medicine; Dr. HANS KNORR, professor of orthopaedics and head of the orthopaedic clinic at Heidelberg; Dr. JULIUS RAECKE, a Frankfurt psychiatrist; Geheimrat Dr. PAUL KRASKE, Pro-emeritus professor of surgery at Freiburg, aged 80, Professor SIEGFRIED KAMINER, co-founder with Professor Senator and for many years editor of the *Zeitschrift fur Balneologie* and *Jahrbucher fur Balneologie*, aged 57; Professor LUDWIG REIN, an eminent Frankfurt surgeon; Dr. EDMUND HERRMANN, an obstetrician and gynaecologist of Vienna, aged 55, Professor LOUIS BOX, professor of anatomy and formerly rector of the University of Amsterdam, aged 64, Dr EMIL REDLICH, extraordinary professor of neurology and psychiatry at Vienna, aged 64; Dr. ERNEST CONSEIL, director of the Tunis bureau of hygiene, and a collaborator of Dr. Charles Nicolle of the Pasteur Institute of Tunis, and Dr. Lalanne, an alienist of Nancy.

Universities and Colleges.

UNIVERSITY OF LONDON.

Applications for the William Julius Mickle Fellowship must be sent in before October 1st. Full particulars can be obtained from the Academic Registrar, University of London, South Kensington, S.W.7. The Fellowship, which is of the value of at least £230, is awarded to the man or woman who, being resident in London and a graduate of the University, has, in the opinion of the Senate, done most to advance medical art and science during the preceding five years.

University College Hospital Medical School.

The Goldsmid Entrance Exhibitions for 1930 have been awarded to Mr. G. Quist and Miss M. H. James of University College, London.

UNIVERSITY OF ABERDEEN.

Dr. David Campbell, Pollok Lecturer in pharmacology and therapeutics in the University of Glasgow, has been appointed Regius professor of materia medica in the University of Aberdeen, in succession to Professor Charles Robertshaw Marshall, whose resignation takes place on September 30th.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

Surgery.—G. P. Charles, H. G. Edmunds, C. W. Ellison, E. J. Jones, N. I. Kronenberg, W. Montgomery Smith, H. I. Newman, R. D. Newton, K. V. Pillai, L. Sachs, I. J. Todd-Naylor, G. H. C. Walmsley.

Medicine.—H. W. E. Dickey, E. A. Freywith, N. I. Kronenberg, J. M. L. Love, W. Montgomery Smith, H. I. Newman, I. J. Todd-Naylor.

Forensic Medicine.—M. M. Barritt, J. S. P. Coutts, C. R. Graham, M. Halperine, N. I. Kronenberg, W. Montgomery Smith, H. I. Newman, W. K. Schnaar, G. H. G. Walmsley, I. M. Williams.

Midwifery.—S. Gurevich, M. Halperine, E. I. B. Hawes, W. Montgomery Smith, W. W. Parry.

The diploma of the Society has been granted to Messrs. M. M. Barritt, G. P. Charles, H. W. E. Dickey, H. G. Edmunds, C. W. Ellison, E. A. Freywith, N. I. Kronenberg, W. Montgomery Smith, I. J. Todd-Naylor, G. H. C. Walmsley.

Medical News.

The University of Birmingham will celebrate, on October 13th, the jubilee of the foundation of Mason College and the thirtieth anniversary of the granting of the University charter.

St. Bartholomew's Hospital old students' annual dinner will be held on Wednesday, October 1st, at 7.30 p.m., in the great hall of the hospital, with Mr. L. B. Rawling in the chair. The honorary secretary is Sir Charles Gordon-Watson, 82, Harley Street, W.1.

The St. Thomas's Hospital old students' dinner will take place at St. Thomas's House, Lambeth Palace Road, S.E.1, on Friday, October 3rd, at 7.30 for 8 p.m. The chair will be taken by Dr. R. Muzio Williams, J.P.

The opening ceremony of the winter session of the Middlesex Hospital Medical School will take place at the Queen's Hall, Langham Place, W.1, on October 1st, at 3 p.m. The prizes and medals gained by students and nurses during the past year will be given away by Mr. Arthur Greenwood, M.P., Minister of Health, and the introductory address will be delivered by Mr. Eric Pearce Gould, M.Ch., F.R.C.S. The hospital and medical school will be open for inspection after the ceremony, and tea will be provided. The annual dinner of past and present students of the hospital will be held at the Savoy Hotel in the evening.

The annual dinner of past and present students of St. Mary's Hospital Medical School will be held at the Trocadero Restaurant on Friday, October 3rd, at 7 p.m., with Dr. J. Reginald Fuller in the chair.

The prize distribution and conversazione of the Royal Dental Hospital of London School of Dental Surgery will be held at the hospital, Leicester Square, W.C., on Thursday, October 2nd, at 8 p.m. Sir John Rose Bradford, P.R.C.P., will preside.

Under the auspices of the National Association for the Prevention of Infant Mortality a special course of maternity and child welfare lectures will be held for health visitors, nurses, midwives, school teachers, and welfare workers in the lecture theatre of University College, Nottingham, from September 15th to 19th. In conjunction with this course visits will be paid to various institutions; arrangements for board and lodging in Nottingham will be made on application before September 1st to the secretary, Health Department, Guildhall, Nottingham. Further details of the course may be obtained from the honorary secretary of the National Association, Carnegie House, 117, Piccadilly, W.1.

The new session of the Medical Society of London commences on Monday, October 13th, when the annual general meeting will be held at 8 p.m. At 8.30 p.m. Dr. R. A. Young will deliver his presidential address on "The stethoscope—past and present." On October 27th, at 8.30 p.m., a discussion entitled "The prophylactic and therapeutic values of vaccines" will be introduced by Sir Almroth Wright. Professor Chevalier Jackson will open a discussion, on November 10th, on the diagnosis and treatment of malignant disease of the chest. The Lloyd Roberts Lecture on "Painting and the healing art" will be delivered by Professor William Rothenstein on Wednesday, November 19th, at 5 p.m. A clinical evening will be held on November 24th, at 8 o'clock, and on Monday, December 8th, a discussion on pathological conditions of the eye due to inflammatory changes in other parts of the body will be introduced by Mr. A. F. MacCallan, F.R.C.S., followed by Mr. Ernest Clarke, F.R.C.S. The syllabus of the second half of the session will be issued in December. The Lettsomian Lectures, entitled "The spleen—its structure, functions, and diseases," will be delivered by Dr. J. W. McNee on February 16th and 25th, and March 4th, 1931. Sir John Rose Bradford, P.R.C.P., will give the annual oration on Monday, May 11th, 1931.

The Fellowship of Medicine announces that from September 1st to 13th there will be an all-day course at the Queen's Hospital for Children, when instruction will be given in the various departments of the institution. A revision course, particularly of interest to panel practitioners, will be conducted at the Westminster Hospital from September 15th to 27th; the daily sessions will begin at 10.30 in the morning and continue until 5.30 p.m. All branches of medicine and surgery will be dealt with, and two clinics will be held on the Saturday mornings at mental institutions connected with the hospital. A revision course will also be held at the Metropolitan Hospital from September 29th to October 11th, of a similar nature to that at the Westminster Hospital. An intensive course at the Central London Throat, Nose and Ear Hospital from October 5th to November 1st will be preceded by a course in "methods of examination," starting on September 17th; applications should be made to the Fellowship of Medicine. The subjects of other courses in October are tropical medicine and gynaecology; there will be two evening courses at 8.30—a M.R.C.P. course and a final Fellowship course. For full particulars of the post-graduate study arranged for the winter session, also for the 1931 list of special courses and the *Post-Graduate Medical Journal*, application should be made to the secretary of the Fellowship, 1, Wimpole Street, W.1.

The annual meeting of the German Society for Light Research will be held in conjunction with the German Hygiene Society at Dresden on September 5th and 6th.

An elementary practical course in diseases of the digestive system, organized by Professor F. Gallart, assisted by other members of the medical faculty of Barcelona, will be held at the Hospital de la Santa Cruz y San Pablo, Barcelona, from October 12th to 20th. The fee is 100 pesetas.

The seventeenth French Congress of Hygiene will be held at the Institut Pasteur, Paris, under the presidency of Professor Delépine of the Académie de Médecine, from October 20th to 23rd, when the following subjects will be discussed: the successive changes in the French pharmacopoeias, introduced by the President; comparative statistics of infantile mortality, introduced by Dr. Lesage; the relation of health offices to health inspection, introduced by MM. Aublant and Prunet, and Brocquin-Lacombe and Bennet; and hygiene and reconstruction in the flooded area in the South of France. Lectures will also be delivered by Professor Sacquépée on psittacosis, and by Dr. Dujarric de la Rivière on Lavoisier as hygienist. Further information can be obtained from Dr. Dujarric de la Rivière, Institut Pasteur, Rue Dotot, Paris, XVe.

The twentieth Congress of the Italian Society of Laryngology, Otology, and Rhinology will be held in Sardinia from October 15th to 23rd. Further information can be obtained from Professor Deodato De Carli, Clinica Oto-rino-laringologica, Ospedale Gesu e Maria, Naples.

The thirtieth French Congress of Urology will be held at the Paris Faculty of Medicine, under the presidency of Dr. Chevassu of Paris, on October 7th, when a discussion will be held on renal contusions and their remote sequels, introduced by Dr. Gérard of Lille. Further information can be obtained from Dr. P. Pasteau, 13 Avenue de Villars, Paris, VIIe.

Lieut.-Colonel C. T. Samman has been re-elected Master of the Society of Apothecaries.

Dr. Josef Jadassohn, professor of dermatology at Breslau, has been invited by the Government of Uruguay to be president of the South American Conference on Syphilis at Montevideo in September.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9951, 9952, 9953,* and *9954* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocrity Westcent, London.*

The address of the Irish Office of the British Medical Association is 15, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

QUERIES AND ANSWERS.

LIMITATION OF THE GROWTH OF HAIR.

"R. D. M." asks for information about any known factor which limits the growth of hair in some situations, such as the eyebrows and eyelashes, to a certain definite length, whereas in other situations, such as the scalp and face, the growth of hair is continuous.

TREATMENT OF DYSMENORRHOEA.

DR. JOHN R. KEITH (Southend), replying to Dr. E. R. B. Murray's inquiry (August 16th, p. 272), writes in the course of a letter: In certain conditions, among them dysmenorrhoea, beneficial results may be obtained by applying counter-irritation over the spinal cord. In cases of dysmenorrhoea a cantharides blister may be applied over that part of the cord which is covered by the bodies of the fourth and fifth dorsal vertebrae, and kept in position for three or four days before the expected period. In many cases of painful menstruation points of tenderness may be found to the right or left of one or more of the first four lumbar spines. If firm pressure is made over these sensitive areas the menstrual pain will disappear for several hours or during the whole period. Freezing the tender areas with ethyl chloride or petroleum ether is even more effective.

DR. N. HAIER (London, W.1) writes: In reply to Dr. Murray's inquiry (August 16th, p. 272), I would suggest the use of an intra-uterine silver ring. This instrument was first devised as a contraceptive, but I have noticed that several patients have been partly or entirely freed from dysmenorrhoea after its insertion.

KEEPING FIT IN HOT CLIMATES.

DR. O. MARRIOTT (Haywards Heath), replying to the inquiry of "C. H. B." in the *Journal* of July 26th (p. 168) writes: After twenty years' actual busy practice in the Tropics, I am of opinion that it is not advisable, and certainly not necessary, to take alcohol in any form in hot climates; I will even go further and say that, in my opinion, a "worker" (mental or physical) is better and more efficient without alcohol under tropical conditions. Several men who have lived successful lives in tropical countries, following such advice given them by me from early days, have taken the trouble to come to thank me for it, having found it so much to their advantage in health and fitness. It is certainly advisable to have always some light thin covering round the abdomen while in bed at night, such as a light tropical weight viyella blanket wrapped round once. Exercise, like all other things in the Tropics, should be taken in moderation. Under true tropical conditions a man can get his skin to act as much as is convenient or healthy—or more so—in his ordinary routine, unless he spends his days under a fan in a club armchair; strenuous physical exercise daily is apt to take too much out of him to permit his carrying on his routine daily work efficiently. Personally, I never touched alcohol during twenty years' hard work in the Tropics, and I always slept with a light blanket round the abdomen, or, if such was not available, used an ordinary "bath" towel as a wrap. With the exception of occasional swimming during my earlier years in the Tropics, I never had any time for strenuous physical exercise, but I obtained all the perspiration I cared for—and generally more—by carrying on my active professional life. I found it a relief at times to slip into my quarters and to strip from clothes wet through with perspiration, have a good warm bath, and a change of clothing.

LETTERS, NOTES, ETC.

THE MEDICAL RESEARCH COUNCIL AND ERGOT STANDARDIZATION.

WE have received the following communication from the manager of "Sandoz" Scientific and Research Department, Wigmore Street, W.:

"In your last issue you give prominence to an official statement by the Medical Research Council under the title 'The Medical Research Council and Ergot Standardization.' The Medical Research Council complain that misuse has been made of their name in literature issued to the medical profession in America by our American house, Sandoz Chemical Works, Inc., of New York. The statement complained of reads as follows: 'The Pharmaceutical Society of Great Britain, after consultation with the Medical Research Council, adopted Gynergen as the standard for ergot.' I am directed by Sandoz Chemical Works, Basle, to request the courtesy of your columns to reply to the communication of the Medical Research Council. To our great regret the official statement of the Medical Research Council is presented in such a manner that it fails to reveal the whole truth. It should be made clear that Gynergen is ergotamine tartrate, and that there is only one ergotamine—Ergotamine, Stoll-Sandoz. The following extract is taken from the *Pharmaceutical Journal* of February 20th, 1926:

> 'Pharmaceutical Society of Great Britain: The Pharmacological Laboratories.
>
> '(Text of a pamphlet which is being supplied to inquirers by the Secretary of the Society, 17, Bloomsbury Square, London, W.C.1.)
>
> 'These laboratories are now in a position to test the drugs and preparations dealt with in detail hereafter.
>
> '3. Ergot.—Samples of ergot will be accepted to be tested in the form of the powdered ergot. The Geneva Conference has made no recommendations in the matter of ergot. The chief active substances which may be present in extracts are ergotamine (or ergotoxin), histamine, and tyramine. It will be assumed that the therapeutically active substance is the specific alkaloid ergotamine, and a test for its amount will be applied to an acid alcoholic extract of the powdered drug.
>
> 'As standard a sample of ergotamine tartrate is available, prepared by the Sandoz Chemical Works, Basle.
>
> 'The test applied will be the capacity of an acid alcoholic extract prepared from the sample to reverse the action of adrenaline either on the blood pressure of a pithed cat or on the isolated uterus of the rabbit. After consultation with the Director of the Department of Biological Standards, Medical Research Council, it has been decided to approve as good samples of ergot those containing not less than 1 mgm. per gram of the specific alkaloid.'

"Further, in the *Pharmaceutical Journal* of March 13th, 1926, the following appeared:

> 'In the number of this Journal published on February 20th last a description appeared of the tests which these laboratories are prepared to carry out. When a preparation has been tested, a certificate is issued, which in the case of satisfactory preparations may be used by the maker as the basis of a statement on the label. . . . The statement appearing on the label must be confined to the words . . . .'
>
> '(6) In the case of ergot preparations . . . one of this preparation contains 1 mgm. ergotamine as determined by a biological test carried out by the Pharmaceutical Society of Great Britain.'

"To make the matter more clear we quote from the *Pharmaceutical Journal* of May 14th, 1927, where the Director of the Pharmacological Laboratories, replying to Mr. A. O. Bentley, stated: 'There has been no ergotoxine in this country since the war until a month or two ago.' The reasons which caused the substitution of an amorphous alkaloidal salt, difficult to purify, of lesser stability, less soluble, and which can only be conserved with difficulty *in vacuo* over phosphorus pentoxide, for a definite, pure, stable, crystalline substance (base as well as salt) is probably not relevant here, but it is clear that ergotamine tartrate *was* adopted as the standard for ergot preparations, and that the Medical Research Council *was* consulted and that the statement by the Medical Research Council is equivocal."

INFECTED EGGS.

MR. J. G. MAYNARD (Somerset), in the course of a letter on behalf of the council of the Utility Duck Club, writes: In the *British Medical Journal* of July 12th (p. 56) an article appeared by Dr. W. M. Scott on food poisoning due to eggs; unfortunately this article has been taken up by the popular press, with disastrous results to producers in this country. The council of the Utility Duck Club does not dispute the evidence brought forward in the article; it does, however, wish to draw attention to the fact that very large numbers of ducks' eggs are imported every year. The conditions under which these are produced are frequently unsanitary, the ducks being kept in large numbers on foul ground where they are fed on fish which is often far from fresh. The resultant disease among the flocks is amply attested. It may safely be stated that such diseases are almost entirely unknown among English birds. When cases of poisoning have occurred the club has tried to trace the origin of the eggs, and in no case of which the council knows have the eggs been produced in this country. All imported eggs have now to be marked with the stamp of country of origin, so that it is possible to avoid imported supplies.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 37, 38, 39, 42, 43, and 44 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears on page 340.

VACANCIES.

All Saints Hospital for Genito-Urinary Diseases.—House-Surgeon (male). Salary £150 per annum.

Argyll County Council.—Medical Officer for the District of Glenorchy. Salary includes payment of £125 per annum for services as Local Medical Officer and a grant from the Highlands and Islands (Medical Services) Fund.

Bangour Mental Hospital, West Lothian.—Second Assistant Medical Officer. Salary £350 per annum, rising to £400.

Barnstaple: North Devon Infirmary.—Resident Medical Officer. Salary £150 per annum.

Barrow-in-Furness: North Lonsdale Hospital.—Two House-Surgeons (males). Salary £175 per annum.

Bath: Royal United Hospital.—Assistant House-Surgeon (male, unmarried). Salary £120 per annum.

Bedford County Hospital.—House-Surgeon (male, unmarried). Salary £175 per annum.

Birkenhead General Hospital.—(1) House-Physician. (2) Casualty Officer. Males. Salary £100 per annum each.

Birmingham and Midland Skin Hospital.—*Clinical Assistants in the Out-patient Consulting Room* Honorarium 26 guineas per annum.

Bournemouth: Royal Victoria and West Hants Hospital.—House-Surgeon (male) at Boscombe Branch. Salary £150 per annum.

Brighton: Royal Sussex County Hospital.—*Casualty* House-Surgeon (male, unmarried). Salary £120 per annum.

Bristol Royal Infirmary.—Assistant for Cancer Research Laboratories. *Salary £400 per annum.*

Burslem: Haywood Hospital.—Resident Medical Officer. Salary £175 per annum.

Cardiff City Mental Hospital, Whitchurch.—Post-graduate Research Studentship. Honorarium £100 per annum, augmented by locum work in the Hospital to approximately £180.

Central London Throat, Nose and Ear Hospital, Gray's Inn Road, W.C.1. —*Honorary Assistant Anaesthetist.*

Chichester: Royal West Sussex Hospital.—Junior House-Surgeon. Salary £125 per annum.

Derbyshire Hospital for Sick Children.—Resident Medical Officer (lady). Salary £150 per annum.

Derbyshire Hospital for Women.—House-Surgeon. Salary £150 per annum.

Durham County and Sunderland Eye Infirmary.—Clinical Assistant in Out-patient Department. Salary £250 per annum.

Eastbourne: Princess Alice Memorial Hospital.—*House-Surgeon (male).* Salary £100 per annum.

Edinburgh: Jordanburn Nerve Hospital, Morningside.—Assistant Physician. Salary £400 per annum.

Essex County Hospital, Colchester.—(1) Assistant House-Surgeon and *Registrar. (2) House-Physician. Males. Salary £120 and £150 per annum respectively.*

Gloucestershire Royal Infirmary and Eye Institution.—(1) House-Physician. (2) Second House-Surgeon. Salary £150 and £120 per annum respectively.

Great Yarmouth: General Hospital.—*Two House-Surgeons, Senior and* Junior. Salary £150 and £140 per annum respectively.

Halifax: Royal Halifax Infirmary.—Third House-Surgeon (male, unmarried). Salary £125 per annum.

Hostel of St. Luke, 14, Fitzroy Square, W.1.—Resident Medical Officer. Salary £200 per annum.

Hull Royal Infirmary.—Honorary Physician.

Ilford: King George Hospital.—Resident Medical Officer. Salary £200 per annum.

Ipswich: East Suffolk and Ipswich Hospital.—*(1) Casualty Officer.* (2) House-Surgeon. Males. Salary £150 and £120 per annum respectively.

Leeds Public Dispensary.—Junior Resident Medical Officer. Salary £150 per annum.

Leicester Royal Infirmary.—(1) House-Surgeons. (2) Casualty Officer. Salary £125 per annum each.

Liverpool and District Hospital for Diseases of the Heart.—House-*Physician. Salary £52 per annum.*

Liverpool Eye and Ear Infirmary.—Honorary Assistant Surgeon to the Ear, Nose, and Throat Department.

London Female Lock Hospital, 283, Harrow Road, W.9.—House-Surgeon. Salary £150 per annum.

London Lock Hospital, 91, Dean Street, W.—(1) Surgical Registrar. (2) Additional Surgical Registrar. (3) House-Surgeon at Male Lock Hospital. Honorarium for (1) and (2) £100, for (3) £200 per annum.

Lowestoft and North Suffolk Hospital.—*Junior House-Surgeon (male).* Salary £120 per annum.

Macclesfield General Infirmary.—Resident House-Surgeon. Salary £180 per annum.

Manchester: Ancoats Hospital.—House-Surgeon (male). Salary £100 per annum.

Manchester City.—Assistant Medical Officer at Baguley Sanatorium. Salary £350 per annum.

Manchester: Royal Manchester Children's Hospital.—*(1) Resident* Medical Officer. (2) Resident Surgical Officer. (3) Two Assistant Medical Officers for Out-patients' Department. Salary for (1) and (2) £125 per annum, and for (3) £150 per annum.

Manchester and Salford Hospital for Skin Diseases.—House-Surgeon. Salary £100 per annum.

Manchester University.—Demonstrator in Chemical Pathology. Stipend £350 per annum.

Manchester University and Manchester Committee on Cancer.—Assistant in the Cancer Research Laboratories. Salary £400 to £650 per annum.

Mansfield and District Hospital.—House-Surgeon and Casualty Officer (male). Salary £150 per annum.

Middlesbrough: North Riding Infirmary.—Junior House-Surgeon (male). Salary £150 per annum.

Middlesex County Council.—Resident Medical Officer (male) at Hillingdon Institution, Uxbridge. Salary £600 per annum.

Middlesex Hospital, W.1.—Dental House Surgeon.

Middlesex Hospital Medical School, W.1.—Assistant in Radiological Research bearing upon the treatment of *malignant* disease. Salary £350 per annum.

Miller General Hospital, Greenwich Road, S.E.10.—(1) Casualty Officer. (2) House-Physician. (3) House-Surgeon. Salary for (1) £150, and for (2) *and (3) £125 per annum.*

National Hospital for Diseases of the Heart, Westmoreland Street, W.1.—(1) Resident Medical Officer. (2) Out-patient Medical Officer. Males. Salary £150 and £125 per annum respectively.

Northampton General Hospital.—(1) House-Physician. (2) Two House-Surgeons. (3) Two Assistant House-Surgeons. Salary £150 per annum.

Northern Ireland Government.—Medical Officer. Salary £800-£25-£1,000, *plus* bonus.

Nottingham General Hospital.—(1) House-Physician. (2) Second Casualty Officer *(male)* Salary £150 per annum each.

Oldham Royal Infirmary.—Two House-Surgeons. Salary £175 per annum.

Oldham County Borough.—Female Assistant Resident Medical Officer (unmarried) at the Boundary Park Municipal Hospital. Salary £200 per annum.

Oxford: Radcliffe Infirmary and County Hospital.—(1) Three House-Surgeons. *(2) House-Physician. (3) Obstetric House-Physician.* Salary £120 per annum.

Poole: Cornelia and East Dorset Hospital.—House-Surgeon (male). *Salary £150 per annum.*

Princess Louise Kensington Hospital for Children, W.10.—House-Surgeon and Casualty Officer. Salary £75 per annum, rising to £100 on appointment as Senior Resident.

Queen Charlotte's Maternity Hospital, Marylebone Road, N.W.1.—(1) Assistant Resident Medical Officer. (2) Resident Anaesthetist. Salary for (1) £80 per annum, rising to £100 on appointment as Senior, and for (2) £80 per annum.

Queen's Hospital for Children, Hackney Road, E.2.—Casualty Officer. *Salary £100 per annum.*

Royal Eye Hospital, St. George's Circus, S.E.1.—(1) Twelve Salaried Refractionists. (2) Twelve Clinical Assistants. (3) Pathologist.

Royal National Orthopaedic Hospital, Great Portland Street, W.1.—House-Surgeon (male). Salary £150 per annum.

Ryde: Royal Isle of Wight County Hospital.—(1) Member of Honorary Medical Staff. (2) Resident House-Surgeon, salary £180 per annum.

St. John's Hospital, Lewisham, S.E.13.—Resident Casualty Officer. Salary £100 per annum.

St. Paul's Hospital for Genito-Urinary Diseases, Endell Street, W.C.2.—(1) Resident Medical Officer. (2) House-Surgeon. Salary £200 and £150 per annum respectively.

St. Vincent's Orthopaedic Hospital, Eastcote.—Resident Medical Officer (unmarried). *Salary £150 per annum.*

Salford Royal Hospital.—(1) House-Surgeon attached to the Orthopaedic Department. (2) House-Surgeon. Salary £125 per annum each.

Seamen's Hospital Society.—(1) Two House-Physicians at the Hospital for Tropical Diseases, Endsleigh Gardens, W.C. (2) House-Physician and House-Surgeon at Dreadnought Hospital, Greenwich. (3) Medical *Officer at Albert Dock Hospital. (4) House-Surgeon at Tilbury* Hospital. Males. Salary for (1) and (4) £150, and for (2) and (3) £110 and a proportion of fees.

Sheffield Royal Hospital.—Resident Anaesthetist (male). Salary £80 per annum, rising to £100 after six months.

Shrewsbury: Eye, Ear, and Throat Hospital for Shropshire and Wales. —House-Surgeon (unmarried). Salary £200 per annum.

South Shields: Ingham Infirmary.—Junior House-Surgeon (male). Salary £150 per annum.

Staffordshire General Infirmary.—(1) House-Surgeon. (2) House-Physician. Salary £200 and £150 per annum respectively.

Stockton and Thornaby Hospital, *Stockton-on-Tees.—Junior Resident* Medical Officer (male). Salary £150.

Stoke-on-Trent: North Staffordshire Royal Infirmary.—Assistant House-Physician. Salary £125 per annum.

Swansea Hospital.—House-Surgeon (male, unmarried). Salary £150 per annum.

Tynemouth County Borough.—Assistant Medical Officer of Health (male). Salary £540 per annum.

Walsall County Borough.—First Assistant Resident Medical Officer at Manor Hospital. Salary £200 per annum.

West Bromwich and District General Hospital.—(1) House-Physician. (2) Casualty House-Surgeon. Males, unmarried. Salary £200 per annum.

West Hartlepool: Cameron Hospital.—*House-Surgeon. Salary £150 per* annum.

West London Hospital, Hammersmith Road, W.6.—(1) House-Physician. (2) Two House-Surgeons (males). (3) Resident Anaesthetist. Salary *£100 per annum.*

West Norfolk and King's Lynn Hospital.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary £150 and £100 per annum respectively.

Willesden Urban District Council.—Resident Medical Officer at the Willesden Municipal Hospital. Salary £250 per annum.

Wolverhampton and Midland Counties Eye Infirmary.—House-Surgeon. Salary £150 per annum.

Woolwich and District War Memorial Hospital, S.E.18.—House-Surgeon. Honorarium £100 per annum.

York: County Hospital.—House-Physician. Salary £150 per annum.

Certifying Factory Surgeons.—The following appointments are vacant: Llanybyther (Carmarthenshire); Paisley (Renfrewshire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

POST-GRADUATE COURSES AND LECTURES.

Fellowship of Medicine and Post-Graduate Medical Association.—*Queen's Hospital for Children*, Hackney Road, E.2: Special Course, all day. Fee £2 12s. 6d. for two weeks. Syllabus and ticket of admission from the Fellowship of Medicine, 1, Wimpole Street, W.1.

Central London Throat, Nose and Ear Hospital, Gray's Inn Road, W.C.1. —Fri., 4 p.m., Acute Mastoiditis.

Liverpool University Clinical School Ante-Natal Clinics.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

MARRIAGES.

Anderson—Hytch.—At St. George's Church, Bloomsbury, on June 21st, 1930, by the Rev. W. C. Roberts, M.A., Rupert George Anderson, M.B., Ch.B.Ed., D.P.H.Lond., only son of the late D. L. Anderson, C.A., F.F.A., Glasgow, and of Mrs. Anderson of London, to Dorothy Preston Hytch, M.R.C.S.Eng., L.R.C.P.Lond., only daughter of Mr. and Mrs. E. Preston Hytch of Normandy, Surrey.

Gedye—Locke.—On August 20th, at St. Paul's Church, Clifton, Bristol, Francis Ronald Gedye, M.B., Ch.B., son of the late Rev. E. F. Gedye, to Doris Kathleen Locke, daughter of Mr. and Mrs. T. W. Locke of Redland, Bristol.

Mackintosh—Haworth.—On August 25th, 1930, at Christ Church, Didsbury, by the Rev. E. N. Giles, assisted by the Rev. E. R. Hayes, Vicar of Melling Church, James Mackintosh, M.C., M.R.C.V.S., of Embo, Sutherland, to Doris Adeline Haworth, M.B., Ch.B., D.P.H., widow of the late Dr. Albert Haworth, M.Sc., M.B., Ch.B.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

200. The Blood Pressure in Health.

BELIEVING that there is need for more knowledge about physiological variations in blood pressure, W. C. ALVAREZ and L. L. STANLEY (*Arch. Int. Med.*, July, 1930, p. 17) record a statistical study of the blood pressure in 6,000 prisoners and 400 prison guards. The mean pressure in the prisoners varied but little from youth to old age, and was found to be about 115 mm. of mercury. This is less than the figure usually noted for men out in the world, and its lowness is attributed to the fact that the prisoners were not fatigued, and were free from the worry of earning a living—that is, to a certain extent their pressures were basal. It appears from this study that a pressure of 115 mm. is just as normal, and a pressure of 140 mm. just as abnormal, in an old man as in a young one. After the age of 35 fatness tends to increase the blood pressure, and thinness to decrease it. No increase of pressure was found in syphilitic prisoners. Also, judging from this series, the taking of alcohol has no effect on blood pressure, but drug addicts appeared to have slightly increased pressures during middle life; the use of tobacco in young men appeared to raise the modal pressure about 4 mm., but did not produce pathological hypertension. Cool weather slightly raised the level of mean blood pressure. The average diastolic pressure was 68.5 mm. in the younger and 73 mm. in the older men. This pressure tends to rise several years earlier than the systolic, and consequently pulse pressure decreases during the fourth decade of life. Fatness and leanness have a slight effect on diastolic pressure. In middle-aged men there was a slight correlation between the systolic pressure and the weight, and also between the systolic pressure and the surface area, but no association was traced with the height or with the degree of stockiness or ranginess. Contrary, then, to the general impression, the authors conclude that thick-set, stocky men are apparently no more likely to develop hypertension than are tall, thin, asthenic-looking individuals. The guards had pressures considerably higher than those of the prisoners; this might have been due partly to overweight and partly to the fact that when the pressures were taken these men were applicants for posts and were therefore under a certain degree of mental strain.

201. Headache at Puberty.

THE endocrine glands, chiefly the pituitary, thyroid, and suprarenals, govern the morphological and biochemical changes occurring at puberty; a disorder of these glands may cause anomalies or dysfunction of the sexual glands, or even troubles of a general order at that time. A. POPÉA and A. DIMOLESCU (*Rev. Med. Roumaine*, May–June, 1930, p. 121) state that headache is one condition often observed at puberty which has not been accorded sufficient attention. It may be diffuse, extending over the whole brain, with a slight predominance in the frontal region; continuous, with trifling variations in intensity; or persistent, with an uninterrupted duration of several weeks or even months. Insomnia is a frequent concomitant, and the patients become inattentive, often irritable, and unable to attend to their duties. Treatment on the lines indicated for migraine is inefficacious, or produces merely a transitory cessation of the pain. Chauvet has termed this syndrome hypophyseal headache. Paulian and Sedillot have shown that migrainous crises are due to hyperaemia of a pituitary gland in a state of dysfunction. By analogy with migraine the present authors believe that this same dysfunction, which they ascribe to insufficiency, is the cause of these headaches in subjects previously suffering from hypophyseal debility. At puberty the pituitary gland performs an excess of work, for which it is not yet adapted. The resulting overwork gives rise to vasomotor troubles—that is, to a vaso-dilatation of the vessels at the base and of their meningeal branches. Three cases are recorded in which, in accordance with the above pathogenic theory, hypodermic injections (8 to 10 in number) of aqueous total extracts of suprarenal and pituitary glands were administered; thyroid extract was not given, since no patient exhibited signs of thyroid disorder. Two of the patients, seen more than a year later, were completely well; in the third the headache recurred a month after a series of 8 injections, but it was definitely cured by a second series of 6 injections.

202. Early Diagnosis of Whooping-cough by the Sedimentation Rate.

F. ROHR and J. KRIEGER (*Deut. med. Woch.*, June 6th, 1930, p. 964) found that in 69 out of 82 examinations of the sedimentation rate in children suffering from whooping-cough delay occurred in spite of the fact that catarrhal processes usually cause acceleration. In the remaining 13 cases a reason for the acceleration was found in active tuberculosis (3 cases), measles (5 cases), or other febrile conditions, such as pyaemia, varicella, or otitis, while in only one case was there no explanation of the acceleration. The tendency of the blood in whooping-cough to show a delayed sedimentation rate is little, if at all, affected by the concomitant catarrh of the nasopharynx, bronchi, and ear. The rate, however, may sometimes be accelerated by highly febrile complications, but in that event the acceleration is slighter and more transient than in non-pertussis cases. In the cases, however, in which pertussis is associated with measles, the acceleration may be of longer duration. The delay may appear in the first week of the disease, and with one exception always justified an early diagnosis of measles in the present series of cases. The authors therefore recommend that this hitherto undescribed diagnostic method should receive further trial.

203. Syphilitic Aortitis.

R. FISCHER (*Wien. Klin. Woch.*, May 8th, 1930, p. 599) refers to the increasing number of cases of syphilitic mesaortitis recorded in recent years, and recognized generally as one of the most malignant diseases of the circulatory system. He has treated about fifty cases both as out-patients and in the wards, as well as a similar number of private cases. The average length of life after the disease was diagnosed was about two years. Fischer describes two cases of early pulmonary tuberculosis in which skiagrams revealed, in one case, aortic dilatation, and in the other a sacculated aneurysm; both patients had a positive Wassermann reaction. Even under early and energetic treatment cure is impossible, but the syphilitic infiltration of the media may be arrested. A great danger is that the scar tissue may invade the ostia of the coronary arteries. The author has seen serious results follow the non-specific increase of the effect of salvarsan—for example, when milk has been injected simultaneously—and death occurred in one case after stovarsol treatment. He has given iodides in many cases, but considers that their utility is doubtful, energetic neosalvarsan treatment being recommended as the most rational method.

Surgery.

204. Sarcoma of the Stomach.

D. C. BALFOUR and J. C. MCCANN (*Surg., Gynecol. and Obstet.*, June, 1930, p. 948) report an analysis of 54 cases of gastric sarcoma observed at the Mayo Clinic during the past twenty years. The diagnosis in 53 instances was made as the result of surgical intervention for gastric lesions, and in one the condition was found at necropsy. In only 4 of the series was there any history of malignancy in the family, and the incidence varied from one to six cases a year, with an average ratio of one case of sarcoma to 111 of carcinoma in a total of 4,159 cases of malignant disease of the stomach. Males predominated over females in a ratio of 25 to 1. Before the operation the average duration of symptoms was eighteen months, and these ranged from localized gastric disorders such as dyspepsia, epigastric pain, palpable tumour, haemorrhage, weakness, and vomiting, to indefinite conditions which did not point to the seat of the trouble. The majority of lesions were diagnosed as gastric carcinoma before the operation, which consisted of partial gastrectomy, and was followed by the administration of Coley's toxins and irradiation in two suitable cases, with irradiation alone in 14 cases. The authors remark that the extent of the irradiation is always an individual problem, depending upon the clinical aspects of the case. Definite results were obtained in lymphosarcoma, in which, after removal of the growth, irradiation apparently controls lymphatic extension, with improvement in subjective gastric symptoms and in the general condition. The average duration of life after resection was eleven months, but in twelve instances the average has been five years, one patient living for nine years.

treated had suffered from chronic gonorrhoea for from five months to several years, and had failed to yield to all the usual forms of treatment. Each patient had injections of silver protein twice weekly, and a total average of 12 to 14 injections. Of these twelve cases, one was completely cured, two greatly improved, while nine cases were unaffected. The author concludes that while his results were not so brilliant as those of the French authors, owing to the difficult cases which were treated by him, this method should be tried further in view of its simplicity and harmlessness.

211. Liver Treatment of Pernicious Anaemia.

M. C. RIDDLE and C. C. STURGIS (*Amer. Journ. Med. Sci.*, July, 1930, p. 1) find that in pernicious anaemia the response to liver treatment depends rather on the amount of active liver principle given during a certain period than on the amount taken each day. A similar effect is obtained by giving 30 vials of liver extract in a single dose and ten doses, each of three vials, administered at daily intervals. The rate of reticulocyte response occurs most rapidly after the administration of a large single dose; the increase commences about forty-eight hours after a large single dose of 30 vials of extract, reaches a maximum number and percentage in 104 to 140 hours, and ends after 240 hours. The stimulating effect on the bone marrow after the administration of a single dose of 30 vials of extract is indicated in the blood during the first two or three days by numerous nucleated red cells and immature white cells of myeloid origin. The reticulocyte response, the increase in the red cell count, and the amount of haemoglobin are as satisfactory after a single dose of 30 vials as when three vials, corresponding to half a pound of liver, are given daily for ten days. The effect of the large dose lasts about ten days.

Laryngology and Otology.

212. Infection of the Ear with the Streptococcus haemolyticus.

J. M. ALONSO (*Rev. de Laryngol., d'Otol. et de Rhinol.*, March 15th, 1930, p. 157) draws attention to the vast number of the strains of streptococci, and points out that while many have no place in human pathology, others, and especially the *Streptococcus haemolyticus*, are the cause of grave morbid conditions. Although at present there is no proof, he believes that scarlet fever is caused by an unknown virus, and that the *Streptococcus haemolyticus* is a secondary infection; this organism has been found by one observer in 90 per cent. of extirpated tonsils, it has also been recovered from ear infections not associated with scarlet fever, but has, however, produced similar complications. The pathological process in these ear infections is usually an otitis, associated with a necrotic type of mastoiditis, meningeal complications are common. The author strongly commends the use of anti scarlet fever serum in the treatment of these cases in addition to the usual surgical measures. The antitoxin is administered by the hypodermic route and in small doses of 2 to 4 c.cm. into the spinal theca in those cases which show meningeal symptoms. The author remarks that the value of antitoxin is not universally admitted, but he quotes cases of his own in which recovery followed the treatment even when the *Streptococcus haemolyticus* had been demonstrated in stained films of the cerebro spinal fluid. It is added that these conditions are most frequent in children with adenoids present.

213. Angioneurotic Oedema and Allied Conditions Affecting the Oesophagus.

CHEVALIER JACKSON (*Trel of Otolaryngol.*, April, 1930, p. 397) describes four rare cases of oesophageal obstruction. The first patient was a woman, aged 38, who complained of sudden difficulty in swallowing, associated with retrosternal pain and swelling of the eyelids and hands. The attack had been preceded by abdominal pain and tenesmus. There was a history of similar attacks of abdominal pain, but no previous oesophageal symptoms. X ray examination revealed that the lumen of the thoracic oesophagus was markedly narrowed, and oesophagoscopy showed the oesophagus obstructed by firm bleeding nodules, white at the centre and intensely hyperaemic at the bases. The patient received treatment; at the end of two weeks all symptoms had vanished, and a second oesophagoscopy showed the mucosa of the oesophagus normal. A diagnosis of angioneurotic oedema was made. The second patient was a woman, aged 43, with sudden dysphagia associated with a facial urticaria, there was a previous history of urticaria and asthma. Oesophagoscopy revealed the lumen of the oesophagus blocked with firm white nodular swellings of the walls. The dermal rash and symptoms of dysphagia vanished on the fourth day. A second examination of the oesophagus at the end of seven days showed it to be normal. A diagnosis of urticaria was made. In the third case, that of a boy aged 18, dysphagia followed four days after the injection of serum, it was associated with urticaria, enlargement of the glands of the neck, and joint pains. The temperature rose to 101°. The oesophagus was obstructed by firm white nodules. A second examination ten days later showed the oesophagus to be normal, and a diagnosis of serum sickness was made. The fourth case was that of a woman, aged 52, who complained of intermittent attacks of painful dysphagia. Oesophagoscopy revealed the presence of chronic oesophagitis with a small superficial ulcer in the middle, and a subsequent oesophagoscopy showed the ulcer to have healed at the end of two weeks, the patient being free from symptoms. One week later she complained of a burning pain on swallowing, and suggested that the food passed a tender spot. On oesophagoscopy there was seen a welt-like ridge of the oesophageal mucosa with a yellow bleb on its summit. A later examination showed that the bleb had become a shallow ulcer, and a final oesophagoscopy revealed a normal mucosa. On returning home she had a similar attack associated with a herpetic eruption, a diagnosis of herpes of the oesophagus was made. These four lesions must be closely allied, since a differential diagnosis between them may be impossible. The author claims, however, that their differential diagnosis from other oesophageal conditions is simple with endoscopy, and emphasizes the importance of oesophagoscopy in all cases exhibiting oesophageal symptoms.

214. The Employment of Percaine in Oto-rhino-laryngology

O. BOSERUP (*Ugeskrift for Laeger*, April 24th, 1930, p. 411) reports from the Oto rhino-laryngological Department of the Finsen Institute in Denmark investigations made for over half a year with percaine (Ciba). For surface anaesthesia a 2 per cent. solution was used; for infiltration anaesthesia a 0·2 per cent., and later a 0·1 per cent. solution was employed, the action of the last named solution proving satisfactory. At first a 0.1 per cent. solution of adrenaline was added (nine drops to 50 c.cm. of the solution), but it was soon dispensed with in order that the action of the percaine might be the better studied. Dispensing with the adrenaline entailed more bleeding, but no demonstrable reduction of the anaesthetic action of the percaine. It was tried altogether on 93 occasions, on 15 of which it was used for surface anaesthesia during examinations of the larynx, for excisions, for galvano cauterization, and for the application of radium. On 44 occasions it was employed for surface anaesthesia for turbinectomies and the removal of polypi, and in 12 cases for infiltration anaesthesia for tonsillectomy. The patients' ages ranged from 14 to 61, and the amount of the 0·1 per cent. solution used was—in a case of laryngo fissure, for example, —between 30 and 35 c.cm. About 25 c.cm. was required for an antrum resection, 20 c.cm. for a tonsillectomy in an adult, and 10 to 15 c.cm. for the same operation in children. In no case were any signs of poisoning observed, the healing of the operation wounds ran a normal course, and there was no evidence of injury to the tissues. Anaesthesia was rapidly induced, it was complete and remarkably persistent, so much so that post operative pain was in most cases not felt. Paraesthesias and hypaesthesias seemed to be less marked than after novocain adrenaline anaesthesia. The facts that percaine can be boiled repeatedly without losing its potency and that it is cheaper than the local anaesthetics hitherto employed have enhanced its value, and the author states that his department intends to replace cocaine and novocain wholly by percaine.

Obstetrics and Gynaecology.

215. Obstetrical Anaesthesia in Private Practice.

M. HENKEL (*Med. Welt*, May 24th, 1930, p. 733) finds morphine very valuable in midwifery practice when given at the right time and in correct dosage. Scopolamine-morphine anaesthesia, as introduced by Schneiderlin, has, he thinks, many disadvantages, particularly the uncertainty of action, possible foetal asphyxia, and severe haemorrhage, but on the whole he considers it less dangerous than the newer methods. Goldschmidt and Putz have each published a series of cases treated with pernocton, just under 200 in all, they had two cases of post partum eclampsia, many patients became seriously excited, so that some had to be held down forcibly; in some instances the pains became weak, necessitating the use of pituitary extract and forceps. With avertin similar results are reported; it is given by the rectum, rendering the effect very variable, as absorption rates differ so widely in different cases. Pitlan's new method consists of injecting a

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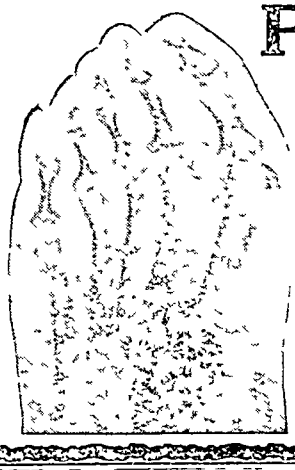
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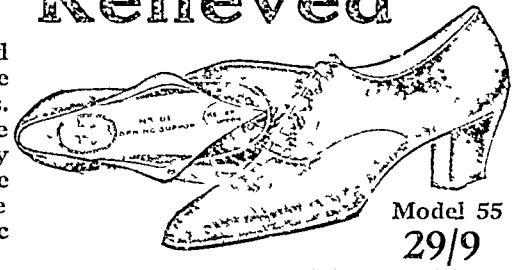
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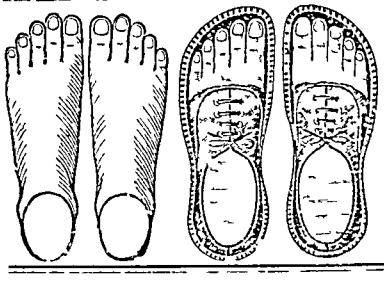


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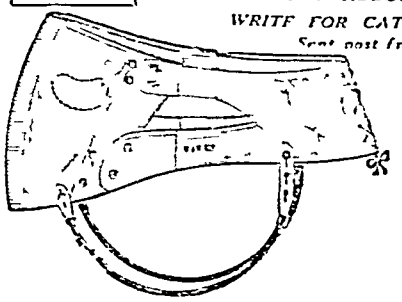
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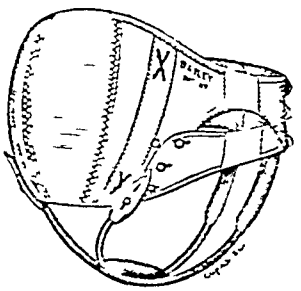
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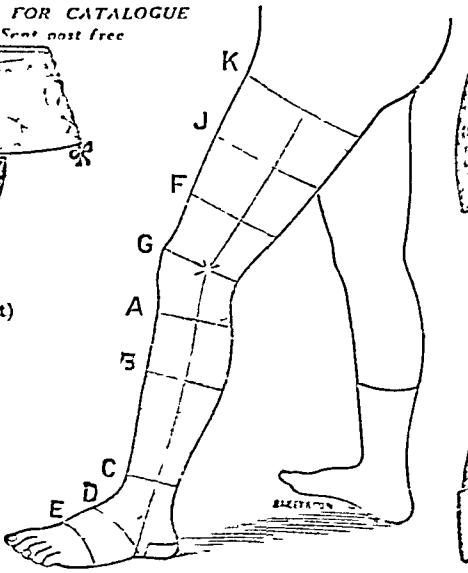
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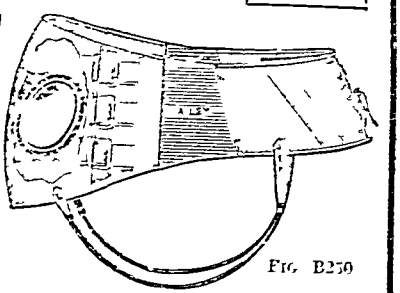


FIG. B250
(Showing Interior of Cup)
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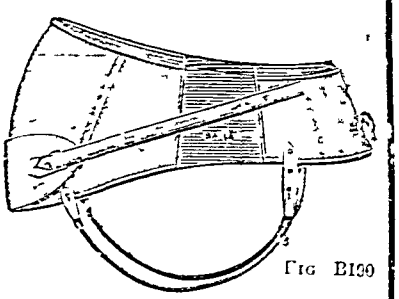


FIG. B190
BELT FOR ENTEROPTOSIS.

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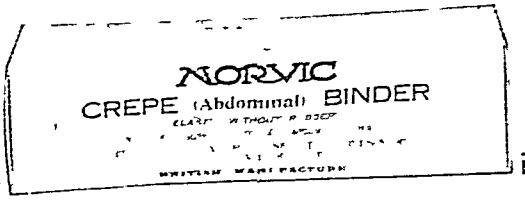
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Medical Superintendent: DANIEL F. RAMBAUT, M.A., M.D.

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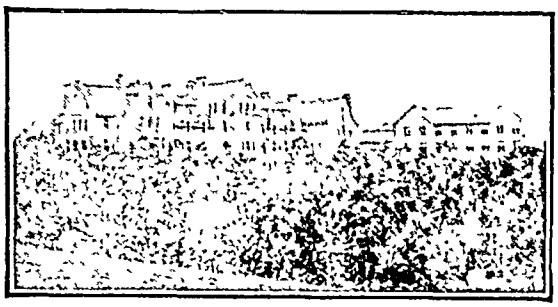
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Clinical Instruction is given at the Royal Free Hospital, and also at the National, Cancer, Great Ormond Street Children's, Elizabeth Garrett Anderson, South London, and Royal Ophthalmic Hospitals

Scholarships, Bursaries, and Prizes are awarded annually to the value of £1,450.

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Prospectus and information as to Scholarships, residence in the School, Chambers, etc., from the Warden and Sec., Miss L. M. BROOKS.

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A Prospectus and full particulars may be obtained on application to the Dean: Dr. A. S. WOODWARK, C.M.G., C.B.E., M.D., F.R.C.P., Westminster Hospital Medical School, Caxton Street, S.W.1. Telephone: Victoria 0765.

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F.R.C.S.

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Fees (exclusive of Operative Surgery) 20 guineas. Operative Surgery 5 guineas.

A separate entry can be made for all Classes other than those of a strictly Clinical character. (Men students only are eligible for admission.)

Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, London Hospital Medical College, Mile End, E.1.

LONDON HOSPITAL MEDICAL COLLEGE.

Primary Fellowship Examination.

A COURSE OF INSTRUCTION for the above Examination will begin on Monday, September 1st. The fee for the Course is 15 guineas.

Further particulars may be obtained from Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S., Dean, Mile End, E.1.

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This Section of the Course is under the joint direction of:

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and includes Biochemistry, General Physiology, and Histology.

Instruction is given daily except on Saturdays.

The Course will be resumed on September 1st at 9.15 a.m.

FEE: Twenty guineas.

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For further information apply to the Dean or the School Secretary.

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F.R.C.S.(Edin.)

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for Jan. and later Exams. should begin now.—H. C. ORRIN, F.R.C.S., Surgeons' Hall, Edinburgh.

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(University of London.)

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The Medical School provides courses in Preliminary, Intermediate, and Final Subjects, and Students can join at once after matriculation.

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C. M. WILSON (*M.C.*), M.D., F.R.C.P., *Dean*

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W.2.

(University of London)

PRIMARY F.R.C.S. COURSE.

A Course of Instruction for the DECEMBER EXAMINATION will begin on MONDAY, SEPTEMBER 1st, 1930, and will be conducted as follows:

ANATOMY AND EMBRYOLOGY.—Prof J ERNEST FRAZER, F.R.C.S (Professor of Anatomy in the University of London)

PHYSIOLOGY AND HISTOLOGY (with Practical Classes)—Prof. B. J. COLLINGWOOD, O.B.E., M.D (Professor of Physiology in the University of London)

Fee for the Course, 16 gns, or 9 gns for either section separately. This fee includes membership of the Students' Club during the period covered by the Course

For further particulars apply to the School Secretary

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COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th, and for the Diploma in Tropical Hygiene on January 13th and April 23rd (Candidates for the D.T.H. must possess the D.T.M. of this University)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool

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Royal College of Physicians of LONDON.

The next ordinary PROFESSIONAL EXAMINATION for the MEMBERSHIP will commence on Wednesday, October 15th, 1930

Candidates are required to give 21 days' notice, in writing, to the Registrar of the College, to whom all certificates and testimonials required by the By-laws must be sent at the same time.

Candidates who propose to submit published work under the Regulations now in force should apply, in writing, to the Registrar, without delay, for detailed instructions as to the procedure they should follow.

RAYMOND CRAWFURD, M.D., Pall Mall East, S.W.1 Registrar.

F.R.C.S.(Edin.)

CLASSES, with Museum and Anatomical Demonstrations, for next Exam., will commence shortly Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE.

(University Centre for Medical Sciences.)

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Bio Chemistry.—J. C. DRUMMOND, D.Sc., F.I.C., Professor. (Dean.)

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History of Medicine.—C. SINGER, M.D., D.Litt., F.R.C.P., Lecturer.

Pharmacology.—E. B. VERNEY, M.A., M.B., B.Ch., M.R.C.P., M.R.C.S., Professor (Vice-Dean)

Physics.—E. N. DA C. ANDRADE, D.Sc., Ph.D., Professor.

Physiology.—C. A. LOVATT EVANS, D.Sc., M.R.C.S., F.R.S., Jodrell Professor.

Zoology and Comparative Anatomy.—D. M. S. WATSON, M.Sc., F.R.S., Jodrell Professor.

The SESSION 1930-31 will begin on MONDAY, OCTOBER 6th, 1930.

COURSES OF INSTRUCTION are arranged for the First Medical and the Second Medical Examinations of the University, as well as for the corresponding Examinations of the Examining Board of the Royal Colleges of Physicians and Surgeons and of other Licensing Bodies

Facilities for POST-GRADUATE and RESEARCH WORK are provided in all Departments named above. The Department of Anatomy provides also for research in ANTHROPOLOGY, EMBRYOLOGY, HISTOLOGY, and NEUROLOGY.

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University College, London (Gower St.), W.C.1.

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FACULTY OF MEDICAL SCIENCE.

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(2) The Conjoint Examining Board of the Royal Colleges of Physicians and Surgeons; and also for
(3) The Degree in Dental Surgery (B.D.S.).
(4) The Primary Fellowship Examination of the Royal College of Surgeons
(5) The First Professional Examination for the Licence in Dental Surgery of the Royal College of Surgeons

The College, with a full complement of University Faculties, offers to Medical Students the advantages of a broad university education before they proceed with the purely clinical subjects in the associated or other hospitals.

Valuable Scholarships and Prizes are awarded on the results of examinations held annually.

The hostel for men students (King's College Hall, Champion Hill, S.E.5) contains accommodation for 80 students The hostel for women students is at 58, Queensborough Terrace, Bayswater.

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S. T. SHOVELTON, M.A., Strand, W.C.2 Secretary.

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Diplomas in (*a*) PUBLIC HEALTH, (*b*) HYGIENE (for foreign graduates), (*c*) TROPICAL MEDICINE AND HYGIENE

Courses of Instruction in the Subjects of the Examinations commence October 8th, 1930. Full particulars to be obtained from Mr. J. E. PURVIS, Public Health Chemical Laboratory Medical School, Cambridge

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UNIVERSITY OF LONDON KING'S COLLEGE.

PRIMARY F.R.C.S.

Course in Anatomy and Physiology for the December examination will commence on Tuesday, September 2nd at 10 a.m.

Instruction in both subjects will be given daily. Facilities for dissection will be available The course in Physiology will include practical work in Biochemistry, and demonstrations in Experimental Physiology and in Histology.

Fee for the complete course: Twenty guineas.

Applications for admission should be addressed to the Dean of the Medical Faculty, King's College, Strand, W.C.2

UNIVERSITY OF LONDON.

WILLIAM JULIUS MICKLE FELLOWSHIP.

Applications are invited for the William Julius Mickle Fellowship, which is of the value of at least £200, and is awarded by the Senate to the man or woman who, being resident in London and a graduate of the University, has in the opinion of the Senate done most to advance Medical Art or Science during the preceding five years Applications must be made before October 1st, 1930. Further particulars can be obtained from the Academic Registrar, University of London, South Kensington, S.W.7

The University of Manchester.

Applications are invited for the post of DEMONSTRATOR IN CHEMICAL PATHOLOGY Stipend £350 per annum. Duties to commence September 29th Applications must be sent not later than September 13th to the Registrar, from whom further particulars may be obtained.

University of Manchester and MANCHESTER COMMITTEE ON CANCER

JOINT COMMITTEE ON CANCER RESEARCH

Applications are invited for a post as ASSISTANT in the Cancer Research Laboratories in the University. Experience in tissue culture research and histology is required. Chemical experience also desired. Salary £400 to £650 per annum according to qualifications and experience. Duties to commence September 29th. Applications must be submitted not later than September 7th to the Registrar the University, Manchester, from whom further particulars can be obtained.

County Borough of Oldham.

BOUNDARY PARK MUNICIPAL HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the post of FEMALE ASSISTANT RESIDENT MEDICAL OFFICER.

Salary £200 per annum with board, residence and laundry. Candidates should be unmarried.

The appointment will in the first instance be for a period of six months. The successful applicant if approved will be eligible for reappointment for a further period of six months. The Hospital comprises 350 beds with facilities for training in medicine, surgery, midwifery and diseases of children.

Applications, endorsed "Resident Assistant Medical Officer," should be sent to the Medical Officer of Health, Town Hall, Oldham, and should be received not later than September 5th.

Town Hall, Oldham. JOSEPH J. WILLIAMS, Town Clerk.

August 21st, 1930.

Kent County Council.

PUBLIC ASSISTANCE DEPARTMENT.

PEMBURY INSTITUTION.

ASSISTANT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the post of Assistant (whole-time) Medical Officer resident at the Poor Law Institution, Pembury (436 beds).

The salary will be at the rate of £200 per annum and the appointment will be made for a period of twelve months.

Applications on forms to be obtained from the Public Assistance Officer, Brunswick House, Buckland Hill, Maidstone, to be returned to him as soon as possible, stating age, experience and qualifications.

It is proposed that a contributory pension scheme should be applied to the appointment.

Sessions House, Maidstone. W. J. HATTS, Clerk of the County Council.

County Borough of Walsall.

MANOR HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified gentlemen for the appointment of First Assistant Resident Medical Officer.

The salary will be at the rate of £200 per annum, together with the usual residential emoluments. The appointment will be made for a period of twelve months.

The person appointed will be required to act under the general direction of the Medical Officer from whom particulars of the appointment may be obtained.

Applications stating age, professional qualifications and experience, accompanied by not more than three copies of recent testimonials, should be sent to the undersigned at once.

C. S. FOTHERGILL, Public Assistance Officer.

29, Leicester Street, Walsall.

August 25th, 1930.

Willesden Urban District COUNCIL.

RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer at the Willesden Municipal Hospital. The salary will be at the rate of £250 per annum, with board, lodging and laundry, and the appointment is for a period of twelve months. The Hospital admits all the notifiable diseases.

Applications stating age, qualifications and previous experience, with copies of three recent testimonials to be sent to the Medical Superintendent, Willesden Municipal Hospital, Brentfield Road, Neasden, N.W.10.

E. J. PRATT, Clerk of the Council.

County Borough of Tynemouth.

ASSISTANT MEDICAL OFFICER OF HEALTH (Male).

Applications are invited from duly qualified and registered Medical Practitioners between the ages of 25 and 45 years for the above appointment.

The commencing salary will be £540 per annum.

Special experience and qualifications in tuberculosis will be necessary as the work under the Tuberculosis Scheme will form part of the officer's duties.

Applicants should have (1) at least three years experience in the practice of his profession, (2) spent in general clinical work a period of not less than 18 months of which not less than six months have been spent in a hospital as resident officer in charge of beds occupied by general medical and surgical cases and (3) received special training for a period of not less than six months in the diagnosis and treatment of tuberculosis.

A Diploma in Public Health and experience of infectious diseases is desirable.

The appointment will be a whole-time appointment under the direction of the Medical Officer of Health. Such appointment will be determinable by one month's notice on either side and the person appointed will not be allowed to engage in private practice.

The appointment will also be subject to the provisions of the Local Government and Other Officers' Superannuation Act, 1922, and the successful applicant will be required to pass a medical examination.

Canvassing, either directly or indirectly, will be a disqualification.

Applications, accompanied by not more than three recent testimonials, are to be delivered to the undersigned not later than Monday, September 15th, 1930.

Appointment of Assistant Medical Officer of Health must reach me on or before 10 a.m. on Friday, September 12th.

C. C. HENDERSON, Town Clerk.

14, Northumberland Square, North Shields.

City of Manchester.

PUBLIC HEALTH DEPARTMENT.

BAGULEY SANATORIUM (333 Beds).

APPOINTMENT OF ASSISTANT MEDICAL OFFICER.

Applications are invited from qualified Medical Practitioners for the post of Assistant Medical Officer.

Every applicant must be a registered Medical Practitioner under 40 years of age and unmarried.

Preference will be given to applicants with previous Hospital experience, some experience of tuberculosis preferable.

Salary £500 per annum with board, residence and laundry in addition.

The appointment is made in the first instance for a period of twelve months renewable at the expiration of that period.

Every application stating full the training, qualifications and experience of the candidate and enclosing with copies of three recent testimonials a Medical Certificate of health, must be addressed to the Medical Officer of Health, 1, Mount St., Manchester, duly and not to members of the Committee or Council, and must reach him not later than Tuesday, September 9th.

The gentleman appointed will be required to pass a medical examination to devote the whole of his time to the duties of the office, to contribute to the Corporation Superannuation Fund and to exempt the end of service.

Canvassing in any form, oral or written, directly or indirectly, is prohibited.

By Order,

Town Hall, Manchester. F. E. WALBRECK HOWELL, Town Clerk.

August 2nd, 1930.

Government of Northern Ireland

APPOINTMENT OF MEDICAL OFFICER.

Applications are invited for the post of Medical Officer under the Ministry of Labour, whose duties will mainly lie in connection with the new scheme of Medical Benefit.

Candidates must have had at least 10 and preferably 15 years recent experience in general medical practice.

The salary attaching to the post will be £800—£30—£1,000, plus cost of living bonus at the Civil Service rate in force from time to time. The inclusive commencing salary at the rate of bonus payable during the six months commencing on September 1st will be £981.

Further particulars and forms of application may be obtained from the Secretary, Civil Service Commission, 15, Donegall Square West, Belfast. Applications on the prescribed forms must be received by the Civil Service Commission not later than September 20th.

County Council of Middlesex.

HILLINGDON INSTITUTION, UXBRIDGE, MIDDLESEX.

RESIDENT MEDICAL OFFICER.

The County Council invite applications for the post of Medical Officer (male) of the Hillingdon Institution at a salary of £900 per annum (no extras) with board, lodging and laundry valued at £150 per annum. The Institution is under the administrative control of the Master and provides accommodation for 400 sick and bed-ridden persons. Owing to the absence of suitable accommodation within the Institution the officer appointed will in the first place be required to live in private apartments in the neighbourhood and during this period a special allowance in respect of board and lodging will be made. On the erection of a residence within the Institution grounds the terms of the appointment in connection with emoluments will be reconsidered.

Candidates must be registered Medical Practitioners and must have held resident hospital appointments. Special experience in surgery will be an additional qualification.

The officer appointed will be required to devote his whole time to the duties of the post and to contribute to the County Councils Superannuation Fund. For the latter purpose he will be required to pass such medical examination as the County Council may direct.

The appointment is terminable by three months' notice on either side.

Applications, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than September 13th.

Canvassing is prohibited.

Canvassing is prohibited.

Guildhall, Westminster, S.W.1. ERNEST S. W. HART, Clerk of the County Council.

August 19th, 1930.

Argyll County Council.

MEDICAL OFFICER wanted for the district of GLENORCHY. The salary is to be a payment of £126 per annum from the County Council for services as Local Medical Officer, a grant from the Highlands and Islands (Medical Service) Fund in respect of the Department of Health and consultable private practice may be expected.

A free house at Dalmally with a motor car is provided and owners rates are paid by the County Council.

For further particulars reference may be made to the County Medical Officer, Oban, Argyll with whom applications with six copies of testimonials are to be left by or before September 15th.

King George Hospital, Ilford

(6 miles from London) (750 Beds).

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER. Salary £200 per annum with board, residence etc. Term six months with eligibility for further period. Previous Hospital experience essential. Preference given to candidates who are Fellows of a Royal College of Surgeons. Vacancy as from September 1st. Applications should be sent to the Secretary.

Great Yarmouth General HOSPITAL (72 Beds).

Two HOUSE SURGEONS required a SENIOR to commence duties on September 1st and a JUNIOR to commence duties on September 11th. Salaries at the rate of £150 and £140 per annum respectively, together with board residence and laundry.

Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

FRANK JENNINGS, Secretary.

Haywood Hospital, Burslem

RESIDENT MEDICAL OFFICER required (male or female). Salary £175 per annum with residence, board and laundry. Applications stating age, qualifications, nationality, etc., with copies of three recent testimonials to be sent to me stating when the applicant could commence duties. New Hospital will be opened in October next.

Public Offices, Price Street, Burslem. F. C. POWELL, F.C.I.S.

Leeds Public Dispensary.

Wanted JUNIOR RESIDENT MEDICAL OFFICER. Salary £150 per annum with board residence, and four shillings weekly for laundry.

Applications with copies of three recent testimonials to be addressed to the Secretary of the Faculty, Public Dispensary, North Street, Leeds.

All Saints Hospital (for Genito-URINARY DISEASES)

In-Patient Dept.: 91, Finchley Road, N.W.8.
Out patient Dept. & Secretary's Office:
49/55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required on October 1st, for period of six months, three months as Non-resident JUNIOR HOUSE SURGEON, and then (subject to the approval of the Board), three months as RESIDENT SENIOR HOUSE SURGEON. Salary will be at the rate of £150 per annum, with board and laundry during the resident period.

The duties of the Non-resident House Surgeon consist of attendance at the Out patient Dept each afternoon and three evenings weekly.

Applications, stating age, experience, qualifications, and enclosing copies of recent testimonials, should reach me not later than September 15th.

D. H. EADE, Secretary.

The Cancer Hospital (Free)

(Incorporated under the Royal Charter),
Fulham Road, London, S.W.3

The Committee are prepared to receive applications for the post of HOUSE SURGEON. Salary at the rate of £100 per annum. The appointment is for six months and subject to rules. Candidates must call upon each member of the Medical Committee not later than September 22nd. A copy of the rules and the names and addresses of the Medical Committee may be obtained from the Secretary. Previous experience as a House Surgeon is indispensable.

Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Saturday, Sept. 13th.

J. COURTNEY BUCHANAN,
Secretary.

Royal Isle of Wight County HOSPITAL, RYDE.

RESIDENT HOUSE SURGEON wanted for October 1st, either sex, unmarried. Single-handed appointment. Doubly qualified and registered. State age and nationality. Salary at the rate of £180 yearly, with board, residence, and laundry. There are three special departments, ophthalmic, x-ray, and aural. *Preference to candidate with experience in these branches.* Apply, enclosing copies of testimonials, to Secretary, before Saturday, September 13th. Return railway fare for selected candidates.

A. S. GORDON, Secretary.

Royal Isle of Wight County HOSPITAL, RYDE

A VACANCY having occurred on the Honorary Medical Staff, the Election Committee of the Governors will proceed to fill the appointment. Applications, stating age, and registered qualifications, with copies of not more than three professional testimonials, to be sent to the Secretary at the Hospital not later than Saturday, September 13th. Candidates must be engaged in practice in the Isle of Wight, and must present themselves for interview by the Election Committee in due course. Canvassing will be a disqualification.

A. S. GORDON, Secretary.

Wolverhampton and Midland COUNTIES EYE INFIRMARY.

HOUSE SURGEON wanted. Ophthalmic experience preferred. Duties to commence in October. There are 50 beds for In patients, and large Out patient Department. Salary £150 a year, with furnished apartments, board, and laundry.

Applications, stating age and experience, with copies of three recent testimonials, to reach the Secretary not later than September 9th.

EUSTACE LEES,
August 25th, 1930. Secretary.

Essex County Hospital, COLCHESTER. (160 Beds.)

Wanted in October, a *HOUSE PHYSICIAN* (male). Salary £150 per annum, with board, washing, and residence in the Hospital. Medical and Surgical qualifications required.

Applications, with three recent testimonials, to be sent on or *before* Friday, September 5th, to—

ALFRED G. BUCK, Secretary.

Essex County Hospital, COLCHESTER (160 Beds)

Wanted at once ASSISTANT HOUSE SURGEON and REGISTRAR (male). Salary £120, with board, washing, and residence. Medical and Surgical qualifications required.

Applications, with three recent testimonials, to be sent by Friday, September 5th, to—

ALFRED G. BUCK, Secretary.

Eye, Ear, and Throat Hospital FOR SHROPSHIRE AND WALES.

APPOINTMENT OF HOUSE SURGEON.

The Board of Management invite applications for the post of House Surgeon at the Eye, Ear, and Throat Hospital, Shrewsbury (48 beds).

Candidates (either sex) must be unmarried and have a registered qualification in Medicine and Surgery.

Salary £200 per annum, with board, lodging, and laundry.

Applications, with copies of testimonials, to be sent in sealed envelopes marked "House Surgeon" to the Chairman of the Board of Management not later than September 13th.

CLOTHIER, WATKINS & RIDDELL,
Secretaries.

The Gloucestershire Royal INFIRMARY AND EYE INSTITUTION, GLOUCESTER. (153 Beds.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary £120 per annum, with board, residence, and laundry. (Four Resident Medical Officers.)

The appointment is for *six months*, which may be extended for similar periods by re-election from time to time.

Applications, stating age, qualifications, and nationality, with copies of not less than three recent testimonials, must be received by the undersigned not later than Wednesday, September 24th. The elected candidate will be required to enter upon his duties on Wednesday, October 8th.

F. J. SYMONS,
August 21st, 1930. Secretary.

Royal Halifax Infirmary.

Wanted, a THIRD HOUSE SURGEON (male, unmarried). Candidates must be duly qualified and registered. Salaries of Resident Staff are as follows: Resident Surgical Officer £250, First House Surgeon £200, Second House Surgeon £175, Third House Surgeon £150 per annum, with residence, board, and laundry.

The Hospital contains 230 beds, has a large Eye, Ear, Nose, and Throat Department, Maternity Ward, and Pathological Laboratory.

Particulars of the duties may be obtained from the undersigned, to whom applications, with copies of testimonials, should be sent.

A. MIDGLEY,
August 25th, 1930. Secretary.

Royal Infirmary, Blackburn.

(250 Beds, Five Residents.)

THIRD and FOURTH HOUSE SURGEONS (male) required as early as possible at salaries of £175 and £150 per annum, rising to £250, with board, residence, laundry, etc. To commence duties September 1st.

Applications, with copies of testimonials, stating age, nationality, experience, etc., to be sent at once to the undersigned.

Royal Infirmary, Blackburn. NATHAN A. SMITH, Gen. Supt. & Secretary.

This Institution is recognized for the Surgical practice required for the F.R.C.S. Final Examination.

Derbyshire Hospital for Sick CHILDREN. (52 Beds.)

RESIDENT MEDICAL OFFICER (lady) wanted September 13th. The appointment is for six months, but may be extended by mutual arrangements. Applicants must be fully qualified. Salary £150 per annum. Applications, with three testimonials, one relating to anæsthetics, to be sent by September 1st to the undersigned.

ARTHUR N. WHISTON,
25, St. Mary's Gate, Derby. Secretary.

Durham County and Sunderland EYE INFIRMARY. (44 Beds.)

Average 250 Out patients daily.

Wanted, immediately, CLINICAL ASSISTANT in Out-Patient Department to take morning duties from 9.30 to 1 noon or until out patient work is completed. Must have Ophthalmic experience. Salary at the rate of £250 per annum.

Applications, with full particulars, to be sent to JOHN BUTTERFIELD, Secretary, Eye Infirmary, Sunderland.

General Hospital, Nottingham.

Wanted, SECOND CASUALTY OFFICER (male). Appointment for six months commencing September 20th. Salary at the rate of £150 a year, with board, residence, and laundry.

Applications, stating age, qualifications, and experience, with copies of testimonials, to be delivered to me not later than Monday, September 1st.

PETER M. MACCOLL,
House Governor & Secretary.

Woolwich and District War MEMORIAL HOSPITAL,

Shooters Hill, London, S.E.18
(General Hospital—112 Beds.)

The Board of Management invites applications from suitably qualified male candidates, for *appointment as HOUSE SURGEON* for a period of six months commencing October 1st next. In addition to his surgical duties he will have care of the Maternity Unit of 8 beds.

An honorarium of £100 per annum will be paid in respect of this *appointment*, plus board, residence, and laundry.

Applications, accompanied by copies of not more than three recent testimonials, should be sent to the undersigned, to reach him not later than first post on Monday, September 15th.

EDWIN RADFORD,
Secretary Superintendent.

Royal Victoria and West Hants HOSPITAL, BOURNEMOUTH.

(Boscombe Branch—170 Beds.)

A HOUSE SURGEON (male, British nationality) required to commence duty immediately. Salary £150 per annum, with board, lodging, and washing. The *appointment* is *tenable* for six months, and candidates must be registered according to the provisions of the Medical Acts.

Applications, stating place of birth, with copies of three testimonials, to be sent immediately to the undersigned.

Women and married men are ineligible.

GORDON M. SAUL,
August 18th, 1930. Secretary.

The Staffordshire General INFIRMARY, STAFFORD.

Applications are invited for the posts of HOUSE SURGEON and HOUSE PHYSICIAN (male or female). Salary at the rate of £200 and £150 per annum respectively, with board, lodgings, etc.

Candidates must be duly qualified and registered under the Medical Acts. The appointment to be held for at least six months. Applications, *stating age, accompanied by copies of three* recent testimonials, should reach me not later than the first post on Thursday, September 4th.

A. E. COLLINS,
Stafford. Secretary.
August 23rd, 1930

Central London Throat, Nose, AND EAR HOSPITAL,

Gray's Inn Road, W.C.1.

HONORARY ASSISTANT ANÆSTHETIST.

There is a vacancy in this office. Attendance required at present on Thursdays, 9—10 a.m. and on Fridays 2—5.30 p.m.

Further particulars can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three testimonials, should be sent not later than September 8th.

JOHN H. YOUNG,
Secretary Superintendent.

Macclesfield General Infirmary. (100 Beds.)

RESIDENT HOUSE SURGEON.

Applications are invited for fully qualified men for the above post. Salary £180 per annum, with board and residence.

The appointment is for six months which may be extended.

Applications, stating age, qualifications, and nationality, with copies of testimonials, should be sent to the undersigned.

A. E. HANRAHAN, Secretary.

Ancoats Hospital, Manchester.

HOUSE SURGEON (male) required to commence duty on October 1st next for a period of six months. Salary at the rate of £100 per annum, with board, apartments, etc.

Applications, stating age, qualifications, experience, if any, to be forwarded to the undersigned on or before Wednesday, September 10th *next*.

By Order of the Board,
HERBERT J. DAFFORNE,
Gen. Supt. & Secretary.

Ingham Infirmary, SOUTH SHIELDS.

Wanted, JUNIOR HOUSE SURGEON (male). Salary £150 per annum, with residence, board, and washing. No out-visiting. Candidates must hold registered qualifications in *Medicine* and Surgery. The appointment will be terminable by one months' notice. Applications, stating age, and accompanied by copies (which will not be returned) of recent testimonials, to be sent to the undersigned from whom further particulars may be obtained.

JOHN POTTER, Secretary.

National Hospital for Diseases
OF THE HEART,
West Cavell Street, W.1

Appointments are invited for the post of OUT-PATIENT MEDICAL OFFICER (non-resident). The appointment is for a period of six months from the first October 1st but may be renewed for a further period not exceeding six months. Salary at the rate of £100 per annum.

Candidates who must be duly registered Medical Practitioners will not be expected to call on the Honorary Medical Staff but should send their applications with copies of three recent testimonials to the undersigned at the Hospital not later than Monday, September 8th.

The Out-patient Medical Officer will be required to assist the Honorary Medical Staff on the afternoons weekly or for attendance one morning as may be arranged.

ROBERT G. L. WHITNEY,
Secretary.

National Hospital for Diseases
OF THE HEART,
Westmoreland Street, W.1

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male).

The appointment is for a period of six months from October 1st but may be renewed for a further period not exceeding six months. Salary at the rate of £100 per annum with board residence and washing.

Candidates who must be duly registered Medical Practitioners will not be expected to call on the Hon. Medical Staff but should send their applications with copies of three recent testimonials, to me at the Hospital not later than Monday, September 8th.

ROBERT G. L. WHITNEY,
Secretary.

Seamen's Hospital Society,
Greenwich, S.E.10

The Committee invite candidates for appointment of Two HOUSE PHYSICIANS at the HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C. Candidates must be male, doubly qualified and registered. The elected candidates will be required to take up duties on October 1st. Salary at the rate of £150 per annum, with board, residence, and washing. The appointment will be for six months.

Applications stating age, together with copies of not more than three recent testimonials to be sent in on or before September 16th to the undersigned from whom further particulars can be obtained.

Greenwich, R. E. V. BAY,
August 18th, 1930. Secretary.

Seamen's Hospital Society,
Greenwich, S.E.10

HOUSE PHYSICIAN and HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich for six months from October 1st. Salary £110 per annum, and a proportion of fees with board, residence, and washing. Candidates must be male.

Applications with copies of three testimonials to be sent in by September 16th to the undersigned.

Greenwich, R. E. V. BAY,
August 18th, 1930. Secretary.

Seamen's Hospital Society,
Greenwich, S.E.10

MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road, E.16, for six months from October 1st. Salary £110 per annum and a proportion of fees with board, residence, and washing. Candidates must be male.

Applications with copies of three testimonials, to be sent in by September 16th to the undersigned.

Greenwich, R. E. V. BAY,
August 18th, 1930. Secretary.

Seamen's Hospital Society,
Greenwich, S.E.10

HOUSE SURGEON required at TILBURY HOSPITAL, Essex, for six months from October 1st. Salary £150 per annum with board residence and laundry. Candidates must be male.

Applications with copies of three testimonials to be sent in by September 16th to the undersigned.

Greenwich, R. E. V. BAY,
August 18th, 1930. Secretary.

County Hospital, York
(180 Beds.)

HOUSE PHYSICIAN required. Salary £150 a year, with board, residence etc. Duties to begin October 1st. Applications stating age, together with copies of not more than three recent testimonials, to be sent to the Secretary not later than September 2nd.

West Bromwich and District
GENERAL HOSPITAL (130 Beds)

Applications are invited for the posts of (1) HOUSE PHYSICIAN, and (2) CASUALTY HOUSE SURGEON.

Candidates (male) must be doubly qualified and unmarried. Salary in each case at the rate of £200 per annum, with residence, board and laundry.

The appointments are for six months and the candidates appointed will be required to take up their duties on October 1st next.

Applications stating ages and qualifications with copies of three recent testimonials should be sent to the undersigned on or before September 6th.

By Order,
Edward St., FRANK J. HANCOCK,
West Bromwich. Secretary & Supt.

The Hostel of St. Luke
(Clergy Nursing Home)
14, Fitzroy Square, London, W.1

The Committee of Management invite applications for the post of RESIDENT MEDICAL OFFICER (male) to the above Hostel.

Candidates must have had previous experience as House Surgeon in a General Hospital. The appointment is for one year at a salary at the rate of £200 per annum with board residence and laundry. A fortnight's holiday will be allowed every six months and the Locum will be paid by the Committee of the Hostel.

Applications and enquiries should be addressed to the Secretary of the Hostel at 14, Fitzroy Square, London, W.1, and not later than September 6th. The successful applicant will be required to take up his duties on September 14th.

Queen Charlotte's Maternity
HOSPITAL, Marylebone Road, N.W.1

ASSISTANT RESIDENT MEDICAL OFFICER (male) required to commence duty on October 1st. Applicants must be registered. Appointment for three months. On completion of this appointment the selected candidate will be expected to proceed to the post of Senior Resident Medical Officer (for three months) on the recommendation of the Medical Staff. The salary of the Assistant Resident Medical Officer is at the rate of £60 per annum and of the Senior Resident Medical Officer £100 per annum with board residence and washing allowance (4/ weekly). Applications with copies (not originals) of not more than three testimonials will be received by the Secretary up to September 6th. Canvassing is prohibited.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity
HOSPITAL, Marylebone Road, N.W.1

RESIDENT ANAESTHETIST required to commence duty on October 1st. Applicants must be registered. Appointment for six months. Salary at the rate of £80 per annum, with board residence and washing allowance (4/ weekly). Copies (not originals) of not more than three testimonials will be received by the Secretary up to September 6th.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity
HOSPITAL, Marylebone Road, N.W.1

DISTRICT RESIDENT MEDICAL OFFICER (male or female) required to commence duty on October 1st. Applicants must be registered. The appointment is for six months. The salary is at the rate of £80 per annum with board, residence, and washing allowance (4/ weekly). Applications with copies (not originals) of not more than three testimonials will be received by the Secretary up to September 6th. Canvassing is prohibited.

ARTHUR WATTS, Secretary.

Leicester Royal Infirmary.
(450 Beds.)

HOUSE SURGEONS AND CASUALTY OFFICER.

Vacancies are expected in the above offices on October 1st. Salaries at the rate of £125 per annum. Applicants must have held a Resident Hospital post or had similar experience of Hospital work. Election about the middle of September for duty on October 1st.

Applications to the undersigned by Monday, September 1st.

HARRY JOHNSON,
Aug. 11th, 1930. House Governor & Sec.

Lowestoft and North Suffolk
HOSPITAL, LOWESTOFT

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board residence, and laundry. Duties to commence in August or September.

Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

North Staffordshire Royal
INFIRMARY, STOKE-ON-TRENT
(246 Beds)

ASSISTANT HOUSE PHYSICIAN.

The Committee invite applications for the post of Assistant House Physician.

Applicants with recent Hospital experience preferred. Salary £120 per annum with board, residence and laundry. There are six Residents (2 Medical 4 Surgical). The appointment will be for a period of twelve months. Duties to commence October 1st.

Applications stating qualifications age and experience with copies of two recent testimonials to be sent to the undersigned not later than 6th.

W. STEVENSON,
August 18th, 1930. Sec. & House Gov.

Radcliffe Infirmary and County
HOSPITAL, OXFORD

RESIDENT MEDICAL POSTS.

Applications are invited for the following posts which will become vacant on October 1st:
Three HOUSE SURGEONS.
HOUSE PHYSICIAN.
OPSTETRIC HOUSE PHYSICIAN.

Appointments for six months with salaries at the rate of £120 per annum with board etc. Candidates must be male and qualified.

Applications with four copies of three testimonials to be sent to the undersigned on or before September 5th.

A. G. E. SANCTUARY,
Administrator.

West Norfolk and King's Lynn
GENERAL HOSPITAL.

The Board of Management invite applications for the post of SENIOR HOUSE SURGEON (male or female). Duty to commence October 1st next. Salary £150 p.a. 60 Surgical beds. Over 1,500 Operations 1929. Preference given to candidates with previous experience. Appointment is for six months in first instance.

Also JUNIOR HOUSE SURGEON (male or female) who will have charge of Medical and Ophthalmic beds. Salary £100 p.a.

Applications stating experience and full particulars with three recent testimonials, to be received not later than September 2nd, to be sent to—

JOSEPH E. SEARJEANT,
House Governor & Secretary.

East Suffolk & Ipswich Hospital,
IPSWICH.
(255 Beds—7 Residents.)

Applications are invited for the posts of:
CASUALTY OFFICER. Salary £150 per annum. Board, residence and laundry. Previous experience essential.
HOUSE SURGEON. Salary at the rate of £120 per annum. Six months contract, with board, residence, and laundry.

Applications from British (male) candidates, stating age, qualifications, and experience, and accompanied by three recent testimonials, to be sent to the undersigned.

The Hospital, ARTHUR GRIFFITHS,
Ipswich. Secretary.
August 18th, 1930.

Hospital (135 Beds). — House
SURGEON, male, required. Experience in Anaesthetics essential. Appointment offers opportunity to gain good Surgical experience. Suit newly qualified man. Appointment is for six months and successful candidate is eligible for reappointment for a further period of six months. Salary £100 per annum with board residence and laundry. Applications stating age, experience and full particulars together with copies of three testimonials to be in on September 6th.—Address No. 0806, B.M.A. House, Tavistock Square, W.C.1.

Manchester and Salford Hospital
FOR SKIN DISEASES.

HOUSE SURGEON.

Applications are invited for the post of House Surgeon. Must be registered. The appointment is for twelve months from October 1st. Salary £100 per annum with board and residence.

Applications with copies of three testimonials, to be sent to the undersigned, Quay Street, Manchester, on or before Monday, Sept. 15th.

JOHN HALL, Secretary.

Assistant Physician wanted for
the JORDANBURN NERVE HOSPITAL, Morningside Park, Edinburgh. Salary £400 a year, board and lodging. Applications, with copies of three testimonials addressed to Professor GEORGE ROBERTSON, Medical Director.

Royal Manchester Children's HOSPITAL,

OUT-PATIENTS' DEPARTMENT, Cartside St., MANCHESTER.

Wanted, for the Out-patients' Department, Two ASSISTANT MEDICAL OFFICERS, non-resident. Salary £150 per annum, who will be appointed for six months.

Candidates must be doubly qualified and on the *Medical Register*. Particulars of the duties can be obtained from the Secretary. The hours of duty are from 9 a.m. till 1 p.m. or until the work of the Dispensary is finished. Patients' attendances number 87,000 per annum. Duties to commence October 1st.

Applications, stating age and accompanied by copies of not more than three testimonials, to be sent to the undersigned not later than September 10th.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
August 22nd, 1930. Secretary.

Royal Manchester Children's HOSPITAL, PENDLEBURY, near MANCHESTER. (190 Beds.)

Wanted, a RESIDENT MEDICAL OFFICER and a RESIDENT SURGICAL OFFICER. Salary £125 per annum, who will be appointed for *six months*.

Candidates must be unmarried, doubly qualified, and duly registered. Previous Hospital experience essential.

Applications, stating age, and accompanied by copies of not more than three testimonials, to be sent to the undersigned not later than September 10th.

Canvassing, directly or indirectly, may disqualify.

By Order,
W. M. HUMPHRY,
August 22nd, 1930. Secretary.

Cardiff City Mental Hospital, WHITCHURCH, near CARDIFF.

A POST-GRADUATE RESEARCH STUDENTSHIP is available for one year, with possibility of renewal. The candidate, who must be medically qualified, is expected to undertake research in the Laboratories. A certain amount of clinical work attaches to the post. There are ample facilities for study for the D.P.M.

The Studentship carries, besides full board and accommodation, an honorarium of £100 per annum, augmented by locum work carried out within the Hospital to approximately £180.

Further details on application to the Medical Superintendent.

Stockton and Thornaby Hospital, STOCKTON-ON-TEES. (140 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about September 12th.

Salary £150, with board, residence, and laundry Candidates must be duly qualified, and unmarried.

Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

J. WILKINSON, Secretary.

Royal National Orthopaedic HOSPITAL, 234, Gt. Portland Street, W.1.

Applications are invited for the post of HOUSE SURGEON (male). The appointment is for six months from October 1st, renewable for a further period of six months on the recommendation of the Medical Board. £150 per annum, with board, quarters, and laundry.

Applications, with copies of testimonials, should be addressed to the Secretary not later than September 10th.

Royal United Hospital, Bath.

Wanted at once, an ASSISTANT HOUSE SURGEON. Salary £120 per annum.

The appointment will be for not less than six months, and candidates must be male, unmarried, and of *British nationality*.

Applications, with three testimonials, must be addressed to the undersigned.

J LAWRENCE MEARS,
Secretary-Superintendent.

Liverpool and District Hospital FOR DISEASES OF THE HEART.

HOUSE PHYSICIAN (male or female) required for period of six months, from October 1st. Salary at the rate of £52 per annum, with board and residence (private sitting room).

Applications to Miss. LEWIS, Secretary, 14, Cook Street, Liverpool.

The Middlesex Hospital, W.1.

DENTAL HOUSE SURGEON.

Applications are invited for the post of Dental House Surgeon vacant on October 1st.

Candidates must be at least 21 years of age and be duly qualified registered Dental Surgeons, preferably with medical qualifications, and members of a Protection Society.

The appointment will be for a period of six months and the successful candidate will be eligible for re-appointment for further periods of *six months*. *Full board and residence* will be provided. Applications, accompanied by copies of not more than three testimonials, should be submitted by September 10th to the Secretary-Supt., Middlesex Hospital, W.1.

Princess Louise Kensington HOSPITAL FOR CHILDREN, North Kensington, W.10. (50 Beds.)

HOUSE SURGEON AND CASUALTY OFFICER required for six months from October 1st. The House Surgeon's salary is at the rate of £75 a year; should she at the expiration of three months be appointed Senior Resident (of two), the salary would be at the rate of £100 a year, with board, residence, and laundry, in each case. Applications, together with copies of three testimonials, must be submitted on a form to be obtained from the Secretary, Princess Louise Kensington Hospital for Children, St. Quintin Avenue, W.10. Applications must reach the Secretary not later than first post on Wednesday, September 23rd.

Birmingham and Midland Skin HOSPITAL, John Bright Street, BIRMINGHAM.

Applications are invited from registered Medical Practitioners to act as CLINICAL ASSISTANTS *in the Out-patient Consulting Room each afternoon, except Saturday and* Sunday.

Honorarium at the rate of 26 guineas per annum for one afternoon per week.

Applications (one copy), stating age, qualifications, experience, present engagements and afternoons at liberty, should be addressed to the Secretary not later than September 3rd.

The work of the Hospital can be seen each afternoon by doctors and bona-fide students.

HUBERT SUMNER, Secretary.

Miller General Hospital, Greenwich Road, S.E.10.

Applications are invited for the following posts:

CASUALTY OFFICER. Salary £150 p.a.
HOUSE PHYSICIAN. Salary £125 p.a.
HOUSE SURGEON. Salary £125 p.a.

There are six Resident Officers. Candidates (male) must be unmarried. Board, residence, and laundry are provided. Each appointment is for six months from October 1st next.

Applications, stating age, nationality, qualifications, and experience, accompanied by copies of not more than three recent testimonials, to be sent to the Secretary by September 13th next.

August 22nd, 1930.

Cornelia and East Dorset HOSPITAL, POOLE, DORSET. (105 Beds.)

HOUSE SURGEON.

Applications are invited for the post of House Surgeon (male). *Salary £150 p.a., with* usual emoluments. Duties to commence October 1st next for six months.

Applications, stating age, experience, and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital by September 4th.

E. S. FOLEY, Secretary.

Royal Sussex County Hospital, BRIGHTON. (237 Beds.)

CASUALTY HOUSE SURGEON (male) required immediately. Salary £120 per annum, with board, residence, and laundry. Candidates must hold Medical and Surgical qualifications of the British Empire, and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications, with copies of recent testimonials, should be sent to the undersigned.

L. L. W. LANCASTER-GAYE,
Secretary-Superintendent.

Royal Sussex County Hospital, BRIGHTON.

A SECOND ASSISTANT NURSE needed for the Venereal Diseases Department. Partially trained nurses eligible. Salary £50, resident.

Application should be made to the Matron, stating age, experience, and giving a Matron's name for reference.

EASTBOURNE. Princess Alice Memorial Hospital (96 Beds).

Applications are invited for the post of HOUSE SURGEON (male) to commence duty immediately. Candidates must be unmarried, fully qualified and registered. The appointment *is for six months*. Salary at the rate of £100 per annum, with board, lodging, and laundry. Applications, stating age, qualifications, etc., and accompanied by copies of not more than three recent testimonials (one of which must be from Medical School), should be sent to the Secretary.

North Riding Infirmary, MIDDLESBROUGH. (General Hospital—150 Beds.)

JUNIOR HOUSE SURGEON (male) required to take up duties early as possible. The appointment will be for a period of six months. Three residents are employed. Candidates eligible for the higher posts as they become vacant. Salary at the rate of £150 per annum, with board, residence, etc.

Applications, stating age, nationality, and experience, with three recent testimonials, should be sent to the undersigned forthwith.

CHARLES POSTGATE,
Secretary-Superintendent.

Bangour Mental Hospital, WEST LOTHIAN.

Vacancy for unmarried man as SECOND ASSISTANT MEDICAL OFFICER. Experience of Mental work not necessary, but Post-graduate Medical or Surgical experience a recommendation. Salary £350 per annum, rising to £400 after 12 months' satisfactory service, together with apartments, board, laundry, and attendance. Appointment pensionable under the *Asylums Officers Superannuation Act, 1909.*

Applications to be addressed to the Medical Superintendent, Bangour Village, West Lothian.

The Liverpool Eye and Ear INFIRMARY, Myrtle Street.

Applications are invited for the post of HONORARY ASSISTANT SURGEON to the Ear, Nose, and Throat Department of the above Infirmary.

Applicants, who will be required to attend on two specified afternoons per week, should send all essential details, with copies of three recent testimonials, not later than September 2nd prox., to—

9, Harrington St., Liverpool. CHAS. W. WRIGHT.

Royal Eye Hospital, St. George's Circus, S.E.1.

Applications are invited for the following appointments at the above Hospital for a period of one year from October 1st.

Twelve SALARIED REFRACTIONISTS.
Twelve CLINICAL ASSISTANTS.
One PATHOLOGIST.

Applications, with copies of testimonials, to be sent to the Secretary, at the above Hospital on or before September 29th.

F. E. D'ALTON, Secretary.

North Lonsdale Hospital, BARROW-IN-FURNESS.

Two HOUSE SURGEONS required. Applications are invited from fully qualified male *Practitioners experienced* in the administration of Anaesthetics. Salary £175 per annum, with board, residence, and laundry. Duties to commence in October.

Applications, stating age, qualifications, experience, and nationality, and accompanied by copies of three recent testimonials, to be sent to the Secretary so as to reach him not later than September 15th.

North Devon Infirmary, BARNSTAPLE. (60 Beds.)

Wanted, as soon as possible, duly qualified RESIDENT MEDICAL OFFICER (male or female) *Salary £150 per annum, with board,* apartments, and laundry. Appointment to be for not less than six months. Applications, stating age, qualifications, with copies of recent testimonials, to be sent forthwith to the *Hon.* Secretary.

Swansea Hospital. (316 Beds.)

HOUSE SURGEON wanted, gentleman, single. Salary £150 per annum, with board, residence, and laundry.

Applications, stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned.

O. C. HOWELLS, Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments, with the Scottish Medical Secretary, 7, Drumsleugh Gardens, Edinburgh).

(a) British Islands.

Town or District	Town or District	Town or District
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MEITHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Service.)*	COUNTY EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Service.)*	NEATH AND DISTRICT. *(Medical Practitioners.)*	MIDDLESBROUGH COUNTY BOROUGH HOSPITAL. *(Assistant Medical Officer.)*
LLWYNYPIA, GELLIGAER, VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Service.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Associations.)*	STIRLING ROYAL BURGH. *(Medical Officer of Health.)*
MARDY, GLAMORGAN. *(Workmen's Medical Service.)*	COPPER VALLEY, GLAMORGAN. *(Employers' Medical Society.)* *(Workmen's Medical Service.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector.)*

(b) Overseas.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch
NEW SOUTH WALES *(Honorary Secretaries Appointed.)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Private Appointments.)*	Secretary, South Australian Branch, 207, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND.** *(Contract Practice Appointments.)*	Dr. G. F. V. JANSON (Hon. Sec. New Zealand Branch), Medical Association, P.O. Box 1643, Wellington, N.Z.
QUEENSLAND. *(Locum tenentes to undertake Private Practice; Appointments.)*	The Hon. Sec. Queensland Branch, British Medical Association, Australian Mutual Provident Society Building, Brisbane.	**VICTORIA.** *(Locum tenentes and Medical Deputies.)*	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Country and Private Practices.)*	Hon. Sec. Western Australian Branch, British Medical Association, No. 6 Bank of N.S.W. Chambers, St. George's Terrace, Perth, Western Australia.

August 7th, 1930. By Order of the Council. ALFRED COX, Medical Secretary.

The London Lock Hospital,
91, Dean Street, W.

The Board of Management invite applications for the post of (1) SURGICAL REGISTRAR. (The present holder is not eligible for reappointment.) (2) ADDITIONAL SURGICAL REGISTRAR. Registrars will be required to reside at the Male Lock Hospital.

Honoraria £150 per annum. The appointments are for one year. Candidates who must be duly qualified and duly registered are invited to send in their applications, together with three copies of testimonials only, to the Secretary at 283, Harrow Road, W.9, not later than 10 a.m. on September 8th. Selected candidates will be required to attend a meeting of the Medical Committee on September 11th. Copies of the Rules and Bye-laws relating to the appointments can be obtained on application to the Secretary. Candidates must be Fellows (or *Members*) of the R.C.S. England or Surgical Graduates of a University of the United Kingdom. Duties to commence October 16th.

By Order of the Board,
H. J. EASON,
Secretary.

August 7th, 1930.

West London Hospital,
Hammersmith Road, W.6 (234 Beds.)

Required: One HOUSE PHYSICIAN, Two HOUSE SURGEONS (males) and One RESIDENT ANAESTHETIST, for six months from 1st October next, subject to one month's notice on either side. Salary at the rate of £100 per annum with board, lodging, and laundry allowance. Candidates must be registered under the Medical Acts. Applications (which must be made on printed forms obtained from me) must reach me not later than first post on Friday, September 12th. Selected candidates will be required to call upon such Members of the Medical Staff as directed to be in attendance at a Meeting of the Medical Council on Friday, September 26th, at 4 p.m., and the House Committee Meeting at 4.45 p.m. the same day, when the appointments will be made.

H. A. MADGE, Secretary.

The London Lock Hospital,
91, Dean Street, W.

The Board of Management invite applications for the post of HOUSE SURGEON at the Male Lock Hospital.

Candidates must be duly qualified and duly registered. The appointment is at the rate of £100 per annum with furnished rooms, full board and laundry. The appointment is for six months. Duties to commence October 5th. Applications, endorsed "Applications for Appointments," to be sent to the undersigned at the Male Lock Hospital, 91, Dean Street, W., on or before September 8th.

By Order of the Board,
H. J. EASON,
Secretary.

August 7th, 1930.

The London Female Lock Hospital,
263, Harrow Road, London, W.9.

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital. Salary at the rate of £150 per annum with furnished rooms, full board and washing. Candidates who must be duly qualified and duly registered should send in their applications by September 8th, accompanied by copies of three recent testimonials, to the Secretary, from whom further particulars can be obtained. The appointment is for six months, commencing October 4th.

By Order of the Board,
H. J. EASON,
Secretary.

August 7th, 1930.

Derbyshire Hospital for Women,
DERBY. (54 Beds.)

Applications are invited for the post of HOUSE SURGEON. Salary £150 per annum, with apartments, board, etc. The appointment is tenable for six months, with a possibility of extension for a further period of six to twelve months.

Applications, with copies of not more than three testimonials, to be sent to the undersigned not later than September 1st.

W. T. COCKER, Secretary.

Hull Royal Infirmary.

The Visiting Committee invite applications for the post of HONORARY PHYSICIAN to the Hospital.

Applicants must have obtained a Licence to Medicine and Surgery of the Royal College of Physicians of London, Edinburgh or Ireland, and be duly registered under the Medical Acts.

Honorary Physicians are appointed for a period not exceeding 20 years, or until attaining 60 years of age, and in accordance with the terms of the Royal Charter.

Applicants are prohibited from personally canvassing, but may send copies of their applications and testimonials to the members of the Visiting Committee.

Applications should be addressed to the Chairman of the Managing Committee.

I. J. CALLESS,
House Governor.

August 15th, 1930.

Queen's Hospital for Children,
Hackney Road, London, E.2.

CASUALTY OFFICER required. Six months' appointment. Salary £100 a year with board, residence and washing. Preference given to candidates who have previously held resident appointments.

Applications must be made on forms to be obtained from the Secretary and should be sent in with copies of not more than four testimonials as soon as possible.

T. GLENTON KEPP,
Secretary.

August 16th, 1930.

The Sheffield Royal Hospital.

RESIDENT ANAESTHETIST required (male). Salary for the first six months at the rate of £80 per annum, after which £100 per annum, with board, residence and laundry. There are twelve Resident Medical Officers, and the duties will vary after three months. Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent and Secretary.

(Appointments continued on p. 43.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ., LONDON, W.C.1.
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ASSISTANCIES.

Wanted.—Outdoor experienced ASSISTANT, married or unmarried, in County Durham, to live in house where practice is carried on. Salary to start, £400 p.a. to unmarried man, with board, etc. Suitable increase of salary to married man.—Address, No. 5820, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Assistant to run a new Medical Branch, cash and panel. Good opportunity for keen, energetic man. Salary £8 8s per week, outdoor. Apply, with full particulars. — Address, No 5805, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Indoor Assistant in Colliery Practice in Glamorgan. Suit newly qualified man. Motor cycle provided. Salary £350 per annum. Good opportunity for anaesthetics, etc.—Address, No. 5932, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, British, with view to early Partnership in a large panel and industrial Practice in large Midland City, in October. State essential particulars. —Address, No. 5933, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, indoor, male, young, for private and panel Practice. Some experience. Protestant. Commencing salary £300.—Address, with photo and reference, No. 5831, B.M.A. House, Tavistock Square, W.C.1.

Wanted immediately. — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view. State full particulars—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Wanted. — Assistantship with view to early Partnership or Succession, by L.R.C.P. and S.I., aged 30. Eight years' experience G.P., ex H.S. and H.P. London or South of England. Interview London.—Add., No 5808, B.M.A. House, Tavistock Sq., W.C.1.

Wanted. — Assistantship, with or without view, by M.R.C.S., L.R.C.P., 26 years, ex H.S. (2), H.P., R.S.O.; experienced in private and panel Practice. Scope for surgery preferred. Public School. Free now. —No 5818, B.M.A. House, Tavistock Sq., W.C.1.

Wanted.—Indoor male Assistant, L.M.P., English, Scotch or Irish, for panel and private Practice in West Car found and Dispenser kept. Salary £300.—Address, with references, No 5827, B.M.A. House, Tavistock Square, W.C.1.

Wanted.—Part-time Assistant to run Branch Surgery S.W. London. Duties very light, mornings and evenings. Suit young man recently qualified.—Address, No. 5828 B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Outdoor Assistant, man or woman, for working-class Practice in Kent, outskirts of London. Suit one recently qualified.—Address, No. 5801, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Indoor Assistant for rural Practice in Lincolnshire. Work light. Panel 700. Drive car, or own car.—Address, with all particulars, No. 5824, B.M.A. House, Tavistock Square, W.C.1.

Wanted. — Assistant, man or woman, London. Working class, panel. Good prospects. — Address, No. 5810, B.M.A. House, Tavistock Square, W.C.1.

Assistant, man or woman, indoor, wanted with or without view, Country Town, Midlands. Ex H.S or H.P. preferred. State age, height, religion, and full particulars. Only letters replied to where essential particulars are stated.—Address, No 5718, B.M.A. House, Tavistock Square, W.C.1.

Assistantship wanted.—Scot, M.B., Ch.B. (Glas.) Protestant. Abstainer. Act. 27. 2 years G.P. (all branches). With view preferred. Near London. All particulars on application. — Address, No. 5817, B.M.A. House, Tavistock Square, W.C.1.

Assistantship, outdoor, prefer. with view to Partnership, by M.B., F.R.C.S. Ed., Scot, single, 35 years; 3½ yrs.' hosp., 1 yr. G.P. exper. Good refs. Small capital. Free mid October.—Address, No. 5811, B.M.A. House, Tavistock Square, W.C.1.

Assistant, unmarried, indoor, wanted, view Partnership. Good class Country Practice, Warwickshire. Graduate London, Oxford, Cambridge, or T.C.D. D.P.H. an advantage. Ex H.S. or H.P. pref. C. of E.—No. 5429, B.M.A. House, Tavistock Sq., W.C.1.

Assistantship (whole or part-time) wanted by Woman Doctor. Over 5½ years' exp G.P. Dispense. Drive car. Excellent testimonials. Free October.—Address, No. 5835, B.M.A. House, Tavistock Square W.C.1.

Jewish Doctor desires Assistantship, temporary or permanent. Experienced in G.P., private and panel. Good Anaesthetist. Able to take sole charge. Free Oct. —Address, No 5807, B.M.A. House, Tavistock Square, W.C.1.

M.B., F.R.C.S., 5 yrs.' Hospital experience, single, desires ASSISTANCY, view Partnership. Near West End London preferred. — Address, No. 5735, B.M.A. House, Tavistock Square, W.C.1.

M.D., Scot, desires outdoor ASSISTANTSHIP, Scotland; preferably with view. Age 26, qualified 4 years. Late Sen. H.S., H.P., obstetric H.S., eye H.S., fevers. Some experience G.P.—Address, No. 5838, B.M.A. House, Tavistock Square, W.C.1.

Young male Assistant wanted immediately, indoor, for Practice North London. Car provided. Send photo and essential particulars.—Address, No. 5826, B.M.A. House, Tavistock Square, W.C.1.

MEDICAL POSTS, DISPENSERS, etc.

Wanted, whole or part-time MEDICAL WORK (indoor or outdoor) in or near London, temporary or permanent (or with view). Experienced in panel and private Practice, etc. Highest references. — Address, No. 5935, B.M.A. House, Tavistock Sq., W.C.1.

A Doctor's Housekeeper (Scots-woman) is available now. Previous employer (now married) can give the highest testimonials. Housekeeper used to routine of a Doctor's house and the managing of maids.—No. 5934, B.M.A. House, Tavistock Sq., W.C.1.

Lady Dispenser-Bookkeeper required in a North London Practice. In reply give age, experience, copies of testimonials, and all essential particulars.—Address, No. 5814, B.M.A. House, Tavistock Square, W.C.1.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN. Preparation for Examinations.—Write, wire, or 'phone (Park 0969), Secretary, 7, Westbourne Park Road, W.2.

Lady Secretary, 15 years experience, requires POST. Shorthand and typewriting, used to telephone. Free 1st. September. Salary £3 10s a week. Good references.—Address No 5823, B.M.A. House, Tavistock Square, W.C.1.

Dispensers supplied to Doctors at short notice, without fee. Qualified and experienced in private and panel practice Permanency and part time Bookkeeper-Dispensers, Secretary - Dispensers, Nurse - Dispensers, and Chauffeuse Dispensers.—Write, wire, or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E.C.1.

Ex Warrant Officer, R.A.M.C., 45, Dispenser, etc., seeks POST with Medical Man. London, S.W. preferred.—Apply, 85, Eccleston Sq., S.W.1. Tel.: Victoria 2722.

Kent.—Wanted, qualified lady DISPENSER BOOKKEEPER. Live out. Commencing salary £130. State age, and experience.—Address, No. 5821, B.M.A. House, Tavistock Square, W.C.1.

Lady Dispenser Bookkeeper (age 22) requires re-engagement with Doctor in London area. Early Oct. bar. 2½ years' experience. Minor dressings, Medical records, etc.—Address, No. 5829, B.M.A. House, Tavistock Square, W.C.1.

Doctors requiring qualified Dispensers, Nurse-Dispensers, Secretary-Dispensers or Chauffeuse-Dispensers, are invited to write, wire, or 'phone Temple Bar 5858, THE DISPENSERS' BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue, London, W.C.2.

M.P.S. Dispenser-Bookkeeper desires PART-TIME EMPLOYMENT, Manchester district. Afternoon, evenings, etc. Terms reasonable.—Address, No. 5929, B.M.A. House, Tavistock Square, W.C.1.

Sanatoria. — Secretarial Post (male) wanted in Sanatorium. Five years' experience of Sanatorium working. Disengaged. Accept £100 p.a., with board, residence.—L. GAUBERT, Nayland, Colchester.

Swaziland.—A vacancy at present exists for a MEDICAL OFFICER in Swaziland. Candidates, who must be British subjects of European parentage and under 35 years of age, must have had experience of Public Health work. Salary £500 per annum, rising by annual increments of £20 to £700 per annum, together with a commuted subsistence allowance at the rate of £75 per annum. An allowance of £7 a month in lieu of quarters will be paid, pending the erection of suitable quarters. Free passages. Private practice is allowed. The appointment is pensionable, subject to a probationary period of six months.

Further particulars and forms of application may be obtained, on application in writing, from the Private Secretary (Appointments), Colonial Office, 2, Richmond Terrace, Whitehall, London, S.W.1.

Completed applications must reach the Private Secretary not later than September 20th.

The Royal Army Medical Corps ASSOCIATION. — If you require men trained in all branches of hospital work—Dispensers (capable of undertaking returns, clerical work, etc., connected with Ministry of Health), Clerks, Laboratory Assistants, general hospital duties, Porters, Caretakers, etc.—Apply, Secretary, 85, Eccleston Square, S.W.1.

Typewriting.—Expert undertakes Theses, Testimonials, etc. Numerous letters of appreciation from Doctors.—'Phone Hampstead 6430, or write BEATRICE RADFORD, 341, Finchley Road, N.W.3.

LOCUMS.

Wanted. — Locum (Lady) for October, 3—4 weeks. Country. Golf and tennis. Suit recently qualified. Very light post. State essential particulars.—Address, No 5804, B.M.A. House, Tavistock Square, W.C.1.

For Reliable Locums and Assistants
AT SHORT NOTICE, CONSULT
British Medical Bureau
(Northern Branch),
33, CROSS ST., MANCHESTER
Telegrams—LOCUM, MANCHESTER
Telephone—CENTRAL 3263, after office hours 2343 RUSHOLME

Wanted immediately.—Reliable and experienced Practitioners (male and female) for LOCUM ENGAGEMENTS — State full particulars—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

As Locum. — Experienced and reliable (middle-aged) Doctor, late own Practice, desires further ENGAGEMENTS from Sept. 20th; terms 6 gns. p.w. Has motor car and driver; available Good refs.—M., c/o Dr. Lee, 91 New Cross Road, S.E.14 'Phone New Cross 0032

Hospitality Locum.—In pleasant Lincolnshire market town. Share in hunting and driving with easy-going set. Wanted to start fortnight's work from Sept. 14th. Work light. Being own car.—Address No. 5834 B.M.A. House, Tavistock Square, W.C.1

Locum wanted for a few weeks in a Public Health Department. B.M.A. fees paid. Work chiefly child welfare, maternity supervision, and infectious disease. Early application desirable to Box X 152, WILLINGS, 83 Strand, W.C.2

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PARTNERSHIPS

Wanted.—Partnership, good-class Practice near London or South of England. Hospital prospect. D.M.D., M.R.C.P. (Lond.). Aged 30, married, first-class hospital and practice experience. Income £1,250 or over. Capital available. Confidential.—Address No. 5837, B.M.A. House, Tavistock Square, W.C.1

Wanted. — Partnership or ASSISTANCY with view in Brist Lancs or West of England by M.B., aged 28, unmarried. Has Experience of G.P. Will avoid.—Address No. 5822 B.M.A. House, Tavistock Square, W.C.1

Experienced Woman Doctor, aged 28, Scotch M.B., Ch.B.Ed., requires PARTNERSHIP in or near London, preferably where two or more partners. Share to commence £500 p.a.—Address No. 5813, B.M.A. House, Tavistock Square, W.C.1

Lancs Town. — *Partnership in* old-established PRACTICE. Cash receipts 1929 £2,524. Panel 1,930. Good house 3 reception 5 bedrooms. Garage and garden. Premium—1/2 share—£1,500 (including book debts)—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

North Wales. — Urgent. — THIRD PARTNER wanted. Share £750. Sole Practice. Panel 2,570. House with garden to rent. Premium £1,000 part deferred.—Address No. 5825 B.M.A. House, Tavistock Square, W.C.1

Mediterranean. — Partner used to good-class patients required in old-established Practice in delightful resort city. Receipts about £1,500 p.a. Half-share for this if large share £1,000 arranged with successful man. Two years of duties. Each partner can take 2—3 months vacation during summer. No language difficulty. Premium 1½ years purchase according to requirements only those with the necessary capital need apply. Vendor now in England for interview.—Address No. 5435, B.M.A. House, Tavistock Square, W.C.1

North-East Town near Coast — Wanted qualified DENTIST required to succeed to well-established Practice. Panel and private. Short week. £2,000 available at 2 years. Junior Assistant £250 available £1,250.—Address No. 5830, B.M.A. House, Tavistock Square, W.C.1

Partner required in good-class Practice in large market town in South England. Should have London degree and L.R.C.P.&S.Edin. Ample capital and first-class premises. Assistantship considered. Share £850 first year.—Address No. 5811, B.M.A. House, Tavistock Square, W.C.1

Partnership —One-third share in well-established Practice in Western Spa. Exceptional opening for young man with older partner. Early prospect of increasing share. 4 years' purchase. Average receipts about £1,500.—Address No. 5609, B.M.A. House, Tavistock Square, W.C.1

Partnership with Succession.—Old-established good-class Practice, near Manchester. Receipts £2,000 cash. Plenty of scope. Suit young man with capital.—Apply, Holcroft, Hodgson, Manufacturing Chemists, Princess Street, Manchester

Yorkshire Coast.—Seaside Town —PARTNERSHIP. Income £2,300 p.a. Panel 900. Appointments £300. Excellent house, 2 reception 5 bedrooms. Premium—1 2 share—1½ years purchase.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

PRACTICES

Wanted —Practice by well-qualified experienced man preferably 50% panel or more. Full particulars. Strictest confidence.—Address No. 5830, B.M.A. House, Tavistock Square, W.C.1

Wanted to purchase for cash, PRACTICE or PARTNERSHIP. Income £1,000 or over. Ex London Graduate, ex service, age 40. Country, South or West.—No. 5740, B.M.A. House, Tavistock Sq., W.C.1

Birkenhead or district — Wanted immediately PRACTICE, PART-NERSHIP or NUCLEUS. £800 upwards. Cash settlement.—Address No. 5716, B.M.A. House, Tavistock Square, W.C.1

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For Sale. — *Old-established* PRACTICE in main street town in the West of England. Receipts £850 including panel of 1,500. Second Practice with unusual advantages. Reasons for selling. Address, No. 5833, B.M.A. House, Tavistock Square, W.C.1

Home Counties. — Excellent chance for young Practitioner. Rapidly growing PRACTICE with unusual advantages. Actual receipts last year £950. Fullest details or appointment on request.—Address, No. 5936, B.M.A. House, Tavistock Square, W.C.1.

Industrial Practice in East Yorkshire Town for sale. Average receipts for past three years about £2,100. Panel over 2,000. Rent of house at £110 p.a. Premium £3,000.—Apply, 2333, REYNOLDS & BRANSON, Ltd., Medical Transfer Agents, 13 Frigate, Leeds.

Isle of Man —Seaside Town.—Old-established PRACTICE. Receipts average £946 (increasing £350 from panel). Semi-detached house 3 reception 4 bedrooms. Garden. Good schools. Premium—Practice and house—£2,000 part by arrangement.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Large Cash and Panel Practice (panel over 3,000) for Sale in Midland University City. Excellent house to rent. Good residential area. Several motor garages. Annual profits £1,349 p.a. Scope. Price £6,000 for goodwill, fixtures, and surplus drugs. Part purchase 1½ years. Further particulars from H. MEDICAL BUREAU, 33 Cross Street, Manchester

Liverpool (near) — Residential and upper class PRACTICE. Receipts £1,349 p.a. Scope. Excellent house, 3 reception 6 bedrooms, garage, and garden. Premium 1½ years. Further particulars from H. MEDICAL BUREAU, 33 Cross Street, Manchester

Liverpool — Industrial Practice. Receipts 1929 £1,150. Panel 1,600. Suit energetic man. Good scope. Premium 1½ years purchase.—H. MEDICAL BUREAU, 33, Cross Street, Manchester

London, N.W.6 — Compact easily worked cash and panel PRACTICE. Average receipts £ 50. Five bedroomed house, small garden. Rent £ 82 p.a. Early assignment will be for 25 years. Scope. Premium 1½ years purchase.—Address No. 5816, B.M.A. House, Tavistock Square, W.C.1

London, E. — Urgent Sale of well-established cash and panel PRACTICE. Half share £600 p.a. Surgery rent £50 p.a. Any reasonable offer accepted.—WILLIS, PEACOCK & HARLEY, Ltd., 19 Craven Street, W.C.2.

Manchester -Industrial Practice. Average cash receipts £978. Panel 721. Plenty of scope. Suit R.C. Good house, 2 reception 5 bedrooms. Rent £50 p.a. Premium 1½ years purchase.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Manchester.—Old-established.—Nice house and garden £50. Receipts (including panel £135) over £900. Great scope. Price £1,100 (to include fittings, drugs, linoleum coverings and good will £300) part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street

Manchester (residential).—Old-established and Nice corner house, large garden, lawn, garage, rent £120. Receipts £2,000, good scope. Panel over 1,500. Price 2 years purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street

Medical Practice, old-established in N.E. Scotland near University Town.—Residential and agricultural population. Average cash takings for last four years £690. Capable of big growth. Increased Good house, garden, garage, and cottage may be had on lease or will be sold if desired.—Address No. 9803, B.M.A. House, Tavistock Square, W.C.1

Near Leeds.—Industrial Practice. Average cash receipts £1,280. Panel 1,550. Hospital appointments £80. Good house 2 reception 3 bedrooms. Price £1,100. Premium—Practice—1½ years purchase.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Nucleus of Practice and Nursing HOME in growing three-child health Good-class residential district rapidly extending. Rent half-hour from London. Full particulars on request.—Address No. 5832, B.M.A. House, Tavistock Square, W.C.1

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Shropshire. — Pretty Country Town PRACTICE Cash receipts £1,100 p.a. Panel 600 Scope for surgery. Good house, 2 reception, 4 bedrooms, garage, and tennis court. Premium—Practice and house—£3,000.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

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Unopposed Country Practice bringing in £1,450, private and appts. Panel £400 Good house, large garden, tennis court Near good schools. Suit young energetic Doctor. Assured income 2 years' purchase, cash Introduction long or short as desired For immediate sale Health reasons. An exceptional opportunity for good man desirous of country practice No agents — Address, No 5839, B.M.A House, Tavistock Square, W.C.1.

Yorkshire (N.R.). — Unopposed Country PRACTICE in pretty district Average cash receipts £750 p.a. Panel 450. Excellent modern house, 12 rooms Garage and large garden with tennis court. Rent £42 p.a. Premium 1½ years' purchase—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

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Edgware. — Commodious main road RESIDENCE containing 6 bedrooms, bathroom, 3 reception rooms, and excellent domestic offices The house is situated in the middle of great building activity and is ideal for professional purposes Freehold £2,750 — Apply, F. GEORGE & Co, Premier Parade, Edgware.

For Sale.—Small Open-Air SANATORIUM in Southern County. Nett profits at rate of nearly £1,000 per annum Scope for considerable increase, and for unopposed private practice in growing residential district. —Address, No. 5836, B.M.A. House, Tavistock Square, W.C.1.

Harewood Chambers, 74-80, Gower St., W.C. — Just opened, newly decorated and furnished Hot and cold water. 'Phones. Room and breakfast from 2 gns, with dinner 3 gns Bed and breakfast 7/6.—Museum 3941.

OUTSTANDING OPPORTUNITY.
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Harrogate (overlooking the Stray)—To be Sold at extremely low price to close a trust, finely situated CORNER RESIDENCE situate in rapidly developing locality without resident practitioner. Accommodation: 3 reception rooms, 5 bedrooms, all offices and conveniences. Electric lighting, etc. Suitable space for good garage. *Undoubtedly the Bargain of the Year* and very strongly recommended by the Trustee's Agents, MORPHET & MORPHET, 4, Albert Street, Harrogate (Tel. 2469.)

FOR SALE

Liverpool.—Desirable well-built HOUSE, eminently suitable for Doctor or Nursing Home. Healthy district, in populous area, on high ground; 4,000 yards of land, laid out as gardens, tennis lawns, etc House contains 3 entertaining rooms, hall, 8 bedrooms (one fitted with wash bowl, h. and c.), double study, bathroom, separate w.c.; electric light and gas fires Three car garage. —Apply, FOSTER & KILLIP, 48, Castle Street, Liverpool.

New Eltham. — Large double-fronted RESIDENCE, entirely re decorated and in splendid condition throughout containing 10 large rooms, bathroom, usual offices; good hot water supply; overlooks Nursery grounds at rear. Admirably suited for Nursing or Maternity Home. Situated in newly developed district where no such service is available within a large radius Large mortgage can be arranged if necessary.—Apply, CHATTERTON & Co, 1, Station Buildings, New Eltham, S.E.9. 'Phone: Eltham 1369.

To be Let. — Desirable Detached RESIDENCE, called "Brooklands," 14, Watling Street Road, Fulwood, Preston, Lancashire, containing 3 entertaining and 6 bedrooms, domestic offices; garage and garden; the property being situate in residential district would be suitable for a medical practitioner — Apply, Mr. JAMES JUKES, Solicitor, 4, Lune St, Preston, Lancashire.

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Doctor's Widow wishes sell MORRIS-OXFORD SALOON, 1928, 14 h.p. Guaranteed excellent condition. Tax and insurance paid 1930. Price £100. Seen A. & N. Stores Depot, Chiswick —Mrs CORKLEY, 120, Grosvenor Road, S.W.1

Doctor's Widow must sell Austin SEVEN SALOON CAR, July, 1929 Model; in excellent condition. — ROSS, Rothamsted, Gullane, E. Lothian.

1927 Erskine Coupé, 16.6 h.p. Car. New tyres In excellent condition Strongly recommended for Doctor's use. £60 — TAYLOR, 126, High Street, Wandsworth, S.W.18. (Putney 1698.)

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U.V.R. Lamp for Sale.—Quartz Mercury Vapour Actinocurn (Stanley Cox) Junior Table Model, 230 v. A.C. Good as new. £10.—Dr. E. PEART, North End, Bassett, Southampton.

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APPOINTMENTS—Contd.

Somerset County Council.

ASSISTANT MEDICAL OFFICER

The Committee invite applications from qualified Medical Men for the post of Assistant Medical Officer. In addition to School Medical work, the duties will include some Maternity and Child Welfare, and Venereal Treatment work. Experience in the modern methods of diagnosis and treatment of Venereal Diseases is necessary. Salary £600. The appointment will be made subject to the provisions of the Local Government and Other Officers' Superannuation Act, 1922.

Canvassing will disqualify. Applications by September 12th to the undersigned from whom all particulars and an application form can be obtained.

County Health Dept., Boulevard, Weston-super-Mare. W. G. SAVAGE, County Medical Officer of Health.

Chesterfield and North Derbyshire Royal Hospital.

(190 Surgical and Medical Beds.)

HOUSE SURGEON

Applications are invited from fully qualified men for the above post.

The appointment is for six months.

Salary is from £100 to £175 per annum, according to experience, with board, apartments and laundry.

Applications, stating age, together with copies of three recent testimonials, should be sent to the undersigned.

G. SIDNEY CH.
August 20th, 1930. Supt. & Secretary.

Darlington General Hospital.

(120 Beds.)

JUNIOR HOUSE SURGEON wanted, male, British, fully qualified. Salary £125 per annum, with board, residence, laundry, etc. Applications, stating age, qualifications, and accompanied with copies of two recent testimonials, to be addressed to me forthwith. The successful applicant will be eligible for the Senior Post when vacant.

A. RIDDLE, Secretary.

Huntingdon County Hospital.

MALE HOUSE SURGEON required at once. Salary £125 with board, residence, and laundry.—Apply, W. B. GROVE, M.D.

St. James' Hospital.

Applications are invited from members of the Medical Profession for the filling of two vacancies in the staff of HOUSE PHYSICIANS and SURGEONS at the above Hospital.

Applicants must be fully qualified and registered. The Hospital is one of 1,126 beds, with Special Departments for Pathology, Pathology, Midwifery, and Diseases of Children. There are in addition, 320 beds in a separate Mental Wards. The staff consists of a Medical Superintendent, a Resident Medical Staff of six, a Pathologist, a Radiologist, and Visiting Physicians and Surgeons.

The successful applicant will be required to act as House Physician and Surgeon under the Medical Superintendent and the Visiting Staff, and to perform such other duties as the Medical Superintendent may direct. The term of appointment is limited to one year.

Salary £200 per annum, with board, apartments, and attendance.

Applications, stating qualifications and giving particulars of present and prior occupations, together with copies of three recent testimonials, must be received by me not later than 10 a.m. on Tuesday, September 9th, endorsed "House Physician and Surgeon."

Selected candidates will receive due notice to attend.

11, South Parade, Leeds. H. FIFE DIXON, Public Assistance Officer.
August 25th, 1930.

Southampton Children's Hospital

AND DISPENSARY FOR WOMEN

(45 Beds.)

The Board of Management invite applications for the post of RESIDENT MEDICAL OFFICER (lady).

Appointment for six months. To commence duties on October 1st. Salary at the rate of £100 per annum, with board, residence, and laundry. Applications, stating age, and accompanied by copies of testimonials, to be sent not later than September 8th to the undersigned from whom further particulars may be obtained.

FLEAK MATTHEWS, Secretary.

Manchester Victoria Memorial

JEWISH HOSPITAL, CHEETHAM. (Non-Infectious.)

Applications are invited from registered Medical Practitioners for the post of SENIOR HOUSE SURGEON (male). The appointment is for one year, the holder being eligible for re-election for a further period of one year. Salary at the rate of £250 per annum, with board, residence, and laundry. The successful applicant must be prepared to commence duties on September 8th.

Applications, stating age, qualifications, and experience, with copies of three testimonials, to be forwarded to the undersigned immediately.

FRED BARNES, Superintendent & Secretary.

Royal Berkshire Hospital.

(243 Beds.)

Wanted immediately, CASUALTY OFFICER AND RESIDENT ANÆSTHETIST (male). Candidates must be fully qualified and registered; the appointments are for six months and the salaries are at the rate of £150 per annum, with board, residence, and laundry.

Applications, with copies of testimonials, should be addressed to the undersigned.

Reading. HERMAN BUPNEY, Secretary.
August 25th, 1930.

South Devon and East Cornwall Hospital, PLYMOUTH

(240 Beds.)

ASSISTANT PATHOLOGIST wanted, wholetime, non-resident. Lunch and tea provided. Salary £350 per annum. Applications, stating age, qualifications, and experience, together with copies of three testimonials to be forwarded to the undersigned by September 18th.

ARTHUR R. CASH, Gen. Supt. & Secretary.
Aug. 25th, 1930.

Royal West Sussex Hospital, CHICHESTER. (111 Beds.)

The Board of Management invite application for the post of JUNIOR HOUSE SURGEON. Salary £125 per annum with board, residence and laundry.

Applications, stating age, with three recent testimonials, should be sent to the undersigned as soon as possible.

HERBERT S. ALYMORE, Secretary.

St. Peter's Hospital for Stone, etc.

Henrietta Street, Covent Garden, W.C.2.

The Office of HOUSE SURGEON will fall vacant on October 1st, and applications are invited from male candidates with previous experience in a similar office at a General Hospital. The salary offered is at the rate of £75 per annum, with board, lodging, and laundry.

At the expiration of six months' term of office, and subject to the recommendation of the Medical Committee, the House Surgeon is appointed Resident Surgical Officer for a further similar period. Candidates should therefore be prepared, if successful, to remain at the Hospital for twelve months in all.

Applications, accompanied by copies of testimonials, will be received by the undersigned not later than the first post on Wednesday, September 10th.

BEECHEY ROGERS, Secretary.

Middlesex Hospital, MEDICAL SCHOOL, W.1

RADIOLOGICAL RESEARCH

There is a vacancy in the Barnato Joel Laboratories, the Middlesex Hospital, for a qualified Medical Man, preferably with D.M.R.E. Diploma, as ASSISTANT in radiological research bearing upon the treatment of malignant disease. Salary £350 p.a.

Applications should be made to the Dean of the Medical School before September 14th.

Oldham Royal Infirmary.

Two HOUSE SURGEONS required immediately, one for Male Wards and one for Out-Patient and Special Departments. Appointments tenable until December 31st. Successful applicants will be eligible for re-appointment. Salary at the rate of £175 per annum, with board, residence and laundry. Applications to be submitted forthwith together with copies of three recent testimonials to the undersigned.

CHARLES D. DEARE, General Superintendent.

City of London Maternity HOSPITAL, City Road, E.C.1

Applications are invited from fully qualified male candidates for the post of ASSISTANT RESIDENT MEDICAL OFFICER vacant Oct. 1st. Three months' appointment at £80 p.a. plus board, residence, and laundry. If satisfactory the appointee becomes Senior for three months at £100 p.a. 25 copies of applications and of (three) testimonials should be sent to the undersigned by September 20th.

RALPH B. CANNINGS, Secretary.

Peterborough and District MEMORIAL HOSPITAL (154 Beds.)

Fully qualified SECOND HOUSE SURGEON or HOUSE PHYSICIAN required immediately. Salary £125 per annum with board residence, and laundry. Applications, stating age, qualifications, and experience, with copies of recent testimonials, to be sent to the undersigned.

FRANK A. C. TAYLOR, Secretary-Superintendent.

General Hospital, Nottingham.

Wanted a HOUSE PHYSICIAN. Appointment for six months commencing Oct. 1st or 15th. Salary at the rate of £150 a year with board, residence, and laundry. Applications, stating age, qualifications, and experience, with copies of testimonials, to be delivered to me not later than Monday, September 22nd.

PETER M. MACCOLL, House Governor & Secretary.

Bristol Royal Infirmary

A fully qualified ASSISTANT required for Cancer Research Laboratories. Wholetime appointment. Salary to commence £400 per annum. Previous pathological experience necessary. Applications, together with copies of testimonials to be sent to the undersigned.

ELLIS C. SMITH, F.C.I.S., Secretary.

Cameron Hospital, WEST HARTLEPOOL.

HOUSE SURGEON wanted for September 15th. Salary £150 with board, residence and laundry. Applications, with particulars of age, nationality, qualifications, experience, and copies of testimonials, to be sent to the undersigned not later than September 6th.

H. WOODHALL, Secretary.

St. Paul's Hospital for Diseases
(INCLUDING CANCER) OF THE GENITO URINARY ORGANS AND SKIN, Endell Street, Holborn, W.C.2.

Applications are invited for the undermentioned positions:

RESIDENT MEDICAL OFFICER. Candidates must be doubly qualified and registered Salary at the rate of £200 per annum, with board and residence The appointment is for a period of six months. Previous experience as a House Surgeon indispensable. Applications, with copies of recent testimonials, to be sent to the Chairman of the Medical Committee not later than Monday, September 8th

HOUSE SURGEON. Candidates must be doubly qualified and registered Salary at the rate of £150 per annum, with board and residence. The appointment is for a period of six months on the termination of which the holder is eligible for the position of Resident Medical Officer. Preference will be given to those candidates who have previous experience in Venereal Diseases. Applications, with copies of recent testimonials, to be sent to the Chairman of the Medical Committee not later than Monday, September 8th.

Salford Royal Hospital.
(263 Beds)

Applications are invited for the following vacancies which will occur in the Resident Medical Staff (male) on September 30th next:

HOUSE SURGEON (attached to the Orthopaedic Department) Salary at the rate £125 per annum.

HOUSE SURGEON. Salary at the rate of £125 per annum.

The appointments are for a period of six months, with board and residence

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England, and appointments here are recognized for the English Fellowship (Final).

Forms of application, which may be obtained from the undersigned, must be delivered on or before September 10th

By Order of the Board,
GEORGE RUDDLE,
Salford Royal Hospital, Gen. Supt. &
August 25th, 1930. Secretary.

St. Vincent's Orthopaedic Hospital,
EASTCOTE, MIDDLESEX.
(140 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (unmarried). Candidates must be registered under the Medical Acts The appointment is for six months in the first instance, but the holder may be re appointed for a further period Salary is at the rate of £150 per annum, with board and lodging

Applications, with copies of testimonials, should reach the Secretary on or before September 8th Vacant October 1st.

St. John's Hospital, Lewisham, S.E.13.

There is a vacancy for a RESIDENT CASUALTY OFFICER for the period ending October 31st next Salary £100 p.a. Applications to be sent as soon as possible to the Secretary of the Hospital.

Mansfield and District Hospital.

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

Duties to commence as soon as possible.

The duties include charge of four beds devoted to complicated Midwifery cases

Salary at the rate of £150 per annum, with residence, board, and laundry.

The appointment is for six months and is renewable, and the salary for the second six months will be at the rate of £175 per annum

Applications, accompanied by not more than three recent testimonials, to be sent to the undersigned

Dated this 26th day of May, 1930.
ARTHUR H. LIMB, Secretary

Bedford County Hospital.

HOUSE SURGEON (male), fully qualified, unmarried required for a term of not less than six months commencing at once Salary £175, with board lodging, and laundry.

Applications, stating age, nationality, qualifications, together with three recent testimonials, to be sent to the Hon Secretary, Hon Medical Staff Committee, not later than the first post Wednesday Septmber 3rd Selected candidates will be invited for an interview Saturday, Septmber 6th

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Northampton General Hospital.

There will be vacancies on October 1st next for a HOUSE PHYSICIAN, Two HOUSE SURGEONS, and Two ASSISTANT HOUSE SURGEONS British nationality. Salary £150 per annum, with board, residence, and laundry.

The successful candidates will be appointed for a period of six months, and will be eligible for re election for a further period

Candidates must be duly qualified and registered

Applications, stating age, sex, qualifications, etc., with copies of testimonials, to reach the undersigned not later than first post on September 3rd

P. SOURCE
August 18th, 1930. Assistant Secretary.

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West End. — Over £1,600 p.a. Non panel, non dispensing. Fees 5/- to 21/-. School appts. Medium corner house.—No 8722

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North Kent. — Unoppd. — Over £1,100 p.a. Panel £250. Appts £200. Fees 3/6 to 12/6. Choice of houses to buy or rent.—No. 8719.

Kent Country, near Coast.—Over £1,100 p.a. Panel £290. Appt. £55. Fees 5/- to 21/-. Very conv. house, 3 recep, 6 bed, etc.—No 8718.

South Coast. — Town. — About £1,800 p.a. Panel 1,400. Half share, succession in few years Fees 3/6 to 7/6. Choice of houses Mdy. refused, scope. No 8716

Surrey. — Country Town.—£460 and great scope. Appts over £100 p.a. Panel 85. Fees 5/- to 21/-. House, 4 bed, 3 recep, on lease.—No. 8715.

Kent Suburb. — Residential.— Share worth over £500, exceptional scope. Fees 5/- to 21/-. Young single man preferred. Choice of houses.—No 8712

South Coast. — About £1,300. PARTNERSHIP with succession. Small panel. Fees 3/6 mostly and up to 10/6. 7-roomed house to rent or buy.—No. 8706

Lincs. — Unopposed. — Nearly £1,000 p.a. Old established. Panel 540. Appts. and clubs about £165. Fees 3/6 to 5/-. Med. extra. Good detached house and garden, to rent.—No. 8705.

Lancs Town. — About £1,100 p.a. Panel 560 Club £50 Fees 3/6 to 5/-. Good house and nice garden Rent or sell.—No 8704.

Hants. — Semi-rural. — Nearly £1,000 p.a. Small panel. Fees 3/6 to 15/-. House, 2—3 recep, 5—6 bed., large garden.—No 8653

S. Devon.—Average £1,600 p.a. Panel over 2,000. Fees 3/6 to 5/-. Large house in residential locality, 5 bed., 3 attics, 2 recep, etc.—No 8678.

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Midlands.—Share worth £1,400- £1,500 Good house (7 bed., etc.) and garden, in village 3 miles from town. Fees 5/- to 42/-.—No. 8694.

London, N. — About £1,700. Panel 1,300. 40 mids p.a. Fees 2 to 3 gns. Visits to 5/-. Corner house to rent. Premium £2,500 or near.—No 8688.

London, S.E.—Woman's Practice About £600. Panel 220 Fees 3/6 to 21/-. Scope for midwifery and increase. Ground floor flat.—No. 8686.

Yorks Country. — £800 p.a. Panel 445. Appts. abt. £60 Visits 5/- to 10/6 Mod house, 7 bed. Rent £42.—No 8684.

South Coast Resort.—£6,000 p.a. Non panel One fifth share increasing to one third in 2 years Fees 7/6 to 21/. Choice of houses F.R.C.S. essential.—No 8682.

Essex Suburb.—Near Country.— 1/2 share of £2,500. Great scope. Panel about 1,550. Suit man or woman. House or flat.—No. 8619

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LONDON, E.15.—NOTICE. Working-class PRACTICE in thickly populated locality. House to rent £60 p.a. (part payable at £26 p.a.). Receipts £500. Panel 400. Fee 1/6 to 2/6. Premium £600 or nearest offer.

LONDON, S.W.—We have an old-established G.P. with [illegible] within a few minutes of West End. Receipts approx. £1,500. Panel 1,200. House rent on lease. Premium £3,000 for Practice and Lease or offer.

LONDON, N.—NOTICE. G.P. with [illegible] residential locality. Excellent opening. Receipts £500. Panel over 100. Price for sale or partial Premium £700.

LONDON, S.E.—PARTNERSHIP in growing middle and working-class G.P. Suitable for [illegible]. Earnings approximately £4,000. Panel 3,400. One-third share is offered at 2 years. Purchase £1,350. Half share at 2 years purchase.

KENT.—PARTNERSHIP (early retirement). Well-established Country G.P. Receipts over £2,200. Panel 1,200. Suitable for [illegible] man aged 35—40. Half share at 2 years purchase.

LONDON, S.E.—Middle and working-class G.P. in residential locality. House to rent. Receipts approx. £1,100. Panel 1,600. Premium £1,500 cash.

NORFOLK (Cathedral City).—PARTNERSHIP in good-class panel G.P. Receipts over £4,400 per annum. One-fourth share to commence with view to larger share at 2 years. Purchase. Suitable for [illegible] young and preferably single.

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YORKS.—PARTNERSHIP in [illegible] working-class Town Practice. Receipts approx. £3,600 p.a. Panel over 2,000. House to rent. Premium for 1/4 share 2 years. Purchase.

YORKS.—Well-established middle and working-class Town PRACTICE. Receipts approx. £1,520. Panel nearly 1,700. House to rent. Premium £2,500.

CLOS.—Well-established non-dispensing G.P. situated in good-sized town. Receipts £820. Panel 500. House to rent or for sale. Premium £1,050. A Non-Partnership introduction will be considered. Suit [illegible] or either sex.

LANCS.—Good-class non-panel G.P., situated in residential district. Receipts over £1,500 (average £1,150). Suitable House available to rent or for sale. Scope for [illegible] surgery, especially Eyes and ENT work. Suitable for a F.R.C.S. Premium £1,200 cash.

LONDON, S.W.—Old-established middle-class G.P. Corner House with accommodation to rent at £115 p.a. on lease. Panel 500. Receipts £1,050. Premium 1½ years' purchase or near offer. Scope.

DEVON.—PARTNERSHIP in old-established mixed Practice. Receipts over £3,100 (average). Panel worth £1,100 p.a. General apportionments. One-third share at 2 years' purchase. Larger share later.

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7 MIDLAND TOWN.—Old-established PRACTICE. Receipts £900 p.a. including panel 600. Good house, long lease. Rent £70. Long introduction if desired. Premium 2 years' purchase. Payable £800 down. First year's income £900 guaranteed.

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3 SURREY. — Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London Small panel Suitable house obtainable. Excellent scope Premium one-third share 2 years' purchase

4 FAVOURITE HOME COUNTY.—PARTNERSHIP in Practice over £2,000 p.a. in growing residential district under 60 miles from London Panel 1,150 Good house, with all modern conveniences Premium one half share 2 years' purchase

5 LONDON S.E.—Practice about £3,000 p.a., carried on by two Medical Men in outlying suburban district. Panel 1,350 Two houses available Premium 1½ years' purchase. Or one half share would be sold with early succession

6 DEVONSHIRE.—Partnership in Practice of £3,400 p.a. in first rate country town. Panel 2,000 Charming old house, with good garden, to rent. Well equipped Hospital, with chance of appointment on staff to one keen on medicine. Premium one third share 2 years' purchase.

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8 DEATH VACANCY. — CARMARTHENSHIRE.—PRACTICE of £1,500 p.a. (including about £800 from panel) Small house to rent Knowledge of Welsh not essential

9 ITALY.—Non-dispensing Season Practice. Receipts about £200 p.a. Suitable flat to rent. Premium £250

10 DEATH VACANCY.—BIRMINGHAM.—PRACTICE averaging over £1,500 p.a. (largely Homœopathic) in one of the best residential suburbs No panel or midwifery. House (7 bedrooms) to rent. Any reasonable offer

11 HOME for Alcoholic, Drug, and Nerve cases in favourite resort on South Coast Receipts last year over £1,100 Capable of increase Further particulars on application.

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17 KENT. — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs' pur.

18 YORKSHIRE (W.R.).—Practice averaging £1,700 p.a. in manufacturing town. Panel 1,737. House (4 bedrooms), garage, and small garden, for sale Scope Premium 1½ years' purchase

19 WEST MIDLANDS. — Partnership in Practice of about £2,850 p.a. in country town. Panel 1,700 Exceptional and extremely attractive house (11 bed and dressing rooms); garages and garden, for sale Good social centre. Premium one half share 2 years' purchase

20 WEST OF ENGLAND. — Partnership in old established Practice in pleasant Country Town House to rent or purchase. Share worth about £1,000 p.a. at 2 years' purchase

21 LONDON, S.E. — Partnership (with preliminary Assistantship) in well established Practice of £5,500 in outlying district Panel 2,000 House (5 bedrooms, etc.) Garden. To let. Premium one fifth share 2 years' purchase

22 MIDLANDS.—Practice over £800 p.a. in first rate Town Panel 500 Detached house (4 bedrooms, 3 attics) Garage and garden Rent £110 p.a. Prem 1½ yrs' pur

23 SOUTH DEVON. — Partnership in non-dispensing Practice, about £2,400 p.a., in favourite watering-place Panel 950 Good Hospital One third share at 2 years' purchase Preliminary Assistantship

24 S.W. OF ENGLAND.—Unopposed PRACTICE, about £1,150 p.a., in delightful country district Very fine house, with beautiful gardens, tennis lawn, etc., for sale Premium 1½ years' purchase

25 YORKSHIRE (N.R.). — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450. Visits 5/6 to 10/6 Modern house, 12 rooms. Garage and good garden Rent £42 p.a. Premium 1½ years' purchase

26 LONDON, N.—Practice about £1,700 p.a. in thickly populated district Panel 1,300 Corner house (2 bed rooms) to rent. Considerable scope Premium 1½ years' purchase

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28 SOUTH MIDLANDS.—Country Practice of just over £1,000 p.a., within 50 miles of London. Panel 700. Good house, with modern sanitation, excellent garden and paddock, to rent. Premium £1,500, to include drugs and fittings.

29 DEATH VACANCY.—SOUTH COAST.—PRACTICE over £950 in favourite watering place. Panel about 200. House (5 bedrooms) in half acre garden, for sale.

30 LONDON, S.W.—Partnership in Practice about £2,500 p.a. in first-rate suburb. Panel 1,250. Double fronted house (7 bedrooms), garage and lovely garden, for sale. Share about £1,000 p.a. at 2 years' purchase. Partner must be well qualified, preferably MD or ERCS.

31 HOME COUNTIES. — Easily worked country PRACTICE about £2,000 p.a. in Agricultural District, 40 miles from London. Panel 820. Centrally situated house (4 bedrooms, offices), garage, and garden, for sale. Premium—Practice—1½ years' purchase.

32 SHROPSHIRE.—Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1,100. Very nice house, garage, and large garden, for sale. Sport. Premium one-half share 2 years' purchase.

33 YORKSHIRE (W.R.). — Compact easily worked PRACTICE, averaging £1,000 p.a., in manufacturing town. Panel over 1,200. Split-level situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase.

34 SOUTH DEVON.—Country Practice nearly £1,500 p.a. in beautiful district, near coast. Panel 654. House (7 bedrooms, with electric light and central heating, garage, and large garden, for sale. Sport of all kinds. Premium 1½ years' purchase.

35 LONDON, N. — Sound, easily worked PRACTICE, nearly £2,600 p.a., in residential district. Small select panel. Good corner house (5 bed and dressing rooms), with very good garden, for sale. Small Hospital. Premium—house and Practice—£4,250 cash.

36 MIDDLESEX. — Practice about £500 in growing district of pleasant suburb under 10 miles from London. Panel 460. Large House to rent or lease. Great scope. Premium £750 or near offer.

37 LONDON, E. — Practice £990 p.a. in populous area. Panel 1,240. Ship-treated premises to rent. Plenty of scope. Premium 1½ years' purchase.

38 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Small compact house (5 bedrooms), with nice garden, for sale. Sport. Premium—Practice and house—£2,000.

39 SOUTH OF ENGLAND.—Partnership in good-class non-dispensing Practice, £6,000 p.a., in attractive watering place. No panel. House (3/4 bedrooms), garage, and garden to rent. One-third share at 2 years' purchase. Partner should be 35/40 years of age, and hold F.R.C.S. England.

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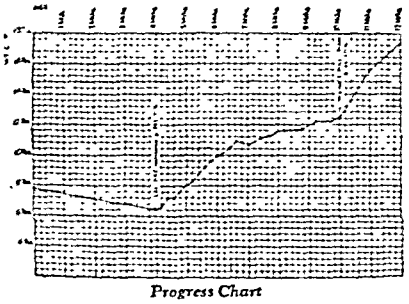
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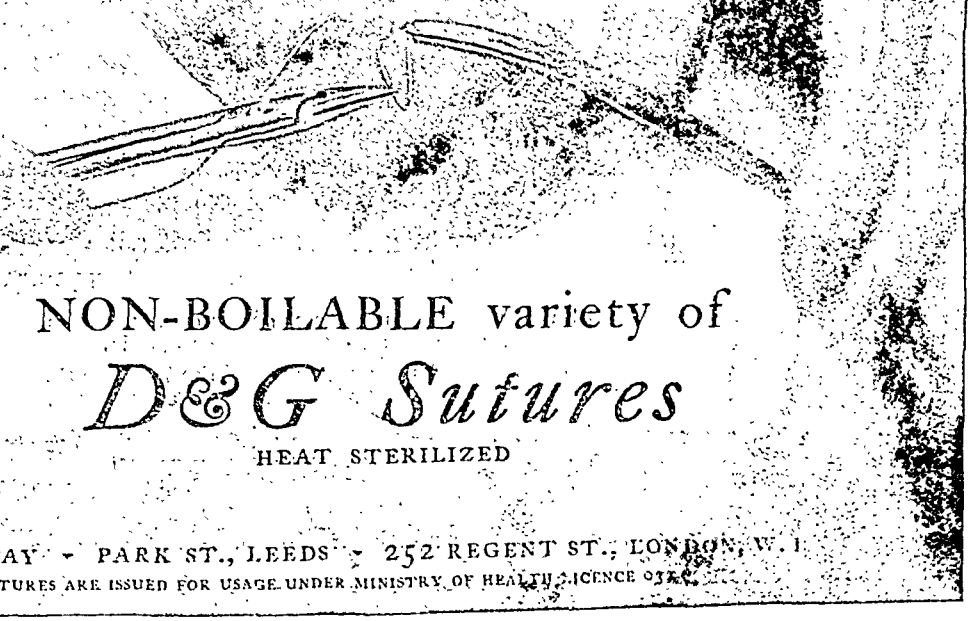
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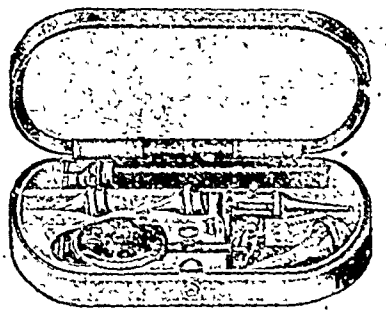
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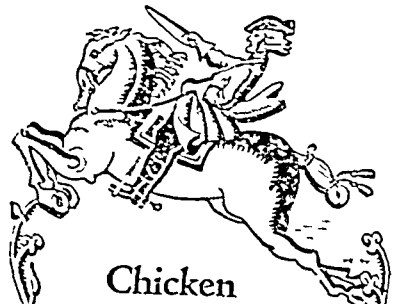
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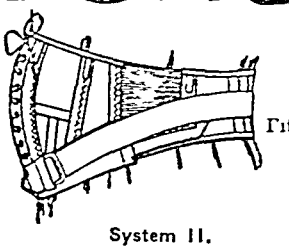
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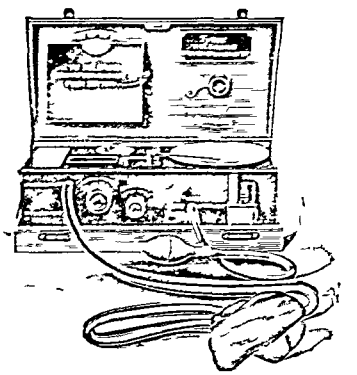
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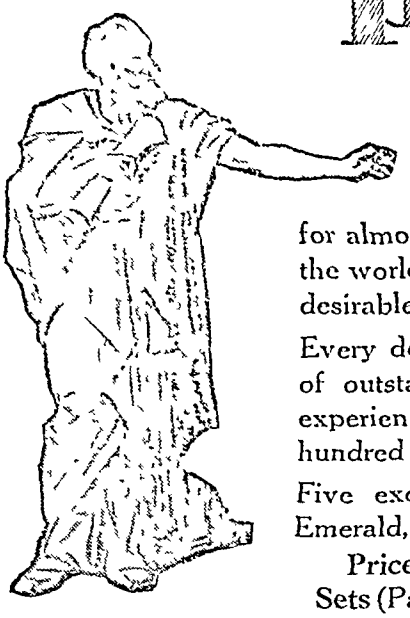
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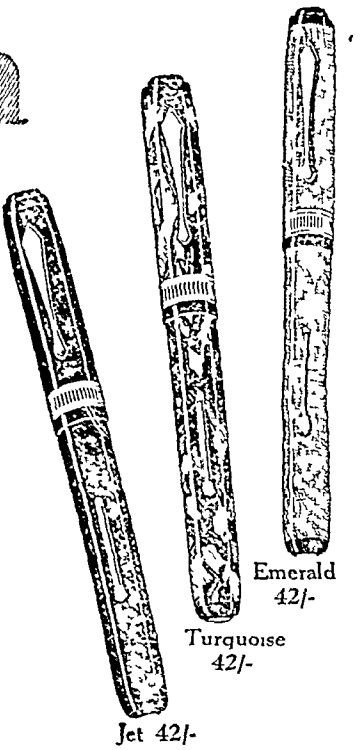
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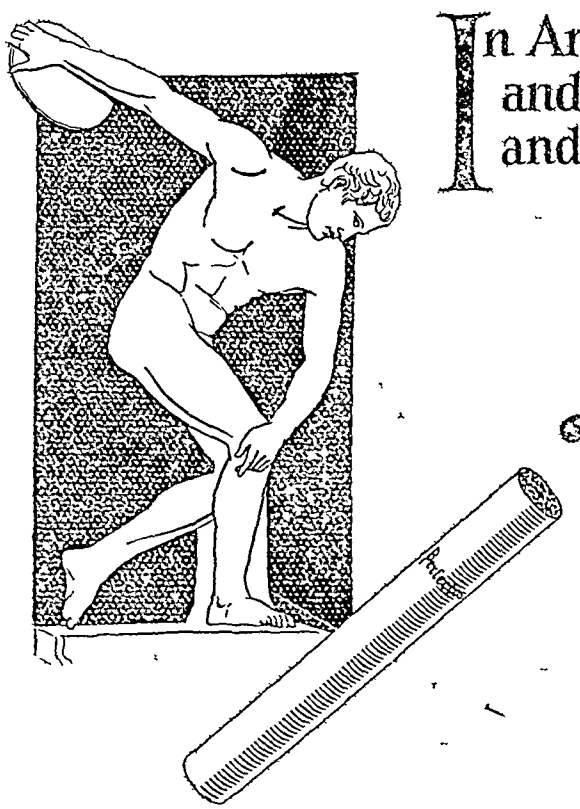
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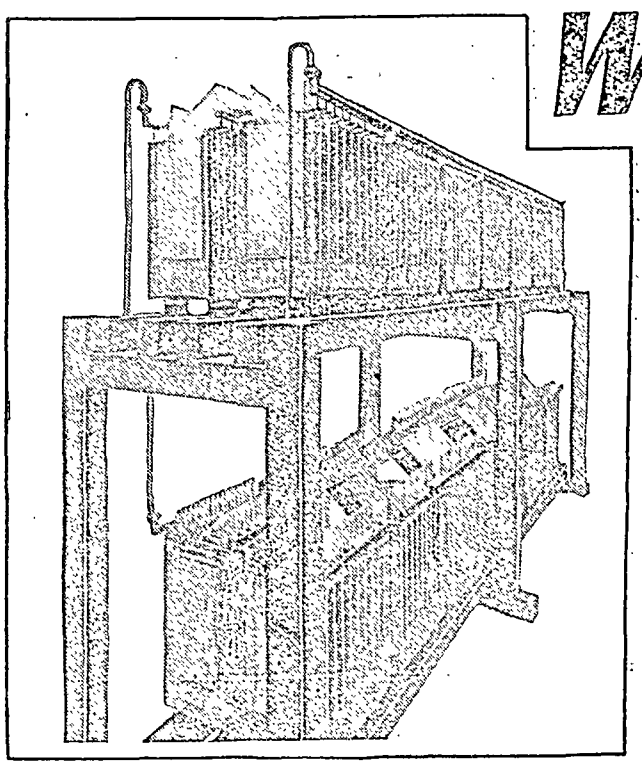
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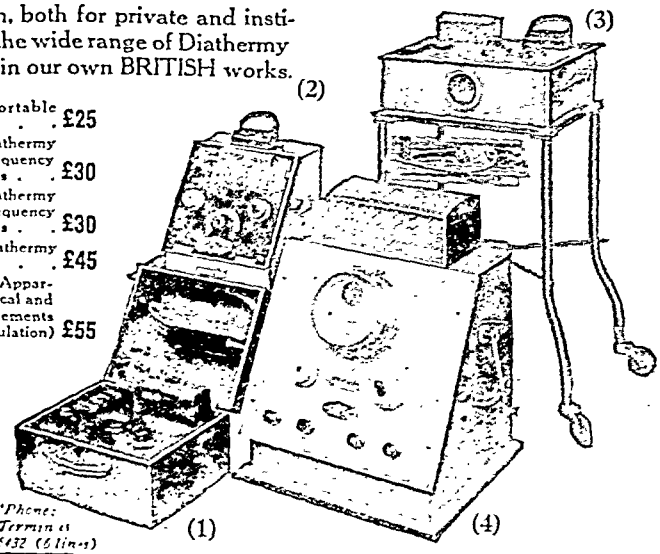
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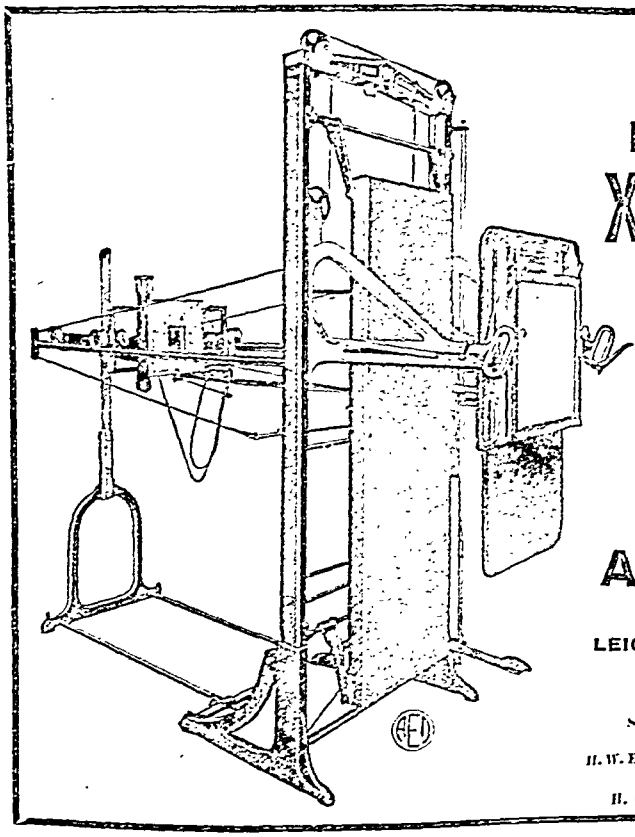
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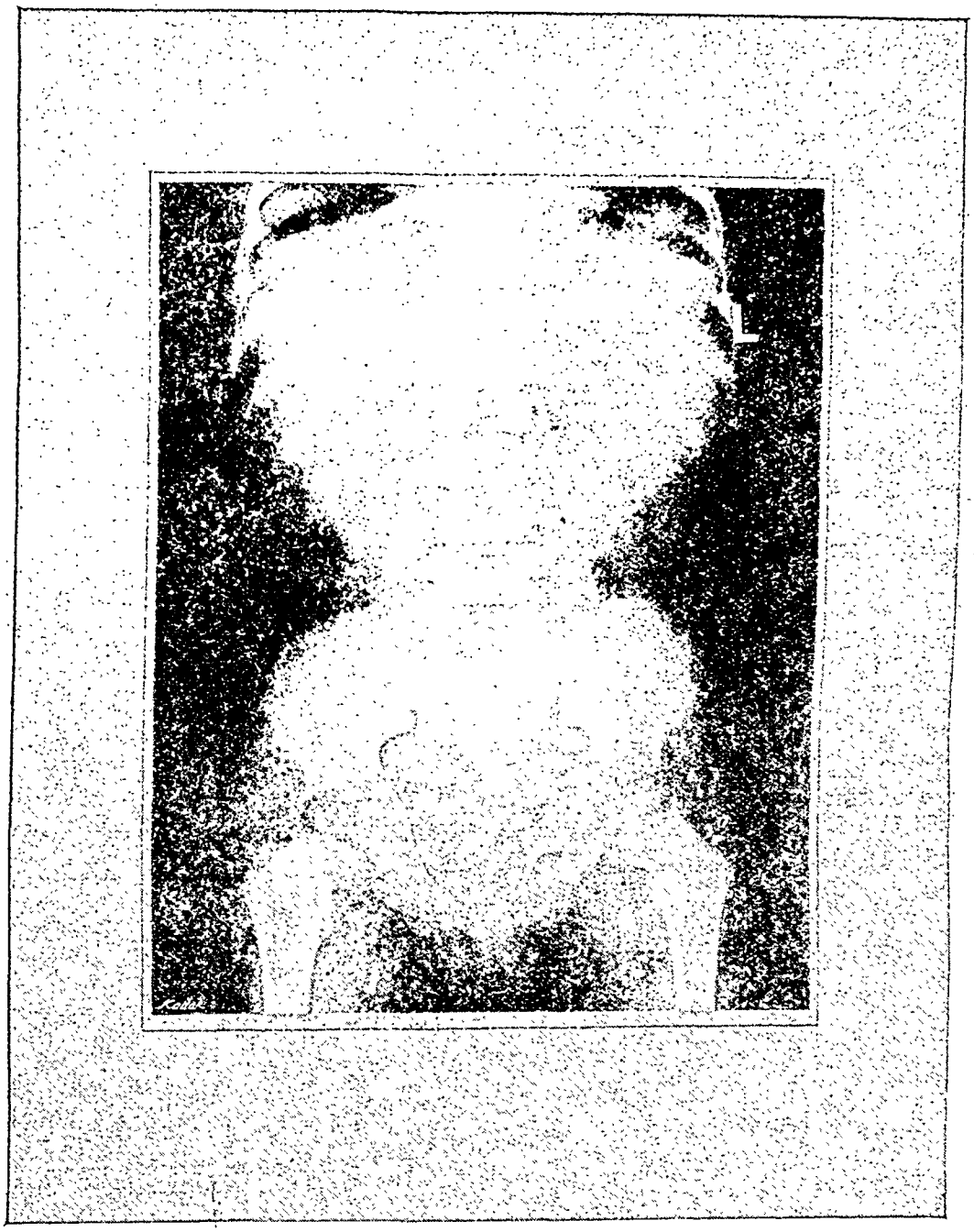
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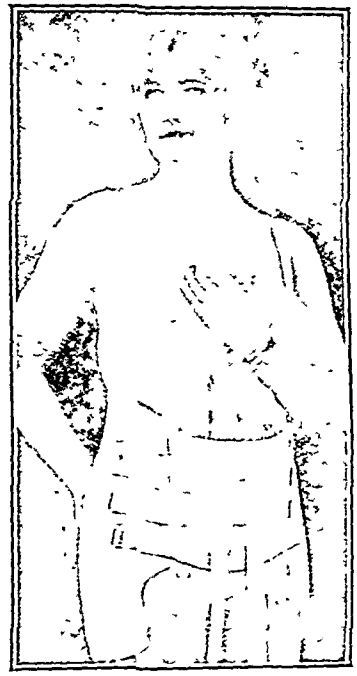
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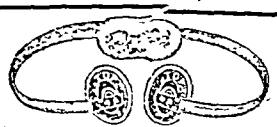
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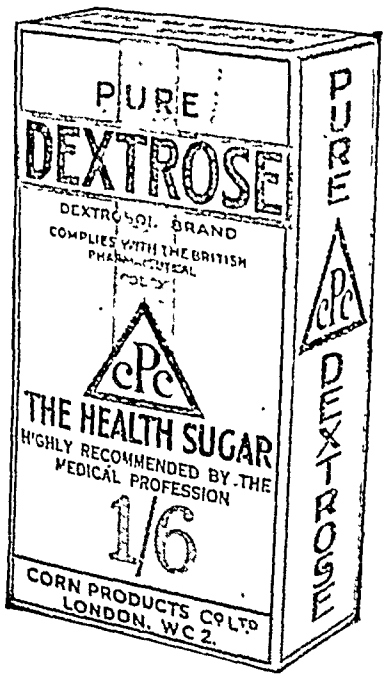
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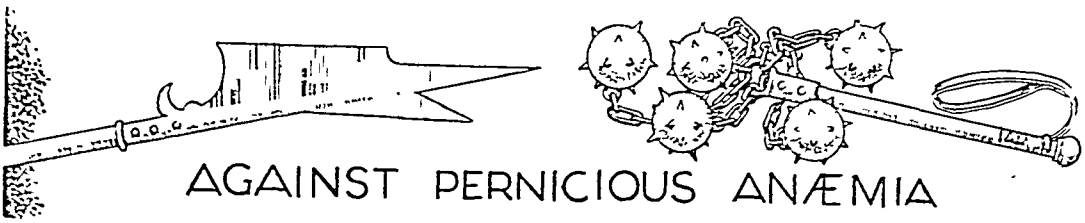
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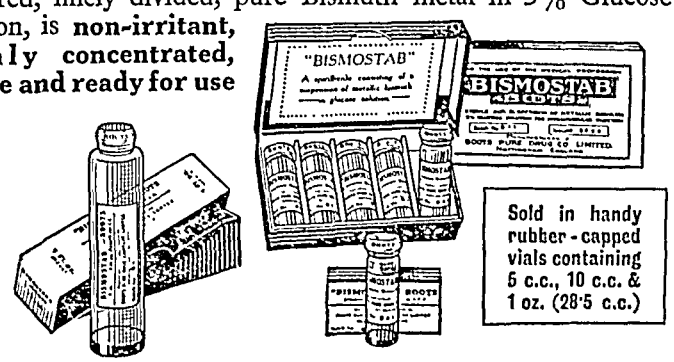
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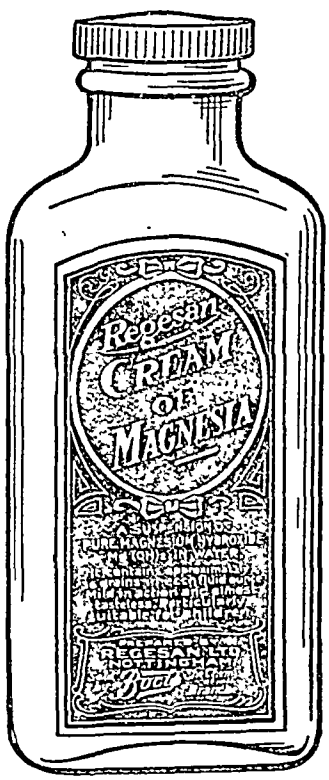
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and allied conditions.

PROMPT and proper diagnosis of kidney conditions is necessary in cases of Bright's disease and all types of renal disorders. In nine cases out of ten the administration of a specific capable of producing real results in compensating for the loss of kidney function is also necessary.

For more than a quarter of a century Nephritin has been a sheet anchor to physicians in treating such disorders. Nephritin Tablets induce a marked increase in nitrogenous waste elimination. They reactivate the cells of the kidney, increase urinary secretion, and induce a greater output of urea.

Given in sufficient dosage these tablets produce marked results, and restoration to normal is quickly stimulated. They are invaluable also as a prophylactic in renal complications of infectious diseases and during pregnancy. The tablets are composed of the hormones of the normal kidney as they appear in nature—*absolutely unaltered*

Samples and Descriptive Literature from Sole Distributing Agents for U.K. and Irish Free State: COATES & COOPER, 41, Great Tower Street, London, E.C.3.

Nephritin

TRADE MARK BRAND
DIURETIC RE-ZYME TABLETS
Manufactured by
REED AND CARNRICK
Pioneers in Endocrine Therapy
Jersey City, New Jersey.



'PANOPEPTON'

WHAT IT CONTAINS.

Contains in solution, in an agreeable form, the entire nutritive constituents of beef and wheat.

Contains all that is digestible in beef—in its juice and in its muscle tissues.

Contains all that is digestible in wheat—its gluten, its carbohydrates.

Contains all the savory and stimulating elements, the extractives, the mineral constituents of beef and wheat.

Contains these constituents in the soluble, perfectly diffusible form into which they are converted in the process of normal digestion.

USES OF 'PANOPEPTON.'

Can be relied upon in cases where the nutrition of the patient is of prime importance.

Has saved the patient in desperate straits due to intolerance of food.

Has nourished and restored in many cases where the patient has steadily lost strength on other foods.

Possesses remarkably restorative and stimulating properties.

Is the most nutritious, the most agreeable and reliable—the BEST of all foods for the sick.

For an adult, the usual portion should be a dessertspoonful to a tablespoonful several times a day and at bedtime

SUPPLIED IN 12-oz BOTTLES

Orginated and Manufactured by
Fairchild Bros. & Foster (Inc. N.Y.)
NEW YORK, and 65, Holborn Viaduct, London, E.C.1.

Agents.
Burroughs Wellcome & Co.,
LONDON, SYDNEY, and CAPE TOWN.

For Nervous and Physical Depression

℞ Bynin Amara

Sig 3ss ccay t.d.s.p.c.

COMPOSITION:

Quinine Phosphate
1½ gr.

Iron Phosphate
2 gr.

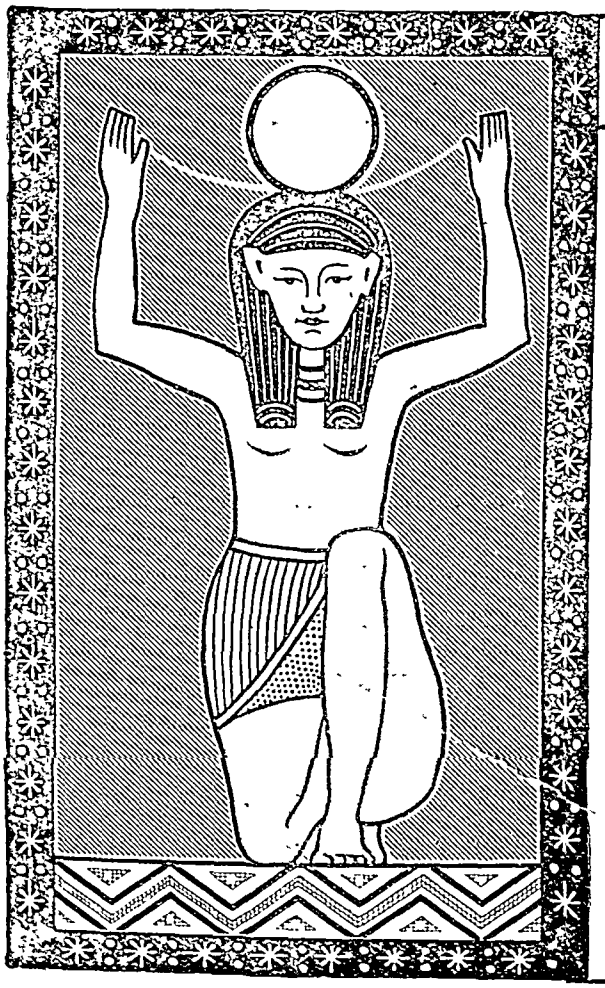
Nux Vomica Alkaloids
equal to Strychnine
1/16th gr.

'Bynin' Liquid Malt
1 oz.

Further particulars and clinical trial sample will be sent on request.

ALLEN & HANBURYS LTD., LONDON

Telephone: 3201 (10 lines) Bishopsgate *Telegrams:* "Greenburys Edo London."



OVALTINE

WHEN SLEEP IS DIFFICULT

Judged by the numerous reports received from physicians and also from grateful patients, the use of "Ovaltine" for ensuring sound refreshing sleep deserves the widest recommendation.

It has been remarked that a more helpful prescription could not be wished for because:

1. Taken last thing at night before retiring it exercises a pronounced sedative effect and one that is natural in every sense.
2. It has a pleasantly soothing action on the stomach and nervous system, and does not cause the slightest digestive unrest, or occasion constipation.
3. It promotes a sufficiency of healthful sleep without resourse to hypnotic drugs.

"Ovaltine" is a delicious concentrated extraction of malt, milk, and eggs, in the form of golden granules, which dissolve instantly in milk.

A liberal supply for clinical trial sent free on request.

A. WANDER, Ltd., 184, QUEEN'S GATE, S.W.7.
Works: KING'S LANGLEY, HERTS.

SHU.—The personification of sun, light, air, dryness, etc. M.243

NOVOCAIN

The Original Preparation
English Trade Mark No. 276477 (1905).

Local Anæsthesia in Surgical Practice

UTERINE PROLAPSE.

Typical Case.

THIRD DEGREE WITH LARGE VESICOCELE.

Operation: Watkins' interposition: Perineorrhaphy.

Mrs. E. D. F., aged 53.

Anaesthesia: Classical infiltration block, using 40 c.c. of a 0.5 of 1 per cent. Novocain-Adrenaline solution in perineum. A circumferential block about the cervix was made, using 30 c.c. of the same solution. The round ligaments were blocked as soon as they appeared, 4 c.c. of a Novocain-Adrenaline solution being used in each case. The classical Watkins' operation was performed. The perineum was then repaired by the split septum method. Anaesthesia was ideal. Patient's pulse was 80 at end of operation, and she had no post-operative nausea, vomiting, or gas pains, and made an uneventful recovery. —EXTRACT from PRACTICAL LOCAL ANAESTHESIA (Farr).

(Full technique of this and one hundred other operations under Local Anaesthesia will be found in the above work, published by Henry Kimpton, 263, High Holborn, London, W.C.1.)

THE SAFEST LOCAL ANAESTHETIC.

Ample supplies of Novocain are available for the use of Surgeons at all the chief Hospitals. Specify "Novocain" for your next operation.

Does not contain Cocaine, and does not come under the Dangerous Drugs Act.

LITERATURE ON REQUEST.

Sole Agents:

THE SACCHARIN CORPORATION LTD., 72, Oxford Street, London, W.1.

Telegrams: SACARINO, WESTCENT, LONDON. *Telephone*: MUSEUM 8095.

Australian Agents:
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501, Little Collins Street, Melbourne

New Zealand Agents:
THE DENTAL & MEDICAL SUPPLY CO., Ltd.,
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Emol-Keleet

Samples free to the Medical Profession on request.

FASSETT & JOHNSON, Ltd.
86, Clerkenwell Road, London, E.C.1.

Beneficial in Inflamed and Irritable Conditions of the Skin.

Emol-Keleet is a natural dusting powder of purely organic origin, combining a marked sedative action with absorbent, emollient and mildly astringent properties. It has a velvety-smooth texture and is remarkably adhesive. Emol-Keleet allays the itching of Eczema and dries up the exudations of "weeping" cases. It relieves the cutaneous irritation accompanying Measles and Scarlet Fever, and soothes any inflammation which may follow vaccination.

Infantile Diarrhoea.

A letter recently received.

The Medical Adviser of
Messrs. Kaylene Ltd.,
London.

Dear Sir,

The case to which I referred was a child of six months who was brought to me after having treatment elsewhere for diarrhoea and vomiting. The child was practically a skeleton and apparently had been vomiting everything—even medicines—for many days. The mother thought, and her friends thought, the child was dying, and I happened to be the nearest doctor. I gave the child one teaspoonful of plain Kaylene in plain, cold, boiled water, and kept the mother and child in my consulting room to watch effects. If ever a child was drawn from the jaws of death, I think that little sufferer was. The Kaylene was retained; the gasping steadily lessened; the haunting look of that child's eyes became less distressing; in fact, the change for the better was so pronounced that in an hour's time I allowed the mother to take the child home.

Fortunately, I had sufficient Kaylene by me (a sample you kindly sent), and I gave the mother sufficient to give a teaspoonful every hour during the night. The chemists' shops were all shut by this time. I gave full instructions—strict instructions—not to give anything else but Kaylene and plain, cold, boiled water as I had done.

In the morning the mother came to see me and informed me that only twice during the night the child had loose stools but no vomiting, and had slept fairly well. The child had other two loose motions during the day, but not offensive ones like all the other stools. In the evening the child cried—the first time for two days—and as she looked, and was, so much better, I gave her some white of egg with plain, cold, boiled water. Still improving, I kept her on this for three days. She was doing well and I then allowed her milk. She made a complete recovery, and there can be no doubt whatever that Kaylene saved the child's life.

Yours faithfully,

..... M.B., C.M.

Samples and literature supplied on request

Manufactured by

KAYLENE LIMITED,

'Phone: WELBECK 3553. 7, MANDEVILLE PLACE, WIGMORE ST., W.1. 'Grams: KAYLOIDOL, WESDO, LONDON.

STANIFORM

Regd. BRAND Trade Mark.

METHYL STANNIC IODIDE

OINTMENT
Immediately stops the pain in all cases of burns, scalds, etc.

DUSTING POWDER
For application where a greasy substance is contra-indicated.

LINIMENT
Remarkably effective in treatment of Rheumatoid Arthritis.

LOTION
A panacea for Mosquito and other insect bites. Most effective for all purposes where Tr. Iodine is employed. Does not stain the skin and there is no sting.

TABLETS
Staniform being an organic compound is more easily assimilated than the Tin preparations at present in use.

Supplies may be obtained through the Wholesale Druggists, Druggists' Sundriesmen, or Dental Supply Companies.

What the Profession says

The following are some recent unsolicited testimonials reported to the Manufacturers by Medical Men:

"I continue to get every satisfaction from 'Staniform' in the case of carbuncles, boils, whitlows, and all kinds of infected wounds."

"In a case of acute eczema on leg, the skin was quite normal within one week after starting application of 'Staniform Ointment.'"

"Festering wound on left heel when first seen was about the size of a shilling with good deal of pus. Foot much swollen—dressed with 'Staniform Ointment' healed splendidly in four days."

Similar testimony has been received from a large number of medical men when "Staniform" has been used for the treatment of Burns, Wounds, and Skin Ailments.

STANIFORM is used in Leading Hospitals.

STANIFORM over a wide field of clinical experience has exhibited positive curative properties. Combining the well known usefulness of Tin in staphylococcic infections with the powerful germicidal properties of Iodine, Staniform is indicated generally in local inflammations, inducing an immediate soothing effect with rapid healing.

STANIFORM LTD., CARNWATH ROAD, LONDON, S.W.6

Alternative Methods in Prophylaxis and Treatment of

CORYZA

DETOXICATED ANTI-CORYZA VACCINE. This Vaccine has been used with great success for several years. Its outstanding feature is the absence of reaction, which makes it especially useful for hyper-sensitive patients.

ORDINARY ANTI-CORYZA VACCINE. Some Practitioners consider that a slight reaction has definite therapeutic value, and this type of Vaccine has been prepared to meet their requirements. It has the advantage of very low price.

ANTI-CORYZA VACCINE SPRAY (For local application to the nose and throat). For patients who object to Vaccine treatment by subcutaneous injection, and for children, this Local Immunity Product is particularly indicated. An additional convenience is that frequent attendances by the patient for injections are unnecessary.

Additional information regarding the above products will gladly be supplied to any Practitioner who writes to The Vaccine Department, Genatosan Ltd., Loughborough, Leicestershire.



(*Aesculapius*)

LABORATORY REPORT ON A CASE OF

PERNICIOUS ANAEMIA

TREATED WITH "HEPATEX"

Day of treatment	Haemo-globin	Red Cells	Colour Index	Leuco-cytes	Plate-lets	Nucleated Reds	Van d. Bergh	Treat-ment
1	39%	1,087,500	1.8	3,350	95,000	Absent	Pos.	
4	45%	1,291,000	1.7	2,830	92 000	,,	—	
8	50%	1,800,000	1.4	2,800	93,000	Present	Pos.	Hepatex
15	57%	2,175,000	1.3	3,600	210,000	Absent	,,	equivalent
22	66%	2,736,000	1.2	2,600	210,000	,,	,,	of 1-lb.
29	74%	3,075,000	1.2	3,430	200,000	,,	Neg.	liver per
36	73%	2,850,000	1.2	1,850	139,000	,,	,,	day.
44	76%	3,331,000	1.15	2,130	181,000	,,	,,	
50	73%	3,450,000	1.06	2,250	198,000	,,	,,	
57	71%	3,724,000	1.0	2,620	180,000	,,	,,	Equivalent
64	84%	4,250,000	1.0	3,300	90,000	,,	—	of 1-lb.
71	88%	4,112,000	1.1	3,100	177,000	,,	—	liver per
78	90%	4,025,000	1.1	—	151,000	,,	—	day.

NOTE.—This patient was discharged from hospital at this point, but unfortunately was deprived of HEPATEX, with the result that he gradually reverted to his former serious condition and was readmitted to hospital six months later.

311	39%	1,750,000	1.14	1,600	Low	Absent	Pos.	Another
318	37%	1,425,000	1.32	1,700	,,	—	,,	liv. ext.
325	35%	1,312,000	1.34	2,000	—	—	—	hypoderm.
332	33%	1,175,000	1.5	2,300	Low	Present	Pos.	Hepatex
339	44%	1,640,000	1.33	3,000	—	,,	,,	equiv. of ½-lb. liver.
346	49%	1,987,000	1.45	3,380	—	—	Neg.	Ditto equiv.
353	53%	2,250,000	1.18	3,400	—	—	—	of 1-lb.
360	61%	2,850,000	1.12	3,600	—	Absent	—	liver.
367	65%	3,160,000	1.03	3,000	—	,,	—	Ditto equiv.
382	87%	3,975,000	1.1	4,300	—	,,	—	of ½-lb.
388	86%	4,375,000	1.0	6,800	—	,,	—	liver.
395	85%	4,300,000	1.0	4,100	—	—	—	

HEPATEX is a highly concentrated extract of liver, one drachm containing the equivalent of two ounces of fresh liver. It is supplied in 4 oz. bottles containing sufficient for eight days' full treatment. Price 12/6 per bottle.

EVANS SONS LESCHER & WEBB LTD.

56 Hanover Street, LIVERPOOL

Evans' Biological Institute, RUNCORN

50 Bartholomew Close, LONDON, E.C.1

Milk Intolerance.

For many years Benger's Food, as is well known, has been used by practitioners throughout the world as a routine diet in all gastric cases, debility, and in cases of milk intolerance. The reason for this may be briefly stated:—

Benger's Food is a special wheaten flour preparation containing, in suitable amount, the two natural digestive principles — Amylopsin and Trypsin — in a latent state.

It is devised and expressly intended to be used in conjunction with fresh cows' milk, or diluted milk, if desired.

The two enzymes are in such condition as to exert their digestive powers under the condition which obtains during the preparation for use.

The Amylopsin acts on the carbohydrates (Starch) of the Food and gradually changes it into soluble sugars (Dextrins and Maltose mainly, with a little Dextrose) more or less according to the length of time allowed for digestion.

The Trypsin acts on the gluten of the flour and on the proteins (Casein, etc.) of the milk so that the curd which forms is softened, and as a result it separates in the stomach in fine readily-digestible flocculi instead of large, often indigestible curds. The extent of digestion can be varied; *it is important to note that complete pre-digestion can never take place.*

Benger's Food contains no preservatives. It is palatable and is free from rough irritant particles.

These considerations show that Benger's Food is not merely a mechanical milk modifier — it is a real modifier of a peculiar character.

THE "LANCET"
describes it as "Mr. Benger's admirable preparation."

A Physician's sample will be sent post free to any member of the Medical Profession making application to the Proprietors:—

BENGER'S FOOD, Ltd., MANCHESTER.
NEW YORK (U.S.A.): 90, Beekman Street.
SYDNEY (N.S.W.): 350, George Street.
CAPE TOWN (S.A.): P.O. Box 573.

Benger's Food, in sealed tins, is on sale throughout the world by Chemists, etc.

M.138

BENGER'S Food

GLANOID
MEDICINAL PRODUCTS
ANIMAL ORIGIN

Adeps Benzoatus
Adrenalin
Amylopsin
*Beef Juice**
Carminex
*Catgut**
Cerebrinin
*Corpus Luteum**
Diastase (Animal)
Digestive Ferments
Duodenin
*Enzymes**
Galactis
Hæmoglobin
*Insulase**
Lactated Pepsin
Lecithin
*Liver**
Lymphatic
Mammary
Mam-Ovarian
Mam-Placenta
Meduphites
*Multigland**
Myelin
Orchitic
*Ovarian**
*Ovarian Residue**
*Ovo-Testis**
Ovo-Thyroid
Ox Gall
Pancreas
Pancreatin
*Parathyroid**
*Parathyroid Co.**
Pepsin
*Peptone**
Pineal
Pituitary, W. G.
*,, Ant. Lobe**
*,, Post. Lobe**
*,, Co.**
Placenta
Prostate
*Red Bone Marrow**
Renal Cortex
*Spleen**
*Supra Medulla**
*Suprarenal**
*Suprarenal Co.**
Suprarenal Cortex
*Suprarenalin**
*Thromboplastin**
Thymus
,, Co.
Thyropophosis
*Thyroid**
*Thyro-Manganese**
Trypsin

*Literature available.

GLANOID

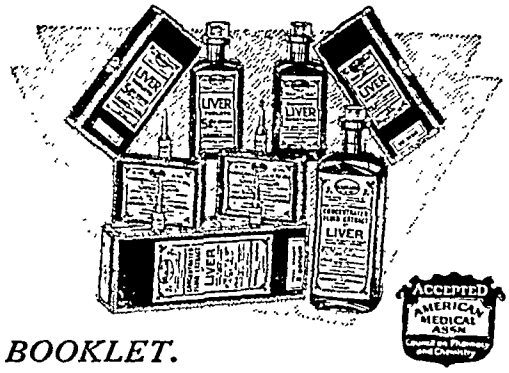
Concentrated Fluid Extract of LIVER

(Accepted by the Council on Pharmacy and Chemistry of the American Medical Association.)

ONE OUNCE (the Daily dose) = HALF POUND FRESH WARM CALF LIVER

PALATABLE
READY to TAKE

Also made in Powder and Tablets for Oral Administration, and in Sterile Solution for Intramuscular Injection.



WRITE FOR BOOKLET.

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SUPRARENALIN U.S.P.

(Syn:—Epinephrin.... Adrenalin, etc.)

POWDER, CRYSTALS, TABLETS and Water White Boilable SOLUTION
1:1,000 and 1:10,000

Suitable for application whenever ADRENALIN is indicated. Does not turn pink or precipitate. Sample will be sent on receipt of professional card.



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The "Monthly Review of Organotherapy" will be sent regularly upon receipt of professional card.

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ARMOUR AND COMPANY
LIMITED
ARMOUR HOUSE, St. MARTIN'S-LE-GRAND,
LONDON, E.C.1.

TELEGRAMS: "ARMOSATA-CENT." LONDON.
TELEPHONE: NATIONAL 2424.

NATURALLY RICH



IN VITAMIN "D"

A "RESURRECTION"

.....GUILDFORD
30 6 30

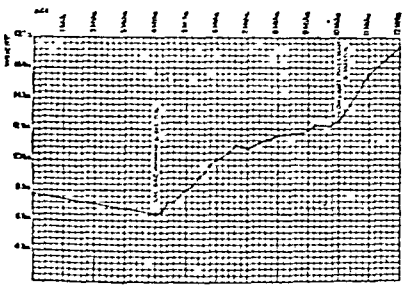
"Baby Hook, came under my care shortly after birth suffering with marasmus following whooping cough. Broncho-pneumonia developed and was with great difficulty cleared up, leaving the child in a very low condition. Feeding proved a difficult problem, several things were tried without beneficial results. The results with Cow & Gate were truly wonderful, indeed it is a case of 'a resurrection.'"

(Signed).....M.B.Ch.B.

Lacidac (separated) and Brestol, the Cow & Gate Humanised Cream, were used in the early days of treatment. Cow & Gate Full Cream and Brestol being used subsequently.



BEFORE—4 months' old, 6 lbs. 9 ozs. in weight.



Progress Chart



AFTER—10 months' old, 12 lbs. 6 ozs. in weight.

June 1930. Baby Hook has now won a prize in a Baby Competition!

Write for literature and clinical samples of Lacidac and Brestol.

COW & GATE LTD.

Cow & Gate Milkfood

Support HOME Agriculture— Cow & Gate Products are all made from ENGLISH MILK.

GUILDFORD, SURREY

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PHYSIOLOGICAL TREATMENT OF CONSTIPATION



COMPOSED OF

EXTRACT OF THE INTESTINAL GLANDS
which strengthens the glandular secretions of the organ.

BILIARY EXTRACT
which regulates the secretion of the bile.

AGAR-AGAR
which rehydrates the contents of the intestines.

LACTIC FERMENTS
anti-microbian and anti-poisonous action.

IN TABLET FORM.

ITS USE DOES NOT LEAD TO HABIT

LABORATORIES

LOBICA

46, Avenue des Ternes, PARIS (17e)

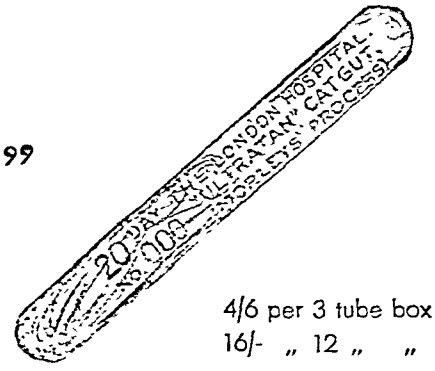
The Therapeutic Substances (Catgut) Act, 1930, is

The Surgeon's Guarantee for Sterility

London Hospital

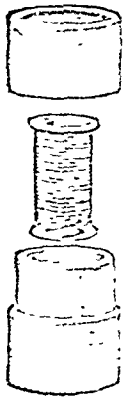
"Ultraflam" Catgut

Chromicized and Plain



4/6 per 3 tube box
16/- „ 12 „ „

Is prepared by the Morley process and passes the prescribed tests for sterility of the Therapeutic Substances (Catgut) Regulations, 1930, *Licence No. 37*



"Chorda" Catgut is supplied on reels in cartons specially treated to render them impervious to moisture or air.

4/6 per 3 carton box
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"Chorda" Catgut can be supplied in glass tubes if desired.

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"Chorda" Catgut

Plain and Hardened

Prepared by an improved Iodine process, it passes the prescribed tests for sterility of the Therapeutic Substances (Catgut) Regulations, 1930, *Licence No. 37*

All London Hospital Catgut can be obtained from

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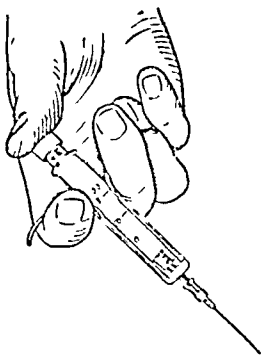
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And all the leading Surgical Equipment Houses

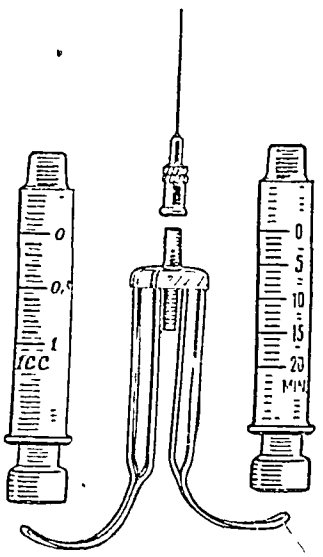
Well made — Reliable — Durable

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Made entirely of glass. The piston fits precisely, preventing ingress of air. The graduations are accurate.



Special Syringes are issued for the administration of Insulin, Sera and Tuberculins, in addition to the ordinary Hypodermic Syringes. A wide selection of Needles may be obtained. Rustless Steel Needles are recommended.



NOTE—Both sides of the barrel are illustrated to show double graduation

TRADE MARK 'AGLA' BRAND

FINGER-GRIP ADAPTER

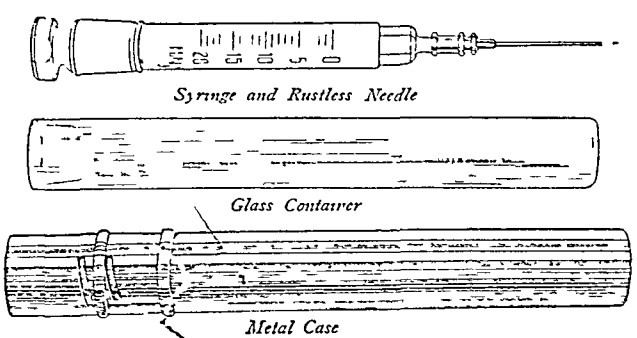
Shown above in use and detached.
2/6 each.

With 1 c.c. or min. 20 'AGLA' Syringe and two Rustless Steel Needles, 10/6 complete.

A full list and prices of 'AGLA' Syringes and Accessories will be found in Wellcome's Medical Diary *(Pages 345-350)*

TRADE MARK 'AGLA' BRAND SYRINGE

IN SPIRIT-TIGHT CONTAINER



Syringe and Rustless Needle

Glass Container

Metal Case

Eliminates the necessity for constant sterilisation. The Syringe and Needle, immersed in alcohol, are kept aseptic and ready for immediate use. The alcohol does not leak or evaporate

20/- *complete*

Prices quoted are those to the Medical Profession in London

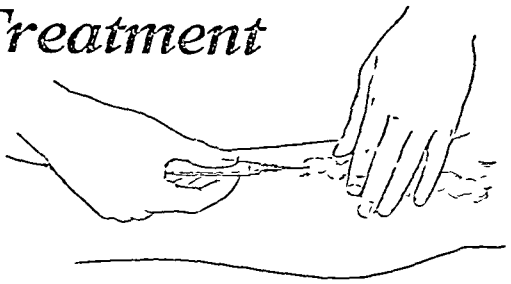
BURROUGHS WELLCOME & CO., LONDON

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Varicose Veins Treatment

Products
for
Injection



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QUININE AND URETHANE

Quinine Bihydrochloride, 0·26 gm., and Urethane, 0·13 gm., in 2 c.c.

2/- per box of 5 containers *Rubber-capped bottles of 25 c.c., 3/- per bottle*

TRADE MARK 'HYPOLOID' BRAND

SODIUM SALICYLATE

20, 30 and 40 per cent. solutions in 5 c.c. phials, boxes of 5 containers, 2/9 per box

These products provide sterile, sclerosing solutions in convenient strengths and quantities, ready for immediate use

Special literature free on request

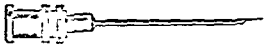
TRADE MARK 'AGLA' BRAND SYRINGES

For Use with
'HYPOLOID' Quinine and Urethane

2 *c.c. 'AGLA' Syringe, price* 11/- *each*

For Use with
'HYPOLOID' Sodium Salicylate

5 *c.c. 'AGLA' Syringe, price* 15/- *each*
10 *c.c.* „ „ „ 20/6 „

Specially supplied for this purpose—  10*d. each*

No. 218 *Rustless Steel Needles*

To use these Needles with a 5 c.c. or 10 c.c. 'AGLA' Syringe an 'AGLA' Nozzle Adapter is required — price 6d. each

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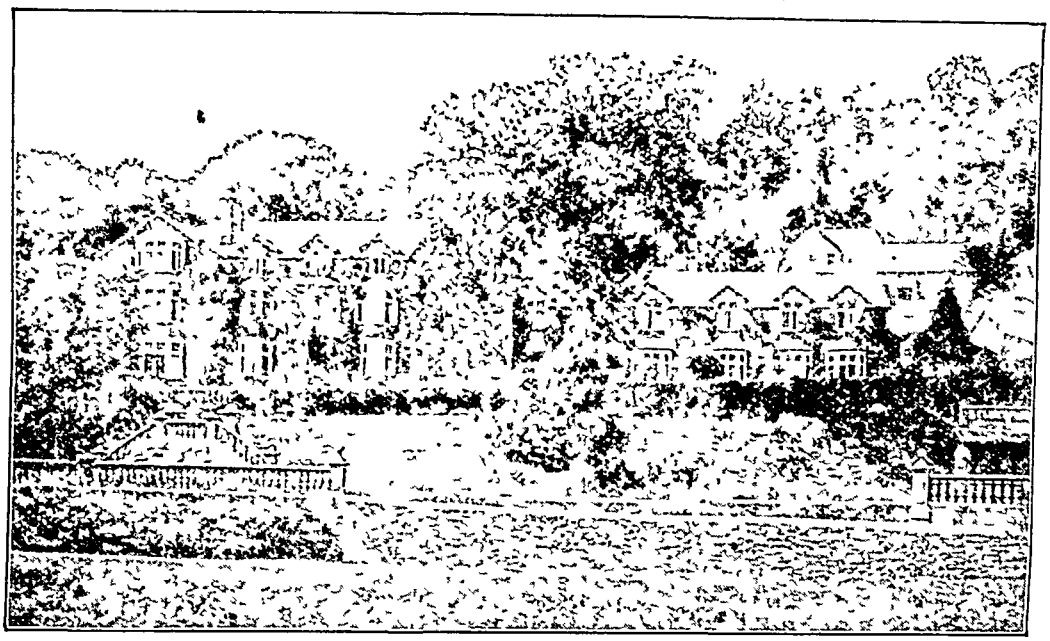
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A REVIEW OF THE MEDICAL CURRICULUM.

BY

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THE most difficult problem in the medical curriculum is the result of the growth in the medical sciences which has taken place during the thirty years of this century, for the medical student of 1930 is required to know much more than his predecessor of 1900. Physics and chemistry have expanded as a result of a series of progressive revolutions, and physiology has increased its territory. Relatively new branches of medical science, biochemistry and pathology, have so grown and developed that they claim a share of the student's time equal to that allotted to the older branches of biology, and psychology demands admission to the league of medical sciences.

During the clinical period the student's difficulties have been greatly increased by the progressive and inevitable tendency to specialization. New and highly technical methods of diagnosis have been devised, utilizing the rays, the electrocardiograph, and applications of chemical and bacteriological methods. New forms of treatment have come into being, based on radium, different types of light, and systems of remedial gymnastics. New departments for the treatment of single diseases such as tuberculosis, or groups such as the venereal diseases, have appeared. The older-established special departments have intensified their demands on the student's attention. The time allotted to clerking and dressing may not be curtailed, but there are limits to the capacity of the human mind, and the student may easily be distracted from the study of general medicine and general surgery by the diversity of the technical methods of diagnosis and treatment which have been elaborated in the special departments. Preparation for the Final Examination has not been made easier by the regulations of those qualifying bodies which require certificates of attendance at courses of instruction given in special departments.

The minimum period of study required by the General Medical Council is five years, although it was common knowledge before the war that at least six years were needed to obtain the medical degree of several English universities. In the last decade of the nineteenth century the student spent his first year in the acquirement of an elementary knowledge of chemistry, physics, and biology, the next two years in the departments of physiology and anatomy, and his last two years in the wards. But before the close of the century many intending medical students began the study of chemistry and physics at school. During the ten years which preceded the war the medical curriculum became more and more congested, and when the war ended it was obvious to everybody that something ought to be done. The General Medical Council reviewed the curriculum. In the presence of deans of medical faculties, of professors, and of other duly appointed representatives of the universities and medical schools of Great Britain and Ireland the five years "box" of the medical curriculum was opened, and its contents were examined. Within were found the numerous parts of the curriculum cut and shaped and arranged like the pieces of a Chinese puzzle so that they exactly fitted the box. The pieces were taken out, and each piece was handed to an appropriate committee to be reshaped, but, when the time came to reassemble the pieces of the puzzle, it was found that most of the pieces had got much larger, and all the pieces could not be got into the box.

The clinicians pointed out that of the minimum period of five years three had in the past been devoted to laboratory work and only two to work in the hospital: a minimum period of three years' clinical study subsequent to the examinations in anatomy and physiology was ordained. The two years allotted to anatomy and physiology could not be curtailed, what was to be done with chemistry and biology? It was clear that the period of medical study must be extended. On financial grounds an extension of the minimum period of medical study seemed inadvisable or inopportune, so it was camouflaged and remained five years, but no boy was to be allowed to become a student until he had passed an examination in chemistry and physics. The first stage of the medical curriculum was relegated to the public and secondary schools. The change in this direction had begun, of course, long before the war, and many universities had permitted or encouraged intending students to prepare at school for the First M.B. Examination. But the General Medical Council made a distinct and far-reaching step when it required an examination in chemistry and physics as a preliminary condition to registration as a medical student.

To-day the work necessary for a medical degree or qualification falls into three periods or stages.

1. A period of about two years at a public or secondary school devoted to the study of chemistry, physics, and often biology.
2. A period of two years in the dissecting room and laboratories of a university or medical school.
3. A period of three years of clinical study in a hospital.

If allowance is made for failure at examinations or illness, the average period of study may be nearer eight than seven years, but these years spent to the best possible advantage

The School Period

The General Medical Council does not enforce the registration of medical students, and each university or qualifying body is free to make its own regulations for the study of elementary chemistry, physics, and biology. It may include these subjects within its own curriculum, or may permit or require candidates to pass examinations in these subjects before admission to the medical school. But unless the student has completed the prescribed courses in elementary chemistry, physics, and biology at the greater part of

After the examinations in elementary science the student begins anatomy and physiology. The transition from the general biology of the zoology department to the stern realities of the dissecting room is abrupt and often unmitigated; there is room for correlation here. But the thing which every medical man remembers about anatomy is the number of hours which must be spent in the dissecting room, and the number of hours which must be spent before the required details can be committed to memory. To many, if not to all of us, who are not professional anatomists, it seems that the student is required to master details, some of which are essential neither to the concurrent study of physiology nor the subsequent comprehension of medicine and surgery. Certainly much of the anatomy which the student knows at the time of his examination is forgotten within the next three years, and much of that which is forgotten is never missed.

Anatomy is not, of course, the only subject which fades from the memory when the examination is passed, and it may be necessary to learn a great deal of anatomy in order that some may remain in the memory. But after a conference of anatomists with teachers of other subjects it might be possible to reduce the time spent on dissection, and on the acquirement of a knowledge of topographical anatomy. For the technical methods involved in the dissection of the various parts are essentially the same, and the mental processes involved are those which depend on a visual memory. After one or two parts have been dissected, further dissection brings no new experience to brain or fingers. If it is necessary that the whole body be dissected some remission of knowledge of detail may still be possible.

During the last thirty years medicine has been coming closer to physiology, and physiology has, on the whole, become less medical. During the nineteenth century the functions of organs in health were determined in many cases by observations made on hospital patients in whom these organs were diseased. Physiology in those days depended in part at least on observation, and not as yet entirely on experiment. The dependence of the study of the normal on the study of the abnormal was obvious; physiology had its origin in medicine and pathology.

Few branches of natural science have developed more rapidly during the last forty years than physiology, and this country has good reason to be proud of the great men who towards the close of the last, and at the beginning of the present, century, made English physiology famous throughout the world. In 1903 a well-known German chemist said to the author of this article, "physiology is really (*eigentlich*) an English science." The great development of physiology as a branch of experimental biology has affected the relation of physiology to medicine, and the attitude of physiologists to the medical student. Students destined for medicine, as they passed through the physiological laboratory, have been fascinated by the work which they saw in progress and have remained to become "unqualified" physiologists. Who will blame them? Medicine has been the loser. Physiology, emancipated from her "mother" Medicine, contracted closer alliances with chemistry, physics, and mathematics. The human body came to be regarded as a maze of semi-permeable membranes inhabited by electrolytes and colloids. Physiology moved towards chemistry and physics, and away from anatomy and zoology. The interest of physiologists in histology, and the relation of microscopic structure to function waned, and the gap between anatomy and physiology, between structure and function, widened. For the education of the medical student the correlation of anatomy and physiology can hardly be too close. Does the modern student look on the physiological laboratory as the place in which he studies the functions of the organs which he sees in the dissecting room?

On the other hand, advances made by physiologists in the first quarter of this century have been of great and direct value to the physician and the surgeon. The physician of to-day is probably more interested than his predecessor in the application of the methods of the physiological laboratory to the diagnosis of disease. Every branch of science must change its ground if it is to change its point of view. Change is necessary to progress, and there has been progress. But for the sake of the medical student who must learn many subjects within a relatively short period of years correlation of subjects is always an urgent necessity.

A reviewer of the history of medicine might point with justice to the development of chemical methods in the medical and biological sciences as one of the great events of the last thirty years. Etiology and diagnosis, prevention and treatment, have all benefited by the introduction of chemical methods. Nearly all critics of the medical curriculum insist on the urgent need of more instruction in chemical theories and methods. To-day the student is taught elementary inorganic chemistry at school; a short course of elementary organic chemistry is taken at school, or more often at the university. Organic chemistry is the subject of a special examination. A gap, more or less unbridged for the student, separates the organic chemistry of the department of chemistry from the physiological chemistry or biochemistry of the departments of physiology or biochemistry. At a late stage in the curriculum instruction is given in the chemical laboratories of some hospitals on chemical methods of diagnosis. Instruction in chemistry is imparted to the student in instalments. But the progress which has taken place in the knowledge of chemistry as applied to biology has resulted not so much in the correlation of the chemistry of living with the chemistry of non-living matter, as in a divorce of biochemistry from its intimate partnership with physiology, pathology, and medicine. Biochemistry, which started as chemical physiology, has become an independent branch of biology. Physiology, pathology, and medicine are not the only branches of biology which have problems which may be solved by chemical methods. Zoology, botany, and agriculture have chemical aspects and interests. Biochemistry is no longer a part of the department of physiology, but has become consulting chemist to all biological departments. How has the development of biochemistry affected the medical curriculum and the medical student? In this consolidation in one department of all the chemical interests of all branches of biology we may study some of the problems connected with the correlation of the subjects of the medical curriculum.

The medical curriculum has been regarded as divided into three periods or strata, after the fashion of a jam sandwich cake—the elementary science layer, the physiology and anatomy layer, and the hospital practice layer. There is chemistry in each layer. Now it is well known that the integrity of a cake must be destroyed by any method of section. But if the pieces are kept well together the appearance of a complete cake may be preserved. Difficulty in keeping the pieces together must arise when cutting in two planes is allowed. If the chemist or biochemist is permitted to cut out a slice, like a slice of plum cake, which contains the chemistry of all the three layers, the layers are going to suffer. It is difficult to teach physiology or pathology or medicine unless the chemical aspects of these subjects are treated as an integral part of these subjects. A man should not teach pathological chemistry unless he has a good knowledge of chemistry; it is equally true that he should have a good knowledge of pathology. The example of chemistry in its relation to biological subjects is instructive to the student of the medical curriculum, and illustrates the difficulties of the correlation of subjects.

The grand cañon of the curriculum separates anatomy and physiology from surgery and medicine, a vast gulf across which it has been the pathologist's ambition to build a bridge. The days have gone, no doubt, when the student on his arrival from Oxford or Cambridge at a London hospital was congratulated on his knowledge of science and advised to forget it as quickly as possible. Nevertheless the gap between the laboratory and the wards is still big, though, to-day, willing hands are stretched out to help the student over. Medicine has never been quite certain whether she regarded herself as a science or an art, and her indecision is reflected in the curriculum. The M.B. course of a university starts as if the goal was a B.Sc. with honours in biology. The last years are devoted almost exclusively to clinical instruction of the most practical kind. The student is apt to regard all examinations

up to and including those in anatomy and physiology as a series of preliminary tests which must be passed before he is allowed to begin real work in a hospital. He has spent two years, perhaps, in the laboratories at a public school, and two years at a medical school; does he bring with him to the wards the equivalent of four years' experience and training in natural science? Attempts are made, it is true, to enable the student to make the best use of such knowledge as he may bring with him. Classes are given in some medical schools during the clinical years in applied physiology and anatomy. The medical and surgical units are essays in the combination of laboratory with clinical methods.

Of all the subjects of the medical curriculum pathology is best placed to help the student in the co-ordination of his experiences of normal and abnormal biology. Now Pathology, the youngest daughter, has made herself so useful that Mother Medicine has been very unwilling to allow her to grow up and become an independent science and have a house of her own. But Mother Medicine has kept Pathology at home with her in the hospital to look after the mortuary and the museum, and to cut sections and write reports on tumours. Later on, Pathology taught herself to prepare culture media, grow bacteria, make vaccines, and to perform chemical examinations. Pathology has been an extremely useful maid-of-all-work, and on winter evenings, after the work in the wards is done, the students, if they are not too tired, come to her that they may be told something of the laboratory methods by which certain diseases may be diagnosed or treated.

In the majority of the universities of Scotland and England a formal course of pathology occupies a portion of the student's time during the twelve months which follow the examinations in anatomy and physiology. These courses coincide with the first year of hospital work; they are over too soon, before the student is in a position to correlate medicine with pathology—the study of disease in the ward with the study of disease in the laboratory. The student is apt to regard pathology as the last of the long series of obstacles which he must surmount or evade before he is permitted to devote his attention to medicine.

In the London schools the time devoted to systematic instruction in pathology is less than in the North. In some hospitals an introductory course in general pathology and bacteriology is given during the first three months of clinical work. Courses, possibly slightly more ambitious, but of a very elementary and introductory character, are given at Oxford and Cambridge in order that medical students may have some notion of pathology before they migrate to a London hospital. Students, after they have begun clinical work in the wards, have little time and little opportunity for the study of pathology. Morbid anatomy can be learned in the post-mortem room. In some hospitals pathological clerkships in connexion with clinical laboratories afford chances of acquiring practical experience of useful diagnostic methods. Lectures are not always given during the same term, and often bear no relation to courses of practical instruction. There is too little co-ordination of the teaching of morbid anatomy with morbid histology, with bacteriology, and with chemical pathology. Pathology is presented to the student as a laboratory branch of diagnosis. The examinations in pathology which form part of the Final Examination in the London University, at Oxford, and at Cambridge are often regarded by the student as an additional examination in a special subject —as an added burden. The examination in pathology at Oxford is a part of the Final Examination, but may be taken as a separate part before the examination in the clinical subjects. There can be no other three subjects within the whole medical curriculum so nearly allied as medicine, surgery, and pathology, no other three subjects which offer such opportunities for co-ordinated teaching; to the student, then, pathology, medicine, as a separate should be one subject. Pathology is Examination; this science, nor is it a system of biology. In the case of learned at the completion of universities accept one or study; it is the study of diseased by the joint university laboratory, just as medicine and surgester can choose one pathology by the methods of the wards. ult for a school-

begin the study of disease in the laboratory at least as early as it is begun in the wards, and laboratory study should be correlated with ward study throughout the clinical period.

It is neither within the scope of this article, nor within the powers of its author, to discuss details of clinical teaching. Practical instruction in medicine and surgery must be the backbone of the curriculum, and the product should be a man skilled in the prevention, diagnosis, and treatment of disease. This article is concerned with the branches of natural science, some understanding of which is essential to the study of medicine and surgery. But it appears that within the period of clinical study influences are at work similar to those which have been discussed in connexion with the period of laboratory study. There has been a comparable increase of knowledge, and a comparable tendency to specialization, with the splitting off of special departments concerned with certain diseases or groups of diseases, or with special methods of diagnosis or treatment. There is a tendency to insist on certificates of attendance at each special department, and demands are made from time to time for special papers on special subjects, and the appointment of special examiners. Taken by itself the case for each of these special subjects may appear incontrovertible. But if the claims of all the special subjects were admitted in full there would be little time within the three years' period of clinical study for general medicine and surgery.

In all medical schools lectures are given on forensic medicine, and on preventive medicine and hygiene; some universities insist on special examinations in these subjects. The standard of knowledge in forensic medicine which can be demanded of a medical student hardly seems to warrant the dignity of a special examiner and a special paper. From the nature of the subject practical instruction can only be fortuitous, and it does not seem necessary that the burden, admittedly a very temporary burden, of details derived from a textbook or lectures should be added to the student's heavy pack. The importance of preventive medicine is beyond dispute. But the prevention of disease is the concern of every teacher of medicine, surgery, and pathology; it does not seem reasonable to isolate the prevention of a disease from its etiology, diagnosis, and treatment. If the lecturers on medicine, surgery, and pathology fail to deal with the prevention of diseases on which they lecture, they must fail to do justice to the subjects committed to their charge. Candidates should be, and in fact are, examined in preventive medicine by examiners in medicine, surgery, and pathology, and there is no need for a special examination in this subject.

The object of the medical curriculum is to provide a training for medical men, the majority of whom will spend their lives in the practice of medicine and surgery. Training in the diagnosis and treatment of the sick is provided by the practice of a general hospital, and the problem of the medical curriculum is to provide the best possible foundation for clinical work. At Oxford and Cambridge students are encouraged to take advanced courses in natural science leading to a B.A. with honours, and at other universities exceptional students take additional courses in science and, at the expense of an extra year, secure the B.Sc. degree. A generous education in the natural sciences, and especially in one or more of the branches of biology, is the best possible preparation for the study of medicine. Men well grounded in the theories and methods of the natural sciences make the best recruits for the medical profession, and may be expected to provide pioneers, research workers, and teachers. There will always be a need for men of this type, and always work for them to do. But the bare minimum of professional knowledge and experience which every student must acquire before he passes a qualifying examination has increased and is increasing, and if the medical student is ambitious to reach the standard of an honours degree in pure science—the same standard as is required of a medmedical student of science who is unhampered by principles professional examinations—and satisfy all the ened wheents of the medical curriculum, he must be preillustrater very strenuous work and a considerable addition professears of training.

It is of the first importance for the future of the medical profession that facilities for advanced training in the natural sciences should be available for those medical students who are able to take advantage of them. It is important that every encouragement should be given to medical students to devote additional years to the study of science from an unspecialized and non-professional standpoint. From this point of view the less the connexion of the science which is studied with medicine the better. Men whose training before they enter medicine has been generously broad will bring new ideas with them into medicine. But not all medical students become research workers or teachers, and not a very large proportion of students have the inclination, time, or money for additional courses in science. A love of pure science for pure science's sake is not the only, and possibly not the most important, quality for success in general practice.

What should a man know before he is allowed to begin clinical work at hospital? It is desirable, but it is not essential, that he should be up to the standard of a B.Sc. with honours. In the case of the majority it would be unreasonable to suggest anything of the kind, but in practice we do require that every medical student shall take a series of courses and examinations in various branches of natural science which amount in all to about the standard of a pass B.Sc. The standard required is not high enough to ensure that the student is a good scientist, but it may well be much more than the amount of preliminary training necessary to make a good doctor. A hundred years ago or so it is believed that the sum total of all the natural sciences was so small that the larger minds then living could hold it all. At the end of the last century it was possible for a student to spend two or three years in the laboratories, and then two or three years at a hospital, and feel at the end of five or six years' study that he had covered a reasonable proportion of natural science and medical practice. To-day three hard years of work at a hospital are barely enough, if they are enough, for the acquirement of the essential minimum of clinical experience. The time may not be far distant when another year will be added to the period of clinical study. Before these three years must come two years of work in the dissecting rooms and the laboratories of a medical school, and from one to two years' work in the laboratories of a public or secondary school.

Does the student get full value or even a proper equivalent for the three or four or more years of laboratory work which he must do before he enters the wards? For the majority, for those who have neither the time, nor the ability, nor the wish to take full advantage of the advanced courses in natural science which universities provide, it would be a great advantage if the necessary minimum of compulsory preclinical laboratory work were substantially reduced. A reduction would involve a most careful consideration of the kind and amount of knowledge and experience which every student must possess before he is allowed to begin clinical work.

That the preclinical laboratory work of the curriculum is in urgent need of consideration and revision few will doubt. Definite expressions of opinion are needed from all responsible for teaching medical students and especially from those who teach during the period of hospital practice. From these opinions information could be obtained as to what might be included with advantage and what might be excluded from the curriculum without loss. In all probability the period of preliminary laboratory study might be reduced. Even if no reduction of time should be found possible, it seems almost certain that the time might be better spent, and the training in the laboratory better adapted to its object—the preparation of the medical student for the practice of medicine. The day has passed when the student could be allowed to browse at leisure for a few years on the pastures of pure science before he was harnessed in earnest to the chariot of Aesculapius. Above all there is need for co-operation between the teachers of the various subjects, and correlation of the subjects taught, so that the relation of the various subjects to one another should be obvious to the student. All the courses contained in the curriculum should be co-ordinated to form an ordered sequence. At present the student is required to attend classes and pass examinations in a number of apparently unrelated branches of science, he is given to understand that the assorted knowledge which he gains will be of value to him later on. In any case much of the value of the training is lost from the hurry, strain, and stress involved by the long series of examinations by which the student is harassed from an early age, and which rob him of much of the pleasure and profit which he might derive from a more leisured study of the natural sciences. The medical student is examined far too often, and in consequence more of his time is spent in cramming than in profitable study. One great advantage which would result from a shortening of the period of preliminary laboratory study would be an increase in the time available for general education. It is useless and almost scandalous to prescribe an age limit below which boys may not be registered as medical students, and at the same time make the passing of examinations in elementary science a necessary preliminary to registration so that schoolboys are in fact required or advised to begin professional study one or two years before they may be registered as students. It would be a distinct gain to medical education if no incentive was offered to schoolboys to work for professional examinations before their last year at school.

In any consideration of the laboratory work which the student does at the medical school, the arrangement of the laboratory subjects and their relation to clinical work in the time-table might receive some consideration. Is it essential or even really advisable to insist on the completion of the study of anatomy, physiology, and biochemistry before clinical work is begun? The student would take a far greater interest in anatomy and physiology if he had come in contact with patients in a hospital, and was in a position to appreciate for himself the importance and significance of these sciences. How much of the student's laboratory work should be preliminary to his admission to the wards? The correlation of medicine and surgery with anatomy, physiology, and pathology during the whole or the greater part of the five years of the curriculum would offer great opportunities to both teacher and student. The advice "Study this carefully and you will be rewarded by finding the knowledge very useful to you in a few years" is part of the regular stock-in-trade of the laboratory teacher in the faculty of medicine. There seems no valid reason why the study of morbid anatomy should be postponed until the study of normal anatomy has been certified as complete by examination. Some reference to disease, to pathology, and to medicine is essential to an understanding of physiology. The observation of changes produced by disease should be supplemented by the study of lesions produced by experiment. Could there be anything but gain if the teaching of normal physiology to medical students was continually illustrated by examples of abnormal structure and function shown in the wards and post-mortem room of a hospital? The most elementary course on metabolism, on biochemistry, or on physiological chemistry must be illustrated by the consideration of diseases of the ductless glands. Would the student take less interest in biochemistry if he was allowed to see living examples of deficiency diseases, or to obtain and examine for himself specimens from a case of diabetes? The opportunity for co-ordination of the subjects of the curriculum is great, and the need for active co-operation between teachers seems evident.

In conclusion, the author of this article is aware that it is presumption for any one individual to attempt a review of the whole curriculum and all its diverse and distracted elements. Or the errors of individual judgement this article must afford innumerable examples. On the actual curriculum, which spreads over so many years and comprises so many and so different subjects, it is certain that individual teachers will hold and occasionally dare to express various and divergent views. All the greater is the need for the expression of individual opinions, however imperfect and one-sided though they be, for criticism and for co-operation between all whose duty it is to shape the great responsibility of training [illegible] the profession of medicine.

The Profession of Medicine.

INTRODUCTORY.

For many years it has been our custom to publish some weeks before the opening of the winter session a special Educational Number. The form and contents of this annual issue have undergone modifications from time to time, but its purpose has remained unchanged, and the seasoned medical reader must expect to find in it a great many facts and phrases with which he is only too familiar. The first object of the Educational Number is to give prospective students and their parents full information about the steps that must be taken and the studies that must be pursued in order to become a registered medical practitioner. The second object is to be of use to those wishing to know what a medical career has to offer, and to others who, having already chosen medicine as their life-work, or having entered upon it, are uncertain about the line of work for which they are best suited. The intention is to supply information rather than to offer advice; but, as in past years, this introductory article gives an opportunity of reviewing some aspects and tendencies of medical study and practice, in order to help those who think of becoming doctors to estimate their fitness for the calling and the prospects it holds out. At the present time medicine as a profession is undergoing great changes, which are viewed in very different lights by different observers. For this reason we shall keep as far as may be to facts, leaving the reader to decide for himself whether medicine is a desirable career to adopt, but directing attention to a few points which might not occur to anyone without some experience of the medical life.

Intending students will find in the pages that follow an account of the course of training required of them, the places where it can be obtained, and the universities and other licensing bodies which test the knowledge gained and confer degrees or diplomas entitling successful candidates to become legally qualified medical practitioners. Sections are included also on post-graduate medical study, on the higher qualifications, both general and special, and on the many and varied spheres of work open to registered medical men and women at home and abroad. The details given are founded on official information, and arranged along the customary lines.

Before proceeding further it may be well to repeat here, what has often been said before, that the aim of a medical education is to impart not only the essentials of medicine, but also the right principles and methods of adding to knowledge after qualification. Such teaching, to be effective, presupposes a good general education. Next in importance is a good scientific education—a thorough grounding in the basic principles of science. Upon these the student of ordinary intelligence and industry can build up an adequate technical equipment for the practice of his profession. An unfortunate tendency in studying the preliminary subjects is to acquire a mere "cram" knowledge, quickly forgotten after the particular examination is passed. These sciences interlock with each other and with the later subjects, and, properly approached, they give a drilling in exact methods and vigorous reasoning which will bear immediate fruit in the clinical part of the curriculum. Chemistry, physics, and elementary biology prepare the way for anatomy and physiology, and so for medicine and surgery and obstetrics. The curriculum is not perfect. It is ever undergoing revision continually, to keep pace with new science, and improvements in practice. But all authorities agree that these preliminary and intermediate study; it is the study learned at the laboratory, just as only appropriate introduction to the pathology by the medicine.

PORTALS OF THE PROFESSION.

The obvious goal of every student is the entry of his name in the *Medical Register*, which is the official statutory list of qualified medical practitioners kept by the General Medical Council. Those who are not acquainted with the system of medical teaching and examination in these islands, and with the history of our professional institutions, may well feel bewildered at the number and variety of ways in which admission can be obtained to the *Register*. They will see in the table of contents to this Educational Number that there are no fewer than twenty-seven bodies—eighteen universities and nine corporations—which either separately or jointly issue registrable qualifications; and the number of teaching institutions is even larger. Nevertheless, although we have no single State examination in medicine—no "one portal system," as it has been termed—the medical courses of the various universities and schools in Great Britain and Ireland run on parallel lines, and the obligatory curriculum is much the same for all students. As, however, the individual teaching and examining bodies have different standards and requirements, the choice should be made early, so that a definite plan may be followed.

If possible the decision to study for a university degree in medicine should be made by the time a boy or girl is 15. A matriculation examination or its equivalent should be attempted without delay, and the parent should ensure that the special requirements of the medical faculty of the selected university are fulfilled. As soon as this examination is disposed of work should be begun at school in the subjects of the First M.B. Few house-masters at public schools seem to be adequately informed about medical requirements under the revised curriculum, and it is doubtful if all schools are fully competent to meet the varying requirements of different authorities. Parents should therefore make inquiries on their own account in order that valuable time may not be wasted during the last year or two at school. This applies to all prospective medical students, but with special force to those seeking degrees at Oxford or Cambridge and desirous of getting the best out of the university.

All who wish to enter the profession must comply with certain conditions. These are regulated by the General Medical Council, which is a statutory body set up under the Medical Acts; a summary of its functions and requirements is given at page 351. Many changes have lately been made in the medical and pre-medical curriculum, and this section, as well as the article on Professional Study and Examination, should be studied with care. It is the business of the General Medical Council, so far as possible, to see that a suitable kind of training and the requisite degree of knowledge are secured to the student, and it is the business of the medical schools and examining bodies to give the training and test the knowledge in accordance with the requirements of that Council. Every student, after passing examinations in the subjects of general education and in the preliminary sciences of chemistry and physics, must take a course of training at a recognized medical school, covering a period of at least five years, but usually extended to six years or more.

Examination of candidates as to their fitness to practise medicine, surgery, and obstetrics is left to the licensing bodies, which are of two kinds—the universities, and certain medical corporations in England, Scotland, and Ireland. The requirements of these licensing bodies are summarized elsewhere under separate headings. One of the functions of the General Medical Council, besides that of keeping the *Medical Register* and maintaining discipline

within the profession, is to make sure that the tests at each stage do not fall below a certain standard, and that the students examined have undergone prescribed courses at approved institutions. Successful candidates eventually receive either degrees, in the case of a university, or diplomas or licences, in the case of a corporation; these qualifications entitle them to claim insertion of their names in the *Medical Register*. Every student, as soon as he obtains his qualification to practise, should at once register; otherwise he cannot hold a public medical appointment, or sign any certificate required from a legally qualified practitioner (such as a death certificate), or recover professional fees in a court of law.

Holders of diplomas and licences once made up the great majority of all medical men, especially in England and Wales. But universities have greatly multiplied during the present century, and so many practitioners are now graduates in medicine that a student at the threshold of his career will do well to consider the advantages of possessing a degree, though it may be desirable to take also a diploma or licence. The medical degrees (M.B., M.D., etc.) granted by the universities in Great Britain and Ireland are mentioned among the particulars about each university printed in later sections.

COST OF MEDICAL EDUCATION.

To those who have already decided to send their sons into the medical profession, no less than to those who are weighing the matter, a few words on the cost of medical education may prove helpful. For the ordinary student this resolves itself into the cost of the training at medical school and hospital, and the cost of living during the five or six years of the curriculum. The expenses under these two main headings vary considerably. Besides differences in the charges made for instruction, there are differences in examination fees, as well as in the fees for certificates of qualification, and those who seek the higher degrees and diplomas must expect to pay more for the additional courses and tests and certificates. Again, not all students, however industrious, have the knack of imparting what they know to an examiner, and every setback due to failure in the examination room or to illness means added expenses. School and examination fees, together with the cost of board, lodging, clothes, and recreation, form the largest items of expenditure, and to these must be added the money spent on books, microscope, instruments, and so forth.

Since professional education must in any case continue for five years at least (a period exceeded by the vast majority), and since the cost of living varies much in different parts of the country, while personal expenditure varies still more, it can only be said in a general way that anyone who thinks of entering the profession should be prepared for an outlay of at least £1,500. Something between two-thirds and three-quarters of the whole amount would probably be spent on maintenance, and the rest in fees, etc., for tuition and examination. The fees charged by the different schools and licensing bodies are stated in the paragraphs relating to each on other pages of this issue. When making an estimate of the probable outlay, the many helps available nowadays for the reduction of expense should not be ignored. At nearly all the medical schools more scholarships and money prizes are offered now than in the past; at the Scottish universities bursaries are numerous; and the Carnegie Trust (whose regulations are summarized at page 363) gives pecuniary help to many Scottish students. A first-class medical education, leading to the possession of a good medical degree, is probably to be obtained for a smaller outlay in the university cities of Scotland than anywhere in the south. The main thing to bear in mind when considering costs is that, as compared with other professions, the period of training in medicine is long, and for most students expensive. Further guidance on this matter will be found in a memorandum,[1] drawn up by the Registrar of the General Medical Council, on the procedure to be followed in order to enter the profession. This pamphlet gives much useful information, including a comparative table of the cost of study and examination at the various institutions.

Since medical students are not commonly the sons or daughters of wealthy parents, it is usual, before setting out upon this long and exacting course of study, to weigh, not only the cost, but also the prospects. An overcrowded curriculum would be hard to face if all that could be discerned at the end of it were an overcrowded profession. The youth and the girl of to-day, when reckoning up their chances in any calling, will wish to know the probable numbers of their competitors for the work that is waiting to be done.

THE NUMBERS OF MEDICAL STUDENTS

The following brief survey should be read with the notes and tables printed at page 350 on the numbers of registered students and practitioners. More new students mean more new doctors five or six years later, though, as the chart shows, there is in normal times a fairly constant wastage.

At the close of the last century the annual entry of medical students in Great Britain and Ireland had been on the average about 1,800, and then for the next thirteen years it stood at about 1,400. During the war period, although many students left to serve with the forces, the entries grew steadily larger, so that in 1918 they were 2,253, and in the following year, when demobilization was in active progress, they were 3,420. In the next five years the numbers rapidly fell, but from 1923 to 1928 they remained at a fairly steady level rather below the immediate pre-war average. In 1924 the entries were 1,043, in 1925, 1,070; in 1926, 1,269, in 1927, 1,214; and in 1928, 1,362. Last year they rose again to 1,502.

The excessive entries during the post-war inflation period, if they had gone on long enough, must have led to overstocking of the profession. In the past decade the numbers of new practitioners registering each year have greatly exceeded the usual pre-war figure of eleven hundred or so. The large additions to the profession in recent years brought the total number of names in the *Medical Register* up to 54,870 at the end of 1929. This is upwards of ten thousand more than the figure for 1919, fourteen thousand more than that for 1909, and nineteen thousand more than that for 1899. The population of the British Isles has not increased at anything like that rate during the same decennial periods, and the ratio of doctors to inhabitants is therefore much higher now than ever before. It should be borne in mind, however, that the scope of medical practice has enlarged considerably in the meanwhile, and many fresh openings for professional work have followed advances in diagnostic, curative, and preventive methods, and the rapid development of administrative medicine. On the whole, it appears that the medical profession of this country is now large enough, but not yet overstocked.

AFTER REGISTRATION: CHOICE OF A CAREER

The student, having passed all his tests and placed his name on the *Medical Register*, assumes the privileges and responsibilities that go with legal qualification. But after registration there is usually a period of transition between pupilage and established practice. This time may be put to the greatest advantage by serving as house-physician or house-surgeon, or casualty officer in a hospital, by working as assistant or locumtenent in private practice or by seeing something of the world as a ship-surgeon. As a preliminary to practice of whatever kind, a year or more spent in junior hospital appointments is a most profitable investment.

[1] *Memorandum on the Procedure to be Adopted by those who desire to enter the Profession of Medicine, with Notes on Cost and Prospects.* General Medical Council, 44, Hallam Street, Portland Place, W.1. Price 1s. post free.

and most specialists are consultants in the sense that their work largely comes to them through the recommendation of general practitioners, with whom they act (or should act) in a consultative capacity. In any case, whoever holds himself out as one or the other, or both, must be assumed to have knowledge and skill above the ordinary.

The successful pursuit of a specialty is hard to achieve except by the aid of appointments to hospitals, particularly those with medical schools. These posts are much sought after, and the time of waiting for a vacancy may be long. It follows, then, that the would-be specialist, since he can scarcely hope at first to pay his way by the exercise of his specialty, must either have private sources of income or be prepared, by teaching or in other ways, to make ends meet. Competition in this branch of practice is very keen, as anyone can prove by counting the name-plates on the doors in the Harley Street area of London, or in corresponding parts of other large cities. Expenses are heavy, and the young consultant or specialist may have to go through a long period of training and waiting before he makes an income; but on the other hand success, when it comes, is liberally rewarded.

A comparatively new feature of medical life, especially in the larger industrial towns of the North of England, is the growing number of "general practitioner specialists," who combine ordinary panel practice with much surgical or other special work in well-equipped local hospitals which admit patients in different categories according to their means. Though the fees are small compared with those earned by operating surgeons and specialists in London, the work is by no means unremunerative.

Additional degrees and diplomas are important factors in securing election to the visiting staff of a large hospital, and a few remarks about them may be made here. Beyond the qualifications which admit to the *Medical Register*, most of the licensing bodies bestow higher titles after further tests. A considerable number of those who have graduated M.B. at a university, including many general practitioners, proceed later to the M.D. When applying for the post of physician to a hospital it is always useful, and may be obligatory, to hold also the Membership of one of the three Royal Colleges of Physicians, according to the part of the British Isles in which the hospital is situated. So, too, the Fellowship of one of the three Royal Colleges of Surgeons should be obtained by those seeking surgical appointments, and the degree of Master of Surgery is an added distinction. There are also diplomas in a growing number of special branches of work—such as public health, tropical medicine, ophthalmology, laryngology, radiology, tuberculosis, psychological medicine, and midwifery—which are superfluous for most practitioners, but may be useful or even indispensable for those who intend to devote themselves to one or other of these subjects. Information about the special diplomas open to qualified practitioners, and about higher degrees, will be found on other pages.

FINANCIAL AND SOCIAL ASPECTS.

The rewards of a profession come under two heads: those that depend on the intrinsic pleasure of the occupation, and those associated with financial success and material dignity. The pecuniary disadvantages of medicine are the long and costly training, the time of waiting after qualification before the practitioner can count upon an adequate income, and the heavy working expenses in proportion to gross earnings. On the other hand, it holds out the prospect of a fairly certain income, with unrivalled opportunities for exercise of the intellect in the service of others. There are many briefless barristers, but the qualified practitioner of medicine should never want for a livelihood so long as he keeps his health and his good name. But while no doctor who is willing and able to work need starve—which can scarcely be said of any other learned profession—those who think of adopting it as a career ought to understand that medicine is a path to fortune only for the few. Whatever the branch of work chosen, it is rare for a doctor to become what a business man would consider even moderately rich by the practice of his profession.

Yet if medicine, from the financial point of view, offers to most men little more than a means of livelihood always at command, in its social and cultural aspects the outlook is far brighter. As regards the satisfaction derived from the work itself a doctor's life need yield to none in the matter of sustained and varied interest. His lot is unlike that of many whose business gives little scope to the higher faculties, for he lives in, and by, the exercise of his intellectual powers. Moreover, the general culture which in past centuries belonged to the physician alone has spread into all ranks of the profession. The steady improvement in the education of the practitioner has added much to his influence with the public, and has been a large factor in raising his social status during the seventy years that have passed since the General Medical Council was constituted under the first Medical Act. Medicine gives to those who follow it an honourable position, and one whose dignity is gradually advancing with its progressive success in prevention and cure. The well-educated doctor stands high among his neighbours, and is the friend and confidant of his patients. Many men go further, and take a prominent part in the public life of their district. A proof of the all-round value of a medical training is the way in which it fits men for leadership.

PROFESSIONAL ORGANIZATION.

All who follow the calling of medicine, varied as their work may be, constitute a single brotherhood bound together by common interests and aims. The spirit of comradeship, which counts for so much in student days, should be preserved, both for its own sake and because no doctor can safely stand aside from his fellows. Individuals and isolated groups of practitioners are always at a disadvantage when they try to defend their interests against organized bodies, whether these are Government departments, local authorities, or commercial companies. In his daily work the doctor is well able to deal with the individual patient and the patient's friends, but he cannot stand up single-handed to outside organizations. But apart from motives of self-interest, every one of us owes a duty to our profession, and the doctor who holds aloof fails in that duty. Medical men and women must therefore band themselves together, and the first step after graduation should be to become an active member of the British Medical Association. Besides having behind him the machinery and the influence of a world-wide professional body, a young practitioner will find in the meetings of his local Division, and in the Annual Meetings of the Association, many opportunities for keeping abreast of new work and for friendly intercourse with colleagues. Another thing that no new graduate should fail to do is to join one of the societies which for a small yearly sum undertake individual legal defence of their members. The need for protection may arise out of the first case attended in hospital or in private practice.

The British Medical Association was founded in 1832 to promote the medical sciences and maintain the honour and interests of the profession, a brief note on its constitution and activities will be found at page 403. The only body that can act for the profession as a whole and speak in its name. The record of ninety-eight years' work shows that vocational organization, wisely directed, can combine service for its members with service for the public; but much still remains to be done in both ways. Every medical man and woman should try to take a share in some of the movements, scientific or social or political with which the Association has identified itself.

NUMBERS OF THE MEDICAL PROFESSION.

A REVIEW OF FIFTY YEARS.

IN order to present a general view of the numerical strength of the medical profession during the past half-century we have extracted from the records and set down below in parallel columns the total number of names in the *Medical Register* on December 31st of each year, and the numbers added annually by registration between 1880 and 1929.

Numerical State of the "Medical Register."

Year.	Names added in Year.	Total No. on Dec. 31.	Year.	Names added in Year.	Total No on Dec. 31.
1880	1,123	22,936	1905	1,240	39,060
1881	1,053	23,275	1906	1,197	39,529
1882	1,171	23,801	1907	1,221	39,827
1883	1,304	24,517	1908	1,137	40,257
1884	1,388	25,321	1909	1,143	39,818
1885	1,377	25,998	1910	1,062	40,483
1886	1,431	26,452	1911	1,012	40,913
1887	1,531	27,246	1912	1,157	41,439
1888	1,184	27,939	1913	1,168	41,940
1889	1,305	28,348	1914	1,433	42,378
1890	1,266	29,163	1915	1,526	43,225
1891	1,345	29,555	1916	1,202	43,481
1892	1,513	30,590	1917	1,131	43,819
1893	1,579	31,644	1918	1,077	43,926
1894	1,426	32,637	1919	1,322	44,510
1895	1,446	33,601	1920	1,457	44,761
1896	1,385	34,478	1921	1,760	45,408
1897	1,230	34,642	1922	1,983	46,476
1898	1,210	35,057	1923	2,482	48,140
1899	1,351	35,836	1924	2,796	50,035
1900	1,345	36,355	1925	2,570	51,738
1901	1,318	36,912	1926	2,120	52,614
1902	1,275	37,232	1927	1,941	53,769
1903	1,233	37,878	1928	1,656	54,336
1904	1,168	38,492	1929	1,410	54,870

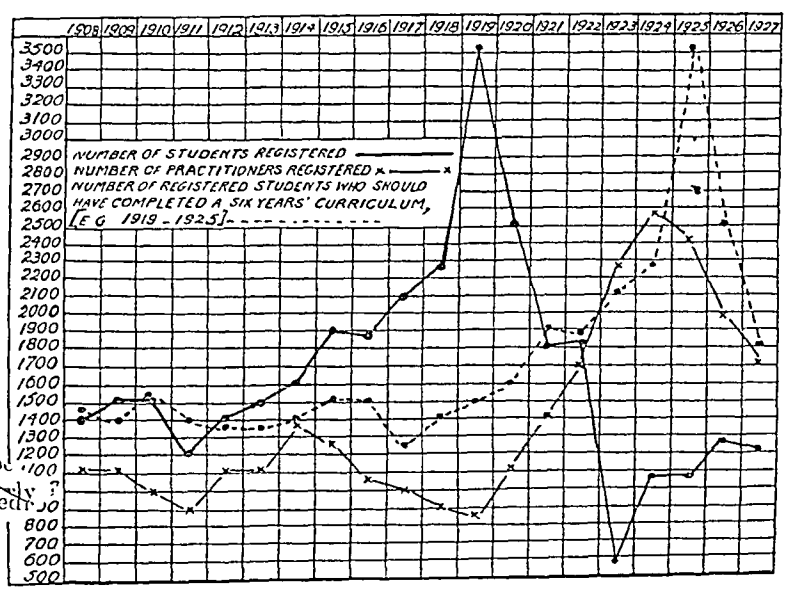
The varying proportion of registered medical practitioners to population during the period under review is shown in the following table. This sets out the total population of the British Isles at each decennial census since 1881, and the number of names on the *Register* in the same year; also the corresponding totals for the mid-census year 1926.

Proportion of Practitioners to Population.

Year.	Registered Practitioners.	Population, British Isles.
1881	23,275	35,241,482
1891	29,555	38,104,975
1901	36,912	41,976,827
1911	40,913	45,370,530
1921	45,408	47,146,506
1926	52,614	48,190,000

These figures show a steady increase in the ratio of doctors to population, which was accelerated during the years immediately following the war. The number of registered practitioners at the end of 1921 was nearly double the number at the end of 1881, but the population of Great Britain and Ireland within that an expectation of forty years practice was shared by about to serve this is. There is conditions resembling more

The general practitioner in every department of medicine more comprehensive outlook devoted to perfectionated that there is one medical practitioner to every 753 people. Next to the United States the British Isles appear to have the highest proportion of practitioners to population. Austria has approximately one doctor to every 900 inhabitants; Switzerland 1 to 1,135; Denmark 1 to 1,200; Germany 1 to 1,320; France 1 to 1,470; Hungary 1 to 1,480; and Czechoslovakia 1 to 1,970.



Numbers of medical students and practitioners, 1908 to 1927.

REGISTRATION OF STUDENTS AND PRACTITIONERS.

The relation between the numbers of new students and those of newly qualified practitioners during recent years is shown in the accompanying chart, reproduced from the report of the Finance Committee of the General Medical Council for 1928.

The figures for the registration of practitioners year by year apply only to those whose names were entered on the British list, entries in the colonial and foreign lists of the *Medical Register* being excluded; hence the slight discrepancy between the totals indicated in this chart and those given in our tables printed above. The chart brings out in a striking way the difference between the number of registered students who should have completed a six years' curriculum in a given year and the number of newly qualified practitioners who in fact registered in that year. In 1919, following the armistice, there was an enormous entry of students; but a considerable proportion dropped out of the running year by year, and in 1925 the number of those who qualified fell short of expectations by nearly 1,000. Since then the two figures have approached each other again, and it is reasonable to suppose that the pre-war relationship between them will be resumed. Some further remarks on the numbers of medical students in recent years will be found in our introductory article on the profession of medicine.

PROFESSIONAL STUDY AND EXAMINATION.

THE MEDICAL CURRICULUM TO-DAY.

IN 1922 the General Medical Council prescribed a readjustment of the medical curriculum, to come into force at the beginning of the following year. The scheme adopted was in effect a compromise between several "schools of thought" which had been debating the matter for fifteen years or more. In this readjustment, among other things, increased emphasis was placed upon sufficient opportunity being afforded for the study, both theoretical and clinical, of those subjects which are now so essential in connexion with the treatment centres of a local authority, such as ophthalmology, venereal diseases, orthopaedics, ante-natal conditions, and infant welfare. Our article printed at page 351 on the functions and requirements of the General Medical Council includes the text of the resolutions and recommendations of the Council which have applied since the beginning of 1923. We summarize below the leading features of the revised scheme of professional study and examination, and indicate the importance attached by the Council to the preventive aspects of medicine. The first qualifying examinations based upon this readjusted curriculum were held in 1928.

The minimum age for registration as a medical student is now 17 years. There has been no formal lengthening of the medical curriculum under the revised scheme, but in practice it has been added to by transferring to preliminary study and examination the subjects of elementary physics and chemistry in their purely scientific aspects. Thus, in addition to passing a preliminary examination in general education, an examination (written, oral, and practical) in the elements of physics and chemistry is required by the General Medical Council before the admission of a name to the Students' Register. In the applications of these two subjects to the professional courses—as in biophysics,

biochemistry, and pharmacological chemistry—appropriate instruction is to continue throughout the curriculum, and is to be tested by examination, so that the student shall no longer be able to put behind him as past and done with the knowledge which he acquired as a preliminary. If he has had no facilities at school or otherwise for obtaining what is necessary for the preliminary or pre-registration examination in chemistry and physics, then he can come for it to the university or medical school, but study for this will not count as part of the medical curriculum. In elementary biology comparatively few secondary schools are equipped for tuition, but the General Medical Council has suggested an arrangement for utilizing the work of such schools as are qualified for the purpose. The examination in elementary biology will not be "pre-curriculum," but the instruction may be so, and a licensing body can allow students who so desire to sit for the examination immediately after matriculation. Here again, however, it is the wish of the Council that the applications of biology to medicine, surgery, and midwifery shall continue to receive adequate attention throughout the courses.

A Block System of Study

Besides the resolutions of the General Medical Council in regard to professional education and examination printed elsewhere at page 353 a series of additional resolutions was adopted in 1922, as follows:

(*a*) That throughout the whole period of study the attention of the student should be directed by his teachers to the importance of the preventive aspects of medicine;

(*b*) That each licensing body should make adequate arrangements for the effective correlation of the several subjects of study throughout its curriculum;

(*c*) That the teaching of anatomy and physiology should include as a regular part of the courses the demonstration on the living human body of structure and function;

(*d*) That the curriculum should be so arranged that a minimum period of three years shall in every case be available for study after the completion by the student of the Professional Examinations in anatomy and physiology held at the close of the second year;

(*e*) That the curriculum should be so framed as to afford sufficient opportunities for the study, during the last three years of the course, of physics, chemistry, biology, anatomy, and physiology in their practical application to Medicine, Surgery, and Midwifery, and that the student's knowledge of these applications should be subject to test in the Final Examination;

(*f*) That before the student is admitted to his clinical appointments he should have received practical instruction in clinical methods and in the recognition and interpretation of physical signs;

(*g*) That instruction should be given, in the courses of Forensic Medicine and Public Health or otherwise, on the duties which devolve upon practitioners in their relation to the State, and on the generally recognized rules of medical ethics. Attention should be called to all *Notices* on these subjects issued by the General Medical Council.

The Council, it will be noted, attaches great importance to the reservation of sufficient time for the later subjects of study, free from all worries about passing the examinations of the earlier parts. To that end it recommends what is practically a block system. A minimum of three years should be available, not merely after the courses of anatomy and physiology have been taken, but after the examinations in these subjects have been passed.

Examination Reform.

Another notable feature is that in assessing marks in the several examinations account may be taken of "duly attested records of the work done by the candidate throughout his course of study" in the subject. This is an effort to meet the long felt difficulty that a man's mental agility, or the want of it, counts far too much in the examination room. The difficulty is real, but the remedy is not easy, and the Council has been wise in the cautious approach it makes towards a solution. Where, as in the examinations for the various conjoint diplomas, a student will only by chance come before his own teacher as an examiner, absolute impartiality in the attested records will be necessary. On the other hand, at the universities, where the teacher is almost always one of the examiners, no personal like or dislike of a student must influence the report of the internal to the external examiner. The class records should, of course, be available but the scheme will put a serious ethical obligation on all concerned and the Council will doubtless watch its operation with keen and critical interest.

Training in Preventive Medicine.

The first of the resolutions quoted above should be borne in mind by every teacher throughout the whole curriculum, and not merely in the clinical subjects. All the earlier subjects—physics, chemistry, biology, physiology, anatomy and, of course, pathology, bacteriology, and therapeutics also—afford opportunities from the very beginning for instilling into the mind of the student the necessity for his keeping constantly in view, in all the advice and treatment he may give throughout his professional life, the primary importance of promoting the general health of those who entrust themselves to his care, and of preventing trivial ailments from developing into definite disease.

THE GENERAL MEDICAL COUNCIL.

THE General Medical Council was established by the Medical Act, 1858, in order "that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners." It consists of eighteen members appointed by the Universities in the United Kingdom having medical faculties; of nine members appointed by the Medical Corporations, such as the Royal Colleges of Physicians and Surgeons, of five members appointed by His Majesty in Council, and of six members directly elected by members of the profession as a whole—a total of thirty-eight. To these are added three dentists who are members of the Dental Board, and are appointed for dental business. Although the eighteen members appointed by the Universities and the five members appointed by His Majesty in Council may all be laymen, only one layman has so far been appointed, and that was by the Privy Council in 1926.

The Council's offices are at 44 Hallam Street, Portland Place, London, W.1, and it has Branch Offices at 12 Queen Street, Edinburgh, and 35 Dawson Street, Dublin.

The Council exists for the protection of the public and not of the profession. Its principal functions are three. First, to keep the *Medical Register* second to see that the name of no person is entered thereon as qualified unless he has had an adequate professional education, and to remove therefrom the names of qualified persons who are no longer entitled to public confidence, and third, to provide for the publication of the *British Pharmacopœia*. It is the appearance of a name upon the *Medical Register*, and not the possession of a degree or diploma, that constitutes a person a duly or legally qualified practitioner of medicine.

The Council has no power to make rules in regard to the medical curriculum or examination, but it can pass resolutions and make recommendations relating thereto, and, if any of these were ignored by the licensing bodies, it would be open to the Council to make representations to the Privy Council, which, if it thought fit, might order that the qualifications obtained from such bodies should not be registrable.

The name of any medical practitioner who has been convicted of felony or misdemeanour, or who is proved before the Council itself to have been guilty of "infamous conduct in a professional respect," may be erased from the *Medical Register*.

The Medical Acts prohibit attempts being made to impose restriction as to any theory of medicine or surgery, and, once a practitioner has been trained and tested in the knowledge essential for public safety, he may adopt any "theory" of medicine or surgery in which he honestly believes. The Medical Acts do not prohibit the practice of medicine by unregistered persons, but if they "wilfully and falsely" assume any title implying registration they are liable to prosecution. In this respect the Medical Acts differ from the Midwives and the Dentists Acts, which

3. A candidate remitted in any subject of a professional examination should, before he is readmitted to examination therein, be required to produce satisfactory evidence that he has, during the interval of remission, pursued the study of the subject in which he was rejected. Candidates who obtain less than 30 per cent. of the marks in any subject should be remitted for a longer period than three months.

4. In all the professional examinations sufficient time should be assigned to practical work, in order to test the thoroughness of the candidate's knowledge and to encourage practical methods of study.

5. Candidates in all their examination work should be carefully supervised.

6. Two examiners should always participate in the oral examination of a candidate, except in subordinate parts of practical examinations.

7. In all written examinations the questions in each subject should be submitted for the approval of all the examiners in that subject.

8. In all written examinations an average of at least half an hour should be allowed for a candidate to answer each question.

9. It is desirable that examiners, and in particular those for the Final Examination in medicine, surgery, and midwifery, should be appointed or re-elected for at least three consecutive years.

10. Whatever may be the system of marking, the percentage for a pass in each subject should not be less than 50.

11. In the regulations for the several examinations it should be provided that examiners, in assessing marks, be empowered to take into account the duly attested records of the work done by the candidate throughout his course of study in the subject of the examination.

12. The Final Examination in medicine, surgery, and midwifery, with the exception of the clinical and practical examination in midwifery and gynaecology, must not be passed before the close of the fifth academic year of medical study.

13. The three portions of the Final Examination in medicine, surgery, and midwifery should not be further subdivided into sections which may be entered for or passed separately.

14. Compensation in respect of marks as between the three different portions of the Final or Qualifying Examination—namely, medicine, surgery, and midwifery—is contrary to the intention of the Medical Act (1886).

15. The Final Examination should include clinical and practical examinations in midwifery and gynaecology.

16. The clinical examination in medicine, surgery, and midwifery should be held in properly equipped hospitals or examination halls well provided with suitable patients.

17. In the examinations in clinical medicine at least one hour, and in clinical surgery at least half an hour, should be allowed to the candidate for the examination of, and report on, his principal case.

18. In medicine, in surgery, and in midwifery, no candidate should be allowed to pass who fails to obtain 50 per cent. of the aggregate marks assigned to the whole examination; or who fails to obtain 50 per cent. of the marks assigned to the clinical examination; or who fails to obtain 40 per cent. of the aggregate of the marks assigned to the written and oral examination. In midwifery, where a clinical examination is not held, the duly attested records of the work done by the candidate in clinical midwifery must be presented to the examiners for assessment in the Final Examination; and no candidate should be allowed to pass who fails to obtain 50 per cent. of the aggregate marks assigned to clinical and practical midwifery and gynaecology.

19. The Final Examination should include the examination of secretions, the testing of urine, clinical microscopy, and prescription writing, and there should always be an oral examination in medicine, surgery, and midwifery, which should include an examination on pathological specimens.

20. At the Final Examination each candidate should be submitted to a practical and oral examination in pathology (macroscopic and microscopic), unless this has been included in a professional examination preceding the Final Examination.

21. Whatever be the method of entry for the Final Examination all candidates should be required to complete the three portions of the Final Examination within a period of nineteen months.

This section of the Educational Number would be incomplete without brief mention of the memorandum, drawn up by the Registrar of the General Medical Council, on the procedure to be adopted by those who desire to enter the profession of medicine, to which reference is made in the introductory article at page 347. This pamphlet (price 1s. post free) sets out in plain language the information for which the Registrar is often asked by prospective medical students or their guardians.

Universities in England and Wales.

THERE are eleven universities in England and Wales, and some account of each of them follows. They all have now fully developed medical faculties.

UNIVERSITY OF OXFORD.

THE professional degrees conferred by this university are those of Bachelor of Medicine (B.M.), Bachelor of Surgery (B.Ch.), Doctor of Medicine (D.M.), and Master of Surgery (M.Ch.). It also grants a diploma in public health and a diploma in ophthalmology. On receiving the B.M. the candidate is entitled to registration by the General Medical Council. In favourable circumstances this degree and the B.Ch. may be obtained in six or seven years from matriculation. Before receiving either, the candidate must have taken a degree in arts (B.A.), for which three years' residence within the university is necessary. This, however, does not necessarily mean deferment of professional study for that period, for the subjects chosen for the arts course may be to a great extent the same as those in which examinations would in any case have to be passed for the medical degree, and the courses are dovetailed together.

In accordance with a statute which came into force on October 7th, 1920, women may be matriculated and admitted to degrees in the university. The statute is retrospective under certain conditions. Before matriculation a woman must have been admitted as a member of one of the five societies of women students (Lady Margaret Hall, Somerville College, St. Hugh's College, St. Hilda's Hall, or the Society of Oxford Home Students). Women members of the university are admitted to all degrees, except those in divinity, under the same conditions as those laid down for men in regard to examinations, courses of study, and fees, and under corresponding conditions as to residence at the university. Among the university diplomas open to women are those in anthropology, ophthalmology, and public health.

There are numerous avenues to the B.A. degree, but that which constitutes the *normal* course for medical students, as being the most closely related to their medical studies, is the following: By passing Responsions (or one of the examinations which are accepted as equivalent), the Scripture examination, some of the preliminary examinations in the Natural Science School,[1] in the first public examination; and one of the final honour examinations in the Final Honour School of Natural Science—physiology being that usually taken.

Responsions and the preliminary examinations in natural science may be passed before a candidate is a member of the university[2]; a Final Honour School may be taken at the end of the third or fourth academical year—that is, within nine or twelve terms respectively; the preliminary examinations of the Natural Science School may be taken as soon as Responsions has been passed or exemption obtained.

PROFESSIONAL DEGREES.

To obtain the B.M., B.Ch. degrees the candidate must first pass in four of the subjects of the preliminary examination of the Natural Science School—namely, physics, chemistry, zoology, and botany.

He then has two further examinations to pass—the First B.M. and the Second B.M. These take place twice a year, the first on the Thursday, the second on the Wednesday, of the eighth week of Michaelmas and Trinity terms. Every candidate at the first B.M. is examined in human anatomy, in physiology, and in organic chemistry, but is excused from physiology if he has obtained a first or second class in the Honour School of Physiology, and from organic chemistry if he has satisfied the examiners in Part I of the Honour School of Chemistry. Once he has passed this examination he can, on production of certain certificates, be examined as soon as he pleases in pathology, forensic medicine and hygiene, materia medica, and

[1] The four subjects of the medical preliminary examinations are four of the subjects in the natural science preliminary, and can be commenced directly after passing Responsions.

[2] Membership is constituted by Matriculation and by becoming either a member of a College or a Hall or a non-collegiate student.

pharmacology (subjects of the Second Examination), but cannot present himself for the remaining subjects—medicine, surgery, and midwifery—until the eighteenth term from the day of his matriculation *unless he be already a registered medical practitioner*, and not until a period of at least thirty-three months has elapsed from the date of his passing the First Examination, and he must pass in all the three subjects at one and the same time.

Before admission to the Second B.M. examination the student must produce certificates of instruction from a medical school recognized by the university, of having acted as clinical clerk and dresser, each for six months, and as post-mortem clerk for three months, of attendance on labours, of instruction in infectious and mental diseases and ophthalmology, and of proficiency in vaccination and the administration of anæsthetics,[1] and of three academic years of hospital attendance. He must also produce certificates of attendance in laboratory courses in pathology, bacteriology, and pharmacology, either in Oxford or in a recognized medical school.

D.M. AND M.CH. DEGREES

A Bachelor of Medicine who wishes to proceed to the D.M. must have entered his thirtieth term and must present a dissertation for approval by the appointed examiners on a subject previously approved by the Regius Professor of Medicine. If a candidate for the M.Ch. he must have entered his twenty-first term and must pass an examination, which is held in June.

D.P.H. AND D.O.

Examinations for the diploma in public health have been suspended until further notice, that for the diploma in ophthalmology is held annually in March

TEACHING.

The several colleges provide their undergraduate members with tutors for all examinations up to the B.A. degree. In addition, the university provides certain courses of instruction, including lectures, demonstrations, and practical work, which cover all the subjects of the Preliminary Examination and First B.M., and those of the Final Examination.

SCHOLARSHIPS

Most colleges grant scholarships, open to intending medical students of the maximum value of £100 a year, tenable for four years, in natural science, chemistry, physics, and biology. Exhibitions of varying value are also awarded in these subjects. At two colleges (University and Pembroke) there are medical entrance scholarships of £100 a year. Particulars can be obtained on application to the college tutors. Scholarship for women are also offered by the various women's college, from the principals of whom details of the examinations may be obtained. A Radcliffe Travelling Fellowship of £300 a year, tenable for two years, is conferred annually; candidates must have taken the B.M. degree. A Schorstein Research Fellowship of £200 a year for two years is awarded biennially. The Fellow must engage in research in one of the Medical Departments of the University. A George Herbert Hunt Travelling Scholarship of about £100 is awarded biennially to enable a young medical graduate to spend three months abroad in medical study. A Philip Walker Studentship in Pathology of £200 a year, tenable for two years, is awarded biennially for the encouragement of research in pathology, as also are the Rolleston Memorial Prize and the Radcliffe Prize (£50), for research in natural science (including pathology), and the three Theodore Williams Scholarships in Anatomy, Physiology, and Pathology, of the value of £50 each, tenable for two years. A Radcliffe Scholarship in Pharmacology of £50 for one year, open to the University, is awarded annually by the Master and Fellows of University College. A Burney Yeo King's College Hospital Scholarship of £60 is awarded annually.

FEES

An annual fee of £4 10s. is paid to the university for the first four years, being reduced to £1 when the B.A. has been taken. For the degree the fees are: the B.A., £7 10s.; the B.M. and B.Ch., £14; the D.M., £25; the M.Ch., £12. College fees, varying in amount, are paid for the first four years of membership and in taking degrees. Tuition fees vary from £21 to £30. The minimum annual cost of living during the three university terms may be regarded as not less than £200, or for women not less than £140.

For further information application may be made to Dr. E. W. Ainley Walker, Dean of the School of Medicine, University of Oxford.

[1] For the certificates that will be required from candidates amenable to the new Regulations of the General Medical Council, see *Examination Statutes*, Clarendon Press, Oxford, 1930 edition.

UNIVERSITY OF CAMBRIDGE

The professional degrees given by this university are those of Bachelor of Medicine (M.B.) and Bachelor of Surgery (B.Chir.), each of which entitles the possessor to admission to the *Register* by the General Medical Council, and the higher degrees of Doctor of Medicine and Master of Surgery. It also grants diplomas in tropical medicine and hygiene, in public health, in hygiene and in medical radiology and electrology to medical practitioners, not necessarily graduates of the university. Information regarding these diplomas will be found in later sections under the headings Tropical Medicine, Public Health and Radiology. A candidate for the M.B., B.Chir. degrees need not possess a degree in arts: it is sufficient if he has passed the Previous examination or some other examination accepted by the university as its equivalent. Most students, however, are advised to take the B.A. degree preferably by obtaining honours in the Natural Sciences Tripos. The attainment of a sufficient standard in certain subjects in this Tripos will secure exemption from the corresponding tests in the First and Second M.B. examinations in the case of students who take up medical study late in their university career. Members of Girton College and Newnham College are admitted to the examinations.

PROFESSIONAL EXAMINATIONS

To obtain the M.B. degree the candidate must pass three examinations and keep an Act. The B.Chir. degree (which is a registrable qualification) may be obtained after passing all three examinations.

First M.B.—This comprises (1) general and inorganic chemistry, (2) mechanics, (3) physics, (4) elementary biology. The parts may be taken together or separately. In either case the candidate, before admission to examination must have passed or been exempted from the Previous Examination. Certain exemption from the First M.B. Examination are allowed, the regulations may be obtained from the Registrary. The examination is held three times in the year.

Second M.B.—This examination comprises Part I, organic chemistry, Part II. human anatomy and physiology, Part III. elementary pharmacology including pharmaceutical chemistry and the elements of general pathology. No student is admitted to the first part of the Second Examination until he has completed the Previous Examination and the first part of the First Examination. No student is admitted to the second part of the Second Examination until he has passed all parts of the First Examination and has been matriculated. No student shall be admitted to the third part of the Second Examination until he has passed the first and second parts of the Second Examination. The candidate must present certificates of study in the subjects of the second and third parts. The examinations for Part I are held in October, December, and June, and for Part II in December and June; that for Part III in October and April.

Third M.B.—This is divided into two parts, to neither of which the candidate is admitted until he has passed the examinations previously mentioned. A candidate for the first part, which deals with the principles and practice of surgery (including special pathology) and midwifery and diseases peculiar to women, must have completed five years of medical study and be signed up in these subjects and have completed two years and a half of hospital practice. Before admission to the second part the candidate must have completed five years of medical study, and be duly signed up in all subjects and have completed three years of hospital practice. The examination is in the principles and practice of physic (including diseases of children, mental diseases, and medical jurisprudence) pathology (including hygiene and preventive medicine) and pharmacology (including therapeutics and toxicology). The Third M.B. examinations are held twice a year—in June and December.

Act for the M.B.—Before receiving his M.B. degree a candidate who has passed the Third M.B. examinations has to write a thesis. This he reads in public on an assigned day, and is then questioned concerning it and other subjects of medicine by the Regius Professor of

Physic. If approved at this test he is then certified as having "kept the Act," and in due course receives his degree. Medical degrees may be taken in absence by those living abroad, the candidate sending to the Registrar a dissertation, which is laid before the Degree Committee.

THE HIGHER DEGREES.

The M.D. degree may be taken by a Bachelor of Medicine of three years' standing (and a Master of Arts of four years' standing who has completed the course required for M.B.) after writing a thesis approved by the M.D. Degree Committee, and keeping a further Act, at which he reads his thesis and is examined thereon. Previously to the Act being kept a topic taken from the general subject of his thesis (whether it be physiology, pathology, pharmacology, practice of medicine, State medicine, or the history of medicine) is submitted to the candidate, on which he is required to write an extempore essay.

A candidate for the M.Chir. degree who is an M.A. may be admitted to the examination after he has become legally qualified to practise surgery. Other candidates may be admitted when two years have elapsed after they have passed the Third M.B. Examination. The examination comprises pathology, surgery, surgical anatomy, and surgical operations. The tests are partly in writing, partly oral, and partly practical: they include the writing of an extempore essay. Proposals are before the university whereby the examination will be held in February in each year.

FEES.

In addition to college fees, tutorial fees, and the expense of living, the following examination fees are payable: First M.B., £5 5s.; Second M.B., £6 6s.; Third M.B., £10 10s. For schedules referring to the examinations, lists of schools recognized by the university, and other information, application should be made to the University Registrary, Cambridge.

UNIVERSITY OF LONDON.

UNDER the regulations of the University of London the degrees obtainable in the Faculty of Medicine are those of Bachelor of Medicine and Bachelor of Surgery, Master of Surgery in four branches, Doctor of Medicine in six different branches, Bachelor of Dental Surgery, and Bachelor of Pharmacy. The university has its own matriculation examination, and it is very advisable that candidates should obtain and carefully study the booklets relating to it. The matriculation examination is open to any person, of either sex, who has attained the age of 16. It is held in January, June, and September, and lasts four days; the first two take place both in London and in certain provincial centres; the September examination is held in London only.

In no circumstances is a degree granted to anyone in less than three years after the date at which he passed the matriculation examination or obtained registration in some other way; and, unless they are already registered medical practitioners of a certain age and standing, all medical students must pass not less than five and a half years in professional study subsequent to matriculation, of which the last three years must be spent at a school of advanced medical studies.

PROFESSIONAL EXAMINATIONS.

M.B., B.S.—There are three examinations, the last two being subdivided. They are held twice a year.

The First Examination (held in July and December) covers inorganic chemistry, general biology, and physics, there being two papers, a practical test, and a possible oral test in each subject. The names of successful candidates are placed in alphabetical order with a note as to any subject in which a candidate has distinguished himself or herself.

The Second Examination is held in March and July. Part I covers organic chemistry, the candidate's knowledge being tested as in the earlier examination. Candidates for Part II must have passed the First Examination at least eighteen months previously, besides having completed Part I of the Second Examination. The subjects are anatomy, physiology, and pharmacology, the tests being written, oral, and practical. Candidates who fail in pharmacology may sit for re-examination in that subject alone if the examiners think fit, and candidates who pass in pharmacology only may similarly be credited with that subject.

No candidate, unless he is already a registered medical practitioner, is admitted to the Third M.B., B.S. Examination within three academic years from the date of his completing the Second Examination. The subjects are medicine (including mental diseases), pathology, forensic medicine and hygiene, surgery, and obstetrics and gynaecology. They may be divided into two groups, one comprising medicine, pathology, forensic medicine, and hygiene, and the other surgery and obstetrics and gynaecology. Either group may be taken first at the option of the candidate, or the groups may be taken together. Only candidates who show a competent knowledge of all the subjects comprising a group are passed. There is no separate examination held for honours, but the names of successful candidates are divided into an honours list and a pass list, and a university medal may be awarded the candidate who has most distinguished himself in the whole examination.

THE HIGHER DEGREES.

M.D.—An examination for the M.D. is held twice yearly—in December and July. Every candidate must have passed the examination for the M.B., B.S., unless he became M.B. before May, 1904. He may present himself for examination in any one of the following branches: (1) medicine, (2) pathology, (3) mental diseases and psychology, (4) midwifery and diseases of women, (5) State medicine, (6) tropical medicine, and, if he wishes, may pass also in another branch at a subsequent examination.

The period that must elapse between acquiring the M.B. and sitting for the M.D. in any branch varies between one and two years, according to the nature of the candidate's previous work, and in all cases evidence must be afforded of special study of the subject chosen; both written and practical examinations must be passed, though exemptions can be obtained from the former in exceptional circumstances. In each branch the scheme of examination is the same: two papers on its special subject, a paper on an allied subject—for example, medicine in the case of branch (4), pathology in branch (1)—an essay on one of two suggested topics connected with the special subject, and a clinical or other practical test. In any branch of the M.D. Examination a gold medal of the value of £20 may be awarded.

M.S.—The regulations with regard to the Mastership in Surgery are of a corresponding kind, but there are four branches in which it may be obtained—general surgery, dental surgery, ophthalmology, and laryngology, otology, and rhinology.

FEES.

For Matriculation: 2½ guineas for each entry. First Examination: 6 guineas for each entry to the whole examination. For re-examination in one subject the fee is 2 guineas. Second Examination, Part I: 3 guineas for the first and each subsequent entry. Second Examination, Part II: 9 guineas for each entry to the whole examination. For re-examination in one subject the fee is 4 guineas. M.B., B.S. Examination: 12 guineas for each entry to the whole examination, and 6 guineas for examination or re-examination in either group. M.D. and M.S. Examinations: 20 guineas, and 10 guineas on re-examination.

Inquiries should be addressed to the Academic Registrar, the University of London, South Kensington, S.W.7.

UNIVERSITY OF BIRMINGHAM.

THIS university confers medical and surgical degrees—namely, M.B., Ch.B., M.D., and Ch.M.—and also diplomas and degrees in State medicine and dentistry. The M.B., Ch.B. candidate may also combine with the earlier part of his medical curriculum courses leading to the ordinary B.Sc. degree in anatomy and physiology. The degree of B.Sc. with honours in one of these subjects requires an extra year. The full course of study for the degrees of M.B., Ch.B. extends over six years. The Senate has power to accept courses of study and examinations passed at other recognized universities as exempting from the examinations in physics, chemistry, biology, and organic chemistry. In the case of such students at least three years must be spent in attendance upon classes at the university. A degree of Ph.D. is also conferred for research

study in medicine under special regulations. Candidates must be graduates in medicine of a recognized university.

Students entering the Medical Faculty for the M.B., Ch.B. degrees must have passed—

(1) Either (*a*) the matriculation examination of the Joint Board of the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham; or (*b*) some other examination recognized as equivalent to the matriculation. Candidates for medical degrees are required to have passed in English literature and mathematics, and are recommended to take *Latin and a science subject—chemistry or physics—at the* matriculation examination. The matriculation examination of the Joint Board is held in July and September. The regulations and the list of examinations accepted in lieu thereof will be sent on application to the Secretary to the *Board, Joint Matriculation Board*, 315, Oxford Road, Manchester.

(2) A recognized pre-registration examination in the subjects of chemistry and physics—for example, the higher school certificate of the Joint Matriculation Board, or a candidate may attend first-year courses in the university, October to June, taking chemistry and physics, and biology.

PROFESSIONAL EXAMINATIONS.

The candidate for the M.B., Ch.B. degrees has five examinations to pass. In the Second (Part II) and Final examinations the candidate must pass in all the prescribed subjects or undergo the whole examination again.

The First M.B. deals with physics, chemistry, and biology. The Second M.B. (Part I) deals with organic chemistry. The Second M.B. (Part II) deals with anatomy and physiology, and the student must pass in both simultaneously. The Third M.B. deals with pathology and bacteriology. The Fourth M.B. takes place at the end of the fifth year, the subjects being forensic medicine, toxicology, public health, materia medica, pharmacology, and therapeutics.

Final M.B.—This comprises medicine, surgery, midwifery and diseases of women, ophthalmology, and mental diseases. The candidate, in addition to more ordinary certificates, must be prepared with a certificate of having acted as a *post-mortem clerk for three months, and received special* instruction in anæsthetics and clinical instruction in diseases peculiar to women, asylum ward work, ophthalmology, children's diseases, venereal diseases, ear and throat and skin diseases, etc. In respect to ophthalmology he must show that he has learnt refraction work. He also has to present to the examiners at the time of his examination a short written commentary on a gynæcological subject or case investigated during the period of gynæcological clerking.

M.D.—An ordinary candidate for this degree must be a M.B., Ch.B. of not less than one year's standing. He presents an original thesis for approval, and then passes a general examination in the principles and practice of medicine. From the latter the Board of Examiners may exempt a candidate whose thesis is of exceptional merit. The regulations respecting the Ch.M. are of the same general character. Subject to certain requirements as to special research or other post-graduate study, graduates of other universities may obtain the M.D. and Ch.M. in the same way as holders of the Birmingham M.B., Ch.B.

FEES.

The fee for Matriculation is £2 (payable to Joint Matriculation Board); £2 10s. for First M.B. Examination (if taken in university), and £2 10s. for each of the first four Professional Examinations; M.B., Ch.B. degree fee, £10, M.D. and Ch.M. Examinations, £12 10s. each. For further particulars application should be made to the Dean of the Medical Faculty, University of Birmingham.

UNIVERSITY OF BRISTOL.

IN the Faculty of Medicine the following degrees are conferred: Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), Bachelor of Dental Surgery (B.D.S.), and Master of Dental Surgery (M.D.S.). There are also the following diplomas: diploma in public health (D.P.H.), diploma in dental surgery (L.D.S.), and diploma in veterinary State medicine. All candidates for degrees in medicine, surgery, and dentistry are required to reach matriculation standard in the school certificate examination, or to pass such examination as may be regarded as equivalent by the Senate. All courses, degrees, and diplomas are open to men and women alike.

Conjoined Degrees of Bachelor of Medicine and Bachelor of Surgery.—Candidates must be not less than 21 years of age and have pursued the courses prescribed by university regulations during not less than five years after passing the First Examination in chemistry and physics, of which three shall have been spent in the university, and two of these three subsequent to passing the Second Examination. All candidates for the degrees of M.B., Ch.B. are required to satisfy the examiners in the several subjects of three examinations.

The First Examination.—The subjects of examination are: chemistry (inorganic), physics, and biology, the courses pursued being those for the time being approved for the intermediate part of the B.Sc. curriculum. This part of the curriculum shall extend over one year. (Candidates who have passed the higher school certificate approved by the Board of Education in these subjects will not be required to sit for the First Examination and will be regarded as having completed one year of study.)

The Second Examination.—The subjects of examination are: organic chemistry and elementary anatomy (Part I) and advanced anatomy and physiology (Part II).

The Final Examination.—The subjects of examination are: materia medica and pharmacy, pharmacology and therapeutics, general pathology, morbid anatomy, and bacteriology (Part I); special pathology, forensic medicine, toxicology, and public health, obstetrics (including diseases of women), surgery (systematic, clinical, practical, and operative, including ophthalmology and oto-rhino-laryngology), medicine (systematic, clinical, and practical, including mental diseases) (Part II). The subjects included in Part II may be taken in two groups—namely, Group I: surgery and obstetrics; Group II: medicine public health, special pathology, forensic medicine, and toxicology. Candidates may pass Parts I and II together or separately, and the two groups of Part II may likewise be taken together or separately, but no student can obtain honours who elects to take the two groups of Part II separately. Forensic medicine and toxicology may be taken either with Part I or with Group II of Part II.

Degree of Doctor of Medicine.—Candidates must be Bachelors of the university of not less than two years' standing as such, and may elect either (1) to pass an examination in general medicine, or (2) to pass an examination in State medicine, or (3) to present a dissertation. The candidate who elects to pass the examination in State medicine must hold a diploma in public health of some university or college, and the candidate who elects to present a dissertation may be examined in the subject thereof.

Degree of Master of Surgery.—The degree may be taken in general surgery or in special subjects. Candidates shall be Bachelors of not less than two years' standing as such. For general surgery, they shall pass an examination in surgical anatomy, pathology, and bacteriology, and in operative, clinical and general surgery, and shall present a dissertation. For special subjects—that is, ophthalmology or oto-rhino-laryngology or gynæcology—they shall, in addition to having studied and practised for two years the subject concerned, have held an approved appointment in it for not less than six months, they shall pass a written, oral, and clinical examination in the branch of surgery concerned, as well as in the anatomy, physiology, and pathology of the region of the body concerned (including, in the case of ophthalmology, physiological optics), and also a written examination in the principles of general surgery.

Diploma in Public Health.—Candidates must be at least 23 years of age, be fully registered medical practitioners of not less than two years' standing as such, and have passed the examination prescribed by regulation. The examination is divided into two parts.

UNIVERSITY OF DURHAM.

To its own undergraduates, who may be of either sex, this university grants the degrees of Bachelor of Medicine and Bachelor of Surgery (M.B., B.S.), and Doctor of Medicine (M.D.), Master of Surgery and Doctor of Surgery (M.S. and D.Ch.), Bachelor of Hygiene, Doctor of Hygiene, and Bachelor of Dental Surgery and Master of Dental Surgery (B.D.S. and M.D.S.); it also grants diplomas in public health, psychiatry, and dental surgery. The university accepts the Durham University school certificate examination (if a sufficient standard is obtained in certain specified subjects) for matriculation purposes, but also accepts the tests of a considerable number of other educational bodies as a full or partial equivalent. A list may be obtained on application. In addition to satisfying the matriculation requirements of the university, every student must (1) pass a pre-registration examination in physics and inorganic chemistry conducted or recognized by the university, and (2) be registered on the books of the General Medical Council. To become a graduate, however, at the university it is not necessary to pass the major portion of the five years' curriculum within its precincts. It is sufficient if, before he presents himself for his final examination, the candidate has spent at least one year in study at the University of Durham College of Medicine, Newcastle-on-Tyne, including the practice of the Royal Victoria Infirmary in the same city. The earlier examinations may be passed while the student works elsewhere.

PROFESSIONAL EXAMINATIONS.

There are four professional examinations for the M.B., B.S. degrees. *The First, Second, and Third examinations* are held in March and June, and the Final Examination in June and December. The first deals with biology and organic chemistry; the second with anatomy and physiology; the third with pathology, bacteriology, materia medica, pharmacology, general principles of therapeutics, and pharmacy, medical jurisprudence, and public health. At the Final M.B., B.S. the candidate is examined in medicine and clinical medicine; surgery and clinical surgery; midwifery and diseases of women and children; clinical and practical midwifery and gynaecology; and clinically in psychological medicine, diseases of the throat, nose and ear, diseases of the skin, diseases of the eye, and diseases of children.

M.D.—A Bachelor of Medicine who wishes to proceed to this higher degree must be of at least two years' standing, and must comply with the regulations printed in the Calendar of the College of Medicine. If the candidate is not an M.B. of the university, he must be a practitioner of fifteen years' standing, 40 years of age, and submit to special tests. (See under Degrees for Practitioners, p. 402.)

M.S.—Candidates for this degree must have been engaged in practice for at least two years subsequent to becoming M.B., B.S.Durham. They are submitted to an examination which covers the whole range of surgical knowledge.

D.Ch.—The university grants also the degree of Doctor of Surgery. Candidates for this degree must be registered medical practitioners, not less than 24 years of age. They must devote three years, subsequent to obtaining a registrable qualification, to the study of surgery and ancillary subjects; one at least of the three years must be spent in the university. The candidate must submit to the professor of surgery the course of study he proposes to follow, and his course must be approved by the Board of Faculty of Medicine.

One year must be devoted mainly to work in the departments of anatomy, physiology, pathology, and bacteriology, and the candidate must submit evidence of having so worked. Not less than six months of another year must be spent as a resident surgeon in a recognized teaching hospital, and the rest of the year in the study of surgery in a recognized medical centre. Not less than six months of one of the three years must be spent in surgical study abroad.

Degree of Bachelor of Hygiene and the D.P.H.

No candidate is admitted to the final examination for the degree of B.Hy. unless he is a Bachelor of Medicine and Surgery, of not less than two years' standing, of a recognized university whose degrees are registrable on the books of the General Medical Council of the United Kingdom.

No candidate is admitted to the final examination for the D.P.H. unless he is a registered medical practitioner of not less than two years' standing.

The course of study for the B.Hy. and D.P.H. extends over a period of not less than twelve calendar months subsequent to the attainment of a qualification registrable by the General Medical Council of the United Kingdom. Candidates for the B.Hy. must attend this course at the University of Durham; candidates for the D.P.H. may attend it at the University of Durham or at any medical school or institution which is recognized by the university.

The examination for the diploma or degree consists of Part I and Part II, each of which extends over not less than two days, and is conducted by examiners specially qualified. A candidate must pass in all the subjects of Part I before being admitted to examination for Part II. In Part I, and also in Part II, a candidate must pass in all the specified subjects at one time.

The examination for Part I is practical, written, and oral, and includes the following subjects: bacteriology and parasitology (including medical entomology); chemistry and physics; and meteorology and climatology, in relation to public health. Candidates are not admitted to examination for Part I until after they have completed the prescribed courses of instruction in the subjects thereof.

The examination for Part II includes the following subjects: hygiene and sanitation (including sanitary construction); epidemiology and infectious diseases; sanitary law and vital statistics; public health administration. The examination is written and oral, and includes practical examinations in infectious diseases; food inspection, inspection of premises—dwellings, factories, workshops, schools, etc. Candidates are not admitted to examination for Part II until after they have completed the prescribed courses of instruction in the subjects thereof.

Doctor of Hygiene.

Candidates for the degree of Doctor of Hygiene must be Bachelors of Hygiene of the university of two years' standing, and are required to satisfy the examiners that they have conducted original research in the subject of public health.

Diploma in Psychiatry.

Candidates must be registered medical practitioners, and, unless qualified before January 1st, 1911, must have attended, subsequent to passing their qualifying examinations, courses of instruction in: (*a*) anatomy; (*b*) physiology; (*c*) pathology; (*d*) bacteriology; (*e*) psychology and experimental psychology; (*f*) clinical neurology; (*g*) psychiatry; (*h*) clinical psychiatry. The examination consists of two parts, namely: (1) anatomy, physiology, pathology, and bacteriology; (2) psychology and experimental psychology, neurology, and psychiatry (systematic and clinical); and candidates may present themselves for the whole examination or for either part separately.

Licence and Degrees in Dental Surgery.

L.D.S.—Every dental student must, at the commencement of his studentship, be registered in the manner and under the conditions prescribed for medical students.

The First Examination consists of three parts, which may be passed separately: Part 1, organic chemistry; Part 2, biology; Part 3, theoretical dental mechanics, dental metallurgy (theoretical and practical). Second Examination: Anatomy, physiology (including biochemistry and biophysics), dental anatomy, and dental histology. Third Examination: Pathology and bacteriology, practical dental mechanics, dental materia medica and therapeutics. Final Examination: Medicine, surgery, dental surgery and pathology, orthodontics, operative dental surgery and dental prosthetics, and anaesthetics.

A candidate before presenting himself for examination is required to furnish certificates of instruction in the required subjects, attended after registration as a dental student at recognized colleges or medical schools.

Degree of Bachelor of Dental Surgery.—1.—Students taking their complete course of instruction in the university must pass the same matriculation tests as medical students, and the same pre-registration examination in inorganic chemistry and physics. After registration students must spend five years in the university. They must attend the practice of the Newcastle-upon-Tyne Dental Hospital for not less than two and a half years; six months of this time must be devoted to the study of the higher branches of dental science. There are four examinations. The subjects of the examinations are as follows: *First:* Biology, organic chemistry, and dental mechanics and metallurgy. *Second:* Anatomy, physiology, dental anatomy, and histology. *Third:* Pathology and bacteriology, dental materia medica and therapeutics, and practical and dental mechanics. *Final:* Medicine, surgery, dental surgery and pathology, orthodontics and operative dental surgery. In this subject knowledge of a much higher standard, and more advanced practical work, are required than for the Licence in Dental Surgery.

2.—Candidates possessing a Licence in Dental Surgery of a British university must study for at least one year in the university. During such year they must (*a*) attend a course of instruction in pathology and bacteriology, and (*b*) spend at least six months in the Newcastle-upon-Tyne Dental Hospital in study and practice of the higher branches of dental science. They must also pass the third and final examinations for the degree of Bachelor of Dental Surgery.

Degree of Master of Dental Surgery.—Every candidate for this degree must be a Bachelor of Dental Surgery of the university of not less than two years' standing, and present an essay embodying original work and research in some subject connected with dentistry. He must also perform to the satisfaction of the examiners a piece of special dental work demanding a high degree of skill and experience.

The examinations are held concurrently with the medical examinations.

The practical examinations in dentistry are conducted at the Newcastle-upon-Tyne Dental Hospital.

FEES.

The following fees are payable: Matriculation, £2; Examinations, First, Second, and Third M.B., B.S., each £5; Final M.B., B.S., £15; M.D. and M.S., each £5; B.Hy., D.P.H., and D.Psy., each £10 10s.; and D.Hy. and D.Ch., each £20: First, Second, and Third L.D.S., each £3 10s., and Final L.D.S. £5.; First, Second, and Third B.D.S., each £5, Final B.D.S. £8; and M.D.S. £5. For degrees and diplomas: M.B., B.S., B.Hy., and B.D.S., each £6 6s. *plus* the sum of 10s. if it is the initial degree taken in the university; M.S. and M.D.S., each £6 6s.; M.D., D.Ch., and D.Hy., each £10; D.P.H., D.Psy., and L.D.S., each £3.

Further information may be obtained from the Dean of the College, University of Durham College of Medicine, Newcastle-on-Tyne.

UNIVERSITY OF LEEDS

The degrees granted in the Medical Faculty of this university are Bachelor of Medicine, Bachelor of Surgery (M.B. and Ch.B.), and Bachelor of Dental Surgery (B.Ch.D.). Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), and Master of Dental Surgery (M.Ch.D.). It also gives diplomas in public health, in psychological medicine, in dental surgery, and in nursing.

Candidates for the M.B. must have attended courses of instruction approved by the university for not less than five years, two at least of such years having been passed in the university, at least one year being subsequent to the date of passing the first examination. They must also have matriculated by satisfying the examiners in:

I. *Either* English Composition and English Literature, *or* English Composition and History.

II. *Either* Mathematics *or* Latin.

III. } *Three* other subjects not already taken under I and II above,
IV. } chosen from the following list.
V. }

(1) English literature, (2) History, (3) Geography, (4) Greek, (5) Latin; (6) French; (7) German, (8) Some one other language approved by the Board, (9) Mathematics, (10) Mechanics, (11) Physics; (12) Chemistry, (13) General experimental science, (14) Natural history; (15) Botany.

Provided that (*a*) candidates who take Mathematics under II above must include one of the subjects 4—8, (*b*) candidates who take Latin under II above must include one of the subjects 9—15. In all cases Mathematics is a compulsory subject for admission to the Faculty of Medicine.

Exemption from the examination may be granted to applicants holding certificates of having passed examinations of a standard deemed by the Matriculation Board to be at least equal to the Board's examination.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., Ch.B. number three. The first deals with (1) physics and inorganic chemistry, (2) biology, (3) organic chemistry. In each subject laboratory work is included, but the two parts can be taken separately. For neither can the candidate present himself until after matriculation and a period of approved work in the respective subjects.

The Second Examination.—The Second Examination consists of: Part I, materia medica and practical pharmacy; Part II, anatomy and physiology. Candidates will be allowed to pass any parts separately.

The Final Examination.—The Final Examination consists of: Part I, pharmacology and pathology and bacteriology; Part II, medicine, surgery, obstetrics, gynaecology, and clinical pathology: Part III, forensic medicine, public health, and therapeutics. Part I may be taken at the end of the second clinical year, and must be passed before Parts II and III are taken. Parts II and III may be taken at the end of the third clinical year but not before the completion of the fifth year of medical study. If taken separately Part II must be passed before Part III.

M.D.—Candidates for this degree must be bachelors of medicine and bachelors of surgery of the university and subsequently to having graduated must have completed two years of hospital practice or special study approved by the university, or four years in the practice of their profession in one or other of its various branches, six months' hospital practice or special study to count as the equivalent of one year's ordinary practice. Any subject except surgery of the medical curriculum may be chosen for the examination, but a thesis, the title of which must previously receive the approval of the Board of the Faculty of Medicine, may be submitted, and if it is adjudged to be of exceptional merit the candidate may be exempted from further examination.

Ch.M.—The candidate for this degree must have been admitted to the M.B., Ch.B. of the university not less than a year previously, and during that time must have held for at least six months a surgical appointment in a public institution affording full opportunity for the study of practical surgery. He must also have attended certain courses, including one on ophthalmology and one on pathology and bacteriology, he is then examined in surgery in all its branches and in ophthalmology and pathology and bacteriology.

FEES.

The Matriculation fee is £2, and on readmission £1 10s. For each of the other examinations £6 and £8 on readmission; Ch.M. £10 and same on readmission; M.D. £10. On conferment of the degree of Ch.M. £5 is payable, and £5 for the M.D. degree.

UNIVERSITY OF LIVERPOOL

This university, besides granting degrees in medicine (M.B. and M.D.) and in surgery (Ch.B., M.Ch.Orth., and Ch.M.), gives degrees in dental surgery (B.D.S. and M.D.S.), a degree in hygiene (M.H.), and degrees in veterinary science (B.V.Sc., M.V.Sc., and D.V.Sc.). Diplomas are awarded in dental surgery (L.D.S.), tropical medicine (D.T.M.), tropical hygiene (D.T.H.), public health (D.P.H.), veterinary hygiene (D.V.H.), and medical radiology and electrology (D.M.R.E.). The degree of Doctor of Philosophy (Ph.D.) may also be taken in the Faculty of Medicine.

MATRICULATION.

The matriculation examination is governed by the Joint Matriculation Board, 315, Oxford Road, Manchester, which accepts, under certain conditions, the tests of several other bodies as its equivalent. Candidates will be required to have included mathematics among the subjects in which they have passed at such examination.

PROFESSIONAL EXAMINATIONS.

Candidates for the M.B., Ch.B. degrees have three examinations to pass, the first including (1) chemistry, (2) biology (zoology and botany), (3) physics, (4) special chemistry.

Second M.B.—This test covers (*a*) (1) anatomy, (2) physiology, including physiological chemistry and histology; and (*b*) (3) elementary bacteriology, (4) clinical chemistry, (5) general pathology. Candidates may present themselves in (*a*) and (*b*) separately.

Final M.B.—The subjects of the Final Examination are: (*a*) (1) special pathology and morbid anatomy, (2) forensic medicine and toxicology, (3) public health, (4) pharmacology and general therapeutics, (*b*) (5) obstetrics and diseases of women, (6) surgery—systematic, clinical, operative, and practical—including ophthalmology, (7) medicine —systematic and clinical—including therapeutics, mental diseases, and diseases of children. Candidates may take Parts (*a*) and (*b*) separately, but Part (*b*) may not be taken until five years of study have been completed.

M.D.—May be conferred on graduates (M.B., Ch.B. Liverpool) (*a*) on candidates of two years' standing who present a thesis acceptable to the Faculty, together with, if candidate desires, copies of published original papers upon medical science—oral examination on subject of thesis. (*b*) on candidates of five years' standing by examination.

Ch.M.—May be conferred on graduates (M.B., Ch.B. Liverpool) after examination. Other information concerning the diplomas of this university and its medical school will be found on page 376.

FELLOWSHIPS, SCHOLARSHIPS, AND EXHIBITIONS.

The university awards Fellowships annually to students of distinguished merit, as follows:

(1) John Rankin Fellowships in Anatomy; two, each of the value of £120, tenable for two years. (2) Ethel Boyce Fellowship in Gynaecology, value £100 and tenable for one year, open to fully qualified medical students of either sex. (3) John W. Garrett International Fellowship in Bacteriology, value £100 and tenable for one year. (4) Robert Gee Fellowship in Human Anatomy, value £100 and tenable for one year. (5) Holt Fellowships in Physiology and Pathology, two in number, value £150 each and tenable for one year. (6) *Johnston Colonial Fellowship in Biochemistry*, value £100 and tenable for one year. (7) Thelwall Thomas Fellowship in Surgical Pathology, value £200 and tenable for one year. (8) Lady Jones Fellowship in Orthopaedic Surgery, one, value £200, offered every two years.

There are, in addition, scholarships and exhibitions open to medical students.

VICTORIA UNIVERSITY OF MANCHESTER.

THIS university grants the four ordinary degrees in medicine and surgery—M.B. and Ch.B. and M.D. and Ch.M.; a degree and diploma in dental surgery; a diploma in public health; a certificate in factory and in school hygiene; a diploma in psychological medicine; and a diploma in bacteriology. *Candidates for degrees must pass* the special matriculation examination prescribed by the Faculty of Medicine (or some equivalent examination accepted in lieu thereof; see the prospectus of the Joint Matriculation Board), and study at the university itself for at least two years of the six years' curriculum, subsequent to the passing of the First M.B. Examination. The matriculation examination comprises (1) Latin, (2) mathematics, (3) the English language, its literature and history, (4) mechanics, (5) one subject at choice as approved by the Joint Board. It is held in July and September.

PROFESSIONAL EXAMINATIONS.

M.B., Ch.B.—There are four examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. The First M.B. is divided into Part I, chemistry and physics; Part II, biology—(*a*) botany, (*b*) zoology. The parts may be taken separately or together. At the Second M.B. the candidate is examined in anatomy (including histology) and physiology; at the third in pathology, bacteriology, and pharmacology (including materia medica and practical pharmacy). The Final Examination, under new regulations, is divided into two parts, which may be taken separately. Part I consists of (*a*) forensic medicine and toxicology, and (*b*) hygiene and preventive medicine. Part II consists of (*a*) medicine, including dermatology, diseases of children, and mental diseases; (*b*) surgery, surgical pathology, and diseases of the eye and of the ear, nose, and throat; (*c*) obstetrics and gynaecology.

M.D.—A candidate for this degree must be a Bachelor of Medicine of at least one year's standing. He has a choice between presenting an original dissertation or undergoing a written (as well as practical and clinical) examination in medicine, and a written and practical examination in pathology, and one other subject selected by himself.

Ch.M.—A candidate must have held, since becoming Ch.B., and for not less than twelve months, a post in a public institution affording opportunity for the study of the branch of surgery in which examination is desired. The examination in Branch I comprises the general field of surgery; Branch II, obstetrics and gynaecology; Branch III, ophthalmology; Branch IV, otology, laryngology, and rhinology.

B.Sc. and M.Sc.—The ordinary degree of B.Sc. in the Schools of Anatomy and Physiology may be obtained by students in medicine who in their third year of study for the degree of M.B., Ch.B. complete the additional courses in these subjects prescribed for this degree. Candidates for the Honours degree of B.Sc. in anatomy or physiology who are students in medicine are required to attend courses in advanced anatomy and physiology for four terms after passing the Second Examination for the degrees of M.B., Ch.B. Graduates in science of this university, of not less than one year's standing from the date of their graduation as Bachelors, may proceed to the degree of M.Sc. by the presentation of an approved thesis on some subject coming within the scope of the Faculty of Science.

FEES.

The following examination fees are payable: Matriculation, £2; on readmission, £2. Each M.B. examination, £8 8s.; on readmission, £3 3s. M.D., including the conferring of the degree, £15 15s. Ch.M., £10 for the examination and £10 10s. for conferment of degree. Application for further information should be addressed to the Dean of the Medical School.

UNIVERSITY OF SHEFFIELD.

THE degrees of this university (M.B., Ch.B., M.D. and Ch.M., B.D.S., and M.D.S.), and the diploma of licentiate in dental surgery, are open to candidates of either sex. Candidates for a degree must have matriculated in the university or have passed such other examination as may be recognized for this purpose, and have passed the further examination in chemistry and physics.

PROFESSIONAL EXAMINATIONS.

A candidate for the degrees of M.B., Ch.B. must produce certificates that he will have attained the age of 22 years by the day of graduation; that he has pursued the courses of study required by the university regulations during not less than five and a half years subsequent to the date of his matriculation or exception from matriculation, three of such years at least having been passed in the university, one at least being subsequent to the passing of the Second Examination. The following examinations must be passed in due order.

First Examination.—The subjects are chemistry, physics, and biology. Candidates who have passed the Intermediate Examination of the Faculty of Pure Science in any or all of the subjects of the First M.B. Examination will, on payment of the fee for the latter examination, be deemed to have passed it when they have passed in such subjects as they did not take for the Intermediate B.Sc. Examination. Candidates on presenting themselves for this examination are required to furnish certificates of having attended for not less than one year approved courses of instruction, after matriculation, in (i) chemistry, inorganic and organic; (ii) physics; (iii) biology; and of having passed or obtained exemption from the preliminary examination in chemistry and physics.

Second Examination.—The subjects are anatomy and physiology (Part I). The candidate must have passed the First Examination, and must have attended (1) courses on anatomy, including lectures and practical anatomy, during five terms; (2) courses on physiology, including lectures and practical physiology, during one year.

Third Examination.—The subjects are pathology and pharmacology, applied anatomy, and physiology. Candidates must have attended courses of instruction in pathology for five terms, in pharmacology for four terms (and one term in pharmacy), in applied anatomy for four terms, and in physiology (Part II) for six terms.

Final Examination.—The subjects are: Part I, forensic medicine and public health; candidates must have attended courses for one term in each subject. Part II, medicine (including mental diseases and diseases of children and vaccination), special pathology (including morbid anatomy and clinical pathology), and therapeutics. Part III, surgery (including the administration of anaesthetics, diseases of the ear, nose, and throat, ophthalmology, and surgical pathology), and obstetrics and gynaecology (including ante-natal and post-natal practice and infant hygiene). Candidates for Parts II and III must have completed a minimum of five and a half years of study.

M.D.—Candidates for the degree of Doctor of Medicine must have passed the examination for the degrees of M.B., Ch.B. at least three years previously, must present a thesis embodying observations in some subject approved by the Professor of Medicine, and must pass an examination in the principles and practice of medicine.

Ch.M.—Candidates for the degree of Master of Surgery must have passed the examination for the degrees of M.B., Ch.B. at least three years previously, and must, since taking the degrees of M.B., Ch.B., have held for not less than twelve months a surgical appointment in a public hospital or other public institution affording full opportunity for the study of practical surgery. The subjects of examination

FEES.

The fee for the *Pre-Medical Examination* is four guineas, for re-examination in Chemistry two guineas, for re-examination in Physics one guinea, and for Biology one guinea. The fee for the *First Professional Examination* is ten guineas, for re-examination after rejection in Section I six guineas, for re-examination after rejection in either part of Section I three guineas, for re-examination after rejection in Section II three guineas. The fee for admission to Section I of the *Final Professional Examination* is four guineas, for admission to Section II, Part I, ten guineas; Part II, ten guineas; Part III, six guineas; and the re-examination fees are respectively three guineas, six guineas, and four guineas.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THIS College has three grades—its Licentiates, its Members, and its Fellows. The Licence is now only issued through the Conjoint Board. The Membership (examinations for which are held in January, April, July, and October) is only granted to those who have obtained the Licence, or to those who are registered practitioners and graduates of a recognized university; in any case they must be persons over 23 years of age. Candidates are examined in pathology and the practice of physic, partly in writing and partly viva voce; they are also examined in Latin, Greek, French, and German. The languages are not compulsory, but credit is given to those who show a knowledge of them. The fee for the Membership is £42, or in the case of a Licentiate £21. There is a fee of £10 10s., payable before entrance to the examination, which in the case of successful candidates is reckoned as part of the Membership fee. The body of Fellows is maintained by election from among the Members.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THIS College has two grades—Members and Fellows. The Members are admitted as stated in the section dealing with the Conjoint Board. The Fellowship is granted after examination to persons at least 25 years of age who have been engaged in professional studies for six years. There are two examinations for the Fellowship—the first in anatomy and physiology, held in the months of June and December, which may be passed after the third winter session; the second held in the months of May and November, chiefly directed to surgery, which may be passed after six years of professional study. Candidates must pass the Final Examination of the Examining Board in England and be admitted Members of the College before admission to the Second Examination for the Fellowship, except in the case of graduates in medicine and surgery of not less than four years' standing of universities recognized by the College for the purpose, who are required to attend for one year the surgical practice of a general hospital recognized by the College after obtaining their degrees, which must be registrable in this country.

Fees.—At First Examination, £8 8s.; for re-examination, £5 5s. At Second Examination, £12 12s. Admission fee £10 10s. for members, £31 10s. for non-members.

SOCIETY OF APOTHECARIES OF LONDON.

THIS body confers a registrable diploma in medicine, surgery, and midwifery, now known as the L.M.S.S.A. (Licentiate in Medicine and Surgery of the Society of Apothecaries), on those successful at the following examinations:

Pre-medical Examination.—Chemistry and chemical physics, and elementary biology.

Primary Examination.—This includes anatomy, physiology, and histology, and materia medica and pharmacy. Candidates will be excused any or all the subjects of the Primary Examination on producing evidence that they have passed equivalent examinations before an examining body recognized by the Society. Candidates referred in anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

Final Examination.—This is divided into three parts. Part I includes clinical surgery, the principles and practice of surgery, surgical pathology, operative manipulation, surgical anatomy, instruments and appliances. Part II includes clinical medicine: (*a*) the principles and practice of medicine (including therapeutics, pharmacy, and prescriptions), bacteriology, pathology, and morbid histology; (*b*) forensic medicine, hygiene, theory and practice of vaccination, and mental diseases. Part III includes clinical midwifery, gynaecology, and diseases of newborn children, obstetric instruments and appliances.

The fee for the Primary Examination is £5 5s.; for the Final, £15 15s. The regulations and synopses relating to the several examinations, and other information, may be obtained from the Registrar, Apothecaries' Hall, Blackfriars, E.C.4.

Mastery of Midwifery.

The Society has recently instituted a Mastery of Midwifery, and issues a diploma under this title denoting the possession of specialized knowledge of ante-natal care, midwifery, and child welfare. The examinations take place in May and November, and candidates are required to submit certificates, etc., fourteen days before date of examination. It is intended to impose a severe test so as to ensure a high standard of professional knowledge, but the diploma will not be registrable under the Medical Acts. Admission is open to all who have been for not less than a year in possession of a registrable medical qualification, and who have had certain prescribed experience at recognized institutions concerned with obstetrics, ante-natal work, and child welfare work. Special conditions apply, until 1932, to practitioners of ten years' standing. The entrance fee for the examination is £10 10s., and a further fee of £10 10s. is payable by successful candidates before admission to the Mastery. Copies of the regulations may be obtained from the Registrar at the address given in the preceding paragraph.

The Scottish Universities.

THERE are in Scotland four universities, each possessing a Faculty of Medicine, and having the right to confer degrees which admit the holder to the *Medical Register*. In essential points the regulations in their medical faculties for undergraduates are much alike, so that a general account can be given of all of them together.

The universities are those of Edinburgh, Glasgow, Aberdeen, and St. Andrews. The provision each of the cities in which these universities are situated makes for the education of medical students will be found in the section on Medical Schools in Scotland; here it need merely be said that degrees in medicine from Scotland as a whole have always enjoyed a high repute.

The degrees granted in medicine and surgery to candidates of either sex are four in number—Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.). The two former are not obtainable one apart from the other. Besides these degrees a diploma in tropical medicine and hygiene is obtainable from the University of Edinburgh, as also diplomas in psychiatry, public health, radiology, and tropical veterinary medicine. As for public health, registrable degrees in this subject are granted by the University of Glasgow, while diplomas in public health may be obtained from the Universities of St. Andrews and Aberdeen.

The conditions for admission of graduating students of medicine are the same as those in the Faculties of Arts or Science (for degrees in pure science). Prospective medical students are also required to pass a pre-registration examination in chemistry and physics.

PROFESSIONAL EDUCATION.

The regulations comply in all respects with the requirements and recommendations of the General Medical Council, and, in addition, necessitate definite study for stated periods of diseases of children, of the larynx, ear, and nose, of the skin, of ophthalmology, and of mental diseases. In respect of the various courses certificates must be obtained showing that the student has not only attended regularly, but has duly performed the work of the class. Out of the necessary five years of medical study, not less than two must be spent at the university whose degrees the student hopes to obtain, and the balance at any place officially recognized for such purpose. In each academic year there

Professional Curriculum for Candidates registered as Medical Students after October 1st, 1930.

Subsequent to registration as a medical student the candidate must pass not less than five years in medical study, each comprising a winter and a summer session. The Board does not insist that candidates shall pursue their study at any particular place, and is prepared to accept certificates of having attended the necessary courses from any recognized medical school.

Its examinations are four in number, each of them being held four times every year, and these will fall to be held three times in Edinburgh and once in Glasgow during the next period; it is open to candidates to present themselves for examination at either place. The first examination deals with general biology (systematic and practical), and physics and chemistry (systematic and practical); the second with anatomy, embryology, physiology, biochemistry and biophysics; the third with pathology (including bacteriology and morbid anatomy) and pharmacology (theoretical and practical); and the final with (1) medicine, including therapeutics, applied anatomy and physiology, and clinical pathology, with practical medicine; (2) surgery, including applied anatomy and physiology, clinical pathology, and practical surgery; (3) midwifery and diseases of women, clinical obstetrics and gynaecology, with practical midwifery; and (4) medical jurisprudence and public health. All candidates for the Final Examination must complete portions (1) (2) and (3), which must be taken together, within a period of nineteen months.

These examinations must be passed in due order, and before admission to any of them the candidate must supply certificates showing that he has completed the due periods of study of their subjects. He can present himself in any single subject of the first three examinations. As regards the Final Examination, a candidate can present himself in medical jurisprudence and hygiene at any time after completion of the third examination and of his study of these subjects; but in medicine, surgery, and midwifery he cannot present himself until the completion of five years' study, and he must take them all simultaneously. A candidate who takes up several subjects of an examination or the whole of the subjects at one time, but fails in some of them, is credited at the next examination with those subjects in which he has been approved.

Part or entire exemption from the first three examinations may be granted to those who have already passed before other bodies examinations deemed by the Board equivalent to its own, but all candidates for the Conjoint Licence must sit for the Final Examination, and at no examination can a candidate present himself within three months of his rejection by some other licensing body.

FEES.

It is estimated that the total cost of lectures and fees for the Conjoint Licence is about £170. The separate examination fees are as follows: First, Second, and Third Professional, £5 each; Final £15. On re-entry for any of the first three examinations £3, and on re-entry for the Final, £5. If the re-entry is only in one or two subjects of the First, Second, or Third Examination the fees are smaller.

Information concerning this Board should be sought either from Mr. David Thomson, 49, George Square, Edinburgh, or from Mr. Walter Hurst, Faculty Hall, 242, St. Vincent Street, Glasgow.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

THIS College has three grades—Licentiateship, Membership, and Fellowship—all of which are open to men and women. The regulations applying to candidates for the Licentiateship have already been generally indicated. If desirous of receiving it apart from those of the other two corporations they must be duly registered medical practitioners. Candidates will be required to pass an examination corresponding to the medical part of the Final Examination of the Conjoint Board, and conditioned in the same way, and also an examination in materia medica. The fee for examination is 15 guineas, a special examination being obtainable on due cause being shown, and on payment of 5 guineas extra. Ordinary examinations take place monthly on the first Wednesday and Thursday, except in September and October.

Candidates for the Membership must be either Licentiates of a British or Irish College of Physicians, or alternatively graduates of medicine of a university, approved by the Council, and in either case not less than 24 years of age. Candidates are examined in medicine and therapeutics, also on one or more departments of medicine specially professed, and approved by the Council, in which a high standard of proficiency will be expected. The fee to be paid by a candidate for the Membership is £36 15s. The examination is held quarterly, on the second Tuesday and following days of the months of January, April, July, and October, and application for admission to it must be made a month previous to the date at which it is proposed to appear.

For the Fellowship the candidate must have been a Member of the College for at least three years, and, if accepted, pay fees, including £25 stamp duty, amounting altogether to £64 18s. Further details can be obtained on application to the Secretary of the College.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THIS College has two grades—its Licence and its Fellowship. Licentiates may be of either sex, and for the Fellowship women are eligible also.

Licence.

As an original qualification the Licence is only granted after fulfilment of the regulations of the Scottish Conjoint Board, but as an additional qualification it can be obtained by those already possessed of a registrable or equivalent qualification in medicine. In this case the candidate has to pass a written, oral, and clinical examination in surgery and surgical anatomy, and may be asked to operate on the dead body.

The fee is £15 15s., of which £10 10s. is returned to unsuccessful candidates. On due cause being shown, a special examination may be granted, the fee being £20, of which £10 is returned to a candidate if he is not approved.

Fellowship.

Candidates for the Fellowship must be not less than 25 years of age, and have been in the practice or study of their profession subsequent to registration for at least two years, and must hold either a surgical degree from a university recognized for that purpose by the College, or a registrable diploma obtained as the result of an examination which includes surgery as well as medicine and midwifery. Candidates are examined in (*a*) the principles and practice of surgery, including surgical anatomy, (*b*) clinical surgery, and (*c*) one optional subject, which they may choose from among the following: surgical pathology and operative surgery, ophthalmology, laryngology, otology and rhinology, gynaecology, obstetric surgery, anatomy, and dental surgery and pathology. The examination is written, oral, and clinical or practical. A candidate who desires to be examined must give one month's notice. After having passed the examination he must lodge with the Clerk to the College a petition asking that his name be placed before the College for election as a Fellow. This petition must be signed by two Fellows, as proposer and seconder, who should be sufficiently acquainted with the candidate to vouch that he is in every way a suitable candidate for the Fellowship. Examinations are held four times a year—January, March, July, and September. It is desirable that either the proposer or the seconder should be resident in Edinburgh. *Candidates are not allowed to appear more than three times at the examinations.*

Licentiates of the College pay £40, and others £50. For further information application should be made to the Clerk of the College, Mr. David Thomson, 49, George Square, Edinburgh, from whom a copy of the *Laws Relating to the Fellowship by Examination* may be obtained.

QUEEN'S UNIVERSITY, BELFAST.

THE degrees granted by the Medical Faculty of this university are as follows: Bachelor of Medicine (M.B.), Bachelor of Surgery (B.Ch.), Bachelor of Obstetrics (B.A.O.), Doctor of Medicine (M.D.), Master of Surgery (M.Ch.), Master of Obstetrics (M.A.O.). The university also confers a diploma in public health. The first three degrees mentioned serve as a qualification for admission to the *Medical Register*, and are not granted separately. In addition to matriculating and passing his professional examinations, a candidate for these degrees must have passed three of the regulation five years as a student at the Belfast School of Medicine. Degrees in dental surgery (B.D.S. and M.D.S.) are conferred by the university, and also a diploma in dental surgery (L.D.S.) and a diploma in psychological medicine.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., B.Ch., B.A.O. are four in number. The first deals with: (1) inorganic, organic, and practical chemistry, (2) experimental and practical physics, (3) botany and practical botany, (4) zoology and practical zoology. It is divided into two parts, of which botany and zoology form one. The Second Examination covers anatomy and physiology (both theoretical and practical), and may be taken at the end of the second year of the student's career. The Third Examination includes: (1) pathology and practical pathology, (2) materia medica, pharmacology, and therapeutics, (3) medical jurisprudence, and (4) hygiene. To be valid a certificate in regard to the study of the subjects of this examination must show that the work has been done after the Second Examination has been passed.

The Final Examination includes: (1) medicine, (2) surgery, (3) midwifery, (4) ophthalmology and otology. The student must pass in all subjects at once at the end of his fifth year, or he may divide the examination into two parts—namely, (1) systematic, (2) clinical, practical, and oral. The first part may be taken at the end of the fourth year, but for the second part the candidate may not present himself until the end of his fifth year, but students invariably take both parts at the end of their course. No certificate in regard to the study of the subjects of this examination will be valid unless the work was done subsequent to passing in all the subjects of the Second Examination.

THE HIGHER DEGREES.

Candidates for the degree of Doctor of Medicine must be graduates in medicine of at least three years' standing, unless they hold also a degree of the university in arts or science, in which case a standing of two academic years will suffice. Moreover, candidates must be able to show that the interval has been passed in the pursuit of such courses of study or practical work as may be prescribed. The degree may be conferred either (*a*) after a formal examination, or (*b*) in recognition of the merits of a thesis or of some piece of original study or research carried out by the candidate, followed by an oral or other examination in its subject. When an ordinary examination is imposed it will include (1) a written paper on the principles and practice of medicine, (2) a commentary on a selected clinical case, (3) a clinical and viva voce examination, and (4) a written paper and clinical or practical and viva voce examination on a subject chosen from the following list: (*a*) human anatomy, including embryology; (*b*) physiology, (*c*) pathology, (*d*) pharmacology and therapeutics, (*e*) sanitary science and public health, (*f*) forensic medicine and toxicology, (*g*) mental diseases. The regulations for the degrees of M.Ch. and M.A.O. are of the same general nature.

NATIONAL UNIVERSITY OF IRELAND.

THE National University of Ireland carries on most of its educational work through three constituent colleges—one in Dublin, one in Cork, and one in Galway. Each of these provides a full medical curriculum, and all candidates for the medical degrees of the university must pass three of their five years of study at one or other of them. These years do not count except after matriculation or recognition as a student of the Medical Faculty obtained in some other fashion. The candidates at each constituent college are examined by the university, and a common standard of education is secured by all courses of instruction and the regulations concerning them having to be approved by the Senate, after considering report thereon from the Board of Studies of the university. In addition to the ordinary degrees in medicine and surgery, the university grants those of Bachelor and Master of Obstetrics, Bachelor and Doctor of Science in Public Health, and Bachelor and Master in Dental Surgery, as well as Diplomas in Public Health, in Mental Diseases, and in Tropical Medicine.

Application for other information may be made to the Registrar, National University of Ireland, 49, Merrion Square, Dublin, C.17.

THE IRISH CORPORATIONS.

THERE are, in the Irish Free State, three licensing bodies other than the Medical Faculties of the universities; and in Dublin, just as in London, there is a Royal College of Physicians of Ireland, a Royal College of Surgeons in Ireland, and an Apothecaries' Hall. In Dublin, as in London and in Edinburgh, the two Colleges have formed an examining Conjoint Board, which is responsible for the recommendation of candidates to the two bodies for their respective licences. The Apothecaries' Hall of Ireland, like the Apothecaries' Society of London, gives its licence separately.

THE CONJOINT BOARD IN IRELAND.

THIS body requires of candidates either the passage of its own preliminary examination in the subjects of general education or proof that the candidate has passed one of the tests accepted by the General Medical Council as well as passing in the pre-registration examinations in chemistry and physics and biology.

PROFESSIONAL EXAMINATIONS.

There are three professional examinations, the first of which cannot be passed earlier than the end of the second winter session, nor the final before the conclusion of full five years of medical study. Before being admitted to any of them the candidate must show that he has studied the different subjects in practice and theory for the requisite periods, certificates to this effect being accepted from the authorities of most of the recognized medical schools at home and abroad. The first examination deals with (*a*) anatomy, and (*b*) physiology and histology. The second examination deals with (*a*) pathology, including morbid anatomy, clinical pathology, and bacteriology; (*b*) materia medica, pharmacy, and therapeutics; (*c*) forensic medicine, hygiene, and public health; (*d*) ophthalmology and aural surgery; and may be taken separately.

Final Examination.—This is divided into three divisions, which cannot be completed until at least five years have passed in medical studies other than those for the pre-registration examinations, and five years at least since the beginning of the curriculum. The divisions are: (*a*) medicine, including fevers, mental diseases, and diseases of children; (*b*) surgery, including operative surgery; (*c*) midwifery, including diseases of women and newborn children, and the theory and practice of vaccination.

Fees.—Preliminary Examination, £2 2s. Re-examination, £2 2s. Pre-Registration Examination, £3 3s. Re-examination in Chemistry, £2 2s.; in Physics, £1 1s. First Professional Examination, £26 5s.; Second, £9 9s.; Final, £6 6s. Re-examination fee is £2 2s. for each division.

Diploma in Psychological Medicine.

There are two examinations in connexion with this diploma: Part I consists of (*a*) anatomy and physiology of the nervous system, (*b*) psychology. Part II—(*a*) neurology, including clinical and pathological neurology; (*b*) psychiatry, or psychological medicine, including its legal relationships.

Fees.—£6 6s. for each part.

Further information can be obtained from Mr. Alfred Miller, Secretary of the Committee of Management, Royal College of Surgeons, St. Stephen's Green, Dublin.

CHARING CROSS HOSPITAL.

THIS school, with its hospital, is situated in the centre of London, and is easily accessible. Primary and intermediate students attend lectures and practical work at King's College. The final studies are taken in the school and hospital, where systematic lectures, demonstrations, and tutorial classes are arranged to cover all the subjects necessary for the qualifying examinations. Departments are also available for the other final subjects of bacteriology, clinical pathology, biochemistry, materia medica, public health, operative surgery, and for research work. An Institute of Pathology, with a whole-time staff of scientific workers and fully equipped laboratories, has been established in the school. Students receive their training in preventive medicine, pathology, and bacteriology here, and are encouraged to undertake research.

A number of scholarships and exhibitions are awarded to university and other students, particulars of which can be obtained from the Dean.

Fees.—The fees are as follows: Entrance, Primary and Intermediate, 10 guineas; Final, 8 guineas. Annual, 38 guineas.

Further information may be obtained on application to the Dean of the Medical School, Charing Cross Hospital, London, W.C.2.

GUY'S HOSPITAL.

THE hospital contains 646 beds in constant occupation. Twenty-five beds are set apart for diseases of the eye, and 42 for the most urgent and interesting medical cases, which form the subjects of the weekly clinical lectures. There are special wards of 49 beds for the reception of cases of diseases of women and for cases of difficult labour. Beds are also allotted to the throat and ear departments, the departments of orthopaedics, neurology, and dermatology, the department for the treatment of diseases of the genito-urinary system, and the children's department; there are also some special beds for the treatment of syphilis.

The residential college fronts the east gate of the hospital, providing accommodation for resident students. This contains a dining hall, reading rooms, a library of general literature, and a gymnasium for the use of the residents and of the members of the Clubs Union. The athletic ground at Honor Oak Park is reached from the hospital in fifteen minutes. The Gordon Museum of Pathology, the Wills Library, the departments of chemistry, physics, pathology, and pharmacology, and the school buildings in general, afford opportunities for a liberal education and for research, and provide the full curriculum for all medical degrees and diplomas. New departments of anatomy, physics, and biology have recently been completed. They are equipped on the most modern lines, and provide ample accommodation for teaching and research. Special classes are held for the First and Second Examinations for medical degrees of the University of London, for the pre-medical examination, and for the First and Final F.R.C.S.Eng Examinations. Special teaching is provided to meet the requirements of the Universities of London, Oxford, and Cambridge in general pathology and pharmacology.

Appointments.—All appointments are made according to the merits of the candidates, as determined by a committee of the medical staff. Sixteen out-patient officers, eight house-physicians, twenty assistant house-surgeons, eight house-surgeons, two ophthalmic house-surgeons, two genito-urinary house-surgeons, two house-physicians (children's department), two house-physicians (dermatological and neurological), and nine resident obstetric assistants are appointed annually. The house-physicians and house-surgeons, obstetric residents, ophthalmic house-surgeons, and genito-urinary house-surgeons hold office for six months each, and receive free board and lodging in the college. Every student is provided with rooms and commons in the hospital during the period of his "take in" as senior dresser. In addition to the clerkships and dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant dresser, or clerk in the special departments of ophthalmology, laryngology, gynaecology, diseases of children, diseases of the nervous system, dermatology, otology, actinotherapeutics, anaesthetics, dentistry, orthopaedics, vaccine, tuberculosis, fractures, and genito-urinary and venereal disease; clinical assistantships in the various special departments are open to post-graduates.

Scholarships, Prizes, etc.—The following scholarships in Arts and Science are awarded. A. Open Junior Scholarships: (1) An Arts Scholarship of the value of £100, (2) a Science Scholarship of the value of £100; these are awarded annually in June or July. (3) A War Memorial Scholarship of the value of £200, awarded alternately in Arts and Science. This scholarship is open every other year; the next award will be made in June or July, 1932 (in Arts). B. Confined Scholarship in Science. A Junior Science Scholarship of the value of £100 is offered for competition annually in June or July to candidates who have attended the preliminary science classes at this school. Candidates for these scholarships (male students only) must be under 20 years of age on August 1st of the year of the competition. C. Open Senior Science Scholarships: (1) A War Memorial Scholarship of the value of £100, (2) an Open Scholarship of the value of £80; both of these are awarded annually in September. Full particulars as to the scholarships may be obtained from the Dean of the Medical School. Junior prizes for general proficiency, £20, £15, £10; Hilton Prize for dissection, £5; Michael Harris Prize for anatomy, £10; Sands-Cox Scholarship for physiology, £15 for three years; Wooldridge Memorial Prize for physiology, £10; Beaney Prize for pathology, £34; Treasurer's Gold Medal in medicine, Treasurer's Gold Medal in surgery, and the Golding-Bird Gold Medal and Scholarship for bacteriology (£20), are awarded annually after competitive examination. The Gull Studentship in pathology, of the value of £250 per annum, the Beaney Scholarship in materia medica, of the value of about £50, and the Anderson Demonstratorship in clinical chemistry, value £175 per annum, are awarded without examination to enable research to be carried on in these subjects. An Arthur Durham Travelling Scholarship of £100 is awarded triennially. The Griffiths Demonstratorship in Pathology, of the value of £320 per annum, and the Hilda and Ronald Poulton Fellowship, value £150 per annum, are awarded without examination.

An annual composition fee is paid by all students until a registrable qualification is obtained. Further information may be obtained from the Dean of the Medical School, Guy's Hospital, London Bridge, S.E.1.

KING'S COLLEGE HOSPITAL.

THE medical school of this hospital, which is situated at Denmark Hill, deals with the Final Examination subjects of the medical curriculum. The hospital was opened in 1913, and is one of the most modern and best equipped in England. The number of attendances in the casualty and out-patient departments during the year 1929 amounted to 283,136. In the education at the hospital a special feature has always been the individual attention given to each student. The studies are co-ordinated under the direction of senior members of the honorary staff, assisted by medical, surgical, obstetric, and pathological tutors.

The Hall of Residence for members of the medical school is situated on Champion Hill. Both the Hall and the athletic ground are within ten minutes' walk of the school.

Appointments.—Sixteen resident medical and surgical officers are appointed half-yearly, as well as dressers and clerks in the wards, out-patient departments, post-mortem rooms, and special departments. Each of the special departments has several clinical assistants. There are five registrars and four tutors, all of whom receive salaries. The Clubs and Societies Union combines athletics, music, and other societies connected with the school, and provides also a common room.

Scholarships, etc.—At entrance: Science Scholarship, £75. At commencement of Final Studies: Anatomy and Physiology Scholarship, £75; Pathology Scholarship, £75; two Raymond Gooch Scholarships, each £60 a year for two years; two Burney Yeo Scholarships, each £80 (for Oxford and Cambridge students); Seaman Scholarships, £50 a year up to five years; Epsom College Scholarship, £100; Senior Scholarship, £40; Todd Prize, Tanner Prize, Ferrier Prize in Neurology, Class Prizes and Medals.

Fees.—The composition fee is 93 guineas if paid in one sum. Entrance fee of 10 guineas includes membership of the Clubs and Societies Union.

Dental School.—This school was opened in October, 1923, and provides complete courses for dental degrees and diplomas. The director of dental studies is Dr. A. Livingston, M.B., Ch.B., M.D.S., L.D.S.

The calendar of the school can be obtained on application to the Dean, H. Willoughby Lyle, M.D., F.R.C.S., or to the Secretary of the Medical School, S. C. Ranner, M.A., King's College Hospital, Denmark Hill, S.E.5.

THE LONDON HOSPITAL.

THIS hospital, with its medical college and dental school, is situated in the Mile End Road, E.1. The hospital contains 839 beds, which are in constant use. During 1929, 13,992 patients passed through the wards and 89,972 out-patients

value £25; Leopold Hudson Prize, value 11 guineas; and the Second Year's Exhibition, value 10 guineas.

The rebuilding of the hospital is being carried out without the loss of a single bed, or any disorganization of its clinics.

Fees.—(*a*) Pre-medical students: For one year or less, £21. (*b*) Students who have completed the Preliminary Science course: Entrance fee, 25 guineas, payable on joining the medical school; five annual fees of £45. The annual fee for further attendance at the medical school, if a registrable qualification has not been obtained, is £23. (*c*) Oxford and Cambridge and other students who have completed the Intermediate course: entrance fee, 15 guineas; three annual fees of £45; further annual fees as above. These fees are inclusive and cover the cost of instruction in vaccination, fevers, etc., and also the subscription to the amalgamated clubs and hospital journal.

Further information may be obtained from the Dean or the School Secretary.

ST. BARTHOLOMEW'S HOSPITAL.

THIS institution fills one side of Smithfield and Giltspur Street, covering the greater part of a large island of ground separated practically from all other buildings; it is on the edge of the City, and easily reached from all parts of London. The hospital contains 757 beds. Extensive buildings, opened in July, 1907, occupy part of the ground acquired from the old Bluecoat School, and these materially enhance the attractions of the hospital as a place of medical study. The medical school buildings, including the library, the museum, and the chemical, biological, and anatomical departments, have now at their side a very large building, which includes club rooms for the Students' Union, a writing room, luncheon and dining halls, new quarters for the resident staff, and an out-patient department and accommodation for special departments of such large size as to be unsurpassed by any hospital in the kingdom. During the year 1909 a second block of new buildings was completed. These form the pathological department, and include, in addition to an extensive post-mortem room, large and well-equipped laboratories for clinical pathology, pathological histology, bacteriology, and chemical pathology, altogether forming the most complete pathological department in the country. A further large block in Giltspur Street was acquired in 1923, and has been equipped by the construction of new lecture theatres and extensive laboratories for physics, chemical physiology, experimental physiology, histology, and pharmacology. The new block of surgical wards and five operation theatres (one attached to each surgical unit), with accommodation for 250 patients, was opened in June, 1930. One of the old blocks previously used for surgical cases has been reconverted for the housing of an enlarged gynaecological and obstetrical unit, with separate operation theatres attached. The Students' Union owns grounds of some ten acres in extent for recreative purposes at Winchmore Hill, which is easily accessible from the hospital.

Special classes are held for students preparing for the Preliminary Scientific and other examinations, for the M.B., M.D. of the Universities of Oxford, Cambridge, and London, and for the higher surgical degrees at the same universities, including the M.Ch.Oxon., M.Chir.Cantab., M.S.Lond., and F.R.C.S.Eng.

Clinical Units.—Special clinical units have been established in medicine and surgery, each under the charge of a professor and director, who devotes the whole of his time to the purpose of hospital practice, teaching, and research. In each unit there are an assistant director and four assistants, for whom special laboratory accommodation has been provided by a gift from the Sir William Dunn Trustees. The appointments of clerks and dressers are open to all students in these departments, and arrangements are made for all students to study in these units during a part of their clinical course.

Appointments.—Clinical clerks to the physicians and to the physician-accoucheur, and dressers to the surgeons and in the casualty department, are chosen from the students; clerks and dressers are also selected from the students to attend in the out-patient rooms, in the special departments (ophthalmic, orthopaedic, gynaecological, children's, laryngological, aural, dermatological, venereal, electrical, and dental), and in the post-mortem room. Chief assistants and clinical assistants are selected from qualified men appointed yearly to help in the general medical, surgical, and in special departments. Ten house-physicians and ten house-surgeons are appointed annually. During their first six months of office they act as "junior" house-physicians and house-surgeons, and receive a salary of £80 a year. During their second six months they become "senior" house-physicians and house-surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident midwifery assistant, an ophthalmic house-surgeon, a house-surgeon to the skin and venereal department, and a house-surgeon for diseases of the throat, nose, and ear are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Three resident administrators of anaesthetics are appointed—the senior for one year at a salary of £150, and two juniors for six months with a salary at the rate of £80 per annum—and all are provided with board and rooms. An extern midwifery assistant is appointed every three months, and receives a salary of £80 a year.

Scholarships.—Four Entrance Scholarships are annually awarded after examinations held in September. The subjects of examination and conditions of eligibility for these scholarships are: (1) One scholarship, value £75, in not fewer than two and not more than three of the following subjects: chemistry, physics, botany, zoology, physiology, pathology, and anatomy, limited to students under 25 years of age who have not entered on the medical or surgical practice of any London medical school. (2) One scholarship, value £100, in not fewer than three of the following subjects: chemistry, physics, botany, zoology, and physiology, limited to students under 21 years of age who have not entered on the medical or surgical practice of any London medical school. (3) An entrance scholarship in arts, of the value of £100, in mathematics; Latin or Greek, or French or German; a second language or chemistry or physics. (4) The Jeffreson Exhibition in the same subjects as No. 3—of the value of £50. Candidates for Nos. 3 and 4 must be under 19 years of age. The total value of the scholarships and prizes is over £1,200 annually.

Further information and a handbook can be obtained on application to the Dean of the Medical College, St. Bartholomew's Hospital, E.C.1.

ST. GEORGE'S HOSPITAL.

THIS school is at Hyde Park Corner, and is carried on in connexion with St. George's Hospital, an institution having a service of 436 beds, of which 100 are at the convalescent hospital at Wimbledon. It provides for the instruction of its students in the preliminary and intermediate subjects of the curriculum at the teaching centre of London University established at King's College. The school at Hyde Park Corner is devoted entirely to the teaching of clinical subjects, great attention being paid by the members of the staff to individual teaching. A number of special courses are given, in which the requirements of university and all other examinations receive careful attention.

The St. George's Hospital Club consists of an amalgamation club, with smoking and luncheon rooms on the hospital premises, and other students' clubs, with an athletic ground at Wimbledon. Students have the advantage of a well-filled library of medical and scientific books. A register of accredited apartments and a list of medical men and others willing to receive St. George's men as boarders may be seen on application to the Dean.

Appointments.—Two house-physicians, two house-surgeons, and two casualty officers are appointed every two months. The house officers reside and board in the hospital free of expense. The casualty officers are non-resident, and receive salaries at the rate of £100 per annum. After the student has held a house appointment, the following are, among others, open to him: assistant resident physician at £250 per annum; assistant resident surgeon at £250 per annum; medical officer to the Atkinson Morley Convalescent Hospital at £300 per annum; medical registrarship at £200 per annum; surgical registrarship at £200 per annum; medical officer to the biochemical department at £100 per annum; assistant curatorship of the museum, £100 per annum; obstetric assistantship, resident, at £100 per annum; the post of resident anaesthetist at £100 per annum; the posts (three) of junior anaesthetist, each at £30 per annum.

Scholarships.—The following Entrance Scholarships and Exhibitions in anatomy and physiology and in general pathology are awarded in July to candidates who have passed the second M.B. London or corresponding examination: Senior William Brown Exhibition of the value of £120; Junior William Brown Exhibition of the value of £80; Anne Selina Fernee Scholarships (two) of the value of £80 each; Devitt-Pendlebury Scholarship of the value of £50; and Exhibitions, each of the value of £40 and up to six in number. Other prizes to the value of £200 are awarded annually to the students of the hospital.

Scholarship, tenable for two years, £60 annually, pathology; (*p*) School Council Research Scholarship, £250 per annum; (*q*) John and Temple Research Scholarship, value £450 per annum (children).

Fees.—The annual fees are: For each year of study, £50. These fees cover all tutorial classes, but do not include instruction in infectious fevers.

Special courses of instruction are given for various examinations. Further information may be obtained from the Medical Secretary of the School, St. Thomas's Hospital, Albert Embankment, S.E.1.

UNIVERSITY COLLEGE HOSPITAL.

THE school, which forms part of the corporation of University College Hospital, is in immediate proximity to the hospital in University Street, and opposite University College. It comprises departments of medicine, surgery, midwifery and gynaecology, pathology including morbid anatomy, chemical pathology, biochemistry and bacteriology, cardiography, forensic medicine, mental physiology and mental diseases, dental surgery, practical pharmacy, and other departments for the study of special diseases, such as those of the eye, skin, ear and throat, venereal diseases, and for instruction in anaesthetics, electro-therapeutics, and skiagraphy. The hospital and school have acquired the National Dental Hospital and College as their dental departments, thus providing every facility for the study of dental subjects. The Royal Ear Hospital has also been amalgamated as the Ear, Nose, and Throat Department, and a new hospital for in- and out-patients, close to University College Hospital, is completed.

The school thus provides the final course of study for the degrees of the Universities of Oxford, Cambridge, London, Durham, and other British universities, and for the diplomas of the Royal Colleges of Physicians and Surgeons in medicine and in dental surgery, and the Licence of the Society of Apothecaries. Each department is also equipped for more advanced work, and provides facilities for research.

Clinical units in medicine, surgery, and obstetric medicine are now in operation. The whole-time directors of the units are concerned with the organization of the teaching generally, but the honorary staff is responsible for the largest share of the teaching in the wards and out-patient department of the hospital.

The new buildings of the obstetric hospital of 74 beds (rendered possible by the Rockefeller benefaction), the new Residents' House (with accommodation for 33 residents and students), the extension of the Nurses' Home, and the new research laboratories for the Medical School, are now finished and in full occupation.

Appointments.—The qualified appointments, in addition to a number of posts as house-physicians and house-surgeons and obstetric assistants, include the appointments of resident medical officer, medical registrars, surgical registrar, obstetric officer, Harker Smith radium registrar, ophthalmic registrar, casualty medical officers, casualty surgical officers, assistants in ear, nose and throat, skin and venereal diseases departments, and house anaesthetists.

Scholarships.—The following scholarships and prizes are open to competition: Two Entrance Exhibitions of 112 guineas each, awarded after a competitive examination in any two of the following subjects: anatomy, physiology, or general pathology: Radcliffe Crocker Travelling Scholarship in dermatology for one year, value about £280; the Graham Scholarship in pathology of a sum not exceeding £400 per annum; Leslie Pearce Gould Research Scholarship in surgery for one year, value about £200; the Atkinson Morley Scholarship of £45 a year for three years, awarded after examination in the theory and practice of surgery; the Atchison Scholarship of £55 a year for two years for general proficiency in medical studies; the Magrath Clinical Scholarship, value about £150; the Filliter Exhibition in pathology of £30; the Percival Alleyn Prize for the advancement of surgery by research, value about £75; the Graham Gold Medal for research work; four Fellows Medals in clinical medicine; Liston Medals in clinical surgery; the Bruce Medal in pathology and surgery; two Luke Medals in pathology; and the Erichsen Prize for practical surgery.

Fees.—The fee for the full course of final studies at the school is 112 guineas if paid in one sum, or 115 guineas if paid in two instalments. Fees for vaccination, fevers, and pharmacy not included.

Particulars of general and special courses can be obtained on application to the Dean of the Medical School, University College Hospital, University Street, W.C.1.

WESTMINSTER HOSPITAL.

THE school, with its hospital situate in Broad Sanctuary, opposite Westminster Abbey, provides for the education of its students in the preliminary and intermediate subjects of the University of London at King's College. The rest of the work is done in the school buildings near the hospital. The number of in-patients averages 4,000 and out-patients upwards of 30,000 annually, and the hospital and school afford ample facilities for instruction in all branches of medicine and surgery.

Appointments.—A medical and surgical registrar are appointed annually, each with a salary of £150, and an obstetric registrar with a salary of £150. An assistant medical registrar and an assistant surgical registrar, salary £100 per annum each, are appointed for six months. A senior resident and casualty officer, salary £104 per annum and board, appointed for six months, may be extended for a further period of six months. A medical registrar to the children (Wander scholar), salary £225, is appointed for one year. Three house-physicians, three house-surgeons, three assistant house-physicians, three assistant house-surgeons, and a resident obstetric assistant are appointed after examination, and are provided with rooms, commons, and salary of £52 per annum, except the assistant house-physicians and the assistant house-surgeons, who are provided with commons only. The assistant house-physicians, after three months' service, become house-physicians for a further period of six months, and the assistant house-surgeons, after three months' service, become house-surgeons for a further period of six months. Two house-anaesthetists are appointed for three months, non-resident, salary £50 per annum. Clinical assistants to the assistant physicians and assistant surgeons, and to the officers in charge of special departments, are appointed from among the qualified students. Every student must perform the duties of out-patient dresser for three months, and afterwards hold the office of in-patient dresser for three months. He is also required to serve two terms of three months each as medical clinical clerk to the in-patient physician and one term as gynaecological clinical clerk. Two pathological clerks are appointed every three months to assist in the post-mortem room. No student is eligible as an in-patient dresser or clinical clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and dressers in the special departments of hospital practice are periodically appointed. So far as vacancies permit, students of other hospitals are admitted to in-patients' dresserships or clerkships.

The governors of the hospital have now completed the extensive improvements and alterations to the hospital, which render it a still more efficient teaching institution, with an increased number of beds. An annexe devoted to radium therapy and research, containing twenty-two beds, has recently been opened.

The athletic ground is situated at Tooting, and can be reached in twenty minutes from the hospital.

Scholarships.—The following open scholarships are offered for competition during the year 1930-31: In the winter session two scholarships in anatomy and physiology, £75 each. In the spring two scholarships in anatomy and physiology, £75 each. A certain number of scholarships have been allotted to universities of England, Wales, and the Colonies, and to public schools. These scholarships are awarded entirely on the nomination of the Principal of the university or school.

Fees.—The annual composition fee is £40. An entrance fee of 10 guineas is payable by all students—namely, primary and intermediate students, £10 10s.; students entering for the final subjects, £8 8s. These fees include subscriptions for membership of the Clubs Union.

Further information and a prospectus can be obtained on application to the Dean at the Westminster Hospital, Westminster, S.W.1

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

THE school is situated at 8, Hunter Street, Brunswick Square, W.C.1, close to the Royal Free Hospital. It is, like all the other London schools which have so far been mentioned, one of the constituent schools of the University of London. The laboratories are extensive and well lighted,

OXFORD AND CAMBRIDGE.

AT both Oxford and Cambridge there are medical schools which furnish unsurpassed opportunities for obtaining a good knowledge of the preliminary sciences and of anatomy, physiology, and pathology. The laboratories are excellently furnished, and the teaching staffs most distinguished. Both schools provide a full medical curriculum, and there is no essential reason why the student should not complete his career at either of them; but this is not commonly done, and is never, in the ordinary way, advised by the university medical authorities. The local hospitals—the Radcliffe Infirmary at Oxford and Addenbrooke's Hospital at Cambridge—though well equipped, are comparatively small. Students are therefore encouraged, as soon as they have completed the earlier examinations and taken a degree in arts, to join one of the London medical schools, and thus spend the time of their preparation for the final examinations in a city where the opportunities for gaining clinical knowledge are greater and more varied. A considerable proportion of Oxford and Cambridge medical students take the London Conjoint diplomas before graduating in medicine and surgery at their own university. The experience gained by holding resident hospital appointments is naturally of much advantage when sitting for the Final M.B. examination and when engaged in composing a thesis.

BIRMINGHAM.

THE school in this city is carried on by the Medical Faculty of the University of Birmingham, its students having an adequate number of good laboratories, classrooms, and other necessaries devoted to their use by the university. The clinical work is done at the General and Queen's Hospitals, which are amalgamated for the purpose. Together they have upwards of 700 beds for medical, surgical, and special cases, with an array of special departments of all kinds, including one for lying-in women. Clinical instruction is given in the wards and out-patient and special departments daily, and formal clinical lectures are delivered weekly throughout the session. Special tutorial classes are also held alike for the degrees of Birmingham and some other universities and for the diplomas of corporations.

Appointments.—The large number of appointments open to past or other students includes the following:—At the General Hospital: two surgical registrars, £100 (commencing) a year; one resident medical officer, salary £155 a year; one resident surgical officer, salary £180 a year; one assistant resident surgical officer, salary £100 a year; one resident pathologist, salary £70 a year; two visiting anaesthetists, salary £50 a year; two resident anaesthetists, salary £120 a year; four house-surgeons, office tenable for nine months, £70 a year; one house-surgeon to the gynaecological and one to the special departments, each tenable for six months, £70 a year; four house-physicians, post tenable for six months, £70 a year. At the Queen's Hospital: one resident medical registrar, salary £200 a year; two resident surgical officers, £100 a year, tenable for three years; three house-physicians, three house-surgeons, one obstetric and one ophthalmic house-surgeon, one ear, nose, and throat house-surgeon, and one house-physician for duty at the Nerve Hospital (associated with Queen's Hospital), tenable for six months, salary £70 a year, with board, lodging, and washing; one casualty house-surgeon, tenable for three months, salary £70 a year, with board, lodging, and washing. At the City Public Assistance Institutions: five resident medical officers. At the Birmingham General and Branch Dispensaries: twelve resident surgeons. At the Birmingham Mental Hospitals: five assistant medical officers. At the City Fever Hospitals: three assistant medical officers. At the Children's Hospital: one resident surgical officer, one resident medical officer. At the Birmingham and Midland Eye Hospital: four resident surgeons. At the Orthopaedic and Spinal Hospital: two clinical assistants (non-resident). At the Ear and Throat Hospital: one house-surgeon, £70 a year; four clinical assistants (non-residents). Four non-resident appointments are in the gift of the Public Assistance Committee.

Scholarships.—There are numerous money and other awards for students of sufficient merit, among them being the following: The Walter Myers Travelling Studentship of £300, offered each alternate year for research work and tenable abroad; the Sands-Cox Scholarship of £42 (an entrance scholarship in the Faculty of Medicine, awarded on higher school certificate examination of the Joint Matriculation Board (July)); four Queen's Scholarships of £10 10s. each, awarded annually at the second (Part II), third, fourth, and final university examinations respectively; one or more Sydenham Scholarships, allotted on entrance to students who are the sons of deceased medical men; the Ingleby Scholarships (two) of £10 for proficiency in midwifery and diseases of women; the Arthur Foxwell Memorial Gold Medal (clinical medicine); the Sampson Gamgee Memorial Medal for surgery (Final M.B.); the Russell Memorial Prize (for examination in nervous diseases, final year); the Priestley Smith Prize in ophthalmology (awarded in the final examination); and the Peter Thompson Prize in anatomy (value about £6) for students in their third university year. There is also a scholarship of £46 17s. 6d. for students proceeding to a degree in dental surgery. University Clinical Board Prizes are awarded annually as follows: Senior Medical Prize, gold medal; Senior Surgical Prize, gold medal; Midwifery Prize, gold medal; Junior Medical Prize, silver medal; Junior Surgical Prize, silver medal.

Fees.—The composition fee for university classes is £106 5s. This covers all the work required for the degrees of Birmingham and some other universities, and for the ordinary qualifications of licensing corporations, but not the additional courses required for the Fellowship of the Royal College of Surgeons of England, the diploma and degrees of the university in State medicine, and some other special work. The total cost for the six years' curriculum, including hospital and examination fees, is estimated at £242 17s. 6d.

Other information should be sought from the Dean of the Medical Faculty, University, Edmund Street, Birmingham.

BRISTOL.

THE school is carried on by the Faculty of Medicine of the university, and provides full instruction for all its degrees and for the diploma in dental surgery.

Clinical Instruction.—The allied hospitals (Bristol Royal Infirmary and Bristol General Hospital) have between them 663 beds and extensive out-patient departments, special clinics for diseases of women and children, and those of the eye, throat, and ear, in addition to large and well-equipped departments for dental work and large out-door maternity departments. At each of these institutions there are well-arranged pathological museums, post-mortem rooms, and laboratories for morbid anatomy. There are also laboratories for work in clinical pathology, bacteriology, and cytology, in which special instruction is given in these subjects. Departments are provided and well equipped for *x*-ray work, both for diagnosis and treatment, for electrocardiography, and for the various forms of electrical treatment, including high-frequency currents, electric baths, Finsen light treatment, and massage. The students of the school also attend the City and County Mental Hospital, the Ham Green Fever Hospital, the practice of the Royal Hospital for Sick Children and Women, containing 100 beds, and that of the Bristol Eye Hospital, with 40 beds. In addition, by the kind permission of the Health Committee of the Bristol City Council, students may attend the clinical practice at Southmead Hospital, which has 556 beds. The new Orthopaedic Hospital at Winford is also available.

Appointments.—(1) Undergraduate: Medical clerkships, surgical dresserships, also ophthalmic, obstetric, pathological, dermatological, ear, nose, and throat clerkships, are tenable at the Bristol Royal Infirmary and the Bristol General Hospital. In these institutions the dressers reside in rotation free of charge. (2) Post-graduate: At the Bristol Royal Infirmary: four house-surgeons, one casualty house-surgeon, two house-physicians, one house-physician for cancer research wards, one resident obstetric officer, one ophthalmic and gynaecological house-surgeon, one ear, nose, and throat house-surgeon, one assistant to the senior resident medical officer, who also acts as house-surgeon and house-surgeon to the skin department, and one dental house-surgeon. All these appointments are for six months. Salary in each case at the rate of £60 per annum, with board, apartments, and laundry, except the casualty house-surgeon and the dental house-surgeon, who receive £80 per annum. From the resident medical officers a senior resident medical officer is appointed at a salary of £200 per annum. At the Bristol General Hospital: senior resident medical officer, £250 per annum; casualty house-surgeon, £60 per annum; two house-physicians, £60 per annum; two house-surgeons, £60 per annum; resident obstetric officer, £60 per annum; house-surgeon to special depart-

Appointments.—The nature of the appointments open to past and other students at this school will be gathered from the account which follows of the hospitals forming its clinical department.

Scholarships.—The awards made each year to successful students total over £1,500. They include the following: Two Holt Fellowships, one in pathology, the other in physiology; a Robert Gee Fellowship in anatomy; two John Rankin Fellowships in anatomy; a John W. Garrett International Fellowship in bacteriology; a Johnston Colonial Fellowship in biochemistry; an Ethel Boyce Fellowship in gynaecology; and a Thelwall Thomas Fellowship in surgical pathology; one Lady Jones Fellowship in orthopaedic surgery (value of Fellowships: two at £200, two at £150, two at £120, four at £100); a University Scholarship of £50, awarded on the results of the Final M.B. (Part A) Examinations; a Ridgway Research Scholarship (£100); a Scholarship in mechanical dentistry of £20; two Lyon Jones Scholarships, of the annual value of £21 each for two years, one for the junior and the other for the senior students; the Derby Exhibition of £15; the Clinical School Exhibition of £15; the Owen T. Williams Prize; the Torr Gold Medal in anatomy; John Rankin Exhibition in practical anatomy, £25; the George Holt Medal in physiology; the Kanthack Medal in pathology; Mitchell Banks Medal in anatomy; the Robert Gee Prize of £5 5s. in children's diseases; Mary Birrell Davies Memorial Scholarship (women), £60 per annum for four years; Robert Gee Entrance Scholarship (men), value of £42 10s. per annum for four years; Dental Operating Prizes (four); Orthodontia Prizes (two); Samuels Memorial Scholarships, three at £20 each; one Thomas H. Bickerton Prize in anatomy; Dr. N. E. Robert Prize in zymotic diseases; Ash's Prize in dental surgery, value £2 2s.; Gilmour Medal; and other entrance scholarships. In addition, a number of gold and silver medals have recently been instituted in the following subjects: pharmacology, surgery, forensic medicine and toxicology, public health, medicine, obstetrics and gynaecology, orthopaedic surgery, and laryngology and otology.

Fees.—Information as to the fees for the courses of instruction provided by the schools should be sought from the Dean of the Medical Faculty.

The Clinical School.

As many as nine hospitals have combined to form the clinical school of the university, these being: The Royal Infirmary, the David Lewis Northern Hospital, the Royal Southern Hospital, the Stanley Hospital, the Royal Liverpool Children's Hospital, the Hospital for Women (with the Samaritan Hospital), the Liverpool Maternity Hospital, the Eye and Ear Infirmary, and St. Paul's Eye Hospital. Between them they provide over 1,500 beds.

MANCHESTER.

THE staff of the Medical School in this city constitutes the Medical Faculty of the Victoria University, all the arrangements for the instruction of students, both in their earlier and their later studies, being of an elaborate nature. The clinical work of the undergraduates is done chiefly in connexion with the Royal Infirmary, an institution which itself contains 614 beds, and has associated with it a large convalescent home (132 beds) and a Central Branch Hospital (54 beds). The courses in mental diseases are partly taken in the County Mental Hospitals at Prestwich and Macclesfield. Instruction in practical gynaecology and midwifery is given at the Royal Infirmary and the St. Mary's Hospitals.

Appointments.—The following are among the appointments open to past and present students of this school in connexion with its arrangements for clinical tuition: Two surgical registrars, at £150 per annum; two pathological registrars, at £100 and £50 per annum; one medical registrar, at £150 per annum; a cardiographic registrar, at £150 per annum; a surgical tutor, at £30 per annum; a director of the clinical laboratory, at £400 per annum, and two assistants, at £350 and £300; three assistant medical officers and three assistant surgical officers, each at £35 per annum; assistant surgical officers, aural department, at £35 per annum; seven anaesthetists, from £75 to £125 per annum each; one resident medical officer, one year, £200 per annum; one resident surgical officer, one year, £200 per annum; three resident medical officers for Central Branch, one at £200 and two at £100 per annum; one assistant resident surgical officer, £150 per annum; one resident medical officer at the Convalescent Hospital at Cheadle, £250 per annum; two assistant medical officers to radiological department, £150 and £105 per annum; medical officer, physio-therapeutic department, £150 per annum; assistant surgical officer, gynaecological department, £35 per annum; assistant to the dermatologist, £20 per annum; and three assistant surgical officers for Central Branch, £75 per annum; ten senior and ten junior house-surgeons and ten house-physicians, appointed during the year for periods of six months, at a salary of £50 for the first six months, and £100 for the second six months. Resident officers are appointed to the gynaecological, the eye, and the ear and throat departments every three months. Clinical clerks and surgical dressers are appointed to the various departments of the hospital every three months. Non-resident clinical assistantships for qualified medical men and women, tenable for six months, at an honorarium of £35.

Entrance and other Scholarships.—The following are among the scholarships obtainable by students of the school: Rogers and Seaton Scholarships in Arts (in alternate years), £40 per annum, tenable for two years. Three Hulme Scholarships, tenable for three years, of £35, one being awarded annually for proficiency in subjects of general education. Two James Gaskill Scholarships of £35, tenable for two years, one being awarded annually for proficiency in the branches of mechanics and chemistry. A Dora Muir Scholarship, £30 per annum, tenable for three years, and open to the competition of women students only. This is awarded triennially. Sir J. P. Kay-Shuttleworth Scholarship, £30 per annum, tenable for three years, awarded triennially, open to the competition of scholars from Sedbergh School, Giggleswick School, and Burnley Grammar School; subjects—mathematics, chemistry, and mechanics. Dreschfeld Memorial Scholarship, value £20, tenable for two years and awarded triennially on the result of the Entrance Examination. John Russell Medical Entrance Scholarship, awarded annually, value £45. Two Dauntesey Junior Medical Scholarships, value £50 each, tenable for one year, for candidates who have not commenced the second year of study leading to a medical qualification; subjects—zoology, botany, and chemistry. One Dauntesey Senior Medical Scholarship, £50 for one year, awarded on results of Second M.B. Examination. Two Entrance Scholarships in medicine, value 160 guineas, awarded annually for proficiency in arts or science respectively. Tom Jones Exhibition in anatomy, £25, offered annually. A Robert Platt Physiological Scholarship of £90, tenable for one year. A Leech Fellowship of £100 for original research after graduation. A Graduate Research Scholarship in medicine, value £70, tenable for one year, awarded annually for proficiency shown at Final M.B. Examination. A Dumville Surgical Prize, value £15, awarded annually at graduation. The Tom Jones Memorial Surgical Fellowship, value £105, tenable for one year, usually awarded annually. The Turner Medical Prizes, value 10 guineas each, awarded annually for proficiency in certain subjects of the Final M.B., Ch.B. Examination. The John Henry Agnew Prize of £30, awarded annually for proficiency in the diseases of children. The Ashby Memorial Scholarship, tenable for one year (£100), for research in the diseases of children; offered triennially. Sidney Renshaw Prize in physiology; one offered annually (£15). Wild Prize in pharmacology (£10). The John Henry Agnew Fellowship in diseases of children, £120, offered triennially. Eliza Marple Holt Post-Graduate Medical Scholarship for Women, £60 for one year, offered biennially. The details and regulations of the Dickinson Scholarships—(1) for anatomy, (2) for pathology, (3) Research Scholarship in surgery, and (4) Travelling Scholarship in medicine—may be obtained from the Secretary to the Trustees. The Morrison Watson Fellowship for research in anatomy is offered annually, value £150; also the Sheridan Delepine Fellowship in preventive medicine, value £300, is offered biennially. The Sam Gamble Scholarships—the trustees are prepared to award four scholarships of not less than £40 per annum, tenable for not more than four years, to women students who have passed the First M.B. Examination; the conditions can be obtained from the Registrar. The Knight Prize of £50 for original research in the psychological factors in the causation of mental disorder—open to holders of the Diploma in Psychological Medicine or medical practitioners who have been registered in the university as candidates for that diploma.

Fees.—The composition fee for the university course in medicine is 114 guineas for men, 112 guineas for women, payable in four instalments of 28½ and 28 guineas respectively, but this sum does not include the fee to cover the work required for the First M.B. Examination. This is £42, payable in one sum. Hospital fees are additional, and usually amount to about 77 guineas.

A prospectus and further information about the school and scholarships may be obtained from the Registrar.

Clinical Work.—The Royal Eye Hospital, the Hospital for Diseases of the Skin, the Manchester Northern Hospital for Women and Children, the well-known Hospitals for Children at Pendlebury, and St. Mary's Hospitals for Women and Children, the Manchester Hospital for Diseases of the Ear, Monsall Fever Hospital, the Christie Cancer Hospital, the Hospital for Consumption and Diseases of the Throat and Chest, the Ancoats Hospital, and the Salford Royal Hospital, all make arrangements for the instruction of students.

SHEFFIELD.

IN this city the Medical School is one of the departments of the university, being conducted and controlled by its Medical Faculty, and occupying practically the entire north wing of the quadrangle of the university buildings overlooking Weston Park. The laboratories and lecture rooms

Royal Infirmary and University Pathological and Bacteriological Laboratory; tutorial classes of practice of physic, of clinical medicine, and clinical surgery, surgery and midwifery; and the practice of certain other hospitals.

Fees.—The sessional fee for chemistry, anatomy lectures, physiology, pathology, materia medica, surgery, medicine, and midwifery is £6 6s. each. Physics, botany, zoology, forensic medicine, and public health, £5 5s. Practical zoology, practical anatomy (summer), morbid anatomy, practical materia medica, mental diseases, practical pathology, clinical midwifery, and medical entomology and parasitology, £4 4s. Experimental physiology, diseases of tropical climates, practical botany, histology, operative surgery, clinical surgery (per term), clinical medicine (per term), and experimental pharmacology, £3 3s. Practical anatomy (winter), £6 16s. 6d. Practical chemistry, £4 14s. 6d. Regional anatomy, chemical physiology, surgical pathology, and infectious diseases, £1 11s. 6d. Tuberculosis, diseases of children, diseases of the eye, diseases of the larynx, ear, and nose, diseases of the skin, and venereal diseases, £2 12s. 6d. Advanced bacteriology, £7 17s. 6d. Clinical gynaecology and applied anatomy, £2 2s.

Scholarships.—There are many funds for the assistance of students by means of bursaries, scholarships, exhibitions, and money awards from the beginning to the end of their undergraduate career. In addition, there are funds which help those who have taken a first degree in medicine and surgery to continue at work as research students. The value of these awards, and the conditions attaching to them, are so varied that those interested should consult the prospectus of the school itself. No other university is in a better, even if as good, position to smooth the financial path of earnest students.

THE SCHOOL OF MEDICINE OF THE ROYAL COLLEGES.—This school is composed of lecturers licensed by the Royal College of Physicians and the Royal College of Surgeons, and also recognized by the university through their *licentia docendi*; for the sake of convenience they lecture in separate buildings near to the Royal Infirmary, but form a single corporate body governed by a board elected by the Royal Colleges of Physicians and Surgeons and by the Lecturers. This board, with the assistance of the standing committees of the school, supervises the whole management and especially the maintenance of the efficiency and discipline of the school. The different buildings at present utilized for the purposes of lecturing are the following: (1) Surgeons' Hall, Nicolson Street; (2) New School, Bristo Street; (3) Nicolson Square; (4) Marshall Street; and other places. The teaching is similar to that of the Scottish universities, and the students receive similar certificates at the close of each session. The courses on the special subjects are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the school. The fees payable for class and other instruction, and including the sums payable on admission to the examination of the Conjoint Board for the triple qualification, amount to about £180. The Calendar, giving full information regarding classes and fees, can be obtained (price 6d.) on application to the Dean of the School, Surgeons' Hall, Edinburgh.

WOMEN STUDENTS IN EDINBURGH.—Until the close of the summer session of 1916 women students intending to proceed to graduation in the University of Edinburgh, as well as those entering for the triple qualification of the Royal Colleges of Edinburgh and Glasgow, received their training in the Edinburgh School of Medicine for Women. Now women students study under the same conditions as men, and may obtain either the university degree or the diploma of the Royal Colleges. In the university systematic lectures are given to them by the professors in the ordinary classes, which are therefore mixed. In clinical surgery, however, while the lectures are attended by mixed classes, the women students are restricted to the wards of one charge. The particular wards are changed every six months, each of the surgeons to the infirmary taking the women students in rotation. With few exceptions, prizes, scholarships, bursaries, and similar distinctions are open to women under the same conditions as for men. The women students also have the same privileges as in the past have been given to the men of attending a certain proportion of the extra-mural classes taught by the lecturers of the School of Medicine of the Royal Colleges. Most of the students' societies are open to women, with the exception of the University Union and the Royal Medical Society. Their place is taken by the Women Students' Union and the Women's Medical Society. There is also a Women's Athletic Club, with playing fields gifted to it by the university. The membership of the Royal College of Physicians and Fellowships of the two Royal Colleges are also open to women. Information on matters connected with women's studies may be obtained from the Adviser of Women Students, The University, Edinburgh.

GLASGOW.

THE UNIVERSITY SCHOOL FOR MEN.—The whole course of study required for graduation (M.B., Ch.B.) at the University of Glasgow can be taken here. Besides ample provision for lectures there is practical and clinical work at the hospitals, and practical courses are conducted in the laboratories of the following departments: pathology, public health, pharmacology, physiology, surgery, anatomy, chemistry, zoology, physics, and botany; the Botanic Garden and the Hunterian Museum (Pathology) are also open to students. Well-equipped new buildings have been provided for botany, zoology, practical anatomy, and operative surgery, as well as for pathology; the very large additions made a number of years ago to the chemical laboratory render it one of the most extensive in Scotland. The classrooms and laboratories for the departments of physics, physiology, pharmacology, materia medica, medical jurisprudence, and public health are also of recent erection, and are elaborately equipped. Four additional chairs of medicine, surgery, obstetrics, and pathology have been recently established, the professors being specially attached to the Royal Infirmary; and a number of university lectureships in clinical medicine, clinical surgery, venereal diseases, laryngology, dermatology, otology, psychological medicine, tuberculosis, pathological biochemistry, and electrical diagnosis and treatment have been founded there. Other chairs have been founded at the university in bacteriology, organic chemistry, physiological chemistry, applied physics, public health, and paediatrics. There are also lectureships on the surgical and medical diseases of children and on electrical diagnosis and therapeutics. The university, in short, has made great and successful efforts to extend and improve the accommodation of the medical departments, to strengthen the teaching staff, and to encourage post-graduation and research work. A diploma in public health is now also granted. Three very extensive general hospitals in the city afford exceptional opportunities for clinical instruction—namely, the Western Infirmary (600 beds), near the university, to which the Regius Professors are attached; the Royal Infirmary (782 beds); and the Victoria Infirmary (380 beds); while the Royal Mental Hospital, Gartnavel (500 beds), the Royal Hospital for Sick Children (290 beds), the Royal Maternity and Women's Hospital (114 beds), the Glasgow Eye Infirmary (100 beds), the Ophthalmic Institution (35 beds), the fever hospitals at Belvidere (680 beds) and Ruchill (540 beds), and other institutions afford facilities for the practical study of special branches. The large general hospitals of the parish council are now also available for clinical instruction in medicine and surgery. Information regarding post-graduate study will be found at page 387.

Bursaries.—Bursaries confined to the Medical Faculty amount in annual value to about £1,000, while bursaries in any faculty, amounting to about the same annual sum, may be held by students of medicine, a number of both sets being open to women. Several valuable scholarships may be held by medical students who have graduated in arts.

The following bursaries are open for competition to students entering on their first session of attendance in the Faculty of Medicine: Davidson Bursary, annual value £40, tenable for four years, for students who propose before entering the Faculty of Medicine to take the degree of B.Sc. in pure science, including in their curricula anatomy and physiology. Highland Society (Glasgow) Bursaries, annual value £25 each, tenable for five years, for students of Highland descent, open to women; two bursaries vacant each year. Logan Bursary, annual value £25, tenable for four years, open to women. Robina Eckford MacBrayne Scholarship, annual value £50, tenable for three years. Marshall Bursary, annual value £24, tenable for four years. Merchants' House Bursary, annual value £35, tenable for four years, open to women. John Oliphant Bursary, annual value £35, tenable for six years. James A. Paterson Bursaries, three each year of the annual value of £35, £25, and £15 respectively, each tenable for four years; students entering their second session are also eligible; open to women; examination in mathematics and natural philosophy.

Candidates for the aforementioned bursaries must take the university general bursary competition which is held each year in the month of June.

Particulars may be obtained from Mr. T. Mason Macquaker, M.A., Secretary, 200, St. Vincent Street, Glasgow.

ST. ANDREWS AND DUNDEE.

THE medical departments in these two teaching centres cater specially for students proceeding to the degrees of the University of St. Andrews, but admit other students as well. In the former city the United College provides education in all subjects for the first two years. In Dundee, University College provides for the needs of students from the beginning to the end of the five years' curriculum. Its buildings are modern, and contain fully equipped laboratories. The clinical work of the school is facilitated by various institutions. The class fees are from £6 6s. to £5 12s. 6d. for systematic classes, and from £4 14s. 6d. to £4 4s. for practical classes. The hospital ticket is £1 8s. for three months, £4 4s. a year, or perpetual, £13 6s. 8d. in one sum. The inclusive or composition fee for the curriculum is £182. In connexion with both institutions there are bursaries and scholarships of considerable value, which are awarded after competitive examination. Information as to these can be obtained from the Secretary of the University of St. Andrews. Information regarding the clinical facilities may be obtained from the Dean of the Medical Faculty, Medical School, Dundee.

Clinical Work.

Good opportunities for clinical work are afforded by the Dundee Royal Infirmary, the instruction given thereat being recognized for purposes of graduation by all the Scottish universities, the University of Cambridge, the University of London, the National University of Ireland, and by the Royal Colleges of England and Scotland.

IRELAND.

THERE is a choice of six schools for those pursuing their medical studies in Ireland. For clinical instruction the choice is equally wide and varied, though the hospitals themselves are comparatively small. Some account of the schools follows.

DUBLIN.

School of Physic.

THIS school is in Trinity College, Dublin, and is carried on under the joint auspices of the University of Dublin and of the Royal College of Physicians of Ireland, the King's professors of institutes of medicine (physiology), practice of medicine, materia medica, and midwifery being appointed by the latter. Clinical instruction is given at Sir Patrick Dun's Hospital, and some twelve other metropolitan hospitals and asylums are recognized by the Board of Trinity College. The courses of instruction are open to all medical students, whether they belong to the university or not.

The Schools of Surgery.

These are schools carried on in Dublin under the supervision and control of the Council of the Royal College of Surgeons. They are formed of the college's own school, combined with two famous old medical schools—Carmichael and Ledwich; they are attached to the college by charter. The buildings contain spacious dissecting rooms, special pathological, bacteriological, public health, chemical, and pharmaceutical laboratories. Advantage can be taken of the lectures and instruction afforded by students otherwise unconnected with the college.

Prizes.—Among the prizes annually awarded are: The Barker Anatomical Prize (£26 5s.); the Carmichael Scholarship (£15); the Mayne Scholarship (£8); the Gold Medal in surgery; the Stoney Memorial Gold Medal in anatomy; the H. Macnaughton Jones Gold Medal for midwifery and gynaecology; the Captain Massey Miles Memorial Prize; class prizes, accompanied by silver medals, will also be given in each subject. At intervals a prize of £150 is awarded, called the R. Dancer Purefoy Memorial.

A prospectus can be obtained post free on application to the Registrar, Royal College of Surgeons, Dublin.

University College, Dublin.

This is one of the constituent colleges of the National University of Ireland. The arrangements for the teaching of medical students from beginning to end of the curriculum are adequate. Applications for information may be addressed to the Secretary and Bursar, University College, Dublin.

Clinical Teaching in Dublin.

There are numerous well-arranged hospitals in and around the city, and almost all of these are recognized for teaching purposes by the Conjoint Board of Ireland, the University of Dublin, the National University of Ireland, and by like bodies elsewhere in the British Isles. Among them are the Mater Misericordiae Hospital, with 345 beds; Dr. Steevens's Hospital at Kingsbridge, with 150; Meath Hospital and County Dublin Infirmary, with 160; Mercer's Hospital, with 120; the Royal City of Dublin Hospital, with 124; the Adelaide Hospital, with 160; the Royal Victoria Eye and Ear Hospital, with 100 beds; Sir Patrick Dun's Hospital, which has a direct connexion with the School of Physic, and the combined institutions formed by the Hardwicke Fever Hospital, the Richmond Surgical Hospital, and the Whitworth Medical Hospital, with an aggregate of 330 beds.

As for the famous Dublin medical institution known as the Rotunda Hospital, this practically consists of two distinct hospitals, and is believed to be the largest combined maternity and gynaecological hospital in the British Isles. There are ante-natal and paediatric departments as well as a thoroughly equipped pathological laboratory, and *x*-ray apparatus. It possesses residential quarters for students, and, taken as a whole, offers exceptional opportunities for study both to ordinary students and to medical graduates of any nationality. During the past year 3,182 patients were admitted to hospital, this total being made up of 2,424 maternity cases and 758 gynaecological cases; 1,793 patients were attended at their own homes and 11,041 attended the dispensary.

Two other important obstetric and gynaecological hospitals in Dublin are the Coombe Lying-in Hospital and the National Maternity Hospital. During the year ending December 31st, 1929, the number of cases dealt with in the Coombe Lying-in Hospital were as follows: intern maternity department, total admissions 1,204; intern maternity department, total deliveries 1,080; extern maternity department, total deliveries 1,432; gynaecological department, number of operations 361.

At the National Maternity Hospital, Holles Street, Dublin, 1,413 patients were admitted to hospital during the year ending March 31st, 1930; total deliveries in hospital were 961; gynaecological operations 371; and dispensary attendances 7,843.

The practice of these hospitals is attended by large numbers of students, post-graduates, and nurses.

BELFAST.

THE Medical School is part of the Faculty of Medicine of Queen's University, Belfast, and provides a complete medical curriculum for all purposes. The laboratories in connexion with the departments of bacteriology, biochemistry, biology, chemistry, physiology, pathology, anatomy, physics, and materia medica are all excellent, and there is a students' union which gives students the advantages of dining rooms, reading rooms, a library, and various recreation rooms. Women are eligible as students. Clinical instruction is given at the Royal Victoria Hospital, which was rebuilt a few years ago and has 300 beds, and the Mater Infirmorum Hospital, which has 150 beds. Other hospitals open to the students of the university are: the Maternity Hospital, the Ulster Hospital for Women and Children, the Hospital for Sick Children, the Ophthalmic Hospital; the Benn Ulster Eye, Ear and Throat Hospital; the Union Infirmary and Fever Hospital; the Fever Hospital, Purdysburn; the District Lunatic Asylum, the Samaritan Hospital, Forster Green Hospital for Diseases of the Chest, and the Belfast Hospital for Skin Diseases.

Scholarships.—(1) Eight, of the value of £40 each, are assigned as Entrance Scholarships in the Faculties of Arts, Science, and Medicine, tenable for one year; (2) fourteen Professional Scholarships, value from £15 to £40 each; (3) one Hutchinson Stewart Scholarship, £12, in mental diseases; (4) one Mackay Wilson Travelling Scholarship, £100, awarded triennially; (5) Isabella Tod Memorial Scholarship, tenable for three years, awarded triennially

admit the holder once to all the lectures and classes, except those on physiotherapy and slit-lamp microscopy. The fee for a perpetual ticket to attend the practice of the hospital is £5 5s.; for three or six months, £3 3s.; for two months, £2 2s.; for one month, £1 1s. Registered medical practitioners and medical students are eligible, under certain conditions, for the posts of chief clinical assistant, clinical assistant, and junior assistant. There are also a number of salaried posts, an annual Clinical Research Scholarship of £50, and a biennial Gifford Edmonds Prize of £100. Clinical work begins each morning at 9 and operations at 10 o'clock. The course of instruction is specially adapted to meet the requirements of those reading for the D.O.M.S. and similar diplomas and degrees in ophthalmology. Further particulars may be obtained from the Dean of the Medical School. Other eye hospitals are the Royal Westminster Ophthalmic Hospital, now rebuilt on a new site in Broad Street, High Holborn, and containing 84 beds; the Royal Eye Hospital, Southwark, and the Central London Ophthalmic Hospital, Judd Street, W.C.1, each with about 40 beds; and the Western Ophthalmic Hospital with 18 beds.

Fever Hospitals.—The London County Council has under its control a number of institutions in and around London for the treatment of the more serious zymotic disorders; it makes special arrangements for the instruction of students in this subject, and grants certificates at the end of the courses. Detailed information should be sought from the Medical Officer of Health, Special Hospitals Division, London County Council, Victoria Embankment, E.C.4.

Chest Hospitals.—The largest of these is the Brompton Hospital for Consumption, which has 333 beds and a large sanatorium at Frimley with 150 beds. There is also the City of London Hospital for Diseases of the Chest, Victoria Park, with 185 beds, and the Royal Hospital for Diseases of the Chest, City Road, with 85 beds, now amalgamated with the Royal Northern Hospital, Holloway Road.

Nose, Throat, and Ear Hospitals.—The institutions which confine their work to disorders of the throat, nose, and ear all make special arrangements for the benefit of senior and post-graduate students. They are the Metropolitan Ear, Nose, and Throat Hospital, Fitzroy Square; the Royal Ear Hospital, Huntley Street, W.C.1 (now the Ear, Nose and Throat Department of University College Hospital); the Central London Throat, Nose, and Ear Hospital, Gray's Inn Road; and the Hospital for Diseases of the Throat, Golden Square—the last, which possesses 95 beds, being the largest of the four institutions.

Miscellaneous Special Hospitals.—Among these are the Bethlem Royal Hospital, now in course of transference from Kennington to a large new site at Eden Park, Beckenham, which (like the Maudsley Hospital) confines its work to the treatment of mental diseases, and includes a department for nervous and early mental disorders; the Royal National Orthopaedic Hospital, Great Portland Street; St. Peter's Hospital for Stone and Urinary Diseases, Henrietta Street, Covent Garden; St. Mark's Hospital, City Road, which devotes itself to the treatment of diseases of the rectum, including cancer and fistula; the National Hospital for Diseases of the Heart in Westmoreland Street, W.1; St. John's Hospital for Diseases of the Skin in Leicester Square; the Hospital for Diseases of the Skin, Stamford Street, Blackfriars; the National Hospital, Queen Square, W.C.1, an institution possessing 200 beds for neurological cases and a world-wide reputation; and the West End Hospital for Nervous Diseases, 73, Welbeck Street, W.1.

Detailed information as to the teaching arrangements of all these institutions may be obtained on application to their secretaries.

WOMEN IN MEDICINE.

THE regulations of the General Medical Council and of the various universities and colleges set out in previous sections apply to women as to men.

EXAMINATIONS.

Women are admitted to all the medical examinations of the following qualifying bodies: all the universities of Great Britain and Ireland; the Royal College of Physicians of London; the Royal College of Surgeons of England; the Society of Apothecaries of London; and the Conjoint Boards of the Royal Colleges in Scotland and in Ireland. In addition, women are eligible for election as Fellows of the Royal College of Physicians of London and the Royal College of Physicians of Edinburgh.

MEDICAL EDUCATION.

The general tendency during the years since the war has been to admit women to train in medicine at the same schools and under very much the same conditions as men. In this country at the present time co-education is the general rule. The schools of the London hospitals have, however, so far shown themselves more conservative in this respect than the rest of the country.

In England the colleges connected with the universities of Birmingham, Bristol, Cardiff, Leeds, Liverpool, Manchester, Newcastle, and Sheffield admit women students as well as men, whilst in Scotland the universities of Aberdeen, St. Andrews, Edinburgh, and Glasgow also admit women. In Ireland all universities and colleges are open to them.

Although in London the only schools open to medical women students are the London School of Medicine for Women and, to a modified extent, University College Hospital, it is felt that such a state of affairs can only be temporary, and hopes can be entertained that in the near future the principle of co-education will prevail in the capital.

At the present time it will be seen that the only co-education hospital in London is that of University College—the number of women entrants is restricted to twelve a year, but these twelve (making between thirty-six and forty-eight training at any one time for the three to four years' clinical course) are given excellent opportunities whilst students, and also, in fair proportion, are given opportunities of post-graduate experience as residents—house-surgeons, house-physicians, and obstetrical assistants.

NUMBER OF WOMEN MEDICAL STUDENTS.

Returns made to the University Grants Committee at the end of 1929 showed that the total number of full-time women medical students attending university institutions in England, Scotland, and Wales during the past five years were:

	1924-25.	1925-26.	1926-27.	1927-28.	1928-29.
England	1,197	1,059	930	862	824
Wales	32	30	32	30	14
Scotland	431	313	274	254	270
Total	1,650	1,402	1,236	1,146	1,108

THE LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

The London (Royal Free Hospital) School was started for the training of women in medicine in the days before there were any co-education facilities for them, and it still remains by far the largest school for women. In addition to the clinical work at the Royal Free Hospital, which at present has 268 beds, but will shortly have 360 when the extensions now in progress are completed, arrangements are made for students of the school to obtain clinical instruction at the National Hospital for Nervous Diseases, Queen's Square; the Royal London Ophthalmic Hospital, Moorfields; the Great Ormond Street Hospital for Children; the Elizabeth Garrett Anderson Hospital; the South London Hospital for Women; and the Cancer Hospital. Its importance for women in medicine can hardly be overestimated, not merely because it was the pioneer which made the way possible, but also because it is still the only general hospital in Britain which offers all its post-graduate appointments, higher and lower, to open competition by women as well as men, thus giving unique opportunity of gaining experience. Not only are all the resident appointments at the Royal Free Hospital, of which there are twenty-seven yearly, eligible for women, but, in addition, higher posts may be obtained in all the various branches of a general hospital, from those of registrar and anaesthetist to those of visiting physician or surgeon and those in charge of special departments. There is a special unit in gynaecology under a woman professor, and entirely staffed by medical women. This policy has so far not been fully adopted in its entirety by any other hospital, and it may be of interest to note in this connexion that the Royal Free Hospital has many women on its general committee and weekly board of management.

OPENINGS FOR MEDICAL WOMEN.

There are at the present time the names of over three thousand medical women on the *Medical Register*. There is an increasing demand by the public for the services of women doctors in all branches of medicine, and statistics show that the number of those who make good is as high as, if not somewhat higher than, that of their men colleagues.

OPENINGS AT HOME.

Since the number of men and women qualifying has reached normal standards, medical women on qualification find no difficulty in obtaining house appointments in the recognized teaching hospitals and in non-teaching hospitals, hospitals for women and children, sanatoriums, etc.

General Practice.—There are good openings as assistants or, better still, as assistants with a view to admission as partners in general practice. Medical women also do very well when starting in new districts; and there is considerable scope for them in midwifery work.

Specialist and Consulting Practice.—The number of women doing specialist and consultative practice grows rapidly. There is no branch of medicine in which it is not possible for a patient to consult a medical woman. Women so specializing equip themselves by obtaining the highest essential qualifications, and it is hoped that the time is not far distant when many more women will hold positions on the honorary staffs of all hospitals. Already medical women are on the honorary staff of the Royal Free Hospital, London, and of general hospitals in a number of provincial cities. In London, Edinburgh, Glasgow, Manchester, and Brighton there are hospitals staffed entirely by medical women, doing very fine work and meeting a real need, the latest to be opened being the Marie Curie Hospital in London for the treatment of cancer by radium. Research work also provides interesting openings, as, for example, in dealing with the special problems concerning cancer, nutrition, puerperal morbidity and mortality, statistical work, etc., and for some of these research scholarships and grants are available.

Teaching Posts.—Women hold professorships and lectureships at various universities.

Industrial Medicine.—In this branch there is much interesting work available, and it is undergoing considerable development at the present time. Several women already hold such posts.

Administrative Work.—A certain number of these important posts are admirably filled by medical women. The chief medical officer for maternity and child welfare is a medical woman, and has a staff of medical women to assist her.

The Public Health Service.—This service provides numerous openings for medical women. It has many departments, and its rapid growth in recent years has provided much interesting work in preventive medicine. In this connexion it may be noted that a medical woman has recently been appointed medical officer of health to a large borough council, and senior departmental posts are frequently held by medical women. For maternity and child welfare work women have been found to be peculiarly suited, but, by a curious economic limitation, married women, who would appear to be the most suitable of all, are, by many public authorities, excluded from service. This exclusion not only prevents married women from taking part in this work, but also prevents many of the best women from specializing in this branch of medicine, as it is obviously uneconomic to specialize in a branch of public service from which one may be excluded in a few years.

Medical Inspection, etc.—Under the Board of Education there are women serving as medical advisers and school medical inspectors. The London County Council and other important councils in the country have medical women on their permanent medical staffs, in both the senior and junior grades. The London County Council has two of its senior medical women appointed to serve as district medical inspectors. In addition, they have a large number of women medical inspectors of school children, and also women are serving as experts in the departments dealing with mental deficiency, tuberculosis, and venereal disease. Some medical women also serve as examiners of the candidates entering the public services, as, for example, the civil service. The services of medical women are extensively enlisted by public authorities in dealing with employees of their own sex. In several instances women serve as assistant medical officers to prisons. The services of medical women are also enlisted as lecturers and examiners on first aid, home nursing, health, and infant care.

PAY AND STATUS.

It is interesting to note that medical women, backed by the powerful assistance of the British Medical Association, have been on the whole successful in resisting the attempt to accept a lower salary for the same work as their men colleagues, thereby not only greatly benefiting themselves, but also maintaining the standard for the whole profession. They realize that ever since the admission of women to the medical profession exactly the same sacrifices for principle have been made by their predecessors as are now demanded from them. With the inauguration of the School Medical Service in 1908, and later when maternity and child welfare posts were created, persistent efforts were made by local authorities to pay their assistant medical officers below the minimum arranged by the representatives of the public authorities and the British Medical Association, and to secure women at a lower rate than men. With rare exceptions these efforts were a failure. Women realize as clearly as men that lowered pay invariably implies a lowered status and prestige, and that the woman who stamps herself as belonging to an inferior grade of doctor cannot complain if she is taken at her own valuation, and that a minimum always tends to become a maximum. Attempts to evade the scale and split the ranks of the profession by offering a post to a man at the agreed rate and a similar post to a woman slightly below that rate are particularly to be deprecated. Where the rule of equal pay for equal work is violated there is no limit to the extent to which women may be exploited and sweated.

OPENINGS ABROAD.

Colonial Office.—To those to whom oversea service appeals it offers the possibility of useful, interesting, and adequately paid work. At present there are posts for women in Malaya, and East and West Africa. The work is almost entirely hospital and maternity and child welfare work there have been one or two specialist appointments, such as bacteriologists, and more may follow. Women have, so far only been appointed to the lower grade posts, but their pay is the same as that of the men in similar grades. When placed on the permanent staff they are eligible for pension

Egypt.—Appointments in the Kitchener Memorial Hospital, Cairo, which forms part of the Clinical Faculty of the University of Cairo, are held by women. Appointments in certain dispensaries are open to medical women. There are also posts held under the education authority, chiefly school medical inspection.

India.—See note on the Women's Medical Service for India on page 384

Mission Field.—Missionary societies offer employment to medical women, chiefly in India, China, and the Near East.

PUBLIC ACTIVITIES.

Medical women are frequently appointed to serve on Royal Commissions and Government Committees dealing with medical subjects, and are also requested by them to give evidence of an expert medical nature.

Medical women have always shown considerable interest in medico-political affairs, and take an active part in the work of the British Medical Association, and with the various other societies dealing with medicine as it affects the community in general. With this end in view they also have a Medical Women's Federation, which enables them to voice a collective expression of opinion. This might otherwise be difficult to ascertain, as women are so widely scattered, both as regards their geographical distribution and their varied activities. This collective opinion of medical women has been found of great assistance by the British Medical Association and other allied societies with which it works in cordial co-operation and by whom it is frequently approached, both for information and also as a convenient means of approaching medical women as a whole.

It may be added, with regard to contributions to medical literature, that this is a branch of work in which women are more and more taking their share, and scientific and other works are frequently published by them.

WOMEN'S MEDICAL SERVICE FOR INDIA.

AMONG careers open to medical women abroad the Women's Medical Service for India deserves honourable mention. This service is open to fully qualified medical women of British or Indian nationality. With the present amount of Government subsidy the number of medical officers is limited to 44.

Medical women proceeding to India to join the Women's Medical Service receive a sufficient sum for a first-class passage to India. On landing they are posted to one of the larger women's hospitals to gain Indian experience and to learn the language. For a further period they are appointed to act temporarily for medical women on furlough. They are then definitely appointed to the charge of hospitals. Private practice is allowed, provided it does not interfere with official duties. The only exception is in administrative or educational posts, when an allowance in lieu of practice is given. The amount obtained by practice varies according to the station, but in most cases it forms a fair addition to the salary, varying from £150 to £1,000 a year.

Excellent opportunities for surgery—especially gynaecological—are found in the Women's Medical Service. For those who are not keen surgeons opportunities are likely to occur in the future in connexion with maternity and child welfare. Rates of pay are as follows:

Years of Service.	Rates of Pay per mensem.	Annual Salary.
1-3	Rs. 450	£1440
4-6	Rs. 500	£480
7-9	Rs. 550	£520
10-12	Rs. 600	£560
13-15	Rs. 650	£600
16 18	Rs. 700	£640
19-21	Rs. 750	£680
22 24	Rs. 800	£720
Over 24	Rs. 850	£760

Furnished quarters are provided, representing an addition of Rs. 150 *per mensem. The oversea allowance of Rs. 100 per mensem rises to* Rs. 150 after twelve years' service. The value of the rupee is taken at 1s. 4d.

The cost of living in India is much higher than formerly, but it should be possible for a medical woman (with house provided) to meet actual household expenses on about Rs.300 per mensem, leaving the remainder of her salary for dress and personal expenses. To this must be added the necessary saving to meet additional expenses for furlough and leave spent in the hills.

Leave on average pay is earned at the rate of two-elevenths of the period spent on duty.

Study leave may be granted to the extent of twelve months in the total service, and will not be granted more than twice in the course of an officer's service. During study leave an officer draws half her average pay, with a study allowance at the rate of 12s. a day during the course of study.

Officers of European domicile are entitled to four free return first-class passages from a port in India to a port outside India during their whole period of service. The first passage is not granted until four years' approved service has expired, and thereafter passages may be granted at intervals of not less than four years.

There is a Provident Fund to which members of the service contribute 10 per cent. of their pay. The service contributes another 10 per cent., which accumulates at interest and is repaid on retirement.

Admission to the service is made by selection in India and England, preference being given to those with Indian experience. Vacancies are few. Candidates in the United Kingdom should apply to the Secretary, U.K. Branch of the Countess of Dufferin's Fund, c.o. Lieut.-Colonel Sir Leonard Rogers, India Office, Whitehall, S.W.1.

POST-GRADUATE STUDY.

NOTWITHSTANDING the large and varied amount of material available, post-graduate study in London suffers from several disabilities, which have become increasingly obvious during recent years. In the first place, teaching centres are widely scattered, and it is not easy for the student to obtain everything he requires under one roof, or even in the same district. Secondly, no definite post-graduate school exists at which the graduate can obtain directions for a course to suit all his needs. Thirdly, there is no recognized hostel or meeting place to which the student can resort for social purposes. While several institutions in London have endeavoured to meet one or other of these needs, their efforts have been on a small scale, and it has long been apparent that "the post-graduate habit" would not be developed until a centre for post-graduate medical education had been established.

Post-graduate students may be divided into general practitioners desirous of refresher courses to bring their general knowledge up to date; those who wish for instruction in special subjects with a view to obtaining one of the special diplomas, or of preparing for examination for promotion in one or other of the services, or—if already general practitioners—of adding some form of specialism to their work; and finally, visitors from the Dominions or abroad anxious to study the methods of British experts. As things stand at present, the general practitioner may perhaps find a refresher course at the hospital at which he was trained, held during a vacation, and designed specially to bring his knowledge up to date; or he may approach the Fellowship of Medicine, which was amalgamated with the Post-Graduate Medical Association in 1919, and has an office generously placed at its disposal by the Royal Society of Medicine at 1, Wimpole Street, W.1. At this office a list of hospitals, special and general, to which medical graduates may resort, with or without fee, is kept, and the names of the teachers at each hospital are available. Definite courses of study at individual hospitals are also organized by the Fellowship. The West London Hospital at Hammersmith, and the Prince of Wales's General Hospital at Tottenham, have for many years had post-graduate colleges attached to them, thus overcoming, to the extent of their resources, the disabilities mentioned above. Courses of lectures and instruction for qualified practitioners are given at many special hospitals; and in the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, opened last year, it is possible to obtain under one roof instruction in all branches of preventive medicine. The work of the school has been arranged in the following divisions: public health, including a section devoted to the physiology of hygiene; epidemiology and vital statistics; bacteriology and immunology; biochemistry, including a department for chemistry as applied to hygiene; medical zoology, embracing the departments of protozoology, helminthology, and entomology; and, finally, tropical medicine and hygiene, of which the Director, Sir Andrew Balfour, has charge, and which embraces clinical work in diseases of the Tropics, for which facilities are afforded by the Hospital for Tropical Diseases in Gordon Street.

In the provinces the Universities of Oxford, Cambridge, Birmingham, Bristol, Liverpool, Manchester, and Sheffield have organized courses. Edinburgh receives graduates from many schools in the Dominions as well as in this country. In Glasgow and Aberdeen courses are available; and in relation with the University of St. Andrews courses are given by the staff of the James Mackenzie Institute for Clinical Research. At many of these centres the teaching is provided by way of whole-time intensive courses, by part-time courses, or by means of clinical assistantships. The Joint Tuberculosis Council has provided nomadic courses in its own special subject.

Short particulars about the facilities for post-graduation study at present obtainable in Great Britain and Ireland are given in Section VI of the *Handbook for Recently Qualified Practitioners* published by the British Medical Association (price 3s. 6d.).

BRITISH POST-GRADUATE HOSPITAL AND SCHOOL.

During the past few months a very important step has been taken towards remedying the defects indicated in the opening paragraph of this section. As long ago as 1921 a committee under the chairmanship of the Earl of Athlone was set up by Dr. Addison when Minister of Health. The ground was rapidly surveyed and proposals were submitted, but the chief recommendation, for "a school attached to a hospital centrally situated in London devoted solely to post-graduate medical education, as a school of the University," remained unfulfilled. In 1925 Mr. Neville Chamberlain appointed a second committee with a single clear-cut reference: "To draw up a practicable scheme of post-graduate medical education centred in London." The report of this representative committee was issued in April last, and the scheme it unanimously put forward has been accepted by the Government. The

contents of the report were summarized in the *British Medical Journal* of April 19th (p. 745).

Briefly stated, the "practicable scheme" finally arrived at, after weighing many alternatives, is for the establishment of a British Post-Graduate Hospital and Medical School, comprising a hospital with 400 bed a medical school, and residential facilities for students, by converting the Hammersmith Hospital at Shepherd's Bush. This modern institution, now under the control of the London County Council, has the 400 beds needed at the outset. To complete the scheme a fully equipped medical school will have to be built on the 14-acre site, and a hostel for graduate students established in central London. The Government, impressed with the urgency of the need and the feasibility of the plan, has pledged itself to contribute from public funds a maximum capital sum of £250,000 for building and equipping the post-graduate school, and beyond this to provide annual grants towards its upkeep through the University of London. The committee assumed that the cost of maintaining the hospital would fall, as at present, on the ratepayers. For the hostel money must be found by way of a public appeal, which has since been issued.

A great step forward has thus been taken. A comprehensive and practicable scheme has been framed, a site and money have been found, and if the several parties to the undertaking work harmoniously, with one goal in view, the capital of the British Empire will become in time a world-centre of post-graduate medical training. The site chosen, though accessible, is not perhaps as central as could be wished, but it is fully large enough to contain the school buildings and to allow of additions to the existing hospital. Further, an essential point made by the Athlone Committee—that the central post-graduate medical school, when established, should be a school of the University of London—has been recognized and accepted by the Government.

The Minister of Health, after consultation with the London County Council and the Senate of the University of London, has now appointed a Provisional Organization Committee to proceed with the action necessary to secure the establishment of the British Post-Graduate Hospital and Medical School. The terms of reference of this committee are to consider and report, in pursuance of the statement made by the Minister of Health in the House of Commons on April 9th, upon (1) the action requisite to lead up to the planning and construction of the medical school, and (2) the form of government appropriate to the hospital and medical school, with special reference to the position of the London County Council as the local authority responsible for the hospital, and to the position of the University of London in relation to the medical school.

The chairman of the committee is Viscount Chelmsford. The Ministry of Health is represented by Sir George Newman, chief medical officer, and Mr. M. Heseltine, an assistant secretary; the London County Council by Dr. Florence Barrie, Lambert, Sir William Ray, Mr. Angus N. Scott, and Mr. L. Silkin; and the University of London by the vice chancellor, the chairman of convocation, Mr. H. L. Eason, superintendent and senior ophthalmic surgeon, Guy's Hospital, and Dr. Edwin Deller, principal of the university. The other members of the committee fall of them members of the medical profession) are Mr. Donald J. Armour, senior surgeon, West London Hospital, Lady Barrett, dean of the London (Royal Free Hospital) School of Medicine for Women; Mr. Comyns Berkeley, obstetric surgeon, Middlesex Hospital; Sir Robert Bolam, physician to the Skin Department, Royal Victoria Infirmary, Newcastle on Tyne, and past Chairman of Council, British Medical Association; Dr. H. B. Brackenbury, Chairman of Council, British Medical Association; Mr. H. W. Carson, senior surgeon, Prince of Wales's General Hospital, Tottenham, Dr. H. G. Dain, chairman of Insurance Acts Committee, British Medical Association; the Right Hon. Lord Dawson of Penn, physician, London Hospital; Dr. H. R. Dean, professor of pathology, Cambridge University; Sir Walter M. Fletcher, secretary of the Medical Research Council, Mr. G. E. Gask, professor of surgery, London University, and surgeon, St. Bartholomew's Hospital; Sir Thomas Horder, Bt., physician, St. Bartholomew's Hospital; Dr. T. N. Kay Menzies, medical officer of health for the County of London, Lord Moynihan of Leeds, President of the Royal College of Surgeons of England, consulting surgeon, Leeds General Infirmary, Mr. H. J. Paterson, senior surgeon, London Temperance Hospital, and honorary secretary, Fellowship of Medicine and Post-Graduate Association; Dr. Harold Pritchard, senior physician, West London Hospital; and Sir Holburt Waring, senior surgeon, St. Bartholomew's Hospital.

Mr. Heseltine is acting as secretary, and all communications on the business of the committee should be addressed to him at the Ministry of Health, Whitehall, S.W.1.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.

The Fellowship of Medicine has arranged regular courses in general medicine and surgery, including special departments, each lasting two weeks, the fee for each course is 5 to 5 guineas. Courses in diseases of the chest, children, ante-natal, heart, nervous system, throat, nose, and ear; dermatology, gynæcology, proctology; psychological medicine; tropical medicine, urology, and venereal diseases are given from time to time at the special hospitals in association with the Fellowship of Medicine. Evening courses for the M.R.C.P. and F.R.C.S. (Final) are arranged also. The Fellowship "General Course" Programme contains a diary of the arrangements available for post-graduates in various general and special hospitals in London. The list for the immediate future special courses includes a two weeks' course in general medicine and surgery, from September 15th to 27th, at the Westminster Hospital; in diseases of children, at the Queen's Hospital, from September 16th to October 11th. The office of the Fellowship is, by kind permission of the Royal Society of Medicine, at No. 1, Wimpole Street, W.1 (telephone, Mayfair 2235). The secretary is in attendance daily from 10 a.m. to 5 p.m., excepting Saturday. The annual subscription for membership of the Fellowship of Medicine and Post-Graduate Medical Association has been fixed at a minimum of 10s., which includes the subscription to the *Post-Graduate Medical Journal*.

The Fellowship arranges, during the autumn and winter sessions, a series of lectures. Special clinical demonstrations in medicine and in surgery are arranged also weekly from October onwards. Syllabuses will be sent regularly on application.

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

It was announced in our issue of June 28th (p. 1185) that a working scheme had recently been drafted for affiliation between the London Radium Institute in Riding-house Street, and the Mount Vernon Hospital at Northwood, for the establishment, under joint control of a National Post-Graduate School of Radiotherapy. The first of a series of intensive courses in radiotherapy will commence on Monday, October 6th. Applications for copies of the syllabus and other information may be addressed to the Dean (Sir Cuthbert Wallace, K.C.M.G., F.R.C.S.) at the National Post-Graduate School of Radiotherapy (the Mount Vernon Hospital and Radium Institute), Ridinghouse Street, London, W.1.

WEST LONDON POST-GRADUATE COLLEGE.

The work of this institution is carried on at the West London Hospital, the first in London to devote its clinical material solely to the instruction of qualified medical men. The college started in 1895, it is provided with lecture, reading, writing, and class rooms, and accommodation of all sorts for the convenience of post-graduate students. The work of the college is eminently suitable for men in general practice and officers in the services who wish to revive their general clinical knowledge.

As for ward work, the students accompany the senior staff on their visits to the wards at 2.30 p.m. daily, and also go round with the resident medical officers in the morning. Out-patient work begins at 2 p.m. This department is large, and affords ample facilities for post-graduates to see and examine patients. There are the usual special departments. Post-graduates are appointed to act as clinical assistants for three or six months, no charge being made. Special practical classes are held in medicine, general practical surgery, gastro-intestinal surgery, medical and surgical diseases of children, analysis of blood and urine, cystoscopy, venereal diseases, tropical diseases,

retinoscopy, ophthalmic operative surgery, and, when material is available, in operative surgery. The size of the classes is limited. A special clinic for the treatment of venereal diseases (male and female) is held all day. Graduates are admitted to the work of the clinic free, and certificates of satisfactory attendance and work are given.

Operations take place at 2 p.m. daily, the surgeons often availing themselves of the assistance of the graduates, and in any case making arrangements so that they can readily see what is going on. The anaesthetists give instruction in the administration of anaesthetics, including spinal analgesia, on the operating days, students being allowed to administer them under supervision, while special classes are held in each session. The pathological laboratory is in charge of a pathologist, who attends every day.

Demonstrations are ordinarily given in the morning by the assistant physicians and surgeons, and by the medical and surgical registrars.

Fees.—Hospital practice, including all ordinary demonstrations and lectures, £1 1s. for one week, £4 4s. for one month, £7 7s. for two months, £9 9s. for three months, £15 15s. for six months, £23 12s. 6d. for one year, and £45 for a life ticket. Instruction in the administration of anaesthetics is given at the rate of £3 3s. a month.

The certificates of the school are recognized by the Admiralty, the War Office, the Colonial Office, the India Office, and the University of London (for higher degrees). A prospectus can be obtained on application to the Dean.

North-East London Post-Graduate College.

The headquarters of this post-graduate school are situated at the Prince of Wales's General Hospital, Tottenham, N.15, in the midst of this densely populated North London district. It contains 200 beds, and is within a few minutes' walk of South Tottenham Station on the London Midland and Scottish Railway, and Seven Sisters and Tottenham Hale Stations on the London and North-Eastern Railway. It is readily accessible by electric tram from Finsbury Park and Hackney, and from Dalston, Edmonton, and other parts of North London. The North Middlesex Hospital, Edmonton, N.18, with upwards of 1,000 beds, has, under a recent arrangement, taken part in the clinical teaching.

The college is in association with the Fellowship of Medicine and Post-Graduate Medical Association, and is recognized by the Admiralty and India Office for the purpose of study leave, and by the University of London as a place for advanced study for the M.D. and M.S. degrees; the course of practical teaching of bacteriology is approved by the University of Cambridge for its Diploma in Public Health, and there are ample arrangements for the convenience of men who are thus working, or who, being in active practice, are desirous of getting themselves into touch with modern methods. The hospital as a whole affords excellent facilities for qualified medical practitioners who wish to take part for a time in active general hospital work, or to obtain special instruction in the several branches of medicine and surgery, since it is open to them to study diseases of the eye, ear, throat, nose, skin, fevers, children's diseases, psychological medicine, dental surgery, radiography, the application of electricity in disease, and the administration of anaesthetics. Throughout the sessions, into which the year's work is divided, clinics, lectures, and demonstrations are given by members of the teaching staff. Operations are performed every afternoon of the week except Saturday. Special vacation or intensive courses are held at intervals throughout the year, each lasting two weeks, clinical instruction being arranged for each hour of each day.

Fees.—For the hospital practice in general medicine or surgery the fee is 5 guineas for three months or 2 guineas for one month. Provided there is accommodation in the special departments, the fees are: eye department 3 guineas; gynaecological department 5 guineas; ear, nose, and throat department 5 guineas for three months. All departments—the fee is 3 guineas for one month, 6 guineas for three months, 10 guineas for a year, and 15 guineas for a perpetual ticket.

The winter session will be opened about the middle of September as regards clinical teaching.

Additional information can be obtained from the Dean of the Post-Graduate College, at the Prince of Wales's Hospital.

Manchester Post-Graduate Courses.

The Faculty of Medicine of the University of Manchester has arranged courses in preparation for the diplomas in psychological medicine, in public health, bacteriology, and veterinary State medicine. There are classes also for certificates in factory and school hygiene and in venereal diseases. The Faculty of Medicine has also instituted courses to meet the requirements of graduates desiring to refresh their knowledge or to pursue further their studies in various special branches. The arrangements are in the hands of a committee consisting of certain members of the faculty, of representatives of hospitals, and of the medical officer of health for Manchester. Full particulars can be obtained from the Dean of the Medical School, the University, Manchester. Part-time courses will be given during 1930–31 in diseases of the eye, diseases of the skin, practical instruction in local anaesthesia and minor operative surgery, and in bacteriology and immunity. A limited number of clinical assistantships are offered in the medical, surgical, and special departments of the Manchester Royal Infirmary, the Ancoats Hospital, and certain special hospitals for one, two, or three months, or longer. A clinical assistantship at the Radium Institute for three months is also offered. Clinical teaching for post-graduates is given each Thursday during university terms by the honorary staff at Ancoats Hospital; no fee charged.

Post-Graduate Courses at Bristol.

The University of Bristol provides courses of post-graduate study for practitioners. Details of set courses at the Royal Infirmary and General Hospital are announced locally. In addition, practitioners may become clinical assistants in medicine, surgery, or special subjects for periods of a month or more.

Daily Post-Graduate Study.—For those who are able to devote several hours each day to hospital practice the university offers special facilities for post-graduate work. Qualified medical practitioners may be appointed as clinical assistants for a period of one or more months. They may act as assistants, if times permit, in more than one department and in any of the hospitals during their period of study. They will be entitled to the use of the clinical laboratories and medical library, and have the right to attend in all departments, including operations, post-graduate and ordinary clinical demonstrations, and post-mortem examinations.

All inquiries and applications for admission should be addressed to the Director of Post-Graduate Studies (Clinical Section), Pathological Department, University of Bristol, who can be seen on any day by appointment at the Pathological Department.

Post-Graduate Courses at Newcastle.

For the year 1930–31 the following post-graduate courses have been arranged by the College of Medicine, Newcastle-on-Tyne (University of Durham):

1. General courses in clinical medicine, surgery, and pathology at the Royal Victoria Infirmary, meeting once weekly for ten weeks. One course will be held from October to December, and one from April to June.

2. Special courses of clinical instruction meeting once weekly for ten weeks in the following subjects: gynaecology, diseases of the eye, diseases of the throat, nose, and ear, diseases of the skin, venereal diseases, neurology. Special courses in midwifery will be held at the Princess Mary Maternity Hospital.

3. An intensive course of fourteen days' duration in the summer vacation, 1931.

4. In addition to the regular post-graduate courses practitioners may attend the ordinary medical and surgical practice of the Royal Victoria Infirmary, and also at the Princess Mary Maternity Hospital, for specified periods.

Edinburgh Post-Graduate Courses.

In connexion with the University and Royal Colleges post-graduate courses are arranged every year, from about the middle of July to about the middle of September, comprising: (*a*) a course in obstetrics, gynaecology, and diseases of children, held from July 14th to August 9th; (*b*) a general practitioners' course; (*c*) a general surgical

course. Courses (*b*) and (*c*) extended for four weeks from August 11th to September 6th. Similar courses are held each year.

The course in obstetrics, gynaecology, and diseases of children comprises instruction in clinical midwifery and clinical gynaecology, obstetrics and gynaecological pathology, diseases of children, child welfare, and ante-natal clinics, etc.

The general practitioners' course includes lecture-demonstrations, and, where possible, practical instruction on medical anatomy, medical sideroom work, examination of the blood, *x*-ray and electrical therapy, morbid anatomy, and post-mortem examination, clinical instruction in medicine, surgery, gynaecology, diseases of children, diseases of the skin, and infectious diseases, and special instruction in the diseases and methods of examination of the nervous, circulatory, respiratory, alimentary, and renal systems, and in diseases of the ductless glands. The general surgical course includes lecture-demonstrations on surgical anatomy, surgical pathology, and surgical *x*-ray diagnosis, clinical instruction in surgery at the Royal Infirmary and Royal Hospital for Sick Children, clinical instruction in venereal diseases; surgical out-patients, surgical and gynaecological operations, and special instruction in abdominal and genito-urinary and other branches of surgery.

A series of special lectures, open to all graduates, is delivered on subjects of general medical and surgical interest, including recent advances in treatment. Among the special courses also arranged are: examination of the blood, vaccine therapy, medical chemistry, diseases of the ear, nose, and throat, pathology of the nervous system, ophthalmo-copy, venereal diseases, and *x*-ray physics and electrotechnics.

Particulars regarding the courses, dates of commencing, fees, etc., may be had on application to the Honorary Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

Post-Graduate Medical Teaching in Glasgow

Organized post-graduate medical teaching is available in Glasgow under the auspices of the Post-Graduate Medical Association. This association represents practically all the teaching institutions in Glasgow and the various teachers giving post-graduate instruction, and its business is managed by a board elected periodically by them. The chairman of the board is Professor Robert Muir. During the winter months special courses in various subjects are conducted, and from November till May there is a series of weekly demonstrations specially designed for local practitioners. Clinical courses are carried out during the summer months, and arrangements have also been made whereby a limited number of graduates may become attached to wards or out-patient departments nominally as clinical assistants for definite periods throughout the year. As such they work under the direct supervision of the physician or surgeon in charge, and carry out such detailed investigations as directed.

A general medical and surgical course is held each year during the last two weeks of August and the first two weeks of September, which is arranged to include most of the subjects of interest to the general practitioner. This year the course is being conducted from August 18th to September 12th. The forenoons are occupied with general medicine and surgical diagnosis and minor surgery, in the Western Infirmary and in the Royal Infirmary. In the afternoons special subjects are dealt with in the special hospitals and in the special departments of the general hospitals, two subjects being considered most afternoons.

Further information may be had on application to Dr. James Carslaw, Secretary, Post-Graduate Medical Association, 9, Woodside Terrace, Glasgow, C 3.

Australian and New Zealand Medical Association.

The Australian and New Zealand Medical Association gives information and advice to medical visitors from the Commonwealth and Dominions with regard especially to attendance at special clinics, post-graduate work, and facilities for preparing for examinations such as the M.R.C.P., F.R.C.S., etc., and also as to house appointments and clinical assistantships in London and the provinces. Information will also be given about lodgings, sports, and social opportunities. Two dinners are held annually. All medical graduates of undergraduates born in Australia or New Zealand and resident in or visiting England are eligible to become members. The fee is one payment of 5*s*. Further information can be obtained from the joint honorary secretaries, Mr. E. T. C. Milligan, F.R.C.S., 86, Harley Street, W., and Mr. Philip J. Jory, F.R.C.S., 26, Queen Anne Street, W.

TROPICAL MEDICINE.

There are large and important Schools of Tropical Medicine in London and Liverpool, and the Colonial Office expects all nominees for the Colonial Medical Service to pass through one or other of the two schools mentioned before their appointments are confirmed, and commercial firms engaged in tropical enterprise commonly demand from medical applicants for employment corresponding evidence of special knowledge. Information with regard to these schools and diplomas and degrees is given in the paragraphs printed below. Further particulars will be found in the *Guide to Regulations, Courses, and Qualifications in Public Health and Tropical Medicine and Hygiene*, compiled by Sir Andrew Balfour, Director of the London School of Hygiene and Tropical Medicine, and published by the British Medical Association (price 3*s*.). This useful handbook contains, among other matter, a list of the teaching centres and examining bodies, with the qualifications obtainable from them. The University of London alone gives a degree (M.D.) in Tropical Medicine, and this, being an "internal degree," can only be taken by students who are medical graduates of that university. Diplomas in Tropical Medicine or Hygiene are granted by the universities of Cambridge, Edinburgh, and Liverpool, and by the Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England.

Diplomas and Degrees.

London University.—Tropical medicine is one of the six branches in which the M.D. degree may be obtained. The regulations relating to the curriculum and examination correspond to those applying to the other branches.

The Examining Board in England.—This body grants a diploma in tropical medicine and hygiene to candidates after an examination held in the months of February and July. Candidates must present evidence of having attended, subsequently to obtaining a registrable qualification in medicine, surgery, and midwifery, (1) practical instruction in pathology, protozoology, helminthology, entomology, bacteriology, and hygiene in relation to tropical medicine, in an institution recognized for this purpose during not less than five months, (2) the clinical practice of a hospital recognized for the study of tropical diseases during not less than five months. These conditions may be modified in the case of candidates who have had practical experience in tropical countries. The fee for admission to the examination is £9 9*s*. The Board also grants diplomas in public health, in psychological medicine, in ophthalmic medicine and surgery, in laryngology and otology, and in gynaecology and obstetrics. Candidates must hold a medical qualification registrable in the United Kingdom, or be graduates in medicine of a recognized Indian, Colonial or foreign university. Particulars and conditions of admission to these examinations, fees, etc., may be obtained from the Secretary of the Examining Board, Examination Hall, Queen Square, London, W.C.1.

University of Liverpool.—A diploma in tropical medicine is given by this university to students who have attended the courses provided by the Liverpool School of Tropical Medicine and have passed the examination held twice yearly by the university examiners. The subjects of

examination are (*a*) parasitology and tropical pathology; (*b*) entomology; (*c*) tropical medicine, including etiology, symptoms, diagnosis, and treatment of tropical diseases. Fee for the course, £21. A diploma in tropical hygiene (D.T.H.), open to the holders of the D.T.M., has recently been established. The subjects of examination are tropical hygiene (including sanitary engineering, vital statistics and epidemiology, and applied parasitology and entomology); practical sanitation, bacteriology, chemistry (including meteorology and climatology). Fee for the course, £12 16s. Further information can be obtained from the Dean of the Faculty of Medicine, University of Liverpool.

UNIVERSITY OF CAMBRIDGE.—This university grants a diploma in tropical medicine and hygiene to any person whose name has been on the *Medical Register* for not less than a year, provided that he passes the examinations of the university in this subject. Candidates for Part I are examined in the same subjects as candidates for Part I for the diploma in public health. Before admission to Part II, the subjects for which are medicine, surgery, and hygiene in their relation to tropical diseases, candidates must have passed Part I. An examination for Part I is held in April and for Part II in July. The fee for each part of the examination is 10 guineas. Application for further information should be made to Mr. J. E. Purvis, Public Health Chemical Laboratory, Medical School, Cambridge.

UNIVERSITY OF EDINBURGH.—Candidates for the diploma in tropical medicine and hygiene granted by the University of Edinburgh must be graduates in medicine and surgery of that university, or hold corresponding registrable degrees or qualifications of some other licensing body. The course of instruction extends over two terms, and may be taken either from October to March or from April to June and January to March. The examinations are written, oral, and practical, and are held at the end of the courses. Candidates are required on the first occasion of presenting themselves for examination to appear for all the subjects. Those who fail to pass the entire examination within a period of twelve months after first appearance are required to reappear for all the subjects. The university is included in the list of institutions whose courses of instruction in tropical medicine may be taken by officers on appointment to the Colonial Medical Services or during study leave. Full particulars can be obtained from the Dean of the Faculty of Medicine, Edinburgh.

SCHOOLS.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE (UNIVERSITY OF LONDON).

The courses of study in all branches of the work of the school will commence in the autumn in the new premises in Keppel Street (Gower Street), the gift of the Rockefeller Foundation, which has excellent laboratories and research rooms, a fine lecture theatre and class rooms, library, and museum,

In tropical medicine and hygiene there are two courses in the year, each lasting twenty-two weeks, inclusive of examinations. The dates for the commencement of the examinations are September 30th, 1930, and February 2nd, next courses are September 30th, 1930, and February 2nd, next course covers the work required for the 1931. The course covers the work required for the D.T.M. and H. (England) and part of that required for the M.D. in tropical medicine of the University of London.

The course of study for the diploma in public health will commence on September 29th, and will extend over a period of twelve calendar months. It is arranged in compliance with the requirements of the General Medical Council, and students taking the course will be able, should they so desire, to proceed to the new academic diploma in public health of London University. The curriculum has been planned on very practical lines, and includes, in addition to work with medical officers of health in two selected areas, a large number of visits to places of public health interest. A series of 5 o'clock lectures will be given by eminent authorities on special subjects, and these lectures will be open to members of the medical profession as well as to students of the school. The London County Council, the City of London, and various other bodies have placed their resources at the disposal of the school for teaching purposes.

The special course of study for the diploma in bacteriology covers a period of one academic year beginning in October, and special three-monthly courses commencing about September 29th will be given in epidemiology and vital statistics.

The Laleaca Medal (1913)—the gift of a committee appointed to perpetuate the memory of the late Dr. Cowas Laleaca—is awarded every two years to a student of the school for the best essay on clinical medicine and surgery in the Tropics. The competition is open to any student who has obtained the school certificate. The next award will be made in the autumn of 1931.

THE UNIVERSITY OF EDINBURGH.

A course of instruction for the diploma comprising a primary and a second course is given during the autumn and spring terms (October to March), and includes tropical hygiene, bacteriology, entomology, and parasitology, diseases of tropical climates (systematic and clinical), tuberculosis, and venereal diseases. The primary course alone is also given during the summer term, April to June. The university is included in the list of institutions whose courses of instruction in tropical medicine may be taken by officers on appointment to the Colonial Medical Services or during study leave. Full particulars can be obtained from the Dean of the Faculty of Medicine.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

This school is affiliated with the University of Liverpool. The university now grants diplomas in tropical medicine (D.T.M.) and in tropical hygiene (D.T.H.).

Two full courses of instruction, each lasting about eleven weeks, are given every year for the D.T.M., commencing respectively September 30th (autumn term) and January 6th (Lent term); and two courses for the D.T.H., beginning on January 13th and April 23rd (summer term). The D.T.H. can only be taken by those who have obtained the D.T.M. Students who do not desire to take the diploma examinations held by the university at the end of each term are given a certificate if attendance has been satisfactory.

Fees.—(1) For the D.T.M. course, 20 guineas; for the D.T.H. course, 10 guineas. (2) For the diploma examinations, 5 guineas. An extra charge of one guinea is made for the use of a microscope if required.

The laboratories of the school adjoin the university and the tropical ward of the Royal Infirmary. The dimensions of the building are 162 feet in maximum length by 84 feet in width. In addition to the basement, in which are accommodated the photographic department and large storage rooms, there are four floors. The ground floor has: (1) lecture theatre, with accommodation for about seventy students; (2) library; (3) a spacious museum with preparation room adjoining. The first floor has twelve rooms, in which are housed the departments of tropical medicine and entomology. The second floor has the main class laboratory, 69 feet by 58 feet, excellently lighted; and three other rooms, devoted to the department of parasitology. The third floor has a large research laboratory and two research rooms. On the roof is an insectorium, a mosquito-proof house, and other accommodation.

Since its foundation the school has dispatched to the Tropics thirty-two scientific expeditions, many of the workers having been taken from among its students. The work done by the staff has been published in twenty-one special memoirs—in the *Annals of Tropical Medicine and Parasitology*, issued by the school, and in numerous articles in the scientific press.

The school has also two laboratories in the Tropics: the Manáos Research Laboratory in Brazil; and the Sir Alfred Lewis Jones Tropical Laboratory in Sierra Leone, which was opened on January 10th, 1922, and is staffed by the school. Further information may be obtained from the Honorary Dean, School of Tropical Medicine, Pembroke Place, Liverpool.

PSYCHOLOGICAL MEDICINE

It cannot be impressed too strongly upon the medical student that a knowledge of mental disorder is just as essential as a knowledge of the other forms of disease which he will be called upon to treat in the routine of general practice. It must be understood that by the term "mental disorder" is not only meant the severe forms which are to be found in mental hospitals, but the term also includes mental defective of all grades, nervous difficult and backward children, the mild and often unrecognized psychoses, and also the various types of psychoneurosis. Such disorders provide the general practitioner with a large proportion of his most difficult cases, and he will find a good knowledge of mental disorder invaluable in his work. Apart from general practice, the student who proposes to take up a career in the prison service or, still more importantly, the school medical service, will find a knowledge of psychological medicine an almost essential part of his equipment.

INSTRUCTION

Though at the present time the instruction given to the student is far from adequate to supply the knowledge of mental disorder requisite for the needs of the general practitioner, the facilities for the study of psychological medicine in the general hospitals are now much greater than in former years. Thus many of the teaching hospitals have out-patient departments for the treatment of mental cases, and in some of these hospitals special lectures are given in psychopathology. These facilities need not be utilized by the student, however, and the compulsory part of the curriculum is generally confined to formal lectures and a few attendances at some mental hospital. Here the student is apt to see mainly the advanced states of mental disease, and is likely to gain the impression that mental disorder is necessarily related to segregation and custody. We would therefore impress upon him the importance of attending the out-patient department for mental disorders, where he will be able to observe the mild and early cases such as he will hereafter meet with in general practice.

At the Middlesex Hospital a small number of mental cases are treated in the hospital as in-patients. This is an important move from the teaching point of view because the student will gain true insight into the relation between mental disorder and medicine as a whole, and he will realize that it is a form of illness to be studied with other diseases, and to be treated along similar lines.

In London post-graduate courses of instruction of a comprehensive kind are given at the Maudsley Hospital and at Bethlem Hospital, and at the National Hospital, Queen Square, courses are arranged to meet the requirements for the diploma in psychological medicine in regard to nervous diseases. Courses in mental deficiency are arranged by the University of London. There are also post-graduate courses at the various universities which grant diplomas of psychological medicine or of psychiatry.

DIPLOMAS

Those who are taking up psychiatry as a career will find it desirable to obtain a diploma in psychological medicine. Such a diploma is not at present compulsory for a permanent position on the staff of all mental hospitals, but it will probably become so in course of time, just as it is now essential to obtain the D.P.H. if a career in *public health* is contemplated. Psychiatry is one of the *branches of medicine* which candidates for the M.D. degree of the Universities of London and Edinburgh can take up, and in addition, diplomas in psychological medicine (D.P.M.) *to which reference has been made* can be obtained from the Universities of London, Edinburgh, Durham, Leeds, Manchester, Dublin, and the National University of Ireland, and from the Conjoint Board in England. The requirements for a diploma differ to some extent in the various universities and colleges.

University of London (D.P.M.)

The diploma awarded by the University of London certifies that the candidate has passed the examination in psychological medicine with special knowledge of one or other of the two branches, either psychiatry or mental deficiency, special provision being made for this in Part B of the examination. The examination is held twice in each year. Part A in March and October, and Part B in April and November. Part A consists of anatomy, histology, and physiology of the nervous system (one paper and a practical examination) and psychology (one paper and an oral examination). Part B consists of neurology (paper and clinical and oral examinations), and psychological medicine (two papers and clinical and oral examinations). Paper I tests the candidate's general knowledge of *both mental diseases and mental deficiency, and Paper II* is a special one consisting of two alternative sections, one relating to mental disease and the other to mental deficiency. A copy of the Regulations and of the Syllabus of Study will be sent on application to John Lea, M.A., University Extension Registrar, University of London, South Kensington, S.W.7.

Conjoint Board of England (D.P.M., P.C.P. and S.Eng.)

Both parts of the examination are held in June and December. The examination comprises the following subjects with special regard to their relationship to psychological and general medicine.—Part I. (*a*) anatomy and physiology of the nervous system, (*b*) psychology. Part II. (*a*) neurology (including clinical and pathological neurology), (*b*) psychological medicine including its legal relationships. The examination will be written and oral in Part I. and written, oral and clinical in Part II. No special certificates of study are required for Part I., but before entering for Part II. candidates must produce certificates of (*a*) having attended clinical instruction for at least two months at a recognized hospital for nervous disease or in the department for nervous diseases of a recognized general hospital, (*b*) having held a resident or whole-time appointment at an institution for mental diseases where clinical instruction is given recognized for the purpose, for a period of six months, or having attended clinical instruction in psychological medicine at a recognized institution during twelve months. Further particulars may be obtained from the Secretary, Examination Hall, 8 11 Queen Square, London, W.C.1.

University of Edinburgh (Dipl. Psych.)

Candidates for the diploma must have held subsequent to graduation (*a*) a resident appointment for one year in a hospital for mental disorders approved by the Faculty, or (*b*) a six months' appointment as above and six months' practical study of nervous diseases in a special or general hospital approved by the Faculty. The examination comprises.—Part I. (1) anatomy of the nervous system, (2) physiology of the nervous system, (3) psychology and experimental psychology. Part II. (1) neuropathology, (2) clinical psychiatry, (3) clinical neurology, (4) an additional subject selected by the candidate from a prescribed list. Further particulars may be obtained from the Dean of the Faculty of Medicine, the University of Edinburgh.

University of Leeds (D.P.M.)

The examination is in three parts, and is written, oral and practical. Subjects of examination.—Part I. (1) the development, anatomy and histology (human and comparative) of the nervous system, (2) the physiology of the nervous system and of the organs of special sense, (3) general psychology. Part II. (4) the pathology of the nervous system. Part III. (5) clinical psychiatry, (6) experimental and *morbid psychology*, (7) (*a*) clinical neurology, (*b*) mental hospital administration, (*c*) medico-legal aspects of insanity. Candidates in order to pass must satisfy the examiners in the practical and clinical parts of the examination in Parts II. and III., respectively. They may present themselves for the three parts of the examination separately or at the same time, provided that no candidate shall be allowed to pass in Part II. unless he has already passed in Part I. or in Part III. unless he has already passed in Parts I. and II. Evidence must be produced by candidates as to attendance of approved courses of instruction before they submit themselves to Part I. of the examination. Particulars may be obtained from the Academic Sub-Dean, School of Medicine, Leeds.

University of Manchester (D.P.M.)

The examination is in two parts. Before presenting themselves for either part of the examination candidates must produce evidence of having attended subsequent to qualification certain approved courses of instruction, particulars of which may be found in the prospectus of post-graduate courses.

The course of study extends over a period of three university terms, two of which must be taken in the university, the remaining term may be taken at the university, or at some approved institution The subjects of examination are — Part I (1) a written and practical examination on the development, anatomy (human and comparative), and physiology of the nervous system, (2) a written and practical examination in psychology (theoretical and experimental) Part II (1) a written and practical examination in pathology in relation to the nervous system, (2) a written, clinical, and oral examination in psychological medicine, (3) a clinical and oral examination in clinical neurology For further information application should be made to the Dean of the Medical School the University Manchester

University of Durham (D Psy)

The examination for the Diploma in Psychiatry consists of two parts Part I anatomy, physiology, pathology and bacteriology, Part II psychology and experimental psychology, neurology and psychiatry (systematic and clinical), and candidates may present themselves for the whole examination or for either part separately Particulars of the courses of instruction may be had on application to the Dean, College of Medicine, University of Durham Newcastle on Tyne

University of Dublin Diploma

A post graduate diploma in psychological medicine is conferred upon registered medical practitioners who have held a resident medical appointment at a recognized institution for the treatment of mental diseases for twelve months, or who have held such an appointment for six months and have attended clinical instruction at an approved institution for six months Particulars of special courses of instruction may be obtained from the Registrar of the School of Physic, Trinity College, Dublin

National University of Ireland Diploma

The National University of Ireland grants a diploma in mental diseases Application should be made to the Registrars of the Constituent Colleges, University College, Dublin University College, Cork, and University College, Galway, for all information

COURSES OF INSTRUCTION

Maudsley Hospital, London

A course of instruction for the Diploma in Psychological Medicine is given annually at the Maudsley Hospital Denmark Hill, from January to May inclusive, the details of the last course being as follows The course consisted of two parts In the first part lectures on the anatomy of the nervous system were given by Professor Le Gros Clark with practical instruction by Mr C Geary A course of lectures on the physiology of the nervous system, with demonstrations in physiological psychology, was given by Dr F Golla, a series of lectures and demonstrations on the biochemical aspects of mental disorders, and laboratory methods, by Mr S A Mann, and on theoretical and practical psychology by Dr Henry Devine For the second part of the course lectures on morbid psychology and psychiatry were given by Dr Mapother, on the neuroses by Dr Bernard Hart on therapeutics by Dr Petrie, on general pathology by Dr Golla and Mr C Geary, and on pathological chemistry by Mr Mann Dr Shrubsall lectured on mental deficiency, and Dr East on criminal insanity Dr Golla and Dr Walshe gave instruction on clinical neurology, and Mr Foster Moore on eye changes as applied to psychiatry The fee for the whole course (Part I and Part II) was 15 guineas, or for either part separately 10 guineas, for one single series of lectures in Part I the fee was 4 guineas, and in Part II 2 guineas Inquiries as to lectures etc should be addressed to the Director of the Central Pathological Laboratory, Maudsley Hospital, Denmark Hill S E 5

Bethlem Royal Hospital

The new Bethlem Hospital has recently been opened at Monks Orchard, Eden Park, Beckenham, Kent, where every facility will be available for the clinical study of nervous and mental disorder The classification of patients will be a prominent feature in the administration of the hospital and treatment in all its modern and specialized aspects can be carried out at the Lord Wakefield of Hythe Treatment and Research Laboratories It is proposed to give two courses of lectures and practical instruction for the Diploma in Psychological Medicine each year, in spring and autumn It is contemplated that the first course will commence in January, 1931 These are of intensive character, commencing in September and completed in early December, and a spring session commencing in the middle of January and completed in the middle of April Each course consists of two parts Part A includes lectures and demonstrations on the anatomy, histology, and physiology of the nervous system, with lectures on psychology and demonstrations in experimental psychology Part B comprises lectures and clinical demonstrations in psychology, including lectures and demonstrations in the morbid anatomy of the nervous system a series of lectures, with clinical demonstrations, on different branches of psychological medicine, and lectures, with clinical demonstrations, on mental deficiency Entrants for the course who pay a composition fee of 15 guineas may, if due notice is given, attend either Part A or Part B of one course and postpone the other part until the next session An entrant who wishes to attend one part only pays a fee of 10 guineas An entrant who takes the complete course can attend the general clinical practice of the hospital on payment of 5 guineas for six months, or 10 guineas for one year, but an entrant who does not take either part of the course and desires to attend the clinical practice of the hospital must pay a fee of 5 guineas for each three months of attendance To enable post graduates to obtain special experience in this branch of medicine clinical assistants are appointed from time to time Further particulars may be obtained from the Physician Superintendent Monks Orchard, Eden Park, Beckenham, Kent

National Hospital Queen Square

Post graduate courses which fulfil the requirements of the regulations for the Diploma in Psychological Medicine in regard to instruction in nervous diseases are held at the National Hospital, Queen Square, Bloomsbury, W C 1, thrice annually, usually during February to March May to June, and October to November Lectures on the anatomy, physiology and pathology of the nervous system and various clinical lectures are delivered and demonstrations are given Out patient clinics are held at the hospital on the afternoons of Mondays, Tuesdays Wednesdays Thursdays and Fridays In inclusive fee of 10 guineas is charged for the whole course, but any part of the course can be taken separately at a special fee A special arrangement is made for those unable to attend the whole course, and for details applications should be made to the Dean of the Medical School Fees are payable to the secretary of the hospital on entering for the course

Tavistock Square Clinic for Functional Nervous Disorders

Courses in the theory and practice of modern psychotherapy are held at this clinic every term The subjects dealt with include the various schools of analytical psychology, treatment by persuasion and suggestion, differential diagnosis, and physical factors Syllabus and particulars of dates and fees may be obtained from the Honorary Lecture Secretary at 51, Tavistock Square, London W C 1 Clinical assistantships are from time to time available for graduates who have attended such courses The director of the clinic is Dr H Crichton Miller the deputy director Dr J R Rees, and there is a large children's department The 'short course" lasts for a fortnight and consists of twenty lectures, ten case discussions, and two demonstrations It is intended for senior students and those engaged in post graduate study The "long course" lasts for twelve weeks, and consists of two lectures on Wednesday afternoons It is intended for senior students, and particularly for general practitioners in the London area

Particulars of the courses of instruction arranged by the other universities granting the diploma may be obtained on application to the addresses given above (see Diplomas)

MENTAL HOSPITAL APPOINTMENTS

Those who take up psychiatry as a career work as medical officers of public or private mental hospitals or similar institutions Except in the larger institutions, such as those under the control of the London County Council, where a number of the medical officers are allowed to live out if married, the medical staff are resident officers, having board, lodging, etc, either in the hospital itself or a residence in the grounds Junior assistant medical officers receive about £300 to £400 per annum, and senior assistant medical officers about £500 to £700, in both cases with board, lodging, laundry, etc, in addition, if married, the board, etc, is commuted for cash As the mental hospitals are under local control the salaries vary much in different asylums Medical superintendents, who are par

commonly ranges between £800 and £1,500 per annum are provided with a house in the grounds of the hospital, and draw various allowances.

Since the passing of the Asylum Officer Superannuation Act of 1909, all officers and others of the establishment of a public (county or borough asylum) mental hospital may retire at the age of 55 on a pension varying from one-half to two-thirds of the value of their pay and emoluments, or one fiftieth for every year served, paying as contribution 3 per cent. of the value of the appointment annually. The very favourable pro pects may not appeal to junior practitioners joining the service, but will eventually prove to be a valuable asset.

Prospects in the Public Service

Appointments to the public mental hospital are made by the visiting committees and in most cases only the junior posts are open to those who have not had previous experience in psychiatry. Since the public mental hospital service is a local and except indirectly not an imperial one, the promotion tend to be low and uncertain, and the higher positions are not always advertised and thus thrown open to competition. For this and other reasons mental hospital work has undoubtedly not been in favour with newly qualified men in recent years, but the general condition of service continue to show a progressive improvement.

Both the British Medical Association and the Royal Medico-Psychological Association are working separately and together to improve present conditions of service and have, for example, already removed the celibacy objection to the service. The salaries have also been considerably increased especially in the junior ranks. During the last few years considerable progress has been made in the conditions under which the insane are treated. The mental hospitals are developing an atmosphere approximating more closely to that of the general hospitals. As a result of these developments the mental hospital service is becoming more attractive, and now affords greater opportunities for the medical graduate who proposes to specialize in psychiatry.

While routine administrative and clerical work built largely in mental hospital duties as they do in other public medical services there is ample material time and scope for purely medical work and research—difficult as the subject may be—in psychiatry a one of the branches of medicine open to young graduates. Most mental hospitals are now equipped with efficient clinical laboratories, moreover, those who wish to undertake research are afforded every opportunity of doing so in the pathological department of the Maudsley Hospital and also in various other centres in England and Scotland.

THE PUBLIC HEALTH MEDICAL SERVICES

The central authority to secure the adoption and effective administration of measure conducive to the health of the people, and to promote research work and the proper training of persons for health services is the Ministry of Health.

For the purpose of local public health administration the whole of England and Wales is divided into counties county boroughs boroughs and urban and rural sanitary districts. The administrative County of London exclusive of the City of London, is divided into twenty-eight metropolitan boroughs.

The public health medical services for Great Britain embrace between three and four thousand medical men and women who give whole-time services and in addition, a large number who give part-time services. The medical officers appointed for these services may be either medical officers of the Ministry of Health for England and of the corresponding Boards of Health for Scotland and Wales or —and these form the large majority—they may be medical officer appointed by the many local public health authorities. The latter appointments include medical officers of health tuberculosis medical officers maternity and child welfare medical officers venereal diseases medical officers and school medical officers—who must be regarded as working in the health interest of the school child. By the larger public health authorities assistant medical officer are also appointed and these posts often serve as stepping stones to the higher offices as vacancies which are required to be advertised occur.

Medical Service of the Central Authority

For England the medical work of the Ministry of Health has been organized under the control of a Chief Medical Officer. It is subdivided into eight sections with a senior medical officer at the head of each and about a hundred medical officers or whole-time equivalent medical officer employed for certain duties under the Health Insurance Act. Briefly the section deal with environmental hygiene epidemiology, and international health matters and child welfare tuberculosis and venereal diseases the supervision of the food supplies sanitary administration in relation to infectious diseases national health insurance, and the school medical service. Vacancies in the staff are advertised from time to time in the medical journals and appointments are made by the Minister on the recommendation of a Selection Committee. These are Civil Service appointments subject to the usual conditions as to pension holidays etc. Medical officers are also employed by the Welsh Board of Health (Cardiff) and the Department of Health for Scotland (Edinburgh).

Medical Officer of Health

The duties of a medical officer of health are to inform himself upon all influences affecting or threatening to affect injuriously the public health within his district to advise the sanitary authority upon all matters relating to health and to perform all the duties imposed upon him by statute by law and regulations. He must prepare and submit to his local authority special and annual reports give immediate information to the Ministry of Health of any serious outbreak of disease and subject to the instruction of the sanitary authority he shall direct or superintend the work of sanitary inspection.

By the Sanitary Officers Order 1926 no person is qualified to be hereafter appointed or reappointed as a medical officer of health of any district or combination of districts unless in addition to the qualifications prescribed by any statute he is also either registered in the Medical Register as the holder of a Diploma in Public Health Sanitary Science or State Medicine or has had not less than three years previous experience of the duties of a medical officer of health.

The Public Health (Officers) Act 1921, which was promoted by the British Medical Association, provides that a whole time medical officer of health of a county borough or urban and rural district in England and Wales a part of whose salary is contributed by the Exchequer shall not be appointed for a limited period and shall not be removed from his office except by or with the consent of the Minister of Health. A similar security of tenure also applies to all medical officers of health of county councils areas of London boroughs.

Under the Sanitary Officers Order 1926 a medical officer of health who does not devote his whole time to the duties of his office but a portion of whose salary is obtained from Exchequer grant may be appointed without limit of time in which case he cannot be removed from office without the consent of the Minister. If he is appointed for a specified term say one year he continues to hold office from year to year unless the Minister consents to his removal. Where the electing body pays the whole of the salary of such a medical officer of health he may be dismissed from office without reference to the Ministry of Health.

A considerable number of authorities have now adopted the Local Government and Other Officers Superannuation Act, 1922. Under this Act if an officer is incapacitated by

ill health after ten years of service, or if he has reached 65 years of age, he is entitled to superannuation on the following scale after ten years' service, 10/60 of the average salary which he received during the last five years of employment, after eleven years, 11/60, and so on up to a maximum of 40/60 after forty years or more of service. This Act, however, remains permissive, and it fails to make due allowance, in computing service for purposes of superannuation, for the more advanced age, as compared with other officials, at which the medical officer of health can enter the public service. In these two respects the position reached falls short of that for which the British Medical Association has been working for some years.

In Scotland the position is different in some respects. The central authority is the Board of Health, with a staff of medical officers for health insurance work. Under the Public Health (Scotland) Act, 1897 no one can be appointed as medical officer of health for any area unless he possesses the Diploma in Public Health. No medical officer can be removed from office except with the sanction of the Board of Health. A "proper" salary must be paid, and the local authority may not bring about the resignation of the officer by indirect means, such as reducing the salary or attaching new conditions to the appointment. The Act says nothing about superannuation or the age of retirement.

School Medical Officers

School medical officers are appointed by local education authorities. Primarily their duty is to detect among the children attending the public elementary schools any physical or mental defect which may retard education, and to inform their parents of its existence. Most approved schemes of medical inspection include arrangements which facilitate the task of parents in obtaining for their children the necessary treatment, check the results of this treatment, and keep each defective child under skilled observation both at home and at school until it has passed altogether out of the education authorities' hands. Indeed, it is now the practice for the education authorities themselves to provide for certain ameliorative work, notably the prescription of glasses where necessary, dental treatment, the removal of adenoids and tonsils, and treatment in connexion with certain diseases of the skin and some physical and mental defects. The general effect of all schemes alike is to make the inspection imposed by law of benefit, not merely to the individual child, but to the community at large, by preventing the development of conditions which lead to the existence of a large proportion of inefficient citizens among the adult population. The work is so related to that of medical officers of health that, generally, the senior school medical officer fills both appointments, his work, when necessary, being supplemented by that of whole- or part-time assistants. A diploma in public health is almost always required of those entering the school medical service.

In Scotland, while the statutory authority for the work of the school medical service is different, the scheme of work is broadly the same.

Tuberculosis Medical Officers

A tuberculosis medical officer is a whole-time officer with special training and experience in tuberculosis work and of a suitable age and attainments to command general confidence. In England such officers are appointed by county councils and county borough councils, and their duties are to carry out the work of diagnosis of tuberculosis, to advise as to treatment and to take charge of the work of tuberculosis dispensaries and sanatoriums where these are in operation. The work under tuberculosis schemes is co-ordinated with the general public health work of local authorities, and so the medical officer of health is often appointed as the chief tuberculosis officer, or when a special tuberculosis officer is on the staff of the local authority. The arrangements in Scotland are very similar. In Wales tuberculosis work is carried out under the aegis of the Welsh National Memorial Association, upon which the constituent local authorities are represented, and the appointments of tuberculosis officers are vested in the Association.

Maternity and Child Welfare Medical Officers

Any public health local authority, however small, may make arrangements for maternity and child welfare work within its area, although very generally the smaller local authorities are provided for in county council schemes. For the schemes of the smaller local authorities the services of a part-time medical officer are obtained when the medical officer of health does not himself undertake the duties, but for the larger schemes special whole-time appointments are made. The maternity and child welfare medical officer is responsible for the work at the centres provided and for directing the home visitations, and these activities are closely co-ordinated with the other branches of public health work directed by the medical officer of health.

Much of this work was commenced in different parts of the country by voluntary organizations, some of it still remains in their hands, and is only loosely linked up with the public health local authority, but the tendency is for the whole of it to be undertaken by the local authorities. A large number of women medical officers have been appointed to these posts.

Venereal Diseases Officers

Schemes for the diagnosis and treatment of venereal diseases are provided and administered by county councils and county borough councils. In some cases the officer is on the whole-time public health staff, and in others he is a part-time official. Special knowledge and practical experience in the treatment of venereal diseases are essential. The officer appointed for either whole-time or part-time service works at one or more clinics, and also gives instructions and assistance in the treatment of venereal diseases to general practitioners, who are allowed to attend the clinics.

Remuneration in the Public Health Service

In order to ensure that public health authorities may obtain skilled and highly trained medical officers it is essential that such officers should receive salaries commensurate with their attainments, bearing a reasonable relationship to the time and money expended in fitting them for their important and responsible duties, and comparing well with the income which might be secured in other lines of medical work. With this end in view the British Medical Association and the Society of Medical Officers of Health prepared a scale of minimum commencing salaries for whole-time public health medical officers.

The scale, which was put into operation in 1925, was attended with a large measure of success. There were, however, certain aspects of it which were not entirely satisfactory. For instance, it was not retrospective and did not, therefore, apply to medical officers who had been appointed prior to the date on which it came into force, and it contained no provision for specified increments in salary.

As the result of a series of conferences between representatives of the various Associations of Local Authorities and the British Medical Association and Society of Medical Officers of Health, under the chairmanship of Lord Askwith, a Memorandum of Recommendations in regard to salaries of public health medical officers has been drawn up and came into force in June of this year. This Memorandum was published in the *Supplement* to the *British Medical Journal* of July 27th, 1929 (p. 71). It has been adopted by the Representative Body and has been accepted by the representatives of the following bodies representing local authorities:

- The Association of Municipal Corporations
- The Urban District Councils Association
- The Rural District Councils Association
- The London County Council
- The Association of Education Committees
- The Mental Hospitals Association
- The Metropolitan Boroughs Standing Joint Committee

Unfortunately, it has not been accepted by the county councils as a whole. A small number of them have accepted it, but the majority, for various reasons do not see their way to adopt it. The advertisements of local authorities

who are not prepared to put into effect the whole of the recommendations will not be published by the *British Medical Journal* which in this matter will have the co-operation of the *Lancet* and the *Medical Officer*.

The great advantage of the Memorandum is that it embodies a general agreement as to salaries and conditions of service, and is not merely a scale of salaries. It is retrospective and will therefore benefit officers appointed before it came into force. It provides stated increments for practically all medical officers except those in the chief medical officer of health who as the chief medical official may it is presumed depend that the commencing salaries mentioned in the Memorandum will be increased for meritorious work and year of service and it contains a very valuable provision by which questions of difficulty can be referred to an advisory committee.

For the right class of practitioner with leanings in the direction of public health work the service offers an attractive career, but it must always be remembered that there are comparatively few posts which carry high salaries.

The Regulations for the Diploma in Public Health

The Examination

By the most recent Regulations or Rules of the General Medical Council which came into force on January 1st 1924, the examination for the D.P.H. is divided into two parts and no candidate is allowed to sit for the final part of the examination until two years have elapsed since a registrable qualification was obtained. The object of this two years interval is to provide opportunity for candidates for the Diploma or Degree in Sanitary Science Public Health or State Medicine to pass from the state of pupilage to that of responsible practitioners to give mature consideration to the obligations and duties involved in the work of the Public Health Service and to acquire direct experience of medical work in a responsible capacity either in practice or in hospital or laboratory appointments.

The examination is both written and oral and must include a practical examination in bacteriology and chemistry (Part I) and in infectious diseases food inspection inspection of premises dwellings factories work shops schools etc. (Part II).

Any candidate who possesses a qualification entitling him to registration on the British Dominion or Foreign List or the *Medical Register* can be admitted to examination provided he has complied with the regulations of a licensing body in the United Kingdom based on the rules of the General Medical Council and that before being admitted to Part II of the examination his qualification has been registered in the United Kingdom. Only diplomas in public health granted by bodies in the United Kingdom are registrable in the *Medical Register*.

The Curriculum for the Diploma in Public Health

The curriculum must extend over a period of twelve months, and a candidate is admitted to either part of the examination after he has completed the prescribed courses of instruction in the subjects thereof. At least five months must be given to practical laboratory instruction in an institution approved by the licensing body in the subjects

(1) Bacteriology and parasitology including entomology especially in relation to diseases of man and to those diseases transmissible to man from the lower animals (120 hours of such instruction is required)

(2) Chemistry and physics in relation to public health (90 hours of such instruction is required)

(3) Meteorology and climatology (10 hours of such instruction is required)

Therefore at least 220 hours of practical instruction extending over a period of at least five months is demanded before a candidate is eligible for Part I of the examination.

For a candidate to become eligible for Part II of the examination he must first receive instruction in

(1) Principles of public health and sanitation (for approximately 30 hours)

(2) Epidemiology and vital statistics (approximately 20 hours)

(3) Sanitary law and administration including public medical services (approximately 20 hours)

(4) Sanitary construction and planning (approximately 10 hours)

(5) Every candidate must also have made thirty attendances of not less than two hours in each week of a three months' period at the clinical practice of a recognized hospital for infectious diseases and he must have received instruction in methods of administration.

(6) Every candidate must produce evidence that he has during a period of not less than six months been engaged in acquiring a practical knowledge of the duties routine and special of a medical officer of health administration under the supervision of a medical officer of health who shall certify that the candidate has received from this officer or other competent medical officer during not less than three hours on each of sixty working days practical instruction in these duties and those relating to

(a) Maternity and child welfare service
(b) Health service for children of school age
(c) Venereal disease service
(d) Tuberculosis service
(e) Industrial hygiene
(f) Inspection and control of food including meat and milk.

Certificates of having received the prescribed instruction in public health administration must be given by a medical officer of health who devotes his whole time to public health work or by the medical officer of health of a sanitary area having a population of not less than 50,000 or in Ireland by the medical superintendent officer of health of a county or county borough having a population of not less than 50,000.

Training and Examining Centres for Public Health Qualifications

Degrees in Sanitary Science are conferred in England by the Universities of London, Durham Liverpool, and Birmingham, in Scotland, by the Universities of Glasgow and Edinburgh and in Ireland by the Universities of Dublin and Cork. In most cases these degrees are conferred only upon medical graduates of the universities granting them.

Whereas for the Diploma of Public Health the requirements of the General Medical Council are strictly confined to these requirements are extended as a rule a demanded before Degrees in Sanitary Science are granted. Almost all the universities of Great Britain and Ireland grant a D.P.H. and provide for the necessary training. The English and Scottish Conjoint Boards and the Irish Colleges also grant these diplomas.

The post-graduate teaching and training in public health in London is provided mainly at one centre—the London School of Hygiene and Tropical Medicine (University of London) the only other training centre which offers such facilities being the Royal Institute of Public Health.

The course of study for the D.P.H. a provided by the London School of Hygiene and Tropical Medicine is for a period of twelve calendar months and students who have obtained diplomas in tropical medicine proceed to the new academic diploma in public health. The University of London School of Hygiene and Tropical Medicine offers extensive facilities for research work in connection with public health problems placed at their disposal and are privileged to attend room staff and special lectures.

The Royal Naval Medical College and the Royal Army Medical College provide courses of training to the medical officers of the two services.

Degrees and Diplomas in Public Health are registrable qualifications but not so those in Tropical Medicine and Hygiene.

Qualifications in Tropical Medicine and Hygiene

The University of London grants a degree (M.D. in Tropical Medicine) to its medical graduate and the course of training required must extend over at least one academic year.

Diplomas in Tropical Medicine and Hygiene are granted in England by the Universities of Cambridge and Liverpool and by the English Conjoint Board and in Scotland by the University of Edinburgh. Among the institutions which provide qualifying courses are the London School of Hygiene and Tropical Medicine the Liverpool School of Tropical Medicine and the Royal Army Medical College restricted to army medical officers. The training provided is In the last-mentioned institution the training period for these diplomas is about six months. Graduates of medicine and surgery of recognized universities whose degrees are not registrable in this country may enter for the examination of the English Conjoint Board, and the

conditions of study may be modified on the grounds of previous work in the Tropics or of original investigations undertaken

The Colonial Office has decreed recently that the holder of a D T M and H, or of a D T H, is eligible for appointment as a medical officer of health in places and districts other than those with large populations In the latter cases a D P H is required

Those wishing for the details of syllabus of study, fees, date of commencement of the training courses, and the dates of examinations, etc, of any particular training course or examining body, will find these fully and clearly set out with notes and comments, in the *Guide to the Regulations, Courses and Examinations for Qualifications in Public Health and Tropical Medicine and Hygiene in Great Britain and Ireland*, which has been prepared by Sir Andrew Balfour, K C M G, and published by the British Medical Association (Tavistock Square, W C 1) The price is 3s net

The University of Manchester has a well-equipped department of bacteriology and preventive medicine, where candidates preparing for the examinations of the various university and examining boards for the Diploma in Public Health can obtain instruction It also prepares candidates for the Diploma in Bacteriology and in Veterinary State Medicine, granted by the university, and for its Certificates in Factory Hygiene and School Hygiene Full particulars can be obtained from the Dean of the Medical School, the University, Manchester

The University of Edinburgh grants a Diploma in Public Health The course, which extends over a period of twelve calendar months, can be commenced in October only, and provision is made by the university for instruction in all the subjects Candidates for the diploma must be graduates in medicine and surgery of the University of Edinburgh, or must hold corresponding degrees or registrable medical qualifications, which must be registered before a candidate is admitted to examination The course for the diploma is divided into two parts, for each of which examinations are held twice annually—in March and July for Part I, and in October and March for Part II In each part the candidate must pass in all the specified subjects at one examination Admission to the examinations is contingent upon the candidate having complied with the following conditions

PART I.—(*a*) Completion, subsequent to obtaining a registrable medical qualification, of the course of instruction prescribed for Part I

PART II.—(*b*) Completion, subsequent to obtaining a registrable medical qualification, of the course of instruction prescribed for Part II (*c*) A lapse of two years after obtaining a registrable medical qualification (*d*) Previous passage of examination in all subjects of Part I

Further particulars can be obtained from the Dean of the Faculty of Medicine, Edinburgh

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

A CAREER as a medical officer in the Royal Navy offers very definite attractions In the large naval hospitals the medical, surgical, and specialist work is of a very high standard The work is exacting, and it is the aim of the Admiralty to arrange appointments as far as possible so that medical officers have an opportunity of alternating their work not only at home and abroad, but also ashore and afloat

To give naval surgeons opportunities for professional work has always been a very definite policy of the Admiralty, and within the last year or so this matter has received still further attention The general and specialist courses have been increased so that, as far as possible, every officer shall have a course of instruction of not less than four months' duration every four years The number of specialists allowed is now sixty, and the specialist allowance is 5s a day The establishment of Surgeon Captains has been increased to twenty and every recent improvement has been made towards giving increased opportunities of advancement and accelerated promotion to the best men

Examinations for direct entry into the Medical Service are at present in abeyance Entries are made by means of the short-service scheme

General Conditions of the Short service Scheme

A candidate must be registered, must be under 30 years of age, and must be recommended by the dean of his school, if, however, the candidate intends to apply for transfer to the permanent list, he must have been under 28 years of age at the time of his entry He must be a British subject of pure European descent Unmarried candidates will be preferred A candidate will be interviewed by the Medical Director General R N and will undergo a physical examination If considered eligible by the Medical Director General his name will be submitted to the Board of Admiralty, and he may be appointed "surgeon lieutenant for short service" A candidate must engage for three years, with the option of continuing for a further period of twelve months if his services are still required The present rate of pay is £1 4s 8d a day or £450 3s 4d a year, with the same allowances as are payable to permanent officers of their rank Lodging money at the rate of £80 a year is usually allowed when employed on shore, without quarters in the United Kingdom, and £56 10s a year in lieu of rations when not victualled in kind On joining an allowance of £50 for uniform is made

An officer engaged for three years is entitled to receive two months' notice of his services being no longer required A gratuity of £8 6s 8d will be payable to officers for each completed month of service on completion of their period of service, or to any who are invalided for causes not within their own control before the completion of the prescribed period

Transfer to Permanent Service

A short service surgeon lieutenant, after six months service, may be considered, on application to the Secretary of the Admiralty, for transfer to the permanent service, and would be permitted to count his seniority from the date of entry for short service for purposes of promotion, increment of full pay, and for retired pay, but for purposes of retiring gratuity on the permanent officers' scale his service will reckon only from the date of transfer to the permanent list

Antedates of Seniority on Account of Civil Hospital Appointments held before Entry

Officers who have held appointments as medical or surgical officers in civil hospitals for any period prior to entry, after becoming qualified medical practitioners, are eligible to have their seniorities antedated by not more than one year The eligibility of appointments in civil hospitals to count for time will be decided by the Medical Director General of the Navy

The increase of seniority will count for the purpose of increase of full and retired pay, etc, as from date of transfer to the permanent list in the case of surgeon lieutenants for short service Short-service surgeon lieutenants claiming antedates of seniority must apply for transfer within eighteen months of entry

Promotion

Promotion to surgeon commander is attained on completion of twelve years' service, and officers of that rank are selected for promotion to the twenty seven higher ranks (surgeon captain, surgeon rear admiral, and Medical Director General) as vacancies occur

Officers obtaining more than 75 per cent of marks at the examinations held at the termination of Parts I and II of the course for promotion to surgeon commander are eligible for advances of seniority as follows

Over 75 per cent marks	12 months
„ 85 „ „ „	18 months

Special promotions (limited in number) may be made to the ranks of surgeon commander and surgeon lieutenant commander in cases of distinguished service or conspicuous professional merit

Medals and Prizes

The Gilbert Blane Medal, awarded annually to the surgeon lieutenant commander who obtains the highest aggregate marks at the examination for promotion to the rank of surgeon commander, and the Chadwick Naval Prize, the North Persian Forces Memorial Medal, and the Parkes Memorial Prize are open to naval medical officers

Post Graduate Instruction in the Naval Medical Service

Course on Entry.—A course of two months duration at the Royal Naval Hospital, Haslar, is given to each short service officer on entry

General Professional Courses.—These courses at the Royal Naval Hospital, Haslar, of four months' duration, are normally arranged for officers lower than surgeon captain's rank, once in every four years The subjects of these courses of instruction are clinical medicine and surgery and allied subjects, and on the completion of the courses officers are appointed to a large naval hospital unless and until they receive appointments elsewhere

Course for Promotion to Surgeon Commander.—This course of five months duration, is normally taken by officers of six to eight years' service Three months of the course are spent at the London Hospital, and two months at the Naval Medical School, Royal Naval College, Greenwich

Specialist Courses.—These courses, of three to six months duration are arranged at recognized civil teaching centres for officers selected for specialist posts, and officers will subsequently undergo

courses of three months' duration in their special subjects every four years while employed as specialists.

Refresher Courses (Old Scheme).—The existing three months' post-graduate courses at civil hospitals will to a large extent be superseded by the general professional and specialist courses described above, but it is not intended to discontinue until the new courses have been in operation for some years.

Medical officers R.N. are given the opportunity to prepare for and take higher specialist qualifications—for example, M.D., M.R.C.P., F.R.C.S., D.P.H., D.T.M. etc.

Rates of Pay

The current rates of full pay and retired pay are set out below. The 1 per cent. addition which was made in 1920 when the cost of living was high, 20 per cent. of the standard rate is regarded as variable, a deduction of 7 per cent. from the standard rate which were fixed in 1922 when the cost of living was low. The 1 per cent. addition will be varied from time to time in accordance with the cost of living figures or fall.

Full Pay

	Per Annum
	£
Surgeon Lieutenant (Short service and Permanent Entry)	365
Surgeon Lieutenant Commander (from 1 after 6 years' service)	450 to 543
Surgeon Commander (from 1 after 6 years' service)	533 to 657
Surgeon Captain (promotion by selection)	657
Surgeon Rear Admiral (promotion by selection)	1,101 to 1,825
Medical Director General (Surgeon Vice Admiral)	2,555

There are also allowances which form a substantial addition to the rates of pay. There are specialist appointments open to medical officers. They comprise specialist posts in medicine, surgery, diseases of the eye, ear, nose and throat, radiology, hygiene, etc., and an allowance at the rate of 5s. a day is payable to holders of them.

Medical officer in charge of naval hospitals and sick quarters receive charge pay on the following scale:

Surgeon Rear Admirals and Surgeon Captains	10s. a day
Surgeon Commanders	£1 a day

Maximum Retired Pay
(Approximate current rates.)

	£	Age for compulsory retirement
Surgeon Vice Admiral	1,112	On vacating office
Surgeon Rear Admiral	890	60
Surgeon Captain	834	55
Surgeon Commander	556	50
Surgeon Lieutenant Commander and Surgeon Lieutenant	419	45

Thus an officer who is not promoted above the rank of Surgeon Commander would be compulsorily retired at the age of 50.

Gratuities on Retirement

The following gratuities are payable if an officer of the permanent list is permitted to retire voluntarily:

After years full pay service	£
8	500
12	1,000
16	1,500
	250

Further Particulars

Full particulars and a form of declaration can be obtained from the Medical Director-General, Admiralty, Queen Anne's Chambers, Tothill Street, London, S.W.1.

ARMY MEDICAL SERVICES

ENTRANCE to the Royal Army Medical Corps, either by competitive examination or by selection as decided by the Army Council, will take place half-yearly in January and July. The examinations in medicine and surgery are entirely of a clinical and practical character, partly written and partly oral.

In addition to the grant of permanent commissions the War Office offers a number of temporary commissions in the Royal Army Medical Corps, the holders of which may be invited at the end of twelve months' service (if suitable and provided that vacancies exist) to accept permanent commissions in the Royal Army Medical Corps. If a permanent commission is accepted the temporary service is allowed to count as the equivalent of permanent service for promotion, increase of pay and retired pay. These conditions enable the young medical man to make a quaintance with army life without detriment to his tunate prospects, before deciding whether to make a permanent career in the Royal Army Medical Corps.

The regulations for admission, giving full details, can be obtained from the Under Secretary of State (A.M.D.1), War Office, Whitehall, London, S.W.1, and should be carefully studied. A personal interview with a representative of the Director-General, Army Medical Services, is readily obtainable.

The rates of pay and allowances are good, the opportunities of post-graduate study are generous, and the work is varied, responsible and interesting. The gratuities after certain periods of service enable officers who should he so desire to leave the service with a capital sum large enough to go a long way towards establishing him in civil life and further the knowledge of the world and the comradeship of his fellow officers that he has gained in the Army will be of no small value to him.

New entrants, who must be 22 and not over 28 years of age, are commissioned in the rank of lieutenant; the first six months of service are spent on probation during which time in addition to their military training at the Royal Army Medical Corps Depot at Aldershot they undergo a probationary course at the Royal Army Medical College in London in hygiene, pathology, tropical medicine, military surgery, recruiting, the prevention and treatment of venereal disease and the elements of army administration. At the end of this course and after qualifying at the necessary examinations their commissions are confirmed and their relative places in seniority according to the total marks obtained at all examinations up to that date. Officers Training Corps service with possession of certificate "A" or "B" (medical) carries a definite value in marks in this total.

An entrant who is holding or about to hold at the time of the entrance examination an approved whole-time appointment at a recognized hospital may be seconded while holding such an appointment up to a maximum period of twelve months. A candidate who has held such an appointment within six months of entry may be granted an antedate up to twelve months in respect of the period the appointment was held. This secondment and antedate count in all respects as commissioned service except that pay will not be issued for that period. The Army Council is endeavouring to arrange for all officers who have not themselves obtained a civil hospital appointment to be given a house appointment in a civil hospital for six months' both after they receive their commissions.

After a total period of one year's service at home the young officer goes abroad, probably to India for his first tour of foreign service. Here he gains his first practical experience of tropical disease and tropical hygiene and possibly his first experience of active service on the frontiers of India. His tour abroad lasts five years with probably six months' leave home during that time. On returning home the R.A.M.C. officer has the opportunity to decide whether he will remain in the Corps or accept the gratuity of £1,000 after seven years' service and try his fortune in civil life. If he elects to remain he will be between his eighth and twelfth year of service undergo a course of post-graduate study at the Royal Army Medical College and the London hospitals of five months' duration followed by a course of study of a special subject elected by himself provided he has shown special aptitude in the post-graduate course or during his previous service. During the period of study he remains on full pay and the fees of the course are paid by the State. When qualified in his special subject the officer is eligible for a specialist appointment. The total number of these appointments is 108 and the additional rate of pay 4s. 6d. a day. After this post-graduate course the officer probably proceeds abroad again and promotion to major rapidly ensues. From that time onward he receives regular successive increases of pay and is eligible for additional and charge pay as well. Directorates of hygiene and pathology and the appointment of two serving officers as consultants in medicine and surgery have been instituted and have proved a marked success. All these appointments are of the rank of colonel or major-general and were devised to permit specially selected officers to rise through all ranks to that of major-general on the strength of their professional or purely scientific work.

Under these conditions the possibilities for good workers are very great in the Royal Army Medical Corps. There is scope for original research in tropical disease in preventive medicine and in bacteriology as well as in the large clinical field open to the specialist in medicine, surgery, or gynaecology, in venereal disease, and in

Pay and Allowances at Home

Rank	Pay per Diem *	Rations †	Servant	Married			Unmarried		Approximate Yearly Total	
				Lodging	Fuel and Light (Average)	Furniture Allowance	Lodging	Fuel and Light (Average)	Married	Unmarried
	£ s d	s d	s d	s d	s d	s d	s d	s d	£ s d	£ s d
Lieutenant	1 0 6	1 6	2 0	3 6	1 8	2 0	2 6	0 8	569 0 0	497 0 0
Captain	1 5 2	1 6	2 0	4 6	2 9	2 0	2 6	0 8	692 0 0	582 0 0
Captain after 8 years service	1 7 10	1 6	2 0	4 6	2 9	2 0	2 6	0 8	741 0 0	631 0 0
Captain after 10 years service	1 10 2	1 6	2 0	4 6	2 9	2 0	2 6	0 8	783 0 0	674 0 0
Major	1 14 10	1 6	2 0	4 6	2 11	2 0	4 0	1 3	872 0 0	791 0 0
Major after 15 years service	1 19 6	1 6	2 0	4 6	2 11	2 0	4 0	1 3	957 0 0	881 0 0
Major after 18 years service	2 1 10	1 6	2 0	4 6	2 11	2 0	4 0	1 3	999 0 0	923 0 0
Major after 20 years service	2 6 6	1 6	2 0	4 6	2 11	2 0	4 0	1 3	1085 0 0	1009 0 0
Lieutenant Colonel	2 13 6	1 6	2 0	4 6	3 0	2 0	4 6	2 5	1213 0 0	1166 0 0
Lieutenant Colonel after 3 years service as such	2 18 2	1 6	2 0	4 6	3 0	2 0	4 6	2 5	1299 0 0	1252 0 0
Colonel	3 5 2	1 6	2 0	5 6	3 11	2 0	5 6	2 9	1461 0 0	1403 0 0
Major General	4 8 4	1 6	4 0	11 0	5 0	2 0	11 0	3 11	2038 0 0	1983 0 0

* Pay Warrant rates (as amended by A O 196/26) less 7 per cent from July 1st 1930 vide A O 237 of 1929 The Pay Warrant rates are subject to revision to an extent not exceeding 20 per cent according to variation in the cost of living. The next revision takes place from July 1st 1931

† Rates of Allowances vary from time to time, and issues are subject to conditions laid down in the Allowance Regulations

ophthalmology Child welfare is also undertaken systematically by officers of the Royal Army Medical Corps At the same time, instruction in administration is continuous There are also many appointments carrying administrative responsibility to those officers who display capacity for this duty

Promotion

Promotion takes place automatically to captain after three and a half years' and to major after twelve years' service, provided the officer is qualified and recommended for promotion Promotion to the higher ranks is by selection from those senior in the rank below, but special promotion by brevet or otherwise is open to officers of the Royal Army Medical Corps

Pay and Allowances

The rates of pay and allowances are given in the table given above In addition, an officer at home in charge of a hospital receives charge pay, the daily amounts being from 2s 6d to 10s, according to the number of beds There are other appointments for which charge pay is given from 5s to 10s daily

Retirement and Retired Pay

Retired pay will consist of two parts (*a*) a service element based on the officer's total service, (*b*) a rank element for the substantive rank from which the officer retires An officer with less than twenty complete years' service will not be eligible for retired pay on voluntary retirement The scale, subject to the reduction of 7 per cent referred to on page 397, is, for the service element, £15 a year for each completed year of service as a medical officer For the rank element the scale is as follows

Substantive Rank from which Retired	After Completing 1 year's Service in the Rank	After Completing each Additional Year's Service	Maximum Rank Element
	£	£	£
Major	12	12	120
Lieutenant-Colonel	150	30	240
Colonel	290	50	390
Major-General	440	50	540
Lieutenant-General	590	50	690

The retired pay of an officer retiring with less than one complete year's service in the rank from which he retires will be assessed as though he had retired from the rank below

Rates of Pay for Officers Serving in India

Rank	Rates of Pay per Month						
	Unmarried			Married			
	Pay of Rank	Unmarried Rates of Lodging Allowance	Total	Pay of Rank	Married Rates of Lodging Allowance	Marriage Allowance	Total
	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees
Lieutenant	625	25	650	625	50	65	*740
Captain	755	45	800	755	90	100	*915
Captain after 8 years service	860	45	905	860	90	100	1050
Captain after 10 years' service	930	45	975	930	90	100	1120
Major	1070	55	1125	1070	110	90	1270
Major after 15 years service	1170	55	1225	1170	110	90	1370
Major after 18 years service	1320	55	1375	1320	110	90	1520
Major after 20 years service	1420	55	1475	1420	110	90	1620
Lieutenant-Colonel	1575	75	1650	1575	150	75	1800
Lieutenant Colonel after 3 years service	1750	75	1825	1750	150	75	975

* Married rate of pay is not admissible to officers whose age is under 30

The maximum standard rates of retired pay are as follows

Captain and Subaltern	£300
Major	£450
Lieutenant-Colonel	£600
Colonel	£800
Major-General	£1,000
Lieutenant-General	£1,200

The above rates are those laid down in the Pay Warrant. They have been reduced by 7 per cent. as from July 1st 1930. Further revision may take place triennially to an extent not exceeding 20 per cent. according to variation in the cost of living.

Officers with seven and less than twenty years' service as medical officers may be permitted to retire with a gratuity in accordance with the following scale:

After 7 years' service as a medical officer	£1,000
After 15 years' service as a medical officer	£2,850
After 18 years' service as a medical officer	£3,500

Seconded Service

An officer may be permitted to accept employment in the Foreign or Colonial Offices when so seconded he is not eligible for pay or allowances from army funds but his service continues to reckon towards promotion and under certain conditions towards increase of pay, pension or gratuity.

THE ARMY DENTAL CORPS

The corps is administered by the Director General, Army Medical Services. The regulations for admission to the Army Dental Corps should be obtained from the Under Secretary of State, War Office, and carefully studied.

ROYAL AIR FORCE MEDICAL SERVICE

THE Air Council attaches great importance to attracting into the R.A.F.M.S. the best type of medical man since on the capacity of the medical service depends in a peculiar degree the safety and efficiency of the Royal Air Force. The duties of these medical officers include, not only the prevention and treatment of the ordinary diseases to which the personnel of any fighting service are liable, but the special study of the mental and physical stresses imposed on the airman in diverse circumstances and climates—a new branch of medicine which still provides considerable scope for research.

As promotion to the higher medical ranks is by selection from officers who are eligible by reason of length of service, and as a certain proportion of the higher ranks will be reserved for purely professional as opposed to administrative appointments, it will be seen that there are excellent prospects for the young medical officer who exhibits ability and energy in professional work as well as for those who develop a talent for administration. Duties will, as a matter of course, give him flying experience as a passenger, which is necessary for the proper study of the medical problems of aviation and for gaining first hand knowledge of the conditions under which his comrades serve.

Commissions

The establishment will consist partly of permanent and partly of short service officers.

An officer will on first entry, be granted a short-service commission for a period of three years on the active list (which may be extended to five years at the discretion of the Air Council if the officer so wishes on the recommendation of the Director of Medical Services) and of four years in the Reserve of Air Force Officers. Selections for permanent commissions will be made from officers holding short service commissions and those who are not selected will be transferred to the Reserve at the expiration of their period of service on the active list. For the entrants who desire it the prospect of obtaining a permanent commission is approximately an even one.

Arrangements are in force under which an officer granted a short service commission who has previously held a resident appointment in a recognized civil hospital may, subject to certain conditions, be granted an antedate of the commission equal to the period of the appointment up to a maximum of one year. A similar arrangement obtains as regards a recognized hospital appointment which is held or about to be held at the date when the short-service commission is granted.

An officer who has been seconded or whose commission has been antedated as above will be required to serve for a minimum period of three years on the active list from the date of joining for actual R.A.F. duty.

Officers who have been granted permanent commissions may be permitted to attend, for a period not exceeding nine months, a post-graduate course in general medicine and surgery, tropical and preventive medicine and other special subjects. Such permission may be granted at any time when the exigencies of the service permit during the first sixteen years of service and when attending these courses officers will receive full pay and allowances.

New entrants into the R.A.F.M.S. will be commissioned as Flying Officers (Medical) and will be eligible for promotion to the rank of Flight Lieutenant (Medical) after two years' service. Officers selected for permanent commission will normally be promoted to the rank of Squadron Leader after ten years total service. Accelerated promotion may be granted in a limited number of cases to officers who show exceptional ability after the completion of eight years' service. Promotion

Royal Air Force Medical Branch. Rates of Pay and Allowances

Rank.	Pay: Daily Rates: Sterling	Pay: Daily Rates: Current	Pay: Per Annum (Current Rates)	Cash Allowances at Home Rates in lieu of Quarters, Rations and Servant if not available in kind per annum)†		Pay plus Allowances (per annum	
				Married.	Unmarried.	Married.	Unmarried.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Flying Officer	1 4 0	1 2 4	407 11 8	154 13 4	121 13 4	562 5 0	529 5 0
Flight Lieutenant	1 6 0	1 4 2	441 0 10	232 13 9	121 13 4	673 14 7	562 4 2
Ditto after 2 years as such	1 8 0	1 6 0	474 10 0	232 13 9	121 13 4	707 3 9	596 3 4
Ditto after 4 years as such	1 10 0	1 7 10	507 19 2	232 13 9	121 13 4	740 12 11	629 12 6
Squadron Leader	1 14 0	1 11 8	577 12 4	235 14 7	159 13 9	813 12 11	737 12 1
Ditto after 2 years as such	1 19 0	1 15 4	644 16 8	235 14 7	159 13 9	880 11 3	804 10 5
Ditto after 4 years as such	2 0 0	1 17 2	673 5 10	235 14 7	159 13 9	909 0 5	832 19 7
Ditto after 6 years as such	2 4 0	2 1 0	748 5 0	235 14 7	159 13 9	983 9 7	907 19 7
Ditto after 8 years as such	2 8 0	2 4 8	815 3 4	235 14 7	159 13 9	1050 18 11	975 17 1
Ditto after 10 years as such	2 10 0	2 6 6	848 12 6	235 14 7	159 13 9	1084 7 1	1008 6 3
Wing Commander	2 15 0	2 11 2	933 15 10	257 5 0	190 2 1	1191 0 10	1124 17 11
Ditto after 2 years as such	2 17 0	2 13 0	967 5 0	257 5 0	190 2 1	1224 10 0	1157 7 1
Ditto after 4 years as such	3 0 0	2 18 8	1070 13 4	257 5 0	190 2 1	1327 18 4	1260 15 5
Group Captain	3 10 0	3 5 2	1189 5 10	303 14 7	250 13 9	1493 0 5	1439 19 7
Air Commodore	4 0 0	3 14 4	1356 11 8	345 0 0	291 15 5	1701 11 8	1648 7 1
Air Vice Marshal	5 0 0	4 13 0	1,697 5 0	448 17 6	372 1 1	2,145 2 6	2,069 17 1

* Except for periods of service under Indian administration. For such periods officers receive pay and allowances at rates and subject to conditions authorized from time to time by the Government of India.

† These allowances are issued only when accommodation for fuel and light rations and personal attendance are not available in kind. Normally accommodation in kind is available for junior officers. ‡ Married rates of allowances are payable only to married officers who have reached the age of 33 or the rank of squadron leader. A colonial allowance is granted in certain commands abroad. The rates and general scheme of allowances are liable to revision as circumstances may require.

within establishment to the rank of Wing Commander will be by selection at any period after sixteen years' total service, and to that of Group Captain by selection at any period after twenty two years' service

There will be no competitive examination on entry, candidates must be under 28 years of age, be British subjects, the sons of British subjects, and of pure European descent and will be interviewed by a Selection Board at the Air Ministry, London, presided over by the Director of Medical Services, Royal Air Force, before acceptance, and will be required to pass a medical examination

On appointment entrants will undergo an initial course, during which they will be given instruction in the special medical aspects of aviation, the organization and administration of the Royal Air Force, and the general and special duties to be performed by officers in the Medical Branch

Uniform Allowance

An allowance of £50 towards the cost of uniform is made on joining to candidates who have not had previous commissioned service in H M Forces

Pay and Allowances

The emoluments of medical officers of the Royal Air Force are given in outline on page 397 The standard rates of pay and retired pay were drawn up on the basis of the high cost of living in 1919, and 20 per cent of each of the standard rates is detachable and subject to alteration upward or downward in relation to the increase or decrease of the cost of living above or below the cost in July, 1919 Under this provision the current rates now in force represent a reduction of approximately 7 per cent on the standard rates The next revision will take effect from July 1st, 1931

Retired Pay

The minimum period of service qualifying for retirement on retired pay is twenty years Standard rates of retired pay are as follows

Air Officers—Air Vice Marshal, £790 to £1,010 per annum, Air Commodore, £650 to £950 per annum

RETIRED PAY (PERMANENT OFFICERS)
Officers Below Air Rank

Age on Retirement	Standard Yearly Rate of Retired Pay	Years of Service	Addition for each Extra Year of Service *	Deduction for each Deficient Year of Service *
	£		£	£
40	300	17	15	15
41	337	17	15	15
42	375	18	15	15
43	412	18	15	15
44	450	19	15	15
45	487	19	15	15
46	525	20	15	15
47	562	20	15	15
48	600	21	15	15
49	637	21	15	15
50	675	22	15	15
51	697	22	22	15
52	720	23	22	15
53	742	23	22	15
54	765	24	22	15
55	790	24	22	15

* Limited to five years

The maximum standard rates of retired pay and the compulsory retiring ages for the several ranks are

Rank	Yearly Rate of Retired Pay	Compulsory Retiring Age
	£	
Air Vice-Marshal	1 010	60
Air Commodore	950	57
Group Captain	900	55
Wing Commander	600	51
Squadron Leader	500	48

Gratuities

A permanent officer allowed to retire before having qualified for retired pay may be granted a gratuity provided he has not less than ten years commissioned service—namely, £1,500 if he has ten but less than fifteen years' commissioned service, £2,500 after fifteen or more than fifteen years'

Short service officers will be eligible on passing to the Reserve for gratuities on the following scale £100 for each of the first two complete years of service, £150 for each of the third and fourth complete years, and £200 for the fifth complete year, that is, for three years' service on the active list £350, for five years £700

These gratuities will not be payable to officers granted permanent commissions, but their service on a short service commission will count towards retired pay

Further particulars may be obtained on application to the Secretary, Air Ministry (D M S), Adastral House, Kingsway, W C 2

INDIAN MEDICAL SERVICE

IN 1928 the terms on which the Indian Medical Service would in future be constituted were announced The Association has expressed its satisfaction with the new position, and commends the conditions of the Indian Medical Service to the consideration of the junior members of the profession

The new conditions provide, *inter alia*

(i) That the I M S will continue to be retained primarily to meet the needs of the Indian Army, the Local Governments being required to employ a stated number of I M S officers in order to maintain the necessary minimum war reserve and to provide European medical attendance for European officers of the I C S and their families

(ii) That the total number of I M S officers required for civil employment will be calculated at 302, of which 212 will be Europeans and 90 Indians

(iii) That there will be 237 posts for these officers after allowing for leave and study reserve, 178 of which will be in the provinces and 59 under the Government of India

These posts will be filled as follows

Under Provincial Governments 178 posts, of which 112 must be held by European officers, the remaining 66 to be open to Europeans or Indians

Under Government of India 59 posts, of which 28 will be open to Europeans or Indians, the remaining 31 being open to Europeans only

(iv) That the medical requirements of European members of the Superior Civil Services are based on data which will change from year to year as the proportion of European to Indian officers gradually diminishes, and will be subject, therefore, to periodical revision

(v) That certain rules will come into force as an integral portion of the scheme These rules deal with the question of employment on the military and civil side, and provide that there is a liability on the part of all future entrants to the Service to serve on either the military or the civil side, which latter may include service under an Indian administrative chief In practice, however, *an officer is not transferred to civil unless he requests to serve on that side*

Conditions of Service

European candidates for admission to the I M S must be British subjects under 32 years of age, and must be registered under the Medical Acts in Great Britain and Northern Ireland A gratuity of £1,000 on retirement after six years' service, or £2,500 after twelve years' service, together with free return passages, is offered

The Indian Medical Service offers wide opportunities of medical experience, including clinical, preventive, specialist, and research work At the beginning of his career an officer is employed on the military side, which has medical charge of the Indian Army Promotion is on a time scale up to the rank of Lieutenant-Colonel, and by selection to the ranks of Colonel and Major-General After two years' Indian service an officer may apply for transfer to the civil side, from which appointments are made to Civil Surgeoncies, which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes, to specialist (for example, public health and bacteriological) services, to research posts, and to professorships at the Medical Schools

The monthly rates of pay for European officers in the Service who have a "non-Asiatic" domicile are as follows

Rank	Service in Rank	Basic Pay	Overseas Pay	Year of Total Service
1	2	3	4	5
		Rs	Rs	
Lieutenant		500	150	1st
			150	2nd
			150	3rd
Captain	(i) During first 3 years service as Captain	650	150	4th
			£15	5th
			£15	6th
	(ii) With more than 3 and less than 6 years service as Captain	750	£25	7th
			£25	8th
			£25	9th
	(iii) With more than 6 years service as Captain	850	£25	10th
			£25	11th
			£30	12th
Major	(i) During first 3 years service as Major	950		
	(ii) With more than 3 and less than 6 year service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut Col	(i) Until completion of 23 years total service	1500	£30	13th and over
	(ii) During 24th and 25th years total service	1600		
	(iii) After completion of 25 years total service	1700		
	(iv) When selected for increased pay	1850		

Extras—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in the commission Passage in certain hospital appointments may also render candidates eligible for an antedate of one year Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year The maximum period of antedate and secondment combined is limited to one year

Officers on appointment will receive an outfit allowance of £50 With the exception of Administrative Officers military or civil officers holding certain special appointments officers are not debarred from taking private practice so long as it does not interfere with their proper duties

The rates of pension are as follows

After 17 years service for pension	Per annum
,, 18	£
19	400
20	430
21	460
22	500
23	540
24	580
25	620
26	660
27	700
	750
	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent in all the reduction being under taken triennially with effect from July 1st 1927 A reduction of 4½ per cent has been made on this account from the amounts shown

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments An officer on appointment is provided with a free passage to India The wives and families of officers who are married prior to the date of the officers embarkation on first appointment will also be provided with free passage to India subject to the payment of messing charges Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot lasting approximately six months prior to their embarkation for India on first appointment

Further particulars may be obtained from the Under Secretary of State for India Military Department India Office London, S W 1

PRISON MEDICAL SERVICE

CANDIDATE for the prison medical staff are approved by the Secretary of State for the Home Office on the recommendation of the Prison Commissioners The Chairman of the Board is Mr A Maxwell C B Application for employment may be made to the Board on a special form which can be obtained from the Secretary Prison Commission Home Office London S W 1

In the smaller prisons the medical officer is usually a local practitioner but in the larger the members of the medical staff are required to devote their whole time to the service In the case of those required to give their whole time to the service the appointment in the first instance is to the post of medical officer Class II and from the seniors of this rank the medical officers Class I are selected as vacancies occur

Largely as a result of action taken by the British Medical Association some years ago the salaries of prison medical officers were improved, and now are Medical officer Class II £350 rising by annual increments of £20 to £600, medical officer Class I £650 rising by annual increments of £25 to £800 Unfurnished quarters are provided, or an allowance in lieu is made The civil service bonus is paid on the salary The Association has recently represented to the Royal Commission on the Civil Service in connexion with a proposal to stabilize salary and bonus that the remuneration of prison medical officers should be increased

There are 15 medical officers Class II 12 medical officers Class I, and 23 part-time medical officers The service is a small one and therefore vacancies are comparatively rare and promotion is very slow

LOCAL GOVERNMENT (POOR LAW) MEDICAL SERVICES

A considerable change in administrative conditions in the Poor Law in England and Wales has been effected by the passing of the Local Government Act 1929 which April 1st 1930 abolished the old boards of guardians and transferred their functions to the county councils and county borough councils This should result in a higher degree of specialization in Poor Law work particularly on the medical side and a closer assimilation to other public health services

A number of whole-time appointments exist under these new Poor Law authorities in Great Britain certain of which notably in the metropolis and the chief provincial cities maintain large well-equipped hospitals organized under purely medical administration Posts are available to medical practitioners as superintendents and assistant officers in hospitals and infirmaries and as resident officers in other institutions such as poorhouses workhouses etc Conditions and salaries show considerable variation Salaries for resident assistant medical officers in Poor Law infirmaries usually range from £200 to £450 a year with full board the duties being much the same as but as a whole more responsible than those of a house-physician or house-surgeon in a general hospital Medical superintendents are paid from £600 to £1 600 a year with house, light coal laundry, etc and in some cases the first assistant is termed deputy medical superintendent and receives £450 to £750 a year with similar emoluments This service therefore, offers openings for young practitioners and the prospect of a reasonable degree of progressive security of tenure and provision for superannuation It should be added that the attractiveness or otherwise of any particular post has been and still may be in some degree affected by the policy adopted by the authority under whose jurisdiction it falls In the more advanced tendencies in such areas as has been to develop the hospital services on lines approximating to those ruling in the voluntary hospital In the majority of Poor Law institutions however lax control through the administration by a workhouse master of the whole organization has been preserved and medical appointments in such circumstances are less attractive

In addition to the full-time appointments of the character mentioned the Local Government (Poor Law) Service offer numerous part time posts such as those of district medical officer parish medical officer etc which are practically all held by general practitioners Public vaccinators are also appointed under contract with the council of the counties and county boroughs except in London where the municipal boroughs are responsible for the vaccination service

MEDICAL PRACTICE IN BRITISH DOMINIONS AND FOREIGN COUNTRIES

MEDICAL Acts have now been passed in almost all places forming part of the British Empire leaving the sea and registers of duly qualified practitioners are consequently maintained To these registers medical men educated in the United Kingdom are generally admissible on payment of a registration fee providing them produce evidence that they are of good repute and are otherwise eligible for registration in the United Kingdom as the local requirement may be The only exception to this statement that need be made relates to the Dominion of Canada Each of its provinces acts in medical matters as an independent State The result has been that reciprocity of practice has in the past been established between this country and all the provinces of Canada except British Columbia where certain obstacles were never overcome It has, however to be recorded that reciprocity with Saskatchewan, New Brunswick Ontario and Quebec has recently been brought to an end by those provinces

We would advise any medical man proposing to practise in Canada first to communicate with the Provincial Registrar, stating what degrees or diplomas he holds, and asking for information as to the precise steps he must take in order to obtain admission to the Provincial Register The Licence of the Dominion Council, which can only be obtained after examination, entitles its holder to practise in any of the provinces of Canada, though in regard to Quebec there is a proviso that "he must have been registered in the province five years prior to the application for the recognition of the Dominion Licence" In order to sit for the examination for the Dominion Licence, it is necessary to obtain a licence from one of the provinces, but this can be obtained from one of those with whom reciprocity has been established

Italy and Japan are the only two foreign States with which complete medical reciprocity has been established, though there are other countries which grant a limited recognition to British qualifications Generally speaking, in Continental countries (with the exception of the kingdom of Italy) a British medical man desiring to exercise his profession therein must pass practically the same examinations as those imposed on natives of the country The same observation applies to all foreign States in the South American continent Each of the United States of North America has its own laws and regulations governing medical practice, and all of them require the holder of a British qualification to submit to an examination A number of the States, including New York, Illinois, Michigan, and Indiana, require naturalization

A pamphlet showing the conditions under which medical and dental practitioners legally qualified in their own country may practise abroad can be obtained from the office of the General Medical Council, 44, Hallam Street, Portland Place, London, W 1, price 2s 6d, or 2s 9d post free in the United Kingdom Practitioners who think of going abroad to practise will find therein much useful information, including the name of the official in each country to whom requests for further particulars should be addressed A new edition was published in 1929

MEDICAL APPOINTMENTS IN THE COLONIES AND MANDATED TERRITORIES

MEDICAL appointments in the self-governing Dominions and the territories under their control, and in Southern Rhodesia and Malta, are made by the Governments concerned, and are not in general open to candidates in the United Kingdom In Ceylon, Mauritius, Jamaica, Barbados, the Bahamas, and Bermuda vacancies are practically always filled by the appointment of qualified local candidates or, in the case of some of the higher posts, by transfer from other colonies Appointments to the medical services of the remaining colonies and other territories under the administrative direction of the Colonial Office are made by the Secretary of State for the Colonies in this country Such appointments are to a given colony or group of colonies, for there is no unified service directly administered from the Colonial Office It follows that conditions of service and superannuation are in the main determined by the economic resources and general public health policy of the individual colony and its local government, and vary almost as widely as do conditions of climate Moreover, the extent of the control exercised by the Colonial Office varies according to the constitutional status of the particular colony, and the detailed information available centrally is not always complete The intending candidate, therefore, should make comprehensive inquiries as to local conditions, and particularly as to facilities for private practice where this is included in the terms of appointment He will also do well to supplement official information by reference to the Medical Secretary at the Central Office of the British Medical Association (Tavistock Square, London, W C 1), where reports obtained from time to time from the local Branches are available This is the more necessary because facilities for transfer from the medical service of one colony to that of another are as yet practically non-existent, except in connexion with specialist and senior appointments This sets strict limits upon the opportunities for promotion

To those physically and mentally suited to the climatic and social conditions peculiar to the various colonies the Colonial Medical Services should, and in some cases do, offer a field of professional activity rich in interest and in opportunity for pioneer work, with increasing facilities for specialization and research

The prevailing trade depression and the consequent curtailment of revenue have inevitably affected the health programme among other activities of the Colonial Governments, but this temporary check is offset by growing appreciation among the local administrations of the potentialities of sanitation and the quickened parliamentary and departmental interest in the development of a sound medical policy It is significant that in the first six months of its existence the Colonial Development Advisory Committee has spent a total of £120,000 in grants and loans for schemes for promoting the health of local communities in the various colonies, while an interdepartmental committee has been appointed to frame comprehensive proposals for ensuring the best possible use of available funds in the promotion of medical research and the application of its results to public health problems in the Colonial Empire The recommendations of the committee on the system of appointment in the Colonial Office and the Colonial Services, published in May, 1930, mark an important step in the development of the Colonial Services in general, including the medical services Acceptance by the Secretary of State for the Colonies and the Colonial Office Conference of the principle of unification has at last cleared the way for the elaboration of practical schemes for its application Such unification would secure to members of the smaller medical services much-needed opportunities for promotion by transfer Meanwhile, reorganization of the work of the promotions branch of the Colonial Office on the lines recommended by the committee should lead to welcome improvements in more than one direction

The outlook for the Colonial Medical Service is thus in the main a hopeful one, and especially so in the larger and better organized branches It is unfortunate that this cannot be said of all of the smaller services These are in some cases still hampered by conditions which make efficiency unattainable Hence the urgent necessity remains for making careful and sufficient inquiry as to the position in any given service before accepting appointment

The medical services recruited in this country by the Secretary of State for the Colonies include those of West Africa, East Africa, Malaya, Hong-Kong, the West Indies, Fiji and the Western Pacific territories, and Palestine, besides a number of smaller services offering individually one or two appointments at an inadequate remuneration and with no prospect of promotion Of late years certain medical appointments in the service of the Government of Iraq have been filled with the concurrence and normally upon the recommendation of the Secretary of State, but political conditions make fresh vacancies unlikely at present

In the Fiji Medical Service, although the basic salary of district medical officers (£500, by £25 to £725) is below the £600 minimum recommended as adequate by the British Medical Association, this fact is offset by the concession of allowances of from £175 to £275 in five of the districts, the value of private practice in the remaining seven being estimated at from £100 to £600 a year

The services in the West Indies and some of the smaller colonies have not yet conceded the £600 minimum commencing salary, and whilst facilities for remunerative private practice, general conditions of service, and a relatively low cost of living must in some instances be taken into consideration, these compensations are by no means universal The service in the Leeward Islands is in a condition which requires special notice by way of warning, but the position in the Windward Islands has now been considerably improved

In general, candidates for these services must be between the ages of 23 and 35, although these limits are not for the moment absolute Appointments are, subject to a varying period of probation, for the most part classed as permanent and pensionable, but there are some appointments by agreement for a specified limited term of service

There is no entrance examination, but practitioners selected for appointment must obtain a certificate of physical fitness from one of the consulting physicians to the Colonial Office. Post-graduate experience in hospital appointments is desirable, and in some cases special allowances are conceded to the holders of a D.P.H. Successful candidates are normally required to undergo an approved course of instruction in tropical medicine, the fees for their tuition being defrayed by the Government and an allowance being paid during their instruction.

There are appointments open to qualified medical women, chiefly in the larger services—for example, of East Africa, West Africa, and Malaya. At present one-sixth medical women are employed in child welfare, maternity, and laboratory work. Salaries are the same as for men.

The bulk of the appointments made by the Secretary of State in this country are to the West African Medical Staff, the East African Medical Service, and the Medical Services in Malaya. These are the strongest individual services numerically, and therefore offer more frequent vacancies, better prospects of promotion, and better chances of specialist appointments than the smaller services.

West African Medical Staff

This is amongst the best organized and best paid of the Colonial Services. The territories covered by it include Nigeria, the Gold Coast, Sierra Leone, and the Gambia. Climatic conditions vary considerably in the area, but there are in general admittedly true tropical conditions, which is at present recognized by the provision of [illegible] leave periods than are usual elsewhere.

The service includes medical public health and specialist [illegible] filled by promotion from the staff. The [illegible] a medical officer is £660 on appointment [illegible] annual increments to £960 together with a [illegible] allowance of £72 a year after reaching £720. There are a considerable number of specialist and administrative posts carrying relatively high salaries, ranging from £1,300 with duty allowance of £260 to £1,600 with duty allowance of £260. All appointments in the staff are pensionable. Officers may retire voluntarily or reaching 50 years of age and may be called upon to retire at 55. Pensions are calculated at the rate of 1/480th of the officer's pensionable emoluments (salary and house allowance) in respect of each complete month of service. Alternatively a gratuity and reduced pension may be granted, if desired, under certain conditions. Gratuities of £1,000 or £1,250 may be drawn on retirement after nine or twelve years service. Members of the West African Medical Staff are not usually permitted to take their wives or young children with them until they have acquired experience of the conditions of life and have obtained the sanction of the Governor. In the case of young children this is only exceptionally given.

African Medical Officers.—The Medical Staff is limited to British subjects of European parentage but a number of Government appointments for African medical officers exist in the West African Colonies. The appointments carry salary on the scale £570-£25-£600 and there is a higher scale £600-£30-£720. In addition in Nigeria and the Gold Coast arrangements have been made for the employment of a few young African medical men temporarily on the hospital staffs with a view to appointment to the Government service later if suitable. In such cases a salary of £400 a year is paid.

East African Medical Service

This service includes Kenya, Uganda, Tanganyika Territory, Nyasaland, Zanzibar, and British Somaliland. In East Africa there is very wide scope for clinical work, both medical and surgical as well as for research and for preventive medicine and sanitation. The service as a whole is fully alive to its responsibilities and opportunities individual initiative is encouraged, and the career of a medical officer depends, not on seniority alone but to a large extent on his own capability. In all but a few stations conditions allow a medical officer's wife to accompany him, but this is not generally desirable on first appointment. In some dependencies the consent of the Governor must be obtained. The service includes a medical and a sanitary division. The former is open to those holding ordinary medical and [illegible] qualifications post-graduate experience in a hospital [illegible] ment being an advantage. Posts in the sanitary division will as far as possible be filled by those holding a Diploma in Public Health or a Diploma in Tropical Medicine and Hygiene. Climatic conditions vary considerably in the different parts of the East African Dependencies but there are more conditions approximating to tropical zone where conditions are more close to those in West Africa. The [illegible] of pay for a medical officer is from £600 rising by annual increments of £30 to £720 subject to an efficiency bar at this point. Holders of the D.P.H. receive a special [illegible] to two increments on appointment or on obtaining the diploma thus reaching the grade two years earlier than otherwise. Private practice may be permitted under certain circumstances but there is no right to it.

Officers in the West African Medical Staff apply for appointment to the East African Services in general and is liable to transfer to any particular colony and his wishes will, as far as possible be met as far as possible. As a rule promotion takes place on promotion or at an officer's request. The gratuities available on retirement after five years service are similar to those for the African Medical Staff. Officers may elect or may be required to retire on pension on reaching the age of 55. Pensions are calculated at the rate of 1/480th of emoluments (including value of free quarters) for each completed month of service.

Medical Services in Malaya

These services cover the Straits Settlements, the federated Malay States, the unfederated States, and the State of Brunei in Borneo. The salary of £600 dollars a month, rising by 25 to £00 dollars, plus a temporary allowance of 10 per cent for single and 20 per cent for married officers, is generally considered adequate. A non-pensionable allowance of 100 dollars a month is paid to officers holding the D.P.H.

The climate of Malaya, for the Tropics very much altered, varies little during the year. The mean maximum and minimum temperatures are 86·8° and 74·3° F. In some parts there are no marked rains and dry season, the rainfall being evenly distributed throughout the year. In others there are a couple of dry months and a couple of exceptionally rainy months in the year. The average rainfall is about 100 inches a year and vegetation is always green. People who lead regular active lives have no difficulty in keeping in good health. European children do well in Malaya up to the age of about 6. Numerous but bungalows are available already for rest and change and a large Malayan hill station is about to be constructed at a height of over 5,000 feet at Cameron's Plateau, on the Perak-Pahang boundary.

The professional duties of a medical officer may include medical, surgical, medico-legal, and public health work. His administrative work comprises hospital administration, diets, returns, and financial work, and includes the inspection of smaller hospitals and dispensaries. Clerical work is reduced to the smallest possible amount. Every endeavour is made to consider an officer's own bent when posting him for duty. Districts vary in size and a certain amount of travelling will be necessary. The white population in each district varies. The district hospitals hold from 50 to 300 beds. There is a staff of locally recruited medical men, mostly trained at the Singapore College of Medicine. Asiatic dressers and trained hospital assistants are employed in hospitals and dispensaries. In addition to European sisters there is a large local nursing staff. All hospital equipment is supplied by Government, including instruments. At both the Institute for Medical Research in Kuala Lumpur, Federated Malay States, and the King Edward VII College of Medicine, Singapore,

there are opportunities for research as well as for routine investigations Promising officers may be stationed at the Institute for short periods if they can be spared from other duties In addition to the full-time professional posts at the College of Medicine, several of the medical staff in Singapore hold part-time lectureships

It may fairly be said that the Malayan Medical Services now offer considerable scope for suitable candidates There are relatively to other services a large number of special appointments available in surgery, radiology, public health, and pathology, and to those seeking a career in teaching the professorships at the College of Medicine, Singapore, offer an additional attraction

SUDAN MEDICAL SERVICE

This service is a department of the Sudan Government, and includes a number of Syrian medical officers and a number of assistant medical officers who are natives of the Sudan The British medical inspectors are from the outset senior to all other medical officers The service offers ample opportunities for specialization and for research, as well as for general medical and surgical work

The climate varies, but is not in general unfavourable, though hot In the northern desert the nights are cool, even in summer, and the winter is pleasant and often cold In the central zone there is a rainy season of about four months, during which large areas become malarious The south is more tropical in character, and mosquito-protected houses, nets, and protective quinine are essential during the greater part of the year, though even here the winter months are cool and pleasant It is not considered desirable for medical inspectors to be accompanied by their wives until they have gained some knowledge of the language and the general conditions of life

The commencing pay of a medical inspector is £E 720 On confirmation of appointment and success in the requisite examinations in Arabic the salary is increased by periodic increments to £E 1,200 Five senior administrative posts carry higher salaries There is a compulsory contribution of 5 per cent of pay towards pension, which, for a medical inspector, amounts, after twenty years' service, to £E 500 a year An officer who is compulsorily retired before completing fifteen years' service is not entitled to pension, but receives a gratuity

OFFICIAL SOURCES OF INFORMATION

All inquiries in connexion with medical appointments in the self-governing Dominions and their dependencies should be addressed to the High Commissioners or Agents-General for the Dominions Intending applicants are also recommended to consult the Dominions Office and Colonial Office List, which may be seen at the Colonial Office Library or at the Library of the British Medical Association if not otherwise available, and the Professional Handbook, Part III (price 9d), issued by the Overseas Settlement Department, Dominions Office, Caxton House, Tothill Street, London, S W 1

The position in Egypt is at present uncertain, questions as to the possibility of any medical appointments becoming available under the Egyptian Government should be addressed to the Director-General, Public Health Department, Cairo

Inquiries as to vacancies and conditions in the Sudan Medical Service should be addressed in the first instance to Dr Hodson, 24, Welbeck Street, London, W 1

All inquiries in connexion with Colonial medical appointments made by the Secretary of State for the Colonies, or such vacancies as may occur in Iraq or Palestine, should be addressed to the Private Secretary (Appointments), Colonial Office, 2, Richmond Terrace, Whitehall, London, S W 1

There remain a number of medical appointments made by mining companies and other commercial undertakings in various parts of the Tropics Much caution should be exercised in accepting such posts, and the form of contract should be subjected to very careful scrutiny Advice in this connexion should always be sought from the Medical Secretary of the British Medical Association, British Medical Association House, Tavistock Square, London, W C 1

DEGREES FOR PRACTITIONERS

AT one time it was the almost universal custom for medical students educated in London and aiming at general practice not to seek a university degree, and as that custom still prevails to a considerable extent a large proportion of medical men in England possess diplomas or licences to practise but not degrees in medicine This is a fact which they sometimes find reason to regret, and to such practitioners the following paragraphs may be of interest It should be noted that the M D Brux diploma, if obtained since June, 1886, is not registrable in this country, and that the University of Brussels no longer holds special examinations for foreign medical practitioners Moreover, after 1932 the University of Durham will hold no further examinations for the degree of M D for practitioners of fifteen years' standing

UNIVERSITY OF DURHAM

The degree of M D is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions, without residence The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners Should he not have passed an examination in arts previous to the professional examination in virtue of which his name was placed on the *Register*, he is examined in classics and mathematics, if otherwise, he is required to translate into English passages from any one of the following Latin authors Caesar, *De Bello Gallico* (first three books), Virgil, *Aeneid* (first three books), or Celsus (first three books) Natives of India or the British Colonies are placed on the same footing as natives of Great Britain, and must be registered on the books of the General Medical Council of the United Kingdom

Professional Examination.—The candidate must pass an examination in the following subjects (i) Principles and practice of medicine, including psychological medicine, hygiene, and therapeutics, (ii) principles and practice of surgery, (iii) midwifery and diseases of women and children, (iv) pathology, medical and surgical, (v) anatomy, medical and surgical, (vi) medical jurisprudence and toxicology Candidates are examined by means of written papers, clinically, and viva voce at the College of Medicine, Northumberland Road, Newcastle, and in the Royal Victoria Infirmary The classical part of the examination may be taken separately from the professional on payment of a portion (£10 10s) of the full fee

The examinations are held twice a year, in June and December Notice, accompanied by the fee and certificates, must be sent to the Secretary of Examinations, at the University of Durham College of Medicine, Newcastle-on Tyne, at least twenty-eight days before the commencement of the examination

Fees.—The inclusive fee for both professional and classical parts of the examination together with the degree fee is 50 guineas, if a candidate fail to pass, 20 guineas are retained, but if he present himself again 40 guineas only are required

[*Note*.—It has been decided by Senate that examinations for this degree shall be discontinued after June, 1932]

THE SWISS UNIVERSITIES

The Universities of Lausanne and Bern have arrangements which permit British practitioners to proceed to the M D degree, but this alone does not confer the right to practise in Switzerland, for which the possession of the State or Federal Diploma is necessary Neither degree nor diploma is registrable in this country

At Lausanne the British practitioner has to produce (1) a certificate of matriculation in a British university or of having passed a preliminary examination recognized by the General Medical Council for registration as a medical student (2) a certificate of a degree or diploma qualifying for practice in the United Kingdom and the certificate of registration as a medical practitioner in the United Kingdom He must then undergo a viva voce examination in three subjects of the final examination Next he must present a thesis for the doctorate prepared and completed in one of the Lausanne clinics under the direction of a professor of the Faculty of Medicine Residence for a semester (October to March or April to July) is obligatory Applications for admission should be made to the Dean of the Medical Faculty, Ecole de Médecine, Place de l'Ours, Lausanne Dr C A H Franklin (56, Southborough Road, Bickley, Kent) honorary secretary of the Lausanne Medical Graduates, will supply further information

SPECIAL DIPLOMAS

INFORMATION about the regulations for the various Diplomas in Tropical Medicine, in Psychological Medicine, and in Public Health is given in the appropriate sections of this Educational Number (pages 357, 389 391) Further details in regard to the D P H and the D T M will be found in Sir Andrew Balfour's *Guide to the Regulations, Courses, and Examinations for Qualifications in Public Health and Tropical Medicine*, published by the British Medical Association Tavistock Square, W C 1 at the price of 3s

It should perhaps be noted here that of the various diplomas in special subjects granted by licensing bodies only those in Public Health and Sanitary Science and State Medicine are at present admissible for entry in the official *Medical Register* though other special diplomas may, of course, be included among the particulars of qualifications set out in the *Medical Directory* As stated at page 361, a Diploma in Tuberculous Diseases is granted by the University of Wales to qualified medical practitioners, new regulations for this diploma are now in force

DIPLOMAS IN MEDICAL RADIOLOGY

Diplomas in Medical Radiology are granted by the Universities of Cambridge, Edinburgh and Liverpool

The Cambridge Diploma—A Diploma in Medical Radiology and Electrology is granted by the University of Cambridge The primary object is to provide adequate training in a branch of medical work which is becoming increasingly important and difficult, and which is outside the ordinary medical curriculum The diploma is open only to those who hold a medical qualification approved by the Diploma Committee Under the new regulations, which came into operation in October 1928 the course has been extended from six to nine months The first three months (October to December) which may be spent either in Cambridge or in London are occupied with lectures and practical work in physics and electrotechnics together with an introductory course in medical radiology and electrology The work for the second three months (January to March) can be done in London only, and comprises lectures and clinical instruction in radiology and electrology given by lecturers appointed by the Educational Committee of the British Institute of Radiology, together with clinical experience in the radiological department of a hospital recognized for that purpose by the Diploma Committee During the last three months a candidate is required to hold a clinical clerkship or other similar appointment in the radiological department of a recognized hospital in London, have been recognized by the Committee for this purpose In exceptional circumstances exemption from this regulation may be granted by the Committee The examination for Part I (physics and electrotechnics) is normally taken at the end of the first three months and the conclusion of the nine months course a candidate is required to present a thesis which is composed by himself This thesis is to be in the form of a critical report with notes upon six cases either in radiology or electrology or in both these subjects and must illustrate various methods of diagnosis or treatment The course for 1930–31 begins on October 1st Examinations for Part I will begin on January 7th and April 14th 1931 and for Part II on April 15th and July 15th, 1931 Further particulars of the courses and examinations can be obtained from the Secretary for the Diploma G Stead M A Cavendish Laboratory Cambridge or from Dr A E Barclay Radiological Department Medical Schools Cambridge or from the Secretary, British Institute of Radiology 32 Welbeck Street, London W 1

The Edinburgh Diploma—Candidates for the diploma must be graduates in medicine and surgery of the University of Edinburgh or hold corresponding registrable degrees or qualification from some other licensing body Candidates are not admitted to the examination for the diploma until after the lapse of not less than one year from obtaining a registrable qualification which qualification must be registered before admission to the examination The course of study begins in October and extends over a period of not less than three terms The examination, which is written oral and practical is in two parts (*a*) physics, and (*b*) radiology The examination is held twice yearly—namely, July and October Full particulars may be obtained from the Dean of the Faculty of Medicine In this connection it may be noted that radiology can now be taken as the special subject in the examination for Membership of the Royal College of Physicians of Edinburgh Several candidates have already taken radiology as their special subject, it means that an honours standard has to be attained

The Liverpool Diploma—The University of Liverpool grants a Diploma in Medical Radiology and Electrology Candidates before admission to the examination for the diploma must possess a registrable qualification approved by the university in medicine and surgery, and must have attended courses of instruction in (*a*) physics (two terms), (*b*) (i) radiology and (ii) electrology during the six months in the x ray and electro-therapeutic departments of a hospital or hospitals An examination is held in March each year, the subjects being (*a*) physics (*b*) radiology and electrology Examination in either part may be taken separately Fees tuition £24 5s examination and diploma £6 5s A registration deposit fee of £5 5s is charged on application and credited to the fees but is not returnable in the event of the candidate failing to register These courses commence during the first week in October Application should be made to the Dean Faculty of Medicine, the University of Liverpool

DIPLOMAS IN LARYNGOLOGY AND OTOLOGY

The Conjoint Examining Board in England (Examination Hall, Queen Square London, W C 1) grants a Diploma in Laryngology and Otology (D L O) after an examination held in June and December The examination comprises two parts Part I, on the anatomy embryology, and physiology of the ear nose pharynx larynx trachea and bronchi and oesophagus Part II on the recognition and use of special instruments and appliances and the medicine surgery and pathology of these regions Candidates may enter for Part I at any time after a registrable qualification in medicine surgery and midwifery has been obtained Candidates may enter for Part II on completion of one year of special study of diseases of the ear nose pharynx and larynx after a registrable qualification has been obtained provided that Part I has been previously passed and on production of certain certificates The conditions of study may be modified at the discretion of the Committee of Management in special cases The fee for admission or readmission to each part is six guineas

DIPLOMAS IN OPHTHALMIC MEDICINE

A special Diploma in Ophthalmic Medicine and Surgery is granted by the University of Oxford and by the Conjoint Examining Board in England

University of Oxford—For the Diploma in Ophthalmology (D O) attendance on a twelve months' course of clinical ophthalmology in hospitals or institutions recognized for the purpose by the Board of the Faculty of Medicine, and on a course of instruction in Oxford lasting two months is obligatory Candidates must have their names on the *Medical Register* of the United Kingdom unless being Bachelors or Doctors of Medicine of universities outside the United Kingdom they have obtained special permission from the Board of the Faculty of Medicine

The Conjoint Board—The Diploma in Ophthalmic Medicine and Surgery of the Conjoint Examining Board of the Royal College of Physicians of London and Royal College of Surgeons of England is issued after completion of an examination held in two parts—in January and July The examination in each case is partly written partly oral partly clinical or practical Part I comprises anatomy and embryology of the eye optics visual apparatus physiology of vision elementary ophthalmic medicine and surgery, defects of the eye ophthalmic medicine and surgical pathology with special reference to medical and surgical ophthalmology Candidates may enter for Part I at any time after a registrable qualification in medicine surgery, and midwifery has been obtained Candidates may enter for Part II on completion of one year of special study of

ophthalmology after a registrable qualification has been obtained, provided that Part I has been previously passed, and on production of certain certificates The conditions of study may be modified at the discretion of the Committee of Management in special cases The fee for admission or readmission to each part is six guineas

DIPLOMAS IN OBSTETRICS

The Society of Apothecaries of London, as stated on page 362, has now instituted a Mastery of Midwifery, and issues a diploma under this title denoting the possession of specialized knowledge of ante-natal care, midwifery, and child welfare The diploma is however, not registrable under the Medical Acts

The Conjoint Examining Board in England has issued this year regulations for its new Diploma in Gynaecology and Obstetrics (D G O, R C P & S Eng), the first examination for which will be held in October next, and the second in April, 1931 Those eligible for admission to examination must have held a degree in medicine and surgery recognized by the Board, or a qualification registrable in this country, for not less than three years The subjects of the examination are gynaecology and obstetrics (including pathology, histology, and bacteriology in relation to these subjects), and ante-natal, post-natal, and infant welfare work The examination is written, oral, and clinical, but only those candidates are admitted to the clinical who satisfy the examiners in the written and oral A form is issued on which particulars have to be given and certified as to resident appointments in the gynaecological and obstetrical department of a recognized general hospital, in a gynaecological hospital, or a maternity hospital, or as to registrarship or clinical assistantship held in such institutions, together with particulars as to regular attendance, with responsible care of patients, at recognized ante-natal, post-natal, and infant welfare clinics during twelve months It is added that these conditions of study may be modified in the case of a candidate who has carried out original investigations or written a thesis on some subject in gynaecology or obstetrics, or whose studies have extended over a prolonged time without fulfilling the exact conditions set out, but exemption will not be granted from any part of the examination The fee for admission to examination or re-examination is ten guineas Copies of the regulations for this diploma may be obtained from the Secretary, Examination Hall, Queen Square, W C 1

The British College of Obstetricians and Gynaecologists, founded last year, has power under its memorandum of association, either alone or in co-operation with authorized teaching and examining bodies, to grant to registered medical practitioners diplomas or other equivalent recognition of special knowledge of obstetrics and gynaecology *Diplomas granted independently by the College, however*, will not of themselves confer any legal qualification to practise, and will embody a statement to the effect that they have been issued by the authority of the British College of Obstetrics and Gynaecologists alone A report of the first general meeting of the Fellows and Members of the new College appeared in our issue of December 21st, 1929 (p 1173)

MEDICAL MISSIONARIES

MISSIONARY societies are in constant need of qualified men and women to fill vacancies as they occur in their hospitals, and also to enable them to take advantage of fresh openings To those suitably endowed the mission field offers unique opportunities for interesting work, and the development of native medical schools, as training institutions in connexion with some of the larger mission hospitals, affords excellent scope for valuable work to medical men and women who are qualified to teach It is not usually expected that medical missionaries should take a position such as would otherwise be occupied by an ordained clergyman or minister, but it is essential that they should be prepared to exert their influence in any hospital to which they may be sent so that a Christian atmosphere may be maintained and the work of evangelization be carried on through the ministry of healing

As for scientific and other qualifications for the work, medical missionaries, in addition to being physically capable of sustaining a life which makes a great *demand upon their* strength, should be thoroughly well-trained physicians and surgeons It is very desirable that they should have held a resident appointment at a general hospital, and have a good knowledge of practical surgery, gynaecology, tropical medicine, and the treatment of eye diseases Useful information can be obtained from the secretaries of the various Missionary Societies, or from Thomas B Adam, Honorary Secretary, Medical Advisory Board on Medical Missions to the Conference of Missionary Societies in Great Britain and Ireland, The Crossways, 45, Kenton Road, Harrow, Middlesex, or 19, Furnival Street, E C 4

Dental Surgery.

UNTIL the passing of the Dentists Act, 1921, the profession of dentistry in this country was regulated by enactments corresponding very closely with those relating to the practice of medicine—that is to say, there was no direct prohibition of the act of practice, and the Dentists Act of 1878 gave the same degree of protection to legally qualified and registered dentists as was accorded to registered medical practitioners—namely, the reservation of the use of certain titles This Act provided also (1) that no person should take or use the name or title of "dentist" (either alone or in combination with any other word or words) or of "dental practitioner," or any other name, title or description expressed in words or by letters implying that he was specially qualified to practise dentistry, unless he was registered, under a penalty of £20 and (2) *that an unregistered person* could not recover any fee or charge in respect of any dental operation, attendance, or advice But, in the case of the practice of medicine by unqualified and unregistered persons, certain deterrent factors came into play—such as the inability to give a death certificate—and these did not operate to the same extent in the case of dentistry hence, unqualified practice was far more prevalent in dentistry than in medicine, and increased after a decision of the House of Lords placing a narrow interpretation upon the words "specially qualified to practise dentistry," by defining the word "qualified" as not referring to competence but to the possession of a recognized diploma

THE DENTISTS ACT, 1921

This unsatisfactory position was remedied by the passing into law of the Dentists Act, 1921 its provisions are based largely on the recommendations of a *departmental committee* appointed in 1917 by the PRIVY COUNCIL "to investigate the extent and gravity of the evils connected with the practice of dentistry and dental surgery by persons not qualified under the Dentists Act" Since November 30th, 1922, no person has been permitted by law to practise or hold himself out, whether directly or by implication, as practising or as being prepared to practise dentistry unless he is on the *Dentists Register* provided for by the Dentists Act, 1878 The practice of dentistry is defined as including "the performance of any such operation and the giving of any such treatment, advice, or attendance, as is usually performed or given by dentists," and the performing of any operation or the giving of any "treatment, advice, or attendance on or to any person as preparatory to or for the purpose of or in connexion with the fitting, insertion, or fixing of *artificial* teeth" The maximum penalty *incurred by an unregistered* practitioner is £100 for each offence There are, however, certain important exceptions to the requirement of registration A registered medical practitioner may practise dentistry without being on the *Dentists Register*, though he may not give dental treatment to insured persons under the National Health Insurance Acts unless he be so registered and a registered pharmaceutical chemist or chemist and druggist may extract a tooth where the case is urgent and where no doctor or dentist is available, but the operation

must be performed without any kind of anæsthetic, further, any person may carry out minor dental work in a public dental service under the personal supervision of a registered dentist provided it is in accordance with conditions approved by the Minister of Health after consultation with the Dental Board

Dentistry may be carried on by a corporate body provided the majority of the directors and all the operating staff are registered dentists and that no business other than dentistry or only some business ancillary to dentistry is carried on by the company. Companies carrying on the business of dentistry at the present time are permitted to continue to do so with certain restrictions provided that the name of the company as well as the names of the directors have been entered in a list kept by the Registrar for that purpose. Every director or manager of a company convicted of an offence under the Act will be held to be guilty of the offence unless he proves that the offence was committed without his knowledge and the court may in addition to a fine order that the name of any director convicted shall be removed from the list of directors aforesaid

THE DENTAL BOARD

On the establishment of the Dental Board in 1921 certain powers and duties of the General Medical Council were transferred to it, including the duty of erasing from the *Dentists Register* any entry which has been incorrectly or fraudulently made. An inquiry into the case of a person alleged to be liable to have his name erased from the *Register* is made by the Board, which reports its findings to the General Medical Council, the order directing the erasure being made by the Council. A name erased from the *Register* can only be restored by the Council upon a report made by the Board. An appeal to the High Court may be made by any person aggrieved either by refusal of the Board to register his name or by the removal of his name from the *Register*. The administrative expenses of the Board are defrayed from the registration fees and annual retention fees but any surplus may be allocated to purposes connected with dental education and research or to any public purpose connected with dentistry. The office of the Dental Board is at 44, Hallam Street, London W.1.

DENTAL EDUCATION AND EXAMINATION

The preliminary examination in arts is the same for medical and dental students, and the early stages of their education embrace much the same subjects[1] and as the dental student is required to obtain a knowledge of the broad principles of medicine and surgery it is necessary for him to pursue some portion of his studies at a medical school as well as at a special dental school the latter not undertaking the teaching of these subjects. Registration as a dental student is not in all cases compulsory though it is to be advised as convenient as affording proof of the commencement of professional education and it is required by most of the licensing bodies all of whom insist upon a curriculum covering four academic years.

Degrees and diplomas in dentistry are granted by the Universities of Belfast, Birmingham, Bristol, Dublin, Durham, Leeds, Liverpool, London, Manchester, St. Andrew's, Sheffield and the National University of Ireland as will be found stated in the articles on these universities. Licences in dentistry entitling the holder to be registered on the *Dentists Register* are granted by the Royal Colleges of Surgeons of England of Edinburgh and of Ireland and by the Royal Faculty of Physicians and Surgeons of Glasgow.

Recognized dental schools are numerous. In London there are those connected with the Royal Dental Hospital, Leicester Square, the National Dental Hospital (now the University College Hospital Dental School), Great Portland Street, Guy's Hospital, King's College Hospital, and the London Hospital. In the provinces there are the Birmingham Dental Hospital, the Royal Infirmary and the General Hospital, Bristol, the Dental Hospital and the Public Dispensary, Leeds, the Dental Hospital, Liverpool, the Dental Hospital, Manchester, the Dental Hospital and School, Newcastle-on-Tyne, the Royal Hospital, Sheffield. In Scotland there are the Dental Hospital, Dundee, the Incorporated Dental Hospital and School, Edinburgh, and the Incorporated Dental Hospital, Glasgow, and in Ireland the Belfast Dental School, the Incorporated Dental Hospital of Ireland, Dublin, and the Royal College of Surgeons in Ireland, Dublin.

All who think of becoming dentists may be advised to study a Memorandum, lately drawn up for their guidance by the Registrar of the Dental Board, setting out in convenient form and in untechnical language information for which requests are frequently made to the Board.[1] It will be seen from this pamphlet that in order to assist suitable students the Dental Board has instituted a system of bursaries to pay the fees of those who have not the financial means to qualify, and in some cases maintenance is given as well.

Recommendations of the General Medical Council

The Dentists Act still leaves to the General Medical Council the duty of controlling the course of study and examinations required for dental qualifications.

The following recommendations as to the course of study and examinations to be required of candidates for degrees or licences in dentistry or dental surgery were adopted by the Council on May 27th, 1922:

Preliminary Examination and Registration

1. That every dental student shall at the commencement of his studentship be registered in the manner and under the conditions prescribed for medical students.

2. That before registration in the *Dental Students Register* every applicant shall be required to have passed in addition to the examination in general education which shall be the same as that required for medical students an examination in Elementary Physics and Elementary Chemistry conducted or recognized by one of the licensing bodies which shall also be the same as that required for medical students.

3. That before registration as a dental student every applicant shall produce evidence that he has attained the age of 17 years.

Professional Study

4. That every candidate for a degree or licence in dentistry or dental surgery shall be required before admission to the final or qualifying examination to produce certificates showing

(i) That he is at least 21 years of age.

(ii) That he has been registered as a dental student.

(iii) That he has subsequently to the date of registration as a dental student been engaged in professional study for at least four years, of which three years at least shall be spent at a school or schools recognized for professional study by one of the licensing bodies.

(iv) That subsequently to the date of registration as a dental student he has attended at a recognized medical school courses of instruction in the following subjects which shall be the same as those required for medical students in the following subjects (a) Chemistry and (b) Physics in their application to medicine, (c) Elementary Biology. That he has attended at a recognized medical school courses of instruction in the following subjects (d) Human Anatomy (with demonstrations) for three academic terms, (e) Physiology (with laboratory instruction including Practical Histology) for two academic terms, (f) General Pathology (including Bacteriology) for two academic terms, (g) Medicine for two academic terms, (h) Surgery for two academic terms, (i) the practice of a recognized general hospital or hospitals of not less than eighty beds with certified instruction in Clinical Medicine and Clinical Surgery *for four academic terms*.

(v) That he has attended at a recognized dental school courses of instruction in the following special subjects (a) Dental Anatomy and Physiology, human and comparative. The course should comprise a minimum of twenty meetings of the class. (b) Practical Dental Histology and Morbid Histology. The course should comprise a minimum of sixteen meetings of the class. (c) Dental Pathology and Surgery. The course should comprise a minimum of twenty meetings of the class. (d) Dental Materia Medica and Therapeutics. The course should comprise a minimum of sixteen meetings of the class. (e) Dental Metallurgy (with practical work and demonstrations). The course should comprise a minimum of twenty meetings of the class. (f) Dental Mechanics (with practical work and demonstrations). The course should comprise a minimum of twenty meetings and two demonstrations. (g) A course of instruction in the use of Anæsthetics general and local employed in dental practice. (h) A course of instruction in Radiology as applied to dentistry.

(vi) That he has for at least twenty four calendar months attended, during the ordinary academic terms the practice of a recognized dental Hospital or of the recognized dental department of a general hospital.

(vii) That he has received for not less than twenty four calendar months or for 2,000 hours practical instruction in dental mechanics.

Professional Examinations

5. That the examination for a degree or licence in dentistry or dental surgery shall be partly written partly oral and partly practical and shall include the following subjects (a) Chemistry, Physics and Biology in their bearing on Medicine and Dentistry. (b) Human Anatomy and Physiology. (c) General Pathology including Bacteriology. (d) Medicine and Surgery. (e) Dental Anatomy and Physiology, Dental Pathology, Dental Surgery (including Orthodontics), Dental Materia Medica and Therapeutics and Dental Mechanics and Dental Metallurgy. (f) Practical Examination in Dental Surgery. (g) Practical Examination in Dental Mechanics and Metallurgy. (h) Anæsthetics general and local, employed in dental practice.

6. That the prescribed subjects of examination may be combined or distributed at the discretion of the licensing bodies and may be taken at two or more successive stages during the course of professional study provided that no candidate shall be admitted to any final examination in dental surgery and final mechanics until he shall have completed the required four years course of study.

ACKNOWLEDGEMENT

THE detailed information published in this Educational Number of the *British Medical Journal* for the benefit of intending students of medicine and newly qualified practitioners has been revised throughout with the co-operation of the deans and secretaries of the medical schools and kindred institutions and of officials in the several public services to all of whom we wish to acknowledge our indebtedness.

[1] See the Registrar's Memorandum on Students' Registration printed in the article on the General Medical Council at page 353.

[1] *Memorandum by the Registrar on the Procedure to be Adopted by Those who Desire to Enter the Profession of Dentistry with Notes on Costs and Prospects.* 1929. Dental Board of the United Kingdom, 44 Hallam Street, W.1. Price 1s. post free.

THE BRITISH MEDICAL ASSOCIATION PARTY IN CANADA

[FROM OUR SPECIAL CORRESPONDENT]

THE main British Medical Association party *en route* for Winnipeg were welcomed on their arrival at Montreal by Dr BAZIN, President of the Canadian Medical Association, who is professor of surgery at McGill University, Montreal. The party arrived late on the evening of Saturday, August 16th, and were transferred *en bloc* to their headquarters at the Windsor Hotel, one of the enormous C P R hotels which appear to be a prominent feature of most Canadian cities. Sunday was a day of rest, when many of the party attended one or other of the numerous churches of Montreal, and in the afternoon drove along the miles of its beautiful Lake Shore Drive, lined with the summer villas of Montreal townsfolk. On Monday, August 18th, an official welcome was offered to the British Medical Association at the City Hall, in a charming little oration by M. BRUNO CHARBONNEAU, the Pro-Mayor, on behalf of the Hon. Camillien Houde, the Mayor, who was unable to be present. Mr. CHARBONNEAU was supported by Alderman W. S. WELDON in a very witty speech, and Professor Arthur Burgess replied on behalf of the Association. The members of the British Medical Association party then drove in procession through the city of Montreal, visiting its many points of interest, including the great Victoria Bridge across the St. Lawrence, which, with its approaches, is two miles long. At the top of Mount Royal lunch was served, the Association being the guests of the City Council. In the afternoon the party drove out to the delightful Laval sur le Lac Golf Club, where, after a pleasant afternoon in the sunshine—some members actually did golf, while others drove further into the hinterland of the Lake of the Two Mountains—dinner was held, under the chairmanship of Dr. P. Z. Rheaume, President of l'Association des Medecins de Langue Française de l'Amerique du Nord. This was a most enjoyable function, rendered all the more so by two witty speeches, one delivered in French by Sir STCLAIR THOMSON, and the other in an amusing mixture of French, pidgin French, and English by Dr. Alfred Cox. After this, as the official programme announced, "The guests were returned to their hotel." Next morning was spent in visiting McGill University, the Royal Victoria Hospital, and the Montreal General Hospital (Osler's old hospital, senior in foundation to, but not so large as, the Royal Victoria). At McGill University the places visited by most of the party were the Osler Collection of Hearts and Aneurysms in the Pathological Museum, and the Osler Library, where Dr. Francis (the librarian, and Osler's nephew) showed the most precious items under his care, including Sir William Osler's unique and complete collection of every edition of the works of Sir Thomas Browne.

On Wednesday, August 20th, after a night in the very comfortable C P R sleeper, the British Medical Association party visited Niagara Falls. The usual tourist ceremonies were all fully complied with, such as a trip on the steamer *Maid of the Mist*, down the scenic tunnel which opens behind the Falls, and over the whirlpool rapids in the aerial railway. Then the party were entertained to lunch by the Niagara Falls, Ontario, Medical Association (there is another Niagara Falls, New York State), and a welcome was extended to them by the president, Dr. Snyder, and the Mayor of the city. Then on to Toronto by steamer across Lake Ontario—Toronto, unbelievably beautiful, silhouetted against the evening sky.

Up to the night of Thursday, August 28th, the number of registrations at the Annual Meeting of the British Medical Association in Winnipeg was 3,400.

WE deeply regret to announce the death, on August 31st, after an operation, of Dr. CHARLES BUTTAR, who had been for many years a prominent member of Council and committeeman in the central work of the British Medical Association, and was a valued contributor to these columns.

WE have also to announce with much regret the death, on August 31st, from pneumonia following an operation, of Mr. HERBERT W. CARSON, F.R.C.S., senior surgeon to the Prince of Wales's General Hospital, Tottenham, and a Past-President of the Medical Society of London.

ON Monday next, September 8th, the day on which the Council of the League of Nations meets in Geneva, there will also be held a preliminary conference in connexion with the International Congress on African Children, to be held in Geneva in 1931. The congress, which has the support of the British and Belgian Governments and the co-operation of all the leading missionary societies, is being organized by the Save the Children International Union. The purpose of the congress is to consider the present situation in Africa with regard to infant mortality, education, marriage, and labour conditions as affecting children, with a view to comparing existing conditions with the ideals set forth in the Declaration of Geneva. Further information may be obtained from the secretary to the British Committee, 26, Gordon Street, London, W.C.1.

A PROVINCIAL meeting of the Society of Medical Officers of Health will be held at the Grand Hotel, Lowestoft, on Friday, September 19th, at 4 p.m. The subject for discussion is "The public health significance of general medical service schemes," and the speakers will include Dr. Astley Clarke, senior physician, Leicester Royal Infirmary, Dr. C. E. S. Flemming, member of Consultative Council, Ministry of Health, Dr. H. P. Newsholme, M.O.H. Birmingham, and Dr. A. M. N. Pringle, M.O.H. Ipswich. In the evening members will be entertained by the Mayor and Corporation of Lowestoft at dinner. On the following day the council of the society will meet at 10 a.m., and in the afternoon there will be a launch trip on Oulton Broad by invitation of the Eastern branch. Members who intend to be present are asked to notify the executive secretary at 1, Upper Montague Street, Russell Square, W.C.1, by an early post, in order to facilitate the local arrangements.

VACANCIES

ALL SAINTS HOSPITAL FOR GENITO-URINARY DISEASES.—House-Surgeon (male). Salary £150 per annum.

BANGOUR MENTAL HOSPITAL, West Lothian.—Second Assistant Medical Officer. Salary £350 per annum rising to £400.

BATH ROYAL UNITED HOSPITAL.—Assistant House-Surgeon (male unmarried). Salary £120 per annum.

BEDFORD COUNTY HOSPITAL.—(1) House Surgeon. (2) Assistant House Surgeon. Males unmarried. Salary £175 and £130 respectively.

BIRMINGHAM GENERAL HOSPITAL.—(1) Resident Anæsthetist. (2) Three House-Surgeons. Salary for (1) £120 and for (2) £70 per annum.

BOURNEMOUTH ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon (male). Salary £150 per annum.

BRADFORD CITY.—Assistant Bacteriologist. Salary £600 per annum.

BRIGHTON ROYAL SUSSEX COUNTY HOSPITAL.—Casualty House Surgeon (male). Salary £120 per annum.

BRISTOL HOMŒOPATHIC HOSPITAL.—Resident Medical Officer. Salary £140 to £150 per annum.

BRISTOL ROYAL INFIRMARY.—Assistant for Cancer Research Laboratories. Salary £400 per annum.

CAMBRIDGE ADDENBROOKE'S HOSPITAL.—(1) House Surgeon. (2) House Surgeon to the Special Departments. Salary at the rate of £170 per annum each.

CANCER HOSPITAL, Fulham Road, S.W.3.—House Surgeon. Salary at the rate of £100 per annum.

CARDIFF. KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION. (1) Half-time Assistant Tuberculosis Officer for the Pontypridd Area; salary at the rate of £300 per annum. (2) Area Assistant Tuberculosis Physician, salary £600 per annum.

CARDIFF ROYAL INFIRMARY.—Gynæcological House-Surgeon. Salary at the rate of £50 per annum.

CARDIFF UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Part-time Demonstrator in Anatomy. Honorarium £75 per annum.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Honorary Assistant Anæsthetist.

CHICHESTER ROYAL WEST SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon. Salary £125 per annum.

DARLINGTON CENTRAL HOSPITAL.—Senior and Junior House-Surgeons (male). Salary £145 and £115 per annum respectively.

DERBY.—THE NEW DERBYSHIRE AND DISTRICT GENERAL INFIRMARY.—Junior House-Surgeon. Salary £150.

DURHAM COUNTY AND NORTHUMBERLAND EAR INFIRMARY.—Clinical Assistant in Out-patient Department. Salary £75 per annum.

GLASGOW UNIVERSITY.—Dr Robert Pelz Lecturer in Materia Medica and Therapeutics.

GREAT YARMOUTH GENERAL HOSPITAL.—Two House-Surgeons, Senior and Junior. Salary £140 and £120 per annum respectively.

HALIFAX ROYAL INFIRMARY.—Third House-Surgeon (male unmarried). Salary £150 per annum.

HULL CORPORATION.—Assistant Medical Officer, Berverley Road Institution (Hospital). Salary at the rate of £400 per annum.

INVERNESS DISTRICT MENTAL HOSPITAL.—Junior Assistant Medical Officer. Salary £150 per annum.

IPSWICH EAST SUFFOLK AND IPSWICH HOSPITAL.—(1) Casualty Officer (2) House-Surgeon. Males. Salary £150 and £120 per annum respectively.

LANARK COUNTY.—Bacteriologist and Pathologist. Salary £750.

LANCASHIRE COUNTY COUNCIL.—(1) Assistant County Medical Officer, salary £630 a year rising to £1,000. (2) Senior Assistant Resident Medical Officer at the Lake Hospital and Barnton House Annexe, Lytham (male unmarried), salary at the rate of £200 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £150 per annum.

LIVERPOOL AND DISTRICT HOSPITAL FOR DISEASES OF THE HEART.—House Physician. Salary £52 per annum.

LIVERPOOL STANLEY HOSPITAL.—(1) House Physician (2) House-Surgeon. Males. Salary at the rate of £100 per annum.

LONDON COUNTY COUNCIL.—Inspector of X Ray and other Electrical Treatment Apparatus in Hospitals, etc. Salary £450 a year rising to £600.

LONDON FEMALE LOCK HOSPITAL, 223 Harrow Road, W.9.—House Surgeon. Salary £150 per annum.

LONDON HOSPITAL, E.1.—(1) Medical First Assistant and Registrar (2) Surgical First Assistant and Registrar. Salary £400 per annum each.

LONDON LOCK HOSPITAL, 91 Dean Street, W.—(1) Surgical Registrar (2) Additional Surgical Registrar (3) House-Surgeon at Male Lock Hospital. Honorarium for (1) and (2) £100 for (3) £200 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—Junior House-Surgeon (male). Salary £120 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Resident House Surgeon. Salary £180 per annum.

MADRAS MEDICAL COLLEGE, Vizagapatam.—Professor of Pathology. Pay Rs.1,100 a month rising to Rs.1,600.

MANCHESTER ANCOATS HOSPITAL.—House-Surgeon (male). Salary £100 per annum.

MANCHESTER CITY.—Assistant Medical Officer at Baguley Sanatorium. Salary £350 per annum.

MANCHESTER ROYAL INFIRMARY.—Junior House-Surgeon and Casualty Officer (lady). Salary at the rate of £100 per annum for eight months rising to £200 per annum.

MANCHESTER ROYAL MANCHESTER CHILDREN'S HOSPITAL.—(1) Resident Medical Officer (2) Resident Surgical Officer (3) Two Assistant Medical Officers for Out-patients Department. Salary for (1) and (2) £125 per annum and for (3) £150 per annum.

MANCHESTER AND SALFORD HOSPITAL FOR DISEASES OF THE CHEST.—House Surgeon. Salary £100 per annum.

MANSFIELD AND DISTRICT HOSPITAL.—House-Surgeon and Casualty Officer (male). Salary £150 per annum.

MIDDLESEX COUNTY COUNCIL.—Resident Medical Officer (male) at Hillingdon Institution, Uxbridge. Salary £600 per annum.

MID-WALES COUNTIES MENTAL HOSPITAL, Talgarth, Brecon-shire.—Assistant Medical Officer. Salary £350 per annum, rising to £450.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Casualty Officer (2) House-Physician (3) House-Surgeon. Salary for (1) £150 and for (2) and (3) £125 per annum.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Resident Medical Officer. Salary £200 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Resident House-Surgeon (woman). Salary at the rate of £150 per annum.

OLDHAM ROYAL INFIRMARY.—Two House Surgeons. Salary £175 per annum.

PETERBOROUGH AND DISTRICT MEMORIAL HOSPITAL.—Second House Surgeon or House-Physician. Salary £145 per annum.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Assistant Pathologist. Salary £350 per annum.

PRESTON AND COUNTY OF LANCASTER ROYAL INFIRMARY.—House-Surgeon. Salary £150 per annum.

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, W.10.—(1) House-Surgeon and Casualty Officer. Salary £75 per annum rising to £100 on appointment as Senior Resident. (2) Honorary Assistant Physician (male or female).

ROTHERHAM COUNTY BOROUGH.—Resident Assistant Medical Officer. Salary £150 per annum.

ROYAL DENTAL HOSPITAL OF LONDON, 32, Leicester Square, W.C.2.—Assistant Dental Surgeon.

ROYAL EYE HOSPITAL, St George's Circus, S.E.1.—(1) Twelve Salaried Refractionist (2) Twelve Clinical Assistant (3) Pathologist.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, Great Portland Street, W.1.—House-Surgeon (male). Salary £150 per annum.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.—(1) House Physician. (2) Resident Out-patient Casualty Officer and Anaesthetist. Salary in each case at the rate of £70 per annum.

RYDE ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—(1) Member of Honorary Medical Staff (2) Resident House Surgeon, salary £120 per annum.

ST BARTHOLOMEW'S HOSPITAL, E.C.1.—(1) Assistant Surgeon to the Orthopaedic Department (2) Assistant Surgeon for Diseases of the Throat and Nose.

ST MARY'S HOSPITAL, W.2.—Physician in Charge of Out-patient.

ST PETER'S HOSPITAL FOR STONE, ETC., Henrietta Street, W.C.2.—House-Surgeon (male). Salary at the rate of £75 per annum.

ST VINCENT'S ORTHOPAEDIC HOSPITAL, Easter Co.—Resident Medical Officer (unmarried). Salary £150 per annum.

SALFORD ROYAL HOSPITALS.—(1) House-Surgeon attached to the Orthopaedic Department (2) House-Surgeon. Salary £145 per annum each.

SEAMEN'S HOSPITAL SOCIETY.—(1) Two House-Physicians at the Hospital for Tropical Diseases, Endsleigh Gardens, W.C. (2) House-Physician and House-Surgeon at Dreadnought Hospital, Greenwich. (3) Medical Officer at Albert Dock Hospital. (4) House-Surgeon at Tilbury Hospital. Males. Salary for (1) and (4) £150 and for (2) and (3) £110 and a proportion of fees.

SHEFFIELD ROYAL HOSPITAL.—(1) Resident House-Surgeon. (2) Resident Anaesthetist. Males. Salary at the rate of £80 per annum rising after six months to £100 per annum.

SHREWSBURY EYE, EAR AND THROAT HOSPITAL FOR SHROPSHIRE AND WALES.—House-Surgeon (unmarried). Salary £200 per annum.

SOMERSET COUNTY COUNCIL.—Assistant Medical Officer. Salary £600.

SOUTHAMPTON CHILDREN'S HOSPITAL AND DISPENSARY FOR WOMEN.—Resident Medical Officer (lady). Salary at the rate of £100 per annum.

SOUTHAMPTON ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Assistant House-Surgeon. Salary £160 per annum.

SOUTH SHIELDS INGHAM INFIRMARY.—Junior House-Surgeon (male). Salary £150 per annum.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees.—Junior Resident Medical Officer (male). Salary £150.

STOKE-ON-TRENT CITY AND STAFFORD-SHIRE ROYAL INFIRMARY.—Assistant House-Physician. Salary £125 per annum.

TYNEMOUTH COUNTY BOROUGH.—Assistant Medical Officer of Health (male). Salary £450 per annum.

UNITED SERVICES FUND, HEATHERWOOD HOSPITAL, Ascot.—Resident Assistant Medical Officer (male). Salary at the rate of £400 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea, S.W.3.—House Surgeon. Salary at the rate of £100 per annum.

WALSALL GENERAL HOSPITAL.—House-Surgeon. Salary £140 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) Two House-Surgeons (males). (3) Resident Anaesthetist. Salary £100 per annum.

WILLESDEN URBAN DISTRICT COUNCIL.—Resident Medical Officer at the Willesden Municipal Hospital. Salary £250 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary £140 per annum.

WOOLWICH AND DISTRICT WAR MEMORIAL HOSPITAL, S.E.18.—House-Surgeon. Honorarium £100 per annum.

WORTHING HOSPITAL.—House Surgeon (male). Salary at the rate of £140 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at St Margaret's Hope (Orkney) is vacant. Applications to Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

British Medical Association

OFFICES BRITISH MEDICAL ASSOCIATION HOUSE
TAVISTOCK SQUARE, W.C.1.

Departments

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate, Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediocracy, Westcent, London).

EDITOR, BRITISH MEDICAL JOURNAL (Telegrams: Aitiology, Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal: Museum 9351, 9352, 9353 and 9354 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY, [illegible] Queen Street, Edinburgh. (Telegrams: Associate, Edinburgh.)

IRISH MEDICAL SECRETARY, [illegible] Street, Dublin. (Telegrams: Bacillus, Dublin.)

Diary of the Association

SEPTEMBER.

9 Tues. West Dorset Division, Milborne St. Andrew, 3 p.m. Social Meeting.

25 Thurs. London Insurance Acts Committee, 11.30 a.m.

DIARY OF SOCIETIES AND LECTURES

PADDINGTON MEDICAL SOCIETY, Great Western Hotel, Paddington.—Tues. 9 p.m. Dr. E. G. Graham Little, M.P., "Address on Private or Contract Practice."

POST-GRADUATE COURSES AND LECTURES

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1 Wimpole Street, W.1.—*Queen's Hospital for Children*, Hackney Road, E.2. Mon. to Sat. Special Course in Diseases of Children occupying all day with lectures and demonstrations. Syllabus and ticket of admission from the Fellowship of Medicine.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1. Fri. 4 p.m. Treatment of Chronic Nasal Discharge.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL, ANTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs. 10.30 a.m. Maternity Hospital: Mon. Tues. Wed. Thurs. and Fri. 11.30 a.m.

BIRTHS, MARRIAGES, AND DEATHS

The charge for inserting announcement of Births, Marriages and Deaths is 2s. which sum should be forwarded with the notice not later than the first post on Tuesday morning in order to ensure insertion in the current issue.

BIRTH

NEILAN.—On August 23rd, 1930, to Dorothy F. Neilan (née Smith) M.B., Ch.B., D.P.H.Ed., wife of Dr. C. J. Neilan of Dawdon, Seaham Harbour, co. Durham, a daughter.

DEATHS

MARSHALL.—Frederick William Marshall, L.R.C.P. and S., at St. John's Lodge, Pocklington, on August 23rd, aged 64 years.

SUGDEN.—On August 24th, William Allen Sugden, of 7 Hopton Road, Streatham, S.W.16.

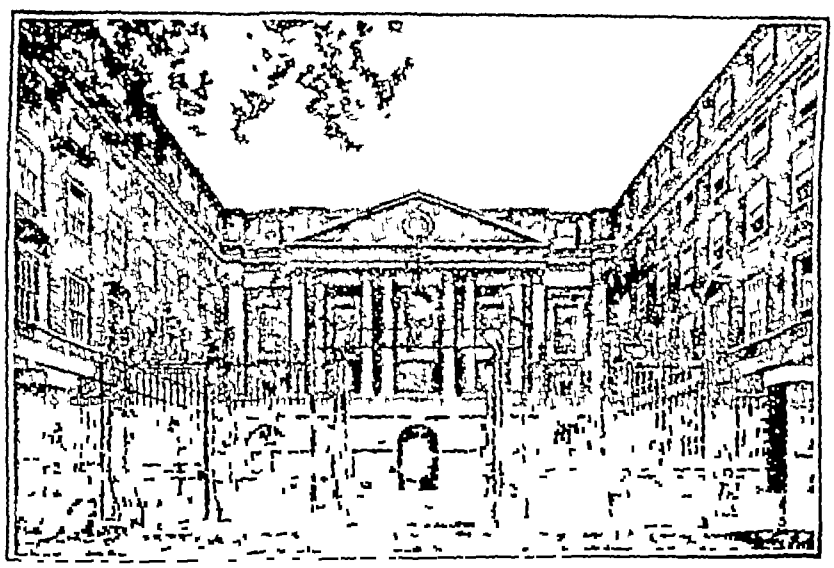
WILKS.—On August 27th, at Milverton, Walker Road, Swansea, the residence of his sister, Morris Wilks, M.B., M.R.C.S., L.R.C.P., D.P.H., late of Birmingham, aged 58.

[The present issue being the Annual Educational Number, much current material is held over and neither the Supplement" nor the "Epitome of Current Medical Literature" is published this week.]

The British Medical Association:

ITS AIMS, WORK, AND CONSTITUTION

THE British Medical Association, as stated in our introductory article on the Profession of Medicine, was founded in 1832 to promote the medical and allied sciences, to maintain the honour and interests of the profession, and to foster a feeling of friendship among its members To attain these objects it holds periodical meetings for the discussion both of medical and scientific subjects and of professional affairs, it publishes the *British Medical Journal*, it maintains a reference and lending library, it has instituted lectures, and scholarships and grants for research It thus concerns itself with every side of medical work—science, clinical medicine, public health and the material interests of professional life The British Medical Association, with a membership now exceeding 35 000, is the oldest, largest, and most powerful British organization devoted to the welfare of the medical profession It has recently acquired a fine building in Tavistock Square, London, for its headquarters, providing ample accommodation for immediate needs and space for future developments These premises, designed by Sir Edwin Lutyens, R A, were formally opened in 1925 by His Majesty the King Patron of the Association and the beautiful wrought-iron gates erected as a memorial to the 574 members who fell in the war, by which the main quadrangle is completed, were dedicated on that occasion by the Archbishop of Canterbury The need for larger accommodation had become insistent owing to the remarkable growth in the central work of the Association during recent years, which had far outstripped the capacity of the premises in the Strand Further extensions to the building in Tavistock Square have now been completed



British Medical Association House Court of Honour

Constitution and Administration

The Association has Branches and Divisions throughout Great Britain and Ireland, and also in the Dominions, Colonies, and Dependencies The Divisions are arranged territorially, and number, in all, 252 For certain purposes of administration or of scientific and clinical work, the Divisions are combined into 97 Branches Members of Divisions elect representatives on the Branch Councils and also a member or members of the Representative Body, which is the governing body of the Association and determines its policy

The Council is the executive of the Association It is elected partly by the Divisions and Branches and partly by the Representative Body, and includes representatives of the Navy, Air Force, Army, and Indian Medical Services The Representative Body elected by the Representative Body The Representative Body and Council elect standing committees to take charge of different subjects Among these may be mentioned the Science, Medico-Political, Ethical, Hospitals, Public Health, and Naval and Military Committees There are Committees also for the Dominions, Scotland, Ireland, and Wales, and for the working machinery of the Association, such as the Organization, Finance, and Journal Committees The Insurance Acts Committee, elected partly by the Association and partly by insurance medical practitioners, is financed by the Association, it is the recognized executive and mouthpiece of the insurance practitioners of Great Britain

Privileges of Members

A member of the Association has the right—

1 To attend the annual and other general meetings of the Association and the meetings of the Division and Branch to which he or she belongs

2 To take part by personal vote (or in some Divisions by voting paper) in the election of the representative of his or her Division in the Representative Body, and also in the election of members of the Council

3 To receive by post the *British Medical Journal*, published weekly, which gives a full record, with commentary, of progress in clinical and scientific medicine and of medico-political affairs throughout the British Empire

4 To receive the help and advice of the central office in any professional difficulty

5 To use the Library as a reading room, and to borrow current medical or scientific books on payment of postage Besides modern works and periodical medical literature—foreign as well as English—the library contains many books of historic interest

The full benefits of the Association can only be secured by the co-operation of large numbers of the medical profession, for the greater the membership and the funds the more efficient and influential the organization The Association during the past ninety-seven years has been the direct means of benefiting every class of medical men and medical women In asking for new members it looks not only to the older practitioners but also and especially to those recently qualified To these a generous concession is made as regards subscription, and there is a special claim to their recognition of the work of the Association in improving the conditions under which they may hold appointments in the public services or in civil life The Association's work for the Services is well known It feels a special responsibility towards those members of the profession who by reason of their position are precluded from taking common action, and recent events have proved again its capacity to further their interests

Subscriptions and Applications for Membership

The ordinary subscription to the British Medical Association is 3 guineas a year for members resident in the British Isles, but this is subject to various exceptions Thus, newly qualified practitioners elected within two years of registration pay half this sum up to the end of the fourth year after registration, medical officers on the active list of the R N, R A F, R A M C (Regular), and I M S pay 2 guineas, concessions are made also to members (in the British Isles) of forty years' standing, to members of ten years' standing who have retired from practice, to medical married couples residing together, and to whole-time teachers and research workers The ordinary subscription for members living abroad is 1½ guineas, but some Branches have special local subscriptions A member elected after June 30th pays half the subscription for that year

All duly qualified British medical practitioners are eligible for election Full particulars can be obtained from the Medical Secretary, British Medical Association House, Tavistock Square, London, W C 1, the Scottish Medical Secretary, 7, Drumsheugh Gardens, Edinburgh, or the Irish Medical Secretary, 16, South Frederick Street Dublin

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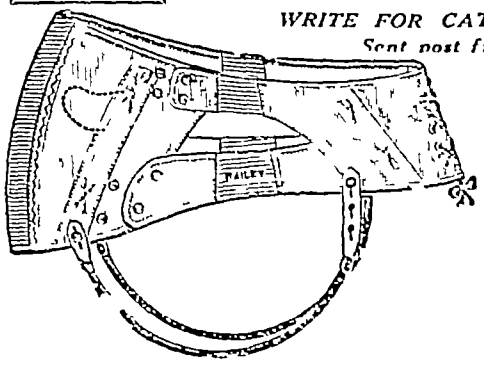
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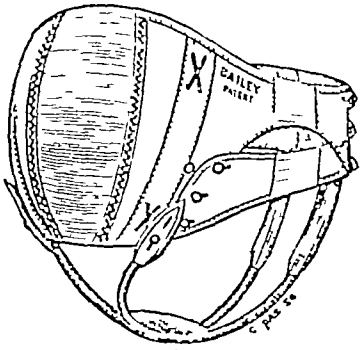
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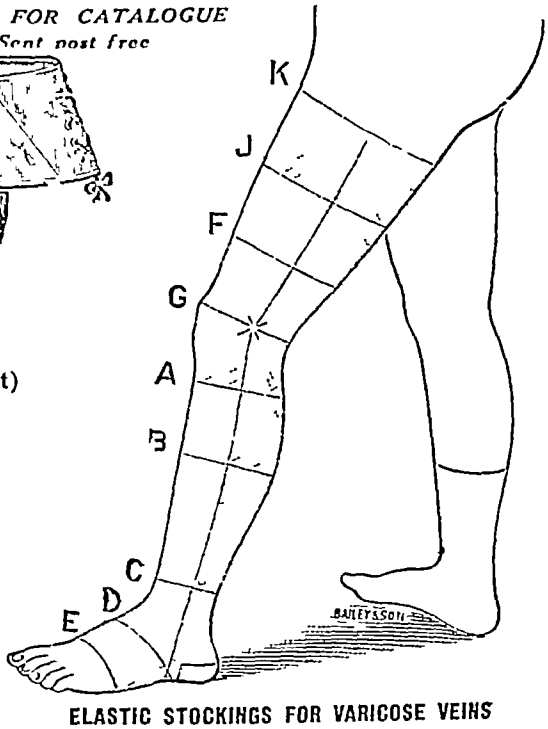
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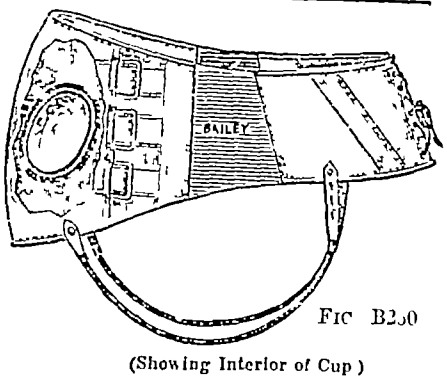


FIG B250
(Showing Interior of Cup)
SPECIAL BELT FOR AFTER COLOSTOMY

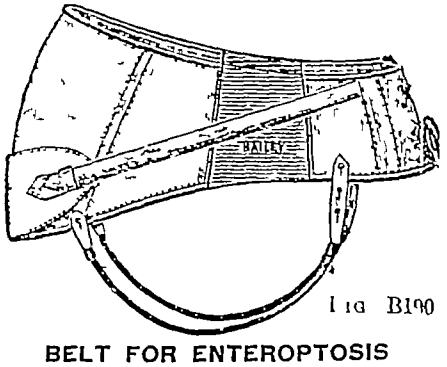
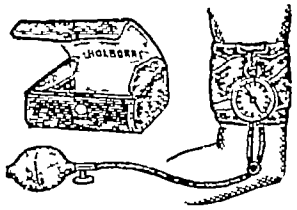
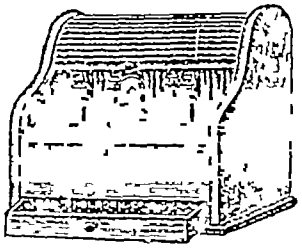


FIG B190
BELT FOR ENTEROPTOSIS

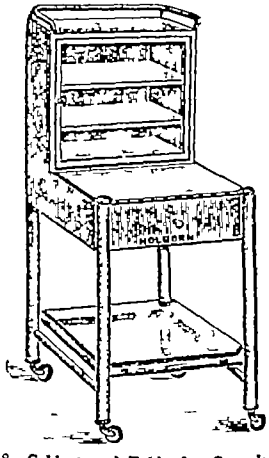
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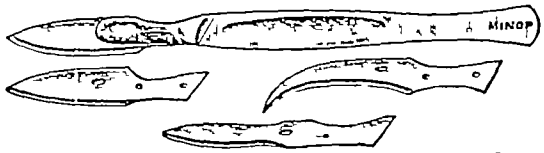
B20—The "Holborn" Pocket Sphygmomanometer complete with black silk armlet in solid leather case £2 15 0 each



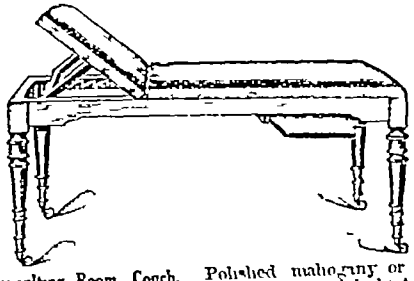
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C18—Cabinet and Table for Consulting Room, etc., white enamelled Size of Cabinet 22 x 20 x 8 Size of Table 20 x 21 x 34 Complete with two plate glass shelves and door in cabinet plate-glass top and shelf and metal drawer in table £5 10 0



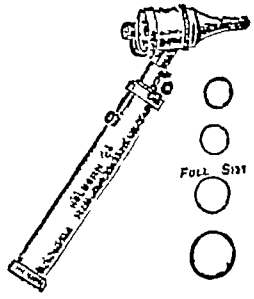
A107—The "Minop" Surgical Knives made in London of finest Sheffield steel Handles 5/- Blades Scalpel 3 sizes Symes Paget or assorted, in packets of ½ dozen 3 6 per packet



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H10

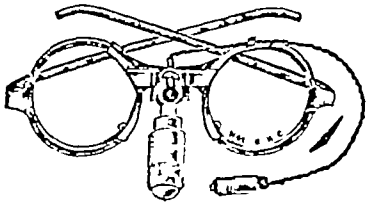


H16

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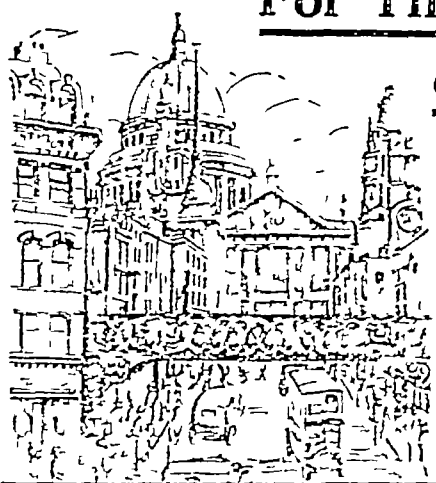
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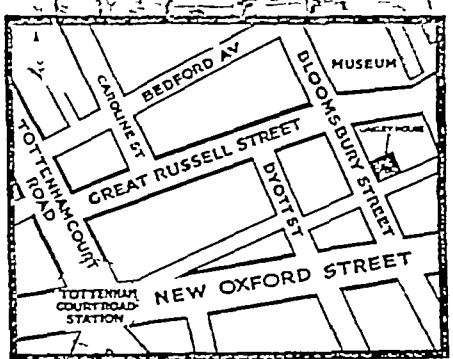
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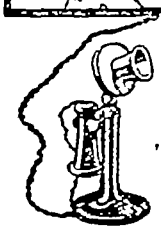
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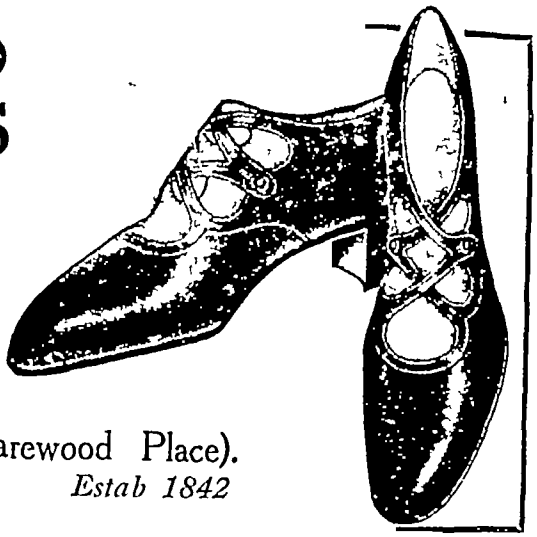
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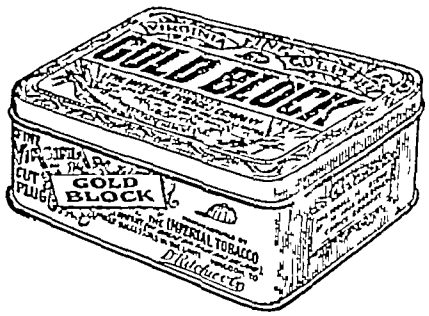
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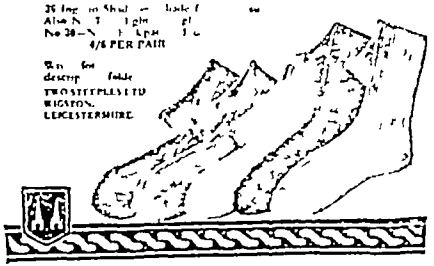
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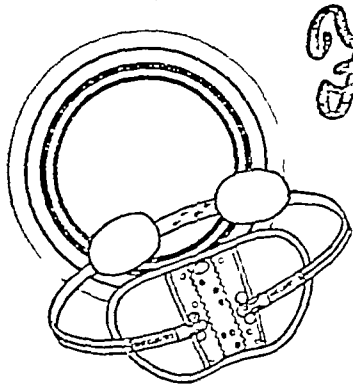
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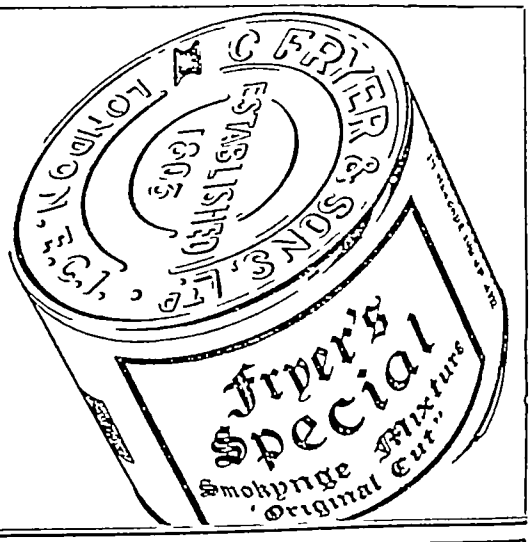
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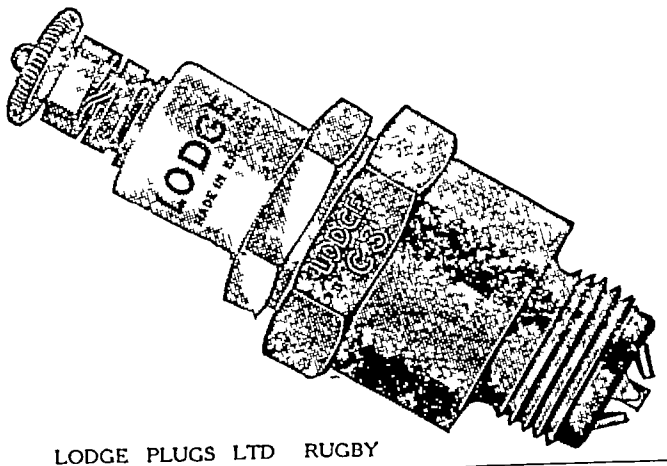
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Clinical Instruction in the Diagnosis and Treatment of Diseases of the Ear, Nose, and Throat is daily given in the Out-Patient Department from 2 to 5 p m On Tuesdays and Thursdays from 6 30 to 7 45 also Major operations are performed daily, except Saturdays, in the In-Patient Operating Theatres Minor operations are performed in the Out-Patient Department by the Assistant Surgeons on three mornings a week

Practitioners and Medical Students are admitted to the practice of the hospital, and Clinical Assistants, whose duty it is to assist the staff, are appointed from time to time from among them

For further information apply to the Dean, Mr F CUNLIFFE ORMEROD

Twenty-four rooms are available for the reception of private patients paying a moderate fee

Further information may be obtained from the Secretary Superintendent

LONDON HOMŒOPATHIC HOSPITAL

(Incorporated by Royal Charter)

Great Ormond Street and Queen Square, W C 1.

Education Facilities for Graduates and Senior Students of Medicine

WINTER SESSION, 1930-31

HONYMAN-GILLESPIE LECTURESHIP. 22nd Year

A Course of Lectures on **HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS**, accompanied with **CLINICAL DEMONSTRATIONS**, will be given by CHARLES E WHEELER M D B Sc Lond Consulting Physician to the London Homœopathic Hospital at the Hospital on

Mondays and Thursdays, October to December 1930, at 5 o clock—beginning on Monday, October 13th, and ending Monday, December 15th

On the first Thursday of the month the hour will be 3 30 p m.

THE COMPTON-BURNETT LECTURES.

A Course of Ten Lectures on **HOMŒOPATHIC PHILOSOPHY AND PRESCRIBING**, as illustrated from the writings of the Organon and Modern Developments therefrom, will be given by JOHN WEIR C V O, M B Ch B Glasg, Physician to the London Homœopathic Hospital on

Fridays at 5 p m October to December 1930—beginning October 10th and ending December 12th

AN INTRODUCTORY LECTURE TO THE WHOLE EDUCATION COURSE will be delivered at the Hospital on *Thursday*, **October 9th 1930 at 5 p m.**

By FREDERICK BLINKETT JULIAN, M C, M B, Ch B B A O M Sc, R U I

All Medical Men and Women are invited to this Lecture.

TUTORIAL CLASS

A class for individual study of the Materia Medica by the Repertory and References to Patients will be conducted by DOUGLAS M BORLAND, M B, Ch B Glasg, Physician to the London Homœopathic Hospital, on

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THE SIR HENRY TYLER SCHOLARSHIP COMMITTEE also offer SCHOLARSHIPS of £20 for Medical Men in the Provinces desirous of taking a Post-Graduate Course at the London Homœopathic Hospital during the Ten Compton Burnett Lectures —Apply to Secretary, London Homœopathic Hospital Great Ormond Street Bloomsbury W C

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SCHOLARSHIPS Bursaries and Prizes are awarded annually to the value of £1 450

WINTER SESSION will begin on WEDNESDAY OCTOBER 1 1930

Prospectus and information as to Scholarships Residence in the School Chambers etc from the Warden and Secretary Miss L M BROOKS

FLORENCE E BARRETT
C B E M S M D Dean

ST. MARY'S HOSPITAL MEDICAL SCHOOL, W 2

(University of London)

The WINTER SESSION will begin on Wednesday October 1st 1930

The Annual Dinner of Past and Present Students will be held on Friday October 3rd at the Troxy Restaurant Dr J R FLEMING in the chair

EXCEPTIONAL SITUATION The Hospital is adjacent to a large open district on the one side and near Kensington Gardens and one of the best residential districts in London on the other side thus providing for the Student the unusual possibility of living in close touch with his work.

ATHLETIC GROUND *The Athletic Ground (10 acres) is situated at Wembley* and can be reached in 20 minutes from the Hospital A pavilion has been erected at a cost of £3 000

REBUILDING OF THE MEDICAL SCHOOL The site purchased two years ago for the re-building of the Medical School and Institute of Pathology has now been cleared of houses and building operations have already begun The new School will include departments for teaching in Inorganic Chemistry Physics Biology Organic Chemistry and [illegible] for research work in [illegible] Anatomy Physiology new Administrative Offices gymnasium and swimming [illegible] vision is being made for [illegible] buildings also include Club rooms and a [illegible] the new block will be ready for occupation in 19 months time

COMPLETE CURRICULUM The entire Curriculum is provided for Medical Degrees and Diplomas and Students may join the School at once on passing a Preliminary Examination in Arts

SPECIAL CLINICAL FACILITIES The formation of Clinical Units and the affiliation of other hospitals for teaching purposes have largely extended the scope of the clinical teaching 1 000 beds are now available for the clinical instruction of Students Special arrangements have been made for the instruction of Students in Venereal Diseases at the London Lock Hospital and all Students attend a short course at Queen Charlotte's Maternity Hospital
Recent structural alterations have provided 2 new Operating Theatres and 60 additional beds

INSTITUTE OF PATHOLOGY The Institute of Pathology and Research is under the personal direction of Sir Almroth Wright F R S and includes seven departments Students receive special training in Pathology Bacteriology and Chemical Pathology by means of clerkships in these subjects tenable for a period of 3 months 2 of these posts being available in each year

ENTRANCE SCHOLARSHIPS Two Entrance Scholarships of £210 each are awarded by nomination in July annually The Geraldine Harmsworth Scholarship (£210) and other University Scholarships are awarded by nomination in July annually The Palmer Scholarship (£25 per annum for two years) is awarded in alternate years

RESEARCH SCHOLARSHIPS Research Scholarships of the value of £200 per annum each are awarded annually for the purpose of enabling newly qualified students to undertake research under the Director of one of the departments included in the Institute of Pathology

APPOINTMENTS AFTER QUALIFICATION Numerous appointments are open to newly qualified members of the Medical School. Six House Physicians (3 months) Eight House Surgeons (3 months) and Four Resident Obstetric Officers (6 months) are appointed annually Two Resident Anæsthetists (6 months) £150 per annum Four Casualty House Surgeons (6 months) £100 per annum with board and residence. Medical Registrar and Surgical Registrar £200 per annum with partial board. In addition to the above Five Assistants to the Medical and Surgical Units are appointed from time to time with salaries ranging from £40 to £250 p.a.

C M WILSON (*M.C.*) M.D., F.R.C.P Dean.

The Illustrated Prospectus of the Medical School may be obtained on application to the Secretary

BROMPTON HOSPITAL for CONSUMPTION AND DISEASES OF THE CHEST

The Hospital contains 350 beds and the Sanatorium at Frimley 150 beds The Hospital Practice is open to Students and Post-Graduates The arrangements for

Post Graduate Work comprises special instruction in the Wards the Out Patient Department the X Ray and Throat Departments the Operating Theatre and Pathological Departments Courses of one month's duration are held during the months of October November January March and June, for which a fee of Four Guineas is charged

Undergraduate Teaching Clinical clerkships to one of the Senior Physicians including work in the Out Patient Department with the corresponding Physician to Out Patients are available for fifth year students Fee for one month's course Two Guineas

For further details application should be made to the Dean

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Society of Apothecaries of LONDON

MASTERY OF MIDWIFERY EXAMINATION

The next Examination will take place on Monday November 17th 1930 and following days. For regulations apply to—

FRANK HAYDON Secretary

THE HOSPITAL FOR SICK CHILDREN,

GREAT ORMOND STREET, BLOOMSBURY, W C.1.

This Hospital contains 252 beds, with an average admission of 7,000 in-patients per annum, whilst in the out-patient department about 30,000 new patients are seen each year The Medical School is recognized by the Universities of Oxford, Cambridge, and London, and by the Conjoint Medical Board of England, as a teaching institution where two months' clerking and dressing may be carried out by any undergraduate student who is entering for a final qualifying examination In addition for students who have completed four years of medical study six months of the fifth year may be spent there in clinical work under recognition from the Conjoint Board Post graduate instruction, open to all qualified medical men and women, is given daily in the wards, out-patient department, operating theatre, and post mortem room by members of the visiting staff In addition, lectures are arranged for them throughout the year, announcements of which are made from time to time, and full details of them can be obtained from the Dean or Secretary at the Hospital Clinical clerkships in the wards and clinical assistantships in the out patient department are also available for post-graduate students Opportunities for study are also offered in the Ophthalmic, Dermatological, Dental, Radiographic, and Pathological Departments

Fees for Hospital Attendances One Month's Ticket, £2 2s Three Months' Ticket, £5 5s Perpetual Ticket, £10 10s Special reduced fees for Clinical Clerks, Dressers for one month's attendance, £1 1s Clerks attend for about four hours daily

Pathological Department Facilities are afforded to post graduates for obtaining theoretical and practical instruction in Clinical Pathology and Bacteriology, and in Medical Biochemistry in the Pathological and Biochemical Laboratories

Courses of 8 to 10 Lecture Demonstrations are given at weekly intervals twice a year in both subjects (Clinical Pathology and Bacteriology and Biochemistry) These Lecture Demonstrations are of one or two hours' duration

Fees —For Course of 8 to 10 Laboratory Demonstrations in either Branch £5 5 0

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Prospectus from the DEAN, West London Hospital, Hammersmith, W 6

DIPLOMA IN PUBLIC HEALTH.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

(University of London)

The course of study, covering a period of twelve calendar months, will commence on September 29th, 1930, and is so designed that students wishing to do so can proceed to the new academic Diploma instituted by the University of London

The inclusive fee of 54 guineas will cover the cost, not only of the ordinary lectures and demonstrations, but also of the necessary practical work in public health departments and instruction in infectious diseases, etc

Enquiries should be addressed to the Secretary, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, London, W C 1

THE ROYAL DENTAL HOSPITAL OF LONDON SCHOOL OF DENTAL SURGERY

(University of London)
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Students are admitted for the curriculum for the B D S Degree and the L D S Diploma

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Classes in Chemistry and Physics are held during the Winter and Summer Sessions, and are open to Students who have not commenced their professional study

DENTAL MECHANICS

Pupils may join at the commencement of either the May or October Sessions for the training in Dental Mechanics specified in the curriculum

HOSPITAL PRACTICE

The School is thoroughly equipped The Clinic of the Hospital is unrivalled

POST GRADUATE INSTRUCTION

Classes can be arranged for Post Graduate instruction in all branches of Dental Surgery

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Fee to London Students
Day £8 8s per term
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Early application should be made to the Director of Education

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(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd (Candidates for the D T H must possess the D T M of this University)

For particulars apply to the Hon Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool

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Under Graduates who have completed their fourth year are admitted to the Practice of the Hospital at specially reduced fees

Special Courses of two weeks duration are held in January, July, and October Fee £7 7s

Further particulars may be obtained on application to the Dean or the Secretary at the Hospital

WEST END HOSPITAL FOR NERVOUS DISEASES.

OUT PATIENT DEPARTMENT WELBECK STREET, W 1

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Recognized by the University of London

Courses of SPECIAL CLINICAL DEMONSTRATIONS on selected cases as advertised, are given in March April and November December

The general practice of the hospital is conducted daily (Saturdays excepted)

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A limited number of appointments as Hon Clinical Assistants are open to Post Graduates

For particulars of the above apply to C WORSTER DROUGHT M D M R C P Dean or to the Secretary of the Hospital at 73 Welbeck Street W 1

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Further particulars may be obtained from the Secretary

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Dental Anatomy—ALAN SHEFFORD, L D S, M B, B S Lond, L R C P, M R C S, L D S Eng
Mondays at 5 p m

Orthodontics—BERTRAM B SAMUEL L D S Eng
Thursdays at 5 p m May to July

Dental Mechanics—B MENDLESON, L D S Eng
Wednesdays at 5 p m January to March

Dental Materia Medica—H DAVIS, Ph C
Tuesdays and Fridays at 2 p m May to July

Bacteriology of the Mouth—Sir KENNETH GOADBY, K B E, D P H Camb, L R C P, M R C S, L D S Eng Wednesdays at 2 p m January to March

General Pathology—Prof A E BOYCOTT, M A, D M, F R S
Mondays, Wednesdays, Thursdays, and Fridays at 12 noon May

Practical Pathology—Prof C C OKELL, M B, B Ch, M R C P, D P H Mondays, Tuesdays, Thursdays, and Fridays at 2 p m May

Dental Histology—A K INCE JONES, L R C P, M R C S, L D S Eng
Wednesdays at 5 p m May to July

Dental Metallurgy—H TERRY, B Sc
Tuesdays at 5 p m at University College January to March

Anaesthetics—Prof C C OKELL, M B, B Ch
Alternate Tuesdays at 5 p m January to March

Radiology—D. A IMRIE, M D Laus, L R C P E, L R C S E, D M R E, L D S
Thursdays at 5 p m July

The WINTER SESSION Commences WEDNESDAY, OCTOBER 1st, 1930

This Hospital and School, situated in the centre of a large population, and within a few minutes of University College Hospital, has recently been reorganized and equipped on the highest standard of modern requirements, and is admirably adapted for the teaching of students in every branch of the Science and Art of Dental Surgery The mechanical laboratory, conservation room, and X-rays department are replete with all the latest approved appliances

Students (men and women) enter as students of University College Hospital, and attend classes in anatomy and physiology at University College, adjacent to University College Hospital

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The Calendar, containing full information as to lectures, fees, prizes, etc, may be had on application to the Sub-Dean of Dental Students, who attends the University College Hospital Medical School, University Street, Gower Street, W C 1, on Wednesdays, at 9 30 a m

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(UNIVERSITY OF LONDON)

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THE WINTER SESSION will start on TUESDAY, SEPTEMBER 30th, 1930

ENTRANCE SCHOLARSHIPS—MEDICAL SCHOOL

The following Entrance Scholarships are awarded annually in the month of June —
A—Open Junior Scholarships—1 An ARTS SCHOLARSHIP of the value of £100 2 A SCIENCE SCHOLARSHIP of the value of £100 3 A WAR MEMORIAL SCHOLARSHIP of the value of £200 awarded alternately in Arts and Science. This Scholarship is open every other year, the next award will be made in 1932 in Arts
B—Confined Scholarship in Science—A JUNIOR SCIENCE SCHOLARSHIP of the value of £100 is offered for competition to Candidates who have attended the Preliminary Science Classes at this School
The following Entrance Scholarships are awarded annually in the month of July —
C—Open Senior Science Scholarships—1 *A WAR MEMORIAL SCHOLARSHIP of the value of £100* 2 *An OPEN SCHOLARSHIP* of the value of £80 Subjects Candidates will be examined in two of the following Subjects, at their option (1) Anatomy (2) Physiology, (3) Organic Chemistry and Pharmacology, (4) General Pathology

THE DENTAL SCHOOL

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Numerous Prizes, Medals, and Scholarships are open for competition during the period of Studentship
For further particulars and for the Prospectus containing information as to the Course of Study advised the Residential College, Fees, &c application should be made either personally or by letter to *The Dean Guy's Hospital Medical School London Bridge S E 1*

LONDON HOSPITAL MEDICAL COLLEGE & DENTAL SCHOOL.

THE WINTER SESSION will Open on Wednesday, October 1st

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MEDICAL UNIT—A Clinical Unit in Medicine, under the charge of a whole time Director, provides for the more elaborate methods of diagnosis and treatment and takes a leading part in the initiation and co ordination of medical research
RESEARCH FUNDS to the value of over £113,000 permit of financial assistance being given to Students and Graduates engaged in Medical Research
SCHOLARSHIPS and PRIZES to the value of £1,158 are awarded annually, including four Open Entrance Scholarships to the value of £350 and two Entrance Scholarships open to students of the Universities of Oxford and Cambridge to the value of £200
APPOINTMENTS—Over 160 Appointments are made annually from Students of the College recently qualified
SPECIAL COURSES are held for all the University Examinations for the Primary and Final Fellowship Examinations of the Royal College of Surgeons and for the Membership Examination of the Royal College of Physicians
HOSPITAL PRACTICE—Exceptional opportunities are offered to qualified Practitioners wishing to attend the General Practice or the Practice of a Special Department of the Hospital
A Clubs Union an Athletic Ground of over 13 acres, and a *Students Hostel*, promote the recreation health, and comfort of the Students.
For Prospectus and Particulars apply to the Dean (Professor WILLIAM WRIGHT, M.B, D Sc, F R C S) who will be pleased to make arrangements for anyone wishing to see the Medical College and Dental School
MILE END E.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE

(UNIVERSITY OF LONDON)

WINTER SESSION BEGINS OCTOBER 1st, 1930

THE HOSPITAL has 762 Beds and the MEDICAL COLLEGE contains large Lecture Rooms and Laboratories, as well as a Museum and a Library

Every Special Branch of Medicine and Surgery has a Department

ENTRANCE SCHOLARSHIPS

Four Entrance Scholarships are awarded in September, of the aggregate value of £325
Other Scholarships and Prizes amount to about £975 annually

PRELIMINARY SCIENCES

Biology, Chemistry, and Physics are fully taught in the Laboratories apportioned to these subjects

HOSPITAL APPOINTMENTS

Forty House Physicians and House Surgeons are appointed annually from those Students who have passed their final qualifying examination

Five hundred and sixty Ward Clerkships and Dresserships are open annually to Students before qualification

STUDENTS UNION

The Union possesses a Club Ground of ten acres within easy reach of the Hospital

HIGHER EXAMINATIONS

Special Classes are held for F R C S, etc

For further particulars apply, personally or by letter, to—

THE DEAN OF THE MEDICAL COLLEGE, St Bartholomew's Hospital, London, E C 1

THE LONDON SCHOOL OF DERMATOLOGY

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, LEICESTER SQUARE W C 2

The CHESTERFIELD LECTURES constituting a systematic course in Dermatology will be given at 5 p m on Tuesdays and Thursdays from October to March

SYLLABUS—WINTER SESSION—1930-31.

1930		Subject	Lecturer
Oct. 21	Tues	Anatomy and Physiology of the Skin	Dr W N Goldsmith.
„ 23	Thurs	Morphology and Histopathology of Elementary Lesions	Dr J M H MacLeod.
„ 28	Tues.	Principles of Treatment	Dr W Griffith
30	Thurs.	Principles of Treatment Local ..	Dr K. Sibley
Nov 4	Tues.	Diseases due to Animal Parasites ..	Dr H MacCormac
6	Thurs.	Occupational Dermatitis ..	Dr W J O'Donovan
„ 11	Tues.	Tuberculosis Cutis (1) ..	Dr A Whitfield.
13	Thurs.	Tuberculosis Cutis (2)	Dr A Whitfield.
„ 18	Tues.	Bacteriology and Mycology	Dr H W Barber
„ 20	Thurs.	Pathology Demonstration	Dr L Muende
„ 25	Tues.	Immunity and Anaphylaxis	Dr H W Barber
27	Thurs	Staphylococcal Infections	Dr G B Dowling
Dec. 2	Tues	Cutaneous Syphilis (1) ..	Dr A C Roxburgh.
4	Thurs	Cutaneous Syphilis (2) ...	Dr A C Roxburgh.
9	Tues	Eruptions due to Physical Agents	Dr A C Roxburgh
11	Thurs	Pigmentation of the Skin ..	Dr W N Goldsmith.
16	Tues.	Erythemato-Squamous Eruptions	Dr S E. Dore
18	Thurs	Pathology Demonstration	Dr L Muende

1931		Subject	Lecturer
Jan. 1	Thurs.	Acne Rosacea ..	Dr D H Haldin Davis
6	Tues.	Erythema Multiforme	Dr J E. M. Wigley
8	Thurs	Ringworm Infections	Dr J M H MacLeod.
13	Tues	Seborrhœa Seborrhœic Dermatitis	Dr G B Dowling
15	Thurs	Pathology Demonstration ..	Dr L Muende
20	Tues.	Urticaria ..	Dr J A. Drake
22	Thurs	Exfoliative Dermatitis ..	Dr W J O'Donovan
27	Tues	The Sarcoids ..	Dr A. M. H Gray
29	Thurs	Lichen Planus	Dr W N Goldsmith.
Feb 3	Tues	Affections of the Hair and Hair Follicles	Dr S E. Dore
5	Thurs	Xanthoma. Herpes ..	Dr A M H. Gray
10	Tues	Cicatrical Alopecia	Dr E. Graham Little.
12	Thurs	Pruritus Prurigo. Lichenification	Dr H Haldin Davis
17	Tues	Lupus Erythmatos	Dr J E M Wigley
„ 19	Thurs.	Pathology Demonstration	Dr L Muende
„ 24	Tues	Leprosy ..	Dr J A. Drake.
26	Thurs	Leukæmia Cutis. Mycosis Fungoides	Dr J E M Wigley
Mar 3	Tues	Eczema (1)	Dr W Griffith.
5	Thurs	Eczema (2)	Dr J E M Wigley
10	Tues	Pemphigus & Allied Eruptions	Dr K. Sibley
12	Thurs	Electro-Therapeutics	Dr C B Dowling
17	Tues	Motile Diseases	Dr L Muende
19	Thurs.	Pathology Demonstration	Dr H MacCormac
24	Tues	Malignant Growths of the Skin	Dr W N Goldsmith.
26	Thurs	Benign Growths of the Skin	Dr W J O'Donovan

An Examination will be held at the end of the Course and the CHESTERFIELD MEDAL will be awarded to the best candidate, provided the required standard is reached

CLINICS.—Instruction will be given daily in the Out Patient Department as follows

Monday	2 p.m.	Dr Griffith	Wednesday 2 p m	Dr Dowling	Friday 2 p.m. Dr Roxburgh.
	6 p.m.	Dr Dore	6 p m.	Dr Wigley	6 p m .. Dr Dowling
Tuesday	2 p m	Dr Goldsmith.	Thursday 2 p.m.	Dr Sibley	Saturday 2 p.m. .. The Medical Registrar
	6 p m.	Dr Wigley	6 p m.	Dr Goldsmith.	

LABORATORY.—Arrangements can be made for Classes Individual Instruction or for research work. For particulars and fees apply to the Dean

FEES.—For Hospital Practice including Lectures One Guinea per month six months Five Guineas. *Registered Medical Students may attend the Lectures free on signing their names and giving the name of their Hospital*

Medical Practitioners will be welcome as occasional visitors *on presentation of their cards.*

For further particulars apply to the Dean.

J E. M. WIGLEY MB Dean.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL

(UNIVERSITY OF LONDON)

Dean H WILLOUGHBY LYLE, M D, B S Lond, F R C S, J P

The present HOSPITAL was opened in 1913 and is one of the best equipped Hospitals in England It is planned for 600 beds but at present, owing to lack of funds, 200 are not available It serves a population of nearly 2 000 000, and the attendances in the Casualty and Out patient Departments during the year 1929 amounted to 283,136

The MEDICAL SCHOOL Buildings, like those of the Hospital are up to date and exceptionally fine The Laboratory and Pathological Department and the Post-mortem Room are especially noteworthy

In the Education at the Hospital a special feature has always been the individual *attention given to each* Student, and each subject is taught by *its own specialist* *There is ample opportunity for any* Student who wishes to specialize in a subject to continue his studies with the help of Junior Staff appointments With a view to ensuring co ordination of studies, the teaching of each of the subjects of Medicine, Surgery, and Gynaecology has been placed in charge of a member of the Senior Honorary Staff assisted by Medical Surgical, and Obstetric Tutors Attached to the Gynæcological Department is a Maternity Ward, through which Students can qualify for the requirements in that subject of all the Examining Bodies

FOURTEEN ENTRANCE SCHOLARSHIPS, of a total value of £1,530 are awarded annually

"The PLATANES," close to the Hospital, with large grounds and tennis courts, is a residence for 80 Students

The ATHLETIC GROUND (over six acres in extent) is within ten minutes' walk of the Hospital

The Fee for the advanced studies is 93 guineas The Entrance Fee of 10 guineas includes membership of the Clubs and Societies Union

DENTAL SCHOOL The Dental School was opened in October, 1923 A full course is given in co operation with King's College, in preparation for Dental Degrees and Diplomas

For Particulars, Calendar of the School, and Appointments to see the School and Hospital, application should be made to the Secretary, S C Ranner, M A Cantab, King's College Hospital Medical School, Denmark Hill, London, S E 5

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL

(UNIVERSITY OF LONDON)

HYDE PARK CORNER, S.W.

THE *HOSPITAL and MEDICAL SCHOOL occupy* the finest site in London and are readily accessible from all parts of the Metropolis

The entire teaching in the School is devoted to the subjects of the Final Examinations, in other words, is specially adapted to the interests of men from the Universities who have passed their Examination in Anatomy and Physiology

By arrangement with the authorities of King s College in the Strand, St George's Students attend at that College for tuition in the Preliminary and Intermediate subjects

SEVEN ENTRANCE SCHOLARSHIPS IN ANATOMY AND PHYSIOLOGY, AND GENERAL PATHOLOGY, of the value of £120, £80 (3), £50 and £40 (2) respectively, are awarded in July to candidates who have passed the *2nd M B or corresponding examination* In addition, EXHIBITIONS, each of the value of £40 and up to *Four in* number, will be awarded to candidates of approved merit in the Entrance Scholarship Examination

MANY VALUABLE PRIZES ARE AWARDED EACH YEAR, including the following —Allingham Scholarship of the value of £87 Laking Memorial Prize of the value of £65 the Brackenbury Prize in Medicine, the Brackenbury prize in Surgery, and the Webb Prize in Bacteriology, each of the value of £—

RESIDENT APPOINTMENTS may be held for four, eight, or twelve months A Student of ordinary ability should have an excellent chance of *obtaining* these posts and afterwards one of the following Paid appointments for a short time Resident Assistant Physician, £250, Resident Assistant Surgeon, £250 Medical Registrar, £200 Surgical Registrar, £200, Assistant Curator of the Museum, £100, Resident *Anæsthetist*, £100, Resident Obstetric Assistant, £100

The ST GEORGE'S HOSPITAL CLUB incorporates the RUGBY FOOTBALL, CRICKET, LAWN TENNIS, BOXING, RIFLE and other Clubs, and possesses an ATHLETIC GROUND within easy reach of the Hospital, and Smoking and Luncheon Rooms on the School Premises

Entrance Fee, £10 10s 0d Annual Composition Fee which covers all courses, lectures, etc, in the Hospital and School, £42 *Annual Club Subscription*, £3 3s 0d

The Winter Session will begin on October 1st, but students can enter at any time

Further information may be obtained from the Dean of the Medical School

A FEILING, M D, F R C P,
Dean

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.

TELEPHONE— MUSEUM 7026 and 7027

(UNIVERSITY OF LONDON).

UNIVERSITY STREET, GOWER STREET, WC1

MEDICAL AND SURGICAL STAFF

Consulting Physicians—Sir THOMAS BARLOW Bart K C V O M D D Sc D C L F R S F R C P Sir JOHN ROSE BRADFORD K C M G C B C B E L L D M D D Sc D C L F R C P F R S Dr H P SPENCER F R C P Sir GEORGE BLACKER C B E M D F R C P F R C S
Physicians—Dr H BATTY SHAW F R C P Dr F J POYNTON F R C P Dr C BOLTON C B E D Sc F R C P F R S Prof T R ELLIOTT C B E D S O M D F R C P F R S., Sir T LEWIS C B E D S M D F R C P F R S Dr J W McNEE, D S O F R C P
Physician to the Neurological Department—Dr F M R WALSHE O B E D Sc F R C P
Physician to Skin Department—Dr A M H GRAY C B E F R C P F R C S
Physicians for Mental Diseases—Dr B HART F R C P Dr A F TREDGOLD F R C P
Physician for Children's Diseases—Dr F J PEARSON F R C P
Consulting Surgeons—Mr HILTON FOLLAND B S F R C S Mr RAYMOND JOHNSON O B E B S F R C S Mr PERCY FLEMMING B.S., F.R.C.S., Mr H MORRISTON DAVIES M S., F R C S Mr S SPOKES M R C S L D S (Dental) Mr RICHARD LAKE F R C S Mr A E RELPH M R C S L R C P (Dental) G SECCOMBE HETT B S F R C S
Surgeons—Mr WILFRED TROTTER M S F R C S Mr GWYNNE WILLIAMS M S F R C S Prof C C CHOYCE C M G C B E B Sc. F R C S Mr E K MARTIN M S F R C S Mr JULIAN TAYLOR M S F R C S
Ophthalmic Surgeons—Sir J H PARSONS C B E D Sc B S F R C S F R S Mr HUMPHREY NEAME F R C S
Obstetric Surgeons—Mr CLIFFORD WHITE, F R C P F R C S Prof F J BROWNE F R C S Ed.
Diseases of the Ear and Throat—Mr HERBERT TILLEY B S F R C S Mr E A PETERS F R C S Mr H A KISCH B S F R C S Mr J F O'MALLEY F R C S
Dental Surgeons—Mr H J RELPH M R C S L R C P L D S Mr J L DUDLEY BUXTON L.M.S.S.A L D S
Radiologist—Dr R W A SALMOND O B E. Ch.M
Consulting Anaesthetists—Dr DUDLEY W BUXTON M R C P Dr A B KINGSFORD Dr H J SHIRLEY
Anaesthetists—Dr C W MORRIS Dr S HUTCHINSON Dr H S WEBBER Dr E J RILBRA.
Pathology—Prof A E BOYCOTT M A D M L L D F R C P F R S
Bacteriology—Prof C C OKELL B.A M.B B Ch. M R C P D P H., Dr F H TEALE, B S., F R C P Dr D EMBLETON
Clinical Pathology—Dr G W GOODHART M.A B Ch
Morbid Anatomy—Mr W G BAYNARD M.R.C.S L.R.C.P
Chemical Pathology—C R. HARINGTON M.A Ph D

THE WINTER SESSION will commence on OCTOBER 1st, 1930

THE SCHOOL IS FOR FINAL STUDIES only

STUDENTS are prepared for the degrees of the Universities of OXFORD CAMBRIDGE LONDON and DURHAM and for the Diplomas of other qualifying bodies

CLINICAL UNITS in MEDICINE, SURGERY, and OBSTETRIC MEDICINE are now in operation.—The whole-time Directors of the Units are concerned with the organization of the teaching generally but the honorary staff are responsible for the largest share of the teaching in the wards and Out patient Department of the Hospital. The new Obstetric Hospital is now finished and in full occupation

Director of the Medical Unit—Prof T R ELLIOTT — Assistants—Dr H A HARRIS Mr A M RICHARDS Dr E A BLAKE-PRITCHARD Mr J D PROCTER
Director of the Surgical Unit—Prof C C CHOYCE — Assistants—Mr A J GARDHAM Mr F J F BARRINGTON Mr R S PILCHER
Director of the Obstetric Unit—Prof F J BROWNE — Assistants—Mr N L WHITE Miss G H DODDS Mr J C MOIR

DENTAL STUDENTS can obtain a complete curriculum at University College and at University College Hospital Dental School (The National Dental Hospital Great Portland Street) This Hospital has recently been reorganized and equipped on the highest standard of modern requirements and is admirably adapted for the teaching of Students in every branch of the science and art of Dental Surgery

FEES.—For the Final Course 112 guineas if paid in one sum or 115 guineas paid in two instalments of 70 and 45 guineas

APPOINTMENTS.—Forty seven appointments are open during the year to students and paid appointments to the annual value of over £2 000

SCHOLARSHIPS, EXHIBITIONS, and PRIZES, of the value of over £1 000 are awarded annually Amongst the most important are

GRAHAM SCHOLARSHIP in Pathology £300 per annum
LESLIE PEARCE GOULD SCHOLARSHIP awarded every two years about £200
RADCLIFFE CROCKER TRAVELLING SCHOLARSHIP in Dermatology awarded every five years about £250
MAGRATH SCHOLARSHIP in Clinical Medicine about £150
PERCIVAL ALLEYN PRIZE about £75
ATCHISON SCHOLARSHIP about £55 per annum tenable for two years.
ATKINSON MORLEY SCHOLARSHIP £45 per annum tenable for three years
BUCKNILL SCHOLARSHIP entitles the holder to the Intermediate Medical Course at University College and for the Final Course at the Medical School
GOLDSMID EXHIBITIONS Two Exhibitions the subjects of the Examination being any two of the following subjects Anatomy Physiology General Pathology awarded annually towards the end of the Summer Session and entitle to course for Final Medical Examination

All further information and Prospectus can be obtained from the Secretary and the Dean can be interviewed at any time by appointment

Dean—A M H GRAY C B E M D F R C P F R C S
Vice Dean—GWYNNE WILLIAMS M S F R C S
Sub-Dean for Dental Students—J L DUDLEY BUXTON L M S S A L D S Secretary—P SLOLEY

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL

(UNIVERSITY OF LONDON)

THE WINTER SESSION BEGINS on WEDNESDAY, OCTOBER 1st, 1930

SITE.—The Hospital occupies the finest open site in London, facing the River and the Houses of Parliament.

SCIENCE, ANATOMY, AND PHYSIOLOGY.—Classes and Lectures in all Elementary and Intermediate subjects provide complete instruction for the University and the Conjoint Board Examinations.

CLINICAL WORK.—The facilities for Clinical work are second to none in London. Clerks and Dressers, who work under the immediate supervision of the Staff, are appointed every three months in all General and Special Departments of the Hospital.

SPECIAL DEPARTMENTS.—The Special Departments in the Hospital provide Clinical Instruction in all Special subjects.

In connection with the DEPARTMENT OF OBSTETRICS AND GYNÆCOLOGY all Students attend the practice of the MATERNITY WARD before proceeding to work in the district.

THE PRIMARY F.R.C.S. CLASSES will commence on Tuesday, September 9th.

THE FINAL F.R.C.S. COURSE will commence during the second week in October.

ENTRANCE SCHOLARSHIPS.—One in Arts, free course for first 2 years of Study. Two in Science (Pre-Sci. Standard) £150 and £60. Two for University Students (Anatomy, Physiology, Pathology, Applied Chemistry, any two subjects) £100 and £25.

ST. THOMAS'S HOUSE.—A residential Club for Students has recently been opened, providing accommodation for some 60 resident Students, and including spacious Club rooms, etc. The SPORTS GROUND is within easy reach of the Hospital.

ANNUAL FEE.—£50 for each Year of Study. The Annual Fee covers the cost of all Lectures, Classes, etc., except the following: "Fevers, £3 3s. 0d.

AMALGAMATED CLUBS. Entrance Fee £2 2s. 0d., Annual Subscription £5 5s. 0d.

Full particulars may be had by application to

R. J. C. THOMPSON, C.M.G., D.S.O., M.D. Durh., M.R.C.P. Lond.,
Medical Secretary to the School, St. Thomas's Hospital, Lambeth Palace Road, S.E.1.
Professor L. S. DUDGEON, C.M.G., C.B.E., F.R.C.P. Lond., Dean.

UNIVERSITY OF LONDON

OPHTHALMIC HOSPITAL MEDICAL SCHOOL.

ROYAL LONDON OPHTHALMIC HOSPITAL

(Moorfields Eye Hospital), CITY ROAD, E.C.1

Qualified Medical Practitioners and Registered Medical Students may enter on the Practice of the Royal London Ophthalmic Hospital (Moorfields) at any time, and are, on certain conditions, eligible for appointment as Chief Clinical Assistant, Clinical Assistant and Junior Assistant.

Courses of Instruction, extending over a period of five months, begin in OCTOBER and MARCH

1. Practical Refraction Classes.
2. Methods of examination and use of the ophthalmoscope.
3. Lectures every afternoon on the following subjects: (*a*) Anatomy, including Embryology and Normal Histology, (*b*) Physiology, (*c*) Optics, including Physiological Optics, (*d*) Pathology and Bacteriology, (*e*) Ophthalmic Medicine and Surgery, consisting of Medical Ophthalmology, External Diseases of the Eye, Motor Anomalies and Squint, Diseases of the Retina and Optic Nerve, Diseases of the Uveal Tract.
4. Ophthalmoscopic Conditions: a practical class with demonstrations each week at 5 p.m.
5. Clinical Lectures.
6. Occasional Lectures on subjects allied to Ophthalmology.
7. Operative Surgery. In these classes the usual operations are performed by the student upon pigs' eyes.
8. Practical Pathology. A course of demonstrations on the normal and morbid histology of the eye is given by the pathologist in the laboratory.
9. Practical Bacteriology.
10. Classes in Radiography.
11. Physico-therapy (Ultra-violet Light, Diathermy, etc.).
12. Slit-lamp Microscopy.

FEES.—A composition fee of 35 guineas will admit Students once to all the lectures and classes (except the classes on Physico-Therapy, and Slit-lamp Microscopy, and the examination fee).

DIPLOMA IN OPHTHALMIC MEDICINE & SURGERY & OTHER DEGREES IN OPHTHALMOLOGY

The above complete curriculum is specially designed to meet the requirements of candidates entering for these examinations.

Fees for the Practice of the Hospital:

Perpetual	£5 5 0	Two months	£2 2 0
Three to six months	£3 3 0	One month	£1 1 0

Clinical work begins at 9 a.m. daily. Operations are performed between 10 a.m. and 1 p.m.

For further particulars apply to the SECRETARY to the Medical School at the Royal London Ophthalmic Hospital, City Road, E.C.1, or to the Dean, CHARLES GOULDEN, O.B.E., M.D., M.Ch., F.R.C.S.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL

UNIVERSITY OF LONDON

WINTER SESSION BEGINS ON OCTOBER 1st

The entire Medical Curriculum can be taken at this School There is no accommodation for Women Students Annual value of Scholarships and Prizes £1,000 Large Research Funds

STAFF INCLUDES 6 UNIVERSITY PROFESSORS 2 UNIVERSITY READERS 29 LECTURERS 8 DEMONSTRATORS and 4 TUTORS

ENTIRE CURRICULUM—THE PROVISION WHEREBY ALL THE SUBJECTS OF THE CURRICULUM INCLUDING CHEMISTRY PHYSICS AND BIOLOGY FOR THE PRE MEDICAL EXAMINATION ARE TAUGHT WITHIN THE PRECINCTS of the HOSPITAL and MEDICAL SCHOOL and every effort made to encourage co-ordination ensures that the student instead of proceeding to the study of the various subjects as if they were isolated and having little or no relation to each other is taught each subject by professors and lecturers who are instructing medical students only and are in close touch with all the other departments of the School The rebuilding of the Hospital and completion of new buildings in connection with the Medical School have now reached such a point that those working in the Institution have facilities equal to or superior to those to be found in any other hospital in the United Kingdom and the rapid progress which is being made with the remaining buildings promises even greater facilities in the immediate future The new buildings are not confined to the wards but include a magnificent Nurses Home a new Out-patients Department the Institute of Biochemistry and new departments of Neurology Dermatology etc The following description of the work in various departments is designed to show how co-ordination is carried out

CHEMISTRY is taught by Professor W B Tuck and the class room and laboratories are in the immediate vicinity of those for anatomy physiology pharmacology pathology and bacteriology This leads to a close association with these departments and the student realises how interesting and practical chemistry which he requires for his first professional examination but is acquiring knowledge which he will need and have to apply in later years Professor Tuck also gives instructions in Toxicology and in the Chemistry required by candidates for the DIPLOMAS IN PUBLIC HEALTH so he is in touch with students in their final years and also in their post graduate studies

THE PHYSICS DEPARTMENT is under the charge of Professor Sidney Russ who is also Physicist to the Hospital and engaged *in research work on the measurements and dosage of X-ray and* Radium emanation He is therefore in close touch with the departments of physiology and pathology and takes an active part in departments for clinical therapeutics Under his direction the student will realise at once that he is not studying an isolated subject for the purpose of training his mind or simply to comply with regulations and pass an examination but is in touch with a subject which will be of great and increasing importance in the proper understanding of his work in later years

BIOLOGY—The Lecturer on Biology is Dr J H Woodger who holds a University Readership in this subject His teaching in biology is characterized by co-ordination with other departments and the bearing of the subject on the later stages of the curriculum is emphasized. Not only is the subject taught as an introduction to the study of Anatomy and Physiology but the increasing importance of a knowledge of the lower forms of vegetable life and of the protozoa in the causation of disease and the study of insect carriers of human diseases is emphasized by co-ordination with the Pathological Institute.

IN THE DEPARTMENT OF ANATOMY, under the direction of Professor Thomas Yeates with the general scientific study of Anatomy and its wider Biological aspect the relation of structure to function and pathology is not lost sight of Facts of clinical medicine and surgery of pathology biology and physiology are included in the teaching in order to emphasize the significance of anatomical points By classes in Applied Medical and Surgical Anatomy the study of this subject is continued in the later stages of the student's career

THE TEACHING OF PHYSIOLOGY is in the hands of Professor *Samson Wright and the department is in close touch with those* for the teaching of both the preliminary and final subjects of the curriculum It is impressed upon the student in this department that he cannot be a good clinician unless he obtains a sound knowledge of Physiology Later in his career the student has continuous opportunities of applying what he has learnt in the Physiological department and his physiological knowledge is further extended notably in the study of PHARMACOLOGY and in the CARDIOGRAPHIC Department where he has opportunities of studying the electrical conditions of the heart both in health and disease

IN THE BLAND SUTTON INSTITUTE OF PATHOLOGY all the departments of the Medical School are brought in touch. Here the student learns the SCIENCE OF DISEASE. The teaching of Pathology is in the hands of Professor J McIntosh and under his tuition the student is made to realise that *Pathology and Medicine* are one and that a clear knowledge of Pathology and Bacteriology is essential for the prevention diagnosis and treatment of disease The teaching of pathology is brought into the closest touch with clinical teaching and the student sees the practical application of the sciences in which he has been instructed in the earlier years of the curriculum—chemistry physics biology anatomy and physiology

THE COURTAULD INSTITUTE OF BIOCHEMISTRY is a new building fully equipped with laboratories for teaching and biochemical research. Professor E C Dodd who is in charge of the Department holds complete courses in *Biochemistry for students* both in their early years and during their period of instruction in the ward In addition to this the student here acquires constant practical experience of the important modern chemical investigations necessary for the detection of disease and the study of its evolution Several valuable post-graduate appointments in this Institute become available to students showing special ability in this direction

CLINICAL TEACHING is carried out in the general wards and out patients departments and in the special departments all of which are in close touch with the scientific departments in the School The student has ample opportunities for carrying out the physical examination of patients and with his training on the scientific side combines *instruction in the art of Medicine* by constantly being brought in contact with patients and being made to realise the human side of his professional work In order that the student may have ample bedside teaching and opportunities for carrying out the examination of patients himself the number of students allowed at a Clinique *is limited.*

There are ample clinical appointments for all students and twenty five Resident appointments are open annually to students of the School who have obtained their degrees or diplomas

THE SOCIAL AND ATHLETIC side of the student's life has been arranged for There are large athletic grounds with new Pavilion restaurant and gymnasium Common Room Society Medical Society Musical Society and various other Clubs The beautiful swimming bath in the new Nurses Home is available for students on certain days weekly

Write for Prospectus to the DEAN T IZOD BENNETT M.D B.S F.R.C.P Middlesex Hospital Medical School Berners Street London W.1

London School of Hygiene and Tropical Medicine.

(University of London)

TROPICAL MEDICINE AND HYGIENE

The School provides two courses yearly, each of twenty-two weeks The Autumn course commences on 30th September, 1930, and the Spring course on 2nd February, 1931 Composition Fee, to include hire of Microscope, &c, £34 5s

DIPLOMA IN PUBLIC HEALTH

The next Course of Study, covering a period of Twelve Months, commences on 29th September, 1930, and is so designed that students wishing to do so can proceed to the new academic diploma instituted by the University of London
The Composition Fee of 54 Guineas covers the cost of the necessary practical work and instruction in infectious diseases, &c

DIPLOMA IN BACTERIOLOGY

The Course of Study, covering One academic Year, commences early in October Composition Fee, £47 15s

EPIDEMIOLOGY AND VITAL STATISTICS

Special Three-Monthly Advanced Courses Composition Fee, £7 7s

Applications for Prospectuses and for other information, should be addressed to —
The SECRETARY, Keppel Street (Gower Street), London, W C 1

Charing Cross Hospital Medical School

(UNIVERSITY OF LONDON)

With which is affiliated **The Royal Westminster Ophthalmic Hospital.**

SESSIONS COMMENCE APRIL AND OCTOBER

The most central of all the Colleges of the University Complete Hospital and School arrangements for all departments of Clinical work
The Institute of Pathology includes a series of Laboratories fully equipped for Student, Post-Graduate, and Research work
Students' Club Rooms and Restaurant on the School premises

Two Scholarships, value £120, are awarded annually for final studies for students of Oxford and Cambridge Scholarships are also awarded in Anatomy and Physiology to students studying for the London M B In addition there are several Exhibitions awarded annually, particulars of which may be obtained from the Dean Examinations for these Scholarships are held in August and March each year

Fees 38 guineas per annum

For Prospectus and full information apply personally or by letter to the Dean

Charing Cross Hospital Medical School, London, W C 2

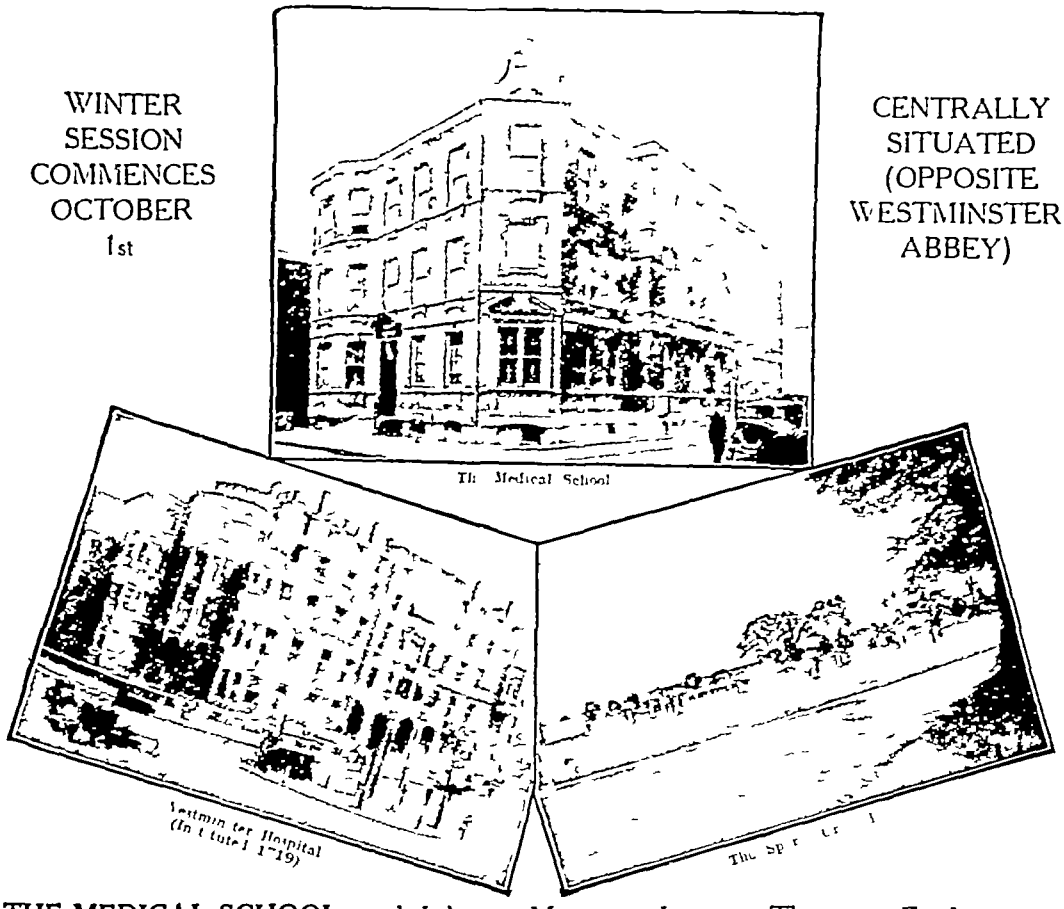
Telephone No TEMPLE BAR 3903 and 3904

Westminster Hospital Medical School

(University of London)

WINTER SESSION COMMENCES OCTOBER 1st

CENTRALLY SITUATED (OPPOSITE WESTMINSTER ABBEY)



The Medical School

Westminster Hospital (Institute 1719)

THE MEDICAL SCHOOL, with Library, Museum, Lecture Theatres, Epidiascope, &c, is only a few minutes' walk from the Hospital The entire teaching of the Hospital and School is devoted to the subjects of the Final Examinations Arrangements are made for the tuition required for preliminary and intermediate subjects

ENTRANCE SCHOLARSHIPS to the value of £350 and PRIZES to the value of £170 are awarded annually

Fees Annual Composition fee £40

Paid appointments as Medical Surgical and Obstetric Registrars Casualty Officers House Physicians House Surgeons and Anæsthetists are available for Students when they have passed their examinations

MEDICAL GRADUATES whether qualified in this country or abroad can obtain appointments as Clinical Assistants for outv in the Wards Out-patients Departments or Special Departments

QUALIFIED PRACTITIONERS may be appointed as Assistants in the recently opened Carlill laboratories for the purpose of engaging in research work

Post Graduate Classes are held annually

The Dean or Sub-Dean will be pleased to arrange for intending students and parents to inspect the Hospital and Medical School at any time

ONLY MALE STUDENTS ARE ADMITTED

A prospectus and full particulars may be obtained on application to the Dean

Dr A S WOODWARK C M G C B E M D F R C P

Westminster Hospital Medical School, Caxton St, Westminster, S W 1 Tel Victoria 0765

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THE UNIVERSITY OF LIVERPOOL.

FACULTY OF MEDICINE.

THE MEDICAL SCHOOL provides complete courses of instruction for the Examinations of the University of Liverpool, and also meets the requirements of other Universities and Examining Bodies in the United Kingdom

Other Schools of the Faculty are —The School of Dental Surgery, the School of Hygiene, the School of Tropical Medicine, and the School of Veterinary Science

DEGREES AND DIPLOMAS IN THE FACULTY OF MEDICINE

Bachelor of Medicine & Bachelor of Surgery	M B, Ch B	Master of Veterinary Science	M V Sc
Doctor of Medicine	M D	Doctor of Veterinary Science	D V Sc
Master of Surgery	Ch M	Doctorate in Philosophy	Ph D
Master of Hygiene	M H	Licence in Dental Surgery	L D S
Master of Orthopædic Surgery	M Ch Orth	Diploma in Public Health	D P H
Bachelor of Dental Surgery	B D S	Diploma in Tropical Medicine	D T M
Master of Dental Surgery	M D S	Diploma in Tropical Hygiene	D T H
Bachelor of Veterinary Science	B V Sc	Diploma in Veterinary Hygiene	D V H
		Diploma in Medical Radiology & Electrology	D M R E

Valuable Fellowships, Scholarships, and Prizes are offered for competition each year

THE CLINICAL SCHOOL consists of FOUR GENERAL HOSPITALS The Royal Infirmary, the Royal Southern Hospital, the David Lewis Northern Hospital, and the Stanley Hospital, and of FIVE SPECIAL HOSPITALS The Eye and Ear Infirmary, the Hospital for Women (including the Samaritan Hospital), the Royal Liverpool Children's Hospital, the Liverpool Maternity Hospital, and the St Paul's Eye Hospital

These Hospitals contain in all about 1,500 Beds

The organization of these Hospitals to form one teaching Institution provides the Medical Student and Medical Practitioner with a field for clinical education and study which is unrivalled in extent in the United Kingdom

Infectious Diseases are studied in the Local and District Hospitals, and Mental Diseases at the County Mental Hospital, Rainhill

For information on all matters concerning the curriculum application should be made to the Dean of the Faculty of Medicine the University of Liverpool

W J DILLING, Dean

THE CLINICAL SCHOOL,

UNIVERSITY OF LIVERPOOL.

The following Hospitals are associated for purposes of Clinical Instruction and form the Clinical School of the University —

THE ROYAL INFIRMARY	**THE STANLEY HOSPITAL**	**THE HOSPITAL FOR WOMEN** (including the SAMARITAN HOSPITAL)
THE ROYAL SOUTHERN HOSPITAL	**THE EYE AND EAR INFIRMARY**	**LIVERPOOL MATERNITY HOSPITAL**
THE DAVID LEWIS NORTHERN HOSPITAL	**ROYAL LIVERPOOL CHILDREN'S HOSPITAL**	**ST PAUL'S EYE HOSPITAL**

The Staffs of these Hospitals form the Teaching Staff of the Clinical School There are over 1,500 beds in the Associated Hospitals affording a field for Clinical Instruction which is unrivalled in the United Kingdom

Twenty one house physicians and house surgeons are appointed every six months in the General Hospitals, and the majority of these receive salaries ranging from £60 to £100 per annum Five resident medical officers are also appointed at intervals to the Special Hospitals

Information regarding the regulations for Hospital Practice may be obtained from the Secretary of the School,
J C MATTHEWS M A M D F R C P 61 RODNEY STREET

UNIVERSITY OF BRISTOL.

FACULTY OF MEDICINE

The WINTER SESSION commences on 3rd October, 1930

The University grants the Degrees of Bachelor of Medicine and Surgery (M B Ch B) Master of Surgery (Ch M) Doctor of Medicine (M D) Bachelor of Dental Surgery (B D S), and Master of Dental Surgery (M D S), as well as diplomas in Public Health (D P H) and Dental Surgery (L D S)

The lectures and laboratory courses which are given in the University although primarily designed for the degrees and diplomas of the University are equally adapted to those of other Universities and Examining Boards, and Students preparing for such external degrees and diplomas have equal attention paid to them

Hospital Practice and Clinical Instruction are provided in the Hospitals and Asylum of the City associated with the University for this purpose and Students have exceptional opportunities of studying the practice of medicine from a large variety of cases

Women are admitted to all Classes, Lectures and Laboratory Practice, and attend them with men The Halls of Residence for Men and for Women Students are situated in Clifton, near the University

INCLUSIVE FEES—

For the M B, Ch B curriculum	205 guineas
For the B D S curriculum, including Mechanical Laboratory	215 ,,
Do excluding Mechanical Laboratory	155 ,,
For the L D S curriculum, including Mechanical Laboratory	200 ,,
Do excluding Mechanical Laboratory	140 ,,
For Mechanical Laboratory alone	60

For additional particulars apply to Professor EDWARD LAWCETT, M D, F R S, Dean

UNIVERSITY OF DURHAM

COLLEGE OF MEDICINE,

NEWCASTLE-UPON-TYNE.

The degrees in Medicine Surgery Hygiene and Dentistry the Diploma in Public Health, the Diploma in Psychiatry and the Licence in Dental Surgery of the University of Durham are open to men and women

The WINTER SESSION, 1930-31, will be commenced on WEDNESDAY, OCTOBER 1st

Students can complete at the University of Durham College of Medicine, Newcastle-upon-Tyne the entire course of professional study required for the above degrees diplomas, and licence also for the Examinations of the Royal Colleges of Physicians and Surgeons and other Examining Bodies

Hospital practice is carried out at the Royal Victoria Infirmary a general hospital containing more than 550 beds and there are facilities for the study of the various special subjects General and Special Post-Graduate Courses are held

Practical Midwifery can be studied at the Princess Mary Maternity Hospital which contains 90 beds with an annual indoor and outdoor attendance on 3 000 cases Lectures are given on Psychological Medicine in the College of Medicine and clinical instruction at the Mental Hospital Newcastle Special Courses of Instruction in Outdoor Sanitary Practice and in the Hospital for Infectious Diseases are given by the City Medical Officer of Health

Particulars may be obtained from the DEAN of the College

THE UNIVERSITY OF SHEFFIELD.

Vice Chancellor W W PICKARD CAMBRIDGE M A D Litt.

FACULTY OF MEDICINE

Dean Professor J S C DOUGLAS M A D M B Ch M Sc

The University grants Degrees in Medicine (M B Ch B M D Ch M) and in Dental Surgery (B D S M D S) It also grants a Diploma in Dental Surgery (L D S) These are all open to men and women on equal terms

The session 1930 1931 begins on October 1st.

Lectures and laboratory courses are given in the University whilst clinical instruction is provided in the general and special Hospitals in the City

Although the teaching is primarily directed towards the requirements of the University the instruction amply covers those of other examining bodies

A number of resident hospital appointments are open to qualified students of the school

Halls of Residence—There are four Halls of Residence one for men students and three for women students

Scholarships—A number of Entrance Scholarships are open to students wishing to enter the Faculty of Medicine There are also post graduate scholarships

A prospectus of the School containing all necessary details and also particulars of scholarships may be obtained free from— W M GIBBONS Registrar

UNIVERSITY OF BIRMINGHAM

FACULTY OF MEDICINE

(Associated with the General Queen's and Special Hospitals for Clinical Teaching)

THE SESSION OPENS ON OCTOBER 6th 1930

The University grants Degrees in Medicine Surgery and Public Health and a Diploma in Public Health also Degrees and a Diploma in Dental Surgery

The courses of instruction are also adapted to meet the requirements of other Universities and Licensing Bodies.

HOSPITAL APPOINTMENTS

A large number of Resident Hospital appointments in Birmingham and District are open to qualified students of the School.

SCHOLARSHIPS EXHIBITIONS AND PRIZES

Entrance and other Scholarships and Exhibitions and various Prizes and Medals are awarded annually in the Faculty of Medicine

SCHOOL OF DENTISTRY (University of Birmingham and Birmingham Dental Hospital)

The School of Dentistry in conjunction with the General and Queen's Hospitals affords a complete curriculum for the Dental Diplomas and Dental Degrees of the University and all other Licensing Bodies A Dental Scholarship of the value of £40 1st. ed. is offered annually

PRE MEDICAL AND PRE DENTAL EXAMINATIONS

The necessary Courses of Instruction in Chemistry and Physics and in Biology may be attended in the University

RESIDENCE FOR UNDERGRADUATES AND OTHER STUDENTS

There are Halls of Residence for Men and for Women Students. A register of approved lodgings is also kept by the Secretary of the University

For Syllabus and further information apply to Prof J C BRASH M A M D Dean

UNIVERSITY OF MANCHESTER.

FACULTY OF MEDICINE

The WINTER SESSION commences on OCTOBER 2nd

The Laboratories and Museums afford every facility to Students and Graduates for Practical Instruction, as well as for Original Research

SCOPE OF INSTRUCTION

Complete Courses of Instruction are offered for the Examinations of the University of Manchester, and also for the Examinations of other Examining Bodies in the United Kingdom Post-Graduate Courses are held in preparation for the Diploma in Psychological Medicine (Manch), the Certificate in Venereal Diseases, and in various branches of Medicine and Surgery In the Dental Department Complete Courses are given preparing for the Degrees and Diploma in Dentistry granted by the University, as well as for the Diploma of the Royal College of Surgeons of England, and other Dental Diplomas The Public Health Laboratories are situated at a short distance from the University The fullest opportunities are offered to Graduates and others in preparation for the Diplomas in Bacteriology, in Public Health, and in Veterinary State Medicine, and for Special Certificates in School Hygiene and Factory Hygiene Particulars may be obtained from the Dean of the Medical School

OPPORTUNITIES FOR CLINICAL STUDY—ROYAL INFIRMARY AND OTHER HOSPITALS

The Clinical Instruction is given in the new Royal Infirmary, opened in 1909 on a site near to the Medical School It is provided with every modern requirement for the treatment of the sick and the investigation of disease Instruction in Special Subjects is given in other Hospitals associated with the University A large number of beds in the General and in the Special Hospitals are available, thus affording unrivalled opportunities for Clinical Study

1 The Manchester Royal Infirmary	614 beds	6 Fever Hospital for Infectious Diseases	600 beds
2 The St Mary's Hospitals for Women and Children	216 beds	7 Special Hospitals for Diseases of the Ear Throat and Chest, Skin and the Christie Cancer Hospital	265 beds
3 Manchester Children's Hospital	190 beds	8 Dental Hospital for Manchester	
4 Manchester Royal Eye Hospital	150 beds	9 Ancoats Hospital	136 beds
5 Manchester Northern Hospital for Women and Children	73 beds	10 Salford Royal Hospital	265 beds

HOSPITAL APPOINTMENTS

In consequence of the large number of Hospitals associated with, or in the vicinity of, the University, exceptional opportunities are offered to Graduates to obtain Resident Hospital Appointments

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES

Two Open Entrance Scholarships for Graduates, each of the value of 160 guineas, are offered yearly in July In addition, the Dreschfeld Scholarship of £30 per annum, the John Russell Medical Entrance Scholarship of £45 per annum, and other Entrance Scholarships of the value of £30 to £40 a year for two or three years, are also tenable in the Medical Faculty

Fellowships, Scholarships, etc , are also offered for competition to Students of the Faculty

RESIDENCE FOR UNDERGRADUATES

There are Halls of Residence both for Men and for Women Students A list of registered lodgings can be obtained Prospectuses will be forwarded on application to the Registrar

MANCHESTER UNIVERSITY MEDICAL SCHOOL

POST-GRADUATE COURSES IN MEDICINE AND SURGERY.

The following arrangements have been made for Post-Graduate teaching in Manchester during 1930-31

1. **ANCOATS HOSPITAL:**
   A Post-Graduate Day on Thursdays during the University terms Syllabus available at the beginning of October No fee charged
2. **PART-TIME COURSES**
   (a) **In Ophthalmology (Royal Eye Hospital)**—October 7th to November 20th, 1930, Tuesdays and Thursdays Fee £3 3s
   (b) **In Diseases of the Skin (Skin Hospital, Quay Street),**—February 9th to 21st, 1931 Twelve Clinical Demonstrations Fee £3 3s
   (c) **In Practical Instruction in Local Anaesthesia and Minor Operative Surgery (Salford Royal Hospital)**—Wednesdays, October 8th to November 26th, 1930 Fee £3 3s
   (d) **In Bacteriology and Immunity (Public Health Laboratory, York Place)**—Wednesdays and Fridays, Michaelmas and Lent terms Fee £10 10s
3. **CLINICAL ASSISTANTSHIPS**—Maximum fee £4 4s
4. **RADIUM THERAPY**—Clinical Assistantships at the Manchester and District Radium Institute, one day per week, for three months Fee £4 4s

Syllabus and other information may be had on application to the Dean of the Medical School

THE UNIVERSITY OF LEEDS

FACULTY OF MEDICINE

SCHOOL of MEDICINE and THE GENERAL INFIRMARY at LEEDS

The First Term begins on **October 1st, 1930**

The degrees of M B , Ch.B , Ch M and M D are conferred, and diplomas in Public Health and Psychological Medicine are granted by the University

The systematic Classes and Lectures are held in the School of Medicine of the University while the Clinical instruction is given in the General Infirmary The combined courses of study are arranged to meet the University Regulations in the first instance, but they also afford every opportunity for students preparing for the examinations of any licensing body

The instruction in the subjects for the First Examination is given in the Department of Science of the University

The Composition Fee for the Academic Courses and Clinical instruction is £242.

For further particulars application should be made —

Regarding instruction given at the University to
The Academic Sub-Dean,
School of Medicine,
Leeds

Regarding instruction given at the Infirmary to
The Clinical Sub-Dean,
General Infirmary,
Leeds

THE UNIVERSITY OF LEEDS

SCHOOL OF DENTISTRY

The First Term begins on **October 1st, 1930**

The degrees of B Ch D and M Ch D , as well as a diploma, L D S , are conferred by the University

The systematic Classes and Lectures are held in the School of Medicine and School of Dentistry of the University, while the clinical instruction is given in the Leeds General Infirmary and School of Dentistry The combined courses of study are arranged to meet the University Regulations in the first instance, but they also afford every opportunity for study to students preparing for any of the dental examinations

Intending students can enter as pupils in the Dental School and can obtain instruction in the preliminary scientific subjects in the Department of Science of the University

For further particulars application should be made —

Regarding instruction given at the University to
The Academic Sub Dean,
School of Medicine,
Leeds

Regarding clinical instruction
The Warden,
School of Dentistry Leeds

UNIVERSITY OF ST. ANDREWS.

(SCOTLAND)

Chancellor The Rt Hon STANLEY BALDWIN, M P, P C, LL D
Rector Sir WILFRED THOMASON GRENFELL, K C M G, M D, LL D, F R C S
Vice Chancellor and Principal Sir JAMES COLQUHOUN IRVINE, C B E, D Sc, LL D, Sc D, F R S

FACULTY OF MEDICINE

Dean Professor FRANCIS JAMES CHARTERIS, M D

The University confers the following DEGREES AND DIPLOMAS M B, Ch B, M D, Ch M, Ph D, D P H, L D S (all open to men or women)

SESSION 1930-31 opens October 3rd, 1930 The whole curriculum may be taken at Dundee, or the first two years may be taken in St Andrews, the remaining three in Dundee

CLINICAL INSTRUCTION at Dundee Royal Infirmary, Dundee Dental Hospital, and other Medical and Surgical Institutions in Dundee

BURSARY (Scholarship) Competitions June annually Entries due May 4th

BURSARIES FOR MEDICAL STUDENTS—At St Andrews Taylour Thomson (for women), 1 of £40 and 1 of £30 for 5 years, Malcolm (for men and women), £40 for 5 years, vacant annually At Dundee Hepburn (for men or women) £25 for one year, vacant annually

BURSARIES FOR WHICH MEDICAL STUDENTS ARE ELIGIBLE—At St Andrews About 14 Bursaries ranging in value from £50 to £10, tenable for 3 or 4 years (6 for men or women, 7 for men only, 1 for women only), vacant annually At Dundee About 8 Bursaries from £50 to £40, for 4 years

RESIDENTIAL ENTRANCE SCHOLARSHIPS FOR MEN—At St Andrews Five or six of £100 competed for annually in June Medical students are eligible

FEES for complete M B Ch B Course, exclusive of Examination Fees, Hospital Fees, etc, £182

PRELIMINARY EXAMINATION—September and March Entries due August 12th and February 10th

PRE-REGISTRATION EXAMINATION (Physics and Chemistry)—September, December, and June Entries due August 31st, November 5th, May 4th

RESIDENCE HALLS for Men and Women at St Andrews, for Women at Dundee

Provision made for POST GRADUATE STUDY AND RESEARCH

Full information may be got from the Secretary of the University, 71, North Street, St Andrews, or the Dean of the Faculty of Medicine, Westlands, St Andrews

Royal Infirmary, Edinburgh

In this Hospital (with 1 010 beds) Clinical Instruction is given by the Honorary Staff of Physicians and Surgeons to Male and Female Students Special Instruction is given in the Medical Department on the Diseases of Women, Physical Diagnosis Diseases of the Skin and Radiology and in the Surgical Department on Diseases of the Eye the Ear and the Larynx and in Dental Surgery Separate Departments and Wards are devoted to Venereal Diseases Diseases of Women, and Diseases of the Eye, the Ear and Throat and the Skin and Radiology also to cases of Incidental Delirium or Insanity Post mortem Examinations are conducted in the Anatomical Theatre by the Pathologist who also gives Practical Instruction in Pathological Anatomy and Histology

MEDICAL AND SURGICAL OFFICERS

MEDICAL DEPARTMENT

Consulting Physicians—Dr Alexander James Sir Byrom Bramwell, I L D Emer Prof William Russell LI D Dr R A Fleming LL.D Emer Prof G Lovell Gulland C M G LI D
Physician Consultant in Tuberculosis—Sir Robert Philip LL D
Physician Consultant in Psychiatry—Dr Wm M McAlister
Physician Consultant in Diseases of Tropical Climates—Col E D W Greig
Physicians—Dr Chalmers Watson Prof Edwin Bramwell Dr Edwin Matthew Prof W T Ritchie O B E. Dr John Eason Prof Murray Lyon Dr John D Comrie Dr Alex Goodall
Assistant Physicians—Dr G D Mathewson, Dr Fergus Hewat Dr H L. Watson Wemyss, Dr W D D Small Dr W A Alexander, Dr A Rae Gilchrist, Dr T R R. Todd, Dr J K Seater

SURGICAL DEPARTMENT

Consulting Surgeons—Dr C W MacGillivray, Sir Montagu Cotterill, C M G, Mr C W Cathcart C B E Sir David Wallace, K B E, C M G, L L D, D L, Mr John W Dowden Mr Alexander Miles LL D Emer Prof Sir Harold J Stiles, K B E, L L D
Surgeons—Mr George Chiene Mr W J Stuart Mr J W Struthers Prof D P D Wilkie, O B E Mr Henry Wade C M G D S O, Prof J Fraser M C Mr J M Graham
Assistant Surgeons—Mr A Pirie Watson O B E, Mr T E Jardine Mr W Q Wood Mr J J M Shaw M C Mr Walter Mercer Mr W A Cochrane, Mr K Paterson Brown Mr R Leslie Stewart Mr T McW Millar

GYNÆCOLOGICAL DEPARTMENT

Consulting Gynæcologists—Dr B P Watson Dr J Haig Ferguson LL D Dr William Fordyce
Gynæcologists—Prof R W Johnstone C B E. Dr H S Davidson O B E Dr J Young D S O
Assistant Gynæcologists—Dr W T Haultain O B E M C Dr Douglas Miller, Dr E Chalmers Fahmy

ROYAL INFIRMARY EDINBURGH—continued

DEPARTMENT FOR DISEASES OF THE SKIN

Consulting Physician—Sir Norman Walker, LL D
Physicians—Dr Fred Gardiner, Dr R Cranston Low
Assistant Physicians—Dr Robert Aitken Dr G H Percival

OPHTHALMIC DEPARTMENT

Consulting Surgeons—Sir George A Berry I L D, M P Dr George Mackay Dr W G Sym Dr J V Paterson
Surgeons—Dr A H H Sinclair, Dr H M Traquair
Assistant Surgeons—Dr E H Cameron, Dr C W Graham

EAR NOSE AND THROAT DEPARTMENT

Consulting Surgeons—Dr P McBride D J Malcolm Farquharson, Dr A Logan Turner LL D
Surgeons—Dr John S Fraser, Mr J D Lithgow
Assistant Surgeons—Dr W T Gardiner M C, Dr G Ewart Martin

VENEREAL DISEASES DEPARTMENT

Clinical Medical Officer—Mr David Lees D S O
Assistant Clinical Medical Officer—Mr R C L Batchelor

DENTAL DEPARTMENT

Consulting Surgeons—Mr William Guy, Mr J H Gibbs
Surgeons—Mr D J G Radford Mr R C Scott Dow Mr F G Gibbs, Mr Jas Morham Mr H M Sturrock, Mr D S Middleton

RADIOLOGICAL DEPARTMENT

Consulting Radiologists—Dr W Hope Fowler, Dr Archibald McKendrick
Medical Officer in Charge—Dr J M Woodburn Morison
Senior Assistant Medical Officer—Miss E. N Thompson, F R C S E
Junior Assistant Medical Officer—Dr John S Fulton

PATHOLOGICAL DEPARTMENT

Honorary Pathologist—Professor Lorrain Smith
Senior Pathologist—Dr James Davidson
Pathologist—Dr W G Millar
Assistant Pathologists—Dr R Carmichael, Dr Bruce M Dick, Dr D M Dunlop

BACTERIOLOGICAL DEPARTMENT

Honorary Bacteriologist—Professor T J Mackie
Bacteriologist—Dr W R. Logan
Extra Bacteriologist—The University Senior Assistant to the Professor for the time being
Senior Assistant Bacteriologist—Dr J T Smeall
Assistant Bacteriologists—Dr J A Burgess, Dr Douglas Campbell

SUPERINTENDENT

Col G St. C Thom, C B, C M G C B E., M B, C M

APPOINTMENTS

No fees are charged for any Medical or Surgical Appointments in this Hospital, which

ROYAL INFIRMARY, EDINBURGH—continued.

are as follows

1 Resident Physicians and Surgeons, who must be registered as legally qualified Practitioners are from time to time appointed by the Managers on the recommendation of the Physicians and Surgeons The holders of these offices live in the house free of charge The appointment is for six months but may be renewed at the end of that period by special recommendation

2 Non-resident House Physicians and Surgeons and Clinical Assistants who must be registered as legally qualified Practitioners are appointed by the Managers on the recommendation of the Physicians and Surgeons The appointment is on the same terms as that of the Resident Physicians and Surgeons

3 Clerks and Dressers are appointed by the Physicians and Surgeons These appointments are open to all Students and Junior Practitioners holding Hospital Tickets

Assistants in the Pathological Department are appointed by the Pathologist

HENRY MAW,
Secretary & Treasurer

ROYAL COLLEGE of PHYSICIANS of EDINBURGH
ROYAL COLLEGE of SURGEONS of EDINBURGH
ROYAL FACULTY of PHYSICIANS and SURGEONS of GLASGOW.

[illegible] for the TRIPLE L R C S E and LOMA IN PUBLIC of Professional Examinations for the year 1930-31, Curriculum, etc may be had on application to Mr DAVID THOMSON 49, George Square Edinburgh or to Mr WALTER HURST 242 St Vincent Street Glasgow Inspectors and Treasurers at Edinburgh and Glasgow respectively

UNIVERSITY of EDINBURGH

DIPLOMA IN RADIOLOGY

COURSES OF INSTRUCTION for the Diploma in Radiology will commence in the beginning of October, 1930

As the number of candidates is limited, early application is essential

Particulars may be obtained from the Dean of the Faculty of Medicine

W A FLEMING
Secretary to the University

F R C S (Edin.)

A TUTORIAL CLASS, with Museum Demonstrations for the next Examination will commence shortly Correspondence tuition if desired—FRED GRAHAM M D F R C S (Edin.) Surgeons Hall Edinburgh

UNIVERSITY OF EDINBURGH.

Principal—Sir THOMAS H. HOLLAND, K.C.S.I., K.C.I.E.

The WINTER SESSION 1930-31 opens on October 7th and closes on March 20th
The SUMMER SESSION 1931 opens on April 21st and closes on July 3rd

FACULTY OF MEDICINE

Dean—Professor J. LORRAIN SMITH, M.A., M.D., LL.D., F.R.S.

The Faculty embraces 18 Professors and 69 Lecturers and attached to these there are about 40 Assistants and Demonstrators. Instruction is given in all the main branches of Medical Science viz. —

PROFESSORS

Chemistry—George Barger, D.Sc., F.R.S.
Zoology—J. H. Ashworth, D.Sc., F.R.S.
Botany—Wm. Wright Smith, M.A., F.R.S.
Anatomy—Arthur Robinson, M.D.
Physiology—Sir E. Sharpey Schafer, LL.D., F.R.S.
Materia Medica—Alfred J. Clark, M.C., M.D., F.R.C.P.
Pathology—J. Lorrain Smith, M.D., LL.D., F.R.S.
Bacteriology—Thomas Jones Mackie, M.D.
Forensic Medicine—Sydney A. Smith, M.D., D.P.H.
Public Health—Percy Samuel Lelean, C.B., C.M.G., F.R.C.S.
Medicine—W. T. Ritchie, M.D.
Surgery—D. P. D. Wilkie, M.D., Ch.M.
Midwifery and Gynæcology—R. W. Johnstone, M.A., M.D.
Clinical Surgery—John Fraser, Ch.M., M.D.
Clinical Medicine—Edwin Bramwell, M.D., W. T. Ritchie, M.D., and D. Murray Lyon, M.D.
Tuberculosis—Sir Robert W. Philip, M.D.
Therapeutics—David Murray Lyon, M.D.
Psychiatry—George M. Robertson, M.D.

LECTURERS

Anatomy—E. B. Jamieson, M.D.
Applied Anatomy—F. E. Jardine, M.B.
Histology—Mary L. Cameron, M.A., D.Sc., M.B.
Biochemistry—(Vacant).
Biophysics—H. Driver, Ph.D.
Physiology of the Nervous System—A. Ninian Bruce, M.D., D.Sc.
Experimental Pharmacology—(Vacant).
Materia Medica—C. M. Scott, M.B., Ph.D.
Pathology—Theodore Rettie, D.Sc., W. G. Millar, M.B.
Morbid Anatomy—J. Davidson, M.B.
Bacteriology—D. C. S. McLachlan, M.B., J. M. Alston, M.B.
Physics—G. A. Carse, M.A., D.Sc.
Chemistry—Edgar Stedman, B.Sc., Ph.D.
Tropical Diseases—Lt.-Col. E. D. W. Greig, C.I.E., M.D.
Medical Entomology and Parasitology—J. H. Ashworth, D.Sc., F.R.S., A. E. Cameron, M.A., D.Sc., T. W. M. Cameron, D.Sc.
Tropical Hygiene—J. du P. Langrishe, D.S.O., M.B., B.Ch. (conjointly with Professor).
Sanitary Administration—(Vacant).
Clinical Instruction in Infectious Fevers—Alexander James, M.D., W. T. Fenton, M.D.
History of Medicine—J. D. Comrie, M.A., B.Sc., M.D.
Surgical Pathology—E. Paterson Brown, M.B.
Venereal Diseases—David Lees, D.S.O., M.B.
Psychology—J. Drever, M.A., B.Sc., D.Phil.
Radiology—J. M. Woodburn Morison, M.D., D.M.R.E.
Neuro-Pathology—F. E. Reynolds, M.B.
Psychiatry—William McAlister, M.B.
Clinical Experimental Methods—(Vacant).
Clinical Midwifery—R. W. Johnstone, M.D., James Young, M.D., H. S. Davidson, M.B., Douglas Miller, M.D., W. F. T. Haultain, M.B., E. C. Fahmy, M.B., John Sturrock, M.B., Clifford Kennedy, M.B.
Clinical Instruction in Diseases of Children—Charles McNeil, M.D., N. S. Carmichael, M.B., Ch.B., L. H. F. Thatcher, M.D., Gertrude Hirsfeld, M.B., and Norman Dott, M.B.

CLINICAL TEACHING STAFF, ROYAL INFIRMARY

Clinical Surgery—Geo. L. Chiene, M.B., W. J. Stuart, M.B., J. W. Struthers, M.B., D. P. D. Wilkie, M.D., Ch.M., Henry Wade, M.D., John Fraser, M.D., Ch.M., J. M. Graham, Ch.M.
Clinical Medicine—D. Chalmers Watson, M.D., Edwin Bramwell, M.D., Edwin Matthew, M.D., W. T. Ritchie, M.D., John Lyon, M.D., D. Murray Lyon, M.D., J. D. Comrie, M.D., Alex. Goodall, M.D.
Clinical Gynæcology—R. W. Johnstone, M.D., H. S. Davidson, M.B., James Young, M.D., W. F. T. Haultain, M.B., Douglas Miller, M.D., E. C. Fahmy, M.D.
Diseases of the Larynx, Ear and Nose—John S. Fraser, M.B., J. D. Lithgow, M.B., W. T. Gardiner, M.B., G. Ewart Martin, M.B.
Diseases of the Skin—Fredk. Gardiner, M.D., R. Cranston Low, M.D., Robert Aitken, M.D., C. H. Percival, M.B., Ph.D.
Diseases of the Eye—A. H. H. Sinclair, M.D., H. M. Traquair, M.D., E. H. Cameron, M.B., C. W. Graham, M.B.

Practical Instruction is afforded under the superintendence of the Professors in Laboratories with the necessary appliances and in Tutorial and Practical Classes connected with the above Chairs and opportunities are afforded to Students to extend their practical knowledge and engage in original research.

Opportunities for Hospital Practice are afforded at the Royal Infirmary, the Hospital for Sick Children, Maternity Hospital, the City Fever Hospital and the Royal Edinburgh Hospital for Mental Disorders. Upwards of 2,760 beds are available for the Clinical Instruction of Students of the University.

Four Degrees in Medicine and Surgery are conferred by the University of Edinburgh, viz. *Bachelor of Medicine* (M.B.), *Bachelor of Surgery* (Ch.B.), Doctor of Medicine (M.D.) and Master of Surgery (Ch.M.).

The minimum Class Fees for M.B. and Ch.B., including Hospital Fee (£12), amount to about £260 and the Matriculation and Examination Fees to £47 15s. 6d. An additional Fee of £21 is payable by those who proceed to M.D. and £21 by those who proceed to Ch.M.

The annual value of the Bursaries, Prizes, Scholarships and Fellowships in the Faculty of Medicine amounts to about £3,600 and that of the other Bursaries, etc., tenable by Students of Medicine amounts to about £1,820.

POST-GRADUATE INSTRUCTION.—Courses of instruction are given for the University Diplomas in Public Health, Tropical Medicine and Hygiene, [illegible]. These Diplomas are open to approved registered practitioners as well as to graduates in Medicine and Surgery of [illegible] instruction for the Diploma in Tropical Veterinary Medicine are also given. This Diploma is open to those holding [illegible] qualification registrable by the Royal College of Veterinary Surgeons. The University also takes part in the Courses [illegible] of the Edinburgh Post-Graduate Courses in Medicine. In the departments of the Faculty of Medicine provision is made for research by students of graduate standing. In the University laboratories facilities will be provided for candidates for the Degree of Ph.D. whose applications to engage in research have been accepted by the Senatus.

A Syllabus and further information as to Matriculation, the Curricula of Study for Degrees, etc., may be obtained from the Dean of the Faculty of Medicine, and for Degrees in the Faculties of Arts, Science, Divinity, Law and Music, from the Deans of these Faculties, or from the Secretary, and full details are given in the University Calendar published by James Thin, 55 South Bridge, Edinburgh. Price, by post 6s.

July 1930. By authority of the Senatus, W. A. FLEMING, Secretary.

SCHOOL OF MEDICINE

OF

THE ROYAL COLLEGES, EDINBURGH.

(Founded 1505)

WINTER SESSION, 1930-31

Opens 7th October

The Lectures qualify for the English and Scottish Universities and other Medical Examining Boards.

One-half of the Qualifying Classes required for graduation in the University of Edinburgh may be attended in this School.

The School offers a large choice of Teachers upon the various subjects comprised in the Medical Curriculum.

The Calendar of the School, giving all necessary information regarding Classes, Fees, and Examinations, will be published on September 2nd; a copy may be obtained (price 6d.) on application to the DEAN OF THE SCHOOL, Surgeons' Hall, Edinburgh.

ROTUNDA HOSPITAL, DUBLIN.

THE HOSPITAL contains 127 beds Upwards of 2,000 maternity cases and 1,000 gynæcological patients are treated during the year Besides the Hospital there is an extern Maternity Department with over 2,000 cases The routine for Students consists of attendance at the Morning Lectures on Midwifery and Gynæcology, examination of patients in the Gynæcological Department, attendance at operations and all abnormal labours in the Hospital Wards and conduction of labour cases in the intern and extern departments, the Ante-Natal Clinic, the Infants' Ward and Dispensary, and Pathological Laboratory are available also An X-Ray department is attached to the Hospital

Qualified Students are allowed to assist at the major and perform some minor gynæcological operations

The Hospital Courses are always going on during the year, and Students can join at any time The Class is limited, therefore it is advisable to register in advance Board and lodging can be obtained in the Hospital

Extra classes in gynæcological diagnosis and operative midwifery are conducted by the Assistants to the Master

Fees, one month, £6 6s , months other than the first, £4 4s , three months, £12 12s , L M Course, £21

The L M certificate is given to qualified practitioners on examination after six months' attendance at the Hospital

Full particulars from Bethel Solomons, M D , Master, Rotunda Hospital

UNIVERSITY OF DUBLIN
SCHOOL OF PHYSIC.
TRINITY COLLEGE.

THE WINTER SESSION will begin on October 1st, 1930.

All information regarding Courses for the Medical and Dental Degrees, for the Diploma in Public Health, for the Diploma in Gynæcology and Obstetrics, and for the Diploma in Psychological Medicine may be obtained on application to the **Registrar**, School of Physic, Trinity College, Dublin

University College of South WALES AND MONMOUTHSHIRE

THE WELSH NATIONAL SCHOOL OF MEDICINE

The next Session will open on October 7th The Courses of Instruction are open to both men and women students and qualify for the Degrees in Medicine and Surgery of the University of Wales and for the Degrees and Diplomas of other Examining Bodies Hospital Instruction is given at the Cardiff Royal Infirmary at the City Lodge Hospital, and at other recognized Institutions Full facilities are available for every branch of study

Medical Practitioners wishing to prepare for the Diploma in Public Health or for the Tuberculous Diseases Diploma of the University of Wales can attend complete courses of instruction in the School

Prospectuses can be obtained on application to the Dean of the Faculty of Medicine or to the Secretary, Welsh National School of Medicine Newport Road Cardiff

University College of South WALES AND MONMOUTHSHIRE

COLEG PRIFATHROFAOL DEHEUDIR CYMRU A MYNWY

The Council of the College invites applications for the appointment of a PART TIME DEMONSTRATOR in ANATOMY at an honorarium of £75 per annum duties to commence on October 1st The appointment in the first instance will be for one year

Applications must be received by the undersigned on or before September 15th

University College, Cardiff — D J A BROWN Registrar

University of Glasgow

Dr ROBERT POLLOK LECTURESHIP IN MATERIA MEDICA AND THERAPEUTICS

The above Lectureship will become vacant on September 30th owing to the appointment of Dr David Campbell as Professor of Materia Medica in the University of Aberdeen Further particulars as to the duties emoluments etc, may be had on application to the Secretary, University Court, The University, Glasgow

Royal College of Physicians OF EDINBURGH

The EXAMINATIONS for the LICENCE of the College (as a single qualification) for the ensuing year will be held on the *First Wednesday* and the following days of every month (except September and October)

Candidates for the LICENCE (as a single qualification) must send their names to the Secretary one week before the date of the Examination at which they propose to appear

The EXAMINATIONS for the MEMBERSHIP of the College are held on the *Second Tuesday* and the following days of *January, April, July, and October*

Candidates for the MEMBERSHIP must submit their applications and testimonials to the Secretary one month before the date at which they wish to appear for Examination

For the Regulations in regard to the various qualifications granted by the College and all other information, application may be made to the Secretary

Royal (Dick) Veterinary COLLEGE EDINBURGH.

PRINCIPAL O CHARNOCK BRADLEY, M D , D Sc , M R C V S

108th SESSION commences in OCTOBER COURSES OF INSTRUCTION QUALIFY FOR M R C V S and B Sc Edin

COLLEGE CALENDAR WITH FULL PARTICULARS OF EXAMINATIONS, BURSARIES, etc , may be obtained from—

A C DOULL C A , Secretary

University of Leeds

POST GRADUATE COURSES IN OBSTETRICS AND ANTE NATAL WORK AT THE LEEDS MATERNITY HOSPITAL (108 Beds)

Registered Medical Practitioners are admitted to the Hospital Practice comprising Ante natal Labour and Isolation Departments for periods of 2—4 weeks

For particulars as to vacancies at the University Obstetrics Students Hostel adjoining the Hospital apply to the DEAN, School of Medicine Leeds

June 21st, 1930,

UNIVERSITY OF OXFORD

DIPLOMA IN OPHTHALMOLOGY

The next Examination begins on June 22nd, 1931 The two months Course of Instruction starts on April 27th, 1931

For further information apply to—

6, Holywell, Oxford — P H ADAMS, Margaret Ogilvie Reader in Ophthalmology

UNIVERSITY OF CAMBRIDGE

Diplomas in (*a*) PUBLIC HEALTH, (*b*) HYGIENE (for foreign graduates) (*c*) TROPICAL MEDICINE AND HYGIENE

Courses of Instruction in the Subjects of the Examinations commence October 8th 1930 Full particulars to be obtained from Mr J F PURVIS Public Health Chemical Laboratory Medical School Cambridge

The University of Liverpool

SAMUEL TURNER RESEARCH FELLOWSHIP

The University invites applications for the post of Samuel Turner Research Fellow

The Fellow will be required to conduct research into Cancer and the pathology of growth in the first instance by the technique of tissue culture

The appointment, which is a full time one will be in the first instance for three years, at a salary of £600 per annum Applications (of which ten typewritten copies should be forwarded to the Registrar, The University of Liverpool not later than Sept 30th, 1930) should contain a statement of the candidate's experience of pathological research work and tissue culture technique, and should be accompanied by not more than three testimonials and the names of three referees

EDWARD CAREY Registrar

The University of Liverpool

JOHNSTON CHAIR OF BIO CHEMISTRY

The Council of the University of Liverpool will have under consideration in the Autumn Term an appointment to the Johnston Chair of Bio-Chemistry vacant by the resignation of Professor W Ramsden Particulars with regard to the conditions and terms of appointment may be obtained on application before September 30th 1930, to the Registrar of the University of Liverpool

(Incorporated 1505)

Royal College of Surgeons of EDINBURGH.

COPIES OF REGULATIONS for the FELLOWSHIP, LICENCE HIGHER DENTAL DIPLOMA and LICENCE in DENTAL SURGERY containing dates of Examinations, may be had on application to—

49 George Square, Edinburgh — DAVID THOMSON Clerk of the College

Liverpool Stanley Hospital

There will be vacancies on October 1st next for One MALE HOUSE PHYSICIAN and One MALE HOUSE SURGEON Salary at rate of £100 per annum, with board residence laundry, etc Candidates must be fully qualified and on the *Medical Register* Applications with copies of three recent testimonials to be lodged with the undersigned by Sept 12th

ERNEST W OSBORN, Secretary

THE MEDICAL AND DENTAL DEFENCE UNION OF SCOTLAND, LIMITED

Secretaries and Registered Office Millar, Thomson & Dunlop, C A , 113, St Vincent Street Glasgow

ANNUAL SUBSCRIPTION £1 ENTRANCE FEE 10/

No entrance fee to those joining within 12 months of obtaining qualification Benefits include defence of claims for alleged negligence in professional work including indemnity of £2,500 and costs and advice on professional difficulties

Particulars and forms of application can be obtained from the Secretaries at the above address

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL

(University of London)
DENMARK HILL S E 5

CENTENARY YEAR, 1930

At the opening of the Winter Session on Wednesday October 1st a Special Address will be given at 2 15 p m by Dr RAYMOND CRAWFURD M D F R C P Consulting Physician to the Hospital and Emeritus Lecturer in the Medical School

Professor C F STILL M A M D LL D F R C P Physician for Diseases of Children at the Hospital will preside

All past Students of the Medical School are cordially invited to attend

THE CENTENARY DINNER

at which Professor Sir ST CLAIR THOMSON M D F R C P F R C S will preside will be held the same evening at seven for 7 30 at the Connaught Room Great Queen Street Kingsway W C 2

The Dean and the Dinner Secretaries (Dr ERNEST PLATTAIN and Dr C DE BIC TURTLE) trust that Past and Present Members of the School will endeavour to be present on this special occasion and they will be glad to be informed if any Member has not received his or her invitation

H R WILLOUGHBY LYLE M D F R C S J P Dean

The Government of Madras

invite applications for an appointment of PROFESSOR OF PATHOLOGY at the MEDICAL COLLEGE, VIZAGAPATAM MADRAS Candidates should be natural born British subjects or subjects of Indian States and between the ages of 28 and 40 years They should be Medical Graduates possessing qualifications not lower than the M B B S Degree of Madras University and be able to produce evidence of proficiency and experience in teaching and research in Medical Pathology and Bacteriology

Appointment will be made on agreement for five years in first instance or on a permanent list subject to two years probation according to the domicile of the selected candidate Pay P 1 100 a month rising by annual increments of R 50 to R 1 600 in officer of non Asiatic domicile would receive in addition overseas pay of £30 a month approximately (sterling equivalent P 1 350 rising to £1 800) Travelling allowance Free first class passage to Madras Strict medical examination

Forms of application and further particulars may be obtained upon request by post card from the Secretary to the High Commissioner for India General Department India House Aldwych London W C 2 Last date for the receipt of applications November 3rd 1930

Administrative County of LONDON

The LONDON COUNTY COUNCIL invites applications for the appointment on the permanent staff of the Department of the Chief Engineer of an INSPECTOR of X ray and other electrical treatment apparatus in hospitals etc

Candidates must be not less than 28 and not more than 35 years of age on the latest date for receiving application and must have had experience in the manufacture installation and maintenance of electro medical appliances including large X ray installations diathermic apparatus and the installations diathermic galvanism faradism universal apparatus for cautery treatment sinusoidal light and etc

The salary is £350 a year rising by annual increments of £12 10 to £400

Applications must be made on the official form copies of which (with full particulars) may be obtained by sending a stamped addressed foolscap envelope to the Clerk of the Council The County Hall Westminster Bridge S E 1 Applications must be received not later than September 15th Canvassing disqualifies

MONTAGU H COX
Clerk of the London County Council

CENTRAL LONDON OPHTHALMIC HOSPITAL, JUDD ST, ST PANCRAS, W C 1

CLASSES OF INSTRUCTION are open to both Men and Women Students and can be arranged in conformity with the requirements of the Conjoint Board for the Diploma in Ophthalmic Medicine and Surgery and with the University of London for the Degree of M S in Ophthalmology

This Hospital makes a speciality of Clinical Instruction in Ophthalmology and Lectures and Demonstrations are held in various subjects of General ophthalmological interest

A series of Clinical Demonstrations are held on the first Tuesday of every month at 5 p m and Students of Medicine and Medical Practitioners are admitted without fee

The post of Clinical Assistant is open to Men and Women Students

For further particulars apply to the Dean of the School

The Milroy Lectures on State MEDICINE AND PUBLIC HEALTH

The Council of the Royal College of Physicians are prepared to receive applications for the office of MILROY LECTURER for 1932

Applications must be addressed to the Registrar Royal College of Physicians Pall Mall East S W 1 on or before September 30th 1930 and should contain a statement of the date division of the subject selected by the candidate

The course consists of Three Lectures delivered on Tuesdays and Thursdays in February or March 1932

A copy of Dr Milroy's Suggestions on the subject of his bequest and information as to the medium may be obtained from RAYMOND CRAWFURD M D Registrar

Guy's Hospital Dental School, LONDON BRIDGE S E 1

Applications are invited for the post of WHOLE TIME TEACHER of CONSERVATIVE DENTAL SURGERY The holder will act as Director of the Conservation Room and as Lecturer on Operative Dental Surgery The appointment will be made for two years in the first instance with eligibility for reappointment with regard to the conditions Further particulars of the post may be obtained from the Dean with whom applications (30 copies) should be lodged by September 15th The appointment will be at the rate of £1 000 per annum in the first instance Further particulars as to the duties salary at the rate of £1 000 per annum with board lodging and laundry and the appointment is for a period of twelve months The Hospital admits all the prospects of the conditions of twelve months The Hospital admits all the previous experience and the qualifications stating age qualifications and previous experience with copies of three recent testimonials to be sent to the Medical Superintendent Willesden Municipal Hospital Brent Field Road Neasden N W 10

E A PRATT
Clerk of the Council

County of Lanark

Applications are invited for the post of BACTERIOLOGIST and PATHOLOGIST for the County of Lanark Preference will be given to applicants holding the Diploma of Public Health Commencing salary £750

Applications accompanied with copies of three recent testimonials should be made to the undersigned by September 17th

J McGHIE
ROBERT BRUCE WALKER
Lanarkshire House County Clerks
191 Ingram St Glasgow C 2

County Council of Middlesex

HILLINGDON INSTITUTION (EXTENDED) MIDDLESEX

RESIDENT MEDICAL OFFICER.

The County Council invite applications for the post of Medical Officer (male) of the Hillingdon Institution at a salary of £500 per annum (no bonus) with board lodging and laundry valued at £150 per annum The Institution is under the administrative control of the Master and Matron who will reside in the Institution and provide accommodation for 400 sick and able bodied persons Owing to the absence of sufficient accommodation within the Institution the officer appointed will in the first place be required to live in private apartments in the neighbourhood and during this period a special allowance in respect of board and lodging will be made On the erection of a residence within the Institution ground is the present intention in connection with emoluments will be reconsidered

Candidates must be registered Medical Practitioners and must have held resident hospital appointments Special experience in surgery will be an additional qualification

The officer appointed will be required to devote his whole time to the duties of the post and to contribute to the Council's Superannuation Fund For the latter purpose he will be required to pass such medical examination as the County Council may direct

The appointment is terminable by three months notice on either side

Applications stating (1) name (2) age (3) qualifications and experience accompanied by copies of not more than three recent testimonials must be received by the undersigned not later than September 15th

Canvassing is prohibited

Guildhall EPWEST C W HART
Westminster S W 1 Clerk of the County
August 19th 1930 Council

The King Edward VII Welsh NATIONAL MEMORIAL ASSOCIATION

Applications are invited for the post of HALF TIME ASSISTANT TUBERCULOSIS OFFICER to be stationed in the Pontypridd area commencing duty on October 1st next The appointment is limited to one year and during the tenure the successful candidate will be expected to take the Course for the Diploma in Tuberculous Diseases (Wales) at the Tuberculosis Department Welsh National School of Medicine and afterwards sit the examination

The applicant must have held a house appointment in medicine or surgery for at least six months in a general hospital and have served as an Assistant Resident Medical Officer for at least six months in a tuberculosis institution

Salary at the rate of £300 per annum

Applications stating age qualifications and previous experience together with copies of three recent testimonials to be sent to the undersigned not later than September 16th

Memorial Offices D A POWELL,
Westgate St Principal Medical Officer
Cardiff

The King Edward VII Welsh NATIONAL MEMORIAL ASSOCIATION

Applications are invited from duly registered Medical Practitioners for the post of TUBERCULOSIS OFFICER ASSISTANT TUBERCULOSIS OFFICER Salary £600 per annum together with travelling and subsistence allowances when absent from base Preferably married and should have had at least six months special training in Tuberculosis with tuberculin experience in general and at least six months in charge of a Tuberculosis Hospital not confined to the treatment of Tuberculosis Knowledge of the Welsh language will be an advantage but will be subject to the Superannuation Scheme which the Association may hereafter establish

Applications stating full qualifications and previous experience together with copies of three recent testimonials should reach the undersigned not later than September 17th

Memorial Offices D A POWELL
Westgate Street, Principal Medical
Cardiff Officer

County Borough of Tynemouth

ASSISTANT MEDICAL OFFICER OF HEALTH (Male)

Applications are invited from duly qualified and registered male Medical Practitioners between the ages of 25 and 45 years for the above appointment

The commencing salary will be £540 per annum

Special experience and qualifications in tuberculosis will be necessary as the work under the Tuberculosis Scheme will form part of the Officer's duties

Applicants should have (1) at least three years experience in the practice of his profession, (2) spent in general clinical work a period of not less than 18 months of which not less than six months have been spent in a hospital as resident officer in charge of beds occupied by general medical and surgical cases, and (3) received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis

A Diploma in Public Health and experience of infectious diseases is desirable

The appointment will be a whole time appointment under the direction of the Medical Officer of Health Such appointment will be determinable by one month's notice on either side and the person appointed will not be allowed to engage in private practice

The appointment will also be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and the successful applicant will be required to pass a medical examination

Canvassing of any kind, directly or indirectly, will be

by not more than three recent testimonials and endorsed Appointment of Assistant Medical Officer of Health must reach me on or before 10 a.m. on Friday, September 12th

C C HENDERSON,
14 Northumberland Sq., North Shields — Town Clerk

City of Manchester

PUBLIC HEALTH DEPARTMENT

BAGULEY SANATORIUM (333 Beds)

APPOINTMENT OF ASSISTANT MEDICAL OFFICER

Applications are invited from qualified Medical Men for the position of Assistant Medical Officer

Every applicant must be a registered Medical Practitioner under 40 years of age and unmarried

Preference will be given to applicants with previous Hospital experience some experience of bacteriology is desirable

Salary £350 per annum with board, residence, and laundry in addition

The appointment is made in the first instance for a period of twelve months, renewable at the expiration of that period

Every application, stating fully the training, qualifications and experience of the candidate, and his age with copies of three recent testimonials and endorsed on the envelope Medical Officer, Baguley Sanatorium, must be addressed to the Medical Officer of Health 1 Mount St Manchester only, and not to members of the Committee or Council, and must reach him not later than Tuesday September 9th

The gentleman appointed will be required to pass a medical examination to devote the whole of his time to the duties of the office to contribute to the Corporation Superannuation Fund, and to execute the deed of service

Canvassing in any form oral or written, direct or indirect, is prohibited

By Order
Town Hall, Manchester — F E WARBRECK HOWELL, Town Clerk
August 20th, 1930

Somerset County Council

ASSISTANT MEDICAL OFFICER

The Committee invite applications from qualified Medical Men for the post of Assistant Medical Officer In addition to School Medical work the duties will include some Maternity and Child Welfare, and Venereal Treatment work Experience in the modern methods of diagnosis and treatment of Venereal Diseases is necessary Salary £600 The appointment will be made subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922

Canvassing will disqualify Applications by September 12th to the undersigned from whom all particulars and an application form can be obtained

County Health Dept, Boulevard, Weston super Mare. — W G SAVAGE, County Medical Officer of Health

City of Birmingham

SELLY OAK HOSPITAL

CASUALTY OFFICER (Male)

Applications are invited from fully qualified Medical Practitioners for the whole time appointment of Casualty Officer (male) at the Selly Oak Hospital Birmingham

The present Hospital accommodation is 550 beds divided into General Medical, General Surgical, Gynaecological, Obstetrical, and Children's Disease sections There are completely equipped Pathological and Biochemical Laboratories and X-ray, Electro-therapeutics, Massage, Ultra-violet Ray, and Electro-cardiographic Departments Over 3,000 operations are performed annually

The appointment will be for a period of six months in the first instance but may be extended for a further period of six months

The person appointed will be required to assist at operations, to administer anaesthetics and to undertake casualty and such other duties as may be assigned to him by the Medical Superintendent

The salary attached to the appointment is at the rate of £200 per annum, together with full residence, emoluments (rations apartments laundry, and attendance) The officer appointed will be required to account to the Council for all fees, allowances, and emoluments (other than the foregoing) received by him

Further particulars of the appointment may be obtained from the Medical Superintendent, R P STANLEY KELMAN, Esq M B, I R C S Eng and Edin) at the Selly Oak Hospital, to whom applications stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Wednesday, September 24th

F H C WILTSHIRE,
The Council House, Birmingham — Town Clerk
August, 1930

City and County of Kingston-upon-Hull.

ASSISTANT MEDICAL OFFICER BEVERLEY ROAD INSTITUTION (HOSPITAL)

The Corporation of Hull invite applications from Medical Practitioners for the appointment of an Assistant Medical Officer (single) at the above-named Hospital

Commencing salary at the rate of £300 per annum for a probationary period of one year together with an allowance of £150 for board and residence outside the Hospital

The Hospital Section contains 400 beds and is equipped with modern X-ray and Ultra-violet Light Departments

Applicants must be under the age of 40 years

The appointment is subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922

A form of application together with conditions of appointment and a list of duties may be obtained from the undersigned to whom completed applications should be returned not later than Saturday, September 20th

Guildhall, Hull — W M FRAZER, M D, Medical Officer of Health
August 28th, 1930

City of Bradford

Applications are invited for the post of ASSISTANT BACTERIOLOGIST

Candidates must be duly qualified Medical Practitioners with some experience in practical pathology and bacteriology Salary £600 per annum

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922 and the successful candidate will be required to pass a satisfactory medical examination

Forms of application may be obtained from the Medical Officer of Health Town Hall Bradford, and should be returned to him not later than September 18th

Town Hall, Bradford — N L FLEMING, Town Clerk
September 1st, 1930

Rotherham County Borough

RESIDENT ASSISTANT MEDICAL OFFICER

The Public Assistance Committee invite applications for the above post at the Hospital, Alma Road, Rotherham

Salary £150 per annum together with the usual residential allowances

Candidates must be single not exceeding 30 years of age, fully qualified and registered

Applications stating age qualifications, etc., together with copies of three testimonials to be sent to the Public Assistance Officer, 26 Moorgate Street, Rotherham not later than September 19th

CHAS L DES FORCES
Municipal Offices, Rotherham Sept. 1st 1930 — Town Clerk.

United Services Fund

HEATHERWOOD HOSPITAL, ASCOT

RESIDENT ASSISTANT MEDICAL OFFICER

Applications are invited from fully qualified Medical Practitioners (bachelor, not over 30) for the above post

Candidates must have held some appointment in a General Hospital

The present Hospital accommodation is 136 beds for the treatment of surgical tuberculosis and other forms of crippledom in children

The appointment will be for a period of twelve months and may be extended at the end of that time

Remuneration is at the rate of £300 per annum, together with residence, board, and laundry

The officer appointed will be required to devote the whole of his time to the duties of the office, to give anaesthetics, etc., and generally to act under the supervision and direction of the Medical Superintendent Ample opportunities for study

Applications, stating (1) age, (2) qualifications (3) experience and appointments held, accompanied by three copies of recent testimonials, should be forwarded to the Secretary, Heatherwood Committee United Services Fund 29 Cromwell Road, South Kensington, London, S W 7 before September 26th

Further particulars can be supplied on application to the Medical Superintendent, Heatherwood Hospital Ascot, Berks

Lancashire County Council

SCHOOL MEDICAL AND CHILD WELFARE DEPARTMENT

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICER

The Lancashire County Council invites applications from registered Medical Practitioners for the post of Assistant County Medical Officer

Applicants must not be over 35 years of age and must possess the Diploma of Public Health

The duties of the post include the Medical Inspection of School Children, work under the Maternity and Child Welfare Acts general Public Health work, and such other duties as may from time to time be imposed by the County Council

The person appointed will be required to devote his whole time to the service of the County Council The salary will be £800 a year, rising (subject to satisfactory service) by annual increments of £50 to a maximum of £1 000 a year, together with first-class railway fares and other reasonable expenses

The person appointed will be required to pass a medical examination, and to contribute to the Council's Superannuation Fund

Applications must be made upon a form which can be obtained, together with further particulars, from the County Medical Officer of Health, School Medical and Child Welfare Department, County Offices, Preston, to whom the completed forms should be returned not later than Thursday September 18th All communications must be endorsed Assistant County Medical Officer'

Any form of canvassing is strictly forbidden, and will disqualify

County Offices, Preston — GEORGE FLETCHERTON, Clerk of the County Council
September 1930

Lancashire County Council

PUBLIC ASSISTANCE COMMITTEE

LAKE HOSPITAL AND DARNTON HOUSE ASHTON UNDER LYNE, Near MANCHESTER

APPOINTMENT OF SENIOR ASSISTANT RESIDENT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners (men) for the appointment of Senior Assistant Resident Medical Officer at the above Hospital and Institution, at a salary at the rate of £200 per annum

Candidates should be unmarried

The appointment will, in the first instance be for a period of six months the successful applicant however, will be eligible for re-appointment for a further period of six months at the end of that period

In addition to the salary the Resident Medical Officer will be provided with the usual residential allowances

The Hospital comprises 300 beds, and the Institution 600 beds

Applications, accompanied by copies of not more than three testimonials should be forwarded to the County Medical Officer, Public Assistance (Hospital and Medical) Department County Offices, Preston, not later than September 17th Envelopes should be endorsed Senior Assistant Resident Medical Officer

County Offices, Preston — GEORGE FLETCHERTON, Clerk of the County Council.
September 1st, 1930

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON to the Special Department with care of In-Patients and Out-Patients. The Candidate selected will be required to take up the appointment within a month from October 5th, but if circumstances render it impossible for him to do so earlier date may be arranged. The appointment is for one month's written notice on either side at the rate of £130 per annum with board residence and laundry. Candidates (male) who must be unmarried are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials to the undersigned not later than September 15th.

W. H. HEAD,
Secretary-Superintendent.

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON. The appointment will be terminable at three months from October 1st, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum with board residence and laundry. Candidates (male) who must be unmarried are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials to the undersigned not later than September 12th.

W. H. HEAD,
Secretary-Superintendent.

Royal Isle of Wight County Hospital, RYDE.

RESIDENT HOUSE SURGEON wanted for October 1st, either sex unmarried. Single-handed appointment. Double qualified and registered. State age and nationality. Salary at the rate of £180 yearly with board residence and laundry. There are three resident appointments, viz., Ophthalmic (male), Aural (female) and General (either sex). Candidates must have had experience in these branches. Applications, enclosing copies of testimonials, to candidate with experience in these branches. Applications, enclosing copies of testimonials, to be sent to the undersigned not later than September 15th. Canvassing forbidden. Return railway fare for selected candidates.

F. S. COLSON, Secretary.

Royal Isle of Wight County Hospital, RYDE.

VACANCY has occurred for Honorary Medical Staff. The Hospital Committee of Governors will proceed to fill the appointment. Application, stating age and registered qualifications, with copies of not more than three professional testimonials, to be sent to the Secretary at the Hospital not later than September 15th. Candidates must be engaged in practice in the Isle of Wight and must present themselves for interview by the Committee on the date to be arranged. Canvassing will be a disqualification.

F. S. COLSON, Secretary.

Walsall General Hospital

The Committee invite applications for the post of HOUSE SURGEON. Salary £150 per annum, with board, residence and laundry. Candidates must be registered under the Medical Acts, must have had experience in midwifery, and must be unmarried. The appointment will be terminable by one month's notice on either side. The Hospital contains 100 beds and is equipped in all Special Departments and is recognised by the Conjoint Board for the Final Examination. Applications, stating age, qualifications, and experience, must be received by the undersigned not later than first post Wednesday, October 15th.

WALTER FRANCOMBE, Secretary.

The New Dewsbury and District GENERAL INFIRMARY

Applications are invited for the post of HOUSE SURGEON, one with Obstetric experience preferred. Salary £150 per annum, with board residence and laundry.

Applications, stating age and experience, together with copies of recent testimonials, to be sent immediately to the undersigned.

H. C. PRICE, Secretary-Superintendent.

The Sheffield Royal Hospital

RESIDENT HOUSE SURGEON also RESIDENT ANÆSTHETIST required (male). The first six months at the rate of £80 per annum, after which £100 per annum with board, residence and laundry. There are twelve resident medical officers and the duties change periodically.

Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent and Secretary.

Nottingham Children's Hospital

Applications are invited for the post of RESIDENT HOUSE SURGEON (unmarried) to the Hospital. The appointment will commence in the autumn. The salary will be at the rate of £100 per annum with board, residence and laundry. The appointment will be terminable by one month's notice on either side.

Applications, together with testimonials and copies of not more than two recent testimonials, to be sent to the undersigned not later than Monday, September 22nd.

The Board of Governors reserves the right to make no appointment if no candidate is considered suitable.

H. SWANWICK, Secretary.

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite application for the post of HOUSE SURGEON and CASUALTY OFFICER (male).

The duties include charge of 12 beds and attention to complicated Midwifery cases.

Salary at the rate of £150 per annum with residence, board and laundry.

The appointment is for six months and is terminable thereafter by one month's notice on either side.

Application, stating age, qualifications, and experience, accompanied by not more than three recent testimonials to be sent to the undersigned not later than 25th day of May, 1930.

ARTHUR H. LIMB, Secretary.

St. Mary's Hospital, W.2

A vacancy being about to occur in the office of PHYSICIAN IN CHARGE OF OUT-PATIENTS candidates for the appointment are requested to forward their application, with copies (not originals) of not more than six testimonials, to the number of not later than September 22nd at the Medical College of St. Mary's Hospital, Paddington, W.2. Candidates must be Fellows or Members of the Royal College of Physicians of England or of the Royal College of Physicians of London, and must be registered in the Medical Register.

The appointment will be for five years at the expiration of which term the holder will be eligible for re-election.

W. LAPKES, Secretary.

St. Bartholomew's Hospital, E.C.1

ASSISTANT SURGEON TO THE ORTHOPÆDIC DEPARTMENT.

Notice is hereby given that a Meeting of the Electors (Committee) will be held on Thursday, October 16th, at 4 p.m., in the afternoon of which date an Election will take place to the office of Assistant Surgeon to the Orthopædic Department.

Candidates must be Fellows of the Royal College of Surgeons (England) and registered in the Medical Register.

Applications, together with copies of not more than three testimonials, must be sent to the undersigned on or before Saturday, September 27th.

Sept. 1st, 1930. THOMAS HAYES, Clerk to the Governors.

St. Bartholomew's Hospital, E.C.1

ASSISTANT SURGEON FOR DISEASES OF THE THROAT, EAR AND NOSE.

Notice is hereby given that a Meeting of the Electors (Committee) will be held on Thursday, October 16th, at 4 p.m., in the afternoon of which date an Election will take place to the office of Assistant Surgeon for Diseases of the Throat, Ear and Nose.

Candidates must be Fellows of the Royal College of Surgeons (England) and registered in the Medical Register.

Applications, together with copies of not more than three recent testimonials, must be sent to the undersigned on or before Saturday, September 27th.

Sept. 1st, 1930. THOMAS HAYES, Clerk to the Governors.

National Hospital, Queen Sq. W.C.1

RESIDENT MEDICAL OFFICER.

The Board of Management invite applications for the post of Resident Medical Officer which should be sent to the undersigned accompanied by copies of three recent testimonials not later than Monday, September 22nd. The salary is £200 per annum with board and lodging.

Applicants should state if they are willing to accept the appointment of House Physician (salary £150 per annum with board and lodging).

GODFREY H. HAMILTON,
Secretary.

Royal Northern Hospital,

[illegible] are invited for the [illegible] appointment on October 15th [illegible] HOUSE PHYSICIAN for [illegible] months, [illegible] Physician [illegible] OFFICER for [illegible] RESIDENT OUT-PATIENT OFFICER and ANÆSTHETIST [illegible] month. Salary [illegible] annum with board, residence and laundry. Applications should be sent in [illegible] September 13th to the undersigned from whom forms of application and rules can be obtained.

GILBERT G. PAYTER, Secretary.

Princess Louise Kensington HOSPITAL FOR CHILDREN, North Kensington, W.10 (50 Beds)

HOUSE SURGEON AND CASUALTY OFFICER required for six months from October 1st. The House Surgeon's salary is at the rate of £75 a year, should she be appointed Senior Resident (of two) for a further six months the salary would be at the rate of £100 a year with board, residence and laundry in each case. Application together with copies of three testimonials must reach the Secretary of the Hospital not later than midday on Monday, September 29th.

Princess Louise Kensington HOSPITAL FOR CHILDREN, North Kensington, W.10 (50 beds pending extension for children only)

HONORARY RADIOLOGIST required for the Hospital. Applications are invited for the post of HONORARY ASSISTANT RADIOLOGIST. Application stating age, qualifications and experience, and accompanied by copies of three testimonials should reach the Secretary of the Hospital not later than midday on Monday, September 29th.

Princess Louise Kensington HOSPITAL FOR CHILDREN, St. Quintin Avenue, North Kensington, W.10 (50 beds pending extension for children only)

HONORARY ASSISTANT PHYSICIAN required for the Hospital. Applications are invited for the post of HONORARY ASSISTANT PHYSICIAN (male or female) and the Board of Management will be glad to receive applications from candidates who will be between the ages of 30 and 40 and who possess the Membership or Fellowship of the Royal Colleges of Physicians. Applications should be addressed to the Secretary of the Hospital and should arrive not later than midday on Monday, September 29th.

Southampton Children's Hospital AND DISPENSARY FOR WOMEN (40 Beds)

The Board of Management of the above Hospital invite applications for the post of RESIDENT MEDICAL OFFICER (male). Applications must be received not later than midday on Monday, September 15th, and the appointment will be made on the following day. The salary will be at the rate of £100 per annum with board and residence and laundry. Applications, stating age, qualifications, and experience, together with copies of three testimonials, to be sent to the undersigned not later than September 15th. Canvassing will be a disqualification. Further particulars may be obtained from the undersigned.

ELLA K. MATTHEWS, Secretary.

Stockton and Thornaby Hospital, STOCKTON-ON-TEES. (140 Beds)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on [illegible]. Salary £150 per annum, with board, residence and laundry. Candidates must be between the ages of 23 and 28 and unmarried. Applications, stating age, qualifications and experience together with copies of three recent testimonials to be sent to the undersigned.

J. WILKINS, Secretary.

The Royal Dental Hospital of LONDON, 32 Leicester Square, W.C.2.

The post of ASSISTANT DENTAL SURGEON to the above Institution is vacant. Candidates for the same, who must be Graduates or Licentiates in Dental Surgery of the University of [illegible] or Licentiates of the Royal College of Surgeons, England, or the General Medical Council or Licensing Bodies recognized by the General Medical Council or be United Kingdom are requested to send in their applications, accompanied by [illegible] copies of applications accompanied by not more than three testimonials to be sent to the undersigned from whom further particulars may be obtained not later than September 24th.

W. J. WIDDAM, Secretary.

All Saints Hospital (for Genito-URINARY DISEASES)

In Patient Dept 91, Finchley Road, N W 8
Out patient Dept & Secretary's Office 49/55, Vauxhall Bridge Road, S W 1

HOUSE SURGEON (male) required on October 1st for period of six months three months as Non resident JUNIOR HOUSE SURGEON, and then (subject to the approval of the Board) three months as RESIDENT SENIOR HOUSE SURGEON. Salary will be at the rate of £150 per annum, with board and laundry during the resident period

The duties of the Non resident House Surgeon consist of attendance at the Out patient Dept each afternoon and three evenings weekly

Applications stating age experience qualifications and enclosing copies of recent testimonials should reach me not later than September 15th

D H EADE Secretary

St Peter's Hospital for Stone, ETC

Henrietta Street, Covent Garden, W C 2

The office of HOUSE SURGEON will fall vacant on October 1st and applications are invited from male candidates with previous experience in a similar office at a General Hospital The salary offered is at the rate of £75 per annum, with board lodging and laundry

At the expiration of six months term of office and subject to the recommendation of the Medical Committee the House Surgeon is appointed Resident Surgical Officer for a further similar period Candidates should therefore be prepared, if successful to remain at the Hospital for twelve months in all

Applications, accompanied by copies of testimonials will be received by the undersigned not later than the first post on Wednesday, September 10th

BEECHEY ROGERS, Secretary

The Cancer Hospital (Free)

(Incorporated under the Royal Charter), Fulham Road London, S W 3

The Committee are prepared to receive applications for the post of HOUSE SURGEON Salary at the rate of £100 per annum The appointment is for six months and subject to rules Candidates must call upon each member of the Medical Committee not later than September 22nd A copy of the rules and the names and addresses of the Medical Committee may be obtained from the Secretary Previous experience as a House Surgeon is indispensable

Applications with three (copies only) testimonials to be sent to the undersigned not later than the first post on Saturday Sept 13th

J COURTNEY BUCHANAN, Secretary

Miller General Hospital,

Greenwich Road, S E 10

Applications are invited for the following posts

CASUALTY OFFICER Salary £150 p a
HOUSE PHYSICIAN Salary £125 p a
HOUSE SURGEON Salary £125 p a

There are six Resident Officers Candidates (male) must be unmarried Board residence and laundry are provided Each appointment is for six months from October 1st next

Applications stating age nationality qualifications and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary by September 13th next

August 22nd 1930

East Suffolk & Ipswich Hospital,

IPSWICH
(265 Beds—7 Residents)

Applications are invited for the posts of CASUALTY OFFICER Salary £150 per annum Board residence, and laundry Previous experience essential

HOUSE SURGEON Salary at the rate of £120 per annum Six months contract, with board, residence and laundry

Applications from British (male) candidates stating age qualifications and experience, and accompanied by three recent testimonials to be sent to the undersigned

The Hospital ARTHUR GRIFFITHS
Ipswich Secretary
August 18th 1930

South Devon and East Cornwall

HOSPITAL PLYMOUTH
(240 Beds)

ASSISTANT PATHOLOGIST wanted whole-time non resident Lunch and tea provided Salary £350 per annum Applications stating age qualifications and experience together with copies of three testimonials to be forwarded to the undersigned by September 18th

ARTHUR R CASH
Aug 25th 1930 Gen Supt & Secretary

The London Lock Hospital,

91, Dean Street, W

The Board of Management invite applications for the following appointments

(1) SURGICAL REGISTRAR (The present holder is an applicant for re appointment)
(2) ADDITIONAL SURGICAL REGISTRAR Required in view of the increasing work at the Male Lock Hospital

Honorarium in each case £100 per annum

The appointments are for one year Candidates, who must be doubly qualified and duly registered are invited to send in their applications, together with three copies of testimonials only, to the Secretary at 283 Harrow Road W 9, not later than 10 a m on September 8th Selected candidates will be required to attend a meeting of the Medical Committee on September 11th Copies of the Laws and By laws relating to these appointments can be obtained on application to the Secretary Candidates must be Fellows (or Members) of the R C S England or Surgical Graduates of a University of the United Kingdom Duties to commence October 10th

By Order of the Board
H J EASON,
August 7th 1930 Secretary

The London Lock Hospital,

91, Dean Street, W

The Board of Management invite applications for the post of HOUSE SURGEON at the Male Lock Hospital

Candidates must be doubly qualified and duly registered The appointment is at the rate of £200 per annum with furnished rooms full board and laundry The appointment is for six months Duties to commence October 5th Applications enclosing copies (only) of three recent testimonials to be sent to the undersigned at the Male Lock Hospital, 91 Dean Street, W, on or before September 8th

By Order of the Board,
H J EASON,
August 7th 1930 Secretary

The London Female Lock HOSPITAL 283 Harrow Road, London, W 9

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital Salary at the rate of £150 per annum, with furnished rooms full board and washing Candidates who must be doubly qualified and duly registered, should send in their applications by September 8th accompanied by copies of three recent testimonials to the Secretary, from whom further particulars can be obtained The appointment is for six months commencing October 4th

By Order of the Board
H J EASON,
August 7th, 1930 Secretary

Eye, Ear, and Throat Hospital FOR SHROPSHIRE AND WALES

APPOINTMENT OF HOUSE SURGEON

The Board of Management invite applications for the post of House Surgeon at the Eye Ear, and Throat Hospital Shrewsbury (48 beds)

Candidates (either sex) must be unmarried and have a registered qualification in Medicine and Surgery

Salary £200 per annum with board, lodging and laundry

Applications with copies of testimonials to be sent in sealed envelopes marked House Surgeon to the Chairman of the Board of Management not later than September 13th

CLOTHIER, WATKINS & RIDDELL, Secretaries

Bangour Mental Hospital,

WEST LOTHIAN

Vacancy for unmarried man as SECOND ASSISTANT MEDICAL OFFICER Experience of Mental work not necessary, but Post graduate Medical or Surgical experience a recommendation Salary £350 per annum, rising to £400 after 12 months satisfactory service, together with apartments board laundry and attendance Appointment pensionable under the Asylums Officers Superannuation Act 1909 Applications to be addressed to the Medical Superintendent Bangour Village, West Lothian

Victoria Hospital for Children,

Fite Street Chelsea S W 3
(138 Beds)

Applications are invited for the post of HOUSE SURGEON the appointment to date to January 31st 1931 Salary at rate of £100 p a with board, lodging, and washing

Applications with copies of three recent testimonials, should be sent immediately to—

D ST J BAMFORD Secretary

West London Hospital,

Hammersmith Road W 6 (234 Beds)

Required One HOUSE PHYSICIAN, Two HOUSE SURGEONS (males) and One RESIDENT ANÆSTHETIST, for six months from October 1st next subject to one month's notice on either side Salary at the rate of £100 per annum with board, lodging and laundry allowance Candidates must be registered under the Medical Acts Applications (which must be made on printed forms obtained from me) must reach me not later than first post on Friday September 12th Selected candidates will be required to call upon such Members of the Medical Staff as directed, to be in attendance at a Meeting of the Medical Council on Friday September 26th at 4 p m and the House Committee Meeting at 4 45 p m the same day when the appointments will be made

H A MADGE Secretary

Woolwich and District War MEMORIAL HOSPITAL

Shooters Hill London S E 18
(General Hospital—112 Beds)

The Board of Management invites applications from suitably qualified male candidates for appointment as HOUSE SURGEON for a period of six months commencing October 1st next In addition to his surgical duties he will have care of the Maternity Unit of 8 beds

An honorarium of £100 per annum will be paid in respect of this appointment, plus board residence, and laundry

Applications, accompanied by copies of not more than three recent testimonials should be sent to the undersigned to reach him not later than first post on Monday September 15th

EDWIN RADFORD
Secretary Superintendent

Seamen's Hospital Society,

Greenwich, S E 10

The Committee invite candidates for appointment of Two HOUSE PHYSICIANS at the HOSPITAL FOR TROPICAL DISEASES Endsleigh Gardens W C Candidates must be male doubly qualified and registered The elected candidates will be required to take up duty on October 1st Salary at the rate of £150 per annum with board, residence and washing The appointment will be for six months

Applications stating age together with copies of not more than three recent testimonials, to be sent in on or before September 16th to the undersigned from whom further particulars can be obtained

Greenwich R E V BAX
August 18th 1930 Secretary

Seamen's Hospital Society,

Greenwich S E 10

HOUSE PHYSICIAN and HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich for six months from October 1st Salary £110 per annum, and a proportion of fees, with board, residence, and washing Candidates must be male

Applications with copies of three testimonials to be sent in by September 16th to the undersigned

Greenwich R E V BAX
August 18th 1930 Secretary

Seamen's Hospital Society,

Greenwich S E 10

MEDICAL OFFICER required at ALBERT DOCK HOSPITAL Connaught Road E 16 for six months from October 1st Salary £110 per annum and a proportion of fees with board residence and washing Candidates must be male

Applications, with copies of three testimonials to be sent in by September 16th to the undersigned

Greenwich R E V BAX
August 18th 1930 Secretary

Seamen's Hospital Society,

Greenwich S E 10

HOUSE SURGEON required at TILBURY HOSPITAL Essex for six months from October 1st Salary £150 per annum with board residence and laundry Candidates must be male

Applications with copies of three testimonials, to be sent in by September 16th to the undersigned

Greenwich R E V BAX
August 18th 1930 Secretary

Leeds Public Dispensary

Wanted JUNIOR RESIDENT MEDICAL OFFICER Salary £150 per annum with board residence and four shillings weekly for laundry

Applications with copies of three recent testimonials to be addressed to the Secretary of the Faculty, Public Dispensary North Street Leeds

North Staffordshire Royal Infirmary, Stoke-on-Trent

(366 Beds)

ASSISTANT HOUSE PHYSICIAN

The Committee invite applications from duly qualified Assistant Physicians with recent Hospital experience. Applicants with recent Hospital experience will be preferred. Salary £120 per annum with board residence and laundry. There are six Resident Appointments (two Medical and four Surgical). The appointment will be for a period of twelve months. Duties to commence 1st October 1st.

Applications, stating qualifications, age and experience with copies of two recent testimonials to be sent to the undersigned immediately.

August 16th 1930 W. STEVENSON, Sec. & House Governor.

Royal Halifax Infirmary

Wanted a THIRD HOUSE SURGEON (male unmarried). Candidates must be duly qualified and registered. Salaries of Resident Staff as follows: First Assistant Surgical Officer £200, Second House Surgeon £200, Third House Surgeon £150 per annum with board and laundry.

The Hospital contains 230 beds and has a large Eye, Ear, Nose and Throat Department. Maternity Ward and Pathological Laboratory.

Particulars of the duties may be obtained from the undersigned to whom applications with copies of testimonials should be sent.

August 25th 1930 A. MIDGLEY, Secretary.

Royal Sussex County Hospital, Brighton

(237 Beds.)

CASUALTY HOUSE SURGEON (male) required immediately. Salary £120 per annum with board, residence and laundry. Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts. They must be unmarried and will be elected under 30 years of age.

Applications with copies of recent testimonials should be sent to the undersigned.

L. L. H. LANCASTER GAVE, Secretary Superintendent.

Preston and County of Lancaster Royal Infirmary

Applications are invited for the post of HOUSE SURGEON (under Consulting Surgeon). Six months' appointment. Number of Resident Staff—17. Salary £150 per annum with board residence and laundry.

Application, stating age, qualifications, training, together with testimonials, to be forwarded immediately to the undersigned.

JOHN GIBSON, Superintendent & Secretary.

Bedford County Hospital

HOUSE SURGEON (male) fully qualified unmarried required for a term of not less than six months commencing 1st October 1st. Salary £125 with board, lodging and laundry.

Applications, stating age, nationality, qualification, together with three recent testimonial to be sent to the Hon. Secretaries, Hon. Medical Staff Committee, not later than Wednesday, September 17th.

Bedford County Hospital

ASSISTANT HOUSE SURGEON (male) fully qualified unmarried required for a term of not less than six months commencing at once. Salary £130 with board, lodging and laundry.

Application, stating age, nationality, qualification, together with three recent testimonial to be sent to the Hon. Secretary, Hon. Medical Staff Committee as soon as possible.

Royal United Hospital, Bath

Wanted at once an ASSISTANT HOUSE SURGEON. Salary £120 per annum.

The appointment will be for not less than six months and candidates must be male unmarried and of British nationality.

Applications with three testimonials must be addressed to the undersigned.

J. LAWRENCE MEARS, Secretary Superintendent.

Worthing Hospital

Applications are invited for the post of Male HOUSE SURGEON now vacant. The appointment is for six months renewable. Salary at the rate of £150 per annum with Board lodging and washing. Applications, stating age, qualifications and experience with copies of testimonials should be sent to the Secretary at once.

Manchester Royal Infirmary

CENTRAL BRANCH PORY STREET, MANCHESTER

JUNIOR HOUSE SURGEON AND CASUALTY OFFICER (Male)

The Board of Management invite applications for the appointment of JUNIOR HOUSE SURGEON AND CASUALTY OFFICER at the Manchester Royal Infirmary, Central Branch, Pory Street, Manchester.

Applicants must be registered Medical and Surgical qualifications.

The appointment will be for twelve months at £100 per annum, and for six months as Junior Assistant at £100 per annum, and for six months as Senior Assistant at £200 per annum, together with board and residence, laundry.

Applications must be sent to the undersigned not later than September 12th, 1930, and should reach the undersigned by 9 a.m. on Thursday, September 18th.

By Order of the Board, FRANK C. HAZELL, General Superintendent & Secretary.

Mid-Wales Counties Mental Hospital, Talgarth

BRECONSHIRE

The Visiting Committee invite applications for the post of ASSISTANT MEDICAL OFFICER at the Institution. Salary commencing at £350 and rising by annual increments of £30 to £430 per annum (in addition) the following emoluments valued for the purpose of superannuation at £100 per annum apart from board and washing and attendance.

The appointment is subject to the Provisions of the Asylum Officers Superannuation Act 1909 (Annual Report of Welsh Insane).

Applications together with testimonials to be sent to the undersigned not later than September 23rd.

T. J. ASTBURY, Clerk to the Visiting Committee.

Bristol Homoeopathic Hospital

(BRUCE VAUGHAN WILLS MEMORIAL)

The Board of Management invite applications for the appointment of RESIDENT MEDICAL OFFICER to commence duties on or about October 1st next at a salary of £120 per annum rising by annual increments of £10 to £150 per annum, with board and laundry. The Hospital is now undergoing reconstruction and extension and will shortly contain 40 beds with the latest equipment and treatment. The Hospital is suitable for training a Surgical Nurse.

Opportunities are provided for clinical study and experience in the Homoeopathic Hospital and General Hospital.

Applications should be forwarded with three recent testimonials addressed to the undersigned.

H. HUNTER (Lt.-Colonel), Secretary.

Royal Victoria and West Hants Hospital, Bournemouth

(Bow and Brandon—1070 Beds—3 Residents)

A HOUSE SURGEON (male British nationality) required to commence duties immediately. Salary £150 per annum with board, lodging and washing. The appointment is tenable for six months and candidates must be registered according to the provisions of the Medical Acts and must have been born in the British Isles.

Applications stating full particulars of birth with age, nationality and qualifications, together with copies of three testimonials to be sent immediately to the undersigned.

Women and married men are ineligible.

August 18th 1930 GORDON M. SAUL, Secretary.

The General Hospital, Birmingham

Applications are invited for the following Resident appointments from October 15th:

ANAESTHETIST. Salary £120 per annum.

HOUSE SURGEONS (Three). Salary £70 per annum.

Applicants are giving full details of qualifications and accompanied by testimonials (if any) should reach the undersigned by September 15th.

A. H. LEANEY, House Governor.

Royal West Sussex Hospital, Chichester

(111 Beds)

The Board of Management invite application for the post of ASSISTANT HOUSE SURGEON. Salary £125 per annum with board, residence and laundry.

The post is a preliminary step of succession to the post of Senior House Surgeon.

Applications stating age with three recent testimonials should be sent to the undersigned as soon as possible.

HERBERT S. ALDMORE, Secretary.

Elthorne Hospital for Children, Southwark, S.E.1

The Committee of Management invite applications for the post of HOUSE SURGEON (male) for six months commencing September 12th (if time for notice can be given). The Hospital contains 40 beds and has an Out-patient Department. Salary £120 per annum with board and residence, laundry and uniform.

Candidates must be registered and have had a qualification (with date) and must have completed four years' hospital training.

Applications will be received up to September 9th to the undersigned from whom forms of application and further particulars may be obtained. Applicants will be informed if they will be interviewed at the Medical Committee of Management. Date of meeting will be notified to candidate must attend Committee of Management.

Canvassing will disqualify.

Applications to be submitted forthwith together with copies of three recent testimonials to the undersigned.

By Order of the Committee of Management, H. C. S. SMITH, Secretary Superintendent.

September 1st 1930

Great Yarmouth General Hospital

(72 Beds)

Two HOUSE SURGEONS required to commence duties on September 1st and a JUNIOR to commence duties on September 11th. Salaries at the rate of £150 and £140 per annum respectively, board residence and laundry.

Applications to be submitted forthwith together with copies of three recent testimonials to the undersigned.

FRANK JENNINGS, Secretary.

Ancoats Hospital, Manchester

HOUSE SURGEON (male) required to commence duties 2 October 1st next for a period of six months. Salary at the rate of £100 per annum with board, apartments, etc.

Applications, stating age, qualifications, experience, if any, to be forwarded to the undersigned not later than Wednesday, September 10th.

By Order of the Board, HERBERT J. DAFFORNE, Secretary.

Durham County and Sunderland Fever Hospital

(44 Beds)

Average 250 Out-patients daily.

Wanted immediately, CLINICAL ASSISTANT in Out-Patient Department to take morning duties from 9.30 to 1 noon or until out-patients work completed. Must have Ophthalmic experience. Salary at the rate of £250 per annum.

Application with full particulars to be sent to JOHN BUTTERFIELD, Secretary, Eye Infirmary, Sunderland.

Oldham Royal Infirmary

Two HOUSE SURGEONS required immediately for Male Ward and Out-Patient and Special Department respectively. Appointments tenable until December 31st next. Unmarried applicants will be eligible for reappointment. Salary at the rate of £170 per annum with board, residence and laundry.

Application to be submitted forthwith together with copies of three recent testimonials to be sent to the undersigned.

CHARLES D. DRAKE, General Superintendent.

Royal South Hants and Southampton Hospital, Southampton

ASSISTANT HOUSE SURGEON required to commence duties at once. Six months' appointment. Salary £120 per annum with rooms, board and laundry. Applications to be sent to the undersigned together with copies of testimonials (limited to five) and a specimen case.

HY. TRYSON, Secretary.

General Hospital Nottingham

Wanted SECOND CASUALTY OFFICER (male). Appointment for six months commencing September 20th. Salary at the rate of £150 a year with board, residence and laundry.

Applications stating age, qualifications and experience with copies of testimonials to be delivered to me not later than Monday September 15th.

PETER M. MACCOLL, House Governor & Secretary.

General Hospital, Nottingham

Wanted a HOUSE PHYSICIAN. Appointment for six months commencing October 16th. Salary at the rate of £150 a year with board residence and laundry. Application stating age, qualification and experience with copies of testimonials to be delivered to me not later than Monday September 22nd.

PETER M. MACCOLL, House Governor & Secretary.

Administrative County of LONDON

HOSPITALS SERVICE

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to positions at the undermentioned Hospitals Candidates must have had previous residential hospital experience The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council

(a) DULWICH HOSPITAL East Dulwich Grove, S E 22 — THIRD ASSISTANT MEDICAL OFFICER Salary £300 a year, with board, lodging, and laundry There is accommodation only for the person appointed (man or woman) The appointment will be for one year only in the first instance

(b) ST MARY ABBOTS HOSPITAL, Marloes Road, Kensington, W 8 — ASSISTANT MEDICAL OFFICER Salary £250 a year with board, lodging and laundry Candidates must have had previous resident experience in a Public General Hospital There is accommodation only for the person appointed (man or woman) The appointment is for one year only in the first instance

(c) PARK (FEVER) HOSPITAL Hither Green, S E 13 — TWO ASSISTANT MEDICAL OFFICERS Salary £500 a year The candidate appointed will be required to pay for board lodging, and laundry, at the rate of £130 a year No married quarters are available and there is no accommodation for a woman medical officer

The salaries and conditions of appointment in each case are provisional and are subject to review by the Council

Forms of application may be obtained from the Medical Officer of Health (Staff Division), The County Hall Westminster Bridge, S E 1 A stamped addressed foolscap envelope should be enclosed and forms must be returned by September 9th Canvassing disqualifies Candidates desiring to apply for more than one appointment must send in a separate form of application in respect of each hospital Inquiries for further details as to the nature and scope of the duties at the individual hospitals should be addressed to the Medical Superintendent of the Hospital concerned

MONTAGU H COX,
Clerk of the London County Council

September 2nd, 1930

South London Hospital for WOMEN,

South Side, Clapham Common, S W 4

The Board of Management invite applications from fully qualified Medical Women for the undermentioned appointments

HOUSE PHYSICIAN,
HOUSE SURGEON

each for a period of six months from November 1st Salary at the rate of £50 per annum with board residence, and laundry Candidates are expected to call upon Members of the Honorary Medical Staff Particulars to be obtained from the Secretary before Saturday September 27th, by which date applications and copies of testimonials must reach the Secretary at the Hospital

Northampton General Hospital

There will be vacancies on October 1st next for a HOUSE PHYSICIAN Two HOUSE SURGEONS and Two ASSISTANT HOUSE SURGEONS British nationality Salary £150 per annum with board residence and laundry

The successful candidates will be appointed for a period of six months and will be eligible for re-election for a further period

Candidates must be duly qualified and registered

Applications, stating age sex, qualifications etc with copies of testimonials to reach the undersigned not later than first post on September 10th

P SOURCE
Assistant Secretary

August 18th 1930

Royal Berkshire Hospital

(243 Beds)

Wanted [illegible] LTY OFFICER and [illegible] (male) Candidates [illegible] and registered, the appointments are for six months and the salaries are at the rate of £150 per annum, with board residence and laundry

Applications with copies of testimonials, should be addressed to the undersigned

HERMAN BURNEY
Secretary

Reading
August 25th 1930

Chesterfield and North Derbyshire ROYAL HOSPITAL

(190 Surgical and Medical Beds)

HOUSE SURGEON

Applications are invited from fully qualified men for the above post

The appointment is for six months

Salary is from £100 to £175 per annum, according to experience, with board, apartments, and laundry

Applications, stating age together with copies of three recent testimonials, should be sent to the undersigned

G SUNNUCK
Supt & Secretary

August 20th 1930

The Staffordshire General INFIRMARY STAFFORD

Applications are invited for the posts of HOUSE SURGEON and HOUSE PHYSICIAN (male or female) Salary at the rate of £200 and £150 per annum respectively, with board, lodging, etc

Candidates must be duly qualified and registered under the Medical Acts The appointment to be held for at least six months Applications stating age, accompanied by copies of three recent testimonials, should reach me not later than the first post on Thursday, September 4th

A F COLLINS,
Secretary

Stafford
August 23rd 1930

East Ham Memorial Hospital

(100 Beds) Shrewsbury Road, London, E 7

Applications are invited for the post of HOUSE SURGEON to Special Departments and Casualty Officer, for six months commencing September 15th Salary at the rate of £120 per annum, with board, residence, and laundry Applications, stating age, experience, and full particulars, together with copies of testimonials, should be forwarded to the undersigned as soon as possible.

REGINALD PERRY, Secretary

East Ham Memorial Hospital

(100 Beds), Shrewsbury Road, London, E 7

Applications are invited for the post of HOUSE PHYSICIAN for six months commencing September 15th Salary at the rate of £150 per annum, with board, residence, and laundry Applications, stating age experience, and full particulars, together with copies of testimonials, should be forwarded to the undersigned as soon as possible.

REGINALD PERRY, Secretary

East Ham Memorial Hospital

(100 Beds), Shrewsbury Road, London, E 7

Applications are invited for the post of RESIDENT MEDICAL OFFICER for six months commencing October 1st Salary at the rate of £200 per annum, with board, residence, and laundry Preference will be given to candidates who hold the diploma of F R C S Applications, stating age experience, and full particulars, together with copies of testimonials, should be received by the undersigned by Sept 16th

REGINALD PERRY Secretary

Darlington General Hospital

(120 Beds)

SENIOR and JUNIOR HOUSE SURGEON required, males, fully qualified, British Salary £175 and £150 per annum respectively, with board residence and laundry

Applications stating age qualifications, and experience accompanied by copies of two recent testimonials to be addressed to the undersigned forthwith

A RIDDLE Secretary

Peterborough and District MEMORIAL HOSPITAL (154 Beds)

Fully qualified SECOND HOUSE SURGEON or HOUSE PHYSICIAN required immediately Salary £135 per annum with board, residence, and laundry Applications stating age qualifications and experience with copies of recent testimonials, to be sent to the undersigned

FRANK A C TAYLOR
Secretary Superintendent

The Infants Hospital, Vincent Square, Westminster

There will be vacancies for Two HOUSE PHYSICIANS (male) to enter on duty on October 1st next The appointments are for six months Salary at the rate of £75 per annum with board residence and laundry

Applications and testimonials should reach the undersigned on or before September 20th

ALFRED J SMALL, Secretary

Essex County Council.

Public Assistance
Southern Area Guardians Committee

OLDCHURCH HOSPITAL, ROMFORD

APPOINTMENT OF THIRD ASSISTANT MEDICAL OFFICER (RESIDENT)

Applications are invited for the appointment of Third Assistant Medical Officer (male) at the Oldchurch Hospital, Romford

The appointment will be made for one year

Candidates must be single and preference will be given to one who has held the position of House Surgeon or House Physician in a General Hospital

The gentleman appointed will hold office during the pleasure of the Council and the appointment will be subject to termination by one month's notice on either side

Salary £250 per annum (subject to deductions under the appropriate Superannuation Act,) with board residence

Forms of application may be obtained from the undersigned upon receipt of a foolscap stamped addressed envelope and must be returned as early as possible

By Order,

A SANDERSON,
Clerk of the Committee

Clerk's Offices,
The Institution,
Romford
August 1930

Royal Free Hospital,

Gray's Inn Road, W C 1

EASTMAN DENTAL CLINIC

Applications are invited from qualified candidates for the post of ANAESTHETIST for Dental Cases and for the Ear, Nose, and Throat Department in the Clinic which will be opened during the ensuing months Remuneration one guinea per session Intending candidates should submit applications, stating age and accompanied by copies of three recent testimonials, to the undersigned on or before September 20th, from whom detailed information regarding the duties may be obtained

REGINALD R GARRATT Secretary

Stewartry of Kirkcudbright

APPOINTMENT OF MEDICAL OFFICER.

The County Council of the Stewartry of Kirkcudbright invite applications for the appointment of County Medical Officer and School Medical Officer, etc Salary £750, rising to £900, with travelling allowance according to scale. A print of the condition of the appointment may be obtained from the undersigned with whom applications should be lodged not later than 18th inst. Canvassing a disqualification

ADAM BROWN,
County Clerk

Kirkcudbright
September 1st, 1930

County Mental Hospital, LANCASTER

An ASSISTANT MEDICAL OFFICER, male unmarried required Salary £350, rising by £25 to £450 per annum with further increases on promotion, together with emoluments valued at £150 subject to deduction of 3 per cent under the Asylum Officers Superannuation Act. Age should not exceed 35 years

Applications with testimonials (copies only) and full particulars to be sent to the Medical Superintendent

Derbyshire Hospital for Sick CHILDREN (52 Beds)

RESIDENT MEDICAL OFFICER (lady) wanted forthwith The appointment is for six months, but may be extended by mutual arrangements. Applicants must be fully qualified Salary £160 per annum Applications with three testimonials, one relating to anaesthetics, to be sent to the undersigned

ARTHUR N WHISTON,
Secretary

25 St Mary's Gate,
Derby

King George Hospital, Ilford

Eight miles from London (80 beds.)

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER Salary £250 per annum, with board residence, etc Term twelve months with eligibility for further period Previous Hospital experience essential Preference given to candidates who are Fellows of a Royal College of Surgeons Applications should be sent to the Secretary immediately

King George Hospital, Ilford

Eight miles from London (80 beds)

Applications are invited for the appointment of HOUSE OFFICER (male) Salary £100 per annum with board residence etc Applications should be sent at once to the Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary, 7 Drumsheugh Gardens, Edinburgh).

(a) British Islands

Town or District	CONTRACT PRACTICE
EBBW VALE (Workmen's Medical Society)	
GILFACH GOCH, GLAMORGAN (Workmen's Medical Scheme)	
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN (Workmen's Medical Scheme)	
MAERDY, GLAMORGAN (Workmen's Medical Scheme)	
MEIRTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE (Workmen's Medical Scheme)	
NEATH AND DISTRICT (Medical Aid Association)	
OAKDALE, MON (Medical Officer for Medical Aid Association)	
OGMORE VALLEY, GLAMORGAN (Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme)	

Town or District	PUBLIC HEALTH
CORNWALL EDUCATION COMMITTEE (Assistant School Medical Officer—Female)	
MIDDLESBROUGH COUNTY BOROUGH, HOLGATE HOSPITAL (Assistant Medical Officer)	
STIRLING ROYAL BURGH (Medical Officer of Health)	
YORKSHIRE NORTH RIDING EDUCATION COMMITTEE (Assistant School Medical Officer)	
YORKSHIRE WEST RIDING COUNTY COUNCIL (School Medical Inspector)	

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District	Hon. Sec. of Division or Branch
NEW SOUTH WALES (All Friendly Society Appointments)	Dr. R. H. TODD (Hon. Sec. New South Wales Branch), Savings Bank Building, 21 Elizabeth St., Sydney, N.S.W.
QUEENSLAND (Brisbane Associated Friendly Societies Institute)	The Hon. Sec. Queensland Branch), British Medical Association, B.M.A. Building, Adelaide St., Brisbane.
SOUTH AUSTRALIA (Lodge Appointments)	Secretary, South Australian Branch, North Terrace, Adelaide.
VICTORIA. (All Institute or Medical Dispensaries)	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch), British Medical Association, Medical Society Hall, East Melbourne, Victoria.
WELLINGTON, NEW ZEALAND (Contract Practice Appointments)	Dr. G. F. V. ANSON (Hon. Sec. New Zealand Branch, British Medical Association), P.O. Box 156, Wellington, New Zealand.
WESTERN AUSTRALIA. (Contract and Lodge Practices)	Hon. Sec., Western Australian Branch, British Medical Association, No. 6 Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

September 3rd, 1930.

By Order of the Council,
ALFRED COX, Medical Secretary.

Royal Manchester Children's Hospital.
OUT PATIENTS DEPARTMENT, Gartside St., MANCHESTER.

Wanted for the Out-patients Department Two ASSISTANT MEDICAL OFFICERS, non-resident. Salary £150 per annum who will be appointed for six months. Candidates must be doubly qualified and on the Medical Register. Particulars of the duties can be obtained from the Secretary. The hours of duty are from 9 a.m. till 1 p.m. or until the attendances number 87,000 per annum. Duties to commence October 1st. Patients.

Applications stating age and accompanied by copies of not more than three testimonials to be sent to the undersigned not later than September 10th. Canvassing directly or indirectly will disqualify.

By Order,
W. M. HUMPHRY, Secretary.

August 22nd, 1930.

Royal Manchester Children's Hospital,
PENDLEBURY, near MANCHESTER. (190 Beds.)

Wanted a RESIDENT MEDICAL OFFICER and a RESIDENT SURGICAL OFFICER. Salary £125 per annum who will be appointed for six months. Candidates must be unmarried and duly qualified and registered. Previous hospital experience essential. Preference will be given to applicants having taken the Diploma in Public Health.

Applications stating age and accompanied by copies of not more than three testimonials to be sent to the undersigned not later than September 10th. Canvassing directly or indirectly will disqualify.

By Order,
W. M. HUMPHRY, Secretary.

August 22nd, 1930.

Salford Royal Hospital.
(263 Beds.)

Applications are invited for the following vacancies which will occur in the Resident Medical Staff (male) on September 30th next:—HOUSE SURGEON (attached to the Orthopædic Department) (attached to the Orthopædic Department) Salary at the rate of £125 per annum.

HOUSE SURGEON. Salary at the rate of £120 per annum.

The appointments are for a period of six months with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognized for the English Fellowship (Final).

Forms of application which may be obtained from the undersigned, must be delivered on or before Sept. 10th.

By Order of the Board,
GEORGE FIDDLE, Gen. Sup. & Secretary.

Salford Royal Hospital,
August 20th, 1930.

St. Vincent's Orthopaedic Hospital,
EASTCOTE, MIDDLESEX.
(140 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (unmarried). Candidates must be registered under the Medical Acts. The appointment is for six months in the first instance but the holder may be re-appointed for a further period. Salary is at the rate of £150 per annum with board and lodging.

Applications with copies of testimonials should reach the Secretary on or before September 6th. Vacant October 1st.

Central London Throat, Nose, and Ear Hospital,
Gray's Inn Road, W.C.1.

HONORARY ASSISTANT ANAESTHETIST.

There is a vacancy in this office. Attendance required at present on Thursdays 9—10 a.m. and on Fridays 2—5.30 p.m.

Further particulars can be obtained from the undersigned to whom applications accompanied by copies of not more than three testimonials should be sent not later than September 8th.

JOHN H. YOUNG,
Secretary-Superintendent.

Royal National Orthopaedic Hospital,
234, Great Portland Street, W.1.

Applications are invited for the post of HOUSE SURGEON (male). The appointment is for six months from October 1st renewable for a further period of six months on the recommendation of the Medical Board. £150 per annum with board and quarters and laundry.

Applications with copies of testimonials should be addressed to the Secretary not later than September 10th.

Lowestoft and North Suffolk Hospital, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board residence and laundry. Duties to commence in August. Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

Macclesfield General Infirmary.
(100 Beds.)

RESIDENT HOUSE SURGEON.

Applications are invited for fully qualified men for the above post. Salary £160 per annum with board and residence.

The appointment is for six months which may be extended.

Applications stating age qualifications and nationality with copies of testimonials should be sent to the undersigned.

A. E. HANRAHAN, Secretary.

Bristol Royal Infirmary.

A fully qualified ASSISTANT required for Cancer Research Laboratories. Whole-time appointment. Salary to commence £400 per annum. Previous pathological experience necessary.

Applications together with copies of testimonials, to be sent to the undersigned.

ELLIS C. SMITH, F.C.I.S., Secretary.

(Appointments continued on p. 86.)

ASSISTANCIES

Wanted — Outdoor Assistant, male, Briton, young, single sober for general practice in easily worked Practice in the Midlands Edinburgh Graduate preferred Car *not essential* Salary commencing £400 p a Usual agreement Wanted at once.—Address, No 6083, B M A House, Tavistock Sq, W C 1

Wanted — Indoor Assistant, male, for industrial Practice, twelve miles from Manchester Preference given to ex H S, H P Knowledge of obstetrics desirable Car provided Dispenser kept State essential particulars Salary £350 p a.—Address, No 6073 B M A House, Tavistock Square, W C 1

Wanted — Assistant, with Hospital and general experience, and able to do *Refractions* Six *gns* weekly (*in* door), with prospects If suitable Usual bond Send photo—Address, No 6082, B M A House, Tavistock Square, W C 1

Wanted —October, outdoor male ASSISTANT, young, single, for panel and private Practice, W R. Yorks English or Scotch Salary £400 Usual bond Age and particulars —Address, No 6066, B M A House, Tavistock Square W C 1

Wanted — Assistant, indoor, male, young, for private and panel Practice Some experience Protestant Com mencing salary £300—Address, with photo and *reference, No 6069, B M A. House,* Tavistock Square, W C 1

Wanted —Short Assistantship, with view to Partnership or Succession, by M D, B Ch, B A O (*Belf*), ex H S H P, and R M O Experience general practice Free end of Sept Capital available—Address, No 6078, B M A House, Tavistock Square, W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view State full particulars.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted —Indoor male Assist- ANT, English, Scotch or Irish for panel and private Practice in West Car found and Dispenser kept Salary £300—Address with references, No. 6068, B M A House, Tavistock Square W C 1

Wanted —Assistant, age about 30, married, *English for Practice* situated in the West Riding of Yorkshire 2,200 panel with midwifery—All particulars *to* REYNOLDS & BRANSON, *Ltd* 13, Briggate, Leeds

Wanted, end of September, male ASSISTANT outdoor, in mixed Practice near Birmingham Salary according to experience State full particulars.—Address No 6183 B M A House, Tavistock Sq W C 1

Wanted — Outdoor Assistant, male, October 1st for panel and private Practice, N London Duties light Particulars —Address No 6071, B M A House Tavistock Square W C 1

Wanted — Outdoor Assistant, with view in Midland manufacturing town Panel and private Must be well quali fied M D or F R C S preferred —Address No 6072 B M A House Tavistock Square, W C 1

Wanted, a reliable indoor ASSISTANT, with some experience of panel and private Practice no midwifery Dispenser kept — Address No 6180 B M A House Tavistock Square, W C 1

Wanted —Outdoor Male Assist- ANT Nottingham, *young energetic*, and able to drive car Salary £400 p a—Address, stating age experience etc No 6181, B M A House, Tavistock Square, W C 1

Wanted, young, *energetic* ASSISTANT unmarried and a cyclist Salary £350 p a with rooms, food light heat and attendance — Address No 6210, B M A House Tavistock Square, W C 1

Wanted in a Colliery Practice in South Wales an Indoor ASSISTANT £350 p a Ex H S preferred Should be ex perienced in anaesthetics and a motor cyclist —BELL THOMAS M R C S Maesteg

Wanted — Assistant, single, young keen outdoor, Midlands Salary commencing £400 Usual bond Photo and testimonials.—Address No 6084, B M A. House, Tavistock Square, W C 1.

Assistant, man or woman, indoor wanted with or without view Country Town, Midlands Ex H S or H P pre ferred State age, height religion, and full partic ulars Only letters replied to where essential particulars are stated —Address No 5718, B M A House Tavistock Square W C 1

Assistant required, indoor, October, in Midland industrial town Must be keen and energetic. New Practice very rapidly growing Good prospects to suitable man — Address, No 6067, B M A House, Tavistock Square W C 1

Assistantship, outdoor, prefer with view to Partnership by M B, F R C S Ed, Scot single, 35 years 3½ *yrs hosp*, 1 yr C P exper Good refs Small capital Free *mid October* —Address, No 6811, B M A House, Tavistock Square, W C 1

Assistantship, South Eng pref, Scots University Graduate, *outdoor pref* married H S Class and Lond Exper private and panel Excellent refs —Address No 6184, B M A *House* Tavistock Square, W C 1

Assistant (indoor) —Private *and panel Practice £250* or according to exp rience Particulars and photograph —Address, No 6085 B M A House Tavistock Square, W C 1

M B, Ch B, M R C S, L R C P ex H S and G P exp, 16 *months, desires* ASSISTANTSHIP Partnership considered Capital available Large town preferred Own car — Address No 6188, B M A House, Tavistock Square W C 1

M.D, Scot, desires outdoor *ASSISTANTSHIP* Scotland preferably with view Age 26 qualified 4 years Late Sen H S, H P, obstetric H S oyo H S fevers Some experience G P —Address No 5898 B M A House, Tavistock Square W C 1

Outdoor Assistant (lady) re quired in panel Practice in new London suburb Cyclist —Address, stating essential par ticulars, No 6070, B M A. House, Tavistock Square, W C 1

MEDICAL POSTS, DISPENSERS etc.

Wanted — Capable Lady *Doctor country Practice residential dis*trict, Co swolds all classes Desiderata tact exp up-to-date skill facility in management society and socialities View to pos succn Age photo— No 6191 B M A House Tavistock Sq W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request, quali fied and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Pre paration for Examinations —Write, wire, or phone (*Park 0969*) Secretary, 7, Westbourne Park Road W 2

Evening Surgeries or other Part- TIME WORK desired in London by expe rienced M B, doing Post Graduate work— Address, No 6061 B M A. House, Tavistock Square W C 1

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Per manency and part time Bookkeeper Dispensers, Secretary *Dispensers Nurse Dispensers* and Chauffeuse Dispensers.—Write wire or phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS 12, Holborn Viaduct, E C 1

Dispenser — Lady (Apoth Hall B Sc) age 25 desires POST with Doctor or Hospital Used to telephone typewriting simple bookkeeping —BLEN Edenholme Park Avenue Burnley Lancs

Dispenser-Bookkeeper, male, 42, desires POST West Riding, Yorkshire preferred Smart active and thoroughly ex perienced Highest testimonials Part time considered —Address No 6076, B M A House, Tavistock Square, W C 1

Doctors requiring qualified Dispensers Nurse-Dispensers, Secretary Dispensers or Chauffeuse-Dispensers are invited to write wire or phone Temple Bar 5858 THE DISPENSERS BUREAU, 15 Lindsay House, 171, Shaftesbury Avenue London, W C 2

Doctor's Housekeeper now available where maid is kept Experienced, middle aged, good references —Address MISS HALL, *c/o* FOSTER Woodville (near) Burton-on Trent

Ex Warrant Officer, R A M C, 45, Dispenser etc. seeks POST with Medical Man London, S W preferred —Apply 85, Eccleston Sq S W 1 Tel Victoria 2722

Gentlewoman, 38 years of age, domesticated, seeks DAILY POST as CHAUFFEUSE to Dentist or Doctor Can do light secretarial work as well—Address No 6053, B M A House, Tavistock Square W C 1

Lady Dispenser (Hall), good knowledge of dispensing bookkeeping and general surgery work requires WHOLE or PART TIME POST Good refs—Address No 6186 B M A House Tavistock Square W C 1

Lady Dispenser - Bookkeeper desires RE ENGAGEMENT for Winter months or permanency Fifteen years experi ence Good testimonials. Moderate salary Dis engaged now —Miss DANIEL, 89, *The Crescent*, Eastleigh *Hants*

Lady Secretary (shorthand, typewriting) requires POST London district Accustomed to dealing with radium, x ray work (developing printing) sunlight treatment etc Also *qualified dispenser* Excellent references —Address No 6079 B M A House, Tavistock Square W C 1

M R C P London (Bart's man), free *four afternoons and evenings in* the week, seeks ENGAGEMENT London dis trict — Address, No 6051 B M A House, Tavistock Square, W C 1

The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work— Dispensers (capable of undertaking returns, clerical work, etc, connected with Ministry of Health) Clerks, *Laboratory Assistants* general hospital duties Porters, Caretakers etc —Apply, Secretary 85, Eccleston Square S W 1

To Medical Superintendents —A Trained OCCUPATIONAL *OFFICER with* experience Mental and Nervous Patients Free October Highest testimonials —Address No 6060, B M A House, Tavistock Square, W C 1

Typewriting —Expert undertakes Theses Testimonials etc. Numerous letters of appreciation from Doctors —BEATRICE RADFORD 341 Finchley Road, N W 3 'Phone: Hampstead 6430 (any hour)

Woman Doctor wants Part-time WORK in London Free till 4 p.m Available for week-end Locums Exp G P, panel and private Dispensing Anaesthetics— Address, No 6065, B M A House, Tavistock Square, W C 1.

LOCUMS

FOR LOCUM TENENS APPLY TO
Mr PERCIVAL TURNER, Ltd
The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals
4, ADAM ST, Strand, London W C 2.

Teleg	Phone
Epsomian Lond	Temple Bar 9011
After Office Hours	Epsom 9142

Wanted immediately —Reliable and experienced Practitioners (male and female) for LOCUM ENGAGEMENTS — State full particulars —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Locum Tenens — Experienced Practitioner desires WORK long or short periods, reasonable fees—Address, No 6189, B M A House Tavistock Square, W C 1

Medical Woman, not young, but active willing to take light LOCUM WORK, no midwifery Has experience of general practice. — Address No 6212, B M A House, Tavistock Square, W C 1

HOLIDAY LOCUMS

FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM H GRANT)
WATERGATE HOUSE, 15 YORK BUILDINGS, ADELPHI, W C 2
Tel TEMPLE BAR 1054, RIVERSIDE 1254 (*Night Calls*)
Telegrams "REASIDE, TUBERCLE, WESTRAND, LONDON"

PARTNERSHIPS

Wanted —Partner in good-class Practice in S Coast resort Half share for sale Particulars on application Average cash receipts about £2 000 —Address No 6064 BMA House Tavistock Square W C 1

A Third Share is available in a residential and panel PRACTICE, old established, within 20 miles of London —Address No 6178 BMA House Tavistock Square W C 1

London —Exceptional opportunity to acquire HALF SHARE of an old-established cash and panel PRACTICE Receipts of share £1 250 Nice flat available Premium 2 years purchase payable only £1 000 down rest at interest —Apply ISAACK & HADLEY Ltd 19 Craven Street Strand W C 2

Partner required in good-class Practice in important residential town in S W England Scope for surgery Should hold Lond d gree and F R C S Eng Ample capital and six months prelim Assistantship essential Share £800 to commence —Address No S 513 BMA House Tavistock Square W C 1

Partner wanted for growing Practice in West Lond n suburb to open Branch Surg ry near great indu trial developments Large scope for increase panel and private Premium for one third present Practice £500 —Apply S PARKER & Co Account ant 160 2 High Street Acton W 3

Partnership, West Riding — Quarter share for sal In mixed-class Practice Average receipts for the last three years £4 000 per annum House to rent £52 Premium for quick sale only £1 290 —Apply REYNOLDS & BANKS Ltd 13 Briggate Leed

Partnership with Succession — Old-established good-class Practice near Manchester Receipts £2 000 cash Plenty of scope Suit young man with capital —Apply HOUGH HOBKINSON Manufacturing Chemists Bridge Street, Manchester

Partnership wanted, share worth £1 000 ret or good mixed Practice by experienced man aged 42 Within 40 miles Manchester pre erred country or suburban district Good house with gard n rent if possible —Address No 6080 BMA House Tavistock Square W C 1

Shropshire —Partnership in good and old-established Practice with receipts £2 300 nearly Excellent hou e large garden tennis lawn Price for half share 2 years purchase and house £1 500 part deferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street

S. W County —Partner wanted for nice class Practice doing £3 100 a year large panel Third share for sale on terms to be arranged House available on rental Excellent opportunity for active Practitioner —Apply PEACOCK & HADLEY Ltd 19 Craven Street Strand W C 2

PRACTICES

Wanted —Practice with panel (50% or more) House to rent Must have for choice but not essential £300 down rest by arrangement Full details in confidence —Address No 6182 BMA House Tavistock Square W C 1

Wanted —Practice in South of England Income about £1 000 Smaller Practice, with scope considered House with garden essential Ample capital Replies in confidence —Address No 6062 BMA House Tavistock Square W C 1

Wanted to purchase for cash, PRACTICE, private or panel income about £1 000 p a in or very near London Freehold house essential —Address No 6055 BMA House Tavistock Square W C 1

Wanted to purchase for cash PRACTICE or PARTNERSHIP income £1 000 or over by London Graduate ex service age 45 Country South or West —Address No S 570 BMA House Tavistock Sq W C 1

Wanted — Practice income £1 000 or near with fair panel and appointments Preferably unopposed Country or Country Town and house to rent —Address No 6211 BMA House Tavistock Square W C 1

Wanted by experienced Medical Man mid Herts class and panel PRACTICE within easy distance of Town Country not objected to House to be rent d —Address No 6190 BMA House Tavistock Sq W C 1

Wanted — Practice with panel Income £1 200 to £1 800 Preferably South or East Coast Capital available —Address BMA House Tavistock Square W C 1

Cheshire Town near Manchester —Average cash receipts £800 Panel 450 Considerable scope Excellent modern house 2 reception 4 bedrooms garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Cheshire — Pleasant district Nice house large garden garage Receipts £700 Panel 630 Excellent scope Appts £60 House and Practice £2 200 or near offer part d ferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown St

East Yorkshire —Old-established Country PRACTICE for Sale Average receipts about £2 000 p a Panel 1 100 —Full particulars from SOMMERSON & HEVINGHEM Solicitors Pocklington

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised Inform free on applic —4 Adam St W C 2

For Immediate Sale —In growing West London suburban district progressive PRACTICE, private and panel Large scope for development Large lock up Surgery £65 p a Certified accounts avail Prem—2 yrs purchase—£1 800 —Apply S PARKER & Co accountant 160/2 High Street Acton W 3

For Sale — Cardiff, Practice, established 4 years £400 to £500 general £200 pan l £100 from appointments capable of indefinite expansion Price about £1 000 or near offer Part purchase—Sub tantial mortgage if required —No 605 BMA House Tavistock Sq W C 1

For Sale —Near Ipping Forest —Old-established PRACTICE, middle and working-class Income over £1 600 Per annum Panel 700 Fees 2 6 to 10 6 Majority 3 guineas House contains 2 reception 3 parlatory room waiting and consulting rooms (separate entrance) Rent £40 per year Premium £2,500 cash —Address No 6052 BMA House Tavistock Square W C 1

For Sale —Private Practice in Edinburgh (Death Vacancy) Old pan l and very little night work —For further particulars apply to ALEX MORTON & CO WS 33 Queen Street Edinburgh

Home Counties — Excellent han e for young Practitioner Partially gr wing PRACTICE with unusual advantages Actual receipts last year £550 Fuller details or appointment on request —Address No 5936 BMA House Tavistock Square W C 1

Isle of Man —Seaside Town — Old-established PRACTICE Receipts average £946 (including £350 from pan l) Semi detached house 3 recep 4 bedroom Garden Good schools Premium—Practice and house £2 000 part by arrangement —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Lady Doctor's Private and Panel PRACTICE in Midland Town for Sale Receipts 1929 over £400 Premium to include drugs £550 Surgery to rent (and a pe Address No 6055 BMA House Tavistock Square W C 1

Liverpool (near) — Residential Coast Town —Middle and upper-class PRACTICE Average cash receipts £1 249 p a Scope Excellent house 2 reception 6 bedrooms garage and garden Premium 1½ years purchase Tender required —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

Liverpool — Industrial Practice Cash receipts 1929 £1,150 Panel 1 600 Surgeries to rent Good scope Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

London S W (near Chelsea) — Old-established cash and panel PRACTICE Receipts £1 800 a year Nice corner house rent £150 long leas Situated in residential part Premium 2 years purchase —Apply PEACOCK & HADLEY Ltd 19 Craven Street, Strand W C 2

London, N W (Kilburn) —Old-established cash and panel PRACTICE Receipts £500 Panel 450 Long lease Rent £70 Premium £700 —Apply HADLEY Ltd 19 Craven St Strand W C 2

London, N W — Woman wishes to purchase growing cash PRACTICE for sale or partnership Receipts £500 Panel 460 Rent £85 Premium £80 —Address No 6063 BMA House Tavistock Square W C 1

Manchester -Industrial Practice for cash receipts £972 Plenty of scope Suit R C Good house 2 reception 5 bedrooms Rent £50 Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Medical Practice, old - established in S E Scotland near University Town —Residential and agricultural population Average cash takings for last four years £690 Capable of being greatly increased Good house garden garage and orchard may be had on lease or will be sold if desired —Address No 5803 BMA House Tavistock Square W C 1

Near Leeds —Industrial Practice Average cash receipts £1 220 Panel 1 350 Hospital appointments £20 Panel house 2 reception 3 bedrooms Price £1 100 Good Premium—Practice—1½ yrs purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

North-West Coast —Old-established mixed PRACTICE Cash receipts 1929 £1,129 Panel 530 Good scope Easily worked Good house 3 reception 5 bedrooms Garage and garden Premium—Practice—1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Old Kent Road — Required, PRACTICE within 10 minutes walk of East Street —Address No 6212, BMA House Tavistock Square, W C 1

Practice for Disposal, South Wales Town 630 Panel Appointments which can be handed over Convenient corner house with garage Progressive district Present Incumbent retiring —Address No 6054 BMA House Tavistock Square W C 1

Practice, old-established, cash receipts average over £1 000 p a Panel and appointments over £400 p a Agricultural country near two Market towns Modern house with garage and electric light Premium and conveniences and electric light Premium and part if required by arrangement —Address No 6815. BMA House Tavistock Square W C 1

Practice in Suburbs of City in North of England Panel 1 55 £2 500 cash receipts between £2 000 and £2 500 audit d Price £4 3–5 Hours to suit Doctor and Assistant Short Partnership if required— COMACK & BYERS WS Lockerbie

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Shropshire —Pretty Country Town PRACTICE Cash receipts £1 100 p a Panel 600 Scope for larger Good house 2 reception 4 bedrooms garage Good tennis court Premium—Practice and house £2 500 —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Yorkshire (W R) —Old-established PRACTICE Average cash receipts £1,535 p a Appointments £230 p a Panel 750 Good house 2 reception 3 bedrooms garage and garden to rent or purchase Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Yorkshire (N R) — Unopposed Country PRACTICE in pr tty district Average cash receipts £750 p a Pan l 450 Excellent modern house 12 rooms Garage and large garden with tennis court Part £2 p a Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Consulting Rooms to be Let — Harley Street and District Whole and part time Lists sent on application —HOOD & Co 10 Henrietta Street, Cavendish Square, W 1 Langham 2601

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For Sale (at low price) with immediate possession, large stone and brick built CORNER HOUSE, junction of Hadlow Road, Bordyke and East Street, TONBRIDGE Suitable for professional offices, Surgery, Nursing Home, etc. Nineteen bed and sitting rooms, 3 bath, arranged on three floors(all self contained) One acre (including 1/2 acre kitchen garden) £3,750 or approximate offer (freehold) — Apply, RACE, Estate Agent, Tonbridge.

Ground Floor Consulting Room to Let in best part of Wimpole Street, with use of well furnished waiting room at a rental of £175 p a, including services of experienced man servant — Write Box 765b, SAMSON CLARK & Co, Ltd, 57, Mortimer Street W 1

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Radnorshire — To Let, old Georgian COTTAGE redecorated, 7 rooms, study bath indoor sanitation domestic offices garden garage stables, kennels out buildings 14 acres pasture in village Doctor's res 60 yrs Fishing shooting available Rent including rates £70 yearly Also furnished Bungalow for servants if desired —Address No 6081, B M A House Tavistock Square W C 1

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Medical Man required to Write UP NEW PREPARATION for Rheumatic Affections, Throat Gargle, and Disinfectant —Reply to Box B 1972, c/o DAWSONS, 118 Cannon Street, E C 4

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APPOINTMENTS—Contd

Swansea Hospital (316 Beds)

HOUSE SURGEON wanted gentleman, single. Salary £150 per annum, with board residence, and laundry

Applications stating age, nationality, qualifications, and experience, together with copies of three recent testimonials, to be forwarded to the undersigned

O C HOWELLS, Secretary

East London Hospital for CHILDREN, Shadwell, E 1,

There will be a DEMONSTRATION OF CLINICAL CASES on *Wednesday, September* 10th Tea at 4 p m

The Royal Liverpool Children's HOSPITAL

The Committee invite applications from Graduates with previous Hospital experience for the post of SECOND RESIDENT MEDICAL OFFICER, at the Heswall Branch of the Institution vacant on October 1st next Salary at the rate of £120 per annum The appointment will be for a period of six months

Applications, with copies of recent testimonials, to be sent to the Secretary, Royal Liverpool Children's Hospital, Myrtle Street, Liverpool

Beckett Hospital and Dispensary, BARNSLEY (152 Beds)

Applications are invited from fully qualified male Practitioners for the post of JUNIOR HOUSE SURGEON Duties to commence immediately Salary £140 per annum, with board residence and laundry

Applications stating age qualifications, and experience accompanied by testimonials, to be *sent to the undersigned*

ARTHUR L BOURNE
Sept 2nd, 1930 Secretary Supt

Connaught Hospital (100 Beds) Orford Road E 17

Applications are invited for the post of HOUSE PHYSICIAN (male) The appointment is for six months from October 1st next £150 per annum with board quarters and laundry

Applications stating age nationality, qualifications and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary by September 20th next

Royal Surrey County Hospital, GUILDFORD (180 Beds)

Wanted October 1st HOUSE SURGEON Salary £150 per annum with board, residence and laundry

Applications stating essential particulars with copies of testimonials to be sent to the General Superintendent not later than September 20th.

London Hospital, E1

Applications are invited for the post of MEDICAL FIRST ASSISTANT AND REGISTRAR. The appointment is for one year but is renewable annually on application for two further periods of one year. Salary £300 per annum payable by Hospital and Medical College jointly.

Candidates must be fully qualified medically.

Applications must arrive at the Hospital not later than by the first post on Saturday October 18th.

Further particulars may be obtained from the House Governor.

A. C. ELLIOTT, House Governor.

London Hospital, E1

Applications are invited for the post of SURGICAL FIRST ASSISTANT AND REGISTRAR. Candidates must be Fellows of the Royal College of Surgeons. The salary is £300 per annum which is paid by the Hospital and Medical College jointly. The appointment is for one year but is renewable annually on application for two further periods of one year.

Applications should arrive at the Hospital not later than by the first post on Saturday October 18th.

Further particulars may be obtained from the House Governor.

A. C. ELLIOTT, House Governor.

Manchester and Salford Hospital
FOR SKIN DISEASES

HOUSE SURGEON

Applications are invited for the post of House Surgeon. Must be registered. The appointment is for twelve months from October 1st. Salary £100 per annum with board and residence.

Application with copies of three testimonials to be sent to the undersigned Quay Street Manchester on or before Monday Sept 15th.

JOHN NALL, Secretary.

Cardiff Royal Infirmary
(Associated with Welsh National School of Medicine.)

Applications are invited for the post of GYNAECOLOGICAL HOUSE SURGEON.

This appointment is for six months commencing October 20th.

Salary at the rate of £50 per annum with board and lodging.

Application forms can be obtained from the undersigned and should be returned with copies of three recent testimonials on or before September 30th.

P. ARMSTRONG,
August 30th 1930. Med. Supt.

Wolverhampton and Midland
COUNTIES EYE INFIRMARY

HOUSE SURGEON wanted. Ophthalmic experience preferred. Duties to commence in October. There are 50 beds for In patients and large Out patient Department. Salary £150 a year with furnished apartment, coal, and laundry.

Applications stating age and experience with copies of three recent testimonials to reach the Secretary not later than September 9th.

EUSTACE LEES,
August 25th 1930. Secretary.

Ingham Infirmary,
SOUTH SHIELDS

Wanted JUNIOR HOUSE SURGEON (male). Salary £150 per annum with residence board and washing. No outvisiting. Candidates must hold registered qualifications in Medicine and Surgery. The appointment will be terminable by one months notice. Application stating age and accompanied by copies (which will not be returned) of recent testimonials to be sent to the undersigned from whom further particulars may be obtained.

JOHN POTTER, Secretary.

Inverness District Mental Hospital.

JUNIOR ASSISTANT MEDICAL OFFICER wanted. Experience of Mental Hospital work not essential but Post-Graduate Medical or Surgical experience a recommendation. Salary £350 per annum with apartments, board, laundry and attendance. Apply with references to Medical Superintendent.

Liverpool and District Hospital
FOR DISEASES OF THE HEART

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Applications to Miss LEWIS, Secretary, 14 Cook Street, Liverpool.

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F. E. DALTON, Secretary.

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South Wales —Seaside resort —Over £1,100 p.a. Panel 5-0. Fees 3/6 to 5/6. Corner house 7 bed and garden. Sale or Let —No. 8721.

North Kent —Unopposed —Over £1,000 p.a. Panel £250. Appts £200. Fees 3/6 to 10/6. Choice of houses to buy or rent —No. 8719.

Kent Country, near Coast —Over £1,100 p.a. Panel £290. Appt. £65. Fees 5/ to 21/. Very convenient house 3 reception 6 bed etc —No. 8718.

South Coast — Town — About £1,800 p.a. Panel 1,400. Half share succession in few years. Fees 3/6 to 7/6. Choice of houses. Mid refused scope —No. 8716.

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Lancs Town — About £1,100 p.a. Panel 560. Club £50. Fees 3/6 to 5/. Good house and nice garden. Rent or sell —No. 8704.

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London, N. — About £1,700. Panel 1,300. 40 midw. p.a. Fees 2 to 5 gns. Visits to 5/. Corner house to rent. Premium £2,500 or near —No. 8688.

London, S.E. —Woman's Practice. About £600. Panel 220. Fees 3/6 to 21/. Scope for midwifery and increase. Ground floor flat—No. 8686.

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Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers All information is treated in strictest confidence Full and trustworthy information regarding Practices, Partnerships, etc, for disposal, supplied gratis to Purchasers

ASSISTANTS AND LOCUMTENENTS

Assistants and Locumtenents can be secured at short notice It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out

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2 SOUTH COAST — Practice averaging £1 370 p a in residential town and watering place Panel 500 Large house on sea front Also Surgery returning £565 p a which would be sold separately if desired Premium 1½ years purchase Great scope

3 YORKSHIRE — Partnership in Practice £2 300 p a in seaside town Panel over 900 Excellent house (8 bedrooms) for sale or rent Premium two fifths or one-half share 1½ years purchase Preliminary Assistantship

4 SOUTH OF ENGLAND —Old-established unopposed PRACTICE of £1 600 Panel about 1,400 Nice double fronted house (5 bedrooms, etc), good garden Rent £90 p a on lease Premium £2 500

5 MIDDLESEX —Rapidly increasing PRACTICE in new developing district about 12 miles from London Earnings past year £707 Panel 200 Very convenient house (4 bedrooms), garden, and garage, for sale Great scop Premium 1½ years purchase

6 LONDON, N — Practice averaging £700 p a in good suburban district Panel 530 Seven roomed house to rent Premium 1½ years purchase

7 SOUTH AFRICA —Practice over £3,000 p a in one of the pleasantest towns in the Cape Province House (4 bedrooms) to rent Excellent Surgical centre Purchaser should be able to do Surgery Prem £2 200 part by instalments

8 SOUTH WALES —Practice of over £1,200 p a in small seaside town Panel 540 Good house (7 bedrooms) garage and garden, for sale Sport Premium 1½ years purchase

9 LONDON, W — Good middle-class non-panel PRACTICE £1,160 p a in Western suburb Attractive detached house (8 bedrooms, including attics) for sale Considerable scope Premium £1 150

10 SOUTH-WEST OF ENGLAND —Partnership in increasing middle-class Practice of about £2 500 in seaport town Panel 870 One fourth or one-third share at 2 years purchase Preliminary Assistantship

11 SURREY — Partnership in good mixed-class Practice about £3 000 p a in Town within 10 miles South of London Small panel Suitable house obtainable Excellent scope Premium one-third share 3 years purchase.

12 FAVOURITE HOME COUNTY —PARTNERSHIP in Practice about £2 200 p a in growing residential district under 60 miles from London Panel about 1 100 Good house with all modern conveniences, for sale Premium one half share 2 years purchase

13 LONDON, S E —Practice about £3,000 p a, carried on by two Medical Men in outlying suburban district Panel 1 350 Two houses available Premium 1½ years purchase Or one-half share would be sold with early succession

14 DEVONSHIRE —Partnership in Practice of £3 400 p a in first rate country town Panel 2,000 Charming old house, with good garden, to rent Well equipped Hospital with chance of appointment on staff to one keen on medicine. Premium one-third share 2 years purchase

15 SOUTH-WEST OF ENGLAND —PARTNERSHIP in increasing non dispensing Practice about £1,600 in first rate town Small select panel Share worth £800 p a at 2 years purchase Partner holding F R C S will probably be elected to staff of Hospital

16 DEATH VACANCY — CARMARTHENSHIRE.—PRACTICE of £1 300 p a (including about £500 from panel) Small house to rent Knowledge of Welsh not essential

17 ITALY —Non-dispensing Season Practice Receipts about £200 p a Suitable flat to rent Premium £250

18 DEATH VACANCY —BIRMINGHAM— PRACTICE averaging over £1 500 p a (largely Homœopathic) in one of the best residential suburbs No panel or midwifery House (7 bedrooms) to rent Any reasonable offer

19 HOME for Alcoholic, Drug, and Nerve cases in favourite resort on South Coast Receipts last year over £1,100 Capable of increase Further particulars on application

20 ESSEX —Partnership in steadily increasing Practice about £1 800 p a in rapidly developing neighbourhood Panel about 500 Choice of two houses Two-fifths share at first at 1½ years purchase

21 KENT and SUSSEX BORDER —Practice averaging £1 100 p a (including over £300 from panel) in beautiful country district Very convenient house (6 bedrooms) for sale Sport Premium 1½ years purchase

22 SOUTH WALES —GROWING SEASIDE TOWN —PRACTICE of over £1 200 p a Panel 641 Very good house (7 bedrooms) for sale or rent Premium—Practice—1½ years purchase

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Practices and Partnerships for Disposal (continued)

23 WEST END OF LONDON — Good-class non-dispensing PRACTICE about £4 000 p.a. Fees £1 1s and £2 2s Admirably situated house (8 bed and dressing room) for sale Premium for Practice £4 000

24 SOUTH DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast Panel 340 Good house and garage in acre of garden for sale All kinds of sport. Premium £1 500

25 KENT — Partnership in Practice about £4 400 p.a. in outlying suburban district Panel 2 400 Good house (4 bedrooms) to rent. Premium one-fourth share 2 years purchase

26 YORKSHIRE (W R) —Practice averaging £1 700 p.a. in manufacturing town Panel 1 737 House (4 bedrooms) garage, and small garden for sale. Scope. Premium 1½ years purchase

27 WEST MIDLANDS — Partnership in Practice of about £2 850 p.a. in country town Panel 1 700 Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre Premium one-half share 2 years purchase

28 WEST OF ENGLAND — Partnership in old-established Practice in pleasant Country Town House to rent or purchase. Share worth about £1 000 p.a. at 2 years purchase

29 LONDON, S E — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2 000 House (5 bedrooms etc) Garden To let. Premium one fifth share 2 years purchase

30 MIDLANDS —Practice over £800 p.a. in first rate Town Panel 1 500 Detached house (4 bedrooms 3 attics) garage and garden to rent Others available. Premium 1½ years purchase.

31 S W OF ENGLAND —Unopposed Practice, about £1 150 p.a. in delightful country district Very fine house with beautiful gardens tennis lawn etc. for sale. Premium 1½ years purchase

32 YORKSHIRE (N R) — Very old-established easily worked PRACTICE over £750 p.a. in attractive country district. Panel 450 Visits 5/6 to 10/6 Modern house 12 rooms. Garage and good garden. Rent £42 p.a. Premium 1½ years purchase

33 LONDON, N —Practice about £1,700 p.a. in thickly populated district Panel 1 300 Corner house (2 bed rooms) to rent. Considerable scope. Premium 1½ years purchase

34 SOUTH AFRICA —Old-established Practice of over £1 800 in a Town with large White population Climate ideal—no tropical diseases (altitude nearly 5 000 ft.) Delightful residence (6 bedrooms electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1,200 or offer

35 SOUTH MIDLANDS —Country Practice of just over £1 000 p.a. within 50 miles of London Panel 700 Good house with modern sanitation excellent garden and paddock, to rent. Premium £1,500 to include drugs and fittings.

36 DEATH VACANCY —SOUTH COAST — PRACTICE over £850 in favourite watering place. Panel about 200 House (5 bedrooms) in half acre garden for sale

37 LONDON, S W —Partnership in Practice about £2,500 p.a. in first rate suburb Panel 1,250 Double-fronted house (7 bedrooms) garage and lovely garden for sale Share about £1 000 p.a. at 2 years purchase. Partner must be well qualified preferably M D or F R C S.

38 HOME COUNTIES — Easily worked Country PRACTICE about £2,000 p.a. in Agricultural District 40 miles from London. Panel 800 Centrally situated house (4 bed and attics) garage, and garden for sale. Premium—Practice—1½ years purchase.

39 SHROPSHIRE —Partnership in Practice about £2 200 p.a. in attractive residential country district. Panel 1,100 Very nice house garage, and large garden for sale Sport Premium one-half share 2 years purchase.

40 YORKSHIRE (W R) — Compact easily worked PRACTICE averaging £1 600 p.a. in manufacturing town Panel over 1 300 Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

41 SOUTH DEVON —Country Practice nearly £1 500 p.a. in beautiful district near coast Panel 634 House (7 bedrooms) with electric light and central heating garage and large garden for sale. Sport of all kinds Premium 1½ years purchase

42 LONDON, N — Sound, easily worked PRACTICE nearly £2 600 p.a. in residential district Small select panel. Good corner house (5 bed and dressing rooms) with very good garden for sale. Small Hospital. Premium—house and Practice—£4 250 cash

43 MIDDLESEX — Practice about £500 in growing district of pleasant suburb under 10 miles from London Panel 450 Large house to rent on lease Great scope. Premium £750 or near offer

44 LONDON, E — Practice £990 p.a. in populous area. Panel 1 240 Shop-fronted premises to rent. Plenty of scope Premium 1½ years purchase

45 ISLE OF MAN —Non-dispensing Practice in small Seaside Town Receipts average £940 (including £350 from panel) Small compact house (5 bedrooms) with nice garden for sale Sport. Premium—Practice and house—£2 000

46 SOUTH OF ENGLAND —Partnership in good-class non-dispensing Practice £6 000 p.a. in attractive watering place No panel House (3/4 bedrooms) garage and garden to rent On third share at 2 years purchase Partner should be 35-40 years of age and hold F R C S England.

47 MIDLANDS —Practice, over £1,700 p.a., in important City Panel 1,570 Centrally situated house (7 bed and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2 250

48 LONDON, S E —Partnership in Practice £6 600 p.a. in outlying Suburban District. Panel 2 000 Premium one sixth share 2 years' purchase.

49 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London. Good house (6 bedrooms) to let. Share worth about £1 400 p.a. for disposal at 2 years purchase.

50 MIDLANDS — Partnership in Practice over £4 100 p.a. in flourishing town Panel nearly 3 000 House (5 bedrooms) to rent One-fifth share 2 years purchase Preliminary assistantship Applicant must be married or about to be.

51 MIDLANDS —Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years purchase.

52 LONDON, N W —Practice of between £1 100 and £1 200 p.a. in suburban district. Panel 650 Corner house (4 bedrooms) for sale. Scope. Premium 1½ years purchase

53 MIDDLESEX — Partnership in Practice, nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi-detached corner residence (6 bedrooms) garage and garden for sale Premium one-half share, 2 years purchase

54 CHESHIRE —Partner required in increasing better-class non panel Practice in first rate residential district. Cash receipts past year over £4,500 A University Graduate who must have held Resident Hospital appointment preferred. One-fourth share at 2 years purchase.

55 LONDON, S W —Practice about £630 in suburban district within half an hour of Charing Cross Panel about 400 House to rent on lease. Very good scope. Premium £900

56 LANCASHIRE —Practice in rapidly growing district near coast and popular resort. Receipts last year £1 183. Panel 260 about. Very nice compact freehold house (4 bedrooms electric light etc.) with beautiful garden for sale. Premium for Practice £500

57 WEST MIDLANDS —Practice about £1,050 p.a. in residential country district. Panel over 500 Excellent house (5 bedrooms) with electric light, etc. garage and 3 acres land for sale or rent. Premium 1½ years purchase

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LONDON, N W —Middle and working class PRACTICE Receipts £1 000 p a Panel 1,500 House to rent on lease £80 p a Premium £1,500

MIDDLESEX —PARTNERSHIP in well established Practice Receipts £1,500 p a Panel 900 approved medical aid scheme £600 p a Small house available Premium for one-third share £700 Suitable to Scots or North Country Practitioner

WEST OF ENGLAND —PARTNERSHIP in well established City Practice Receipts £1,712 Panel 2,146 Corner house on main thoroughfare, garden, garage Premium for 1/2 share £1 595

EAST MIDLANDS (Near Sea) —SURGICAL PARTNERSHIP in busy growing mixed Practice Receipts nearly £2,000 Panel 830 Suitable house available Hospital Good schools Premium for 1/3 share with view to larger share £1,300

LONDON E 13 —NUCLEUS working class PRACTICE in thickly populated locality House to rent, £60 p a (part sub let at £26 p a Receipts £500 Panel 400 Fees 1/6 up Midwife 2 to 3 gns Premium £600 or near offer

LONDON S W —Well established G P with branch surgery situated within short distance of West End Receipts approx £1 500 Panel 1,200 House to rent on lease Premium £3,000 for Practice and lease or offer

LONDON N —NUCLEUS G P situated in residential locality Excellent scope Receipts £500 Panel over 100 House for sale or rental Premium £700

LONDON, S E —PARTNERSHIP in growing middle and working-class G P Suitable house available for rent Earnings approximately £4 600 Panel 3 400 One third share is offered at 2 years purchase

KENT —PARTNERSHIP (or whole might be sold) —Old established Country G P Receipts over £2 200 Panel 1,200 Suitable for experienced man, aged 35—45 Half share at 2 years purchase

LONDON S E —Middle and working class G P in residential locality House to rent Receipts approx £1,100 Panel 600 Premium £1,500 cash

LONDON NORTH —Lock up SURGERY with living accommodation if desired situated in working class district Receipts £260 p a Panel 170 Premium £300 or near reasonable offer

SOUTH WEST COAST —PARTNERSHIP in old established mixed Practice Suitable house available Receipts nearly £6,000 Panel 4,000 1/3 share at 2 years purchase, part down

YORKS —PARTNERSHIP in middle and working-class Town Practice Receipts approx £3,000 p a Panel over 2,000 House to rent Premium for 1/4 share 2 years purchase.

YORKS —Well-established middle and working class Town PRACTICE Receipts approx £1,520 Panel nearly 1,700 House to rent Premium £2 250

CLOS —Well established non dispensing G P, situated in good sized town Receipts £820 Panel 550 House to rent or for sale Premium £1 050 A long Partnership introduction would be considered Suitable for either sex

LANCS —Good-class non panel G P situated in residential district Receipts over £1 500 (average £1,179) Suitable house available to rent or for sale Scope for surgery especially Eyes and E N and T work Suitable for a F R C S Premium £1,200 cash

LONDON, S W —Old established middle-class G P Corner house with accommodation to rent at £115 p a on lease Panel 360 Receipts £1,060 Premium 1½ years purchase or near offer Scope

DEVON —PARTNERSHIP in old-established mixed Practice Receipts over £3 100 (average) Panel worth £1 100 p a Several appointments One third share at 2 years purchase Larger share later

BEDS —Nucleus County PRACTICE —Medium sized house with all conveniences Receipts about £500 p a Small increasing panel Premium £350, or with house £1 000

NORTH WALES PRACTICE —ASSISTANTSHIP with view to purchase Salary £250 (indoor) Receipts over £700 Panel £300 p a Appointments Hospital House to rent Nice country sport of all kinds Welsh not essential Premium £800 Terms considered

BERKS —PARTNERSHIP, with view to Succession Country Practice Receipts average £1 120 p a Panel nearly 600 House to rent Premium for half share 2 years purchase Suitable only to single man

KENT —PARTNERSHIP in old established Country G P Receipts over £2,200 Panel about 1 200 Suitable for experienced married man about 35 Premium for half share, with possible view 2 yrs pur

BLACKPOOL (near) —Well-established middle and working-class PRACTICE. Suitable 8 roomed house available with garden garage, etc. Receipts nearly £1,200 Panel (about) 250 Premium for house and Practice £3 250

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1 IMMEDIATE — PRACTICE of £1 200 for Sale owing to illness Panel and appts £500 Situate in charming country town in the West Very convenient house and garden Premium moderat Full details on application

2 DEVON — PARTNERSHIP —Active Partner required in Practice of £3,300 p a Good panel and appts Hospital town Excellent education and sporting facilities THIRD SHARE for Sale with further sixth after a time

3 PRACTICE of £960 a year in a pretty country town within easy run of fashionable S Coast resort Cott Hosp Excellent residence with acre of garden garage e, rent on lease £110 Price 1½ years purch

4 RIVERSIDE SUBURB —Good-class PRACTICE in attractive locality and averaging over £1,800 Panel and appts £600 Held 50 years Very desirable residence and garden on lease at £90 Six months partnership introduction Premium 3 000 Guineas

5 MANCHESTER —Mixed PRACTICE of £1 100 a year for prompt sale Panel 1 000 Convenient spacious premises and garage on lease To effect quick sale, premium only £1 250

6 LANCS —Good middle-class PRACTICE in Town of 45 000 and worth £1,200, with panel of 900 House in residential area, slightly opposed with garage Price £1,100 or might be rented Premium 1½ years

HANTS —Unopposed PRACTICE of over £700 with panel and appts, situate in a good social and sporting district Pleasant old world residence, with central heating electric, garden garage etc F hold £2,000 Goodwill £1 000 Personally known

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1 BIRMINGHAM —PARTNERSHIP (1/2 share) with view to succession In old estab industrial and panel Practice Receipts nearly £1 800 Panel about 3 000 Appointments worth about £50 Transferable Good house. Garage, etc

2 NORTH OF ENGLAND — Panel Private Colliery and Club PRACTICE Receipts av £800 p a Panel £550 Appts £350 Good house to rent Considerable scope for energetic man

3 SOUTH STAFFORDSHIRE — Well estab Country PRACTICE Receipts average over £1 000 p a Panel 700 Good house, garage, and garden

4 MANCHESTER (Suburb) —Lock up Surgery Industrial PRACTICE Receipts £350 Panel 600 and increasing

5 CHESHIRE —Well-estab middle and working class PRACTICE. Receipts £2 300 Panel 2,400 increasing Appt worth about £30 transferable Good house garden, garage

6 LANCASHIRE — Well-estab middle and better-class PRACTICE Receipts £988, panel 900, both increasing Appt £30 p a., transferable Good house and garage

7 WEST MIDLANDS —Well estab PRACTICE in market town and agricultural district Receipts £1,572 Panel 500 Appts worth £118 Good house Garage and all conv

8 YORKSHIRE.—Large County Borough — Well estab working and middle class PRACTICE Receipts over £1,500 p a. and steadily increasing Panel about 1 700 Good house to rent

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Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1 WEST OF ENGLAND.—COUNTY TOWN.—PARTNERSHIP.—A share representing about £300 p.a. with further increase later is offered in a very well-established good middle-class Practice rapidly increasing and with large scope. Select Panel of 300. Fees 3/6 to 21/. About 30 cases of midwifery at from 5 to 10 gns. Choice of house. Premium 2 years. Purchaser should hold London degree or R.C.S. Eng.

2. YORKS.—HOSPITAL TOWN.—Well established good middle and working-class PRACTICE with beautiful residential country. Average income over £3,000 including an appointment worth nearly £1,300 and panel of 1,648. Fees from 2/6. Midwifery from 2 gns. About 35 cases. Good detached house in excellent repair with 2 reception 5 bedrooms etc. large garden. Price for freehold £2,200. Sport of all kinds and good schools. Premium £4,500. Very good surgical one.

3. SOUTH WEST OF ENGLAND.—PARTNERSHIP.—In a large thriving apert town the third share (with increase to half later) of a well established rapidly increasing middle-class Practice. Receipts average £2,272 p.a. (last year £2,549) including panel of 870. Very little midwifery. Suitable arrangements can be made as to house for incoming partner. Premium 2 years purchase. Share for surgery.

4 MIDDLESEX.—Rapidly developing district within 20 miles.—PARTNERSHIP.—A one-half share in an old-established good middle-class Practice averaging for the past two years over £3,500 p.a. Panel of 1,100 and appts. bring in £100 p.a. Fees 3/6 to 21/. Good commercial house with 3 reception 6 bedrooms etc. Garden. Price for freehold £2,100. Premium 2 years purchase.

5. BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half share (with succession in 2 to 3 years time) in a good mixed and opposition Practice in pleasant village near two good towns. Income for last 12 months £1,992 including panel of 1,000 and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception 6 bedrooms etc. Sport of all kinds. Premium 2 years purchase.

6 HANTS.—Country PRACTICE in very pleasant district. Income for last 12 months £730 including panel of 450. Fees from 4/. Very good house with 2 reception 5 bedrooms etc. Three acres of garden etc. Price freehold £1,950 part on mortgage. Premium £1,050.

7 PARTNERSHIP.—Within 40 miles of London.—Pleasant Town (pop. over 6,000 with large surrounding district).—A two-fifths share (to commence) is offered in an old-established but rapidly increasing Practice. Income last year about £1,750 including panel and appts. about £330. Small house available (rent £60) or large house by purchase (price freehold £1,300). Premium only 1½ years purchase. Excellent future prospects.

8 KENT.—Country PRACTICE, near Coast.—Old-established mixed-class Practice averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. Convenient house with 3 reception 6 bedrooms etc. Good garden. Price for freehold £1,800 £400 on mortgage. Good sport and schools within reach. Premium 1½ years purchase.

9 LANCS.—Large Town within easy reach of Liverpool.—Well-established SHIP.—A one-third or one-half share (with succession later) in an old established good mixed-class Practice offering large scope. Gross cash receipts for past 12 months £2,645. Panel of over 2,400. Fees 2/6 upward. Suitable house available on rental. Premium 2 years purchase.

10 CHESHIRE.—Coast Town within reach of Liverpool.—Well-established PRACTICE, averaging over £1,200 p.a. including panel of 780. Fees from 3/6. Mid 2 to 6 gns. Double-fronted house with 3 reception 4 bedrooms etc. Price freehold £1,400 £800 on mortgage. Premium 1½ years purchase. £1,100 down.

11 NORTH OF ENGLAND.—In a small pleasant town old-established sound PRACTICE averaging over £1,200 p.a. including nearly £500 from panel and appts. Good house (3 reception 5 bedrooms bathroom etc., electric light and every convenience garage garden). Price freehold £1,300. Mortgage for full amount can be arranged. Premium £1,450.

12. CROYDON AREA.—PARTNERSHIP.—A two-fifths or one-third share is offered in a well-established and increasing middle-class Practice averaging £2,600 p.a. (last year £2,740). Panel of 935. Fees 3/6 to 21/. Midwifery 4 to 15 guineas. Choice of houses. Premium 2 years purchase part by arrangement.

13 DEVON.—VILLAGE PRACTICE situated in very attractive district within 5 miles of a Hospital Town. Receipts for past 12 months £942 including panel producing about £230 p.a. Fees 2/6 to 10/6. Very good ten-roomed house with professional rooms garage for two cars, cottage etc. Large garden. Price for freehold £3,000 £2,000 on mortgage. Premium £1,500.

14 SOUTH WEST OF ENGLAND within ten miles of coast.—Steadily increasing Country PRACTICE in agricultural district producing for the past 12 months over £2,300. Panel with midwifery brings in over £400. Fees 3/6 to 21/. House contains 2 reception 5 bedrooms etc. Garden. Garage. Rent on lease £50 p.a. Premium £2,800.

15 MANCHESTER.—Chiefly working-class PRACTICE. Average income £1,000 including panel of 1,000. Moderate expenses. Corner house with 3 reception 8 bedrooms etc. Garage. Rent on lease £65 p.a. Premium £1,500 or near offer.

16. EAST HUDDERSFIELD.—PARTNERSHIP.—A half share in an old established mixed-class Practice for immediate purchase over £4,200. Panel of 3,500. Fees 3/6 to 7/6. Very good house, with 4 reception 6 bedrooms etc. 1½ acres garden. Price freehold £2,500. Premium 1½ years purchase.

17. EASTERN COUNTIES.—Old-established and rapidly increasing Country PRACTICE, in very pleasant sporting and agricultural district averaging nearly £1,200 p.a. (last year over £1,400). Panel of 500. Very good house (3 reception 6 bedrooms bathroom etc.) Garden with tennis lawn. Garage. Electric light. Price freehold £2,000 £700 on mortgage. Premium 1½ yrs. purchase.

18 EASTERN COUNTIES.—About 50 miles from London and within 10 miles of county town.—Old-established PRACTICE in pretty country district for immediate disposal by doctor having accepted an appointment. Receipts average nearly £900 p.a. including panel of 600 and Union £60. House with ample accommodation garden and garage. Can be bought or will be let. Premium 1½ years purchase part by instals.

19 PARTNERSHIP.—HOME COUNTY.—Within 40 miles of London.—In small village (with large surrounding population) in very pleasant district the third share (with option to five-twelfths in 3 and half in 5 years) of old-established first-class PRACTICE. Present income £3,000 p.a. including panel producing over £1,200 and appts. worth £160. Visits 3/6 to 2 gns. Good house at moderate rental. Premium 2 years purchase, cash. Qualification and reference. Ingoing Partner shall be about 30. English or Scotch and married or about to become so.

20 YORKS.—In a clean and thriving manufacturing town old-established non-panel PRACTICE (part homeopathic) and held 50 years by Vendor who is retiring. Cash receipts average about £2,500 p.a. Patients better and middle-class. Midwifery not fixed. Good house rent £100 p.a. Premium only 1 years purchase part down and balance by arrangement.

21 WEST MIDLANDS.—Very old-established mixed-class PRACTICE in small town (largely residential) amid agricultural district of exceptional beauty. Cash receipts at present £2,367 p.a. with panel of over 1,000. Opposition not strong. Very fine house (3 reception 6 bedroom bathroom etc.) standing in nearly 3 acres of ground. Beautiful garden tennis lawn and productive orchard. Price freehold £2,000. Premium 1½ year purchase.

22 BORDERS OF BEDFS AND HANTS.—In a delightful district an old established mixed-class PRACTICE averaging for the past three years £904 p.a. (last year £973) including panel of 400. Visits 5/ to 12/6 medicine extra (3/6). One opponent. House contains ample accommodation (2 sitting rooms 7 bedrooms bathroom etc.) Large garden and garage. Rent £90 p.a. Prem. £140. Excellent sport.

23 YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle-class PRACTICE. In order for the immediate part twelve months approximately £4,000. Small selected panel of 430. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years purchase.

24 NEAR HEREFORDSHIRE BORDER.—HOSPITAL TOWN.—Old-established mainly good-class non-dispensing PRACTICE, averaging about £1,200 p.a. Panel of 500-600. Fees 5/ to 10/6. The house in centre of town. Price for freehold £1,200 part on mortgage. Premium £1,800, £1,300 down and balance by instalments. Up-to-date Cottage Hospital and good scope for surgery.

25 YORKS.—PARTNERSHIP.—Within a few miles of large residential town the half share of old-established unopposed country PRACTICE owing to retirement of senior partner through age and ill-health. Cash receipts for past three years averaging over £2,500 p.a. including appointments and panel of 1,200. Very little midwifery. Railway station. Good house available with large garden. Electric light and water laid on. Price freehold £1,200 part on mortgage. Premium 2 years purchase.

26 PARTNERSHIP.—COUNTY TOWN within 150 miles North of London.—A one-fifth share is offered in a very old-established good middle-class Practice having good scope. Gross cash receipts for past twelve months nearly £6,000 including panel of 3,400. Fees 2/6 to 21/. Not much midwifery. Suitable house available at present rental of £52 per annum. Premium £2,000 (£1,200 can remain on mortgage). Present partner retiring.

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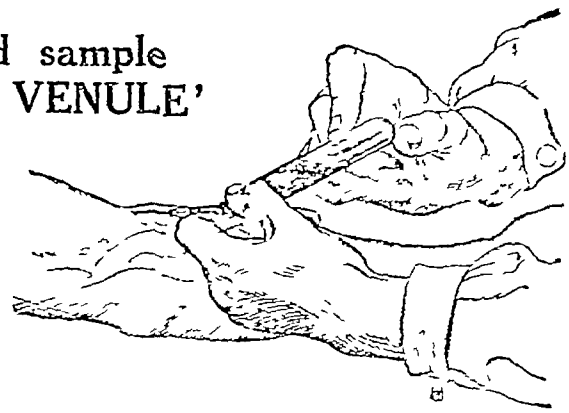
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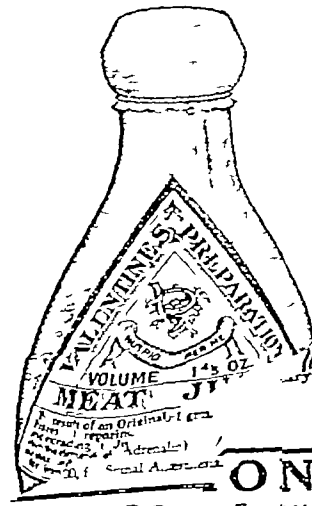
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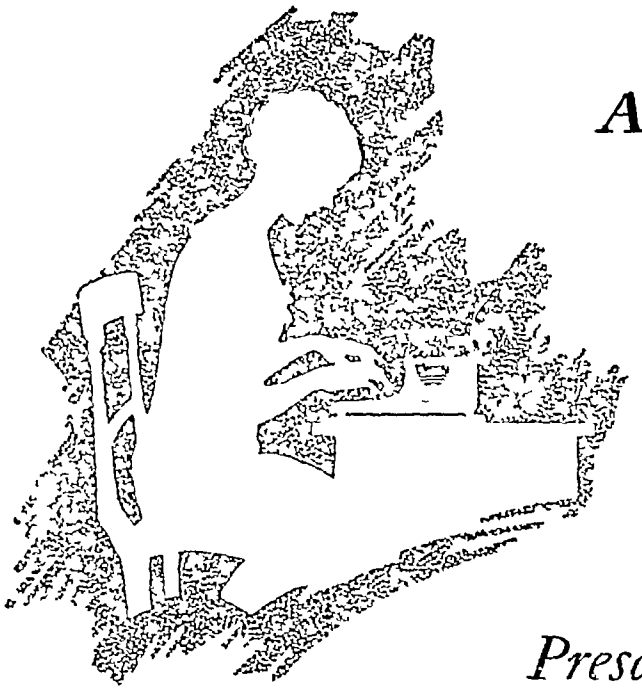
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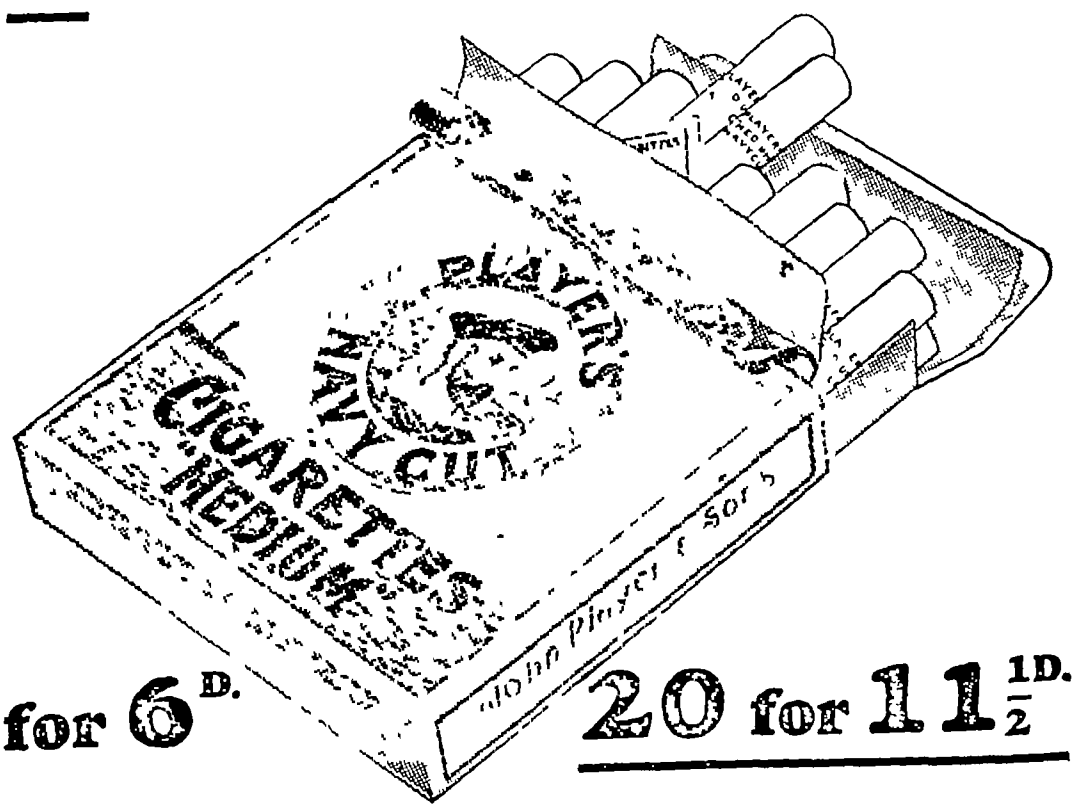
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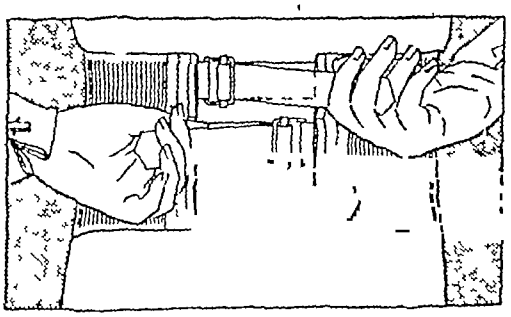
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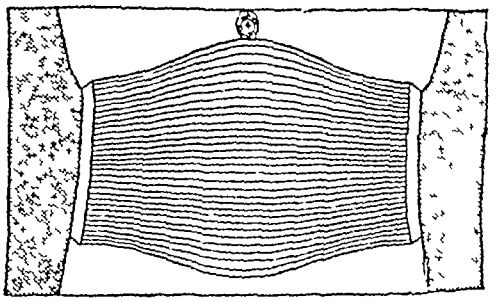
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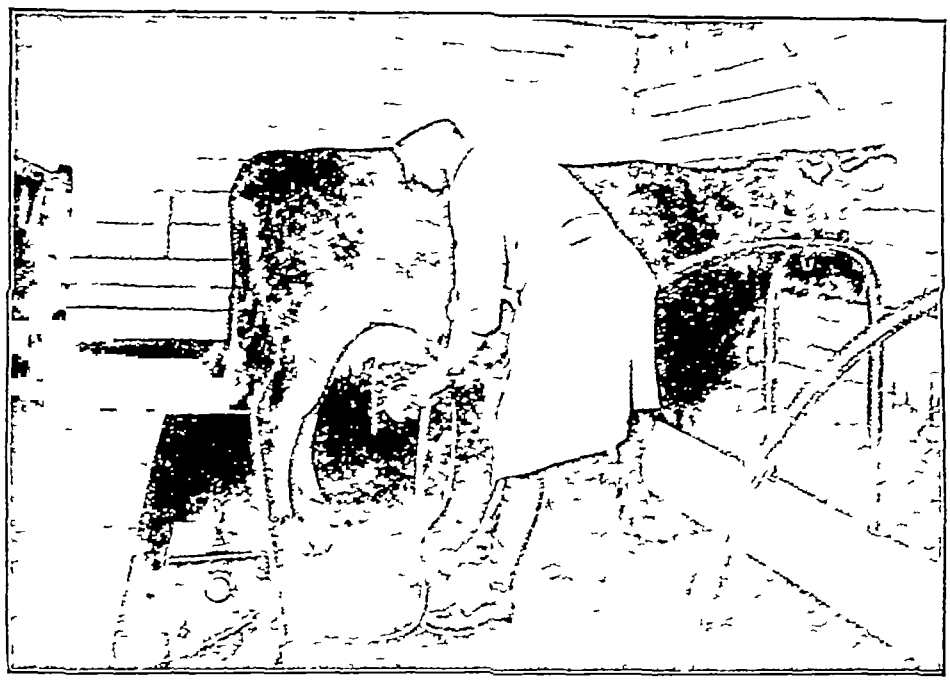
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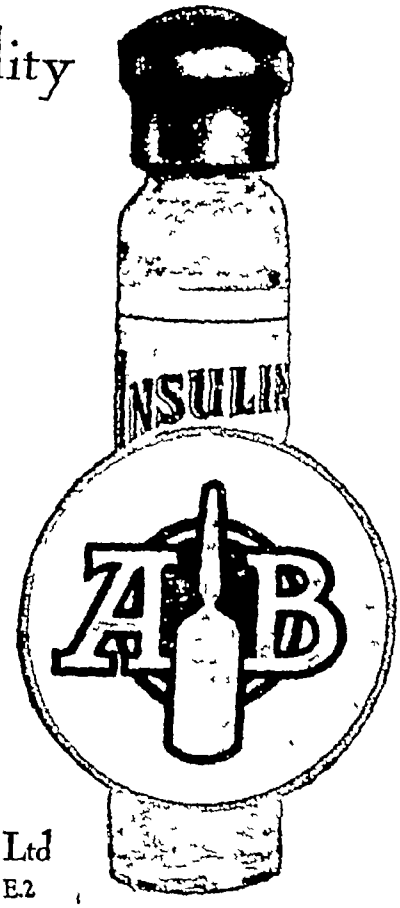
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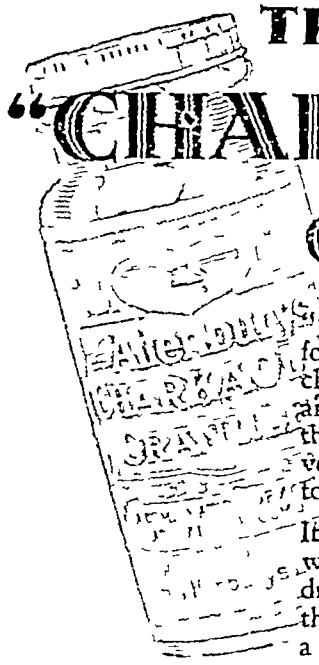
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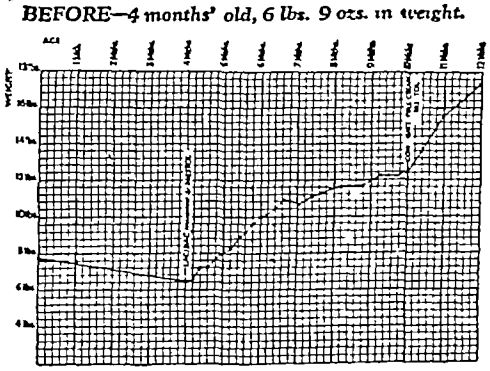
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Progress Chart



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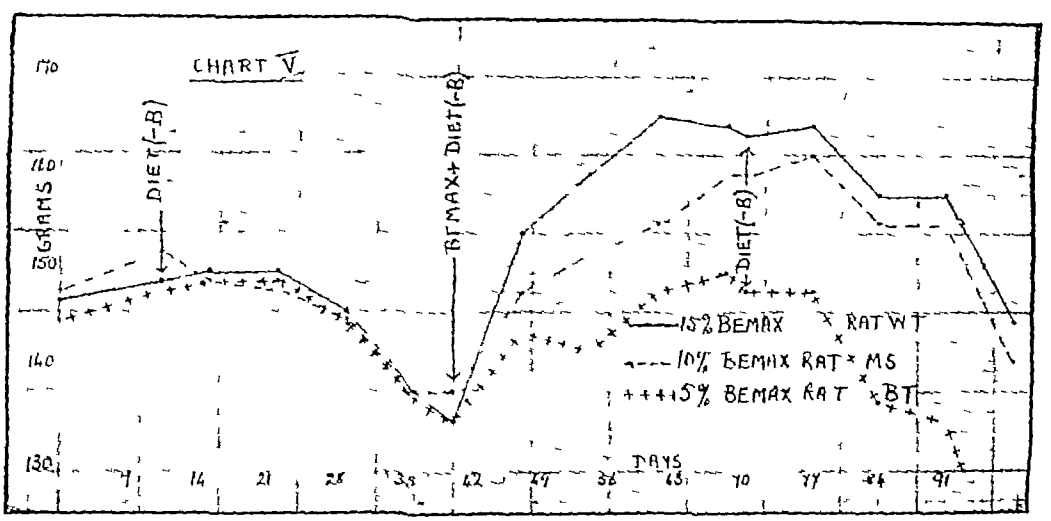


Chart showing result of adding 15% 10% and 5% of Bemax to Vitamin B deficient diets of animals.

It will be noted from the chart that the rate of fall in weight was approximately the same in each case

The growth curve of rat W T is shown in the chart by the unbroken line, that of rat M S by the broken line and that of rat B T by the line of crosses.

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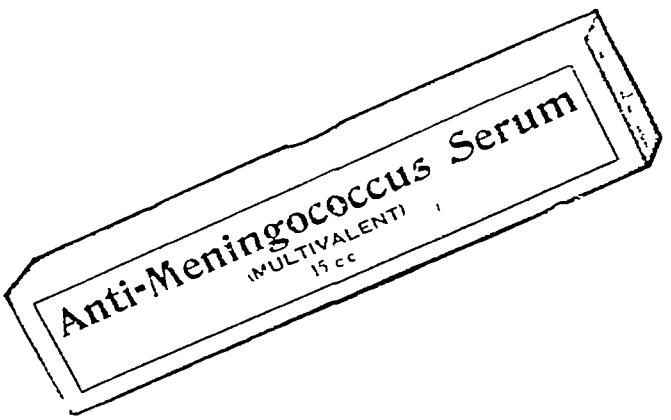
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Observations on THE TREATMENT OF CONGENITAL DISLOCATION OF THE HIP*

BY

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A discussion of the treatment of congenital dislocation of the hip naturally resolves itself into a consideration and comparison of manipulative methods and open operations. It is barely thirty years since this disability was generally recognized as having been emancipated from the list of affections regarded as incurable. Prior to that time, once the diagnosis had been made, and the nature of the condition explained to the parents of the child, or to the patient himself, if old enough, the surgeon dismissed the case feeling that all that was possible had been done. Then came the quickening of interest and kindling of hope which resulted from the work of Lorenz, followed by the universal adoption of his manipulative method, the inevitable evolution of various modifications and improvements, and the development of open operations to be applied in cases which resisted manipulation, until to-day it may be said of this recently hopeless disability that, given an early diagnosis, anatomical and functional cure should be the rule and failure the exception, while even old and neglected cases are by no means quite beyond help.

Manipulative reduction is undoubtedly still the method adopted by the majority of surgeons in treating young patients, and sometimes those who are older. The original technique of Lorenz is still largely used, although many prefer one of the various modifications, the Denucé method being probably the most popular among those who have mastered it. Although statistics of the results of manipulative treatment present such extraordinary variation as to be largely valueless, there seems to be abundant evidence that in the hands of experienced operators a large proportion of the cases in young children can be permanently cured by manipulative methods.

When Lorenz first made his triumphal tour of American clinics I had the privilege of seeing him carry out his method on several patients, and the demonstration was striking and convincing. Full of enthusiasm I returned home, and immediately applied my newly acquired knowledge in the case of a girl, aged 3, with dislocation of both hips, a perfect anatomical and functional cure resulted. Unfortunately, however, this encouraging initial success was followed by a series of failures and incomplete cures, with only an occasional really satisfactory result, and I soon came to feel that a most uncomfortable uncertainty dogged my efforts to treat this disability. Diligent inquiry among some of my orthopaedic friends, and examination of cases treated by them, convinced me that their experience closely resembled my own.

My conversion to the open operation came in 1904, although for several years after that I employed it only occasionally and with misgiving born of inexperience. In June, 1904, the late Dr. Harry M. Sherman of San Francisco read a remarkable paper in which he advanced what seemed to me an unanswerable line of argument opposing manipulative reduction, and favouring arthrotomy as the routine treatment. I wish to quote at some length from Dr. Sherman's paper:

"As regards the manipulative method *I am sure that Lorenz* told the whole truth when he stated that the obstacle to reduction was the narrowed part of the capsule at the posterior and superior or superior part of the *acetabular rim. If the* opening at this narrowed part is big enough *to permit* the head to pass reduction can be accomplished by manipulation and may be maintained *if* the acetabulum is deep enough. I have in two instances done this. I know but in the twenty-eight hips in which I have done arthrotomy and in which I have explored the narrow part of the capsule by my finger and so know its size and the strength of its walls, there has been but one case in which the passing of the head would have been possible. *I am not too dogmatic when I say* that no possible force could have put the femoral head through the narrow part of the capsule *in any* of the other cases. One possibility and twenty-seven impossibilities! Now what happens when attempts are made to accomplish this impossibility? Lorenz has reported plenty of fractures of the femur and one each of pubis and of *the ilium* and other operators have done the same.[1] Lorenz reports seven cases of paralysis out of four hundred odd operations but Taylor[2] looking carefully for the condition, finds eleven cases in less than fifty operations by various *operators* including I believe Lorenz himself. My own contribution to the casualty list is the report of a case of Lorenz's own of rupture of the capsule of the hip-joint distal to the constriction *and the thrusting* of the femoral head out among the muscles of the thigh. While only one case was shown we have had this accident still from the similarity of the clinical conditions I believe another had it and it is not in the least impossible or improbable that it occurs in very many cases especially in the class called anterior transposition. Finally on all sides one finds the absurdity of the term bloodless pointed out and the reference to the lacerations of the *muscles*, the extravasations of blood and haematomas. And last of all Lorenz has reported one case of gangrene of the whole lower extremity. These accidents must make anyone who is not an enthusiast or a special pleader stop and think. One must say that to justify the exposure to such risks the percentage of successes anatomic and functional must be high so that the benefit may in the opinion of all outrank the possible harm. What is the percentage of successes? From what we have seen of the Lorenz results scattered between Boston and San Francisco we cannot believe that he ever really got good anatomic results in about half of all his cases.

Even if it be granted that Dr. Sherman presented an extreme view, and that his criticism of Lorenz's results was based in part upon the unwise application of the manipulative method to unsuitable cases, the essential fact brought out by him is that the entrance to the acetabulum is too constricted to permit the head to pass through it. I have personally verified this many time. But if Sherman's contention be true how are we to account for the fact that so many undoubted cures are brought about by manipulative methods? In my opinion in nearly all cases treated by manipulation the head does not at the time of apparent reduction fully enter the acetabulum, *nothing intervening between the cartilage covering the* head and the cartilaginous lining of the acetabulum. I believe that a wall of soft tissue is pushed before the head, and that this gradually disappears by pressure absorption during the prolonged retention in the abducted position, which forms such an essential part of the after-treatment of these cases.

I have long felt that the objections to the open operation do not rest upon a sound foundation. The word "bloodless" so frequently applied to manipulative methods is captivating, but to anyone who has seen the enormous haematomas which so frequently attend the Lorenz method this term makes no very convincing appeal. Then it must not be forgotten that almost overnight the Lorenz method of treatment was eagerly and universally adopted by the profession as the solution of the problem of treating these hitherto incurable cases, and treatment by manipulation soon became an established tradition, with the result that comparatively few surgeons have gained any extended experience with the open operation. Again we must remember that thirty years ago orthopaedic *surgery in general* was much more the mechanical and manipulative department of surgery than it is to-day. *Few indeed of the orthopaedic* specialists of that time were trained operators and as the great majority of congenital dislocations came into the orthopaedic *department* manipulative reduction was practically the only method of treatment attempted. As I have said *on other occasions* each worker in the field of the open operation for this condition has been more or less a pioneer because the almost universal employment of manipulative methods has left the open operation largely without either teachers or students. Because manipulative methods produced results which were on the whole an enormous advance over the impotence of the era when these cases were classed as incurable, there developed too

* Made in opening a discussion in the Section of *Orthopaedics* at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

general a feeling that both patient and surgeon should be congratulated even if results were often far from ideal At the present time, given hospital facilities of the highest type, a surgeon to whom absolute asepsis has become a confirmed automatic habit, and who has acquired the necessary experience with this particular operation, it should be almost as safe as a tenotomy, and as likely to result successfully as an osteoclasis for bow-legs or an osteotomy for knock-knee, provided that one other factor is present That factor is that the patient must be from 20 to 36 months old, and must never have been previously treated by manipulation It is at this point that I come into conflict with many if not most of those who perform the open operation in certain cases I believe the general teaching is that open operation should be held in reserve as a last resource where manipulative reduction has failed I have always contended that such teaching is not merely wrong, but mischievous The powerful grip with which traditional teaching holds the profession in regard to this particular surgical condition is well illustrated by a statement which occurred in a paper published in the *Lancet* about ten years ago by Mr A H Tubby He says

"No matter what the age of the patient may be, no resort is made to open operation until every effort has been made to reduce the dislocation by the manipulative method In one instance, no fewer than eight such unsuccessful attempts were made Portions of the adductors had been excised, extension had been tried by heavy weights for several weeks, traction by pulleys up to the danger point had been used, and even when the trochanter major had been pulled down one inch below its normal position we found that flexion, hyperextension, abduction, circumduction inwards and outwards were all unsuccessful"

Such persistent unsuccessful efforts at manipulative reduction before resorting to open operation not only accomplish no good, but do great harm, and bring the open operation into undeserved disrepute Tissues which have been bruised and scarred, and that have had their power to resist infection lowered by the traumatism inseparable from such unwise manipulative efforts, do not afford an inviting field for subsequent cutting operations, and cannot function as satisfactorily after the operation as tissues which have not been treated so unkindly

In a young child the exposure of the hip by the Sprengel or Smith-Peterson approach is a simple procedure, and can be carried out rapidly and with little or no shock to the patient Once the capsule has been opened and the constricted portion enlarged, reduction can be accomplished with almost no traumatism Further, with the limb rotated inwards and maintained in moderate abduction of from 40 to 60 degrees, the head is so deeply buried in the acetabulum that with the most ordinary care there is no tendency to redislocation during the closure of the wound When a plaster dressing has been properly put on, recurrence is practically impossible, no matter what position the patient is placed in *In my opinion, the actual* traumatism is less, not more, in the average case, than when the manipulative method is employed

Other things being equal, it must be granted that if a congenital dislocation can be reduced in a few minutes by an easy manipulative procedure which requires no elaborate surgical technique, it should be chosen in preference to an open operation which demands perfect asepsis, and which should never be attempted except by a highly trained surgeon But are other things equal? Denuce teaches that his patients must not be allowed to begin walking until about one year has elapsed from the time reduction was effected, and he appears to regard as essential an elaborate course of after-treatment extending over many months, and even as long as two and a half years Contrasted with this, after the open operation in children, walking in the plaster is encouraged within a month, and the plaster is abandoned and no treatment considered necessary after five or six months Indeed, I believe the plaster could be removed with safety and all further treatment dispensed with much earlier in most cases, but I have not felt justified in taking chances in order to discover the minimum safe period of after-treatment It is highly undesirable to keep the pelvis of a growing child enclosed in plaster for a year if half that period will suffice The extended period of after-treatment insisted upon by Denuce and others is not only an objection in itself, but I think it lends support to my belief that cure by any manipulative method can be brought about only by pressure absorption of capsular tissue, which more or less completely blocks the entrance to the acetabulum In other words, reduction by manipulation is usually at first incomplete, and it becomes stable only after the capsular tissue pushed before the head has disappeared On one occasion I performed the following experiment I reduced the hip by manipulation, and immediately took an x-ray picture The head was opposite the acetabulum, but not deeply within it I then performed an open operation and took another picture, which showed the head much more securely related to the socket

It is granted that the open operation should never be attempted except by trained surgeons who can operate under conditions such that the failure of any link in the chain of asepsis is practically impossible, but if this be an objection, it applies equally to many other surgical procedures, and should not deter the surgeon who has learned to have confidence in himself and in the environment in which he operates

The objection sometimes raised to undertaking early treatment, even by the manipulative method, is the difficulty of keeping the plaster from becoming soiled, but this is a less serious problem to ingenious and conscientious nurses than to those who study to escape any avoidable trouble or exertion At any rate, in my experience, it does not offset the greater ease with which reduction can be effected in younger patients While I operate on children as young as 19 or 20 months, it may be stated that from 2 to 2½ years is perhaps the ideal age In a general way, the operation becomes more difficult and uncertain as age advances, but there are exceptions to this rule It may be anything but easy in a child aged 4 or 5 On the other hand, in the exceptional cases where the hip is lax and the head can be moved up and down on the ilium to a considerable extent, reduction may be quite easy in a patient aged 10 or 12 In children aged 3 years or younger who have never been subjected to manipulation, the ligamentum teres is usually intact, and is an important guide in locating the acetabulum In older children and in those who have been subjected to a previous manipulative effort the ligamentum teres may be absent, or, if found, detached from the head and curled up in the socket Exceptionally I have found the ligament so voluminous as to occupy too much space in the acetabulum, interfering with the deep burying of the head which is so desirable, and, on this account, I have occasionally detached it and removed a large part of it Sometimes even in the younger children the acetabulum is found so shallow, or its roof so sloping, as to jeopardize the result When this condition is encountered, a wide chisel curved on the flat is driven almost horizontally into the ilium to the depth of about three-quarters of an inch, just above the upper rim of the acetabulum, and after prying down the roof of bone thus loosened, bone chips cut from the ilium are wedged into the gap created by the chisel The same procedure has been adopted with complete success at a second operation in a few cases where the shallow condition of the acetabulum had permitted redislocation to occur

Before dismissing the matter of treating congenital dislocation in young patients, reference should be made to a recent article by Dr Charles H Jaegar of New York He pleads for earlier diagnosis, and describes a new and simple plan of treatment which he claims can be used successfully in infants as young as 3 or 4 months His article, which appeared in *Surgery, Gynecology and Obstetrics*, April, 1930, is illustrated by some striking x-ray pictures of two cases, one set of pictures being those of a child of 7 months old when treatment was begun, while the other patient did not come under his care until the age of 2 years and 7 months Jaegar argues that the shallow condition of the acetabulum is caused by pressure of the dislocated femoral head against its upper rim during the first months of life when growth and development are very active, and that this pressure prevents the normal development of the acetabulum He states that removal of this pressure is promptly followed by development of the upper rim, and points to his x-ray pictures as proof His

plan of treatment is as follows The child is placed in a long hip splint of rustless steel This splint consists of two circular bands to fix the pelvis and chest, and two lateral bars to support the legs The lower ends of the bars are furnished with a foot plate and leather anklet, the function of which is to maintain a mid position of the leg as regards inward and outward rotation The long outer bar is bent to fit the patient with the lower extremity abducted to 45 degrees Gradual reduction is accomplished by an adjustable pad pressing downward and inward on the trochanter this pad being controlled by a wing screw about one and a half inches long In his first case the splint was worn for eight months In the second and older patient it was discarded in a little over four months He considers three months sufficient Weight bearing is not permitted during the treatment and he challenges the theory that functional weight bearing is necessary for deepening the acetabulum. He claims that x-ray pictures taken at *frequent intervals show unmistakably* that the upper rim of the acetabulum begins to develop rapidly as soon as the pressure of the head against it has been removed and he suggests that the damage to the head seen so regularly in later years in cases treated by other methods may be due to the fact that the soft cartilaginous head is supposed to pound out a hollow in the harder socket



Treatment of Older Patients

Granting that congenital dislocation of the hip is usually curable in young children the problem of successful treatment in older patients remains a formidable one Inasmuch as I never attempt manipulative reduction at any age, it is only natural that I should protest against attempts at manipulative reduction and plead for some form of open operation in all patients who have passed the early favourable period To me it seems altogether unjustifiable to use the amount of force so often employed, and especially to subject the patient to repeated attempts at reduction after the first efforts have failed

Starting from this point my discussion of the subject narrows down to a consideration of the kind of open operation to be chosen after the favourable early period has passed. In my opinion actual reduction of the head into the acetabulum may be attempted by much the same method as I employ in children in any patient irrespective of age provided the case be one of those exceptional ones where the hip is lax and *where the femur moves up* and down until its upper limit is within a short distance, say one inch or less, of the roof of the acetabulum

Preliminary traction, advocated by some writers is practically valueless in my opinion, unless it be applied directly to the skeleton, and even then its advantage is doubtful There is however, a little-known method of using traction which I employ regularly in fractures of the femur which may reasonably be expected to yield some result, if continued for several weeks This method was originated by Michael Hoke of Atlanta, Georgia U S A Into a short plaster spica, which surrounds the pelvis and upper part of the thigh on the injured side, are incorporated the side bars of what is practically a Thomas splint minus the ring The thigh portion of the plaster is *little more than a wide collar* and its upper edge must not come within a couple of inches of the perineum The plaster is also carried down on the opposite extremity so as to include the foot which is placed at right angles to the leg In treating fractures of the femur in young children the usual adhesive strips may be used, but skeletal traction is preferable in older children and adults, and in applying this method to congenital dislocation, skeletal traction is indispensable Callipers may be used, but my personal preference is for a pin passed through the femur just above the condyles The degree of traction can be accurately controlled by a butterfly nut arranged on a screw, as shown in the illustration The plaster is applied over very abundant padding so that it fits the patient's body and limbs loosely As soon as traction is applied, it tends to push the whole plaster dressing up on the patient's body but the plaster cannot move upwards owing to the inclination of the opposite limb Thus perfect resistance is provided and all counter-pressure comes against the broad sole of the foot a surface which is not only adapted to pressure but accustomed to it instead of being secured by the ring of a Thomas splint pressing against surfaces not so well adapted to pressure The pin through the bone if aseptically introduced, causes neither trouble nor pain Whether we use or discard preliminary traction there are other aids to the descent of the femur division of the iliopsoas, and subcutaneous section of the adductors and of the ilio-tibial band, may also assist in getting the head near or opposite the acetabulum, it *may then be "shoe-horned"* into place

In the cases where there is little movement of the head on the ilium, and the head is not within easy distance of the acetabulum, it will usually be better to abandon any attempt at *actual reduction and adopt some method which will* increase stability and improve function by giving support to the head when the patient places his weight on the dislocated limb The effort actually to reduce the head into the deformed acetabulum in cases where it is riding high on the ilium requires so much force and is attended by so much traumatism—to say nothing of not being exempt from actual danger—and so often results in a hip which is largely or altogether stiff sometimes with added flexion and adduction deformity that functionally the patient may be little better or even worse off than before The method of turning down a generous layer of bone from the ilium and wedging it in this position with bone chips cut from the crest of the ilium so as to form a good roof over the head is probably the simplest and safest compromise that can be devised

A most ingenious operation has recently been proposed by Hey Groves Briefly, this consists of reaming out a new acetabulum on the ilium and then, after detaching the capsule from its pelvic attachment and sewing it over the head of the femur, implanting the head covered by the capsule into the newly formed socket. The outside of the capsule grows fast to the new socket forming a most satisfactory lining and as the interior of the capsule is furnished with synovial membrane this method creates a new articulation having all the elements of a stable and movable joint This new operation has to stand the test of further experience, but it is one of those surgical procedures which appear to be sound and reasonable

I have had *no experience with the bifurcation operation* described by Lorenz It has always seemed to me wrong in principle nevertheless, many surgeons have reported so favourably regarding the improved function brought about by this procedure that it must be accepted as one solution of the problem of dealing with this deformity in adults In these old neglected cases anatomical cure is rarely if ever obtained and any method which promises improved function and lessens disability must be welcomed The Lorenz operation has the merit of great simplicity and relative freedom from risk and in view of the good results reported by many surgeons and the ease and safety with which it can be performed it may come more and more generally into use

The most difficult problem of all is furnished by the bilateral adult case Hey Groves has made an arresting suggestion in this connexion He says

> The main reason which makes the bilateral case come for treatment is pain. This will be relieved if one side can be reduced even though the side becomes almost ankylosed But

if one side is reduced and the other left, the patient will have legs of such an unequal length that she becomes more lame than ever This difficulty may be overcome and the operation of reduction made much easier by the following device The femur is exposed through an anterior incision, and cut through transversely just below the small trochanter The upper end of the femur can then easily be brought down, and turned with the head into the new socket After this has been done, the two ends of the femur will be overlapping by two or three inches This overlapping part is cut off from the distal portion, and the divided femur united over a bone peg When the patient has recovered from this operation, she will have the two legs of the same length, and, whether another operation is done or not, she will be quite freed from pain, because on one side the body weight will be transmitted directly on to the femur In actual practice, the only patient for whom I have done this is now at full work as a factory hand, and has not thought it worth while to have her second hip operated upon."

If it be true, as Hey Groves says, that once the femur has been divided transversely just below the small trochanter the upper end of the femur can easily be brought down and turned with the head into the socket, why not employ this method even in unilateral cases? It would seem to dispose at once of the problem of getting the head low enough to effect reduction, and thus other means of overcoming the obstinate resistance to the descent of the head, such as preliminary traction and division of resisting soft parts, could be dispensed with The objection that in unilateral cases there would still be inequality in the length of the limbs could be overcome by performing a second operation to shorten the limb on the unaffected side To me it seems that the suggestion made by Hey Groves possibly puts the whole subject of dealing with the older cases on an entirely new basis

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BACILLUS COLI INFECTIONS.*

BY

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EVERY clinician who works with children must be well acquainted with *Bacillus coli* infections of the urinary tract because the condition is a common one, especially during the earlier years, but as pyelitis can only be diagnosed with certainty by an examination of the urine it is difficult to form any estimate of the exact frequency of such infections The symptoms are often misleading, so that the urine is not examined, and in less severe cases the diagnosis must be missed many times for each occasion on which it is correctly made The unwary and the inexperienced, who have not pyelitis in mind and who neglect to examine the urine of small children, must fail to identify the infection, even the watchful and experienced do not always find the diagnosis easy, for the collection of a satisfactory specimen of urine may take days even under the best conditions in hospital In dealing with girls a catheter specimen is essential, since there is a great risk of contamination of the urine passed naturally, the difficulty of collecting a sample of the urine of male babies is less, but may require both skill and patience What is difficult in hospital is but seldom attempted in general practice, and here it is quite exceptional to find that the urine of a small child has been examined

The typical urine is pale and opalescent, the appearance being unaltered by the addition of acid or alkali, there is at least a trace of albumin present, and under the microscope pus and *B coli* are seen But there may be no such gross bacilluria as to produce opalescence, and the quantity of pus may not be great, so that to naked-eye examination the urine appears normal In such cases a correct diagnosis can only be made by a careful microscopic examination It is hardly necessary to add that a culture of a fresh specimen of urine is always advisable

*Read in opening a discussion in the Section of Diseases of Children at the Annual Meeting of the British Medical Association, Winnipeg, 1930

During recent years the whole subject of urinary infection has been invested with a new interest since Chown and others, working from the pathological aspect, raised important questions of the etiology and pathology of the condition These questions are of more than academic interest, for if the pathologists are correct, the clinician must revise his ideas of both etiology and pathology, and will probably have to modify his prognosis and treatment

Clinical Aspect

This infection may occur as early as the first week of life indeed, some cases have recently been labelled congenital It becomes more common at a later date, and only begins to diminish in frequency after about the eighth year In the earliest cases boys and girls seem to be almost equally affected, but at the age of 1 year the girls already outnumber the boys, and as the years pass the preponderance of girls increases These facts are pretty well established clinically, although the more recently published figures suggest that the incidence among boys is not so much less than among girls Authors differ considerably in their estimates of sex incidence

The figures from the Birmingham Children's Hospital show under 2 years, 47 cases, boys 7 (17 5 per cent), girls 40 (82 5 per cent), deaths 7 (all girls) From 2 to 12 years, 70 cases, boys 18 (25 7 per cent), girls 52 (74 3 per cent), deaths 2 These figures deal with the diagnosed cases—probably the more severe cases which needed hospital treatment, even in these more severe cases the mortality is only 9 in 117, or 7 7 per cent

Chown has made interesting suggestions to explain the disproportionate number of girls He says that the diagnosis of pyelitis, and its inherent suggestion of an ascending infection, renders girls more often suspect, so that their urine is more often examined than that of boys in whom the condition is not expected Further, since a girl's urine is liable to contamination from infections of the vulva, etc, a number of spurious cases of pyelitis are added to the real ones, and so the number of cases occurring among girls increases, while in boys whose urine is unexamined the condition is missed It is hardly likely that such mistakes can have affected my figures much, because the staff of a children's hospital are alive to the fallacies as well as to the facts of urine examination in children, and the urines to be examined are almost invariably catheter specimens, at least in girls

Symptoms

Cases may be classified as acute, subacute, or chronic The acute case often commences with a rigor or convulsions and high fever, and general disturbance which may be so severe as to suggest meningitis or pneumonia, the child is obviously ill Sometimes vomiting or gastro-intestinal disturbance is a marked feature In slightly less abrupt cases headache, backache, and general illness may suggest a typhoid or some similar infection These acute symptoms are relatively common in the younger children and make the diagnosis particularly difficult and uncertain until the urine has been examined

In older children the symptoms of pyelitis tend to be less puzzling, and constitutional disturbance is generally less severe An abrupt onset is still common, but in the majority of these cases there is some local symptom, such as tenderness in the loin, frequency of micturition, or some discomfort in passing urine to point to the correct diagnosis Still, many cases are obscure at the onset, and where vomiting is a feature the child may present the picture of a profound acidosis when first seen At times an increased respiration rate may suggest pneumonia Malnutrition and anaemia may set in rapidly, and occasionally jaundice complicates the diagnosis Malaise, rather vague aches and pains, and moderate fever may suggest rheumatism, or abdominal discomfort and tenderness may lead to a mistaken diagnosis of appendicitis or abdominal tuberculosis Indeed, there is scarcely any mistake which cannot be made in regard to these children

Many of the chronic cases show surprisingly little constitutional disturbance The patients are, perhaps, restless, imperfectly nourished children, who tend to be nervous,

but they are brought up for consultation on account of symptoms apparently wholly unconnected with the urinary tract so that as a rule it is only during the search for the cause of their troubles that the infection is discovered Fever may be absent or very slight in such children, and apart from the general lassitude and malaise with anorexia and some pallor there are no definite symptoms The subacute cases generally occur among children who show periodic exacerbations of a latent infection recurrent upsets which may appear with attacks of vomiting simulating cyclical vomiting or periodic bouts of fever the cause of which remains obscure until pus and *B coli* are found in the urine

Treatment

The general rule is that patients having acute symptoms do well at all ages under strict treatment, but a certain number of those affected either fail to respond at all or only respond moderately well and gradually fall into the subacute or chronic groups In the less acute groups the cure is much more difficult and treatment has to be more prolonged In some instances the most painstaking treatment seems to be utterly unavailing and nothing has the slightest effect upon the urine for the bacilluria persists unchanged in spite of every form of therapy Some cases show evidence of renal damage, such as the presence of casts in the urinary deposit, a raised blood urea, or a poor urea concentration test In such cases the prognosis is not at all good, for sooner or later they develop signs of renal inadequacy or cardio-vascular damage

There seem to be three important requisites in the successful treatment of all cases needless to say the earlier the diagnosis is made and correct treatment commenced the better the outlook The first requisite is rest in bed until the condition of the urine is normal Children generally relapse if allowed to get up and run about before bacilli are completely abolished from the urine They may relapse after the urine has become normal, but are certainly less likely to do so if kept at rest until it has become free from bacteria The second requisite is alkali, this should be given in plentiful doses as sodium bicarbonate or potassium citrate These drugs are not palatable, and should be made at least tolerable by the addition of syrup and some flavouring agent The bicarbonate may also be added to drinks, and the citrate given in moderate quantity in home-made lemonade is not objectionable No degree of alkalinization can completely inhibit the growth of *B coli* in the urine since the organism will grow in a more alkaline urine than the kidney can excrete Wright states that *B coli* grow in urine of *p*H 9 0, and the most alkaline urine the kidney can excrete has a *p*H of 8 6 For some years I have been in the habit of maintaining a constantly varying *p*H of the urine by alternating alkaline and acid medication The alkalis are given in as large doses as the child will tolerate until the urine is definitely alkaline then a mixture containing hexamine and acid sodium phosphate is used until the urine becomes acid, at which point alkalis are again exhibited This treatment has the advantage not only of discouraging the colon bacillus but also of diminishing other urinary organisms I do not place any great faith in hexamine but prolonged usage has given it some reputation and it seldom does harm The third point in treatment is the flushing of the kidney by a large fluid intake Fortunately most of the small patients are eager to drink, and this readiness should be used to give as large a quantity of fluid as possible even a small child should take fifty to sixty ounces of fluid a day and more can sometimes be given Various urinary antiseptics are recommended hexamine salol, and hexyl-resorcinol are those most commonly taken by the mouth, while the usual lengthy list of antiseptics may be tried locally Good results seldom follow such measures Vaccines occasionally seem to be useful but far more often prove disappointing

The chronic case and the recurrent case present special difficulties in treatment and it is still an open question how far one ought to go in attempting to eradicate the infection McKann writing in the *American Journal of Diseases of Children* points out that 20 per cent of children with chronic pyuria show some abnormality of the urinary tract The most common deviation from the normal are dilatation of the ureters or kidney pelvis and kinking or doubling of the ureter on one or both sides He suggests that these abnormalities have a special relationship to urinary infection such that the abnormality either predisposes the tract to infection or that a fortuitous infection persists because of the abnormality Bigler, in 153 consecutive post-mortem examinations of children in which particular attention was paid to the urinary tract found no less than 13 per cent of abnormalities Curiously enough the commonest abnormality was ureteral narrowing or obstruction which occurred in 11 cases In this series of 20 cases only four patients died as a result of urinary tract infection and as the eldest of these was only 6 weeks old congenital abnormalities can hardly be said to have played a large part in predisposing to urinary infection in this series On the other hand there is no definite evidence here for or against the suggestion that abnormalities favour the persistence of acquired infections In the present state of our knowledge, then it is essential that every effort should be made to discover any abnormality of the urinary tract in any case of chronic or subacute pyelitis in order that the abnormality may be corrected if possible or the prognosis modified accordingly

A child with recurring attacks of pyuria who has a double dilated ureter and kidney pelvis can only be regarded as most seriously ill On the other hand a single hydronephrosis with a double ureter, provided that the sound kidney is functioning normally can be treated surgically with a reasonably good hope of a definite cure It is therefore advisable to have a cystogram taken in all chronic cases, and to make a cystoscopic examination in such as are unsatisfactory or doubtful as well as in the definitely abnormal Pyuria is often associated with bowel infections and occasionally with a chronically inflamed appendix These conditions should receive appropriate treatment

Pathology of the Condition

Interesting pathological studies have been published by Chown and by Wilson and Schloss their papers being the result of post-mortem examination of children with urinary tract infections Chown's paper was based on material collected at Johns Hopkins Hospital for the years 1911 to 1924, and deals with 29 cases Wilson and Schloss took twelve years to collect the 49 cases on which their base their paper These details are of some importance since we are not told the number of clinical cases which produced the pathological material The conclusions reached in both papers are similar—namely that pyelitis is a misnomer that pyuria is due to an interstitial suppurative nephritis, and that careful examination of the kidney pelvis generally fails to show any evidence of pyelitis

The types of cases studied by these authors are identical and are instances of severe septicaemic conditions In Wilson and Schloss's paper there are no fewer than 7 cases of meningitis 14 of pneumonia 3 with empyema 2 with otitis media 11 of acute infective enteritis and many of the cases combine one or more of the above condition These cases are obviously general blood infections of the most severe nature It is doubtful if the *B coli* which appeared in the urine was the original invading organism and indeed it seems probable that the organism was a secondary invader if it ever reached the blood stream The same may be said of those somewhat uncommon and most curious cases of pyelitis associated with jaundice reported by Gorter and Lignac

Helmholz has done some extremely interesting experimental work with rabbits He finds that spontaneous *B coli* infection of the urinary tract occurs in these animals that the bladder is primarily infected and hence the rest may be an extension of the infection producing a pyelitis or pyelonephritis On the other hand if colon bacilli are injected into the blood an entirely different pathological picture appears for under these conditions kidney abscesses may result, the bacilli being found equally distributed through both ureters and the bladder He finds that the bladder is never infected unless the ureters

are infected, the ureters are never free from *B coli* if the bladder is infected In the spontaneous infections, by tying off the bladder and ureters separately, Helmholz has shown that the bladder is often infected, while one or both ureters are free from infection, and that although pyelitis and pyelonephritis may appear, kidney abscesses do not occur in the spontaneous infection

It seems worth while to turn from the consideration of children to review briefly *B coli* urinary infections in adults After puberty such infections are far less common than in childhood, and a marked disproportion exists between the sexes In men, apart from calculus, prostatic abnormalities, and urethral stricture, *B coli* infections of the bladder or ureters are rare In women, on the other hand, the *B coli* infection is by no means uncommon The associated conditions are pregnancy, gynaecological operations, the trauma of the honeymoon, and long periods of retention such as may occur on long car or railway journeys

Further, such infections—provided that the infecting organism is the *B coli* only—produce but little upset, and are probably frequently missed The facts of this brief statement seem to point very definitely to an ascending rather than to a blood infection, and support the clinical finding of children's physicians that pyelitis is generally an ascending infection with a correspondingly greater incidence in girls If these infections (*B coli*) were blood-borne, then men would be not less susceptible than women, and evidence of disturbance in other organs of the body would be common and not infrequently severe

Certain figures have been obtained from the Children's Hospital in Birmingham Starting from the year 1925 117 consecutive and unselected cases of pyelitis were taken with the object of tracing the children, re-examining them, and determining as far as possible their present condition In this way it is hoped to throw some light on the etiology of the condition

Age	No	Male	Female	Average Age	Acute Cases	Died
0 to 2 years	47	7	40	1½ years	33	7
2 to 12 years	70	18	52	6½ years*	31	2

* The average age among boys was 7¼ years

Of the seven deaths that occurred during the first two years all were in girls Three were cases of pyelonephritis, one had kidney abscesses, one pneumococcal septicaemia, one infection of a congenital hydronephrosis, and one pyelonephritis and thrombosis of the left renal vein This death rate (9 in 117 cases) is 7·7 per cent, or 3 per cent in patients over 2 years of age It must be remembered that these figures are taken from those ill enough to be admitted to a hospital, which suggests that many milder cases occur which do not need admission, and that therefore this is a higher death rate than the real mortality of all cases of pyelitis On the other hand, several of the chronic cases showed evidence of nephritis while in hospital—the presence of tube casts in the urine, raised blood urea, or a poor urea concentration capacity The cases in the above series are being followed up to determine the present condition of the children It is proposed to examine the urine, the renal function, and the cardio-vascular systems

Conclusions

As a clinician I am familiar with a *B coli* infection of the urine, a condition which is frequent in children, commoner in girls than in boys, appearing in acute, chronic, and recurrent forms, but which is relatively seldom fatal This condition has been called pyelitis, and although I am not in a position to prove that it is always a pyelitis, I feel that I can prove that it is not always part of a septicaemia or evidence of a nephritis

It seems that the pathologist has experience only of a selected group of patients out of the many who have *B coli* infections of the urinary tract—the more severe cases which are septicaemias, and in which the colon bacillus is seldom if ever the primary infecting organism It is hardly likely that a severe septicaemic condition in children, with renal infection and possibly abscess formation, could have a mortality as low as 3 per cent after the age of 2, and it is significant that the collection of 78 post-mortem records took no less than twelve years at two large children's hospitals, whereas, clinically, *B coli* infections are common

I am deeply indebted to Dr A V Neale for the work he has done in following up cases and in getting out the original figures for cases of pyelitis at the Children's Hospital, Birmingham

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BACILLUS COLI INFECTIONS.*

BY

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IT is a curious coincidence that just twenty years ago, at the seventy-eighth Annual Meeting of this Association, held in London in 1910, one of the subjects for discussion was "Infections of the urinary tract by *Bacillus coli* in infancy and childhood"[1] Whether it was by accident or by design that the subject of the present discussion, "*B coli* infections in infancy and childhood," was chosen I do not know, but it will be of interest to compare the views prevalent in 1910 with those current to-day—twenty years after It is perhaps significant that, whereas in 1910 the discussion was opened by a physician (Dr Box) and a surgeon (Mr Paidoe), this year the duty has been entrusted to a physician and a pathologist, which may be interpreted to mean that to-day the pathologist is called upon to take a larger share in the diagnosis than was formerly the case, but there is no doubt that the urological specialist can help very materially by cystoscopic examination and ureteric catheterization in clearing up these occasionally obscure cases

One of the most commonly recognized diseases of infancy and childhood, which is generally held to be due to, or to be associated with, the *B coli* in the majority of cases, is pyelitis, and it is a coincidence that Escherich, who discovered and named the *B coli communis* in 1885, is generally credited with having introduced the concept "pyelitis" as a clinical entity into paediatrics in 1895 This statement is from Chown's paper—"Pyelitis in infancy"[2]—but, as Chown points out, Escherich's cases of pyuria occurred in older girls, from 7 to 9 years of age, and were not cases of the so called pyelitis of infancy which are held to occur with greatest frequency in children of under 2 years of age It was Finkelstein who in 1896 drew attention to the condition in infants, and who concluded from his observations that the lesion was a primary pyelitis From that time onwards the existence of a primary pyelitis has been recognized by clinicians, and has gone unchallenged until recent years There is no doubt about an infection of the urinary tract of which patho-

* Read in opening a discussion in the Section of Diseases of Children at the Annual Meeting of the British Medical Association, Winnipeg 1930.

logical evidence can be obtained by examination of the urine, further, there is no doubt that the causal organism of the infection is the *B coli in the majority of the cases*, but there is little direct evidence, apparently that the lesion is primarily an inflammation of the renal pelvis, and probably it starts as an interstitial nephritis

There are many interesting topics here for consideration and discussion, but I can only refer to some of them

Pathogenicity of B Coli

How comes it that the *B coli*, which is a normal and saprophytic inhabitant of the big bowel from the earliest days of extrauterine life, can become pathogenic?

One is reminded of the well known definition of 'dust' as "matter in the wrong place" When the *B coli* gets into the wrong place (that is to say, when it leaves the colon) it may take on noxious or pathogenic properties I need scarcely remind you that *B coli* has active fermentative powers on sugars alcohols, etc, and in particular that it ferments lactose with the production of acid and gas the pathogenic intestinal organisms such as the *B typhosus B paratyphosus* A, B and C, the Shiga Flexner dysentery group of bacteria on the other hand do not ferment lactose and are hence known as non lactose fermenters W J Wilson[3] has recently written as follows

> There is something more than chance behind the fact that the majority of the pathogenic races of the *coli* typhoid group of bacteria are unable to ferment lactose When a micro-organism becomes so definitely pathogenic as to be the causal micro-organism in a definite disease its cultural and perhaps to a less degree its serological characters become fixed In the case of the *B coli group* the members of which are more saprophytic than parasitic there is great variation in their action on sugars and also serologically'

I am personally not in agreement with this opinion, I hold the view that the cultural characters of an organism do not become fixed, but may undergo evolutionary changes, such as occur with all living things and in the case of bacteria these changes may happen in a comparatively short space of time To revert to the *B coli* and its change from a non-pathogenic to a pathogenic condition. Normally in the bowel it is a harmless saprophyte, but in certain inflammations of the intestine the *B coli* has been credited, rightly or wrongly with a pathogenic role, as in cases of *infective enteritis*, and it may certainly give rise to cholangitis and cholecystitis, as well as to appendicitis, pelvic and abdominal abscesses, and to infections of the kidneys and urinary tract In specific infections such as typhoid and dysentery the *B coli* at times seems to acquire pathogenic properties, increasing the severity of the infection or giving rise to complications Can it be that these various pathological conditions are due to different strains of the *coli* group of organisms? For example, the *B coli communior* of Durham ferments saccharose, while the ordinary *B coli* does not, the *B lactis aerogenes* is non-motile and produces a mucoid growth on agar and differs from *B coli communis* in other respects Then again it has been known for a considerable time that certain strains of *B coli* are haemolytic, while others are not Dudgeon, Wordley, and Bartree[4] in 1921 and 1922 made an extensive study of *B coli* infections of the urinary tract in relation to haemolytic organisms Among their conclusions these observers state

1. Two types of *B coli* are met with in urinary infections—haemolytic and non-haemolytic The haemolytic is much commoner in infections in the male (72 per cent) and the non-haemolytic in the female (70 per cent) but as very few children are included in the total of 162 cases studied it would be of interest to find out whether similar results would be obtained in coli infections in children

2. It was unusual to obtain both these types of *B coli* associated in any particular case or for a haemolytic infection to be followed by a non haemolytic or vice versa

3 Haemolytic *B coli* occur in the normal stools of adults and children but with increased frequency in cases of diarrhoea and colitis No evidence was obtained however of direct relationship between the urinary and intestinal haemolytic *B coli* in any particular case.

4 Few positive blood cultures were obtained and in no case was a haemolytic *B coli* obtained from the blood stream in a human subject

5 Living colon bacilli haemolytic and non haemolytic were inoculated in o rabbits without serious ill-effect and [illegible] were not obtained although various strains of urinary and faecal *B coli* were used

6 Some normal blood serums agglutinated *B coli* antigen but a much higher percentage of positive result was obtained with the serums of *coli* cases

Infection of Urinary Passages

Along which route or routes does *B coli* travel from its normal habitat to the urinary passages? There are three possible routes (1) directly via the urethra, (2) via the blood stream, (3) via the lymphatics Let us examine briefly the evidence found for and against these

The Urethral Route

For many years it was held that the infection was an ascending one via the urethra, and the fact that girls suffer much more frequently than boys lends support to this thesis Box, in 1910 adopted this view, of 107 cases to which he refers, 85 occurred in girls—a proportion of nearly 4 to 1 It is a prevalent belief that the so-called pyelitis of infants affects baby girls almost exclusively Chown, Wilson and Schloss,[5] and others, maintain that the disease does not affect little girls so preponderatingly as is generally held, and among the possible sources of error which are doubtless sometimes overlooked are a catarrhal vaginitis itself secondary to some acute febrile condition a specific vaginitis which is usually associated with a urethritis, contamination of the urine with faecal matter, and non-specific vulvo-vaginitis due to worms or some other cause Chown mentions the first three of these possible sources of error and I have myself seen all four operative in different cases

Blood-borne Infections

With regard to infection via the blood stream several years ago I made blood cultures of a number of cases of pyuria and bacilluria in older children with negative results Helmholz and his co-workers have made extended investigation on the filtering action of the kidneys after the intravenous injection of bacteria in a recent paper[6] he has given a summary of these investigations, with various conclusions deducible from them He was able to produce pyelitis in rabbits by both haematogenous and ascending infection so that his experiments are not of much value in determining the probable mode of infection in infancy He found that bacilluria induced by the intravenous injection of colon bacilli does not as a rule, tend to become localized to the bladder once the infection has disappeared from the upper urinary passages Many laboratory rabbits were found to have a spontaneous bacilluria and his observations led him to conclude that in the rabbit the infection is of the ascending type He is of the opinion that in children infections with the colon bacillus take place in the same way

Bugbee on the other hand does not agree that the infection in children is mainly of the ascending type but that as in adults there are two types or infection—namely those in which there is no urinary stasis and others in which a lesion is present which interferes with complete drainage In the type of case without urinary stasis the colon bacillus is the causal organism which Bugbee thinks is produced in very large numbers owing to some intestinal disturbance and then gets to the kidneys via the blood stream The majority of these acute infection[s] clear up rapidly especially if the gastro-intestinal tract is treated at the same time as the renal condition but if they do not and especially if they tend to become chronic or [illegible] investigations should be carried out Wilson and Scholes in their paper already referred to state that the main argument in favour of an ascending infection is the greater frequency of pyelitis in females, but in their series of cases, as in Chown's the difference in favour of females is not so great as it is usually stated to be The anatomical lesions

they describe in the kidneys, which will be referred to later, rather favour a blood-borne infection They also quote Brewer,[8] who, on clinical and experimental evidence, showed that ascending infections of the kidneys always arose from obstruction and stasis In such cases the inflammation was not confined to the kidney tissue, but involved also the ureters and pelvis

The Lymphatic Route

The third possible mode of infection is via the lymphatics In order to explain the more frequent occurrence of right-sided lesions, Franke suggested a direct lymphatic extension from the caecum Chown questions the tenability of this hypothesis, and suggests the possibility of the weight of an enlarged liver pressing on the right kidney, which might lead to stasis and so to increased permeability of the kidney should a bacteriaemia be present Whereas Chown's acute or subacute cases show the frequency of bilateral renal involvement with a tendency to more severe lesions on the right side, John Fraser of Edinburgh found a great frequency on the left side, which he explained by direct extension from the overlying colon Another view is that the infection of the bladder may be direct (in girls), and that it reaches the kidney via the peri-ureteral lymphatics

PATHOLOGY OF THE DISEASE

With regard to the pathological anatomy of the malady, it was originally thought to be a cystitis (Escherich) or a primary pyelitis, with later on a possible involvement of the kidneys (Finkelstein and others) In 1910 Jeffreys,[9] Thiemich,[10] and Forbes[11] all reported cases in which suppurative lesions were present in the kidneys, with, in some cases, a normal pelvic mucous membrane Forbes describes two post-mortem examinations on infants with pyelitis, aged 4 and 7 months respectively, who had suffered from diarrhoea and vomiting He regards these as primarily gastro-intestinal infections, later giving rise to general systemic infection including the pelves of the kidneys and a descending infection of the urinary tract In two other cases with enlarged kidney in which operations were performed, abscesses were found in the kidney substance

More recently, Chown, Wilson and Schloss, Bugbee, Helmholz, and others have emphasized the fact that the commonest lesion in the type of case under consideration is a diffuse interstitial nephritis which may give rise to suppurative foci of varying size, pyelitis may at times be present in addition, and rarely a cystitis This diffuse nephritis would explain the tenderness and pain which is sometimes present in these cases, and which is probably greater than a simple pyelitis could produce It is therefore more correct to call the condition pyelonephritis than a simple pyelitis

BACTERIOLOGY

As regards the bacteriology of the condition, there is no doubt that the organism most frequently isolated from the urine in these cases is the *B coli communis*, either alone or associated with *B proteus* or streptococcus, these organisms may rarely be present alone Other organisms I have encountered in the urine of these patients are *B lactis aerogenes, B pyocyaneus, B coli anaerogenes* (this in the light of subsequent knowledge was probably a Sonne dysentery bacillus), a Shiga-like bacillus, *B faecalis alkaligenes*, and staphylococci The very fact that such a variety of organisms may be isolated from the urine raises a doubt whether these are the actual cause of the disease or merely secondary invaders Certainly in a number of cases the disease appears to follow an intestinal upset and to present itself to the physician in the guise of an acute infection somewhat like a typhoid or paratyphoid fever This may possibly be the stage of bacteriaemia, and it may be that during the process of eliminating the bacteria the kidneys develop the condition clinically known as "pyelitis" Perhaps some anatomical abnormality may be a contributing factor even in the patients who rapidly get well, it is certainly a cause of some of the cases of so-called chronic pyelitis or of a persistent or intermittent pyuria Dr Woolstein in 4,900 post-mortem examinations found congenital anomalies of the urinary tract in 117 (2·5 per cent) Dr Sheldon, registrar at the Great Ormond Street Hospital, has kindly analysed for me 400 recent consecutive post-mortem examinations, with the result that 10 showed similar congenital abnormalities—again a percentage of 2·5 My colleague Mr Oswald Addison, who has for many years made a special study of genito-urinary disease in children, has kindly given me permission to quote some of his cases

CASE I

One of these was a girl, aged 11 years, who was admitted to the Children's Hospital on account of pain in the right loin of three days' duration She had had nine similar attacks since she was 6 years old The urine was acid, and contained many pus cells and *B coli* On cystoscopic examination there was a slight basal cystitis, the right ureter was red and oedematous, the left normal Some weeks later pyelography showed the appearance of hydronephrosis on the right side, and at operation an aberrant artery was found running across the front of the renal pelvis This was ligatured and divided, with the result that when seen three months later the child had had no recurrence of her symptoms, and a catheter specimen of the urine was sterile

CASE II

A similar case, that of a girl aged 8 years, was in Great Ormond Street Hospital under the care of Dr Hutchison in 1923 She had attacks of renal colic complicating a hydronephrosis At the first investigation the urine was sterile, but nine days later streptococci were present but no pus At operation an aberrant vessel found running across the middle of the pelvis was ligatured and divided as in the previous case Several years later a pyelogram revealed the hydronephrosis as large as it was at the operation, but the child had had no more attacks of colic, and the urine was sterile

CASE III

Another case of Mr Addison's was that of a girl with three years' history of acute right-sided colic A hydronephrosis was present, with pus cells and *B coli* in the urine At operation an aberrant artery was found running across the ureter about half an inch below its pelvic orifice to the lower pole of the kidney This was divided, and eighteen months later there were no symptoms and the urine was sterile

Another group of cases in which at different times a diagnosis of pyelitis, renal infantilism, or idiopathic dilatation of the ureters was made has been shown to be due to the presence of a valve-like fold of mucous membrane in the prostatic urethra, resulting in obstruction to the normal outflow of urine Young, Frontz, and Baldwin[12] were the first to draw particular attention to the existence and the effects of this abnormality, and recently Drs Poynton and Sheldon, in a paper entitled "Dilatation of the bladder and ureters in childhood,"[13] have reported a series of 24 cases, many of them with pyuria and infection, in which hypertrophy of the verumontanum, a urethral "valve," or some other congenital abnormality was at the root of the trouble They point out that the true state of affairs may be easily overlooked if the whole genito-urinary tract is not removed *in toto* and subsequently carefully dissected out Lastly, it should be remembered that an abnormality, such as a dilated ureter, may be unilateral

TREATMENT

Dr Wilkinson has made adequate reference to the treatment of these cases, so there will be only a few points, mainly of a bacteriological nature, to which I need refer As is well known, these cases do well if given plenty of fluid to drink and if the urine is made and kept alkaline This treatment, however, does not always clear up the condition of bacilluria, which can then sometimes be made to respond to alternations of reaction in the urine The sudden transition from a very alkaline to an acid urine will sometimes clear micro-organisms from a urine when the previous treatment with a urine alkalizer has failed Urinary antiseptics are sometimes given, it must be remembered that hexamine will act only in an acid urine It is possible that when this drug is being administered many organisms may still be present in the urine but fail to grow on culture, this may be because they are dead or perhaps only

inhibited by the antiseptic present At a discussion on the treatment of pyuria in children, held at the Royal Society of Medicine in 1927, Drs Hare, Lepper, and Martland[11] gave an account of work they had done on the reaction of the urine in relation to the treatment of *B coli* infections with alkalis and with hexamine These observers found that although the administration of alkalis relieves the symptoms, the patients are not cured thereby, for the alkalis have no lethal effect on the bacteria, nor do they act by neutralizing an acidosis They alter the hydrogen-ion concentration of the urine which may act beneficially in one of two ways (1) the alkaline urine may be less irritating to inflamed surfaces than an acid one, (2) the hydrogen ion concentration may be an important factor in determining the rate and force of the muscular contractions by which urine is propelled from the pelvis and the kidney to the bladder

Hexamine, as is generally known, acts as a urinary antiseptic by breaking down into formaldehyde which is lethal to coliform bacilli Two factors are of importance in connexion with hexamine treatment—namely the secretion of an acid urine, and the relative vulnerability of the invading bacillus to formaldehyde Drs Hare, Lepper and Martland found that the greatest concentration of formaldehyde in the urine of their cases was 1 in 20,000, whereas anything less than 1 in 5,000 is said not to be bactericidal On studying twelve strains of *B coli*, however, they found considerable variation in the susceptibility of the action of formaldehyde on the bacilli, and, further, that it was only when the *p*H of the urine had fallen to 4 that effective doses of formaldehyde were liberated in the urine It appeared that small doses of hexamine were preferible to large ones, as the former caused less alteration in the *p*H, and that considerably more formaldehyde was liberated at body heat than at the room temperature

Drs Hare, Lepper, and Martland also draw attention to the fact that the ordinary routine adopted in collecting and testing the reaction of the urine is misleading in this connexion Litmus is not a good indicator because it turns blue at *p*H 6 6 at which acid reaction symptoms are not relieved The urine should be collected in a stoppered bottle under toluene (to prevent decomposition and loss of CO_2), and should have the *p*H tested with phenol red in an ordinary comparator box One should perhaps add that all these observations were made upon adult patients, but there is no apparent reason why the results should not be applicable to children

The value of vaccine treatment in these cases seems to be subject to a good deal of difference of opinion Twenty years ago Dr Box said that it was of no value, yet at the same meeting Dr Forbes said that three out of four of his cases were benefited by vaccine treatment Many clinicians are inclined to agree with Box in thinking that vaccines are not of very much value Personally I believe that cases of a true infection, in which there is a reaction and the consequent presence of pus in the urine, are often benefited by a vaccine, while simple cases of bacilluria do not appear to respond so well to this treatment Perhaps I may be permitted to quote a few remarks I made at a discussion held in 1914 at the Royal Society of Medicine on vaccines from the standpoint of the physician

> I referred to a patient of Dr Pownton and Mr Fairbank a baby girl about 1 year of age who was profoundly ill from some urinary tract infection The kidneys were considerably enlarged and the case was regarded as one of pyelonephritis There were many pus cells and organisms in the urine and on culture three different intestinal organisms were isolated The child appeared to be dying and permission was given to try a vaccine This had already been prepared from all three organisms in case it might be called for and four injections in all were given Already after the first injection the child's condition began to improve and she was shortly afterward discharged from hospital looking the picture of health but with still a few pus cells and organisms in the urine

A point in connexion with vaccine treatment to which I referred in my paper of 1914 is that the urine should be culturally examined from time to time in order to ascertain if the same organism is present I can recall a case in which four different organisms were isolated from the urine of a child at different times during the course of one year These were a *B coli* and a [illegible] probably this was what we now call the Sonne dysentery bacillus—streptococci *B proteus*, and *B coli* [illegible] an autogenous vaccine appeared to clear the urine from the particular organism present at the time

Another point to remember in treatment is that sometimes the infection will clear up either spontaneously or as the result of treatment only to recur after a variable interval In these chronic and recurrent cases some mechanical obstruction to the flow of urine or blood should be looked for and will then probably be found If the cause can be dealt with as in the cases to which I have referred the condition may be permanently remedied.

A line of treatment which holds out a certain amount of promise, but which so far as I know has not been given much of a trial by English speaking physicians, is that by bacteriophage Further if it is a fact that a disordered condition of the bowel with the presence of an excessive number of *B coli*, or of *B coli* of an exalted virulence, is coincident with a prelitis or a pyelonephritis then attention should be directed to the bowels, which should be kept well oiled with liquid paraffin

CONCLUSION

Infections with *B coli* in children are by no means rare, they often get well spontaneously, at other times they become chronic or tend to recur Investigations should be made upon the properties of the organisms present as regards haemolytic power, serology, etc, to discover if these have any bearing on the clinical condition In the chronic and recurring cases cystoscopy, pyelography and if necessary catheterization of the ureter, should be carried out in order to ascertain if there is any abnormality present to account for the clinical condition

These surgical procedures should not be so long delayed that the child's kidneys are found to be irreparably damaged when the biochemist makes an investigation of the blood urea and of the renal function It will be deduced, therefore, from the foregoing observations that I am in agreement with Mr George Waugh a former colleague at the Great Ormond Street Hospital who stated in 1927[12] that every case of urinary tract infection should be investigated by a team of four—a physician a surgeon, a bacteriologist, and a biochemist—though personally I should include a radiologist and if the patient should unfortunately die, then also a pathologist to hunt carefully for anatomical abnormalities If this were always done these cases would be more thoroughly and systematically investigated than in the past, and the results would be better than have hitherto been obtained

I should like to express my thanks to my colleagues at the Hospital for Sick Children for permission to refer to the notes of their cases to Dr W P Sheldon for examining the post-mortem records and obtaining the figures for the incidence of anatomical abnormalities and to Mr Derrick Martin for his assistance with specimens and for preparing the lantern slides

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THE LABORATORY IN A SCHEME OF PREVENTIVE MEDICINE*

BY

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THE use of the laboratory in the diagnosis, prognosis, and treatment of disease, and in investigations of circumstances, such as food and water supplies, involving the health and comfort of the individual and of the public, has steadily increased in recent years Chemical and bacteriological work in connexion with examinations of milk and other foods, water, rivers, sewage effluents, etc, has become a regular part of the scheme of preventive medicine, and public analysts are among the regular officials of a Public Health Authority The position with regard to human pathology is not so defined, and varies very much in different localities

From its earliest days, and even then in its limited range, the Public Health Service has been particularly concerned with the prevention of infectious disease It was natural, therefore, that with successive discoveries in the bacteriology and pathology of the infectious diseases, an increasing need for laboratory work in connexion with the Public Health Department should have been felt

The Public Health Service has developed from being concerned mainly with the environment of the public into a more personal relationship with the individual in all forms of ill-health—not merely in a limited number of infectious illnesses The need for the frequent and systematic aid supplied by the laboratory has grown correspondingly, and there are no Public Health Departments in this country without some arrangements more or less complete for this important purpose

In the interest of individual and public health laboratory assistance should be systematized and made available for all persons for whom it may be required, not merely for those coming directly within the province of the Public Health Department in other ways It is difficult to see how this could be arranged without the aid of the Public Health Department This is shown by the frequent applications made to the department by medical practitioners for laboratory assistance, especially in the case of those patients unable to pay fees for the work done While necessary in these cases, practitioners also find it convenient that in other cases the arrangements should be made by a central authority This should not interfere with, but rather assist, the practice of specialists in pathology The Public Health Authorities can avail themselves of practising pathologists, in the majority of cases this is the best and most convenient system, the function of the Public Health Authority being on the whole limited to seeing that such a service is available for everyone and that payment is made according to means

It may be necessary occasionally that the Public Health Authority should itself supply pathological aid as well as provide for systematic assistance Examinations for diphtheria and tubercle bacilli are often carried out with advantage directly by the officers of local authorities The practitioners of a district find it very convenient to have these examinations performed locally, and to have arrangements made for receiving specimens at any time of the day or night

In large cities the problem of systematizing laboratory aid is an easy one Either a university, medical school, or laboratory attached to a large hospital, may be the centre at which the work is carried out, not only for the city itself, but for a large area around it If there are specialists in the subject practising in the district, their services can be used There are also excellent pathological institutes for carrying out the work A systematic scale of fees can be arranged, outfits for taking the various specimens can be sent out, and the full time of the pathologist and his assistants can be occupied Expert pathologists are always to be found in large centres of population

In rural districts the problem is more difficult, although in countries so thickly populated as England and with such convenient means of transport, there is little extra practical difficulty in using the large centres for most of the work, this is usually done

There are comparatively few instances where laboratory aid for diagnosis, prognosis, or treatment is so urgent that this convenient and economical method of using large centres would lead to serious difficulty Unless time is very pressing, there are distinct advantages in using a large laboratory where not only the experience of experts can be drawn upon, but also where students can profit by laboratory work on problems which will arise later in private practice

When the public service and public funds of a local authority are involved, it is advisable, I think, to limit the pathological and bacteriological aid to essential work necessary for public and personal health Experimental research comes under a different category, and although it ought to be encouraged, it cannot as a rule be considered to be within the scope of the ordinary duties of local authorities

Specimens forwarded for examination through a local authority should generally be sent for a definite object, not in a vague hope that the laboratory can take the place of a careful examination of the patient and in this way supply a clue Without underrating the value of laboratory aids in diagnosis, prognosis, and treatment, I deprecate the tendency to rely on them to the exclusion of thorough personal examination and clinical methods Too much dependence on laboratory aid leads to lack of care in other methods concerned with the personality of the patient and destroys that careful investigation which should be so useful in every form of illness The laboratory should be relied on to assist or confirm diagnosis rather than to make it In diphtheria, for instance, where immediate specific treatment by antitoxin is so valuable, I have come across cases in which the delay caused by waiting for a laboratory result of a throat swabbing has seriously prejudiced the chance of recovery In most cases diphtheria can be diagnosed without laboratory aid, and early treatment is so important that in probable cases the antitoxin treatment should not be delayed for a bacteriological result

Another important point is that a negative pathological finding may lead to omission of specific treatment, which would be against the public and personal interest This is occasionally found in cases of diphtheria, in which for various reasons, such as the previous use of antiseptics, or omission to take rubbings of both nose and throat, a negative result may be obtained where definite infection exists

During the war I had an interesting example of how bacteriological investigation may cause considerable unnecessary inconvenience On one of the fronts, most of a unit was held up for what was described as an outbreak of diphtheria, there being many positive cases reported from the pathological laboratory On examining the men concerned, I was very doubtful of the diagnoses, and visited the laboratory, where I found that none of the cases really showed true diphtheria bacilli, but only diphtheroids In other diseases besides diphtheria I have known of incorrect laboratory reports causing considerable inconvenience

In spite of these drawbacks, however, the enormous value of pathological investigation makes its systematization essential, and as the Public Health Departments are bound to be the starting points of this work for the poorer section of the community, it must apparently be systematized in the Department of the Public Health Service

Quite as important as the pathological investigation itself is the ability of clinicians to interpret pathological findings One of the important reasons for the employment of the best pathologists is that they can frequently assist the clinician in the interpretation of results

From the public health point of view, the pathological laboratory will generally be most commonly used for diagnosis with a view to proper treatment, another branch of its work, however, is the preparation of autogenous vaccines As far as my experience goes, the number of applications for autogenous vaccines made by medical practitioners for their patients has recently decreased

The provision of laboratory assistance by Public Health Authorities, beyond chemical and bacteriological work by the public analyst, has so far been more or less limited to cases of infectious illnesses, including venereal diseases and

*Read in opening a discussion in the Section of Preventive Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

tuberculosis, and to a slowly growing extent in other departments, such as maternity and child welfare The rapid advance in pathological science in so many conditions not recognized in the past as coming within the direct purview of Public Health Authorities has clearly demonstrated that systematic centralized pathological aid should be within the reach of everyone, being essential to any complete scheme of preventive medicine

THE MANAGEMENT AND TREATMENT OF INCIPIENT CATARACT*

BY

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THE treatment of early cataract has always exercised the minds of ophthalmic surgeons, it is a matter of daily importance to us and our patients, and a very great deal has been written and said about it This is an opportune occasion for a renewal and exchange of our opinions and a confirmation or otherwise of our beliefs

Incipient cataract is a condition in which localized grey opacities have appeared in the lens during adult life, and for which there is no obvious constitutional or local cause, either injury or disease Such cases, for want of more precise knowledge, are usually labelled "senile cataract"

We might also include in our discussion the prodromal state preceding the development of actual opacity Here there is an appearance of varying spots and lines on mirror illumination at different angles, fundus details may appear distorted by irregular lental astigmatism, fundus illumination may be relatively poor, the pupil reflex greyish and a central dark circular zone may show on transmitted light These phenomena we know are due to the formation of fluid clefts between the cortical lens fibres and to nuclear sclerosis

In examining the lens I always employ the direct ophthalmoscopic method with +16 sph behind the aperture, and use the slit-lamp if necessary for further details On the discovery of lens changes we look for other accompanying senile ocular conditions such as vitreous degeneration, colloid bodies in the lamina vitrea, and macular or circumpapillary atrophy We eliminate such complicating eye diseases as uveitis, retinitis pigmentosa, and detached retina, in which the lens opacity is likely to take the form or a subcapsular rosette at the posterior pole We also exclude such special cataracts as "ray" cataract and those associated with dystrophia myotonica and parathyroid tetany

Some forty years ago it was the custom in cases of immature cataract for some ophthalmic surgeons to combine preliminary iridectomy with artificial maturation of the cataract according to Foerster's method The anterior chamber being emptied, the lens was massaged by rubbing the front of the cornea with a cataract spoon The object was to avoid extracting an unripe cataract Among these so-called "immature cases" there were probably many with useful vision which we should now classify as "incipient" The method was uncertain in its results, it did not affect the posterior cortex, it was liable to cause iritis rupture the anterior capsule, or subluxate the lens with resulting vitreous loss when extraction was performed It it unnecessary because we can extract immature cataracts successfully, and it is wrong because we cannot tell how slowly opacity will develop In a paper on "The prognosis of incipient cortical opacities of the lens," Jessop drew attention to cases of striated cataract in which progress was extremely slow, and which he thought might be described as "arcus senilis lentis" Speaking of the terror of progressive blindness which the word cataract implies in the minds of the laity he advanced the opinion that a surgeon would be perfectly justified in saying that these were not cases of cataract if the patient asked the question The case was cited of a patient who had 6/12 thirty years after being first told of cataract.

In this connexion the most striking fact, I think, in going through old records is the considerable number of patients over 60 years of age affected with incipient cataract, and yet the very small number of cases which reach the operative stage Many cases that I have been watching for from ten to twenty years, or longer, have still useful vision (6/12 or more), and many others that have died were still seeing well

Lens opacities are physiological in old age and may be compared to white hair, baldness, and wrinkled inelastic skin Old age is a relative term, it may be very premature or much deferred, and so we may find lens opacities acquired in middle age or even earlier This applies particularly to 'coronary" cataract which occurs frequently and may be found so early as to merit the term "presenile", its course may be so gradual as to seem almost stationary

It is our duty therefore, in cases of incipient cataract to avoid frightening our patients with the dreaded word 'cataract' when progress may be so slow and useful vision last so long Where there is no appreciable defect in vision, as in coronary, striated, or dotted cataract, nothing need be said, unless to a discreet relation or friend

With defective vision, perhaps progressively diminishing, as in the cuneiform and radial spoke forms of cataract and in posterior saucer shaped cataract, some explanation will be necessary, and then, as Story has remarked, it becomes a matter of "diagnosing and treating a patient, not a disease" With a sensible patient a true statement and clear explanation of the lens opacity, illustrated by a diagram or model, I have always found the best course With a highly nervous individual we should speak guardedly, as, for instance, of "cracks" or "flaws" in the lens, 'such as come to all with age" I know a patient who completely collapsed when told there was evidence of cataract in her eyes, and another, a nervous excitable woman who perpetually vowed eternal vengeance against an oculist who bluntly told her she had cataract many years before an operation was needed She suffered a life of apprehension from that day We must on no account make our cataract patients hypochondriacs and take all the hope out of their lives We should rather comfort them with a cheerful optimism It is dangerous to predict when operation will be necessary A patient who had been told by an eminent oculist that she would probably need an operation within five years was managing very well twenty years later with 6/9 and Jaeger 1 in one eye and 6/18 and Jaeger 8 in the other, and she was then 85 years old I could give other instances

As a matter of course we seek to obtain the best possible vision with optical corrections, and we may to some extent be retarding the disease by relieving accommodation strain We also retest periodically and alter our corrections according to the demands of a changing lental refraction hypermetropia may become less, myopia develop or increase and astigmatism may alter The use of Crookes's, fieuzal, or amber glasses in outdoor glare may help vision and protect the eyes from that radiant energy which is considered a fundamental predisposing factor in causing cataract As lenticular opacity develops we instruct the patient how to get the best results from illumination, more intense for marginal and less intense for central opacities, and we determine if a weak mydriatic is any help *Incidentally* we watch tension, and should it rise from a swelling lens iridectomy may need consideration *Reading vision* may be improved with extra power in the presbyopic glasses convergence for the nearer distance being relieved by prism The hand magnifier or the *reading screen* made by Hawes, may be helpful or both together and I have known Galilean spectacles useful but in such cases we are passing beyond the stage of incipient cataract

What guidance in dealing with cataracts do we derive from pathological studies and researches in to the constitution and properties of the lens? We know that the lens derives its nutrition entirely by endosmosis from the intraocular fluid This fluid may be affected by any abnormal or toxic state of the capillary blood from which it is derived, and changes in the permeability of the capillary walls will also affect its character, while changes in the permeability of the lens capsule or in the epithelium lining

*Read in opening a discussion in the Section of Ophthalmology at the Annual Meeting of the British Medical Association Winnipeg 1930

will affect the normal metabolic interchange between the fluid and the lens Changes in the ciliary epithelium, if it has a selective function, would also have their influence, but according to the latest researches the intraocular fluid is a "dialysate" from capillary blood, and passes into the eye direct from the vessel walls without the intermediation of ciliary epithelium, or glands of the ciliary body

According to Friedenwald's researches, the permeability of the lens capsule decreases with age, and metabolic processes may be thereby sufficiently obstructed to cause cortical cataract Defective metabolism may damage the vital capsular epithelium, causing degeneration and vacuolation, and it disturbs the delicate autoxidation process of cell metabolism within the lens, so that in cataract "glutathione," which is specifically concerned in the chemical defence of the body, entirely disappears According to Adams, in experimentally produced naphthalene cataract, which resembles senile subcapsular cataract, the cause appears to be a metabolic disturbance in the balance of the inorganic constituents of the body, and in these cases calcium oxalate crystals (like synchisis scintillans) were deposited in the posterior layers of the vitreous and on the surface of the retina The potassium in cataractous lenses is a tenth of that in normal lenses (Burdon Cooper), and the calcium is increased (Adams), but some experiments have not given results sufficiently definite to associate parathyroid deficiency with ordinary senile cataract (Pellathy) With age there is a decrease in the soluble lens proteins (α and β crystalline) while the insoluble proteins (albumin and albumoid) increase, and nuclear sclerosis, comparable to cuticular keratinization, increases in extent and degree When cataract develops there is hydrolysis and autolysis of lens fibres and coagulation of lens protein The problem is very complicated, but we are hoping to learn some day from the biochemist the exact nature of the physico-chemical processes of normal lens metabolism and the derangements which mark the onset of cataract But shall we ever be able to prevent cataract any more than senility and death?

It is evident that we have little to guide us in direct local medical treatment, and no treatment will remove actual opacity, for that represents the coagulation of lens protein and is "an irreversible chemical change" (Duke-Elder) I have no notes of any case in which definite lens opacities have disappeared Improved visual acuity in the course of a case must be due to other factors, changes in hydrolysis or metabolism, and in the intimate relationship of vacuoles, clefts, and transparent fibres It may in some cases be associated with better health, less near work, and a more restful life Dor, with the idea of causing lens dehydration, tried eye baths of calcium iodide (made by a solution of 1 per cent crystallized calcium chloride with 1 per cent desiccated sodium iodide) and reported retarded evolution, often for a long time But he also advised attention to stomach and teeth His method has been continued and its adoption extended in the form of ointments I have tried these methods, but never satisfied myself that they did much good Dionine has been tried for its lymphagogue effect Some use potassium iodide in drops or subconjunctivally, and this may be justified by the diminished potassium content of cataractous lenses Some reinforce local treatment with potassium iodide or iodine internally Van der Hoeve is said to have found that potassium iodide counteracts the swelling of the lens vesicles It is difficult to assess the value of such local treatment in a particular case, seeing that without it progress may be so slow and variable and that there may be periods of apparent improvement Prescribed with proper qualification it is a useful placebo, it comforts and satisfies certain patients that something is being done and helps to save them from unscrupulous quacks On the other hand there are others who are better without a daily reminder of their incipient cataracts

Smith eulogizes subconjunctival injections of neutral mercury cyanide (1 in 2,000 to 1 in 5,000) He thinks that the resulting intense hyperaemia of the ciliary body re-establishes normal metabolism He holds that it will cure 95 per cent of early cases, but agrees that it does not remove lens opacities It will be interesting to hear the experience of any who have tried this method Ionization, radium, x rays, electricity, and local radiation have all been tried without success, and some are likely to do more harm than good Lens antigen treatment has also proved useless The existence of incipient cataract may lead us to the discovery of some complicating constitutional dyscrasia, hormonal defect, or focal condition which needs treatment, and the removal or treatment of which may stay or retard the lenticular changes More good is likely to accrue in this indirect way than by any local medical treatment There may be general debility or premature senility needing investigation, diet and hygiene may need attention, or there may have been some debilitating disease Arterio-sclerosis may exist, and the condition of the blood vessels is of greater consequence than the pressure of the blood inside them The urine should be examined as a general rule, and always in developing cases Sugar may be discovered, and expert laboratory tests will then be required to determine if it is renal glycosuria and negligible, or whether there is mild or severe diabetes, the former requiring merely restriction of diet and the latter insulin

Cases of senile cataract with diminished sugar tolerance are indistinguishable from ordinary senile cataract and differ in slit-lamp appearances from true diabetic cataract In my experience, insulin treatment does not improve the lens condition appreciably, any more that it does the retinitis, although it may retard further changes, just as it prolongs life Albuminuria also demands a medical examination, and in advancing cataract it is usually wise to have the patient generally overhauled

We should not overlook evidences of endocrine deficiency and especially hypothyroidism The thyroid is the great regulator of metabolism, and any obvious deficiency should be suitably supplemented The function of the parathyroids is to destroy active waste products and regulate calcium appropriation, and by their power of stabilizing calcium in the blood they may check the tendency to the excessive lental calcium found in cataract If there is insufficient parathyroid hormone the blood cannot hold so much calcium in solution, hence its deposition in the lens among other tissues, it has been thought that this may have some connexion with the development of cataract. Parathormone has, however, proved disappointing in arresting senile cataract, and observations have been made which seem to show that lens changes in chronic parathyroid deficiency may be primarily of another nature, and the deposition of calcium salts quite secondary In parathyroid tetany the blood calcium falls to half the normal, whereas in ordinary cataract blood calcium is little affected However, Siegrist recommends the trial of a preparation containing thyroid, parathyroid, and testis with calcium lactate

As in some other eye affections it is, I think, of the greatest importance to eliminate chronic toxaemia and search for infective foci The toxins of streptococci and coliform bacilli are commonly the infective agents The teeth, tonsils, sinuses, gastro-intestinal and genito-urinary tracts, including the pelvic organs in women, should all be passed in review In the mouth, crowned teeth, dead teeth, and stumps should be looked on with suspicion, and as apical abscesses are more potent for evil than pyorrhoea, radiograms are advisable when there is any doubt I have seen cataract progress with unusual rapidity in the presence of dental sepsis In the young, lamellar cataract has been caused by prolonged septic infection (mastoid and cerebral abscess), and such a toxic condition is likely to have a detrimental effect on the nutritional osmosis of an unstable adult or senile lens, especially where the sepsis is bottled up in the body In elderly patients intestinal stasis, chronic constipation, and colitis are not uncommon, and should receive proper attention, and bacilluria should not be overlooked It is not only our duty to have all these matters attended to in pursuing the treatment of incipient cataract, but we are thereby improving the general health and well-being of the patient, and ensuring a condition of vitality and resistance which will promote the success of a future extraction, should it be needed

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THE DIAGNOSIS OF CANCER OF THE LARYNX*

BY

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EXTRINSIC laryngeal cancer or cancer of the pharynx which has extended to the larynx usually comes under observation so late that the diagnosis is obvious. These cases are generally seen by the laryngologist much too late for successful treatment either by operation or by radium, and earlier diagnosis is urgently needed. The problem of early diagnosis is intensified by the fact that cancer in itself does not produce any specific signs or symptoms, and it is only when the cancer cells form a tumour or ulcer that a series of mechanical symptoms and signs appear. These symptoms also develop slowly and insidiously, and it is unusual for the patient to consult a doctor until such symptoms are well marked and until it is often too late for a successful removal of the growth. Moreover, in a hidden cavity like the pharynx where there is room for the growth to expand unseen, the first symptoms are trivial and may be neglected until secondary growths are manifest in the cervical glands.

The intrinsic cancers of the larynx are seen at an earlier stage as the early symptom of hoarseness sends the patient to the doctor much sooner, but cancer seen in its earliest stage is more difficult to diagnose accurately. Hence cases of intrinsic laryngeal cancer present more frequent and more difficult problems in accurate diagnosis. I propose therefore to spend most of the time available in discussing the diagnosis of intrinsic cancer of the larynx. It is to be hoped that the more frequent use of the modern direct oscope and direct laryngoscope, and suitable cancer propaganda, will produce the much needed earlier diagnosis of extrinsic cancer. The earlier stages of these cases may then present as many problems in diagnosis as the intrinsic cases.

Extrinsic Cancer

The characteristic and offensive epithelomatous ulcer commencing just below the arytenoepiglottidean fold and rapidly involving that side of the larynx, produces fixation of the vocal cord with its consequent hoarseness. The first symptoms are sore throat and pain radiating to the ear with a definitely tender spot near the greater cornu of the thyroid cartilage, then follows the characteristic hoarseness or roughness of the voice, with a copious frothy blood stained expectoration. The top edge of the growth can be seen with the laryngoscope and palpation with the finger reveals the stony hard ulcer.

A post cricoid carcinoma which commences as a superficial growth on the posterior aspect of the cricoid cartilage in women soon surrounds the lumen of the pharynx and spreads upwards to form the whitish warty upper edge seen in the later stages behind the oedematous arytenoids. These patients first complain of a soreness or pricking sensation with pain in the ears during swallowing. Pressure on the cricoid backwards against the spine or lateral movement of the larynx produces pain in practically all cases. Dysphagia occurs early and when these symptoms are present without a satisfactory explanation the patient should be examined with a directoscope or oesophagoscope. The laryngoscopic mirror will not show any signs in the early stage, and when the upper edge of the growth is visible the disease is advanced, and matters are still more hopeless when a vocal cord is paralysed. Neither is the growth within reach of the longest finger, and the passage of a bougie is valueless and even harmful. In the absence of physical signs, the dangerous diagnosis of neurasthenia is still made but such a diagnosis should never be concluded until the presence of a growth has been eliminated by a direct examination.

Carcinoma in the vallecula either on the base of the tongue or on the anterior surface of the epiglottis excavates the base of the tongue and rapidly extends to the surrounding structures and the submaxillary and deep cervical lymphatic glands of both sides are soon involved. The only symptoms are persistent severe pain and a catch on swallowing located by the patient to the base of the tongue with blood-stained salivary expectoration. Occasionally a chronic paroxysmal cough is the first symptom. Later the painful and limited protrusion of the tongue with the accompanying trismus impedes laryngoscopic examination but the growth is within easy reach of the palpating finger and does not require a skilled laryngologist or endoscopist to detect and gauge the extent of the growth. The situation, the characteristic appearance, the odour, and the history of these growths make the diagnosis more or less obvious, but the differential diagnosis should always be considered, as I have seen two cases of syphilis in the post-cricoid region which have been mistaken for carcinoma.

Intrinsic Cancer

A rapid and accurate diagnosis of a typical case of intrinsic cancer of the larynx is easily made. The characteristic miniature epithelomatous wart or ulcer situated on the middle or anterior third of the vocal cord in a patient of cancer age, in which the differential diagnosis of chronic laryngitis with pachydermia, tuberculosis, syphilis, and a simple tumour can be undoubtedly excluded, presents no difficulty. Such a growth has been and is frequently removed by operation without a pre-operative diagnostic section. On the other hand the atypical case or the hidden subglottic growth requires considerable ingenuity in diagnosis. The differential diagnosis may be obscure, and tuberculosis is more often mistaken for cancer than any other condition. A chronic tuberculous ulcer of the vocal cord in a man of cancer age or a healed scarred tuberculous lesion which has broken down with a recrudescence of the disease closely resembles cancer.

Lupus, owing to its distribution in the soft tissues, is more readily distinguished, but in both cases tubercle bacilli cannot always be found in the sputum. In a few cases of tuberculosis it is almost impossible to make an accurate diagnosis without microscopy. The guinea pig test by inoculation from the piece removed unfortunately takes six weeks to mature, but it is so conclusive that it might be useful. Chronic laryngitis with localized pachydermia renders diagnosis difficult, but the long history, the type of patient, the slow progress with a tendency to a wide distribution gives the clue.

Syphilis is readily differentiated from cancer. The presence of other syphilitic lesions, the history, and the Wassermann reaction indicate the correct diagnosis, but when cancer is grafted on an old syphilitic lesion the diagnosis may be difficult and can only be settled by the aid of the microscope.

Benign or simple tumours are recognized by their appearance, their situation, and slow growth. These tumours are usually removed by intra-laryngeal methods, and if the section for microscopy in any way suggests malignancy a more extensive operation can be done. Occasionally a malignant tumour has been labelled by the section to be benign or a papilloma has recurred and has become locally malignant.

Sarcoma of the larynx is fortunately very rare. I have only seen two cases, both in young adults. The tumours were smooth, sessile globular, and vascular, and occupied

* Read in opening a discussion in the Section of Laryngology and Otology at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

the inner surface of the aryteno-epiglottidean fold and ventricular band The tumours bulged into the pyriform fossa of the pharynx and rapidly increased in size Chevalier Jackson states that *not one true sarcoma was found among* 643 *neoplasms* of the larynx seen at his clinic, and there are only three specimens of sarcoma of the larynx to be found in all the museums of the London medical schools The diagnosis of sarcoma is completed by exploration and a diagnostic section, and a survey of the literature of such cases shows the tumours to be either round celled or spindle-celled sarcomata

The subglottic growth, often found below the anterior third of the vocal cord, cannot be clearly seen by the direct or indirect method of examination A heaviness in movement or fixation of the vocal cord occurs comparatively early in subglottic growths, but our President, Sir St Clair Thomson, has shown that it is undoubtedly a late and unfavourable sign in the manifest cancer The diagnosis of such cases of cancer should be made before fixation of a vocal cord is evident The subglottic growth is more malignant and is quickly disseminated to the cervical lymphatic glands—therefore an early diagnosis is urgent and the "wait and see" policy cannot be adopted

The directoscope and Jackson's anterior commissure laryngoscope with retraction of the vocal cord outwards now enable us to obtain a better view of the subglottic growth and the subglottic extension of a more manifest growth

There is still some controversy as to the value of the removal of a portion of the growth for diagnostic purposes Our President in July, 1922, recorded that in 37 out of 51 of his cases, the diagnosis was completed and proved to be accurate without the removal of a piece for diagnosis In the remaining 14 cases the diagnosis obtained by a diagnostic section was misleading in two cases A diagnostic section is a valuable but not an infallible aid to diagnosis, and it *should be emphasized that a negative section should be* ignored and considered to be useless The value of a diagnostic section is increased if a sufficiently large and deep portion from the centre of the growth is removed The whole portion should be carefully sectioned and searched from the surface to the depths and a number of sections made For mechanical and other reasons, it is frequently difficult to obtain a satisfactory or sufficiently deep piece for section, but we are now better equipped with Jackson's tissue forceps and improved direct laryngoscope There is an impression that the direct method of examination should be more frequently employed and every opportunity should be taken to make use of it For example, when an anaesthetic is given for the extraction of teeth as a preparation for operation, information can be obtained by a direct examination

If the diagnosis is in any way doubtful, a diagnostic section is imperative and hastens the diagnosis If the wound produced by the removal of a portion does not heal, or if the tumour increases in size, it is strong evidence in favour of cancer I have never seen any harm arise after the removal of a diagnostic piece, but the picture may be entirely altered and diagnosis made more uncertain in the case of a negative section No doubt in suitable cases time will settle the diagnosis, and judicious waiting, with an examination once a week or at even longer intervals, will finally reveal the accurate diagnosis, but patients and their friends are apt to become restive and demand to know whether it is cancer or not It is not always expedient to delay by waiting, but there are cases in which it is advantageous to wait and to be cautious The delay, which should be as short as possible, gives an opportunity to have the teeth and mouth cleaned up It serves to get the patient in training for an operation and a second opinion can be obtained if desired It is often useful and expedient to have a second opinion, it increases the patient's confidence in his surgeon and may be helpful

If these methods of diagnosis fail in a case of suspected cancer it is justifiable to perform an exploratory laryngofissure with full permission to proceed to a radical operation Where the growth is obscured by oedema of the mucosa or by inflammatory changes, such an exploratory operation is a necessity It has been done, and no harm to the patient has accrued, particularly in those cases in which tuberculosis has been excluded Exploratory laryngofissure has of course been frequently done to ascertain the extent of the growth and to decide whether a partial or complete laryngectomy is necessary

Conclusions

1 An earlier diagnosis of extrinsic cancer of the larynx is urgently needed

2 Time will settle the diagnosis in some cases of intrinsic cancer, and it gives an opportunity to prepare the patient for operation, etc

3 The direct method of examination is an aid to diagnosis and will ascertain the extent of the growth

4 A diagnostic section of an intrinsic cancer is a valuable but not infallible aid to diagnosis Such a section should be made in all doubtful cases

5 An exploratory laryngofissure is justifiable when all other methods have failed

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN UNUSUAL CASE OF INTESTINAL OBSTRUCTION

THE following case we believe to be unusual as we cannot find reference to similar cases in the literature at our disposal

T K, aged 27, a reservist ambulance orderly, was admitted to hospital at 10.30 a.m. on January 16th, 1930 He gave the history that the previous evening at about 7 p.m. he had partaken of a heavy meal, almost immediately afterwards being seized with acute abdominal pain He vomited at the time and continued to do so throughout the night The following morning he reported sick at his medical inspection room and was at once sent to hospital for admission

On arrival the patient was markedly collapsed, with a pinched face and a pulse uncountable and imperceptible at the wrist The respiration rate was 22 and the temperature 97.7° F. The abdomen was distended, rigid, and tender, especially in the epigastrium, movements were practically nil The patient had not passed urine and the bowels had not been open since before the onset of the attack, a gentle enema gave no result He was at once given brandy 1/2 oz. and pituitrin 1/2 c.cm., and prepared for operation

The abdomen was opened by a mid line subumbilical incision. Loops of slightly distended but much engorged small gut presented, and the abdominal cavity contained a considerable amount of blood stained fluid. The trouble was eventually traced to the sigmoid loop, which was long and mobile, and which had swung across the abdomen to the right side, where it had herniated into a large retrocaecal fossa It was tightly gripped in this position by a tense peritoneal band extending from the abdominal wall behind the caecum to the lower end of the attachment of the mesentery of the ileum The sigmoid loop was tightly stretched but was not twisted It was found that in taking up this position it had come to lie across the mesentery, obstructing the blood supply of the ileum for six or eight feet to within one foot of the ileo-caecal junction, where the structures, including the appendix, were quite normal

The constricting band of mesentery was divided and nine inches of strangulated, distended, and engorged sigmoid colon withdrawn, *this might have recovered, but the viability of the* small gut was very doubtful The ileum above the obstruction was turgid but not greatly distended, the portion involved was blown out, but the bowel from below the obstruction round to the sigmoid was *nearly empty and normal in every way* Continuous intravenous saline was given throughout the operation but at this stage life was almost extinct and it was considered advisable to close the abdomen The patient died about one hour later

The points of interest in this case seem to be the sudden onset, the absence of any marked distension, and the nature of the double obstruction There were no adhesions to suggest a congenital malposition of the sigmoid A possible explanation is that the small intestine was the first to suffer, allowing the contents of the large bowel to travel on till they reached the sigmoid loop, where they were held up, and so led to the second strangulation

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British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH

Puerperal Sepsis

In a presidential address to the North Lancashire and South Westmorland Branch of the Association, Dr COLIN M CRAIG put forward some arguments against the exogenous theory of puerperal infection

Dealing first with the introduction of sepsis, Dr Craig said that until recently puerperal sepsis was ascribed to mismanagement of the case by the practitioner or nurse, and the theory of endogenous infection received scant credence Mr Victor Bonney had no support when he gave it as his opinion, some years ago, that many cases of sepsis had an endogenous origin A statement which illustrated the orthodox view had been made by Dr Robertson medical officer of health for Edinburgh who included sepsis haemorrhage, and eclampsia as conditions which could justifiably be classed as preventable Dr Craig believed that more investigation would be necessary before it was possible to endorse such a statement Sepsis might be introduced from without or it might arise from a pre-existing focus in the body During the past eleven years he had attended over 600 maternity cases, many of them abnormal He had published in the *Journal* of June 8th, 1929, a series of cases of puerperal sepsis presenting features which called for explanation, but it would be of interest to quote their salient points again

Case 1—A healthy multipara aged 36 was delivered spontaneously without a vaginal examination or other intervention On the fourth day she developed a temperature of 103° F at operation on the fifteenth day pus was found in the left ovary and at the junction of both tubes with the uterus with cellulitis of the *left broad ligament A subtotal hysterectomy with drainage was* performed and the patient made a good recovery Examination of the pus showed the infecting organism to be a streptococcus and subsequent cultures from the teeth gave a growth of three types of *Streptococcus longus*

In considering this case, said Dr Craig a series of experiments on dental sepsis carried out by Dr Rosenow at the Mayo Clinic was suggestive and relevant Rosenow infected the pulp cavities of healthy dogs with streptococci obtained from cases of ulcerative colitis and *renal lithiasis A large percentage of the animals* developed colitis and lithiasis, showing the possibility of systemic invasion from infected teeth In a case of multiple cerebral abscesses recently examined after death by Dr Craig the septic condition of the teeth constituted the obvious source of infection

Case 2—Repeated haemorrhage in a case of placenta praevia in an elderly primipara led to the performance of Caesarean section The preceding vaginal examination was made at a nursing home under strict surgical precautions but the patient ran a temperature for five weeks, and developed a pyaemic abscess in the thigh This indicated that an infected clot had been disturbed in separating the placenta, and again the teeth were probably responsible

Case 3—A multipara spontaneously delivered in a nursing home without any intervention had had a cold on admission, and on the third day a rigor she died after developing multiple pyaemic abscesses

Case 4—A multipara was spontaneously delivered before the arrival of the doctor or nurse there were no lacerations She recovered after a long period of pyrexia.

Case 5—The child was born before the arrival of the doctor who was met by an hysterical patient at the door carrying the baby in her arms with the placenta attached Subsequently she ran a high temperature and examination revealed a mass of thrombosed veins in the base of the *left broad ligament* There were no lacerations of the cervix and nothing abnormal in the uterus septic teeth and tonsils were both present The patient recovered after a prolonged period of pyrexia.

Case 6—A forceps delivery in a farmhouse there were no lacerations and nothing was retained The patient developed a temperature on the third day and her urine on culture showed a heavy infection with *B coli*. She made a good recovery

Case 7—Another case in which the baby was born before the arrival of the doctor and no examination was made On the third day she became pyrexial and the urine was found to be heavily loaded with *B coli*

Case 8—A typical case of infection probably introduced per vaginam An elderly primipara with a generally contracted pelvis was delivered after much manual intervention of a stillborn child which had presented by the breech She had slight pyrexia for several weeks and several small abscesses developed but eventually she made a good recovery This case illustrated the mild type of infection which more frequently seemed to result from vaginal interventions

These cases of puerperal pyrexia, with the exception of the last, said Dr Craig, indicated *infection from within* Among 200 operations for appendicitis he had had three cases complicated by a virulent haematogenous infection of the kidney with *B coli* These were cases of blood infection arising from a form of local sepsis, the percentage agreed with the percentage incidence of his cases of puerperal sepsis, suggesting that these also had a haematogenous origin The commonest organism in severe puerperal sepsis was *Streptococcus pyogenes*, but in the milder cases pure infections of *B coli*, diphtheroid bacilli, non-haemolytic streptococci, and various Gram negative organisms were found Among 134 febrile cases investigated at Queen Charlotte's Hospital not all those infected with *Streptococcus pyogenes were severe* in type, *eight were mild* Dr James Young of Edinburgh had recently stated that where hospital *environment* was kept *free from puerperal* infection by the elimination of emergency or mismanaged cases, such factors as throat infection were relatively insignificant, but this did not solve the problem of Dr Craig's cases quoted above In the investigations carried out by the Public Health Department of Aberdeen during the ten years from 1917 to 1927 the haemolytic streptococcus was established as the infecting organism in puerperal sepsis The throat was the normal habitat of this organism, and the suggestion was put forward that hands and instruments were infected by droplets of saliva from the mouths of carriers But though suggestive evidence was forthcoming, the theory in Dr Craig's view, *was not yet proved*

A comparison of the cases attended by doctors and midwives showed a mortality rate of *6 9 per 1,000 for doctors* and only 2 8 per 1,000 for midwives But there could be no comparison between the types of cases attended by doctors and midwives, and in point of fact the lowest mortality rate occurred among cases attended jointly by doctors and nurses In the Aberdeen report the total death rate recorded over the ten years period was 6 6 per 1,000, while in institutions the figure reached 14 9 per 1,000 The general rate of sepsis was 1 5 per 1 000, but in institutions it rose to 4 5 per 1 000, the district rate was 0 7 per 1,000 Apparently the home was still the safest place for confinements A certain proportion of cases of puerperal sepsis must result from mismanagement and the introduction of infection from without but Dr Craig's experience had been that many cases delivered under bad *surgical conditions did not become septic Moreover, though* the medical man of to-day was more surgically clean in the conduct of his cases than his predecessor of forty years ago, no apparent reduction had taken place in the incidence of puerperal sepsis

Dr Craig concluded that the mild type of sepsis *due to B coli* and other organisms, was probably introduced per vaginam, but in some cases developed as a *blood* infection through neglected bowel conditions The severe type due to *Streptococcus pyogenes* resulted from a *blood* infection arising from septic conditions of the mouth and throat more often than it did from exogenous infections In institutions when outbreaks took on an epidemic character infection was probably conveyed from patient to patient by the hands of the *attendants*. The best chance of bringing about a reduction in the mortality rate lay he believed in adequate ante-natal care the elimination of septic teeth, septic tonsils and constipation the provision of accommodation in hospital for difficult or abnormal cases, and the securing of a capable nurse and doctor for the normal cases, who would then take no harm even under bad home conditions

Reviews.

AN INTRODUCTION TO TROPICAL MEDICINE

IN their recent book[1] SIR LEONARD ROGERS and Major-General MEGAW, who have had long experience of tropical medicine, particularly in India, depart from the plan usually adopted by writers on this subject Instead of devoting large sections of their book to medical zoology and parasitology, they deal with these in outline and mainly from the point of view of diagnosis and prevention The result is that the accounts of the diseases themselves are not obscured by lengthy descriptions of the parasites or their vectors—matters which may be of interest to a minority of tropical practitioners, but which may appear redundant to others whose chief duty it is to diagnose disease and treat the sick Nevertheless, enough is included to render the etiology of the diseases intelligible to every ordinary reader, who, if he wishes, may obtain more detailed information from the larger books on tropical medicine or on the various branches of medical zoology

The book is divided into eleven sections The first three deal with febrile diseases caused by protozoa, spirochaetes, and unknown viruses Sections IV and V describe the typhus fever group and bacterial febrile diseases There follow sections on bowel diseases with symptoms of dysentery and diarrhoea, diseases with the most prominent symptoms on the surface of the body, helminthic diseases, diseases caused by venomous animals, diseases associated with diet, and diseases caused by heat and light The classification which this arrangement entails is in the main a purely clinical one, and leads to the separation of amoebic hepatitis from amoebic dysentery and oriental sore from kala-azar, though the parasites involved are either identical or very closely related Each author has been responsible for about half of the book, the author's name appearing at the end of the part he has written Thus the first author writes on kala-azar, plague, amoebic dysentery, leprosy, cholera, helminthic diseases, and the second on malaria, relapsing fever, yellow fever, typhus fever, diet, climate The descriptions are clear and concise, and give all the essentials of clinical manifestations, diagnosis, and treatment There are seventy-seven illustrations and two coloured plates The illustrations consist of maps, temperature and other charts, photographs of cases, and a series of diagrams which show at a glance the etiology of those diseases in which intermediate or secondary hosts are concerned The two coloured plates represent blood cells, blood parasites, bacteria, intestinal protozoa, and the eggs of helminths

As the authors state in their preface, the book makes no pretence at being complete Their object has been to produce a handy book which will give a broad survey of the field and serve as an introduction to the subject of tropical medicine There is no doubt that they have accomplished what they set out to do, and students of tropical medicine will be grateful to the authors for having given them a simple straightforward account of tropical diseases, free from the encumbrance of a mass of detail which is clinically unnecessary Moreover, compared with other textbooks the price is low, so that there is little doubt that it will be very widely read The reputation of the authors is a sufficient guarantee of the quality of the book They write almost entirely of what they have seen themselves, and when discussing treatment recommend what they themselves have found to be most beneficial As an introduction to the subject of tropical medicine a student could do no better than to read this book carefully and make himself thoroughly familiar with its contents before seeking for more detailed information in a wider field

[1] *Tropical Medicine* By Sir Leonard Rogers, C.I.E., M.D., B.S.Lond., F.R.C.P., F.R.C.S., F.R.S., *Major General Indian Medical Service (ret.)* and John W. D. Megaw, C.I.E., V.H.S., M.B., B.Ch., B.A.O., Major General Indian Medical Service Churchill's Empire Series London: J. and A. Churchill 1930 (Roy. 8vo, pp. x + 536, 77 figures, 2 plates, 16s.)

GYNAECOLOGY AND OBSTETRICS

THE volume on *Diseases of Women by Ten Teachers*[2] has made such a definite place for itself in British gynaecological literature that it is no surprise to see it come out in a fourth edition Mr. Comyns Berkeley has apparently been mainly responsible for the editorship of this edition, and two of the original ten authors have resigned their places to younger men The anatomical and physiological sections have been largely rewritten, and in all other respects the book has been as far as possible kept up to date Beyond this nothing need be said, because the book is already so well known, alike to teachers, students, and practitioners, that to praise it is superfluous

Professor HENRY JELLETT'S *Short Practice of Midwifery*[3] has now reached its tenth edition (fortieth thousand), which is a record that may well gratify its author The present edition has been carefully revised with the assistance of Drs. Pearson, Milligan, and Averill, of the Christchurch Hospital, and Dr. Lewis of the Hornby Mental Hospital, New Zealand Several new illustrations have been added, and Dr. Hastings Tweedie and Professor Strogonoff have contributed accounts of the methods of treatment of eclampsia associated with the Dublin school and with Professor Strogonoff's name respectively The author attributes much of the success of the book to the fact that in practical matters it has given the teaching of the Rotunda Hospital, and that this teaching has always been conservative We believe, however, that in, for example, the treatment of accidental haemorrhage, the present practice of the Rotunda Hospital does not lay such stress, as this volume does, upon packing the vagina It is also surprising to find six pages in this "short" textbook devoted to the practically extinct operation of pubiotomy, while only a page and a half is devoted to the lower segment Caesarean section While wholly in accord with Professor Jellett's objection to the unnecessary resort to Caesarean section, and while recognizing that the brevity of his description may have propagandist significance, yet we seem to detect here a lack of proportion The appendix, as in previous editions, contains an interesting table embodying statistics of the Rotunda Hospital up to the year 1927 We are confident that this is far from being the last edition of a most useful textbook

Dr. J. S. FAIRBAIRN'S *Textbook for Midwives*[4] has reached its fifth edition, which is a satisfactory indication of its popularity among those for whom it is written A general revision and some rearrangement of matter characterize this latest edition The discussion of the physiology of reproduction has been improved by the introduction of some new figures, as well as by the addition of some further text The requirements of midwife-teachers have been kept in mind, as well as those of the pupil midwives, and it is quite safe to prophesy that for both classes of readers this new edition will maintain the popularity and high reputation of Dr. Fairbairn's work

PUBLIC HEALTH IN FRANCE

M. A. LANDRY has written a very readable book on Public Health in France[5] He is not a medical man, but holds a chair at the Sorbonne, and has written several works on political economy At present a Deputé, he has reached ministerial rank in two Cabinets M. Landry was called upon to write an introduction to the budget of the Ministry of Labour and Hygiene for 1930, and has taken

[2] *Diseases of Women by Ten Teachers* Edited by Comyns Berkeley, H. Russell Andrews, and J. S. Fairbairn Fourth edition London: Arnold and Co. 1930 (Med. 8vo, pp. xi + 558, 186 figures, 8 plates, 18s. net.)

[3] *Short Practice of Midwifery* By Henry Jellett, M.D. Dublin University, F.R.C.P.I. Tenth edition London: J. and A. Churchill 1930 (5½ × 8½, pp. xv + 662, 282 figures, 4 plates, 18s.)

[4] *Textbook for Midwives* By John S. Fairbairn, B.M., B.Ch. Oxon., F.R.C.P.Lond., F.R.C.S.Eng., etc. Fifth edition Oxford Medical Publications London: Milford, Oxford University Press 1930 (Roy. 8vo, pp. xiii + 369, 119 figures, 3 plates, 25s. net.)

[5] *L'Hygiène Publique en France* Par A. Landry, Député, Ancien Ministre Paris: F. Alcan 1930 (4½ × 7½, pp. 173, 15 fr.)

the trouble to arrange that the general public in France shall have the benefit of it The language is clear and the matter excellent He writes as a politician but so well informed a politician is he that the medical reader is always wondering how a politician can write so much like a public health worker The clarity of his mind is such that after writing a page attempting to define the difference between public health and social hygiene he virtually gives up the attempt Again, he cannot pass the word 'preventorium," a term used in France for an institution where surgical tuberculosis is treated without commenting on the inappropriateness of the word He considers 'pre tuberculous' a senseless term, in fact predisposition to tuberculosis is a myth, it is not a scientific reality' Broad views are put before the reader Comparisons with foreign countries are made to point a moral the French people are told that in 1927 in France there were 45 deaths from typhoid fever per million of the population against 20 only in Switzerland and 9 in England Home truths about venereal disease are conveyed in the polite form of figures syphilis kills 80 000 French people every year, it causes every year 40 000 abortions and the death of 20 000 unborn children, and beyond that thousands of those born are degenerate mentally afflicted, deaf mutes or afflicted with diverse infirmities gonorrhœa is the distant cause of the urinary disorders which carry off men between the ages of 50 and 60 Although some charlatans who pretend to treat venereal disease have been driven out of business, others manage to get a living M Landry shows us that the French nation are alive to the evil, railway companies even have their own venereal disease dispensaries, the foreign workmen brought in to do manual work attend special dispensaries, in some cases set aside entirely for their use The work which remains to be done is set out in a long chapter M Landry's general conclusion is that the state of the public health in France cannot be described as anything but mediocre, and that the French people must be prepared to make sacrifices and spend more money on pulling it up The author has proved himself a patriot he has told his country important, if not pleasing, truths Although perhaps we cannot learn from this work new sanitary measures which might usefully be imported into Britain it provides an object lesson in how such books should be written

KREHL'S PATHOLOGICAL PHYSIOLOGY

PROFESSOR KREHL has just published the first volume of the thirteenth edition of what we are accustomed to speak of as his *Pathological Physiology* His title for the whole work is "The Etiology, Diagnosis, and Treatment of Internal Diseases'; the present volume being devoted to etiology, under which term are included pathogenesis and pathological physiology He expresses the hope, in which the numerous admirers of his work will join, that his strength may hold out to complete the final volume on the fundamentals of diagnosis and treatment

It might seem superfluous to do more than mention the fact that so well known a book had reached its thirteenth edition, retaining its original features, with the addition of discussions on the more recent developments of the science To many English readers, however, the book is known through Dr Hewlett's translation, which was made many years ago and is to some extent an abridgement of the fourth edition, it is therefore necessary to refer to the present edition to obtain a correct idea of the aim of the author and the scope of the work Professor Krehl appears to take his stand on two fundamental principles. In the first place while recognizing the importance of empiricism, he writes from the standpoint of physiology expounding pathological processes as far as possible in physiological terms He has, of necessity, to indicate innumerable gaps which remain for science to fill in but there can be but little doubt that this manner of viewing pathological processes is for the practitioner more useful in the long run than the common practice of seeking to give disease names to groups of clinical symptoms and signs It keeps in view what is actually going on in the body In the second place, Professor Krehl observes that a knowledge of the *normal* physiology of man does not at present exist Isolated facts have been discovered from time to time from the study of man, but in reality human physiology is founded on observations made on animals He bears witness to the extreme value of these observations but to the extent that deductions from them have been applied to human physiology the latter remains a theoretical science. It was, he considers, a great advance in the development of pathological physiology when largely under the influence of Naunyn's teaching, clinical observation took its place beside the old form of experimental physiology in the investigation of pathological processes In adopting the principle of explaining the pathological through the physiological Professor Krehl therefore insists that these terms refer, not to animal, but to human pathology and physiology and that these can be learnt only from patients themselves and in the clinical laboratory and he restricts himself to the exposition of pathological processes as he conceives them to occur in the human subject and as deduced from clinical research.

On the masterly way in which the vast material is handled there is no need to comment one feature of particular value to those who are precluded from making any extensive study of the literature may be mentioned Professor Krehl brings his judgement and experience freely to bear on the numerous questions at issue in the problems engaging the attention of pathologists at the present time, and gives clear indication where caution and reserve are desirable in accepting deductions put forward

EXERCISE IN CONVALESCENCE

THERE can be no question as to the value of Lieut.-Colonel JAMES K. MCCONNEL'S little book on *Shorter Convalescence*, seeing that its merits are vouched for in a foreword by Sir ROBERT JONES who says that it "deserves a wide circulation and cannot fail to be useful to the student, the doctor and the nurse' It remains for us therefore only to draw attention to the matter contained in the various sections of the work There are eight of these and an appendix on convalescence after confinement The titles of the sections are "Introductory' "Developmental survey' Physiological considerations" "Types of bed exercises,' "The effect on the circulation" Posture and respiration" 'Unilateral action of the abdominal wall," and "The moral effect of minor exercises' There can we think be no doubt that convalescence after illness or operation may be much helped by gentle volitional exercises such as are here described and that the gradual training in the living position, of weakened muscles may prevent their yielding to the unaccustomed strain which the first resumption of the erect position is bound to throw upon them This is true of the muscles in general In particular, as the author points out, the muscles of the lower extremities are apt to suffer from prolonged disuse, which may be remedied by gentle voluntary movements while the patient is still confined to bed

NOTES ON BOOKS

IT is only three years since the first edition of *Minor Surgery*[1] by Dr ARTHUR E. HEWITT and Dr VICTOR E. CHEEKE was published and already a second edition has been called for A few alterations have been made in the text and thirty seven illustrations have been added The authors confine themselves to describing the methods and the technique which they have found most useful in their own clinic The pathology of disease has not been discussed since the object of the book is wholly to aid the student to understand what he sees in his daily work and to enable him to give a general perspective of the subject which may be only partly illuminated by his clinical

[1] *Shorter Convalescence*. By Lieut.-Colonel JAMES K. MCCONNEL D.S.O., M.C., with a foreword by Sir ROBERT JONES, K.B.E., C.B., F.R.C.S. London: W. Heinemann (Medical Books), Ltd. 1930. (Cr. 8vo, pp. xii + 132, 10 figures. 5s. net.)

[2] *Minor Surgery*. By Arthur E. Hewitt, M.D. and Victor E. Cheeke, M.D. Second edition. London: H. Kimpton. 1930. (8½ × 5½, pp. 602, 62 figures. 21s. net.)

[1] *Entstehung, Erkennung und Behandlung innerer Krankheiten*. Von Dr. Ludolf Krehl. Erster Band, *Die Entstehung der inneren Krankheiten. Lehre von der Pathologischen Physiologie*. 13 Auflage. Lieferung I. Leipzig: F. C. W. Vogel. 1930. (Supervision Fee, part VI.)

observations In spite of the otherwise very complete survey of the subject, no mention is made of even the simplest of fractures or dislocations The book is freely illustrated with photographs and diagrams the photographs are not uniformly successful, but the drawings are beautifully clear

Professor HERMANN SCHLESINGER'S concise, practical, and readable little book on the clinical aspects and treatment of diseases in old age[9] is a reproduction, with considerable additions, of articles lately published in the *Deutsche medizinische Wochenschrift* The diseases discussed include those which are more or less confined to old age, such as senile osteoporosis, prostatic hypertrophy, senile bronchial catarrh, and atheroma, and also affections met with at other stages of life, but presenting deviations from the ordinary clinical type when they occur in old age, such as tuberculosis, acute infectious diseases, and various systemic disorders The concluding pages are devoted to the diet and hygiene of old age

In a volume entitled *The Structure and Meaning of Psychoanalysis*[10] DRS WILLIAM HEALY and AUGUSTA F BRONNER, together with Miss ANNA MAE BOWERS, have aimed to give an organized statement of what has been contributed to date in psychoanalysis in the spheres of psychology and psychiatry An original method of presentation has been adopted On the left hand pages are what may be called the orthodox theories and fact findings of psychoanalysis On the right-hand pages are introduced contributions of exegetical value, some notable accessions to the psychoanalytic structure by "Freudians", and various ideas set forth by those who, still holding to the major concepts of Freud, offer divergencies of theory or practice

The Effects of Moisture on Chemical and Physical Changes,[11] by J W SMITH, is an important contribution to the systematic study of the influence of water vapour on chemical and physical reactions classifying and correlating numerous references to the subject in scientific literature Another compendious volume in the same series is Mr AUDEN'S *Sulphuric Acid and its Manufacture*,[12] which expounds the fundamental problems associated with the manufacture of sulphuric acid and gives some account of methods of procedure and types of manufacturing plant The text is accompanied by references to the original articles A third textbook of physical chemistry, *Photo Processes in Gaseous and Liquid Systems*,[13] by R O GRIFFITH and A MCKEOWN, surveys the results of recent investigations chiefly in regard to the theoretical aspects of photochemistry

A Medical Medley[14] is a collection of parodies, verses, and caricatures, such as form the brighter part of hospital magazines, written by the students of the University of Birmingham, and are therefore mainly of local interest But the verses are clever, and some of the well known teachers of the school are represented as they appear to their critical audiences, thus a surgeon is made to exclaim, after Gilbert's major general in the *Pirates of Penzance*

"Why all the staff and nurses at the General think a lot o' me.
My technique's irreproachable in doing a gastrotomy

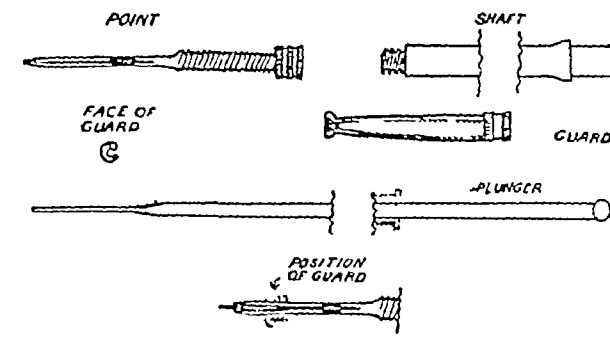
[9] *Klinik und Therapie der Alterskrankheiten* Von Hofrat Professor Dr Hermann Schlesinger Leipzig G Thieme. 1930 (5½ × 8½, pp 132. M 6)
[10] *The Structure and Meaning of Psychoanalysis* By William Healy, M D, Augusta F Bronner Ph D and Anna Mae Bowers, A B New York A Knopf 1930 (6¼ × 9½, pp xx + 481 + xxiv 7s. 6d)
[11] *The Effects of Moisture on Chemical and Physical Changes* By J W Smith B Sc., Ph D Lond Textbooks of Physical Chemistry London and New York Longmans Green and Co 1929 (Demy 8vo, pp xii + 235, 44 figures 15s net)
[12] *Sulphuric Acid and its Manufacture* By H A Auden, M Sc Vict., D Sc Tübingen London and New York Longmans, Green and Co 1930 (Demy 8vo pp xii + 231 50 figures. 16s net)
[13] *Photo Processes in Gaseous and Liquid Systems* By R. O Griffith, D Sc. and A McKeown, D Sc Textbooks of Physical Chemistry London and New York Longmans, Green and Co 1929 (Demy 8vo, pp viii + 691 52 diagrams 25s net)
[14] *A Medical Medley Student Verse 1921–1930* With an Introduction by F Brett Young University of Birmingham Medical School 1930 (Cr 8vo, pp x + 81, 11 illustrations 2s 6d net)

PREPARATIONS AND APPLIANCES

THE IMPLANTATION OF RADON SEEDS

Mr E WATSON WILLIAMS, Ch M, F R C S (Clifton), writes The valuable article by Mr Souttar in the *Journal* of August 23rd (p 273) is of particular interest in that it draws attention to the utility and efficacy of radium treatment by means of radon seeds In many regions the employment of radium needles has established itself as a therapeutic measure, but in others radium needles are difficult to insert and still more difficult to retain, while the threads which their use necessitates are a source of considerable inconvenience to the patient Of no region is this more true than that of the pharynx and gullet, where radon seed treatment presents enormous advantages in technique, provided the results are comparable

I have had an instrument made to facilitate the implantation of seeds by peroral endoscopy, and an account of it may be of interest in this connexion It is modelled on the ovipositor of insects The "business end" consists of a collar threaded internally to screw on to the shaft of an oesophageal forceps, such as are made with universal handles and interchangeable heads. Distal to the collar is a portion 2.5 cm long, and threaded externally to take the guard, from the end of this portion the instrument is continued forward in the form of a fine hollow steel needle, coming to a sharp point. The needle is formed of two apposed springs, on one side near the base a window is cut to admit a radon seed The seed is just "held" when pushed forward by the plunger, so that



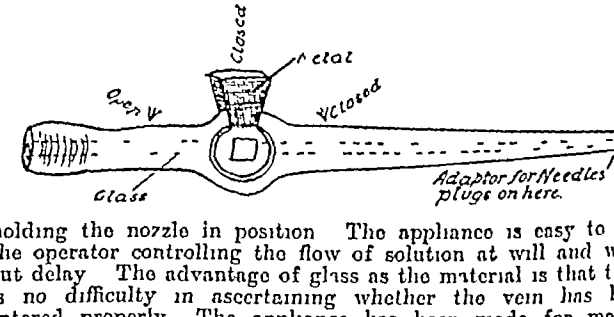
Shows plunger opening spring point and planting radon seed seed half extruded The vertical scale has been exaggerated for the sake of clearness

it does not move during introduction The plunger runs the whole length of the instrument, and is reduced to 1 mm diameter for its distal 5 cm—that is to a small fraction less than the usual diameter of a seed, the length of the plunger is such that it projects 2 mm beyond the point when pressed right home The guard consists of a flat C shaped piece, 6 mm across, and attached by two legs to a collar which screws on to the external thread just described, the distance beyond the end that the point can project being regulated by screwing the guard up or down The reason for the C shape, rather than a circle, is to enable the points to be kept in view when working down a long tube, for the same reason the milled collars are bevelled flat along their "upper" surfaces—that is, the ventral surface when working on a supine patient The placing of seeds at any depth from the surface can be accurately and rapidly performed

The instrument was made for me by Messrs Allen and Hanburys, Ltd, and in my case to fit Mr Crow's handle, but there is nothing to prevent the thread being made to fit any suitable pattern of oesophageal forceps

GLASS INTRAVENOUS NOZZLE

Dr J BYRNE (West African Medical Staff) writes The nozzle illustrated in the diagram is specially useful in intravenous work—for example, administering salines It is all glass except the metal lever for moving the stopcock The latter can be opened or closed by the forefinger of the hand



holding the nozzle in position The appliance is easy to use, the operator controlling the flow of solution at will and without delay The advantage of glass as the material is that there is no difficulty in ascertaining whether the vein has been entered properly The appliance has been made for me by Messrs James L Hatrick and Co, Ltd (72, St John Street, Clerkenwell Road, E C 1)

BINOCULARS FOR VIEWING STEREOSCOPIC RADIOGRAPHS

The application of the stereoscopic method to x ray work is facilitated by the introduction by Philips Lamps Limited (145, Charing Cross Road, W C 2) of stereo-binoculars for viewing stereoscopic radiographs in the lantern In appearance this accessory resembles a pair of small opera glasses, but by means of two built-in prisms the normal visual axis is so deflected that the two stereo-radiograms are at once seen as a three dimensional image Means of adjustment to secure perfect fusion and to meet individual requirements are provided The device has the further advantage that distances can be immediately adjusted so as to make possible a general view of the whole field or the examination of details at close quarters The instrument is handy and relatively inexpensive

NINETY-EIGHTH ANNUAL MEETING
OF THE

British Medical Association.

Held at Winnipeg, August, 1930

THE SECTIONS

SUMMARY OF PROCEEDINGS

DURING the next few months there will be published in the *British Medical Journal* the opening papers communicated to the Scientific Sections of the Annual Meeting at Winnipeg The summaries of discussions in this and successive issues are intended to give members who were not present a general idea of the proceedings

SECTION OF MEDICINE

Wednesday, August 27th

FILTERABLE VIRUSES AND PRACTICAL MEDICINE

The President, Lord DAWSON OF PENN, opened the proceedings by expressing his appreciation of the very warm welcome accorded by the medical profession and the citizens of Winnipeg He then contributed a clinical introduction of the subject of filterable viruses, paying tribute to the past and present workers in this field, many of whom were martyrs to science Lord Dawson was followed by Dr S P BEDSON (London), who in an excellent paper stressed the necessity of there being close association between the clinical and laboratory aspects in approaching the solution of the vast problems still to be elucidated The nature of the filterable viruses was first considered, and also the topics of active and passive immunization in virus disease with the various immunity reactions Much of practical value to the clinician had already been discovered and this was reviewed by Dr Bedson, but he pointed out that an enormous amount remained to be done With however the rapidly increasing number of workers in this field a determined effort was being made to obtain a clearer understanding of the virus diseases Dr NEIL MCKINNON (Toronto) referred to the use of convalescent serum in Winnipeg in 1928 in poliomyelitis as an example of a successful fight against a virus infection Similarly the use of convalescent serum in measles would help to reduce the death rate in this disease In Canada, from 1921 to 1929 there had been 5 000 deaths from this so-called harmless malady He suggested that with the resultant light reaction In a paper prepared by Professor NABARRO, read in his absence by Dr John Parkinson, the use of convalescent serum in measles was described The serum was obtained from adults, and remarkable results had been obtained in preventing the onset of this disease in contact cases He was followed by Professor ARTHUR ELLIS (London), who stressed the various ways along which this subject could be approached The conception of disease must, he said be altered There was evidence to show that there was a high percentage of virus carriers in whom disease occurred, not on account of infection from without, but owing to physical or physiological changes which took place in the organism permitting the virus to multiply and overcome the lowered resistance of the individual He gave examples from the plant and animal world, and explained the encephalomyelitis complicating vaccination on this basis The PRESIDENT, following up Professor Ellis's theory described in detail the history of an interesting case of herpes zoster which appeared to justify the assumption that the infection came from within Dr BEDSON then spoke briefly in reply

THE TREATMENT OF HYPERTENSION

Professor J C MEAKINS (Montreal) in a paper on hypertension, outlined the history of the treatment of this disease, and insisted on the necessity of control This was achieved in his cases by allowing a period of three or four weeks rest in bed before beginning the observations Blood pressure readings were carefully taken four times daily, and the average for the day was used in his record He described his results with ergotamine which when administered orally, had had little effect when injected intramuscularly in 1 to 5 mg doses, it produced a prolonged but temporary effect upon the blood pressure and caused slowing of the pulse The blood pressure was lowered thirty to sixty points (diastolic and systolic) for a period of one hour A similar but much more prolonged result was obtained by using acetocholine in 0 1 to 0 2 mg doses freshly prepared in 10 per cent glucose solution Again 72 per cent of the cases of essential hypertension showed a profound drop in the blood pressure and a slowing of the pulse Professor Meakins had noticed no serious ill effects from the use of these substances and recommended them for further serious trial by his colleagues

SECTIONS OF SURGERY AND TUBERCULOSIS.

Wednesday August 27th

RECENT ADVANCES IN THORACIC SURGERY

Lord MOYNIHAN (President of the Section of Surgery) took the chair at the joint meeting of the Section of Surgery with the Section of Tuberculosis The proceedings were opened by Professor E W ARCHIBALD (Montreal), who read a paper on the scope of thoracic surgery He pointed out that much advance had been made since the days of Simpson, and the assurance of safety through the work of Lord Lister and that there had emerged two main points (1) *specialization*, of which the youngest branch was thoracic surgery, which could now occupy the whole time of a specially qualified surgeon, and (2) *team work*—the association of surgeons, physicians radiologists and pathologists—the end-result being the emergence of a man who could devote himself to the surgery of the chest in empyema, bronchiectasis, pulmonary tuberculosis and lung abscess Professor Archibald discussed the advantages and disadvantages of closed drainage in empyema In pulmonary tuberculosis he had seen gratifying results in thoracoplasty, phrenic evulsion and in the combined operation but he had less faith in the operation for dealing with adhesions and with apicolysis As far as selection was concerned he urged attention to the resistance of the patient in connection with fibrosis and scarring and considered that the best type was the good chronic case with contracted chest whereas he had had a 65 per cent incidence of arrest in favourable cases he had had only 38 per cent in conditionally favourable cases and had results in poor cases His work showed that the main cause of death was pulmonary failure by spread of disease in the other lung In lung abscess he had found that in certain cases too much had been attempted for example acute abscesses ought to be left alone On the other hand he had often found that too little was being done for the case of chronic abscess and now by newer methods the mortality of 40 per cent, experienced before 1919 had been reduced to little more than 15 per cent He considered that all cases of bronchiectasis ought to be diagnosed as "simple" or "complicated" before an operation was decided on the congenital abscess with no lung complication was quite distinct from the complicated case with suppuration and lung involvement He had been interested to see recently the good results that could be obtained by the operation of lobectomy and believed that experience would show that a one-stage lobectomy would be an operation much more generally used in unilobar cases

Dr R A YOUNG (London) discussing the medical aspects of thoracic surgery remarked that it was evident now that surgery of the chest could give results comparable with those of abdominal surgery He considered that the medical aspects were wide and that the duties of the physician could be classified under the headings of diagnosis the suitability of the patient the choice of the surgeon the operative procedures the preparation and after-care of the patient and the decision on the time for the application of surgery The diagnosis in basal and mediastinal cases was difficult but nowadays x rays lipiodol and the investigations of bacteriologists and haematologists were of great assistance, as also was

exploratory puncture He considered there was still scope for investigation in respiratory efficiency, but the greatest asset of the physician in many cases was clinical instinct Where artificial pneumothorax was unsuccessful thoracoplasty ought to be considered, he had found it very useful, but he had less faith in the operation for cutting adhesions, and was very doubtful about the value of apicolysis Phrenic evulsion he thought was very good He considered that chronic abscess of the lung ought never to be left untreated, while bronchiectasis had proved so depressing in both medical and surgical practice that he welcomed any further help beyond pneumothorax and thoracoplasty, such as lobectomy, as giving a hope for the future Some of his cases of malignant disease had done well in consequence of operation, he believed there was still further scope The surgeon might be satisfied sometimes, the physician never was, but Dr Young thought the future was very hopeful Mr A TUDOR EDWARDS (London) doubted whether malignant diseases of the lungs had increased during the last ten or twelve years, his belief was that the incidence of cases diagnosed was much higher Unfortunately most cases were very insidious in onset and beyond hope of success when they reached the surgeon As far as type was concerned the order was carcinoma, sarcoma, and endothelioma The carcinomatous type arose in either the bronchi or the parenchyma, and the diagnosis rested on the physical signs, x rays, and bronchoscopy He had found the association of radioscopy with lipiodol very useful, as also had been pneumothorax Thoracoscopy alone was of limited value, although it might help in the diagnosis of tumours of the pleura and sometimes in those of the lung He thought exploration was now safe through intercostal incision In treatment he had found six cases inoperable out of nine where the growth was central, and in these he had applied radium While the method of bomb radium at a distance was of no use in his experience, and the external plaque procedure only helped in relieving pain when the chest wall was involved, his best results to date had followed the insertion of radium seeds by the bronchoscope and open operation Deep x-ray therapy had been very disappointing, but he was satisfied that some effort was being made towards efficiently dealing with the condition

Dr W L MANN (Winnipeg) discussed phrenicotomy, and stated that much advance had been made since paralysis of the diaphragm had been suggested in 1911 It had been found that cutting of the nerve did not produce the desired results, and that even resection had not been sufficient, owing to the many accessory branches of the nerve Avulsion by slow twisting was now the operation of choice, although its application to a smaller length than four inches still gave disappointing results in about 25 per cent of cases The lung volume was lessened by from one-sixth to one-third While the best results were seen in cases of lower lobe disease, good results could be obtained even in apical cavitation The dangers of the operation were not great The main indications were in pulmonary excavation, where thoracoplasty was not possible The operation was of much assistance in residual abscess, and in bronchiectasis with or without pneumothorax, but the best results were achieved in cases of pulmonary tuberculosis where the pneumothorax was incomplete, the case chronic with no pneumothorax possible, and thoracoplasty too serious an operation to face Phrenicotomy had proved valuable in pulmonary haemorrhage, and he believed it should always be performed as a preliminary to thoracoplasty Dr J D MCEACHERN (Winnipeg), who dealt with closed drainage of the chest, described with the aid of a cinema the complete operation Washing out the cavity by Dakin's solution could be performed every two hours without discomfort to the patient, and the continuous negative pressure could be maintained in the meantime In 50 per cent of these cases the patients had been children under the age of 4, and he had had only one death He believed that the operation produced lowered mortality, especially in infants, since no general anaesthetic was necessary, there was less danger of secondary infection, while morbidity was lessened The average duration of treatment was six weeks, this he attributed to the softening influence of the Dakin's solution, to the continued negative pressure, and to the absence of painful dressings

Dr N S SHENSTONE (Toronto) read a paper on pulmonary lobectomy in bronchiectasis, remarking that, while lipiodol had helped in the diagnosis of obscure cases, the etiology and extent of the disease could never be determined until all methods of investigation had been tried He had had seven cases in which one or more lobes had been removed, and had decided on operation in cases where other methods had promised less chance of recovery He had begun by performing a two stage operation, but had given it up because he believed that the first stage—a wide lower thoracoplasty—gave rise to septic pleurisy and pneumonia He now used a one-stage lobectomy, preceding it by paralysis of the diaphragm, and had had only one death in six cases He had found that a local anaesthetic alone was generally sufficient He described the method of operation fully, through the opening of the intercostal pleura The separation of adhesions was generally without difficulty He left the smallest possible pedicle, applied two snares to control the bleeding and give support, and usually incised within three-quarters of an inch of the proximal snare Mr DICKSON WRIGHT (London) showed his instrument for implanting radium seeds Sir STCLAIR THOMSON (London) said he was very interested, as an onlooker, to see the further applications of the initial principle of rest Dr L S T BURRELL (London) expressed his belief that phrenic evulsion was indicated for movable mediastinum and for cases terminating in pneumothorax after three years Dr PARSONS (Toronto) described his method of forced drainage of bronchiectasis in children Lord MOYNIHAN (Leeds) said he had much enjoyed the discussion, and congratulated both the surgeons and the physicians Specialization must come as a growth of competent medicine and surgery, but he believed that the hope of the future lay in team work, the craft of surgery was complete, but the bounds had not been reached The opening speakers then replied, and Professor ARCHIBALD summed up the discussion

SECTION OF OBSTETRICS AND GYNAECOLOGY

Wednesday, August 27th

USES OF RADIUM IN GYNAECOLOGY

THE President, Mr COMYNS BERKELEY, opened the proceedings with an acknowledgement of the warm reception he had received in Winnipeg, and welcomed the visitors from the United States and other countries On behalf of overseas members he thanked the Canadian Medical Association for its hospitality Mr SIDNEY FORSDIKE (London) reviewed the present-day knowledge of the clinical properties of radium He described the various phases of enthusiasm through which gynaecologists had passed in the last thirty years, and stressed the fact that the standard of "cure" was so elastic that it was very difficult to compare the results of treatment in one centre with those in another Among the urgent problems of research at present none was more necessary for elucidation than the way in which radium acted, whether on the cell or stroma He strongly recommended that some of the radium provided for clinical research should be diverted to the equally important field of biological investigation In his opinion the primary action was on the stroma, the cell changes being only secondary, but further investigation was needed, since it was only by a full understanding of this problem that the dosage and method of application could be placed on a scientific basis Mr Forsdike briefly discussed the marked divergence of views on the question of split dosages and treatment of the glands, to show the chaotic position at present Reviewing the more clinical aspect of the uses of radium in gynaecology, he stated that no matter what might be the view regarding its effect in cancer, there was no denying its value in producing an artificial menopause, though differences of opinion existed as to dosage, and whether it was the endometrium or the ovaries which were affected He had recently been using a dosage of 53 mg of radium element, screened by 1 mm platinum, for twenty-two hours, and had obtained satisfactory results In his opinion there was no doubt that the ovaries were unaffected, and that the entire results arose from the action of radium on the endometrium He advocated very rarely the use of radium in the treatment of fibroids Mr Forsdike then discussed radium as a therapeutic agent in the treatment of carcinoma of the cervix uteri, as opposed

to operation in operable cases, and from the point of view of its value as a palliative agent He stressed the widely divergent methods of application, dosage, and standards of nomenclature used in determining "cures" He recorded his results in treating 181 cases from 1921 to 1925, in 134 inoperable cases there had been palliation and prolongation of life, but no cure, in 33 borderline cases 4 had been cured, of 14 operable cases 4 had been cured The rate of cure in all cases treated by radium was 4 5 per cent, and even in operable cases only 28 per cent Though he was a believer in the future of radium, he considered that operative treatment gave the best results in malignant cases and he foresaw a general resumption of treatment by operative surgery Professor W W CHIPMAN (Montreal) said that greater knowledge was required before realizing the value of radium, and greater care in its use was essential for success He discussed its application in combating cancer and in controlling uterine haemorrhage In the latter condition the value was greatest when the bleeding was intrinsic uterine haemorrhage from such conditions as subinvolution due to sepsis it had lesser value in fibroids and the bleeding of adolescence Radium acted by its effect, not only on the endometrium but also on the ovaries altering the hormonic output controlling menstruation It should not be used indiscriminately in cancer but only by those specially trained in its properties and application In his own clinic in Montreal between 1919 and 1929 only 289 cases had been treated, but the actual results were not known since his follow-up of the cases was not yet complete, moreover, a long enough interval had not yet elapsed in many of the later cases to be of value in estimating its efficiency as a curative agent His opinion of the position, however, was that all patients with carcinoma of the cervix should receive radium treatment if the condition was inoperable, and that at the present time radical operation seemed to offer more hope in the early and selective conditions He suggested that the effect of radium on cancer depended to a large extent on the actual resistance of the patient

TREATMENT OF THE LYMPHATIC GLANDS IN CARCINOMA OF THE CERVIX

Mr MALCOLM DONALDSON (London) discussed the treatment of lymphatic glands in carcinoma of the cervix emphasizing the point that while the original growth responded as a rule to radium treatment there had not been the same degree of satisfaction with the treatment of the gland metastases This might be due to insufficient irradiation of these areas and he had devised a method of direct application of radium to the pelvic glands in cases of carcinoma of the cervix He stressed, however the fact that the glands themselves would appear to be actually more radio-resistant than the original growth and he suggested that the glands did not act as areas of resistance in spreading the growth to generalized metastatic areas, but actually as centres in which the malignant cells could grow more rapidly This view was supported by the fact that while cancer cells were found in the lymphatics it was not until the glands were reached that any large deposits of cancer appeared moreover it had been shown that tonsillar extract contained a definite growth producing substance for tissue culture He discussed the questions whether radium acted by direct effect on the cells and whether its action was due to the effect on surrounding cells If the action was indirect it might well be that the effect of radium on glandular tissue was far less than on other cells of the body After this review of the biological problems of radio-activity Mr Donaldson outlined the various ways in which glandular metastases in malignant disease of the cervix uteri had been attacked—namely by operation x rays and the direct application of radium by the external and internal peritoneal routes He described his modification of the Brussels methods of introduction as used in thirteen cases subsequently He showed a chart of the results obtained in 1923-24, and detailed the procedure he had adopted in thirty-eight cases but explained that sufficient time had not yet elapsed for definite conclusions to be drawn as to the remote results of this method of treatment He disagreed with Mr Forsdike's view that radium did not affect the ovaries but considered that this was an important factor, further laboratory research was necessary before drawing any final conclusions as to its place in medicine Sir EWEN MACLEAN (Cardiff) mentioned the perils attending the indiscriminate use of radium by those not specially skilled and trained in its application Mr GORDON FICKER (London) stated that after an extensive use of radium he felt that the best result in carcinoma of the cervix followed radical surgery Dame LOUISE MCILROY (London) thought that by treating patients with radium in cancer cases many would be encouraged to apply early, undeterred by the fear that hysterectomy would be performed for symptoms suggesting cancer More knowledge was required about the individual case before applying radium therapeutically, in order to prevent some of the immediate serious consequences Mr T G STEVENS (London) remarked that the discussion so far had been mainly theoretical, a few practical hints would be of value to many present He thought that radium should be distributed at the introducing end of the applicating needle rather than in the middle He deprecated the use of emanation tubes which he considered valueless the services of a physicist were essential to control the actual dosage As regards the area of activity he was sure that the ovaries were the main organs affected in cases of menopausal bleeding, and not only the endometrium, which suffered partial and not complete destruction.

The President, Mr COMYNS BERKELEY, continuing the discussion, said the position of radium with respect to other methods of treating cancer of the uterus was not yet fully clear, its determination necessitated the analysis of a large series of cases extending over many years, possibly as many as ten Such an analysis could be of value only if when dealing with various cases of the disease in a particular organ very careful reports were made by all the medical men concerned on the same lines and on similar case sheets, including, whenever possible, a note of the after-history up to ten years or death if such should occur during this time According to the published results of certain Continental clinics, the treatment by radium of cancer of the cervix had been more successful than in any other part of the body The results, however from these various clinics, and especially from those in England were very unequal For some years now there had been two schools of practice dealing with cancer of the cervix—that of surgery and that of radiotherapy An examination of the published results of authorities in each method of treatment disclosed the fact that the percentage of cures (freedom from recurrence after five years) was somewhat larger after the radical operation, but that the primary mortality was much higher In fact the primary mortality with radiotherapy compared with that following the radical operation might for statistical purposes be regarded as negligible To arrive at a definite decision as to the best method of treatment from a comparison of the two methods was not, however, a simple matter Just as the results of any particular surgeon should be based on the knowledge of his operability rate only—that was the number of completed radical operations he performed out of the total number of cases on which his advice was sought—so the value of the result of the radium therapist should be based on the knowledge of his radium rate only—namely to how many cases did he give the full treatment out of every case on which his advice was sought even if any of the patients were in extremis Many surgeons whose statistics were sufficiently exhaustive to be relied upon maintained that the published result of radium treatment could not in all cases at any rate be fairly compared with those of the radical operation since such strict records were not obtainable and that therefore the sample of radiotherapeutic cases might well have been one of a less advanced nature In his hands he surgeon gave more patient a chance when taught account in a great measure for the primary mortality The argument that the operability rate was a personal factor depending on the judgment and skill of the operator and that it therefore did not assume the importance which had been claimed for it when a comparison was being made of the two methods was fallacious, since any authority on the treatment of cancer of the

cervix knew that if a surgeon completed the radical operation on 65 out of every 100 women he saw, he must be operating on very advanced cases as well as on others

It seemed almost impossible to reach a classification of the extent of the disease which would enable a comparison to be made between the various methods and the various clinicians Although not by any means perfect, the classification of the League of Nations into four stages appeared to be the best available at present, it had been adopted by all Continental nations and by all the centres of the National Radium Commission It might appear easy to divide cases into operable and non-operable, but to assess the value of such a division one must know the operability rate of the surgeon reporting his results The majority of surgeons had not given their operability rate when publishing their figures The division of cures by the pure radiologist into operable and non-operable was futile, since he had no means of knowing from personal experience which cases were operable and which were not *Although, therefore, the classification into four stages was* undoubtedly the best at present, the diagnosis of the exact stage of the disease in any particular patient must always remain a personal factor of the medical practitioner treating the patient, the most difficult stages to separate being the second and third in certain cases A final judgement as to the value of treatment by radium could be given only when it was specifically stated, in the reports *from each clinic, (1) how many patients were seen by the* medical officer as out-patients, in-patients, or in consultation, (2) how many of them received the full treatment, (3) how many were incompletely treated, (4) how many were refused treatment, (5) the *reason for the incomplete* treatments, (6) the reason for refusing any treatment With respect to the best treatment of the glands the President added that he had an open mind, more especially as regards the early cases, since it was known that cancer of the cervix differed somewhat remarkably from cancer in other situations, in that glandular infection was comparatively late In all his radical operations he had had the glands examined, and many times he had been struck with the fact that in what was an apparently somewhat advanced case the glands were free from involvement Enlarged glands were not rarely inflammatory in nature He kept his mind open because at the two greatest centres for radium treatment—namely, at Stockholm and Paris—although the cure rate in both had been practically the same, in Stockholm, until recently, the glands had not been treated, while in Paris they had Professor Heyman had stated that he was now treating the glands, with the idea that he would get better results with the advanced cases If this turned out to be the case, it would suggest that the Stockholm method was superior to that of Paris, apart from the treatment of the glands, this might be substantiated now that the glands were being treated

SECTION OF BACTERIOLOGY, PATHOLOGY, PHYSIOLOGY AND BIOCHEMISTRY

Wednesday, August 27th

THE Section met under the presidency of Professor ROBERT MUIR of Glasgow, who conveyed the most cordial greetings of the workers in these subjects in Great Britain to those in Canada, and the regrets of many who had been unable to make the journey He voiced the appreciation of his companions for the Canadian hospitality which had been extended to them ever since their arrival in Quebec

MELANIN AND MELANOSIS

Professor JAMES EWING (New York City) opened a discussion on the physiology and pathology of melanin, dealing particularly with melanoma He referred to new light that had been thrown upon the subject by the brilliant procedures and results of Professors Masson and Sinnard of the Université de Montreal, and classed melanoma as a disease of the peripheral nervous system While admitting that his theory could not be regarded as established, and conceding that pigment formation could occur in epithelial cells, he emphasized the difference in behaviour between the cells responsible for the development of true melanoma and those in other types of melanotic tumours, stating that he did not consider epithelium to be the actively functioning type of cell in the former condition

Professor MATTHEW J STEWART (Leeds University) dealt particularly with melanosis of the colon, the now well recognized condition of the large intestine in which a deposition of melanin or melanin-like pigment appeared in the mucous membrane of the gut He briefly reviewed the earlier literature, pointing out that the earliest description of the condition was given just over a century ago, the first case was reported in England in 1867 Most of the recent work on the subject was German (Edgar, 1898, Pick, 1911, etc) Heuschen and Bergstrand published a careful and complete study in 1913, and Lubarsch and Borchardt thoroughly reviewed the subject in 1929 His own observations were based on two groups of cases an unselected series of 600 necropsies at all ages, and a consecutive series of 100 cases of carcinoma of the colon In the first group the whole length of the alimentary canal was subjected to close naked-eye inspection, but only selected examples were examined microscopically, in the second all the cases were submitted to histological examination In the first, 11 2 per cent exhibited melanosis of the colon, in the second, 55 cases showed the condition, and it was discovered in 13 others microscopically (Heuschen and Bergstrand found 4 naked-eye and 61 microscopic examples in 225 consecutive necropsies) The condition was rarely seen under the age of 30, and became increasingly common after the age of 60 There was no significant difference in distribution between the sexes In the second series (carcinoma of the colon) the importance of the part played by obstruction in the causation of melanosis was shown not only by the relatively much higher incidence in these cases, but also by the fact that the pigmentation tended to be more intense above than below the growth This was so in 33 out of 59 cases In 17 others pigmentation was present only in the upper segment The morbid anatomy of melanosis of the colon was well established The colour of the affected mucosa ranged from greyish or buff stippling through dark grey or brown to intense black The distribution was characteristic, almost invariably the pigmentation was deepest in the caecum and colon, becoming gradually less intense on passing down the gut, in very advanced cases dark brown or black pigmentation might extend to the anus The pigmentation was sharply delimited above by the ileo-caecal valve, though Heuschen and Bergstrand were able in 9 of their cases to demonstrate melanin granules microscopically in the mucosa of the lower ileum Histologically, in the great majority of cases the pigment was confined to the mucous membrane, where it lay within the cytoplasm of large monocular cells whose precise nature was still unsettled Appearances suggested that the formation of melanin took place mainly in the surface zone, with a later downward migration of the melanin-containing cells The epithelium of the mucosa, whether superficial or glandular, was invariably pigment-free, and the solitary follicles of lymphoid tissue were usually so In a few cases little groups of pigment cells could be seen on the deep side of the muscularis mucosae, and metastasis of pigment to the mesocolic lymph glands also occurred Recent workers had more or less agreed that the pigment was either a true melanin or intermediate between a melanin and a lipofuscin (or wear and tear pigment) The chief differences between it and skin melanin were that it was more slowly soluble in antiformin and was bleached more slowly by hydrogen peroxide Since Pick and Brahm found that the pigment from a typical case of melanosis in a woman of 23 showed the same solubility in warm 5 per cent sodium hydroxide as skin melanin, while that from older persons was negligibly soluble, they suggested that melanin changed in composition with the passage of time Pick's theory of the source of the pigment now met with general acceptance, aromatic protein disintegration products absorbed from the large intestine were converted into melanin within the connective tissue cells by a tyrosinase-like ferment This explained equally the importance of prolonged constipation as an etiological factor, since it led to excessive putrefaction in the large gut, the virtual limitation of the process to the colonic

mucosa, and the tendency for the pigmentation to be most intense in the caecum and ascending colon, where absorption was greatest

Dr SEYMOUR HADWEN (veterinary pathologist to the Ontario Research Foundation) dealt with melanin formation in animals. He considered that animals were coloured primarily for reasons connected with health. An Arctic animal, such as the snowshoe rabbit, was coloured white externally for warmth. Its coat had four bands of colour, both to attract and to retain heat. The change to white in autumn was structural and not a depigmentation. Stimulation through injury, bites of insects or bacterial action might intensify hair colour, or else the cells might be injured sufficiently to prevent production of colour. The change from black to white in animals bearing albinotic patches was very delicate, and ended with two cells lying side by side, one producing colour, the other not. Albinotic cells could reproduce themselves and were strongly inherited. Freckles occurred only in old horses, not in young animals. Horses which became white with age and freckled horses invariably had melanotic tumours. Melanotic deposits were common in all part of the body, but frequently the masses were seen in avascular situations such as the periosteum, tendons, and serous coats. There was usually no connexion between the tumours and the epidermis. Extensions of the pigmented masses might arise in some cases through pressure from the harness, and were not due to malignancy.

Professor A. T. CAMERON (Winnipeg), dealing with the biochemistry of melanin, pointed out the need for defining melanin more accurately, and the danger that at present existed through the uncritical tendency so to term any brown or black pigment which exhibited certain physical properties. The analyses of melanins from various sources showed such wide variations as to be valueless. Melanins contained carbon, hydrogen, oxygen, and nitrogen, but it was doubtful if pure melanin contained sulphur or other elements. The most outstanding recent contributions to the biochemistry of the subject were the work of Professor Raper and his colleagues on the action of tyrosinase on tyrosine, and the discovery by Professor Bruno Bloch of a specific enzyme dopa-oxidase, which acted upon 'dopa' (dihydroxy phenylalanine). Raper had shown that tyrosinase acted on the amino-acid tyrosine in presence of air to produce initially "dopa," this changing to an indole derivative which was decarboxylated to a red compound. The action of the enzyme ceased at this point, but further slow oxidation ensued through a colourless stage to dihydroxy indole, which was further oxidized and polymerized to melanin. Bloch's dopa-oxidase, starting with the tyrosine derivative "dopa," probably acted through the same stages. Since two of the purest melanins so far obtained—that prepared from tyrosine by the action of tyrosinase, and that from the urine of melanotic patients by the oxidizing action of potassium persulphate—both contained no sulphur and practically the same percentage of nitrogen, and since Raper had found that melanin from the skin of a negro, and the "ink" of the squid, and from a melanotic tumour, showed no essential difference, it would appear that many melanins were if not identical, of very similar chemical nature. Melanogen, the colourless precursor, might be the simple indole derivative formed from Raper's red compound or a substance similar in complexity to melanin itself. There were insufficient data to settle this point. The pigment in Addison's disease was possibly derived from an adrenaline precursor, as Bloch suggested, but more probably was due to failure in output from the adrenal cortex of a product which inhibits pigment formation. In regard to the work of the Italian school, suggesting pyrrol as the precursor of melanin, the available evidence appeared on the whole to be adverse to this view.

Professor G. S. WILSON (London School of Hygiene and Tropical Medicine) read a paper on the diagnosis of undulant fever. He dealt critically with the methods at present available for the diagnosis of *Brucella* infections. He pointed out that the interpretation of a positive agglutination reaction was often a matter of considerable difficulty, demanding close co-operation between the clinician and the bacteriologist, and stressed the necessity of testing a series of dilutions of serum, stating the correct interpretation of various types of result. The agglutination test was of very real value, but by no means infallible. The blood culture method led through the isolation of the infecting organism to the most satisfactory way of establishing the diagnosis, repeated blood cultures might be necessary, and success was by no means uniform. In an infant fever due to *Br. melitensis*, the organism could usually be recovered sooner or later, when the disease was due to the bovine type of *abortus* failure was often met with. Methods involving cultivation from material other than blood, animal inoculation, and the intradermal reaction were also critically discussed. Professor JAMES MILLER (Kingston, Ontario) referred briefly to conditions in Eastern Canada.

Sir KENNETH GOADBY read a paper on the chemical composition and fractionation of the *Staphylococcus aureus*. From a culture on agar he had prepared, he said, an ether extract of a lipoid nature which injected into the skin reproduced the condition of carbuncle minus the suppuration. He suggested that such fractions might have useful employment in vaccine therapy.

SECTION OF PREVENTIVE MEDICINE.

Wednesday, August 27th.

THE TRAINING OF PUBLIC HEALTH PERSONNEL.

UNDER the chairmanship of the President, Dr. A. S. MACGREGOR (Glasgow), the whole morning was devoted to a symposium of "The development of a well-trained public health personnel." Professor J. G. FITZGERALD (Toronto), *in his general introduction, examined in turn the variety* of types of health worker and the courses available for their instruction at university colleges. He considered the special requirements for those non-medical workers seeking higher degrees in public health, the needs of the public health engineer, the public health nurse, the sanitary inspector, the veterinary inspector, the medical graduate, and the undergraduate medical student. An account was given of the medical students' course established in 1924 in the University of Toronto. The general subject was then considered under five subheadings.

Discussing undergraduate medical training in public health, Dr. A. GRANT FLEMING (Montreal) described in some detail the course now presented at McGill University. This sought to provide a minimum factual knowledge, to show the student the field of work, and to bring home to him his responsibility for applying this knowledge. It was intended that the preventive aspect of medicine should permeate all the medical teaching. The objects of the special department were presented to the student throughout the whole five years of his medical training, so as to integrate with his clinical and other studies. In a review of special or post-graduate public health training, Dr. DONALD T. FRASER stressed the need for expert technical assistants, who on working for an appropriate B.A. degree should be qualifying themselves to obtain positions in the public health service without the need of further study. The role of the public health nurse was considered in some detail, together with the course now available for her in Canadian universities. The qualifications of candidates for post-graduate degrees or diplomas in public health were examined together with the content of courses offered. Dr. JAMES RUSSELL ROBERTS (Ontario) said that in many parts of Canada the education and preliminary training of the sanitary inspector was neither satisfactory at the present time nor did it hold out hope for the immediate future. Frequently this official was too Cinderella of the health department, dreaming among the ashes of the past. Dr. Roberts described the highly important work awaiting the sanitary inspector who was a technical expert, and discussed a suitable curriculum for training, which in his view should be related to the work of the provincial universities. In an extempore address on the midwife, her training, supervision, and conditions of service, Sir T. EUSTACE HILL (Durham) referred to the fact that in none of the excellent papers to which he had listened was any reference made to the position of the midwife. He concluded thus: that the midwife had no place in the Canadian Health Service—was not controlled and

was not certified In England, owing to high maternal mortality and high neo-natal mortality death rates, this matter was receiving constant attention, and had been the subject of *important reports by departmental committees*, the British Medical Association, and the Women's Medical Federation It was recognized in Great Britain that much of the maternal mortality and neo-natal mortality could be prevented by an efficient midwifery service, which meant the availability of a doctor and trained midwife to every expectant mother In Canada, or at any rate in the province of Saskatchewan, the maternal mortality was considerably above the persistently high rate of England and Wales The speaker referred to the low maternal mortality in certain poor districts in London, and in well-administered maternity homes and hospitals, and especially when trained nurse midwifery services were available through nursing institutions, a large proportion being supplied by the Queen's Institute of District Nursing After enumerating the essential factors in connexion with the training, supervision, and conditions of service of midwives, in respect of which he stressed the importance of the adoption of the recommendations of the Departmental Committee on the Training of Midwives, Sir Eustace Hill said that after passing the examination of the Central Midwives Board the midwife should have three months' practical training in a maternity home, or under an approved highly trained midwife, before being allowed to practise He urged Canadian health officers and others to give the question of an efficient midwives service careful consideration, and strongly advised them to study the reports of the departmental committees, and the Memorandum of the British Medical Association on a National Maternity Service He pointed out that in England 70 per cent of maternity cases were attended by midwives, who had to call in medical assistance should the patient have any abnormality or complication, and that the British Medical Association, in its memorandum, agreed that more cases of midwifery might be safely left to the midwife subject to necessary medical assistance and supervision being available

Discussing the training of the health visitor, Dr F C MIDDLETON (Saskatchewan) said that preliminary education for the teaching of health should be at least equivalent to that of a girl entering the teaching profession Her training course should be at an approved hospital Personality was of fundamental importance Modern tendencies in the course of instruction were examined, and the part played by the Victorian Order of Nurses for Canada and the Rockefeller Foundation of New York in furthering the training of health visitors was described

With the exception of Sir T Eustace Hill's contribution the opening papers will be published in full in subsequent numbers of the *Journal* A general discussion followed the reading of the papers, most of the speakers concentrating on the subject of the midwives service The Hon Dr E W MONTGOMERY, Minister of Health, Manitoba, said that in Manitoba there was great difficulty in establishing full-time rural public health units, because the farmers in sparsely populated districts were not yet prepared to finance schemes The provincial maternal mortality rate had fallen, but it was still excessive, the proportion of deaths in small hospitals was unduly high Dr JOHN W BONE (Luton) stated that the great hopes aroused by the various Midwives Acts had not been fulfilled In his view they had failed to secure the right type of women to act as midwives, most of the best types who qualified never actually practised Preliminary general education was necessary, and post-graduate refresher courses should be freely available for all practising midwives Only thus might they hope to reach the position of countries like Holland and Denmark, where a reduction of the mortality rate to about 2 had been effected With regard to experience in Manitoba, the highest proportion of deaths was in small hospitals, he remarked that this concurred with the opinion of the British Medical Association that the safest place for the normal confinement was in the home, and that the hospital was only necessary for an abnormal case or where the home conditions were unsuitable Small hospitals were very dangerous unless properly constructed, suitably equipped, and, what was of still greater importance, every member of the staff was expert in aseptic and antiseptic methods

Dr ROSE MOLLOY (Birmingham) thought it important to attract to the profession of midwifery women of better general education than was customary to-day Status and salary at present were not sufficiently attractive to induce the best type of women to become midwives A more thorough system of training should be evolved, as more harm might be done by half-trained midwives than by even untrained women Inspectors of midwives ought to act in an advisory capacity rather than be critics, and inspectors of midwives ought to be physicians who had had practice and experience in midwifery Dr PRIOR (maternal and child hygienist, Department of Health, Ontario) said that there was no public demand in Ontario for a midwives service From information available there was no large group of pregnant women in that province not receiving medical service The maternal mortality rate was extremely high, a general interest was being shown by the profession, health authorities, and the public in the solution of the problem, and the possible place of the well-qualified midwife warranted consideration by these interested groups Dr DOUGLAS (Winnipeg) stressed the importance of impressing on medical students that the general practitioner could be of great assistance in carrying out the programme of modern preventive medicine among his patients The trained sanitary inspector was one of the most valuable agents in spreading health propaganda Dr A S M MACGREGOR (Glasgow) spoke of the excellent schemes of undergraduate medical training in Canada as exemplified at Toronto, and of the changes required to modify the conventional D P H course, so as to lay stress on applied physiology He anticipated the development of municipal midwifery services For the health visitor the first qualification was her temperament He commended to the Minister of Health of Manitoba the experience of the Highlands and Islands service of Scotland, which might aid him in dealing with the rural problems of Manitoba

In reply, Professor FITZGERALD said that in Canada the problem of maternal mortality was viewed with as great concern as in the Mother Country, and yet puerperal fever was increasing rather than decreasing Sir EUSTACE HILL, in his reply, stated that the medical profession was significantly to blame for the present maternal mortality rate, and that it was unfair to throw this, even by implication, on the midwife

SECTION OF MENTAL DISEASES AND NEUROLOGY

Wednesday, August 27th

ABNORMAL MENTAL AND NERVOUS CONDITIONS AT THE MENOPAUSE

THE President of the Section, Sir FARQUHAR BUZZARD, acting as chairman, opened the session with a *graceful* tribute to the modesty and generosity of the Canadians in allocating to them visitors the position of honour He then introduced Dr GEORGE RIDDOCH (London), who opened the subject by first defining the term climacteric, or involutional period, and thus describing the commoner changes undergone by both men and women during this phase of their lives He dwelt at considerable length on the physiology of this period, drawing attention to the changes that occur in the functional activity of the so-called ductless glands, and to the manner in which the activity of the autonomic nervous system is changed so as to account, in part at least, for the emotional symptoms which are so constantly a part of the picture in menopausal states Emotional, vasomotor, and nervous symptoms of the normal climacteric he discussed under the headings premenopausal, menopausal, and post-menopausal, pointing out that in the majority of cases mental and physical symptoms did not put in an appearance at the same time Although emotional disturbances at this time of life were fairly common, the speaker wished to emphasize that many women were able to undergo the transition to middle age so easily that their symptoms barely disturbed "the even tenor of their way" On the other hand, some were harder hit, and were unable to face the change of life without a breakdown in both physical and mental health The etiological factors in these cases

were discussed at length under the following headings (1) constitution and temperament, (2) the emotional and physical background of the woman's life, (3) preconceived notions about the climacteric Mental states associated with the menopause were classified by the speaker, according to their severity, as psychoneuroses and psychoses In the psychoneurotic he maintained the symptoms were simply a magnification of disturbances that can be considered as normal at this time of life Among the psychoses he considered that melancholia was by far the most common, representing about 66 per cent of psychotic syndromes at the climacteric Other varieties of mental disorder were referred to as chronic paranoid states and confusional insanities In considering factors influencing the prognosis Dr Riddoch stated that, on the whole, the outlook for recovery was good, the duration of illness in recoverable cases being between six and nine months The paper was concluded with remarks on treatment under the headings of prophylaxis, glandular therapy and psychotherapy

Dr C B FARRAR (Toronto) continued the discussion by presenting a very interesting and instructive series of charts which had been compiled from statistics obtained in the study of cases at the Toronto Psychiatric Hospital Chart 1 showed the relation between the numbers of men and women admitted during a two-year period and the number of both sexes in the community population Chart 2 illustrated the ages of females at the time of admission The peak was shown to be between 20 and 25 with only a slight rise at the involution period Chart 3 showed that in the case of male admissions the peak was reached at between 30 and 35 Chart 4 showed the admissions according to type of psychosis, and it was pointed out that in 36 3 per cent the mental disorders were associated with the involutional period The fifth chart showed the relation in time between occurrence of mental and of physical symptoms in involutional states The sixth chart classified the cases according to diagnosis, and the seventh listed the outstanding etiological factors in menopausal states as follows exaggerations of constitutional traits, physiology of menopause, habitual menstrual variations, early involutional changes psychology of menopause, and factors independent of life epoch The eighth chart indicated physical disabilities found in the series and the ninth was an analysis according to physical types—namely, pyknic and asthenic The former types were noted as being in the minority The last chart illustrated the prognosis, and it was pointed out that in the series three-quarters of the cases had recovered

Dr C A BARAGER (Brandon) expressed his appreciation of both addresses stating that if his opinions did not appear to agree with those of the speakers it would be because his experience in a provincial hospital had been in dealing with more advanced cases The depressive-apprehensive type of depression he considered to be the commonest mental disorder associated with the involutional period, and he thought it was rather more frequent among women He differentiated between cases in which there was a history of a former depression and those in which there was none, and considered that the prognosis in the former group was very much better than in the latter He laid considerable stress on cases of mental disorder of the involutional period in which the symptoms were outstandingly schizoid, and referred to them as late praecox syndromes He considered that former speakers had not emphasized the psychological factors in the etiology of involutional states People at this time of life underwent a tremendous change in outlook which undoubtedly in many cases was so great as to be an important etiological factor in the development of their state Dr J G McKAY (Vancouver) prefaced his remarks by saying that his viewpoint would be that of a consultant In private practice the one thing in which relatives were most interested was prognosis, and he wished to know just how one could distinguish between psychoneurotic and psychotic states Dr R G ARMOUR (Toronto) confined his remarks largely to therapy as applied in private practice and in hospital Many patients he thought got better much more quickly under supervision in a mental hospital than they did elsewhere

In replying, Dr RIDDOCH admitted that it was extremely difficult to draw the line between psychoneurotic and psychotic cases Psychoneurotics, he thought were in reality mild cases of melancholia The outstanding differential feature between the milder and more severe cases, he considered, was that in true psychotics the patient always takes the blame for misfortunes whereas psychoneurotics project their troubles and tend to lay the blame on others The psychoneurotic also is more prone to emotionalism and tearfulness, the psychotic is beyond this point of being able to express herself emotionally Dr C B FARRAR in his closing remarks brought out several points of differentiation between mild and more severe cases and pointed out that early institutional care should be advised where there was anything suggestive of suicidal tendencies

SECTION OF ANAESTHETICS

Wednesday August 27th

ANAESTHESIA FOR OPERATIONS ON THE GRAVID UTERUS

Dr RAYMOND E APPLEBY (London) the President opened the proceedings by thanking the members of the Canadian Medical Association for the cordial welcome extended to members of their British counterpart He had also brought greetings from the Section of Anaesthetics of the Royal Society of Medicine Dr H W FEATHERSTONE (Birmingham) read a paper on anaesthesia for operations upon the gravid uterus, outlining the various methods used and stressing the importance of spinal anaesthesia in these circumstances He was convinced that this method possessed distinct advantages in certain cases, but for routine work it would be difficult to displace nitrous oxide and oxygen Dr S JOHNSTON (Toronto) considered that both pre medication and post-medication were most important factors He also expressed the opinion that nitrous oxide and oxygen proved of the utmost value in this type of work An analysis of 150 operations performed upon pregnant women under this anaesthetic at Toronto General Hospital showed that the highest mortality occurred in toxic patients Dr Johnston regarded chloroform as a dangerous drug in no circumstances would he allow a patient in labour to administer it to herself If he were handicapped by lack of assistance he would first give ether and then carry out any necessary operative measures He did not agree with the statement that ether generally caused secretion bubbling and cyanosis if it was given carefully by the drop method there should be little or no cyanosis He had found spinal anaesthesia of great value in diabetic patients but in those with cardiac conditions a great deal depended upon the extent of the lesion Professor W WEBSTER (Winnipeg) thought that in pregnancy an anaesthetic which was both absorbed and excreted rapidly was of prime importance he therefore regarded ethylene and nitrous oxide of great value and it was his practice to use one of these as an analgesic He objected to spinal anaesthesia for the reason that it contracted the circular muscle of the uterus and was therefore prone to delay labour Dr BOTSFORD (San Francisco) agreed that the administration of nitrous oxide and oxygen was absolutely safe She did not practise pre-operative medication because she regarded it as having a deleterious effect upon the child Ether was used in addition when labour was prolonged but just before the child was born the mother was flooded with oxygen Sodium amytal was helpful to the mother the drug producing a condition resembling scopolamine-morphine narcosis Several fatalities had occurred however in the case of the child Dr D LAMB (Glasgow) on behalf of the Scottish Society of Anaesthetists thanked the Canadian Medical Association for its hospitality He commented on the different conditions under which midwifery was practised in North America and in the British Isles The administration of nitrous oxide must be confined of necessity to hospitals while for domestic midwifery nothing equalled the administration of small whiffs of chloroform This could be done by the patient herself it was perfectly safe and effective and the popularity of this method spoke for itself Dr R WATERS (Madison Wisconsin) stated that chloroform was largely used in midwifery in American rural districts He considered that when spinal anaesthesia was employed oxygen and carbon dioxide should be used in addition, to maintain

correct alveolar balance Dr J S LUNDY (Rochester, Minn) said that recently it had been shown that chloroform had very little effect upon newly formed liver tissue, this probably accounted for the innocuousness of this anaesthetic as regards the foetus The PRESIDENT commented upon Dr Lundy's statement Some years ago he had investigated the action of chloroform upon liver tissue, and he had found that some livers were damaged more easily than others Perhaps Dr Lundy had indicated the true explanation He used spinal anaesthesia in cases complicated with cardiac disease, but thought nitrous oxide and oxygen the ideal anaesthetic for pregnancy

TECHNIQUE IN ENDOTRACHEAL ANAESTHESIA

Dr I W MAGILL (London), in a paper, reviewed the methods of endotracheal anaesthesia commonly employed, and described a method of nasal intubation which he had used for the past eleven years with considerable success Dr R WATERS (Madison, Wisconsin) wondered if Dr Magill had used CO_2 to separate the vocal cords He also inquired if he employed morphine or other pre-operative medication He did not like the two-tube method because it tended to wash out CO_2 from the patient, he preferred the single-tube method, with to and fro respiration Dr Waters described an inflatable attachment, encircling the catheter, and used to plug the pharynx Dr R HARGRAVE (Toronto) asked if Dr Magill had experienced difficulty in connexion with preliminary cocainization of the larynx He had never employed nasal intubation Dr S JOHNSTON (Toronto) described a case in which sudden cyanosis and death occurred during endotracheal gas and oxygen anaesthesia, and inquired if Dr Magill could put forward any explanation Dr BLEZARD (Edmonton, Alberta) put the question whether nitrous oxide produced sufficiently deep anaesthesia for intubation, and Dr HAYES (New Zealand) whether Dr Magill interrupted the flow of gases, and at what period the tube was removed Dr E I MCKESSON (Toledo, Ohio) believed that a great future existed for nasal intubation He had experimented with the subject, but Dr Magill's methods had convinced him that he was working on the wrong lines In America there was scope for improvement in intratracheal anaesthetics As Dr Magill had pointed out, the position of the tip of the catheter should be visualized Dr LUNDY (Rochester, Minnesota) considered that sudden pressure upon the posterior pharyngeal wall was not devoid of risk He described a case in which sudden death occurred during this manœuvre Dr FEATHERSTONE (Birmingham) inquired whether there was any risk of trachitis He had seen cases in which the catheter had passed into the œsophagus Dr BOTSFORD (San Francisco) described a method of passing the catheter indirectly by means of a stylet Dr H SHIELDS (Toronto) said he was impressed by the simplicity of Dr Magill's method, and by its adaptability to oral and pharyngeal operations In reply, Dr MAGILL said that he did not hesitate to employ CO_2 to widen the vocal cords, or to employ premedication The anaesthetic was delivered at a low pressure He had seen no ill effects from the use of cocaine In conclusion, he said that the main point was dexterity in passing the catheter, it should be well lubricated with vaseline

SECTION OF ORTHOPAEDICS

Wednesday, August 27th

TREATMENT OF CONGENITAL DISLOCATION OF THE HIP

AT the first meeting of this Section the chair was taken by the President, Mr E LAMING EVANS, and Mr H P H GALLOWAY (Winnipeg) opened the discussion with a paper that is printed in full at page 409, on the treatment of congenital dislocation of the hip MR LAMING EVANS reported the results of manipulative treatment in a series of twenty-five patients with thirty-two dislocated hips, who had been treated not less than ten years previously They had been examined within the last few weeks, and the functional results reported were bad, 1, poor, 2, good, 13, perfect, 19 The good results included one anterior transposition and five eccentric nearthroses The average shortening was less than half an inch, though in a series of fifty untreated congenital hip dislocations with the average age of patient 25, the average shortening was 2½ inches Manipulation should always be very gentle, and if the first attempt failed two further attempts were made after intervals of seven to ten days If reduction was still not accomplished, capsulotomy was indicated

MR WATSON JONES (Liverpool) said that the strongest argument Mr Galloway had brought forward was the freedom from trauma which his methods entailed But Putti had shown us that if a case could be diagnosed within a month or two of birth it could be completely cured by simple abduction of the hips There was practically no manipulation and therefore no trauma at all Between this type of case and the definitely irreducible hip of the adult, there must be a certain proportion of cases reducible by manipulation without trauma Manipulative treatment should be bloodless, and, provided that no force was used, a simple manipulation did not interfere with subsequent operative treatment Dr T HARTLEY MARTIN (Leasowe) described the application of Putti's method in treating congenital dislocation of the hip in three patients under 12 months of age In two cases reduction was effected in three months, and in the third case, which was that of a delicate premature child, the dislocation was reduced in twelve months The secret of success lay in early recognition, and under such circumstances there was no necessity for operation Mr W A COCHRANE (Edinburgh) said that though operative treatment might be quite safe in the hands of the specialist, we had to legislate also for the general surgeon and the practitioner Furthermore, conservative measures have advanced coincidently with operative methods The speaker preferred Denuce's manipulative method because it was so gentle, and in the few cases in which operation was carried out, Kocher's posterior approach was utilized Dr GALLIE (Toronto) said that his practice had been strongly affected by a case he had seen in which operative reduction had been complicated by very severe infection of the wound and joint He reported eighteen private patients suffering from congenital hip dislocation which had been treated by manipulation, and perfect functional results had been secured in all cases but one He thought that though operation was quite safe in the hands of Mr Galloway, the average results in the hands of all practitioners were better by manipulation than by operation Dr HENDERSON (Mayo Clinic) said that Dr Galloway was pursuing the only fair course for a scientific investigation Every case he saw was being treated by operation, so that a true interpretation of the results of operative treatment would be possible In the speaker's own practice, operative methods were only used when manipulative methods had failed, and in this group of cases the results were very poor

DR GALLOWAY, in replying to the discussion, said that the late changes in the head and neck of the femur and in the acetabulum which had been observed in some of Mr Laming Evans's cases were due to decalcification and to poor resistance owing to long functional disuse during treatment The speakers in the discussion had shown him that the surgeons who were practising manipulative methods to-day had made wide departures from the original methods of Lorenz, and for these reasons the objections to manipulation methods lost a good deal of their force The whole problem became one of early diagnosis, and considerable onus lay on the obstetrician who examined newly born infants with a view to excluding congenital defects

DR A GIBSON (Winnipeg) read a short paper on semilunar cartilages He said that removal of the internal semilunar cartilage usually entailed no subsequent disability, and experiments in dogs had shown that after a meniscotomy the cartilage might be replaced by dense fibrous tissue, so as to be indistinguishable from the original cartilage Specimens were shown of cysts of the external semilunar cartilage They were probably not congenital, but arose from the synovial sheath covering the popliteus tendon, part of which had frequently to be removed Cyst formation and calcification in fibrous tissue were also shown in cases of tennis elbow, and in the supraspinatus tendon Radiograms of calcification in the semilunar cartilages of the knee-joint, and in the triangular fibro-cartilage of the wrist, were also shown

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CONGENITAL DISLOCATION OF THE HIP

It may seem strange that the treatment of congenital dislocation of the hip should still offer ground for discussion not merely about detail, but about fundamental principles, yet, as it cannot be denied that such discussion is necessary, we congratulate the Section of Orthopaedics on having chosen this subject for one of its full dress debates at the Annual Meeting of the British Medical Association in Winnipeg. The section was fortunate in the opener of the discussion, Dr Herbert P. H. Galloway of Winnipeg, for not only is he recognized as an authority on orthopaedic surgery, but on the subject of congenital dislocation of the hip he holds clear-cut and strong opinions which are likely to stimulate controversy and thus, it may be hoped, lead to progress. Dr Galloway's opening paper is published in full in this issue at page 409, and a report of the interesting discussion that followed appears at page 434.

Whether from the standpoint of anatomy and pathology, or from that of etiology, congenital dislocation of the hip presents problems which make its study peculiarly interesting. Its preponderant incidence in females, its preference for certain races and countries, the possible significance of developmental aberrations in its causation, have all raised questions which have not yet been satisfactorily answered. Pravaz, who was perhaps the first to claim to have cured the disability believed that the foggy sky and damp climate of Great Britain favoured the production of deformities in general, yet it is not here that cases of congenital dislocation are plentiful, but in 'sunny' France and Italy. A few years ago Dr Le Damany estimated the cases in France at 200,000, and this figure was accepted by Professor Potel in his *Traité pratique d'orthopédie*.[1] Professor Putti of Bologna and Professor Galleazi of Milan between them treat 1,000 cases yearly, whereas it may be safely assumed that the cases treated in London in any one year would seldom exceed one hundred. In the United States many cases are met with among the children of immigrant Italians and other continental Europeans, but data are lacking about the incidence of the deformity on the Nordic stocks. In explanation of the sex incidence, it is suggested that an important factor is the lesser obliquity or nearer approach to vertical of the wall of the female pelvis; but there is no precise evidence that such a difference between the male and female pelvis exists in infancy, or, if it does, that it is sufficient to determine a greater incidence of luxation in the female. If developmental aberration is held responsible it still remains to be discovered why the female sex is so preponderantly affected.

Nearly a century has elapsed since Pravaz first claimed to have cured a case of congenital dislocation by prolonged extension and manipulation. At that time, although a commission of the Academy of Medicine vouched for the cure such was [illegible] of opinion that the well-known orthopaedic surgeon Bonnier emphatically dissented, declaring that no case of congenital dislocation of the hip had been or ever could be cured. Later Pravaz claimed to have cured a number of cases, but after his death the treatment fell into disuse and interest in the subject waned until Paeci rediscovered some of the principles underlying Pravaz's method, and these were adopted and further elaborated by Adolf Lorenz. Until Roentgen's discovery in 1895 the diagnosis of congenital dislocation in young children was necessarily uncertain, and this meant that those very cases were liable to be missed which offered the best hope of cure. Coxa vara and luxation have been mistaken for each other by first-rate authorities, and the diagnosis has only been made certain by means of *x* rays. The first great advance in treatment was made by Hoffa of Würzburg, who had treated eight cases by open operation before the publication in 1891 of his well-known book on orthopaedic surgery. In at least one of these cases the treatment was very successful, and on these grounds we would extend Dr Galloway's 'barely thirty years since this disability was generally recognized as having been emancipated from the list of affections regarded as incurable' to over forty years. Hoffa clearly showed the way to anatomical correction by open operation, which involved excavation of the acetabulum and practically reconstruction of the joint. But the operation was severe, and not all the results were favourable, so that when Lorenz made his triumphal tour of the American clinics reducing dislocations of the hip by means of manipulation wherever he went, surgeons were carried away by his enthusiasm, and the operative method of Hoffa suffered undue depreciation and neglect. It soon became evident however that even treatment by manipulation was not infallible. In a formidable percentage of cases it appeared that the method had done irreparable damage, in not all the others had it succeeded in bringing about a cure. Only some of the defects were to be attributed to manipulation, by selection of cases and the use of gentler and more gradual methods better results were secured, and *open operation* was reserved as the final resort for obstinate and older cases.

Not all surgeons were content with this compromise, and it must be admitted that the advocates of arthrotomy had the best of the argument on anatomical and pathological grounds. The difficulties created by the hour-glass constriction of the capsule and the shallow or negligible acetabulum can only be overcome with certainty by exposing the parts and removing all obstacles to anatomical correction, and it is probable that most surgeons would adopt that method if they could feel sure that the risks of failure and of inflicting damage were negligible. After all the disability attending untreated congenital hip luxation especially in unilateral cases is too small to justify any great risks on the part of the surgeon. In northern Italy and France where congenital dislocation is most prevalent and in Great Britain where it is comparatively rare manipulative treatment has been the rule. In the United States however Dr Sherman of San Francisco has for some years treated all cases by arthrotomy and is entirely satisfied with the results. Dr Galloway tells us that since 1904 he has followed Sherman's example and in his opening paper he gives some account of the works by which he justifies the faith that is in him.

[1] Paris, 1925. Reviewed in *British Medical Journal*, February 14th, 1925, p. 312.

LONDON WATER

MUCH of the water supply of London comes on rain-laden clouds from the Atlantic The rain falls abundantly on the hills which dominate the watershed of the Thames Above and below ground it flows then as brooks and rivers or through vast underground lakes towards the sea It encounters on its journey thousands of contaminations, and comes at last to the Metropolitan Water Board robbed of its pristine purity It is then lured back by natural and artificial means into the realms of safety In phrases like these Sir Alexander Houston is wont to embellish and lend colour to the subject of water supply with the express object of quickening interest, for he believes that such a quickening of interest is one of the surest ways to create and maintain a feeling of responsibility Pursuing this policy, his twenty-fourth report,[1] covering the year 1929, contains an attractive and picturesque description, with photographs, of the service reservoirs of the metropolis, which balance or equalize consumption, and maintain supply when great mains burst or disastrous fires occur Usually situated at high levels and set like outposts to guard the central stronghold, they act as the sentinels over the water of London The reader is conveyed from reservoir to reservoir under the author's genial guidance, and for parts of the way in the improving or lively company of Keats, Shakespeare, Tom Hood, and Don Juan He is also invited to "come down to Kew in lilac time," is told where he can procure a hedgehog, and is entertained with a reflection on eels He is further regaled with a hypothesis that the collapse of the money market in Wall Street in the autumn of last year was due to the chlorination of New York water On this theory (with which the author of the report is not to be held as concurring) the non-sporing bacteria in water normally produce a state of psychological equilibrium which is antagonistic to speculation When the non-sporers are killed by chlorine the sporing germs survive alone and engender speculative fever! Lastly, for the benefit of the householder, there are useful hints on how to avoid burst pipes in frosty weather

In previous reports the claim had been made that since May, 1916, when the chlorination of part of London water began, about two million consumers had been supplied with chlorinated water without complaint of the presence of the tastes to which chlorine sometimes gives rise In 1929 the West Middlesex water provided the first exception The taste was traced to the reaction of chlorine with derivatives from a tarry paint with which the filtered water well at Barnes had been coated The careful examination of the pre-filtration waters—that is to say, the stored water in reservoirs—was continued as in previous years Raw Thames water was found to contain *B coli* in 0 1 c cm or less in 57 7 per cent of samples, while Chelsea stored water showed *B coli* in 100 c cm in 57 6 per cent of samples—a thousandfold improvement on the raw water The Barn Elms experiments were also continued, double filtration being employed, first rapidly through primary filters, then less rapidly through secondary filters, with no coagulant in either case The result has been a final product practically as good as that obtained by normal slow sand filtration, with comparative freedom from algal troubles and a considerably greater output of water per acre of filtration area At the Walton works, where the Barn Elms method is employed, similar results were achieved

In the course of an investigation into the occurrence of *B. typhosus* in raw Thames water some thirty samples, each of 500 c cm , were submitted to examination, and of these two gave a positive reaction Of some thirty controls, also of 500 c cm , inoculated with from 6 to 60 typhoid bacilli, or 25 on the average, all but 3 were found positive, the number of typhoid colonies isolated ranging from 1 to 22, with an average of 8 Collation of the two series suggests at least a comparative infrequency of *B typhosus* in the natural raw water The medium used was Wilson and Blair's glucose bismuth sulphite iron medium On a day in August the consumers of water from the Surbiton (Lambeth) works complained of an unpleasant taste and odour The water in the reservoir concerned was sweet, and the mischief was traced to a main which contained fresh-water mussels and sponges and masses of oscillaria Reference is made to the work of Adams, who has ascertained that certain leaves and twigs are capable of giving rise to the chlor-phenol, by product or iodoform taste in chlorinated water The plants implicated are willows and poplars and the meadow sweet (*Spiraea ulmaria*), and their reacting constituents are salicylic aldehyde, salicylic alcohol, and in less degree salicylic acid It appears that salicin, methyl salicylate, and acetyl salicylic acid are not taste-producing Reference is made also to the activated charcoal filters which have been employed in Germany and the United States to remove tastes from chlorinated waters

In 1929 the number of routine water samples examined in the laboratories of the Metropolitan Water Board was 15,694 Of these examinations, 4,433 were chemical and 11,261 bacteriological *B coli* was absent from 100 c cm of Thames-derived water as delivered to consumers in 72 9 per cent of samples For the Kent wells the corresponding figure was 98 6 per cent , for the Eastern and New River district wells 93 5 per cent In addition to the routine examinations some 4,000 samples were examined for *special purposes* These numbers convey an impression of the rigid scrutiny of the water supply of London

[1] Metropolitan Water Board Twenty fourth Annual Report on the Results of the Chemical and Bacteriological Examination of the London Waters for the Twelve Months ended December 31st 1929 By Sir Alexander Houston Director of Water Examinations, Metropolitan Water Board London P S King and Son Ltd 21s

THE WINNIPEG MEETING

IN our present issue at page 427 we begin publication of reports of the proceedings in the Scientific Sections of the Winnipeg Annual Meeting, which ended on August 29th It is hoped that these summaries will give an idea of the ground covered at each session The papers introducing the debates will be printed in full in our columns during the autumn and winter We expect to publish also in early issues of the *Journal* some account of the social events which have formed such a prominent and enjoyable feature of the British Medical Association's visit to Canada The principal function on the afternoon of Thursday, August 28th, was a special convocation of the University of Manitoba, held in the Winnipeg Winter Club, for the conferment of honorary degrees Archbishop Matheson, Chancellor of the University, presided Those who received the degree of LL D were Professor W Harvey Smith, President of the British Medical Association, and Professor A H Burgess, Past-President, Dr S W Prowse, Dean of the Faculty of Medicine, Manitoba University, Lord Dawson of Penn, President of the Section of Medicine, Lord Moynihan of Leeds, President of the Section of Surgery, Sir StClair Thomson, President of the Section of Laryngology, Sir Farquhar Buzzard, President of the Section of Neurology, Sir James W Barrett, of Melbourne, Professor W E

Dixon, of Cambridge, Mr N Bishop Harman, President of the Section of Ophthalmology, and Treasurer of the Association, and the Medical Secretary, Dr Alfred Cox The new President and the nine guests to whom this honour was accorded were introduced to the Chancellor by Dr Prowse who was himself introduced by the Hon E W Montgomery M D, Minister of Health and Public Welfare for Manitoba At the annual dinner held on the Thursday evening in the Hudson Bay Dining Room there was a very large attendance the company numbering 1,500 The toast of "The Empire" was proposed by Lord Mowmhan, and responded to by Dr W W White, Mayor of St John, New Brunswick Dr W W Chipman, of McGill University proposed the toast of "Prosperity to the British Medical Association," and Dr H B Brackenbury in reply thanked the citizens of Winnipeg and the members of the Canadian Medical Association for their hospitality In his response to the health of the guests, submitted by Sir StClair Thomson Dr William Gerry Morgan, President of the American Medical Association, said that better results in the teaching of medical science might be secured if there were a yearly interchange of representatives between the leading schools of Great Britain and America The toast of 'The Ladies" (which appeared on a B M A dinner programme for the first time) was proposed by Professor Burgess, and Mrs Harvey Smith acknowledged the compliment in a few graceful words During the evening Dr Cox was presented with a bronze statuette of a buffalo, in appreciation of his work in preparing for the meeting in Winnipeg This presentation was made by Dr J D Adamson, honorary general local secretary, to whom so much of the great success of the meeting is due

GASTRIC TISSUE IN THE TREATMENT OF PERNICIOUS ANAEMIA.

INVESTIGATIONS carried out by Sturgis, Isaacs, and Sharp[1] in America, and by Wilkinson and Renshaw[2] in this country, have tended to show that the mucous membrane and the muscular layer of hog's stomach are effective in the treatment of pernicious anaemia According to Wilkinson the results obtained from the administration of this diet are slightly better than those following liver therapy, the condition of the patients improving more rapidly, and various symptoms, particularly glossitis and paraesthesias, showing a more ready response Castle and Locke,[4] by feeding patients suffering from pernicious anaemia with beef that had been predigested in a normal stomach, had previously obtained improvement similar to that which usually follows liver therapy, and their observations had suggested the possibility that pernicious anaemia might be due to a failure of the gastric juice to elaborate some principle normally formed in healthy persons from the proteins of food "The experiments," said Castle, 'are consistent with the hypothesis that the intimate nature of this reaction is a digestion of the protein made by an enzyme working in an acid medium If this work can be taken at its face value, an analogy is established to the condition present in diabetes In diabetes the pancreas is the organ at fault, and the physiological defect resides in the internal metabolism of carbohydrates In Addisonian pernicious anaemia the defect lies in the external manipulation of the protein, and the stomach is the organ that is deficient" Further data relevant to this hypothesis are recorded by H M Conner in the *Proceedings of the Staff Meetings of the Mayo Clinic* for July 23rd (p 205) Conner administered gastric tissue in various forms—namely, as raw whole stomach, raw mucous membrane of entire stomach, raw whole pylorus, raw whole fundus, raw whole stomach muscle, desiccated stomach or various combinations of these—to 60 patients, 45 of whom were studied in hospital, and as the results from the use of the various proportions and preparations were similar they may for convenience be considered together The proportion of reticulated erythrocytes rose to 65 8 per cent in one case, 40 per cent in another, between 30 and 40 per cent in six cases, between 20 and 30 per cent in five, and between 10 and 20 per cent in thirteen The patient in whom the increase had reached the highest figure received daily half a pound of the entire thickness of the wall of the pylorus only The greatest increase in the proportion of reticulated erythrocytes and the number of mature erythrocytes occurred in cases in which before treatment the erythrocyte count was less than 2 000 000 in each cubic millimetre in the group of patients having a blood count of less than 1,000 000 in each cubic millimetre the proportion of reticulated erythrocytes increased to an average of 24 3 per cent in under nine days, and the number of erythrocytes to over 2 000,000, in the group having a count between 1 000,000 and 2,000,000 the proportion of reticulated erythrocytes increased to an average of 22 8 per cent in nine and a half days, and the number of erythrocytes to nearly 3,000,000 The leucocyte count in the whole series increased from an average of 4,873 to 6,464, and the platelet count from 101,540 to 118,080 in each cubic millimetre of blood The effect on the general symptoms was equally good, but not enough time has elapsed to estimate the effect of the treatment on the neurological condition In many cases, though not in all, the numbness and tingling were lessened, but so far incoordination has responded less definitely to treatment Conner concludes that the effect of the treatment on the reticulated erythrocytes, on the mature erythrocytes, and on the general and neurological symptoms in cases of pernicious anaemia is similar to that obtained by means of liver therapy

[1] Sturgis C C, Isaacs R, and Sharp E A *Journ. Amer Med. Assoc.*, 1929 93, 747
[2] Wilkinson John F *British Medical Journal* 1930 1 226.
[3] Renshaw A *British Medical Journal* 1930 1 332.
[4] *British Medical Journal* 1929 1 p. 1120 *Journ. Clin. Invest* 1929, vi 2.
[5] *Proc. Roy Soc. Med.* vol. xxiii Part II p. 1215.

COSMETICS

HAS any British dermatologist ever yet written a volume on cosmetics? We do not remember one That there is a demand for information on the subject from the British medical public is undoubted, for translations of the writings of our Continental colleagues (who apparently are not so frightened of being labelled 'beauty doctors") command a ready sale and it is rumoured that our native publishers would welcome a book on the subject by a British authority, if the scruples of those qualified to supply this long-felt want could be overcome Since these things are so, medical practitioners who desire instruction in the cosmetic art are compelled to resort to translations of Max Joseph, Saalfeld etc, but these authors are now liable to be superseded by Kromayer, whose little volume on the cosmetic treatment of skin complaints has lately been translated from the second German edition for the benefit of the English speaking world Professor Kromayer has long been known to the medical profession as inventor of the Kromayer lamp, an instrument generally acknowledged to be of great value in the treatment of various deep-seated inflammations of the skin notably lupus vulgaris and acne But he has also invented a new system of surgery for cosmetic purposes which is not so well known (at all events in this country) The treatment demands the employment of a dental engine for the actuation of various cylindrical knives, burrs, rasps, drills, etc. The cylindrical knives or punches are of various sizes and, applied vertically, remove a round disc or column of tissue varying in diameter from 0 8 mm to 10 mm or more according to the size of the knife, and

[1] *The Cosmetic Treatment of Skin Complaints* By Professor E Kromayer London Milford, Oxford University Press 1930 6s 6d

Kromayer claims that by the employment of these instruments scarring is greatly diminished He uses them for many different purposes Among other things, he treats boils by punching out of them a cylinder of tissue, which he makes sufficiently large to remove the whole of the necrotic tissue This may require the employment of a punch as much as a whole centimetre in diameter He claims rapid healing in the majority of cases, but admits that it is impossible to be certain of a cure owing to the occasional reappearance of the infective process This indeed resembles the experience of everyone who treats boils Whatever the method adopted they usually do well, but sometimes they do not The punch is also used to open the indolent abscesses of acne, and the comedo is scooped out with drills rather like a dentist's drill Since, however, "the prick is not altogether imperceptible" many patients jib at this procedure Kromayer even employs the cylindrical knife for the excision of superfluous hairs in certain circumstances, but he does not despise electrolysis Still another opportunity for the employment of the cylindrical knife is in the removal of tattoo marks He punches the tattooed area all over and removes the punched-out pillars of skin with forceps and scissors Naturally most cases need more than one operation, but it is claimed that the scar left is hardly visible There is no doubt that Professor Kromayer is a man of great inventive ability and ingenuity, and these special technical methods employed by him deserve attention although in other hands they might not prove so satisfactory Apart from these matters the contents of his book consist of an account of general dermatological therapy of such diseases as affect the visible portions of the cutaneous surface It is evident that the restoration to normality of any of these parts when afflicted by some pathological condition must always have a "cosmetic" value, whether it be formally labelled "cosmetic" or not To postulate the possession of a special "cosmetic" art is to attempt a meretricious appeal to human credulity and feminine vanity Perhaps, after all, the stiff-necked British dermatologist is right when he refuses to attach the label "cosmetic" to his essays on dermatological therapeutics

INTERNATIONAL UNION AGAINST TUBERCULOSIS

THE seventh conference of the International Union was opened in the great hall of the University at Oslo on August 13th, in the presence of the King and Queen of Norway The gathering was attended by between six and seven hundred delegates from all the European and a great number of other nations The trend of questions on the agenda commenced with a discussion of the merits of B C G vaccination methods, appropriately introduced by Professor Calmette Some of the interest that centred round this subject was naturally due to the recent catastrophe at Lübeck, but as this matter is still *sub judice* all reference to it at the conference was banned Professor Calmette gave a careful and reasoned summary of the points on which he advocates the use of his strain of attenuated bacilli as a complete means of protection against tuberculosis, maintaining that the culture, given within ten days of birth, would, by passing through the immature cells of the intestinal wall, permeate the lymphatic system He claimed that all experience had shown that the death rate among children so treated was less than that among unvaccinated infants in contact with open cases of tuberculosis Restrained support was given for the method by Neufeld of Berlin and W H Park (New York), Save (Barcelona) and Heymans van den Berg (Amsterdam) commended it from clinical as well as laboratory experience In the course of general discussion B C G came in for some criticism, but on the whole there appeared to be a preponderance of views in Calmette's favour The second subject on the programme, "Thoracoplasty in the treatment of pulmonary tuberculosis," gave less room for acute controversy, all divergence being merely on details of technique Professor Bull of Oslo, describing his own experience and that of his Norwegian colleagues, said that he limited the choice of his cases to those in which more conservative treatment had failed and in which pneumothorax could not be induced, and claimed that nearly half of the chronic cases insusceptible to other therapeutics could be cured by this method Professor Bull favoured the two-stage operation, but this view was not shared by Sauerbruch (Berlin) or by Graysen (Denmark), except in special cases Morriston Davies (Ruthin) recommended greater elasticity of method in planning the operation and as regards the length of rib resected Throughout the debate there was a feeling of hopefulness and a conviction that this procedure had passed the experimental stage Dealing with the problem of teaching tuberculosis to medical students and doctors, Professor His of Berlin read a very exhaustive paper based on a questionary he had sent to most of the world's universities He maintained that this subject must not be divorced from general medicine The instruction of undergraduates was fairly well organized, but post-graduate courses required more development Sir Robert Philip gave his experience as a teacher of the subject since 1889, and hoped that attention would be concentrated upon the disease more as a general clinical problem and less as an exclusively lung disease The Italian delegate (Morelli) delivered a full description of the impressive Mussolini Institute which is building at Rome and will be devoted largely to tuberculosis Many members *en route* for Oslo took the opportunity of visiting Hamburg, where, under the inspiration of Professor Brauer, a varied programme had been arranged by German tuberculosis societies The newer methods of nutrition therapy were discussed, and the members had the privilege of examining pathological specimens taken from the cases at Lübeck and of hearing Professor Schürmann of Berlin describe the lesions in this large-scale catastrophic experience From the conference delegates carried away an impression of meetings superbly organized both on the scientific and on the social side, and of generous Norwegian hospitality It was impossible not to feel that in most countries a great amount of energy was being devoted to research into the problems of tuberculosis

MILTON'S BLINDNESS

THE cause of Milton's blindness is one of those fascinating ophthalmological problems which in all probability will never be solved Briefly, the most favoured diseases are glaucoma, retinal detachment, and choroido-retinal degeneration leading to optic atrophy, possibly due to congenital syphilis, while Mutschmann, a *littérateur* and not a medical man, argues that Milton was an albino, though he accepts Hirschberg's dictum that the blindness was due to glaucoma In the July number of the *British Journal of Ophthalmology* Mr Arnold Sorsby reviews the evidence at length, and sums up in favour of retinal detachment His paper is a very able study of the question, and those who are interested will be well repaid by its perusal The evidence comes mainly from autobiographical details by Milton in the sonnet to his blindness, in the sonnet addressed to his pupil Cyriack Skynner, in *Paradise Lost*, in the *Defensio Secunda*, and in his letter to Philaras Contemporary portraits of Milton are few in number, and engravings unreliable. Two of the pre-ophthalmoscopic writers on ophthalmology mention Milton's case, Sir William Lawrence holding that the blindness was due to "suffusion," while William Mackenzie thought it due to "amaurosis from congestion or inflammation of the optic nerve secondary to chronic disease of the digestive organs" Glaucoma, as a cause, was first proposed in 1879, when Stern, in his *Life of*

Milton, wrote that he had consulted a distinguished ophthalmologist," who stated that "some of the features tended to a diagnosis of glaucoma, though others were against such a view" Hirschberg and Shastid follow this statement without giving any reasons The source is from the letter to Pluiaras, where Milton states that if he "looked at a lit candle, a kind of iris seemed to snatch it" from him Milton's sight appears to have begun to fail in the outer field of the left eye at the age of 35 years, and he was quite blind by the age of 43 years Dufour of Lausanne, in 1909, argued in favour of retinal detachment, complicating myopia Saurat and Cabannes, in 1924, suggested that Milton suffered from congenital syphilis The Skynner sonnet shows that when Milton had been blind for three years his eyes looked normal, there had been no degeneration such as cataract, obviously to mar their appearance The sole evidence in favour of glaucoma is the "iris," and it is a well-known fact that a halo round a light is not always due to glaucoma, while the description of micropsia, metamorphopsia, the "copious light glittering from shut eyes," and the loss of field in the left side of the left eye are far more suggestive of detachment of the retina than of chronic glaucoma Sorsby sees no reason to take the suggestion of congenital syphilis seriously, and we think that all impartial readers will agree with him A parallel might be drawn with regard to the case of Samuel Pepys and his failure of eyesight Though Pepys never went blind, he had to discontinue his diary at an early age, and was unable to use his eyes for work ever afterwards Milton was fortunate in having the power to compose his splendid poetry to offset his physical handicap On the whole, the nature of Milton's blindness is a problem which, on the evidence available, must be considered as insusceptible of *definite proof, and therefore to be relegated to* the problems proposed by Barham in the *Ingoldsby Legends*

"Inquire if Orpheus first produced the waltz,
How gas-lights differ from the Delphic vapour
Whether Hippocrates gave Glauber s Salts
And what the Romans wrote on, ere they d paper"

MEDICAL INCUNABULA.

LIEUT.-COLONEL F H. GARRISON, the great authority on medical history, whose contributions to the *Bulletin of the New York Academy of Medicine* give such delightful instruction, has contributed to the June number of that monthly periodical what is really a guide to the study of incunabula, or the books, pamphlets, and broadsheets printed before 1501, though its value is hardly indicated by the modesty of its title, "Progress in the Cataloguing of Medical Incunabula" Beginning with a history of printing and a reference to the troubled activities of Johann Gutenberg in this "black art," it mentions other early printers who did so much to render possible the revival of learning, and goes on to describe the lives of the chief cataloguers of incunabula The first to do so on a large scale was Michel Maittaire (1668-1747), who had the privilege of being at Westminster under that vigorous wielder of the cane, Dr Busby, although he was kept at the study of Greek and Latin some years longer than usual, he was called "puzzle headed" by Samuel Johnson, and apparently from the character of his entries in the catalogue not without some reason Henry Bradshaw (1831-86) of Cambridge was the first to define clearly the modern methods and ideals of cataloguing incunabula—namely, to arrange them under countries, towns, and presses, and to advocate the serious study of palaeotypography, which, however, was not established until the beginning of this century by Robert G C Proctor (1868-1903) of Oxford and the British Museum, and by Konrad Haebler of the Royal Library of Berlin It was W A Copinger (1847-1910) of Manchester who first conceived "the genial idea" of describing the peculiarities of catalogued incunabula in the vernacular Thumb-nail sketches of others eminent in this connexion, especially Karl Sudhoff follow, and attention is drawn to the forthcoming catalogue by A C Klebs of more than 3,000 incunabula of medical and biological importance America is rich in these medical works The College of Physicians of Philadelphia has 373, and Lieut Colonel Garrison attaches to his interesting article a 'check list' of the 446 incunabula in the Army Medical Library, Washington, D C

POSSIBILITY OF A VITAL REACTION IN THE DENTAL ENAMEL

THE possibility of an organic content, and hence of a vital reaction, in human enamel has long exercised the minds of dentists, and the late Mr Howard Mummery thought he had found evidence of a sclerotic reaction to injury in human enamel In a communication on the histological evidences of the organic content and reactions of marsupial enamel, with a note on human enamel,[1] which was submitted to the Royal Society by Professor William Bullock, Mr Evelyn Sprawson claims to show that a vital reaction can be demonstrated in the tubular enamel of marsupials Allowing for structural and calcific differences, he claims to have found similar reactions in human enamel, and hence argues "that many of the conclusions concerning marsupial enamel must also be true of human enamel" We cannot say that the author presents a very convincing case, and in some of the illustrations we cannot see all that the legends claim—perhaps on account of the difficulty of photomicrography The investigation is one involving unusual difficulty, both in the preparation and interpretation of the sections, and yet it is of absorbing interest Every dentist will hope that Mr Sprawson will continue his researches

ANNUAL MEETING OF THE MEDICAL ASSOCIATION OF SOUTH AFRICA (B M.A.)

THE third scientific annual meeting of the Medical Association of South Africa was held at Durban from July 21st to 26th The Governor-General, the Earl of Athlone, attended the opening session on July 21st, and spoke *appreciatively of the high idealism maintained by the* medical profession He mentioned the local difficulty of providing still more effective medical and nursing services for the six million Bantu inhabitants of the country, and emphasized also the importance of establishing and maintaining centres throughout South Africa where radium *therapy could be practised The new president of the* Association, Dr M G Pearson, delivered an address on 'Tradition in medicine", this is published in the *Journal of the Medical Association of South Africa (British Medical Association)* of August 9th In that issue also will be found an interesting summary of the scientific and social proceedings of the annual meeting, and also a paper by Dr A D Pringle on pulmonary tuberculosis in South Africa which was read in the Section of Medicine Editorial reference is made to the addresses by the Governor General and Dr M G Pearson, it is pointed out that the problem of co-ordinating professional needs with the obligations of loyalty to a noble tradition and to the public welfare calls for faithful co-operation a high conception of duty and the ability to ignore unessential details.

THE KING has appointed Dr W Norwood East to be one of His Majesty's Commissioners of Prisons and a Director of Convict Prisons

WE regret to announce the death, at the age of 82, of Dr Michael Beverley, who was for fifty years associated with the work of the Norfolk and Norwich Hospital

[1] *Proceedings of the Royal Society* B, vol IX 1930

THE BRITISH ASSOCIATION.

ANNUAL MEETING IN BRISTOL

THE British Association for the Advancement of Science, which held its annual meeting this year in Bristol from September 3rd to 10th, was founded in 1831 at York by a small body of enthusiasts, and it has thus now reached the hundredth year of its existence. The centenary celebrations will be held next year in London.

At the opening general meeting in the Colston Hall the Lord Mayor of Bristol and the Vice-Chancellor of the University extended an official welcome. Sir Thomas Holland, Principal of the University of Edinburgh, who is the retiring president of the association, thanked the city and University for their cordial reception. He mentioned that the council had sanctioned an appeal for a fund to provide for the special expenses of the centenary meeting next year, and also for the more adequate endowment of the association. It was hoped that a sum of £40,000 might be raised, part of which was required in connexion with Down House, and part to facilitate a wider choice of subsequent meetings, as well as to stabilize the grants made in aid of research.

Presidential Address

Professor F. O. Bower was then inducted by Sir Thomas Holland into the presidential chair, and delivered an address on size and form in plants. He remarked that Down House had now been restored and opened as a shrine for those who treasured the memory of Darwin, one of the events which indicated the close of a famous epoch. Morphology, or the study of form, had been described by Darwin as one of the most interesting departments of natural history, almost, indeed, its very soul. It was therefore fitting that a botanist whose work had dealt specially with form in plants should discuss this year certain morphological questions which presented themselves in the eighth decade since the publication of the *Origin of Species*. After alluding briefly to the flagellata as combining animal and vegetable characters, the president discussed the normal development of the multicellular plants, with special reference in this connexion to the influence of size and to the part played by the "presentation-surfaces" through which physiological interchanges were effected. The relation of form to size seemed to be very general and suggested the existence of a "size-factor," which had a marked influence on the determination of form. The operation of this factor could not be evaded, under natural or experimental conditions though size might vary under altered conditions of nutrition. Professor Bower concluded his address with illustrations of the valuable services rendered to mankind by botanical experts, and mentioned the urgent need of a greater supply of botanical specialists to work as investigators and advisers, both at home and abroad. He recalled the prophecy of Sir William Crookes in 1898, when the British Association last met in Bristol, that in 1931 there would be a world-wide wheat shortage unless some new agricultural factors came into existence, one then mentioned being an advance in the artificial production of nitrates. Professor Bower remarked that this forecast of new discoveries had been fully realized, and artificial fertilizers were now available in mass. The production of synthetic nitrogen had become a commercial proposition, and the improvement of wheat strains by selective breeding along Mendelian lines had solved the crucial question of food supply, both achievements owed their origin to advances in pure science.

Synthetic Activities of the Cell

Professor H. S. Raper, president of the Section of Physiology, delivered an address on the synthetic activities of the cell, a discussion followed. He opened by remarking that the old-standing distinction between anabolic and katabolic chemical transformations must not be taken to imply independence, for example, the synthesis of one substance might involve the concurrent breaking down of another. Physiologists had been more successful in elucidating the phenomena of katabolism, but the anabolic cellular processes were at least as fascinating as the synthetic achievements of chemistry, being manifestations of the creative instinct. Although Wohler discovered rather more than a century ago that urea could be prepared from ammonium cyanate, no further step followed until Kekulé, thirty years later, enunciated the historic hypothesis of the tetravalency of carbon and the mode of linking of the carbon atoms, thus opening up the way to discover the structure of organic compounds produced by living organisms, a matter of prime importance to the physiologist. The animal cell offered a simpler field for study than the vegetable cell, because the choice of raw materials for synthetic activities was limited, it comprised about twenty amino-acids, two purine bases, three pyrimidine bases, three hexoses, glycerol, and higher fatty acids. The synthesis of cholesterol, the bile acids, and the purine bases was still undetermined, though the amino-acid histidine was possibly to be considered their precursor, for structural reasons, but the case of adrenaline was simpler, for it might be derived from either of the two amino-acids phenylalanine or tyrosine by successive oxidation, methylation of the amino group, and loss of carbon dioxide. Details were then given by Professor Raper of the way in which these processes might be brought about, and in the comparable case of thyroxine. The president then passed to the consideration of the production of fat from carbohydrates, mention being made of the possibility of the fatty acids being built up from a degradation product of glucose, of the formation of fatty acids in micro-organisms, and of the mechanisms involved in alcoholic fermentation and the chemical changes in muscular contraction. Physical conditions were also probably of importance in this connexion.

The syntheses of glycogen and the proteins were dealt with in considerable detail, it being pointed out that something more than the mere reversal of enzyme action was concerned. The facts seemed to indicate that only the living cell could bring about such synthesis, and that the precursors of glycogen, or bodies derived from them, must at some time have formed an integral part of the living cell structure. As regards protein synthesis it seemed clear that although the mechanism of joining up amino-acids might be the same in all cells, yet there must be arrangements in the cell which ensured that the protein molecule produced by a particular type of cell would always be built up in a distinctive and probably unvarying pattern. It might be that the cell nucleus was the seat of such synthetic activities, the protoplasm being relatively non-living, but serving possibly as a convenient storehouse for reserve materials needed in the synthetic process, as well as a protective layer between the nucleus and the outside world. The filterable viruses might represent elementary forms of cellular life, and their chemical characters resemble those found in the cell nucleus. Until it was possible to analyse and understand cell behaviour the reactions of the whole organism could not be fully explained. The synthetic breakfast table was, however, likely to remain a myth for from both the chemical and economic points of view there seemed little likelihood of discoveries being made which would make possible the synthesis of the main food stuffs—namely, proteins, carbohydrates, and fats.

The Psychology of Early Childhood

Professor C. W. Valentine, president of the Section of Psychology, delivered an address on the foundations of child psychology, with special reference to their bearing on some problems of general psychology. He insisted that the most reliable evidence as to what was genuinely innate in human nature was to be found in the study of infancy. Instinctive impulses were then seen in their crudest form, and the elementary cognitive processes might be watched evolving from their origins. Moreover, the study of infant psychology tended to correct the unduly prevalent tendency to interpret later childhood too much on the lines of adult experience. Psycho-analysts had asserted that the first four or five years of life were the most important as regards the fixing of character, but, while this was largely true, it was unnecessary to make extreme statements about the absolute fixation of character by the age of 5 or 6. The assertion of another school of thought

that there were few innate instincts, and that any infant treated early enough could be "conditioned" into almost any type of character, could be combated by adducing evidence from early childhood, but it was clear that at the age of 1 or 2 years the infant was particularly sensitive to its environment. Binet's scheme of testing intelligence from the age of 3 upwards had been supplemented by the work of Dr Arnold Gesell, standardized tests being now available for infants as young as 4 to 9 months, and affording prognostic facilities as regards the later development of intelligence. Details were given of the employment of Gesell's tests, with especial reference to the development of speech.

Professor Valentine considered next the problems associated with the early appearance of "fear" and "imitation," and passed to the discussion of theories of "laughter," which he thought had erred in being far too simple. Observation of his own son led him to define ten causes of laughter, the first being the getting or anticipation of food at the age of 39 days. At 10 weeks there was a laughing response to laughter by others and also to tickling, at twelve weeks to the sight of a bright or pleasing object. Then followed in order such causes as a simple shock or surprise, repetition of a stimulus, the unfamiliar or unusual, mere recognition (at 8 months, but doubtful), successful accomplishment of some activity, such as standing alone (8 to 12 months), and the sight of the mild discomfiture of another (first noted in the seventeenth month, but possibly to be dated considerably earlier).

The speaker believed that the study of early child psychology would throw a flood of light on to the problem of the fundamental nature of thought processes, and he gave details in this connexion, including the elucidation of the question whether thought could take place without words. Explanation was similarly forthcoming of the loquacity of some adults, and the recognition in early childhood of the existence of such relations as attribution, agency, causation and likeness, which were apprehended by about the age of 3 when the beginnings of induction and deduction were also manifest. All the errors classified as "childish" could frequently be detected in adult thought. The various types of thought process occurred very sporadically in the early years of life, careful daily observation was therefore essential. More systematic and intensive study of this relatively neglected field of child psychology would result in a rich harvest of contributions to general psychology.

(To be continued)

PREVENTION OF STILLBIRTH AND INFANT MORTALITY

THE LEAGUE OF NATIONS INQUIRY

THE Health Committee of the League of Nations felt that an international inquiry into the causes of infant deaths might have considerable value when it undertook the task in 1926, the memorandum* of its results which has been published this year justifies this opinion. Investigations have now been carried out in Austria, France, Germany, Great Britain, Italy, the Netherlands, and Norway and the general plan has been to select certain districts and pursue uniform methods of inquiry in each. The experts appointed by the committee worked in co-operation with the medical practitioners and paediatricians of the districts under investigation, and, upon the notification of deaths by the competent authorities, information was sought from the family doctor, the midwife, members of the staff of maternity and infant welfare centres, the visiting nurse, officials at the registrar's office, and from persons acquainted with the child's environment, such as clergymen and school teachers. The home of the child was also visited, the aim being to investigate the case from the medical, social and hygienic standpoints. The individual inquiry form used covered the housing and social conditions of the family, the nature of any work performed by the mother during pregnancy, the feeding of the child, and a history of its last illness, and of the post mortem findings where possible.

Memorandum Relating to the Inquiries into the Causes and Prevention of Stillbirths and Mortality during the First Year of Life. (Williams and Norgate Ltd. 3s. 3d.)

Medical Causes of Death

An analysis of the medical causes of death showed that these varied in different districts, those in which the infant mortality was low—namely, 3·5 to 4·9 per cent.—having a high proportion of cases of respiratory disease, few cases of digestive disturbances, and only a small incidence of acute specific infections. Deaths before, during, and immediately following parturition constitute almost two-thirds of the infant mortality not only in these districts, but in those where the mortality rate was moderate and high. Digestive disturbances and specific infections play a more serious part in districts where the infant mortality rates reached 5 to 6·9 per cent., respiratory diseases had much the same incidence as in districts with a low mortality, but their relative importance was less owing to the larger number of deaths from other causes. Districts where infant mortality reached a high rate—namely, between 7 and 9·9 per cent.—were characterized by an increase in the prevalence of digestive disturbances and infectious diseases, and an increase in respiratory diseases, while syphilis and tuberculosis tended to become more important than in the preceding groups of districts. Finally, digestive disturbances were responsible for a large number of deaths in the districts where the infant mortality rates reached figures above 10 per cent., and respiratory and infectious diseases also bulked large, deaths during the obstetrical period attained higher figures in some of these districts than in any of the preceding groups.

Influence of Social Conditions

Considering these statistics in relation to the housing and social conditions found in the various groups the committee concludes that where general conditions are favourable the greater number of deaths occur during the obstetrical period and in connexion with respiratory diseases, while in districts where the conditions are unsatisfactory the relative importance of these two causes is less marked owing to the higher proportion of deaths due to infectious disease and digestive disturbances. It also finds that stillbirth, congenital malformations and obstetrical trauma are relatively more important causes of deaths among families of good social status the higher proportion of cases of obstetrical trauma suggests that the more frequent use of forceps among families in better social conditions may be partly responsible.

Deaths from unknown causes played an unexpectedly large part in all the districts investigated and usually occurred during the first week of the infant's life. The stillbirth rate varies little in the different districts but tends to be relatively more frequent in the higher social classes and to diminish as the scale is descended. As might be expected, unfavourable housing conditions appear to have less effect on pre-natal and neo-natal causes of death than on post-natal causes.

Influence of Multiparity

A most striking conclusion is reached in relation to the position of the child in the family: the mortality rate is usually lowest among second and third children, and gradually increases with the order of births; the mortality of first-born children is higher than for second children but lower than the average. The first-born child is of course exposed to greater danger as a result of malpresentations and obstetrical traumatisms. No definite statistical evidence was secured to show that ante-natal supervision had a marked effect in reducing infant mortality, but it was extremely difficult to determine how much supervision had been exercised in any individual case during pregnancy. It was fairly obvious however, from analysis of results that ante-natal supervision was inadequate in all the districts investigated and among all classes of persons.

Conflicting Social Factors

The point of interest which seems to emerge from the inquiry is the absence of any one distinctive factor in determining the infant mortality rate Bad housing and unfavourable economic conditions are by no means invariably disastrous in their effects In the districts where the mortality was very high the houses where conditions were good or moderate far outnumbered those in which they were bad, except in Vienna, District X, where there were 207 deaths under one year, and where 11 dwellings only were good, 85 moderate, and 111 bad Although the proportion of bad houses to good was higher in these districts than in those where the infant mortality was low, the discrepancy is not so decidedly marked as might have been expected Similarly, in the matter of ante-natal examination, though a larger number of women had received supervision in the districts with a low mortality, the difference in the numbers from those examined in the districts where the mortality was very high was not sufficient to make lack of such care appear to be the deciding factor A few figures may be quoted as an illustration In Oxfordshire, among fatal cases, 66 received ante-natal supervision, 25 did not, in Hedmark 44 were examined and 26 were not, while of 90 cases of stillbirth 21 had some supervision and 69 had none, in Oslo West there had been supervision in 14 cases of stillbirth and none in 5, while among deaths under one year there were 13 cases which received supervision and 8 which did not, in all these districts the infant mortality rate was low In districts with a very high mortality, such as Pays de Bray, 53 had come under supervision and 106 had not, while among cases of stillbirth the corresponding figures were 20 and 17 respectively, in Mecklenburg-Strelitz 13 cases of stillbirth were examined and 50 were not The mortality rate seems to depend in every case on an interaction of various factors, one of which may play a part in counteracting others Thus, favourable hygienic conditions may be set against poor housing and social conditions as in Oxfordshire, or well-organized infant welfare work may help to restrain the native stupidity of the parents in some districts Occasionally, as in Hedmark, nature triumphantly defies all the rules, and in spite of indifferent housing, and little ante-natal supervision or child welfare work, produces a low mortality rate In this case the result appears to depend on the prevalence of breast-feeding, and hygienic conditions which are described as "usually favourable"

The Committee's Recommendations

In its general conclusions the committee points out that, in districts where public health measures have been enforced and economic conditions are favourable, digestive disturbances and infectious diseases have almost disappeared as causes of infant deaths, while the rates for stillbirth and mortality during the first days of life are the same as in districts where the infant mortality is still high It recommends the establishment of more efficient ante-natal and welfare services in all districts, but though this should have a marked effect in reducing infant mortality, it admits that the causes of premature birth, stillbirth, and deaths during the first days of life are not as yet completely understood, and require further research on the part of obstetricians and paediatricians For the better supervision of the pregnant woman it advises, in addition to an increase in the number of clinics, a campaign against the employment of untrained women, and the cultivation of a better understanding on the part of the mother of the necessity for skilled supervision throughout pregnancy

As overwork on the part of the mother appears to have been responsible in some cases for the death of the foetus, the committee suggests an extension of legislation for the protection of pregnant women so as to allow sufficient rest before and after confinement This could be best effected, it considers, by an increase of financial benefit and the extension of health insurance with provision for dependants An increase in the accommodation in institutions and the provision of more maternity hospitals is recommended, with facilities for better obstetrical training of both physicians and midwives Special attention should be devoted to the care of infants during the first few hours of life, especially those who are premature or feeble The measures advised for the reduction of digestive disturbances include the encouragement of breast-feeding, the extension of infant welfare organization, and measures for the supervision and improvement of the milk supply General measures would include visiting by the public health nurse, education of the public by means of schools of hygiene, with courses open to all members of the community The provision of post-graduate courses for both doctors and midwives is especially urged, a suggestion also included in the projected scheme for a national maternity service Preventive measures against syphilis and tuberculosis should be used to the full, and the public should be taught how very easily a mild respiratory disease in an adult can give rise to a serious condition in an infant Although the recommendations of the committee embody no startling new suggestion, their application would cover a wide field, and would have the effect of co-ordinating and extending the present measures for the protection of infant life It is curious, however, that it includes no reference to an improved housing scheme among its suggestions.

Scotland.

Health of Glasgow in 1929

In a preface to his report, the medical officer of health, Dr A S M Macgregor, points out that the estimated population of Glasgow, 1,160,720, is a very tentative one, and he looks forward to the forthcoming census of 1931 to afford really detailed and accurate data concerning the movements and vital statistics of the population The report states that the birth rate during 1929 was 19 6 per 1,000—the lowest rate yet recorded for the city The rate varied from 28 8 in Mile-end ward to 6 2 in Kelvinside In the latter ward, with a birth rate lower than ever recorded in any ward, there was actually a decrease of almost eight for every thousand of the population The marriage rate for the city, of 8 5 per 1,000, was very similar to that of recent years The death rate of 15 3 per 1,000 compared unfavourably with those of the preceding four years The increase was entirely due to the high rate (25 2) during the first quarter, when pneumonia, influenza, and other respiratory diseases affected the city with great severity The problem of pneumonia is recognized as of supreme importance, for, as the report observes, the history of the city's health has become largely the history of its respiratory diseases A serious question is that of hospital accommodation for the victims of respiratory disease, the existing facilities being taxed beyond their capacity at a time, such as the month of January, 1929, when there was a combination of an epidemic of influenza with very trying weather conditions Dealing with tuberculosis, Dr Macgregor points out that the death rate from this disease is now one-quarter of what it was sixty years ago There is, however, one disquieting feature While there is a remarkable fall in the death rate from pulmonary tuberculosis at later ages, practically no impression is being made on that between the ages of 15 and 25 With regard to venereal disease, the report states that the number of new patients was slightly less than in 1928, but the aggregate attendances at the treatment centres were appreciably greater The difficulties of obtaining information about patients have made it impossible as yet to give a definite opinion with respect to the later results of treatment, or to utilize fully the experience of the clinics for the advancement of medical knowledge as to the incidence and consequences of these diseases A considerable part of the report is devoted to housing, and it is pointed out that, although the housing situation in general has improved greatly of recent years, overcrowding in one apartment houses has apparently diminished very little since the war The really important matter at the present time continues to be the provision of houses within the competence of the small wage earner The year registered still another step forward in the campaign for a purer atmosphere

New Aberdeen Professors

Appointments to two chairs in the University of Aberdeen are announced to take effect on September 30th. Dr James Ritchie, at present Keeper of the Natural History Department of the Royal Scottish Museum, Edinburgh, succeeds Sir Arthur Thomson as Regius professor of natural history, and Dr David Campbell, *M.C.*, Pollok Lecturer in pharmacology and therapeutics in the University of Glasgow, succeeds Professor C. R. Marshall in the Regius chair of materia medica. Dr. David Campbell was born in Ayrshire, and received his education at Ayr Academy and Glasgow University. After graduating M.A., B.Sc., he obtained the degrees of M.B., Ch.B. in 1916 with honours, and in 1926 proceeded M.D., again with honours, and with the added distinction of the Bellahouston gold medal. As an undergraduate he took a prominent part in the various activities of academic life and held the positions of convener of games in the Union and of president of the Medico-Chirurgical Society. In 1916 he joined the R.A.M.C., holding on demobilization the rank of acting-major and being awarded the Military Cross. On his return he was appointed assistant to the professor of materia medica and therapeutics at Glasgow University and in 1921 he became Pollok Lecturer. During 1925-26 Dr. Campbell engaged in research work, lecturing and giving instruction in laboratory methods in the department of pharmacology of the Johns Hopkins University, Baltimore. He has acted as examiner in materia medica at Glasgow, St. Andrews, and Aberdeen Universities. Dr. Campbell has also taken an active part in hospital work, and is at present a physician to the Glasgow Western Infirmary.

Prevention and Treatment of Diphtheria in Dundee.

The medical officer of health of the city of Dundee (Dr. W. L. Burgess), in his report for the year ended December 31st, 1929, states that this period was satisfactory in his area so far as diphtheria is concerned. There were 437 notifications, as against 623 in 1928, and the thirteen deaths gave a case mortality of 2·97 per cent., the lowest figure yet recorded in Dundee. The steady fall in the fatality of diphtheria seems to be directly related to the active adoption of measures designed to ensure early administration of the specific remedy, and the year's experience supports the view that deaths would be less frequent if antitoxin was administered at once in every case in which the possibility of diphtheria could not be immediately excluded without assistance from the laboratory. The arrangements made in Dundee for the free supply of antitoxin and of outfits for its administration have been improved, and any doctor who applies to the department of the medical officer of health can obtain an outfit, to be retained by him for use in an emergency, a fresh outfit being supplied for one that has been used. Moreover, every outfit is exchanged at the end of a month, in order to ensure the potency of the antitoxin and the sterility of the syringe. Active immunization by toxoid-antitoxin and Schick testing are not favoured by the general public. Dr. Burgess states that it is very difficult to stimulate and sustain interest among parents in this subject when diphtheria is not epidemic and the danger is not imminent. In 1929 there were 497 Schick tests carried out in Dundee, and it was found that grouping the patients under three age groups—namely, under 5 years, 5 to 15 years, and over 15 years—positive reactions were obtained respectively in 6·38, 10·62, and 21·58 per cent. Altogether 227 persons received three intramuscular injections of toxoid-antitoxin at intervals of one week, including fifty of the persons who had been tested and found Schick-positive. It is interesting to note that four notifications of diphtheria concerned persons who had been tested or immunized during the year: in two of these cases the diagnosis of diphtheria was not accepted; one had received a third immunizing dose on February 4th, 1927, and was notified as a case of diphtheria on October 1st, 1929, when the diagnosis was confirmed clinically and bacteriologically; the other, found to be Schick negative on August 9th, 1929, was notified as a case of diphtheria on November 4th, and though the diagnosis was confirmed clinically all the swabs were negative.

Ancient Leper House at St. Andrews

During digging operations on St. Nicholas Farm, opposite the East Sands, St. Andrews, a number of human bones, evidently of great age, have been unearthed. The farm stands on the site of an ancient leper house known as St. Nicholas's Hospital. So far as existing knowledge goes, St. Nicholas's was one of the earliest leper houses in Scotland, having been founded between 1177 and 1214. As on the Continent, some of the leper hospitals in Scotland, besides serving for the isolation of the infected, were founded and endowed as religious houses. From charters still in existence it appears that St. Nicholas was so dedicated. If so, not a vestige of the religious buildings remains, but there is good reason for believing that the finding of the bones, which are stated by Dr. Lennox of St. Andrews University to belong to the fourteenth or fifteenth century, has revealed the site of the burial place of the lepers who died in the hospital.

William Mackenzie Medal

The William Mackenzie medal 'for original contributions to ophthalmology of outstanding merit' has been awarded to Professor J. van der Hoeve of Leyden, Holland. He will deliver an address at the Glasgow Eye Infirmary on October 3rd, at 8.30 p.m. on the subject of ophthalmology in its relation to the other branches of medical science.

Ireland.

St. Patrick's Hospital, Dublin.

THE Governor-General of the Irish Free State recently visited St. Patrick's Hospital and performed the opening ceremony of a new wing and a number of additional rooms for the special treatment of patients. The new wing consists of a fine three-story building with vita-glass windows. The rooms are all fitted out in a bright manner, with modern conveniences and appliances. The roof, which is flat and railed in, commands a splendid view of the city and Phoenix Park. Introducing the Governor General, Chief Justice Kennedy said that the hospital was one of the most historic institutions in Dublin, being founded by Dean Swift by a bequest of virtually all his property under his will. It was constituted shortly after his death by a charter, which was the first State recognition of the institution, granted in the time of King George II. in the year 1747. Several other necessary additional charters were granted, as a result of which the institution felt itself within the eye and favour of the State. It was the first hospital devoted to the treatment of mental diseases in Ireland, and for many years the only one. The present additions had all been made out of the funds of the institution, which had been wisely administered. There had not been, nor would there be any appeal to the public for funds. The Governor-General said he was glad to be associated with the opening of the new building. He need not enter into details as to the additional services which it would enable St. Patrick's Hospital to render to the mentally afflicted. The important points to recognize were that it would afford better facilities for methods of treatment which had in recent years been found to be beneficial, and that the already high percentage of recoveries among patients should consequently be raised in the future. History dwelt on the personally pathetic side of Swift's generous bequest. It did not dwell on the difficulties of his executors in realizing that portion of the bequest which consisted of loans recoverable from poor men trying to develop business in Dublin. Swift's practical sympathy with poverty or suffering did not begin to operate at his death, though his bequest made it possible to found the first, and for half a century the only, hospital in Ireland for the relief of mental sufferers. Among the distinguished medical men who had been associated with it must be mentioned one physician who was publicly thanked for his sympathetic efficiency. Dr. Emmet, the first paid physician, was the father of Robert Emmet. The Governor-General did not doubt that this hospital and its branch at

Lucan would continue to preserve the eighteenth century traditions of charitable helpfulness and of sympathetic efficiency, and that its governors would always, as now, recognize professional efficiency by removing obstructions to the application of steadily advancing medical knowledge Dr Leeper, medical superintendent, said that in 1731 it was in Swift's mind to build a hospital called Bedlam, in Dublin In 1735 there was issued from his garret in Molesfields—then the site of Bedlam—a scheme for the foundation of a hospital for incurables This hospital for incurables was to admit incurable fools, incurable rogues, incurable liars, and the incurably vain and envious were to be eligible for admission on an urgency order Swift suggested that, at the foundation, he himself should be admitted on a certificate as an incurable scribbler They had recently obtained a photograph of a letter written in 1735 by the Dean to Exton Staunard, Recorder of the city of Dublin, setting forth his intention to found St Patrick's Hospital In 1740 Swift wrote

> "He gave the little wealth he had,
> To build a house for fools, or mad,
> And showed, by one satiric touch,
> No nation wanted it so much"

It was not until 1815 that Grangegorman Mental Hospital, the parent of all the district mental hospitals in Ireland, was erected Dean Swift stated, with prophetic foresight, that if a hospital extended from here to the Phoenix Park there would be always more applicants for admission than there would be room for This prophecy, in its partial fulfilment, explained the extension which His Excellency was there to open that day The governors found extension necessary because of the larger number of patients voluntarily seeking treatment, this voluntary coming forward was due to the gradual dissipation of the old idea of a difference between disease of the brain and nervous system and diseases of other organs, and the growth of a more rational outlook on the causation and treatment of mental diseases The governors of the hospital had provided them with every means for carrying out every modern therapeutical method for the alleviation and cure of all forms of mental disease, and the recovery rate for the past thirty years had never fallen below 50 per cent of the admissions This figure did not include many patients who had been so far relieved as to live at home with their relatives and lead happy and useful lives That the work of the hospital was appreciated was proved by the fact that patients were daily admitted from all over Ireland, North and South (for insanity had no boundary, though sanity might have), and that more patients had been admitted during the past ten years than were admitted in the previous fifty years of the hospital's existence

Immunization Against Diphtheria.

Dr M J Russell, medical officer of health, in his report to the Dublin City Commissioners, states that in 1928 there were notified to his department 407 cases of diphtheria, and 500 cases in 1929 Notwithstanding that they had a well-equipped disinfecting station and adequate hospital accommodation for the isolation of patients they did not seem able to make any satisfactory impression on the incidence of this disease in the city About half the patients were of pre-school age, and two-thirds of the deaths of those afflicted occurred in that group Dr Russell was convinced that the only effective means of eradicating and preventing the disease was by immunization He had selected Dr Denis F Hanley, Cork Street Hospital, to carry out this work at the Carnegie Centre at a fee of £2 2s per session of two hours a week, and the Local Government Department approved the arrangement In addition, he proposed to supply the necessary serum to suitable children's hospitals where the work of immunization might be undertaken A sum of £400 had been provided in the current estimate to cover this service On the other hand, there might be a considerable saving by the reduction of the number of cases of diphtheria to be dealt with in fever hospitals and chargeable against public funds, whilst such a result from the public health point of view would be of inestimable value

Problem of the Feeble-minded

Professor John Cooke, M A, in a recent address on feeble-minded children, stated that when Queen Victoria came to the throne there was not a single Act of Parliament specially intended to shelter children from the wrongs inflicted on them in any one way At the close of her reign there were about 100 Acts in which children were concerned Ireland has shared in all the benefits of this work for children, and here in Dublin in the forty years of the activities of the National Society for the Prevention of Cruelty to Children no fewer than 100,000 children had passed through the hands of its able and devoted officers Every effort was made by those interested in the mentally deficient to get the British measures extended to Ireland, but this was not done, due to that perverse parliamentary action which "*did not apply to Ireland*" That Ireland sorely needed the mercy extended to the afflicted was shown by the estimate made in 1906 There were 25,415 mentally afflicted persons in the country outside of asylums, and 66 per cent were in immediate need of provision being made for them, as against 44 per cent in England and 34 per cent in Scotland

England and Wales.

Vital Statistics for 1929

Some of the figures recorded in the tables that make up the Registrar-General's *Statistical Review of England and Wales for the Year 1929*[1] are in marked contrast with those of the previous year In that year a number of "records" were established, most of them indicative of improvement in the public health The birth rate was 16 7, which, except for the rate in 1927, was the lowest on record The standardized death rate—namely, the rate that would have been recorded if the sex and age constitution of the population had been the same as in 1901—was 9 9, lower than in any other year The death rate of infants under the age of one year was 65 per 1,000 births, also a record figure The mortality from epidemic diseases was far less than in the previous year, notably the death rate from influenza, which was the lowest since 1914. The mortality from diseases of the respiratory system was the lowest recorded On the other hand, the crude death rate from cancer (1,425 per million living) was higher than in any previous year, and maternal deaths from puerperal sepsis and accidents of pregnancy and childbirth reached 4 42 per 1,000 live births—the highest figure recorded in the eighteen years for which comparative figures were available In 1929 the birth rate fell to 16 3, a figure even lower than that recorded for 1927 On the other hand, the deaths of infants under one year of age were equal to a rate of 74 per 1,000 live births, or 9 per 1,000 above the rate recorded during 1928, and the general death rate rose to 13 4 per 1,000 persons living, representing a standardized rate of 11 5, which was higher than any since 1919, when the crude rate was 14, a figure based on the deaths of civilians only. These increased rates were due almost entirely to the high mortality from respiratory and circulatory diseases and to the epidemic of influenza during the abnormally severe weather in February and March In the March quarter the general death rate actually rose to 20 9, no less than 5 8 per 1,000 above the average for the first quarter of the eight preceding years, while the rate for the rest of the year was slightly below the corresponding average for the same period With the exception of the pandemic of 1918–19 the epidemic of influenza was the most severe that had been experienced in this country since 1890–91, the mortality being 734 per million persons living, against only 196 in 1928 The mortality from respiratory diseases rose from 1,507 per million in 1928 to 2,104 per million in 1929, and the mortality from circulatory diseases reached the record figure of 3,030 per million, largely owing to the deaths of elderly persons during the severe

[1] *The Registrar General's Statistical Review of England and Wales for the Year 1929* (New Annual Series No 9) Tables Part I Medical H M Stationery Office 1930 7s 6d net

weather of the first quarter. The death rate from cancer continuing the steady though slight increase that has been taking place in recent years, and representing the highest crude rate on record. The increase affected both sexes but females rather more than males. There was a slight decline in the maternal death rate from puerperal sepsis and accidents of pregnancy and childbirth (4.33 per 1,000) but the improvement was in respect of accidents of pregnancy and childbirth, the death rate from puerperal sepsis having actually undergone a very slight increase from 1.79 to 1.80. It may be noted that the puerperal mortality rate is still above that experienced in any of the years 1921–27. The suicide rate which had declined in 1928 from 125 to 124 per million living, rose in 1929 to 126, the highest figure on record. The female suicide rate (73) was higher than in any previous year, and the male rate (183) was only 1 per million less than the male record in 1927. Death returned by His Majesty's coroners as resulting from motor accidents rose from 4,492 in 1927 to 5,251 in 1928 and 5,799 in 1929. Excluding deaths from collisions between two different types of vehicles, the deaths caused by motor cars increased from 1,550 to 1,660, by motor cycles from 1,043 to 1,162, and by motor vans, lorries, etc., from 936 to 1,162.

The Red Cross Rheumatism Clinic in London.

The British Red Cross Society's clinic in Regent's Park for the treatment of rheumatism, which H.M. the Queen declared open last March, reopened on September 1st after being closed for a month. Extensive internal reconstruction has been carried out, and the accommodation has now been practically doubled. A report on the results of the first five months' work states that from the start the numbers attending for treatment were much bigger than was anticipated, and it was found necessary to close down the clinic during August so that adjustments could be carried out in the internal organization to enable a greater number of patients to be treated. From the beginning of the year applications began to be received and when the clinic closed nearly 300 applicants were waiting for appointments, and over 200 women—the number of women patients as is usual in all rheumatic clinics has always exceeded the number of men patients—were awaiting treatment. In future the clinic will be open from 8.30 a.m. to 9.30 p.m. This, with the structural changes, the increase in the number of dressing rooms and waiting rooms, the duplication of equipment and the appointment of additional staff will enable patients to be passed through much more quickly. In the past men and women have been treated on alternate days; arrangements have now been made by which both sexes can be treated on the same day. During the period it was open 24,986 treatments were given. A gratifying sign was the steady growth in numbers of patients attending; there was also a steady increase in the number of patients sent by friendly societies, largely at whose instance the Red Cross Society decided to undertake its campaign against rheumatism. Apart from treatment useful work was undertaken at the clinic in the form of diagnosis and in the weeding-out of patients who were not suffering from rheumatism. Records are being kept of the occupations of all patients attending, and it is hoped that much information about the occupational causes of rheumatism will be obtained. Considerable use was made of the clinic by private patients; it is hoped that their numbers will increase and so help to finance the treatment of patients unable to pay the normal fees; in July alone over 1,000 treatments were given on the private floor. Five honorary visiting physicians with fifteen clinical assistants started work at the clinic when it reopened. The staff now consists of a medical registrar, the sister in charge with sisters in charge on each floor to assist her, fifteen masseuses, ten masseurs, as well as a lady almoner and her assistants. Six new consultants—a dental surgeon, a radiologist, an orthopaedic surgeon, a throat specialist, a surgeon and a gynaecologist—have been appointed. For patients sent by approved societies the course of treatment, which involves nine attendances, costs 25s. with subsequent courses, if necessary, at 20s. For private patients treatments cost 10s. 6d. each, in addition to a consultation fee to the consulting physician of £2 2s. World-wide interest has been taken in the clinic and deputations from 10 trial Germany, France, Holland, the United States, and other countries, most of which already have rheumatism clinics of their own, have come to inspect it.

Correspondence.

PERFORATING DUODENAL AND GASTRIC ULCERS

SIR,—Mr. J. H. Watson's valuable paper in the *Journal* of August 2nd (p. 169) on acute perforating duodenal and gastric ulcers interested me greatly, and I should like to make a small contribution to the record of the earlier cases if only to bring due credit to British surgery.

My attention was particularly directed to these cases in 1896, when in consultation with Dr. Bremner of Exeter (afterwards of Canterbury) I saw a woman aged 25 who had been seized with severe abdominal pain two and a half hours after a meal consisting of a meat pastry and cocoatina six and a half hours after the attack. I had no difficulty in diagnosing at any rate to my own satisfaction the existence of a perforated gastric ulcer. To my surprise and deep regret the admitting surgeon at the hospital did not concur but gave it as his opinion that the patient was suffering from ovarian haemorrhage"! Thus no operation was undertaken but three days later at a post-mortem examination a perforation of the stomach was found with portions of the pastry free in the peritoneal cavity.

I was then convinced that this subject had not received sufficient consideration and in 1897 I read at Cambridge a thesis for the degree of M.D. dealing with this subject among others.

I had of course to make a careful investigation of the bibliographs and the following references are of interest in this connexion.

Mr. Pearce Gould opening a discussion on the subject in the Surgical Section at the Annual Meeting of the British Medical Association at Bristol in 1894 (*Journal* 1894, vol. ii., p. 859) mentioned six successful cases—namely, those of Taylor, Barling, Kriege, Morse, Maclaren and Telford. He added that Mr. Henry Morris permitted him to mention a seventh but he gave no references. Mr. Hastings Gilford read a paper before the Reading Pathological Society (see *Journal* 1893, vol. i., p. 944) giving a list of seven cases previously recorded but he seems to have had great difficulty with his reference.

However I was able to collect by 1897 no fewer than 75 cases of operation for acute perforation and the following ones have a bearing on priority.

Fatal Cases.

The first recorded operation which I found was one reported by Simon and Barling which was performed on July 16th 1891 (*Birmingham Medical Review*, August 1891, p. 103) operation six hours after perforation—death.

The second was performed on October 14th 1891 and reported by these two authors (*Journal* 1892, vol. i., p. 63, and also in the *Birmingham Medical Review*, September 1893, p. 131) operation about ninety hours after perforation which occurred on October 10th—death.

Maclaren of Carlisle reported an operation performed in October 1891 (*Journal* 1894, vol. ii., p. 863) about nine hours after perforation—death.

A fourth operation was performed by C. E. Ingon Wellington, New Zealand, on September 11th 1892 (*Lancet* 1893, vol. i., p. 469) twenty-four hours after perforation—death.

Hastings Gilford performed an operation on October 19th 1892 (*Journal* 1893, vol. i., p. 944) ten and a half hours after perforation—death.

Early Cases of Recovery.

Havard and Owen reported at the Clinical Society on January 13th 1893 (*Journal* 1893, vol. i., p. 116) without giving the date a case operated on about eighteen hours after perforation. The ulcer was attached to the anterior abdominal

wall, and a drainage tube was inserted The patient was well one month after the operation This case was mentioned by Mr Pearce Gould at the Bristol Meeting of the British Medical Association in 1894

On June 22nd, 1893, Hastings Gilford operated eight and a half hours after perforation (*Lancet*, 1894, vol i, p 1369) He definitely states that he sutured the ulcer, irrigated the peritoneum, and closed the abdomen except for a drainage tube Recovery ensued This appears to be the first recovery following this procedure

On February 4th, 1894, Maclaren operated on a case nine hours after perforation He states that flushing was very thorough, but he does not record the treatment of the ulcer, recovery ensued (*Journal*, 1894, vol ii, p 863)

On March 13th, 1894 (*Lancet*, 1894, vol i, p 671), Morse of Norwich reported a case, without giving the date, in which he operated five hours after perforation He states that the perforation was closed with Lembert sutures, that the abdomen was washed out, and the external wound closed, recovery ensued

I may, perhaps, conclude by mentioning two interesting points which emerged from my collection of cases In 71 cases in which results were given, there were 29 cases of recovery, in only 6 of which did the interval exceed 10 hours In 42 cases in which death ensued, there were only 7 in which the interval was less than 10 hours Several surgeons appeared to be very hazy about the surfaces of the stomach, thus, such records as "I drew up the stomach and found the perforation on the posterior rather than the anterior surface" were not uncommon Attention was also drawn to this point in a new edition of Greig Smith's book which appeared a few months after I had read my thesis — I am, etc,

Exeter, Aug 21st RUSSELL COOMBE

SIR,—I have just noticed that Mr John H Watson of Burnley, in his very interesting paper on perforated duodenal and gastric ulcers (August 2nd, p 169), has quoted some figures which he attributes to me dealing with my cases from 1903 to 1927, and showing a mortality of 25 per cent I do not know where Mr Watson can have got this information because I am not aware that I have published any communication on this matter since the time of my lecture before the Hunterian Society in London in January of 1925 That lecture was reported in the *Lancet* and the *British Medical Journal*, but it was not published in extenso At that time I quoted my cases arranged in a table as appended (I), and showing an overall

TABLE I.—*Perforated Gastric and Duodenal Ulcers*
Excluding localized perforations (shut off from the general peritoneum), incomplete operations (drainage only, without suture of the perforation) and cases not operated upon (To end of 1924)
Personal Statistics Professor Grey Turner

No of Hours of Perforation In 6-hour Periods	Total No	Recoveries	Deaths	Percentage of Deaths
Up to 6	35	34	1	2 85
7 to 12	63	56	7	11 11
13 to 18	20	16	4	20 00
19 to 24	15	10	5	33 33
Over 24	14	8	6	42 85
Grand Total	147	124	23	15 64

All cases operated upon within twelve hours total 98 cases with 8 deaths, or 8 16 per cent

mortality of nearly 16 per cent I have now brought my cases up to the end of 1929, and in order to get a reasonable series for statistical purposes I have, with his permission, added the particulars of 208 cases operated upon by my friend Mr Norman Hodgson, who was for many years my assistant, and whose methods and ideas on the subject are practically identical with my own As a result I am able to present a second table (II) dealing with 365 cases and an overall mortality of 15 06 per cent Now that our students and practitioners are becoming more familiar with the diagnosis of this emergency, and that transport is so very much improved, I think it is reasonable to expect that most cases should reach surgical aid within twelve hours If that could be done, then probably

TABLE II.—*Perforated Gastric and Duodenal Ulcers*
Excluding localized perforations (shut off from the general peritoneum) incomplete operations (drainage only, without suture of the perforation), and cases not operated upon (To end of 1929)
Personal Statistics, Professor Grey Turner and Mr Norman Hodgson

No of Hours of Perforation In 6-hour Periods	Total No	Recoveries	Deaths	Percentage of Deaths
Up to 6	119	115	4	3.36
7 to 12	148	129	19	12 83
13 to 18	40	33	7	17.5
19 to 24	21	15	6	8 57
Over 24	37	18	19	51.35
Grand Total	365	310	55	15 06

All cases operated upon within twelve hours total, 257 cases with 23 deaths, or 8 61 per cent

we might expect a mortality of something under 10 per cent, which I should consider not ideal, but reasonable, considering the extreme gravity of this calamity — I am, etc,

Newcastle-upon Tyne, Aug 30th G GREY TURNER

ETIOLOGY OF PUERPERAL SEPSIS

SIR,—Dr Armstrong and Mr Burt-White (August 23rd, p 305) attach little importance to the presence of anaerobic streptococci in the blood stream of seventeen patients, as reported by me in the *Journal* of July 26th (p 134) because, as they suggest, the patients were a specially selected group of cases with thrombo-phlebitis, and not examples of ordinary puerperal fever Further reference to my paper will reveal that the cases were not in any way selected I included in my survey every case of puerperal fever investigated by blood culture during a period of twenty months, and the survey embraced the *whole* of the septic infections occurring in the largest maternity hospital in London—namely, Queen Charlotte's They will find also that there was definite evidence of thrombo phlebitis in only one-third of the cases giving positive blood cultures of anaerobic streptococci Even if we assume, as do Dr Armstrong and Mr Burt-White, that all the cases were characterized by septic thrombosis, does it follow that they are not to be regarded as cases of puerperal fever? I would ask, moreover Is it undesirable to discuss the bacteriology of such cases for fear of adding "yet another group to the terrifying array of pathogenic streptococci"? I find it difficult to understand that attitude

The conclusion reached by Dr Armstrong and Mr Burt White that the cases reported by me were infections by various endogenous streptococci and other organisms, occurring as a sequel to intrauterine manipulation and trauma, is precisely the conclusion drawn by me and tentatively suggested in my paper We differ, however, in our estimates of the importance of these infections Dr Armstrong and Mr Burt-White, apparently influenced by the fact that the anaerobic streptococci they had met with were of low pathogenicity for laboratory animals, infer that these microbes can do little harm to human beings Since I have seen seven women die from these infections, and as many more in grave danger, during the past two years, I am inclined to attach considerable importance to them During the two months that have elapsed since my paper was sent in anaerobic streptococci have been isolated from the blood of three more patients, two of whom are in very grave danger at the time of writing, while the third has recovered from her infection, but become insane

In conclusion, may I reaffirm my belief that until we have more precise data of the kind reported recently by Professor Hedley Wright and Mrs Taylor (*Journal of Obstetrics and Gynaecology of the British Empire*, Summer Number, 1930, p 213) and in my own paper, most of our discussions about the etiology of puerperal fever are but

waste of time We are only now beginning to get these data The new isolation block attached to Queen Charlotte's Hospital, which was opened on September 1st at Hammersmith, for the reception of any patients in or around London suffering from puerperal fever, will enable us to study the problem much more satisfactorily than has been possible heretofore —I am, etc ,

London W.2 Aug 27th. LEONARD COLEBROOK

"THORACIC STOMACHS"

SIR —Mr A Brown Kelly by his letter on thoracic stomachs (August 30th, p 336) gives me an opportunity, which I welcome of further ventilating this subject He charges me with confusing terminology by applying to the dilatations of the gullet, occurring with pharyngeal pouch and cardio pasm, the picturesque title "thoracic stomachs" He complains that the term has already been chosen by him for a congenital defect in which the stomach develops above the diaphragmatic level With his demand for a pure nomenclature I fully sympathize, but the ideal must not be allowed to dominate to the *detriment of human needs* Is not Mr Brown Kelly running the risk of allowing exactitude of terminology to override the more practical humanitarian aspect of medicine?

First my title is a purely clinical one, and by diagrams, I showed clearly that the conditions I described are adventitious pouches of the gullet, while the normal stomach is also present below the diaphragm No medical reader could confuse them with congenital intrathoracic development of the stomach Secondly, the congenital malformation is so very rare as to be of comparatively small concern to humanity My use of the title serves to capture the imagination of the reader and refresh his memory on two very serious disorders which, taken together, form a most important, and not infrequent, group of alimentary troubles I repeat that these dire disorders are out of sight and, therefore, apt to be out of mind as witness the frequency with which the victims give long histories of ineffectual treatment Thirdly, my use of the title in connexion with but two conditions does not preclude its embracing within its scope others—namely diaphragmatic hernia of the normal stomach or developmental malposition of the stomach in the thorax Indeed, I hinted at this by the reference to diaphragmatic hernia in the early part of my article

Mine is a clinical title, and, since the greater includes the lesser, the clinician will not wish to confine its name to *any one type of thoracic alimentary pouch, but will prefer* to make it a generic term for the whole group of which pharyngeal pouch and cardiospasm form subdivisions of paramount importance by reason of their greater frequency and notable amenability to surgical relief —I am, etc ,

Clifton Bristol Aug 31st. A WILFRID ADAMS

MASSIVE COLLAPSE OF THE LUNG

SIR —A letter in your issue of August 30th (p 334) by my friend Dr P Watson Williams has drawn my attention to the above subject The name of Dr Watson-Williams is always to me a sufficient guarantee that there is something worth reading, otherwise the subject would have passed unnoticed I shall leave him to deal with the deflated fancies of Dr Woodburn Morison and Dr Pasteur, but as some of his own ideas require a little inflation I venture to quote the following paragraphs from my Bradshaw Lecture in 1907 [1]

We have seen how the lung is kept expanded by the negative tension within the pleura, and the greater and more active the inspiration the greater the negative pressure but not unfrequently, especially in many wasting diseases where the demand for oxygen is not great this negative pressure may fall to a very low ebb or may disappear so that partial atelectasis of one or both lungs or almost complete atelectasis of one lung is not at all uncommon This is especially apt to occur in young flat-chested individuals with pliant chest walls Perhaps I have seen a greater number of these cases than has fallen to the lot of most men for the simple reason that for many years I have been on the look-out for them. These cases are frequently overlooked because there is usually a negation of subjective chest symptoms and so the lung is often allowed to remain so long collapsed that it never completely expands and afterwards the deficient expansion of one side of the chest is supposed to be the result of some old pleural effusion of which the patient has no recollection When these cases are discovered in the early stages they are usually mistaken for pleural effusion—an error which is apt to remain uncorrected if an exploring needle be not inserted into the chest I showed the skiagraphs of a couple of cases which were tapped in several places with a negative result and afterwards such diagnoses as sarcoma of the lung unresolved pneumonia etc arrived at My opinion that the conditions were simply due to atelectasis which could be removed by respiratory gymnastics was at first received with credulity, but the subsequent improvement in the cases and the nonfulfilment of the grave prognostications proved the correctness of my views I have seen this condition occur in typhoid fever, infective endocarditis pyaemia etc In one severe case of typhoid fever an energetic consultant came to the conclusion that a mistake had been committed and that he had to deal with a case of empyema but he had to acknowledge his own mistake when he found the pleura quite empty I had subsequently the opportunity of explaining the correct nature of the condition which in this instance was cured by making the patient lie on the other side.

With care atelectasis is easily differentiated from pleural effusion even when the dull percussion is absolute and the respiratory and vocal phenomena absent In atelectasis of one lung the affected side is smaller than the other the ribs are closer together and more sloping the costal angle more acute the diaphragm raised the dull percussion barely reaches the middle line in front while the sound lung passes beyond the mesial line, the heart is either not displaced or slightly pushed over by the sound lung Forcible rubbing of the affected side acting through the lung reflex of Albert Abrams causes some expansion of the lung and clears up the percussion note. This is also accomplished by forcible expiration or better by Valsalva's method Everyone who has attended a case of parturition knows how a vigorous child expands its lungs and in the treatment of atelectasis in the adult you cannot do better than imitate Nature, minus the howl

—I am, etc ,

Hindhead Aug 30th JAMES BARR

[1] *British Medical Journal* November 8th, 1907 p. 1272

ANTIMALARIA MEASURES

SIR,—Colonel Gill's letter in your issue of August 16th furnishes an explanation of the extraordinary statements he made (April 12th) about those of the 'old school' and myself in particular, being 'completely satisfied with the state of scientific knowledge attained some thirty years ago", of our being uninterested in research and of "unsubstantiated claims" made by the 'old school' Colonel King, Dr Tertius Clarke, Dr Scharff Mr Senior White, *and others have so fully shown the absurdity and inaccuracy* of Colonel Gill's statements that I need add nothing In fact in my letter from Rhodesia published on July 5th, I made no attempt to prove to Colonel Gill that white was not black and that two and two made four It would have been a waste of time in his then state of mind, and unnecessary for those who know the work, scientific and practical, done in Malaya and elsewhere by members of the "old school"

But I could not help wondering how Colonel Gill came to create for himself these delusions Now we have the explanation. In his letter (published August 16th) he tells us that when I visited his laboratory in Lahore in 1924 I "spoke slightingly of the value of laboratory studies in malaria, and displayed little interest in a specially arranged exposition of the technique employed in the study of the epidemiology of malaria' So there you have the paws, nose and ears—the whole beast out of the bag Colonel Gill has evidently been brooding over this imaginary slight with disastrous results

Having diagnosed the case now let me treat the patient It will comfort Colonel Gill to know that I believe there is 'no single method of malaria control applicable to all conditions and all countries (vide Resolution 2 moved by me at the Congress of the Far Eastern Association of Tropical Medicine Calcutta, 1927) Nor am I looking to the future to give us one single method It will also comfort Colonel Gill to know that were there in force anti malaria measures giving 100 per cent success in every malarial area in the world I would still urge research believing that fuller knowledge will lead to a lowering of

the cost of the control work Now for a tonic You can't "search out and study the secrets of Nature by way of experiment" in a laboratory alone, as, in substance, I told Colonel Gill in 1924, and so upset him We require far more scientific work in the field than we have had in the past to control the results of work in the laboratory—for example, the misleading laboratory findings in regard to anopheles carriers We need the scientist who can experiment in miles as well as in millimetres And if Colonel Gill doesn't believe me, perhaps he will ponder over the words of the distinguished scientist which I quoted in my original letter of February 8th "There is a certain type of man who is badly wanted at the moment That is the scientific man who can administer, the administrative man who knows science We have men who can explore in the laboratory, but we have not enough men who can take what is discovered into the world We want people who are not merely scientists, we want people willing to take responsibility" Finally, to complete the cure I recommend a change of air and travel Let Colonel Gill visit the work done by Mr Senior White and Dr G C Ramsay in India, and then visit Malaya, to hear and see the practical and scientific work done by Hoops, Schaiff, Wellington, Macaskill, Barrowman, Hunter, Dawson, Scott, Daniels, Leicester, Stanton, Strickland, Hacker, Lamborn, Williamson, Gater, and others

Reverting to the original subject, antimalaria measures in Africa, I have just returned from a tour on the Congo-Rhodesian border, the Low Velt, and Zululand On the Selection Trust Mines in Rhodesia, the antimalaria work commenced by Sir William Simpson, Dr Dalzell, and Mr Harrison nearly a year ago is rapidly nearing completion, and promises to give the results that the "old school" would be much surprised if they did not get Much interesting scientific work is being done in the field, and in the laboratory, which (Colonel Gill *nota bene*) *I myself* sent out to the mines I also saw great opportunities for work on Malayan methods throughout my tour, and I have no doubt the future will show their adoption on a considerable scale in Africa Less than ever, after my tour in Africa, am I inclined to sit down and allow the mosquito, uncontrolled, to work its will on man, and leave him to acquire after years of sickness that very imperfect thing—immunity to malaria—I am, etc,

MALCOLM WATSON,
Putney Heath, S W 15, Sep 4th Principal Malaria Department, Ross Institute

THE LISTER WARD

SIR,—In a footnote to the extremely interesting paper by Lord Moynihan recently read at Winnipeg[1] there were some remarks as to the misconduct of the managers of the Glasgow Royal Infirmary in pulling down the Lister Ward With that attitude of mind I am entirely in sympathy There never has been in the world's history an act of greater vandalism, but I think the reference to that might well have made mention of the fact that the managers of the Royal Infirmary were by no means unanimous I happened to be at that time on the board of the Royal Infirmary, I think as president of the Royal Faculty of Physicians and Surgeons, and I moved an amendment to the effect that the matter should be delayed for further consideration That amendment was duly seconded, and on a vote the amendment was supported by eight directors The original motion to destroy the building was moved by the chairman of the hospital I am not sure who seconded the motion, but it certainly was supported by Sir Donald Macalister, principal of the University, and by the honorary treasurer of the infirmary Sixteen directors approved of the destruction, as already mentioned, eight disapproved, and I think it would only have been fair to the eight had the footnote mentioned the fact that a strenuous effort was made to save what was the most valuable building in the medical world I hope in future that persons who write on this deplorable incident will take care to record that one-third of the directors who attended that meeting did not approve of the action of the majority —I am, etc,

Rothesay Sept 1st A FREELAND FERGUS

[1] *Canadian Supplement to the British Medical Journal* August 30th 1930 p 10

THE CUSTOMS AND BELIEFS OF MANKIND

SIR,—I well remember one of my seniors, some five and-twenty years ago, expressing his regret that I had no hobby, apart from my work Being too shy to contradict my respected friend, I did not confess, but as a matter of fact I was, even at that remote time, a secret tippler of at least two varieties of potent spirit, one of them being folk-lore, or the study of the customs and beliefs of mankind So you may easily understand with what pleasure I have seen this hobby recently receive the commendation of the *British Medical Journal* It is, indeed, an appropriate pastime for the medical man But there is one aspect which, curiously enough, has escaped the notice of your contributors, although this side of the subject is one which renders it of quite peculiar interest to the practising doctor, wherever his lot may be cast, at home or abroad, and that is its close and abiding relationship with popular medicine, and through it with the history of medicine itself

In a brief communication like this it is, of course, impossible to enter even superficially into this fascinating subject, but I can most cordially support you in your commendation of the study of folk-beliefs, not only for its own sake, but also because it furnishes its votaries with a key to the comprehension of how the uninstructed mind views the human body, its functions and their disturbances —I am, etc,

London, W 1, Aug 30th DAN MCKENZIE

PERSONNEL OF A RADIUM CLINIC

SIR,—Mr Duncan Fitzwilliams concludes a most instructive and illuminating article (August 30th, p 309) by a reference to what he regards as the necessary personnel at a radium clinic His team is as follows surgeons, laboratory workers (whatever these may be), biologists, and physicists Being himself a surgeon it is possibly not unreasonable that he should put surgeons first But though he refers to Paris and to Stockholm as places where team work has brought the treatment of cancer by means of radium to a high state of efficiency, he omits absolutely (as is all too common in this country) to mention the radiologist, yet one thinks of Stockholm in connexion with Professor G Forssell, and of Paris in a similar relationship with Professor Regaud To these two men the whole of the building up of the great work in these countries is due Are we so much better than they? Possibly Mr Fitzwilliams is including the radiologist under the term "laboratory worker," but he also omits to mention the physician and the pathologist, both of whom, surely, are essential in a well-organized radium clinic —I am, etc,

London, W 1, Sept 1st STANLEY MELVILLE

TECHNIQUE OF RADIUM THERAPY

SIR,—Mr D C L Fitzwilliams in his lecture on "The technique of radium therapy to-day," which was published in the *Journal* of August 30th, states that beta rays are disadvantageous for medicinal purposes, and must be screened off by platinum, lead, or other impermeable metals, since they destroy normal as well as abnormal tissues This is not in accordance with my experience, for I have found the application of a "full-strength" unscreened flat metal plaque of the greatest value in the treatment of rodent ulcer and other superficial conditions, having apparently a selective action on basal cell carcinoma

Further, he asserts that the use of radon (radium emanation) is limited to centres where a radon plant is available, otherwise exact dosage is difficult or impossible to calculate, since it is not always known when it was prepared and how much has been dissipated Surely there should be no difficulty in ascertaining when it was prepared, and its initial strength, its value at any period after its preparation can easily be computed by reference to a table From the point of view of a State service, for economical reasons, the employment of radon has much to commend it, but, on theoretical grounds at any rate, it is inferior to the use of radium salt, since the greater part of its strength is exerted during the earlier part of its application, whereas radium exerts a uniform action during the whole period of its application As Mr Fitzwilliams rightly points out,

the administration of small doses over long periods is superior to large doses over short periods, which argues a superiority in the use of radium as compared with that of radon, and this, I think, can be proved in practice—I am, etc,

Newport Sept. 3rd. W HOWITT HASTINGS

OCCIPITO POSTERIOR POSITIONS

SIR,—Dr Kathleen Vaughan in the *Journal* of July 19th (p 121), states that occipito-posterior positions are unknown among races which habitually squat for urination and defaecation. For four years I was in charge of Maseno Hospital in the Kavirondo Reserve in Kenya, and we repeatedly saw cases with this complication. These people, the "Jaluo," not only squat for urination and defaecation, but also for the greater part of parturition. At present statistics are not available in Africa, but it would be interesting to know what occurs in India, where, I believe, this position is commonly used—I am etc,

Lingfield Sept. 3rd. D STRANGWAYS DIXON
(*of Limuru Kenya Colony*)

SIR,—In your issue of July 19th under the above heading I find a rather surprising observation made by Dr Kathleen Vaughan that it may be of interest that occipito-posterior positions seem to be unknown among races that habitually squat for urination and defaecation." Perhaps it is not generally known in Europe that almost all races in India, as a rule, squat for urination and defaecation, and obstetricians in India could cite cases after cases of occipito-posterior positions in their experience. From my own personal experience of several hundreds of deliveries I can safely assert that no fewer than 8 to 10 per cent of cases are those of occipito-posterior positions—I am, etc,

Bombay Aug 10th. F R PARAKH, M D, M R C S, L.R.C.P.
Consulting Obstetric Surgeon Parsee General Hospital.

NASAL SINUSITIS AND GENERAL MEDICINE

SIR,—Owing to a short absence from London the letter from Mr T Harrison Butler (August 23rd, p 395) has only just come to my notice. He has taken the term "all my eye" as though it were applied to the observation that focal sepsis may be the cause of ocular inflammation. Actually it was quoted in connexion with the term 'abdominal eye," as the title of a poem which many years ago ridiculed a claim to diagnose every ailment by the ophthalmoscope. Mr Butler himself says that any focal sepsis may cause optic neuritis and other ocular inflammations, thus exposing by his own words the fallacy of the term "abdominal eye," which implies some peculiar form of optic neuritis as a sequel to abdominal infections, particularly those of the gall-bladder. The mild flippancy, which Mr Butler resents, represents the correct attitude towards so crude an absurdity.

In the book mentioned it is suggested that errors of refraction may be caused by focal sepsis. Mr Butler says that of course the writer meant, not the optical abnormality, but the symptoms resulting from such errors, which, apart from sepsis, would have caused no trouble. This distinction is the very point criticized, and it might have been expected that an ophthalmologist would be the last to defend a lack of precision. It is a pity that Mr Butler should neglect the main purpose and theme of the review, which was far from unsympathetic—I am, etc,

August 29th. THE REVIEWER

THE PERFORMANCE OF NECROPSIES BY GENERAL PRACTITIONERS

SIR—I was pleased to see the letter from "Pusticus" in the *Journal* of August 9th and still more so to see it followed by others. I have been impressed for years by the absurdity of the fact that we unpractised with no skilled assistance, and with makeshift appliances on unsuitable premises are expected to undertake the sometimes difficult task of finding out the cause of death.

The ideal remedy would be the provision of skilled district pathologists with all proper aids. I suppose the financial obstacle is insuperable. At any rate no adequate person can be expected to undertake a responsible and sufficiently complete examination of a body in existing circumstances for a fee of a guinea and a half, unless he is under an obligation to do it—I am, etc

Colwyn Bay Aug 25th. S L B WILES M D

SIR—I do not quite agree with the opinions expressed by "Rusticus," "A Country Doctor," and "Country G P," in the *Journals* of August 9th and 23rd, about the performance of necropsies by general practitioners. It is regrettably true that general practitioners have very few opportunities of conducting necropsies, but much useful information and knowledge may be gained by taking advantage of such opportunities when they do arise.

In my few years of experience I have had to perform three post-mortem examinations at the direction of the coroner. In the first case (a woman aged 50) several small aneurysms were found on the circle of Willis at the base of the brain, and the largest of these was ruptured, causing an extensive subdural haemorrhage. This accounted for the symptoms of meningeal irritation which preceded death. The second case was that of a man who was killed by lightning. No pathological lesion was found to account for death. In the third case (a man aged 73) there was a haemorrhage into the pericardial cavity, due to a rupture of the anterior wall of the first part of the aorta, just above the aortic valves. This portion of the aorta was dilated, and the anterior wall was abnormally thin. No other gross lesion was found.

These three cases were very interesting and instructive. I should be sorry if general practitioners were denied the privilege of performing necropsies even though they may not have an expert knowledge of pathology and forensic medicine. In cases of difficulty a specialist's opinion can always be obtained. I deprecate the performance of necropsies in private houses, and consider that a mortuary should be available in every district—I am etc

Bristol Aug 30th. RAYMOND T BINNS M B B S

SIR—In 1894 I republished in the form of a pamphlet—"The State and the Doctor"—two papers originally contributed to the *Medical Magazine*. I think the following extract sums up the position to which attention was called by "Rusticus":

Were the State to employ medical men in the way which I have long thought might be made with great advantage I refer to a class of officers one for each county who would be medical jurisconsults. That is men who have made a special study of jurisprudence and were also good practical pathologists of giving evidence and were also good practised in the art It is often almost painful to read the evidence given by medical men at inquests where a sharp cross-examination takes place The medical man has usually come to a right decision in his own mind upon the case but when the possibilities and are you prepared to says come in the lawyer makes such hav of him. One feels that medical men are often made to state what is more or less than their opinion by their inability to withstand cross examination. Moreover this sort of case occurs a man is found dead or dying by the police any medical man living in the vicinity is summoned on his evidence the coroner is communicated with a post mortem ordered and made, by and by unsuspected criminal evidence is imported into the case and perhaps the body has to be exhumed to find that the first examination has practically destroyed the tissues or organs so that no efficient observation can be made. Much of this would be avoided by letting the first medical man testify to fact only and taking the evidence of the county jurisconsult on the scientific possibilities of the case

—I am etc,

Bournemouth Aug 27th. GEORGE MAHOLED

SIR—After thirty years' experience as a rural practitioner may I venture to agree with "Rusticus"? A seven miles journey on a cold winter night to a young local constable who retires after the first incision a small room with an old four-poster bed and a candle, one pail of water

and a dirty towel result, next day, a verdict of "fatty heart" Add to these details a fee which a railway porter would scoff at, out of which must be provided a tip to the aforesaid constable, and another to the local charwoman to clean up the mess The whole thing is a farce In these days of telephones and motors surely a specialist could be appointed As "a Government official" he would, of course, get an adequate fee, out of which he could tip the poor old general practitioner to give him essential particulars —I am, etc,

August 24th "G P"

SIR,—Since my last communication I have come to the conclusion that the unconscious villain of this grisly farce is the non-medical coroner He, with all the might of the law behind him, commands the family doctor of the dead person to perform the post-mortem examination This unfortunate gentleman now finds himself in a sorry fix The law will not allow him to take the only honest course and refuse outright, for the law, like the coroner, assumes every doctor to be an expert pathologist He cannot well confess his incompetence to the coroner and ask to be excused He would be misunderstood by coroner, patients, and public alike, and a less modest and perhaps less scrupulous colleague would profit So he does what we all do He keeps a still tongue, a stiff upper lip, and breathes an inward prayer that some quite unmistakable cause of death will allow him to sleep that night with an untroubled conscience

For the medical coroner who chooses his post-mortem performers at random it is difficult to find any excuse, for he ought to know better At the best he is spending public money with but slight hope of an adequate return, and at the worst he is a consenting party in a not very creditable piece of medico-legal humbug I have been informed of one coroner in a large city who employs only skilled pathologists I hope there are others, but I do not know of them

The matter is serious The most innocent-looking case upon which an unpractised doctor has to perform a necropsy may well have its end in the criminal court, with the life of a fellow creature in the balance How often in the last twenty years have we heard of exhumations for second post-mortem examinations, and how often has the unfortunate doctor who performed the first been brought into undeserved contempt? The number, I believe, is not inconsiderable It behoves us as a profession, therefore, to see to it that a high degree of skill is brought to all post-mortem examinations from the beginning

The remedy is so simple It amounts to this The delusion under which lay coroners apparently labour, that every doctor is an expert pathologist, and every cowshed and back scullery is a suitable post-mortem room, must be finally dispelled Doubtless we shall fall sadly in the estimation of these gentlemen, but it cannot be helped As it is true, we had better confess it rather than wait till we are found out Once they have recovered from the shock of this intelligence the cure follows naturally Every cottage hospital has a mortuary, and a post-mortem room is a simple and logical addition Motor hearses are common, and would-be pathologists will not be lacking

We general practitioners have had our domains invaded by the myrmidons of many branches of official medicine To some our welcome has been chilly, even frosty Should the 'county autopsy officer" ever come into being I, for one, shall take him to my bosom as a brother —I am, etc,

August 23rd RUSTICUS

IDIOPATHIC HAEMORRHAGE IN THE NEWBORN

SIR,—In reply to Dr Montague Dixon's query in your issue of August 30th (p 336), he will find that the good effect of the injection of parental whole blood is described in an article by Helmholz in the *American Journal of Diseases of Children*, 1915, x, p 194 Subsequently J E Welch showed that an equally good effect can be procured by the use of normal horse serum —I am, etc,

London, W 1 Aug 31st. HUGH THURSFIELD

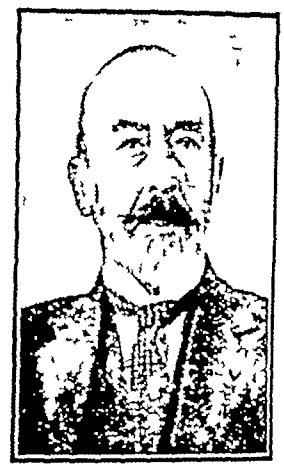
Obituary.

CHARLES BUTTAR, M A, M D,

Chairman, Executive Subcommittee, Central Medical War Committee

BY the death of Dr Charles Buttar on August 31st, after an operation, the medical profession has lost a man of great ability and public spirit, who applied a critical and independent mind to many and diverse professional problems

Charles Buttar was born in London on June 6th, 1867, and had a thorough grounding in the classics at Westminster School Entering Pembroke College, Cambridge, with a scholarship, he took a good place in the Classical Tripos, and then began to read for medicine, obtaining honours also in the Natural Sciences Tripos of 1889, and becoming M A three years later At St Bartholomew's Hospital he did well, and after graduating M B, Ch B in 1892 and taking the Conjoint diplomas he served in turn as house-surgeon and assistant anaesthetist at Barts, house-surgeon to the Metropolitan Hospital, and clinical assistant at the Western Ophthalmic Hospital He obtained the D P H in 1895, and proceeded to the M D degree in the following year With this all-round equipment Buttar became a general practitioner, and worked for many years in Kensington and Bayswater, winning the confidence of his patients and the respect of his colleagues Very quick at absorbing professional knowledge and ready in applying it, he was also businesslike in organizing the day's work, so that amid the claims of a town practice he found opportunity to go about in other circles and exercise his acute brain in many directions—political, philosophical, administrative, and scientific He was one of the earliest medical men to drive a car, and was closely associated with the formation of the Motor Union, which, in 1910, amalgamated with the Automobile Association Before the amalgamation he had served on the Motor Union's committee of medical motorists In 1924 he was elected to the committee of the Automobile Association He took a practical interest in all matters affecting the safety and comfort of motorists, and his wide experience as a driver was invaluable in the provision of warning signs, road improvements, and the development of A A services to touring members



Though he had long been a member of the British Medical Association, Buttar did not come to the front in its affairs until the National Insurance crisis, when he joined forces with the opponents of the bill because of its threat to the freedom of the individual doctor, whose interests he always had at heart He was elected to the Council on four occasions between 1912 and 1923, and served on various standing committees, including the Journal, Finance, Central Ethical, Hospitals, and Naval and Military Committees, he also took an active part in the work of the Ministry of Health Committee, the Post-Graduate Courses Committee, the Non-Panel Committee, and a special committee appointed to consider expansion of military medical services in the event of a national emergency Soon after the armistice he was one of the moving spirits in a small committee formed to advise the Council on the rearrangement of business at the Association's headquarters, in fact, whenever there seemed to be need for fresh ideas and a critical outlook Buttar was usually put upon the body appointed to make inquiries He attended all the Annual Meetings in recent years, and was vice-president of the Section of Medical Sociology at Newcastle in 1921 Perhaps his most successful work for the medical profession was done during the war He saw

at once the need for organizing the civilian profession so that recruitment should proceed on an orderly plan and the medical man power of the country be used to the best advantage To the difficult and thankless task of the Central Medical War Committee he gave of his best, and it was in no small measure due to his efforts as chairman of the Executive Subcommittee that the profession was allowed to retain the management of affairs in its own hands

Before leaving the record of Buttar's work in and for the Association we wish to acknowledge his services to the *British Medical Journal*, both as contributor of many unsigned articles reviews, and reports, and as a colleague, well acquainted with the routine business of this office, who could be relied on for prompt unobtrusive help in an emergency He had read widely, wrote straightforward English without frills, and was willing to take endless trouble over any editorial task that came his way It disappointed him greatly to have to decline a responsible duty for us this summer, but the severe illness for which he underwent an operation two years ago had left him in precarious health, and he would not risk 'letting the *Journal* down"

It was characteristic of Buttar that, at the age of 57, being then in the full tide of bodily and mental vigour, he decided to retire from active practice, and to seek no further office in the Association after his year as president of the Metropolitan Counties Branch He said he wished to make way for younger men before others thought the time for that had come He retained, however, his membership of the committee of the Medical Sickness and Accident Society served on the council of Epsom College and of the Fellowship of Medicine, and kept up his close association with the Harveian Society, of which he had been president and treasurer, gave time and thought to the People's League of Health, interested himself in several aspects of the tuberculosis problem and often took duty for a general practitioner friend in the country

Charles Buttar's ingrained horror of sentimentality, his caustic but suavely worded comments on the conduct of affairs, and his habit of laughing at himself and others gave him the name of cynic This was far from the truth He was a mixture of idealist and realist, holding firmly to certain basic principles which he agreed to call prejudices and tempering cool judgement and austerity of intellect with genuine kindliness In conversation and in public business he often spoke as a sceptic, but when a friend or a good cause wanted help he gave it with both hands

The funeral service on September 3rd, at Woking Crematorium, was attended by Dr Courtenay Lord, Assistant Medical Secretary on behalf of the Council of the British Medical Association, and by the Editor of the *Journal*

Mr E B TURNER, Past-Chairman of the Representative Body, and Vice-Chairman of the Central Medical War Committee, writes

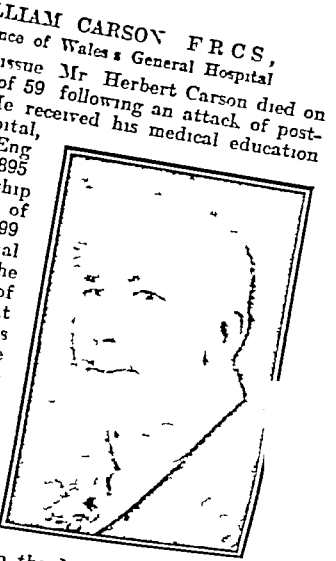
By the death of Charles Buttar the Association the profession, and the country have lost an exceedingly good friend For the last twenty years of his life the honour and interests of the medical profession and of the individual practitioner were very near to his heart When the Insurance Bill was brought in he foresaw the effect that the establishment of an immense system of contract practice involving millions of the industrial classes would have on the status and position of the private family practitioner, and though thoroughly in favour of any system of insurance against sickness he was much concerned with what would most certainly be the effects of such a far-reaching change in practice He was one of those who did their utmost to fight the bill and to rally the profession as a whole to do whatsoever might in it lie to conserve the position of the family doctor acting as a private practitioner He was one of the foremost in organizing those meetings of the profession which unanimously condemned the bill and in carrying on the fight in the London district after the rest of the country had more or less accepted the inevitable Most of his predictions have been verified and he foresaw very accurately whither the outcome of such fundamental change in the relation between doctor and patient might lead He always played the game, whether to his own advantage or not When the great war broke out he was one of the foremost in attempting to organize the staffing of the new armies with civil practitioners without unduly disturbing more practices than was absolutely necessary He was one of those who, before the Conscription Act came in went about all over the country addressing meetings of doctors urging them to enrol for service in the new armies and for those who could not undertake active service to look after the practices of those who went On the establishment of the Central Medical War Committee—one of the Association's best achievements—Buttar threw himself wholeheartedly into its work and as chairman of one subcommittee almost gave up his own private work and practically lived at the office of the Association to help carry on and organize matters When medical service became compulsory he did everything possible to ensure that the case of every doctor called up who appealed should be fairly and impartially considered by the appeal subcommittees regardless of "contractual obligations" He was very active in pointing out the overlapping in the work of the medical services at the front and was one of the commission sent out by the War Office to investigate and report The report of that commission, which from start to finish bore the marks of his Roman hand was so extremely confidential that only two copies were issued—one each to the chairman and vice-chairman of the committee But many of the suggestions were carried out and bore good fruit Of apparently cynical aspect he had one of the kindest hearts imaginable, and was always ready to go out of his way to help or to do a good deed to assist anyone When hard, unpaid, and sometimes distasteful work for the profession, or the country was on hand, he was always to the fore when official recognition and rewards were about he was not

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HERBERT WILLIAM CARSON F R C S,

Senior Surgeon Prince of Wales's General Hospital

As recorded in our last issue Mr Herbert Carson died on August 31st, at the age of 59 following an attack of postoperative pneumonia He received his medical education at St Bartholomew's Hospital, and qualified M R C S Eng and L R C P Lond in 1895 proceeding to the Fellowship of the Royal College of Surgeons of England in 1899 Early in his professional career he was elected to the surgical staff of the Prince of Wales's General Hospital at Tottenham where he was instrumental in starting the North-East London Post-Graduate College and eventually became senior surgeon He also held appointments as consulting surgeon to the Hertford County Hospital the Welwyn Cottage Hospital and the Linen and Woollen Drapers Institution and as lecturer on abdominal surgery to the North East London Post-Graduate College During the war he held a commission as honorary captain in the R A M C being surgeon to King George Hospital



Herbert Carson took an active part in the social life of the profession and was a past-president of the Medical Society of London and of the Hunterian Society he was also chairman of the executive committee of the Fellowship of Medicine with whose work he had for a number of years identified himself and recently he had become a member of the provisional organization committee for the new Post-Graduate Hospital and Medical School at Hammersmith To the British Medical Association he rendered valued service serving on the Arrangements Committee 1929-30, and but for his untimely illness and death he would have

proceeded to Canada to carry out the duties of his office as vice-president of the Section of Surgery at the recent Annual Meeting at Winnipeg Carson had every reason to look forward eagerly to this meeting, for in 1925 he had had a most cordial reception in Canada, when, on behalf of the British Medical Association, he attended the annual meeting of the Canadian Medical Association at Regina *as a very welcome guest of the latter Association* On that occasion he delivered addresses on gastric and duodenal ulcer and on cancer of the colon, and came back with a sufficient knowledge of the needs of medical men in the Dominion to help him to organize post-graduate teaching in this country on their behalf

Carson was not only admirable as a teacher on surgical subjects, but during his career he made a number of valuable contributions to surgical literature Perhaps his chief work was *Modern Operative Surgery*, for which, as editor, he wrote a large number of sections, including practically the whole of those dealing with abdominal surgery, he was also author of *Asepsis and How to Secure It* and *Aids to Surgical Diagnosis*, and editor of the tenth edition of Pye's *Surgical Handicraft* In addition to these works he made a number of contributions to the medical press, *and read numerous papers before medical societies*, included among these were "Clinical aspects of tuberculous mesenteric glands" (Medical Society's *Transactions*, vol 41) "Post-operative treatment of cancer of the breast" (*British Medical Journal*, December 11th, 1926), "Indigestion from the surgeon's standpoint" (*British Medical Journal*, March 8th, 1930)

In the sad unexpected passing of Mr Carson, the career of a brilliant surgeon has been brought to an untimely close In addition to being a man of great energy, with a tremendous capacity for hard work as a surgeon, as a teacher, as a writer, and as a speaker, he was characterized by his very infectious enthusiasm for even the smallest things in his clinical work He repeatedly emphasized the importance of the surgery of that most economic unit, the hand, and he was persistent and patient in the teaching of this subject His surgery was very good it was radical, quick, firmly yet gently performed, and the more difficult the work the more obvious became his interest, courage, and enthusiasm for it It was surprising how a man of his seniority and accomplishments kept himself quite "au fait" with the latest surgical literature, and was still writing steadily Among old students of the post-graduate college at Tottenham, many of whom are occupied in responsible posts in fields afar, his name will be kept green for many years His sterling qualities as *a surgeon and as a man, and his personal* interest in the nursing staff of the hospital, endeared him to their hearts Outside his profession, he had been a keen cricketer, a good tennis player, and played a first-class game of chess His quiet charm of manner and kindly genial disposition endeared him to a very large circle of friends Many of them gathered together at the memorial service at All Souls' Church on September 3rd, to pay tribute to him

Dr ARTHUR GILES writes:

Herbert W Carson was a man of strong personality and of great and varied abilities He was closely associated with the growth and development of the Prince of Wales's Hospital, Tottenham, which he served for about thirty-three years He *was one of the founders of the North-*East London Clinical Society and of the North-East London Post-Graduate College He was a keen and expert surgeon, and achieved a great reputation, especially in the North of London Of later years his activities spread over a wider field, and he will be remembered as a successful president of the Medical Society of London, as one of the honorary librarians of the Royal Society of Medicine, and as Hunterian Orator on the subject of the history of the knowledge of peritonitis, which attracted much attention A few years ago his reputation was greatly enhanced and extended by the publication of a new work on operative surgery which he edited, and to which he contributed valuable chapters on abdominal surgery Mr Carson was greatly interested in medical graduate study, and was one of a group of leaders of the medical profession who were in close touch with the Ministries of Health and of Education with the object of instituting an important post-graduate system in London Outside his profession he was a keen sportsman, the claims of surgery stopped his cricketing career, his special bent for wicket-keeping being too risky for surgical hands, but he was also a good tennis player and golfer Like his brother, H A H Carson, the well-known cricket expert, he was also an excellent chess player, ranking as first class in his earlier days. His death at the comparatively early age of 59 is a serious loss to the medical *profession*, and a source of profound grief to his many friends

[The photograph reproduced is by Elliott and Fry]

J E MACILWAINE, M D, B Sc,

Physician to the Royal Victoria Hospital, Belfast, and formerly Professor of Materia Medica and Therapeutics in Queen's University

THE sudden death of Professor John Elder MacIlwaine, on August 13th, will long be felt as a loss, not merely by his colleagues of the Belfast Medical School, but by all his fellow workers in cardiology

Professor MacIlwaine had a full and varied life After his school days at the Royal Academical Institution, Belfast, he served an apprenticeship in his father's ship yard at Belfast, and then went to Glasgow University, where he obtained the degree of B Sc in naval architecture Shortly after his return home he became interested in medicine and entered Queen's College, Belfast, as a medical student His undergraduate career was a brilliant one, not only in the class-rooms, but in the playing fields, as well, and in the nineties, when Irish Rugby football was at its zenith, he represented his country for three years, and was one of the best of an exceptionally fine pack

The outbreak of the South African war found him a final year student, and he at once joined the Irish Hospital as a dresser, and accompanied it to the Cape, where he gained a wide experience of typhoid and dysentery On his return he graduated M B, B Ch, and B A O with honours, and then proceeded to the Continent for further study He visited Berlin and Paris and spent almost a year in Vienna He finally settled in Belfast, and became connected with the Royal Victoria Hospital, a connexion which lasted for the rest of his life He served in succession as house physician, medical registrar, medical tutor, assistant physician, physician, and consultant physician in charge of the cardiographic department During the whole term of his service his skill and knowledge, his teaching, and his advice were appreciated by colleagues and students alike

MacIlwaine's bent, strengthened by his early training, was towards practical science, and when he commenced consultant work it was inevitable that his special interest should be in the application of the physical sciences to the diagnosis and cure of disease He began by working at biochemistry, at a time when biochemistry was still in the *nature of a mystery to the practising physician* When the electrocardiograph was introduced he realized at once its possibilities, devoted himself to recording and elucidating its findings, and finally abandoned all other branches of medicine in favour of cardiology His success was complete During the great war he joined the St John's Hospital at Etaples, and took over with him his own cardiograph The results that he obtained were so accurate and so useful that in a short time he became virtually the cardiac consultant for the army in France

After the war he was appointed professor of materia medica and therapeutics in the room of Sir William Whitla at Queen's University, Belfast With characteristic energy and initiative he set to work to reorganize the curriculum and the teaching of his subjects, and he succeeded in carrying the appointment of a properly qualified professor of practical pharmacy, and in gaining the recognition of this course as an *integral part of the course of instruction* in therapeutics At the Annual Meeting of the British Medical Association in Belfast in 1909 he was joint honorary secretary of the Section of Medicine, and in 1924–25 he was president of the Ulster Branch

For some years his health had been a subject of anxiety to his friends, and about two years ago he was faced with

the threat of blindness He had always been myopic, and after some premonitory symptoms he lost completely the sight of one eye In the hope of saving the other he first resigned his professorship and then gave up his teaching work at hospital, but unfortunately all precaution was vain, and for some months before his death he was practically blind He is mourned by his wife who was for many years his constant companion and helpmate, and by many friends No one ever met MacIlwaine without being cheered and stimulated by the encounter Charmingly disputatious, kindly, reasonable, well equipped with knowledge and with the art to use it, he was an ideal companion Who that knew him can forget his mellow voice—in his younger days he was a delightful singer—and his bright laugh? Peace be to his ashes

R J J

The death of Dr W R HIGGINS of Louth, on August 22nd, has caused deep regret in Lincolnshire William Robert Higgins second son of the late Dr T J Higgins, was born in 1878 He received his medical education at the University of Cambridge and the London Hospital obtaining the diplomas M R C S L R C P in 1904 and graduating M B, B Ch Camb in the following year He proceeded M D in 1911, and became a Fellow of the Royal College of Surgeons of Edinburgh in 1918 He commenced practice in Louth in association with his father in 1904, and six years later was appointed medical officer and public vaccinator for the Welton district He was consulting surgeon to the Alford Hospital, and surgeon to the Louth and District Hospital and St Margaret's Home During the war he was attached at first to the 4th Northern General Hospital Lincoln, he then served for a time in the *Mauretania* functioning as a hospital ship, and was later with the army in France On returning to civilian life he took an active part in assisting the organization of ex-service men, and was one of the founders of the Louth United Services Club, of which he was president at the time of his death He became a member of the Louth Town Council in 1921 as the representative of the ex service men, retiring in 1926 He was also a governor of the Louth Grammar School, where as a boy he had received his early education His breezy personality, warm-hearted devotion to his patients loyalty to his colleagues and exceptional oratorical abilities made him a notable figure in Louth, both professionally and personally He was a fearless and resourceful surgeon, and his valuable work at the Louth Hospital was highly appreciated

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Dr JOHN THOMSON WILSON, formerly medical officer of health for the county of Lanark, died on August 25th He was a native of Cambuslang, and graduated at Aberdeen University in 1891 He first assisted Professor Matthew Hay at that university and afterwards was assistant to the medical officer of health for Shropshire Practically all his professional life however, was spent in Lanarkshire but he derived his training and scientific outlook from the University of Aberdeen, which sent forth about that time a group of men who subsequently became famous in public health All these men showed that painstaking care in the application of science to health problems which characterized Wilson in the highest degree He was the second county medical officer for Lanarkshire, taking up his duties there within five years of the passing of the Local Government (Scotland) Act, 1889 at a time when county health administration was chaotic, and he laboured there for more than thirty years so as to form in that important area an effective administration for improving the public health and raising the social standards of the people In this he did most notable work, and only those who knew the conditions in Lanarkshire in the nineties are able to form a just opinion of the magnitude of the task which he faced Water supply and sanitation in these villages and busy industrial towns were wanting or primitive to a degree The rich mineral wealth of the county attracted immigrants from all parts of Great Britain and Ireland giving rise in many areas to grave overcrowding and increasing the effects of bad sanitation In dealing with these Dr Wilson showed not only clear judgement, but unswerving determination to improve the conditions of the inhabitants In these days of advancement and progress in public health matters it is pleasing to have to record of one of the most progressive of medical officers of health that with him environment and general health considerations had always the first place He did not believe that *ad hoc* effort could ever correct faulty health conditions but, nevertheless, all special departments in public health work had his enthusiastic support The bacteriological laboratory, the chemical laboratory and the hospital arrangements of Lanarkshire under his inspiration became foremost throughout Scotland while the tuberculosis and venereal schemes and the child welfare arrangements of that county were all well thought out and models of their kind Dr Wilson was gifted not only with a sound scientific knowledge of disease and health conditions but also with much business acumen and common sense upon which he relied in dealing with his many committees and councils He was something more than a mere medical man or medical officer of health—he was a practical man of the world who appreciated practical difficulties and envisaged problems as they appeared to councillors and public representatives On that account he was singularly successful and happy in his relationship with his councils who ever placed in him their confidence and respect Dr Wilson's influence in public health extended far beyond Lanarkshire A generation of medical officers of health, working in England Scotland and the Colonies owe to him their first inspiration in public health and many of the advances made in the past thirty years elsewhere have been almost directly due to that quiet self-contained, patient, and high-minded chief whom all his assistants revered His passing leaves a blank with many but his example lives

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Dr HUGH COLLIGAN DONALD, T D, who died at Paisley on August 20th, aged 60, was the third son of the late Dr J T Donald a former Paisley medical officer He was educated at Paisley Grammar School, Merchiston and Glasgow where he graduated M B C M in 1891 Six years later he obtained the diploma F R C S Ed and was appointed surgeon to the Royal Alexandra Infirmary Paisley a position from which he retired only this year He was also consulting surgeon to the Royal Victoria Eye Infirmary a certifying medical officer for mental disease and lunacy and specialist in venereal diseases to the Paisley and Greenock corporations At the outbreak of the South African war he became a medical officer to the 3rd British Cavalry Brigade, and he received the Queen's medal with four clasps In 1914 he acted as senior medical officer to the Argyll and Sutherland Brigade (Territorial) with the rank of major in the R A M C subsequently serving in other capacities and retiring with the rank of lieutenant-colonel He was a member of the British Medical Association

The Services

NORTH PERSIAN FORCES MEMORIAL MEDAL

THE War Office announces that Captain H W Mulligan M B Indian Medical Service has been awarded the North Persian Forces Memorial Medal for the year 1929 for his paper reference to malaria published in the *Indian Journal of Medical Research* vol xvi No 4 April 1929 This medal is awarded annually for the best paper on tropical medicine or hygiene published in any journal during the preceding twelve months by a medical officer of under twelve years service of the Royal Navy Royal Army Medical Corps Royal Air Force Indian Medical Service or of the Colonial Medical Service provided the Memorial Committee considers that any of the papers published has attained a standard of merit justifying an award.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE.

DR. H. W FLOREY of Gonville and Caius College has been reappointed Huddersfield lecturer in special pathology G L. Taylor M D., of The following elections are announced the John Lucas Walker studentship for three years A Brauch, M.D to the Gwynaeth Pretty studentship for three years.

Medical News.

THE annual exhibition of the Royal Photographic Society of Great Britain opened on September 11th at 35, Russell Square, W C 1, and will continue until October 11th Among the exhibits are photomicrographs illustrating the structure of emulsions, studies of the effect of recoil in revolver shooting and of shotgun bursts due to obstruction, radiographs showing structure differentiation, and colour transparency views of Indian subjects

AT the provincial meeting of the Society of Medical Officers of Health to be held at Lowestoft on September 19th and 20th the members will be entertained by the Mayor and Corporation of Lowestoft at luncheon at 12 30 on September 20th and not on September 19th as stated in our previous notice

THE Committee for the Study of Medical Hydrology is arranging its programme for the coming winter The object of the committee is to supply lecturers on the subjects of spa treatment and general medical hydrology for medical societies and for medical schools where these subjects are not already included in the curriculum A list of the lecturers available will be forwarded on application to Dr Geoffrey Holmes, 11, Ripon Road, Harrogate

THE annual meeting of the International Society of Medical Hydrology will be held this year in Lisbon and the Portuguese spas, from October 15th to 23rd, in conjunction with the Congrès International d'Hydrologie One medical discussion is being arranged by the society, on the treatment of digestive disorders by waters and baths General meetings will also be held to consider a system for the international registration and classification of waters, the organization of health resorts for insured workers (social hydrology), and proposals for the protection of the names of the spas Papers are read in English, French, or German, and translations supplied The Portuguese spas to be visited include Coimbra, Curia, Oporto, Bussaco, and Vidago The annual meeting will also include social events, a banquet in Lisbon, and reception by the President of the Republic The meeting is open to non members, at a fee of 10s (and 5s for a lady accompanying a participant) Expenses in Portugal are £10 3s 6d, and the fare from London to Lisbon and back in ss *Cap Arcona* from Boulogne on October 11th is £19 0s 6d Alternative travel overland can be arranged A limited number of medical practitioners and students who are interested in hydrology are invited to take part in this meeting Applications should be received at the office of the society, 55, Wellington Road, N W.8, not later than September 15th

A MEETING of the Royal Sanitary Institute will be held on Saturday, October 4th, in the Town Hall, Hereford The subjects for discussion will be the place of women in local government, the preservation of the countryside, and the health authority and the milk supply The chair will be taken at 10 a m by Dr George F Buchan

THE German Society for Industrial Hygiene will hold a congress at Breslau from September 22nd to 24th, papers will be read on work and housing by Professor von Drigalski of Berlin and on hygiene in the office by Dr Holstein of Frankfort on the Oder and Dr Kremer of Berlin.

THE recent meeting of the International Society of Microbiology in Paris was attended by more than 700 members The three sections—general and medical microbiology, serology and immunity, and agricultural microbiology—had daily sessions at the Pasteur Institute Professor Ledingham and Dr Arkwright were the only English "rapporteurs," and dealt with variation amongst bacteria, Sir Almroth Wright demonstrated bacteriological technique Numerous papers on the relation of lipoids to immunity, neurotrophic viruses, yellow fever, blood groups, undulant fever, influenza, scarlet fever and diphtheria, bartonellosis and syphilis, reviewed the present knowledge of these fields of study, the detailed papers will be published later The exhibition of some excellent films of the developmental cycle of various parasitic worms and the splitting of bacilli attracted a large audience Professor Bordet, the president, announced at the final meeting that the next congress would take place in Berlin in 1933 The banquet on the last evening was so popular that the restaurant originally chosen could not accommodate the diners The speeches reflected the spirit of real international amity, which was an especially pleasing feature of the whole congress

THE last annual report of the Board of Control states that on January 1st, 1930, the number of notified insane persons under care in England and Wales was 142,387, an increase of 1,307 during the preceding year, the average annual increase for the five years ending January 1st, 1930, being 2,167 The percentage distribution of the sexes—males 44 2, females 55 8—showed an increase of 0 3 in the proportion of males Deaths numbered 9,739 (males 4,539, females 5,260) They were 1,030 more than in the preceding year. The number of certified mental defectives in institutions on January 1st, 1930, was 23,485 In addition, there were 2,212 defectives in institutions and homes who were not certified, making a total of 25,697

KING'S College Hospital Medical School has now entered upon its centenary year, and an account of the work accomplished during the past 100 years will be given by Dr Raymond Crawfurd on October 1st at the opening ceremony of the winter session, presided over by Dr G F Still The centenary dinner, under the chairmanship of Sir StClair Thomson, will be held on the evening of the same day at the Connaught Rooms The medical school needs urgently the completion of its buildings, the erection of half of which was prevented by the outbreak of the war It is proposed to mark the centenary by carrying out this work as soon as funds are available, and for this purpose money is being collected

AT the recent Empire Conference of the British Red Cross Society a resolution was passed approving the principle of reading as part of curative medicine, and desiring to see it established in all hospitals in due course In this connexion it is of interest to note that the subject of hospital libraries will be discussed at the Conference of the Library Association to be held this month in Cambridge. On Tuesday, September 23rd, at 2 15 p m, there will be a short paper on the history and practice of this work as done in Great Britain, Miss Ostenfeld, organizer of the Hospital Library Service at Odense, will speak on collaboration between public libraries and hospitals in Denmark, and Miss Perrie Jones, hospital librarian, Public Library, St Paul's, Minnesota, on the psychological value to patients of hospital libraries Representatives from institutions are invited to write for further details to the secretary, Library Association, 76, Bedford Square, W C 1

THE system of compulsory notification of acute rheumatism which was instituted in the Royal Borough of Kensington in October, 1927, for an experimental period of three years, will be continued for another period of three years, dating from October 1st, 1930 It has been decided that the expression "acute rheumatism" shall be interpreted to mean the following conditions, occurring separately or together in a child under the age of 16 years (1) rheumatic pains or arthritis, if accompanied by a rise of temperature, (2) rheumatic chorea, (3) rheumatic carditis Complete details are embodied in Statutory Rules and Orders, 1930, No 659, published by His Majesty's Stationery Office, price 1d

A MEMORIAL window to the late Dr John K Stewart was recently unveiled by his son in the Randalstown Presbyterian Church, County Antrim Dr Stewart died on April 15th, 1923, at the age of 29, as a result of wounds received on active service An obituary notice appeared in the *Journal* of May 5th, 1923 (p. 792)

MEMBERSHIP of the Guild of St Luke is open to all students and practitioners of medicine—both men and women—who are members of the Church of England, the clergy of which are eligible as clerical associates The Guild was started in London by a few medical students over sixty years ago, and there are also now in London a Women's Ward and a Students' Branch, as well as a Midland Counties Ward and a Cambridge Ward The Chapter of the Guild meets in each month of the academic year, and a festival service is held annually at St Luke's Tide, either at St Paul's or Westminster Abbey This year the service will be at St Paul's Particulars of the objects and activities of the Guild and forms of application for membership can be obtained from the secretary of the Guild of St Luke, King's College, Strand, W C 2.

ACCORDING to the *Journal of the American Medical Association*, "Typhoid Mary," the carrier who infected at least twenty eight members of seven different families in which she was employed as cook, is still alive and is quarantined in a New York hospital, where she earns a small salary by cleaning glassware Her stools are constantly used by the New York Department of Health as a control for bacteriological media

THE August issue of the *China Medical Journal*, which periodical is published monthly by the China Medical Association, takes the form of a special leprosy number Original articles and reports on the progress being made by leprosy institutions depict the outlook as regards the treatment of this disease in China at the present time, and Dr J L Maxwell summarizes the salient points in this respect The clinical side of the problem is discussed by Dr Ernest Muir, Dr A J Watson, and others

THE issue of the *Paris Medical* dated August 16th is dedicated to the memory of Jules Marey on the occasion of the centenary of his birth, and contains the address delivered by Professor Richet to which we alluded in the *Journal* of August 16th (p 271). Marey, who was for thirty five years professor at the College de France, was

not only the first to introduce the graphic method into physiology and the sphygmograph into clinical medicine, but by his study of simple and complicated muscular movements, and of the flight of birds and insects he was one of the precursors of cinematography and aviation In addition to publishing the commemorative orations delivered by Professor Richet of the Academie de Medecine Professor Glev of the College de France and M Raoul Grimoin Sansom, director of the Marey Institute in the Bois de Boulogne the issue of the *Paris Medical* contains extracts from Marey s works on the circulation of the blood human movements, and the flight of birds and insects

PROFESSOR SIGMUND FREUD of Vienna has been awarded the Goethe prize of 10 000 marl s

THE one hundred and sixtieth volume of the *Archiv für Klinische Chirurgie*, the two hundred and twenty fifth volume of the *Deutsche Zeitschrift für Chirurgie* and the issue of *Wiener medizinische Wochenschrift* for August 9th have each been dedicated to Professor Anton von Eiselsberg of Vienna on the occasion of his 70 h birthday

THE *Gazette des Hôpitaux* for July 30th contains a facsimile of the greatly abridged issue of August 1st 1830 when *La Lanccttc Française* as the journal was then called was suspended by royal decree in common with the rest of the periodical French press

WE have received the first issue, published last January at Naples, of *Diagnostica e technica di Laboratorio* a monthly journal edited by Professors L D Amato of Naples and L Zoja of Milan supported by an international committee The issue contains original articles dealing with laboratory diagnosis and technique short laboratory notes reviews of books and abstracts from current literature The annual subscription is 120 lire for Italy, and 150 lire for foreign countries

MR LEONARD L MACKALL, a well known figure in Osler s wor d has been appointed consultant in bibliography to the New York Academy of Medicine

DR. JOHN WILLIAM HUNT, acting chief medical officer has been appointed a nominated member of the Legislative Council of the Colony of I iji

MESSRS CASSELL AND CO , LTD announce for early publica tion *Sick Children Diagnosis and Treatment* by Dr Donald Paterson also a fifth edition of Treves s *Students Handbook of Surgical Operations* revised by Mr Cecil Wakeley

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR British Medical Journal British Medical Association House Tavistock Square, W C.1**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager British Medical Association House Tavistock Square W C 1 on receipt of proofs

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9561 9562 9563* (internal exchange four lines)

The **TELEGRAPHIC ADDRESSES** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL* *Articulate Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westcent London*

MEDICAL SECRETARY *Medisecra Westcent London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin) and of the Scottish Office 7 Drumsheugh Gardens Edinburgh (telegrams: *Associate Edinburgh* telephone 24361 Edinburgh)

QUERIES AND ANSWERS.

WRITER S CRAMP

"DI VON " invites suggestions for treatment other than rest for wri er s cramp? "Is electrical treatment of any value and what is the prognosis?"

PYLORIC CANCER REMISSION OF SYMPTOMS

"WICKLOW" writes On March 5 h last a patient of mine was discharged from a Dublin hospital w th pyloric cancer too advanced and himself in too bad a bodily state for operation He came home to die and now six months later he is doing casual work on a farm Some three months ago he commenced to take cod liver oil daily in good doses and declares he improve l from the day he began it Has any reader had a similar expe rience? The man was carefully x rayed and examined in every possible way in the Dublin hospital

PROLONGED ADMINISTRATION OF SALICYLATES

"M D " writes Can any pharmacologist tell me whether prolonged taking of sodium salicylate for chronic rheumatism is likely to be a factor in the deposition of oxalates forming oxalate renal calculi?

WHITE SPOTS ON FINGER NAILS

"R L " asks for information about the nature and treatment of the white spots which occur on finger nails He writes Sir Norman Walker I believe stated that they were due to air in the nail cells A patient whose nails are very unsightly through these spots plays a lot of golf and tennis

TREATMENT OF DYSMENORRHOEA

DR FRANCISCO PINTO (Barcelona), in reply to Dr F R B Murray s inquiry (August 16th p 372 writes I would suggest injections of alcohol into the perineurine ganglion of Franken haeuser as described by Dr Dietrich Blos in the *Münchener medizinische Wochenschrift* of July 12th 1929 (p 1173)

KEEPING FIT IN HOT CLIMATES

SURGEON COMMANDER A BERNARD CLARE R N writes Having spent four ont of the past eight years on the Mediterranean station I would like to reply as follows to the inquiry of C H B Alcohol is not at all essential to health and I am convinced that one is better without it in hot climates I am an abstainer myself and have never had one day s real sickness It is quite erroneous to say that total abstainers are the first men to go sick actually they are probably the last I agree that pro tection of the abdomen especially at night is very important there can be no doubt that a large number of cases of enteritis are caused by neglect of this precaution Anyone who takes large quantities of alcohol must undoubtedly take a large amount of violent exercise to get rid of the poison and so keep fit but one who abstains can get all the exercise he requires during the very hot weather in frequent bathing and swimming There is no doubt that exercise of some kind is essential for complete fitness even in the hottest weather

"C G H " replying to the inquiry of "C H B "(July 26th p 168) writes Ten years practice in the Tropics has convinced me that the problems of exercise and alcohol there are exactly paralleled by those in temperate climates the individual varying in his requirements in both respects Thus the "beefy active he man " who has usually a large appetite requires a consider able amount of exercise The type which may be broadly called the " vagotonic " also seems to need alcohol as a sedative without which he will react too readily to the many minor irritations characterizing life in a hot climate becoming irritable and sleeping badly The opposite type however the spare man of moderate habit and physique (broadly the sympathicotonic) can I am sure do with far less of either and will be the worse for trying to compete with those otherwise constituted Too frequently there are to be seen cases of exercise pursued to exhaustion and followed by the attempt to repair that exhaustion with an extra ration of alcohol It is often forgotten that mere existence in a hot climate entails more output of energy both bodily and nervous than residence in a cool one this should be taken into account by the individual (or his medical adviser) in working out his needs in the way of exercise and alcohol The latter is in my opinion of great use as a sedative but should be employed strictly as such—for instance at the end of a trying day to damp down the worries and irritations of work and facilitate the transition to the evening s recreation If a man always has a "sundowner " however he will need two when the weather is bad or his job is particularly trying and the step from this to the daily " two pins " is a short and easy one Alcohol with the day s work ahead is anathema and the royal road to a heat stroke

DERMATITIS HERPETIFORMIS

"M B " (Northampton) writes In reply to Dr Richmond s inquiry (August 23rd p 308 I have always thought that arsenic was considered the only remedy for dermatitis herpet formis I have had two cases—one nearly fatal in a very old lady—and I by pushing arsenic to extreme doses brought about their recovery

SOUR MILK.

DR. M R SONI (Manchester) replying to "E W D "(August 9 h p 236) writes I recommend as the best and cheapest meth l of preparing sour milk the following proce lure which is adopted in India Boil the milk and when it has cooled down to about 100° F pour it into a flat basin adding two tablespoonfuls of "dahi " which can be obtained from most Indian restaurants. Stir well and allow to stand for seven to ten hours in a moder ately warm oven At the end of this period the milk will have set " All the sour milk is used except a few tablespoonfuls which should be added to fresh milk on the following day the process can be continued indefinitely A little practice will improve the results to a great extent. If the milk has a sweet

it has not "set" properly If it tastes too sour, too much "dahl" was added to the boiled milk, or the milk was allowed to stand unduly long Excessive heating will stop the fermentation process, too much cold will retard it

INCOME TAX

Expenses of Supplementary Practice

"H M G" holds a hospital appointment, and is permitted to do private work The latter necessitates using his residence and car for professional purposes, and he is unable to agree on the appropriate deductions with the local Inspector of Taxes

*** The fact that the car was necessitated by the private work, and might otherwise not have been acquired, does not provide a good ground for claiming to deduct a higher ratio of the car expenses than that indicated by the professional and private mileages That ratio would apply also to the chauffeur gardener's wages, after excluding the gardening time as purely personal With regard to the rent, rates, and other general household expenses, much would depend on which room is set aside for professional purposes, and the extent to which it is put to private uses Perhaps the analogy of the clergyman's study, for which he is allowed one eighth of the total cost, points to the proper ratio

Expenses of Locumtenent and Car

"REVENUE" inquires what is a proper amount to deduct for board and lodging for a locumtenent, and also what is the basis for dividing motor car costs between professional and private use

*** Our correspondent has presumably already deducted some part of the general domestic staff expenses and a percentage of rent, rates, etc, as applicable to professional purposes, and it has to be remembered that it is only the balance of these expenses from which an allocation for the board and lodging of the locumtenent can be made So much depends on circumstances that it is difficult to advise, but 4 guineas per week seems high for a normal provincial practice The only definite and satisfactory basis of allocating car expenses is the mileage basis, and for that reason it is advisable to keep a record of private mileage

LETTERS NOTES ETC

SPIROCHAETES IN HODGKIN'S DISEASE

DR P F MACGINNIS (pathologist to the Chesterfield and North Derbyshire Royal Hospital) writes. We have found a large spirochaete in the cervical glands of two consecutive cases of Hodgkin's disease, and we believe this to be an etiological factor in the disease Should any readers happen on any freshly excised glands from a case of this disease we should be glad to have a fragment sent in 10 per cent formalin solution A detailed account of the facts will be published at a later date

ANHYDROSIS AND ABSCESS

DR R JOHNSTON MCNAB (Manchester) writes I have recently seen two cases of axillary adenitis in ladies, both of whom I have examined carefully for any septic abrasion or cut in the skin, but in both cases I have failed to find any On questioning these patients I have elicited the fact that some weeks before the onset they had used a toilet preparation which claims to check perspiration from the part to which it is applied, and it evidently succeeds In the first case several glands in the axilla broke down and had to be excised In the second case only one gland appears to be infected—a hard, nodular mass about the size of a cherry just below the anterior axillary fold I should be glad to hear if any other readers have had any similar experience

TREATMENT OF ACUTE LYMPHATIC LEUKAEMIA

DR A H MUIR (Halifax) writes Dr Raymond Pearce has kindly thanked me in reporting his case of acute lymphocytic leukaemia (August 23rd, p 282) When invited to see the child in my opinion both liver and spleen were enlarged Taking the idea that the liver and spleen were not functioning, I elaborated the treatment which, as far as I know, is quite original In pneumonia liver extract is very useful Spleen solution sometimes gives a powerful reaction, at most pyrogenetic

THE CONDUCT OF NORMAL LABOUR.

DR W G F OWEN MORRIS (Dedham, Essex), in the course of a letter expressing approval of the effort to supply anaesthesia for childbirth in necessitous cases, writes I consider that in all cases where a doctor is in attendance a general anaesthetic and instruments should be employed because of the risk of torn cervix, of torn perineum, of sepsis, and of damage to the child It is not the use but the misuse of instruments which causes any of these troubles, such misuse is fundamentally due to bad and inadequate training of the young doctor Since beginning this practice I have never conducted a confinement without the use of chloroform and instruments and I can conscientiously say that there has been no permanent damage to mother or child in any of my normal cases I feel that the immediate oblivion granted to the patient and the awakening to find the child all pain having ceased, has been full justification for these methods

"PRONE" OR "SUPINE"

"MEDICUS RESUPINATUS" writes In the *Journal* of July 26th (p 161) there is some discussion anent the correct position of the patient whose varicose veins are about to be injected One author, we are told, declares that the ideal position of the patient is "prone" upon a couch, while another maintains that the patient should always be recumbent We are, of course, all of us prone to error, but I do not know that we should, suppose, allow error to be perpetuated Now what did Macaulay write, a hundred years ago, about the poet who described the "prone soldier" as "staring ghastly at the skies"?

TSETSE RESEARCH IN TANGANYIKA

HIS MAJESTY'S Eastern African Dependencies Trade and the following unofficial information for the month of June, 1930

(1) At Kikoro Entomological Station the programme of investigation into the behaviour of tsetse in relation to season, game, and vegetation was continued The data agreed in general with those of the same period of the previous year, but the numbers of fly were extremely low, possibly owing to the phenomenal rains (2) At Kikoro Ecological Station the intensive study of tsetse in relation to its environment has been continued Attention is being paid to a fungus which has appeared on the tsetse, and intensive study of puparia has been commenced (3) The experimental formation of vegetation barriers to tsetse at Itundwe Planting Station received considerable attention The sowings and plantings of last season are already giving indications as to species likely to be of use A new nursery was formed, as the existing nursery was found to be insufficient Experiments in working cattle in a fly area are in progress on this station in conjunction with the veterinary department (4) The poisoning of vegetation has been at a standstill since May, owing to the absence of the officer in charge of this work on vacation leave. It is intended to resume this work in full force on his return in October Meanwhile, the past work is being kept under observation

STANDARD INDEXING

SIR J J THOMSON, O M, President of the Association of Special [illegible] writes An immense volume [illegible] ing recorded in every intellectual field, to render it universally available a system of indexing applicable to all purposes and in all countries is essential The international adoption of a standard system of indexing would enable references to information on any subject, whatever their source, to be brought into their correct places in a bibliography This would tend to the preservation and freer exchange of knowledge The universal decimal classification of the Institut International de Bibliographie has proved to be a suitable system for [illegible] and is already widely used A joint committee of Special Libraries and Information Bureaux (on Frederic Nathan and Lieut Colonel L Newcombe, National Central Library) and the British Society for International Bibliography (Dr S C Bradford, Science Library, and Professor A F C Pollard, president, Institut International de Bibliographie) has now been formed to advise and assist in its adoption and use in this country Anyone interested is invited to communicate with the Association of Special Libraries and Information Bureaux, 26, Bedford Square, London, W C 1

TESTIMONIAL TO SIR RONALD ROSS

WE printed on May 10th (p 892) a list of donations received during February, March, and April, in response to the appeal on behalf of the Ross Award Fund Further contributions have been made between May 1st and August 26th as follows the Government of Cyprus (£200), the Maharajah of Mysore the Oriental Telephone and Electric Co, Ltd, the Chamber of Mines staff of the Nigerian Council, Miss Lindsay, Miss Mary Barclay, Miss J Stark Browne, Mr Edmund da Costa, Mrs E L Charrington, Miss L Carter, Miss H S Cooper, Mrs Elliott Dr J H Gibbon, Miss Giles, Miss A. Giles, Professor Umberto Gabbi, Mrs S B Gorst, Mr Fry, Mr T M F Janssens Miss A A Parson, Miss. M Reddan, Mrs Scolios, Mrs Kate I Swan, and Mrs M F Thomson, the total amounting to £435 18s 7d The sum so far received was £14,111 18s 6d on August 26th Donations to the Fund should be sent to Lloyds Bank, Ltd, 110, High Street, Putney, S W 15

MEDICAL SERVICES IN MALAYA.

Correction

WE hasten to correct a misprint which occurred in the Educational Number of the *British Medical Journal* (September 6th, p 401) The second paragraph of the section headed "Medical Services in Malaya" opened with a statement that 'The climate of Malaya is, for the Tropics, very unhealthy This, as the context plainly shows, ought to read ' . . very healthy"

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals will be found at pages 39, 40 42, 43, 44, 45, 49 and 50 of our advertisement columns, and advertisements as to partnerships assistantships, and locumtenencies at pages 46 47, and 48

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 131

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

223. Acute Benign Idiopathic Serous Meningitis

S ANDERSEN and F WULFF (*Ugeskrift for Laeger* June 12th 1930 p 572) record their observations of 35 cases of acute benign idiopathic serous meningitis admitted to fever hospitals in Copenhagen during the period 1917–28 Inquiries were made in 1929 as to the subsequent fates of these patients and all but five were traced In 2 of the 30 known cases it was ascertained that signs of chronic encephalitis had subsequently developed in the remaining 28 cases the complete recovery observed at the time of discharge had been maintained except for some passing troubles in a few cases All the patients were young the oldest being only 32 there were 24 males and 11 females The onset of the symptoms was abrupt, but not particularly characteristic One or more of the following manifestations were common malaise, fever shivering vomiting, headache mental confusion and sore throat After an interval ranging from hours to days, these prodromal symptoms were followed by meningeal signs which were often well developed There was cervical rigidity with kernig s and Brudzinski s signs cutaneous hyperaesthesia dermographia, restlessness, partial loss of consciousness, and sometimes, convulsions Patients with well defined focal signs such as ocular manifestations were not included in this series but were grouped as cases of encephalitis The changes in the cerebro-spinal fluid were the most important from the diagnostic point of view It was clear or almost clear and the greatest number of cells counted was 1 033 From this figure down to the normal number of cells there was an even decline In as many as 27 cases lymphocytes were found alone or in an overwhelming majority In spite of the alarming character of the early symptoms the subsequent course of the disease was comparatively benign, the temperature falling by lysis in three to thirteen days and its average duration being about a week The other manifestations disappeared simultaneously, and convalescence lasted two to three weeks The headache was in most cases the last symptom to disappear In two cases the patients had been vaccinated a fortnight before the onset of symptoms The distribution of the cases in the period under review was uneven their incidence showed a marked increase since 1920 This observation suggests that these cases may have something to do with epidemic encephalitis, the incidence of which has also showed a marked rise in Denmark since 1920 In other words acute benign idiopathic serous meningitis may be a meningeal localization of the virus of epidemic encephalitis This is the view to which the author inclines but he notes that there is a possibility of these cases belonging to a disease *sui generis* the virus of which has not yet been identified

224. The Electrocardiogram in Artificial Pneumothorax.

P PERRIN and P DROUET (*Arch des Mal du Cœur* June, 1930 p 387) have studied the influence of artificial pneumothorax upon the electrocardiogram They remark that earlier observations on the electrocardiographic changes due to pleural effusion are in many cases open to interpretation on the basis of myocardial damage this study has therefore been confined to patients whose general and cardiac conditions were very good The series consisted of sixteen patients with right sided and thirteen patients with left sided pneumothorax and one patient had had both lungs collapsed In each case orthodiagrams and electrocardiograms were taken before and after refills of 800 to 1 000 c cm All the electrocardiograms were found to be of the type characteristic of the "vertical heart In a large percentage the voltage of R in Lead I was diminished while that of R in Lead III was increased This alteration corresponds with a deflection of the axis of the heart into a more vertical position it occurs equally with right and left sided pneumothoraces since in either case the heart becomes more vertical owing to the bilateral depression of the diaphragm which is brought about Electrocardiography showed right ventricular preponderance in half the cases of right pneumothorax, but the introduction of air into the left pleural cavity did not commonly produce left sided preponderance The authors conclude that pneumothorax produces certain physiological modifications in the electrocardiogram and that other changes ordinarily represenin, myocardial defect are not produced by pneumothorax or pleural effusion

225 Malignant Hypertension.

RECENT worl has emphasized the importance of a group of rapidly fatal cases associated with excessive hypertension a condition which has been specified by various terms such as malignant hypertension and malignant renal sclerosis of Fahr I D MURPHY and J GRILL (*Arch Int Med*, July 1930 p 75) review the literature on this subject and record an analysis of 16 cases of malignant hypertension Of these, 13 patients died and 12 post mortem operations were performed Clinically the chief symptoms were headache very marked loss of weight constant cardiac hypertrophy persistent excessive hypertension the functional failure of one or more essential organs a progressively downward course and a rapid termination A characteristic retinopathy was present in all cases Histologically the essential lesions were arterio-sclerotic the smallest arteries and arterioles being almost invariably involved In 6 cases necrotic lesions had developed in the walls of the afferent glomerular arterioles and in the loops of the corresponding glomerull Hypertrophy of the media of the arterioles of the skeletal muscles was usually found to be present In the arterioles of the kidneys and other organs hypertrophy of the tunica media was occasionally noted in association with sclerotic changes The clinical and morphological observations relating to malignant hypertension differ only in degree from those of hypertension of a benign type Greater severity of the clinical symptoms and a more extensive and destructive form of lesion of the smallest arteries and arterioles are characteristic of the malignant condition

226 Jaundice in Syphilis.

C GJESSING (*Norsk Mag f Laegevid*, July, 1930 p 716) records 9 cases of jaundice which occurred among the male syphilitic patients at the Ulleral Hospital in the period 1922 30 It appeared in 3 at the beginning of treatment by salvarsan, in 4 during its course and in 2 after the treatment had ended Gjessing maintains that most of the cases of jaundice occurring in the course of salvarsan treatment are of an infective nature, because an increased frequency of jaundice among syphilitic patients is accompanied by a rise in the incidence of jaundice in the rest of the population In some cases however, it may be difficult to determine the cause of the jaundice In Gjessing s three cases in which it occurred at the beginning of treatment the jaundice was regarded as syphilitic principally because it was associated with other syphilitic symptoms, and was therefore treated with neosalvarsan The disappearance of jaundice however, under treatment by salvarsan is no proof that the jaundice is syphilitic, since it may disappear without specific treatment, and there is always the possibility that a number of microorganisms which produce jaundice besides that of syphilis, are affected by salvarsan Although Gjessing has treated cases of jaundice in syphilis by arsenobenzol preparations without complications, he considers it advisable in view of the fatal cases on record to stop the specific treatment on the appearance of jaundice and to resume it only when the jaundice has disappeared

227 Immunization against Scarlet Fever

AN extensive epidemic of scarlet fever in an institution for children allowed SCHOTTMÜLLER (*Deut med Woch* July 11th 1930 p 1159) the opportunity of testing the value of prophylactic immunization on a large scale The first child developed scarlet fever four days after admission and after an interval of four days new cases occurred at the rate of two or three daily so that after three weeks there were 31 cases in the home Since passive immunity though immediate in its action lasts only a week or two while active immunity is not effective for the first few weeks a combination of the two methods was tried 175 children being inoculated with 10 c cm of immune serum and 1 c cm of the ' Gabritschewsky toxin second and third injections of toxin only were given later Two further cases occurred the patients being children who had not been inoculated since they were said to have had scarlet fever All the remaining children were therefore injected After eighteen days three more cases occurred— hat is just at the time when the passive immunity would be almost exhausted The remaining children were therefore given a second dose of serum and no further case occurred The author adds that no serious after-effects of inoculation were observed the Dick reaction proved to be positive in 87 per cent of the children before treatment, and in 35 per cent afterwards

228 Complete Heart-block of Long Duration

D PACI (*Rinascenza Med*, May 1st, 1930, p 219) reports a case of heart-block in a man aged 49, and first noticed at the age of 14 The patient had had diphtheria with bulbar symptoms and paralysis of the lower limbs at the age of 2, scarlet fever and typhoid at 14, severe acute rheumatism at 17, and a septicaemic form of influenza during the epidemic of 1918 In the Messina earthquake the patient remained buried for seven hours under the debris and was rescued after severe suffering He had never had vertigo, dyspnoea, or syncopal or epileptiform attacks, and the only noticeable sign in the heart was its slowness of beat, there being long pauses and occasionally an additional tone The pulse was 44, but was otherwise normal even after muscular exertion Electrocardiographic examination revealed complete heart block and electrical signs of myocardial insufficiency The author doubts whether the heart block was a result of the diphtheria or was congenital The literature records only six cases of this kind, this seventh case holding the record as regards duration, it is further distinguished by the complete absence of clinical symptoms Pace thinks this chronic and benign type of heart block should be distinguished from the true form of Stokes Adams syndrome, further research is necessary to elucidate its nature and pathogenesis

229 Recurrent Agranulocytosis

B H RUTLEDGE, O C HANSEN-PRUSS, and W S THAYER (*Bull Johns Hopkins Hosp*, June, 1930, p 369) record a unique case of cyclic agranulocytic angina, associated with fever and constitutional symptoms but without anaemia, beginning at the age of 2½ months and recurring at intervals of approximately three weeks during the entire life of a man aged 20 years The outstanding and commonest symptoms during an attack were a sore mouth with swelling and reddening of the gums, and shallow ulcerations and induration of the gums, lips, tongue, and buccal mucous membrane, associated with a moderate degree of regional adenitis Vincent's organisms were obtained from these sites in large numbers The only abnormal physical manifestation observed between the attacks was the chronic infection of the gums Treatment of the infection of the mouth resulted in disappearance of the excess of Vincent's organisms in the intervals, but did not affect the periodical recurrence of fever and agranulocytosis, nor of the stomatitis which reappeared with them Between the attacks the patient seemed to be in good health, and the blood showed no abnormalities apart from the sluggish granulocytes

Surgery.

230 Thyroglossal Cysts and Sinuses.

WITH normal development the thyroglossal tract becomes completely obliterated before birth, when a portion of this tract persists, it may occasionally give rise to a cyst or sinus, and, rarely, to a congenital fistula Aberrant locations of the thyroid gland may also result from arrest in its development Very rarely, malignant tumours may originate from the epithelium of the tract H M CLUTE and R B CATTELL (*Annals of Surgery*, July, 1930, p 57) record a study of 58 cases of thyroglossal anomalies which have been watched for more than a year after the operation The rarest anomaly associated with the tract is failure of the thyroid gland to descend into the neck, it may not leave its point of origin in the pharynx, and may persist at the base of the tongue as a lingual thyroid gland The most common abnormality in the tract is a simple cyst or sinus, and its incidence in female patients was nearly twice that in males, the average age of the patients was 33 years Only eight of the cases were discovered before the age of 10 years, this abnormality, therefore, was usually found in adult life The cyst contents are generally of a mucoid character, but in long standing cases may consist of necrotic material and cholesterin crystals When infection is present the contents are purulent, and in old cases the cyst wall is thickened by repeated inflammatory changes The most common location of these cysts is in the mid line of the neck on the thyrohyoid membrane, lying in the subhyoid area The subjective symptoms are almost entirely related to the presence or absence of infection The mid line position of a thyroglossal cyst, its intimate relation with the hyoid bone, and its upward movement on deglutition render its diagnosis very simple Operation may be advisable for unsightliness, a discharging sinus, and infection Incision and drainage should be performed only if acute infection is present, a radical operation is necessary to ensure cure. The authors' method consists in complete removal of the cyst or sinus, resection of the median portion of the hyoid bone, and excision of a core of muscular tissue in the plane of the tract up to the foramen caecum The end results have been most satisfactory, there was no operative mortality, and no recurrences have been recorded

231 After-treatment of the Simple Mastoid Operation

E R ROBERTS (*Arch of Otolaryngol*, May, 1930, p 583) reviews the methods in common use in the treatment of mastoid wounds The complete removal of all necrotic bone and the opening of all cell galleries is, of course, a necessary preliminary to any successful treatment Complete closure of the wound, the so called blood clot method, is described as unsafe and unsurgical Excellent results are obtained by leaving the wound widely open and packing with gauze soaked in chlorinated soda solution, enabling healing by granulation to take place from the bottom Although this method produces a sound scar, it is very long, tedious, and obviously unpractical for routine use in private practice Roberts's method is based on the principle of the after treatment of accessory sinus operations—namely, by providing for aeration and drainage At the operation the cavity is packed with iodoform gauze, and the wound is closed, except at its lower end, with silkworm gut sutures and clips alternating The primary dressing and the sutures are removed on the fourth day A fenestrated rubber drainage tube is then introduced into the wound down to the antrum, and is fixed in position by means of a perforated piece of gauze and a liquid adhesive preparation The tube is passed through a hole in the gauze, and the gauze is fixed to the skin by adhesive plaster No further dressing is used The cavity is allowed to drain and is daily irrigated with a solution of chlorinated soda After all discharge has ceased the tube is discontinued

232. Suprapubic and Perineal Prostatectomy.

G G SMITH (*New England Journ Med*, July 17th, 1930, p 114) compares the results following suprapubic and perineal prostatectomy with special reference to the rate of mortality, the length of stay in hospital, and the functional results, the comparisons were based upon 100 cases of each type of operation The ages of the patients and the modes of anaesthesia were essentially the same in each Five of the patients treated by the suprapubic operation died after cystotomy, of 16 patients on whom the one-stage procedure was performed three died, giving a mortality of 19 per cent, while of 79 patients who had the two-stage operation nine died, a mortality of 10 per cent The total mortality in the suprapubic cases was 17 per cent, and in the perineal cases 3 per cent A slight modification of Hugo Young's perineal prostatectomy was employed, and the importance is emphasized of securing adequate bladder drainage by catheter until the tissues have become free of oedema and have had time to granulate, periurethral abscess occurred only once in the series The stay in hospital for the suprapubic cases averaged forty one and a half days after the one-stage operation, and fifty two days after the two stage operation, while for the perineal cases the average stay was thirty nine days. Comparing the functional results, the suprapubic cases showed a slight advantage, the perineal cases often being much slower as regards the regaining of complete control of urination, but the difference was not sufficient to outweigh the considerably lessened mortality shown by the perineal cases The author concludes that the perineal operation is less disagreeable for the patient, has a much lower mortality, and requires a shorter stay in hospital than the suprapubic operation, a shorter time is needed for its performance, bringing it well within the scope of spinal anaesthesia

233 Syndactylism.

J S DAVIS and W J GERMAN (*Arch of Surg*, July, 1930, p 32) divide syndactylism into two types congenital syndactylism, which is an inherited developmental defect with complete or partial webbing of the fingers or toes, and the acquired type, which may follow severe burns or an injury in which the destruction of the tissues of the fingers or toes results in the fusion of granulating surfaces The fusion varies in degree from a slight lengthening of the normal web between the toes or fingers to the complete fusion of the digits, in extreme cases the nails and phalangeal bones may be joined The terminal phalangeal bones are those most commonly fused In the acquired type of syndactylism the web is usually composed of dense scar tissue with contracture or distortion of the digits Many methods of operative treatment are described, and no single procedure has been developed to relieve all types and degrees of syndactylism In cases where there is complete fusion of fingers of unequal length separation should be secured as early as possible when inequality of growth becomes apparent. The fingers are separated in the midline, and the raw surfaces are covered with a whole thickness skin graft

A wide commissure between the fingers should not be made until the child is 6 or 7 years old, and the operation for the complete relief from syndactylism should not be undertaken until this age The formation of a satisfactory commissure, which to allow for subsequent shrinkage should be rather deeper and wider than that between normal fingers, is the aim of all operative procedure This is best accomplished by the use of flaps or whole thickness grafts sutured over the raw surfaces left after separation of the digits tension in any form being avoided Operative treatment for acquired syndactylism is limited, since the tissues dealt with are entirely scar or scar infiltrated and the blood supply is often insufficient to nourish the grafts, much improvement may, however, result in the worst cases if the scar is dissected out and covered with a pedunculated flap An operation for webbed toes is seldom necessary unless the fusion causes inequality of growth, in this case the procedure should be the same as that employed in the hand—namely, the separation of the fused phalanges

234 Multiple Primary Malignant Tumours.

D M ANGEVINE (*Canadian Med Assoc Journ*, July, 1930, p 38) briefly reviews the literature on the subject of multiple primary malignant tumours, and describes a case in which three such tumours were found in the ano-rectal region. A woman, aged 64, had suffered for two years before admission to hospital from general malaise, loss of weight, and anorexia *The melaena, constipation, and tenesmus persisted* Extreme pain developed in the lower part of the back and in both lower axillae, the lower part of the abdomen became more prominent, and large palpable masses were noted in both groins Surgical intervention was deemed inadvisable, and the patient died five days after her admission to hospital, and about two years after the onset of the illness, from terminal broncho-pneumonia and hypostatic congestion of the lungs At the post mortem examination several metastases and an almost generalized glandular enlargement were revealed Just within the anal canal, and filling most of the rectum, *three tumours were found Two of these were adenocarcinoma*, and the third a squamous-cell carcinoma. It is believed that the latter arose from the perianal mucous glands which are present in the human being and are analogous to the scent and sex glands of lower animals Angevine thinks that this is the first case recorded in which three primary malignant tumours are so closely related anatomically, and points out that all the metastases developed from the squamous cell carcinoma, none originating from the adenocarcinoma, which is unusual, moreover, the presence of a malignant tumour of the perianal mucous glands is an exceptional occurrence

235 Peritonitis due to Ascaris Infestation

W KLEBER (*Zentralbl f Chir*, July 26th 1930, p 1850) states that ascaris larvae after ingestion may reach the lungs through the intestinal vessels and liver, by way of the lymphatics and thoracic duct, or by perforating the intestine and reaching the peritoneum, subsequently travelling through the liver or the diaphragm Opinions differ as to which is the actual route normally traversed *There are usually no symptoms* during this stage of development A case is described in which sudden abdominal pain lasted for a few days, this was followed by vague pains in the lower abdomen for five months, after which the abdominal pain again became acute A diagnosis of appendicitis was made, but at an operation a number of calcified nodules were found in the peritoneum with an abscess in the pelvis On pathological examination of the material removed large numbers of ascaris larvae, surrounded by partially calcified granulation tissue and eosinophil cells, were found The patient made a good recovery The author remarks that since the presence of the free larvae in the peritoneal cavity gives rise to such pronounced symptoms and marked inflammatory reaction, this is evidently not the route normally taken in the migration of the larvae from the intestine to the lung

236. Spontaneous Urethrorrhagia in Stricture.

P GOROWITZ (*Urol and Cut Rev*, July, 1930 p 449), who records three illustrative cases in men aged from 37 to 49, states that comparatively little attention has been paid to spontaneous haemorrhage in urethral stricture, which was first described by Thompson Three explanations have been given for the urethrorrhagia The first is that the cause is a psychological trauma, rupture of the vessels occurring in erection The second is that the haemorrhage does not originate in the urethra but in the bladder, the condition being one of haemorrhagic cystitis or of congestion or infection The third explanation is that morbid changes within the urethra are the cause of the haemorrhage. On urethroscopic examination of the stricture Gorowitz has often found changes in front of the stricture in the form of swelling of the mucous membrane and granulations which bleed at the slightest touch Treatment consists in the removal of the stricture by gradual dilatation Operation is indicated only in cases of impermeable stricture

237 Malignant Pustule of the Penis.

A BATTISTA (*Urol and Cut Rev*, August, 1930 p 543), who states that he has found only one previous example of this condition on record, describes the case of a man aged 22, a skinner by occupation, who infected his penis by scratching. Within twenty four hours the organ became oedematous and the patient developed high fever and stupor A diagnosis of malignant pustule was made. Treatment consisted in the intravenous injection of 30 c cm of anti anthrax serum, subsequently, the injections was given subcutaneously On the thirteenth day local treatment was started with packs soaked in an autogenous vaccine, which were applied twice daily Complete recovery ensued

Therapeutics.

238 Medicinal Treatment of Hypertension

M H FINEBERG (*Journ Amer Med Assoc* June 7th, 1930, p 1822), who commends potassium thiocyanate for its sedative and hypotensive effect on many neurotic patients, relieving vertigo and other subjective symptoms, states that J B Nichols found that sodium thiocyanate in doses up to 15 grains daily reduced hypertension, but had no definite sedative effect Another author reported a series of 35 cases treated with potassium thiocyanate in daily doses of 4½ grains for one week, reduced to 3 grains during the second, and 1½ grains during the third week, there were only three failures The same dosage was used in another series of 59 cases of essential hypertension and 42 per cent of the patients showed a reduction in systolic pressure of 30 mm. or more Other authors have reported successes following the daily administration of 5 to 15 grains of sodium thiocyanate or of drachm doses of an 8 per cent. solution of the potassium salt three times daily In two cases, however, lassitude followed the administration of 1½ grains of the potassium salt, and in two other cases there were anginal symptoms, apparently due to a rapid fall of the blood pressure. Exfoliative dermatitis occurred in two instances after daily doses of 4½ to 30 grains Fineberg calls attention to certain factors which should be remembered in estimating the value of this treatment Spontaneous variation may occur in the blood pressure, and the suggestibility of the patient may be an important consideration Prolonged treatment is necessary to arrive at a definite conclusion, and a marked permanent reduction is necessary as a criterion of success As the result of an investigation with control cases he found that 22 out of 58 patients (37 per cent) treated with sodium bromide and phenobarbital for three months showed a sustained fall of 30 mm. or more in the blood pressure, while many patients whose blood pressure was unchanged experienced subjective improvement Potassium thiocyanate in doses of 4½ grains daily was ineffectual, but 57 per cent of refractory patients showed a fall of 30 mm or more after daily doses of 15 grains The subjective improvement was greater in patients under sedative treatment, but there was more reduction in the blood pressure when potassium thiocyanate was administered.

239 Bacteriophage Therapy Applied to Dysentery

J LONDON (*Indian Med. Gaz., July*, 1930 p 370) describes an outbreak of dysentery among the coolies on an Assam tea estate, 141 cases occurring Water and flies were eliminated as infecting agents, and the cause of the outbreak was ascribed to personal and indirect contact. The cases, both clinically and microscopically, presented all the features of bacillary dysentery, and it was therefore decided to treat all the patients with bacteriophage only, following the instructions for its use which are issued by the Pasteur Institute at Shillong In ordinary cases two doses were given each day well diluted on an empty stomach, the maximum number administered daily in any case was four None were given intramuscularly or intravenously The results in general were very satisfactory The blood usually disappeared from the stools in three to four days and the patient became less depressed and listless this early loss of toxicity was one of the most marked features. Of these cases, 103 who received no treatment but the bacteriophage were discharged cured and are reported to be now at work. The remainder did no respond so well mucus and diarrhoea with traces of blood persisted these were treated by emetine and salines, and in some cases intravenous organic arsenic was given and lavage was employed, of these 12 died the remainder recovered and are now in good health Thus, 129 out of 141 cases, or 91.3 per cent, were cured, and a notable feature is the

absence of recurrences to date A tabular summary supplied indicates that the results of bacteriophage therapy compare very favourably with those given by emetine and salines London adds that the pain and depression caused by emetine injections is a point greatly in favour of bacteriophage treatment.

240 **Calcium Therapy in Eclampsia**

HAVING noted in some cases of eclampsia that this state is accompanied by a hyperguanidinaemia, LAFFONT, MALMEJAC, and SIRJEAN (*Bull Soc d'Obstet et de Gynécol de Paris*, June, 1930, p 432) concluded that an antidote to guanidine might be efficacious in eclamptic conditions, according to Watanabe calcium salts appear to be indicated The present authors found that the coincident amounts of the blood calcium and guanidine vary in inverse proportion—that is, that hyperguanidinaemia is associated with hypocalcaemia Two cases of eclampsia are recorded in which injections of a calcium salt produced most satisfactory results In the first, 4 c.cm of somnifen were given intravenously, and 7 grams of calcium gluconate intravenously, intramuscularly, and subcutaneously Complete cure resulted in less than twenty four hours The second patient was given 15 grams of the lime salt and, since guanidine metabolism is most probably governed by the parathyroid glands, parathyroid extract was also injected In addition, this patient received ultra violet irradiation In this case complete cure was established in seventy two hours The authors remark that the eclamptic syndrome appears to yield to calcium medication, and that ultra violet rays are a valuable adjunct in the treatment

241 **Treatment of Juvenile Rheumatism**

N G HILL (*Brit Journ Child Dis*, April–June, 1930, p 81) records his observations in a paper based on the study of over 500 children treated at Queen Mary's Hospital, Carshalton, where rest under good hygienic conditions with a very gradual return to the normal activities of life is the basis of the treatment As a rule each child is nursed in bed for at least three months, after about five or six months in hospital a number of selected cases are transferred to a seaside convalescent home, where they are kept under general medical supervision They are then discharged at the end of about six months but most of the patients are kept under observation by being periodically examined by school medical officers or in general hospitals Although no specific treatment has been found, there are indications that calcium therapy in the form of calcium lactate or the subcutaneous injection of certain colloidal and other special preparations of calcium may be of value

Dermatology.

242. **Familial Xanthoma**

G HUFSCHMITT and V NESSMAN (*Ann de Derm et de Syph*, May, 1930, p 462) give a full description of generalized xanthoma occurring in four members of one family, a fifth child being free from the disease The ages of the patients ranged from 15 to 26, one, who would now have been 24, died suddenly in 1928 No hepatic or gouty histories were found in their antecedents, the mother, however, had some fine, yellow granulations of cholesterin under the mucosa of the lips and anterior face of the cheeks The children were normal and vigorous at birth, the xanthoma appeared between the ages of 3 and 5, first on the palms of the hands, it later became generalized About the age of 10 each child suffered from an attack of febrile articular rheumatism with painful swelling of the joints, these attacks have recurred ever since The question is raised whether this was a pure articular or a gouty rheumatism, owing to the fever, the authors incline to the former hypothesis An aortitis, present in all the cases, may have been due to the rheumatism or to a faulty blood cholesterin Other cardiac conditions, present in all the patients, were a systolic souffle at the base, which was propagated along the sternum into the carotids, hypertrophy of the heart, but not of the aorta, a small pulse, and hypotension Pallor, vertigo, and malaise were also common to all The clinical symptoms, which reached their maximum development in the eldest, are described as illustrative of all the cases A curious and unusual retrogression of the xanthomatous manifestations from the eldest to the youngest patient was noted, the tumours were decreasingly numerous and less fully developed The growths were present on the articular summits of the fingers, metacarpals, and elbows, and to a lesser degree on the knees and feet, at first sight they resembled the nodosities of chronic gout Their size varied from that of a pin's head to that of a small orange The overlying skin was normal, but of a rosy or cyanotic tint Violet coloured areas, which formed the base of these growths, were also found on the arms, thighs, and knees With the exception of xanthelasma of the lower eyelid and a small nodule on the lobule of the ear, the head, trunk, and abdomen were normal These growths were found to consist largely of cholesterin Various hypotheses have been advanced as to the pathogenesis, hypocholesterinaemia is always present, and the possible relation of the blood sugar and cholesterin is discussed Treatment is largely empirical Some growths may be excised, but operative measures are limited by the extent of the process Physical agents, such as x rays and carbonic snow, are useless, but solvent and oxidizing drugs (pyridine, manganese, and iron) which will convert the cholesterin into more soluble forms may be tried, as also may those that promote bile (and, therefore, also cholesterin) secretion, such as sodium oleate or sulphate. The question of diet has also to be considered

243 **Subcutaneous Cysticercous Infestation**

C K HU, O K KHAW, and C. N FRAZIER (*Arch Derm and Syph*, May, 1930, p 777) report six cases of cysticercosis of the tissues occurring in man, five affecting the subcutaneous and muscular tissues and one the cerebral cortex The patients were Chinese residing in North China, the cases being collected over a period of ten years and representing an incidence of 1 in 25,000 patients Two cases presented the unusual feature of serving as both definitive and intermediate hosts, the tapeworm being present in the intestines and the cysticercus in the somatic tissues In a series of 143 cases of intestinal taeniasis of 49 differentiated cases, 44 (90 per cent.) were due to *Taenia saginata* and the remaining five to *Taenia solium*, two of which also harboured *Cysticercus cellulosae* When the lesions are subcutaneous diagnosis is easy, if the possibility of the condition is borne in mind, since the cysts are multiple, freely movable, of elastic hardness, not tender, and averaging about 1 cm in diameter Diagnostically, they may be confused with sebaceous cysts and fibromas, but the former are usually attached to the overlying skin, and are not freely movable, the latter are not so sharply circumscribed, nor so likely to be multiple and uniformly small In two of the cases sensitization tests with fresh fluid from a cyst were negative The eating of poorly cooked pork must be avoided in countries where infection of animals with cysticercus is prevalent, patients with cysticerci in their tissues should be examined and treated for intestinal taeniasis, as a preventive measure, and also as a protection against the occurrence of fresh lesions

244. **Scleroderma**

P A O'LEARY and R NOMLAND (*Amer. Journ Med Sci*, July, 1930, p 95) record a series of forty eight cases of generalized scleroderma, and fifty five cases of the circumscribed condition, or morphoea In more than half of the generalized cases arthritis preceded or occurred simultaneously with the development of the scleroderma, and in 33 per cent the onset was preceded by varying degrees of vasomotor disease in the extremities The etiological factors were found to be generalized infectious diseases such as influenza, dysfunction of the endocrine glands and particularly the thyroid, and arsenism Although the dermal changes in the two diseases are similar, there is no parallelism between them as regards onset, course, clinical appearance, and prognosis, both diseases are occasionally present in the same patient The authors believe that generalized scleroderma is the cutaneous manifestation of a systemic disease in which vascular changes play a leading part When the onset of the scleroderma seems to be definitely related to an acute systemic infection some symptomatic relief follows medical and surgical treatment, the generalized form is disabling and usually fatal, in contrast with the benign characteristics of localized scleroderma

Obstetrics and Gynaecology.

245 **Full-time Extrauterine Pregnancy**

L D WILCOX (*Canadian Med Assoc Journ*, July, 1930, p 60) records an interesting case of ectopic gestation which proceeded to full term with the birth of a normal child At the date of reporting, five months after delivery, both mother and child were living and well The patient was a well developed woman, aged 29, and there was no previous history of venereal or puerperal infection The menstrual periods occurred every twenty eight days, they were somewhat prolonged, but otherwise regular She had three healthy children, the youngest of whom was 5 years old, there had been no miscarriages On her admission to hospital the patient complained of intense pain in the left lumbar region and the corresponding half of the abdomen, there was marked

restlessness The breasts were flabby, and no secretion was obtained with massage The abdomen was found to contain a large ovoid tumour, the greater part of which was to the left of the middle line, the upper part extending two hand breadths above the umbilicus there was very marked tenderness over this mass Foetal movements were observed frequently, but no uterine contractions were noted The diagnosis of pregnancy was confirmed radiologically The patient was prepared for operation with several intravenous injections of 10 per cent glucose in saline solution Under ether anaesthesia a high rectus incision was made with the object of avoiding any placental attachments A sac presented, with the transverse colon forming its upper boundary this was perforated and the child was delivered The cord was tied and cut close to the placenta which was densely adherent to the omentum, intestine and pelvic viscera and was left *in situ* The sac was closed with a continuous suture and the abdomen was closed without drainage The incision healed by first intention The patient gradually improved, and was able to go home within three weeks, her breasts never became engorged Wilcox draws attention to the favourable result of the operation which was planned to permit extraction of the foetus without disturbing the placenta thus obviating the inevitable shock and haemorrhage which would have followed in a patient who was critically ill.

238. Pyelitis in Pregnancy

H ROSSENBECK (*Z ärztlich f Gynäk*, May 3rd, 1930 p 1103) alludes to a series of 100 cases of pyelitis in pregnancy, in only two of which was artificial termination necessary He believes that conservative treatment by rest, medication, ureteral catherization, and lavage of the renal pelvis will nearly always bring about cure with continuance of gestation but if such measures are not adopted early enough there is considerable risk of spontaneous abortion. Early diagnosis of pyelitis gravidarum is greatly to be desired, and in right-sided cases (many of which are in error operated on for appendicitis) pyelography after intravenous injection greatly facilitates a correct decision The case is recorded of a primipara, aged 20, who in the seventh month had severe right sided pyelitis, the right ureteral ostium did not function, but pus issued after catheterization The general condition became worse, and after twenty four hours renewed attempts to catheterize the right ureter failed repeatedly, radiography showed a right angled ureteral kink. Signs of endocarditis having appeared, abortion was induced by vaginal hysterotomy and next day it was found possible to pass the catheter beyond the ureteral obstruction Recovery followed The production of the kink after the first catheterization is ascribed to the patient having removed the catheter which had been left in the ureter and to a descent (radiologically proved) of the foetus which presented by the breech the knee being in contact with the point of compression

247 Pathology and Treatment of Menorrhagia and Metrorrhagia.

J KREIS and MLLE J RIGAUT (*Gynécol et Obstét*, April, 1930, p 324) describe the connective tissue of the uterine mucosa in the normally menstruating uterus with special reference to the intercellular fibrous network which constantly present in the basal layer, is absent in the superficial layer until about the eighth day, after which the fibres increase in size and number in this layer until about the sixteenth day They also report in detail the findings in the connective tissue in the endometrium of 30 cases of menometrorrhagia in girls and adults in whom gross utero-ovarian changes were absent glandular hyperplasia was present in some but not all The observations were made in material obtained by curetting Necroses of connective tissue cells and fibres were found to be present in all these cases, scattered in foci throughout the mucosa, other areas showed varying phases of regeneration These endometrial connective tissue lesions, while responsible for the irregular haemorrhage, appear to the authors to be independent of an ovarian cause a morbid condition, primary or secondary, of the connective tissue manifests itself clinically by irregular haemorrhage in connexion with vascular alterations in the endometrium corresponding with the cyclic ovarian function It is suggested that in a large number of cases of functional excesses in menstruation the responsible etiological factor is hereditary syphilis this causes the connective tissue changes in the endometrium The evidence for this view is found in the observation that the patients although often Wassermann negative are of the asthenic type with varices, ptoses defective or atypical dentition defective capillary circulation acrocyanoses excessive haemorrhage at puberty and bad obstetrical histories Confirmatory evidence is derived from the clinical successes which follow antisyphilitic medication. The case is recorded of a girl who had polymenorrhoea at puberty, with a negative Wassermann reaction curettings at the ages of 16 and 20 showed glandular hyperplasia and a morbid condition of the endometrial stroma After antisyphilitic treatment the menstruation became normal, and a third curetting submitted to voluntarily a year later, showed a normal condition of the uterine mucosa

248. Cysts of the Corpus Luteum.

H MOLIN F CONDAMIN, and R JAMIN (*Lyon Méd*, May 11th, 1930 p 609) refer to the paper by W Shaw on pathological forms of the corpus luteum, which was contributed to the sixth British Congress of Obstetrics and Gynaecology (see *Journal*, May 21st, 1927, p 924), and report ten cases of cysts of this structure The authors point out that cyst formation or hypertrophy of the corpus luteum gives rise to clearly defined neuralgic syndromes which are curable by operation They recognize three varieties (1) the subacute form characterized by persistent and unilateral ovarian pain, in which operation is indicated after some months if the condition does not clear up, (2) an acute form associated with the menstrual disturbance simulating tubal pregnancy, and calling for surgical intervention, (3) a rather hypothetical acute but benignant form, in which a temporizing policy is indicated They discuss the rather obscure pathology of this condition and emphasize the importance of further investigation

249 Skin Lesions in Ulcus Vulvae Acutum.

F WALTER and I ROMAN (*Derm Woch*, May 24th, 1930, p 705), who record two illustrative cases, state that the acute ulcer of the vulva described by Lipschütz as due to *B crassus* is not only a local affection, but may also give rise to a general disease by dissemination of the organisms through the blood stream The present cases occurred in women aged 24 and 19 respectively, in whom acute vulvar ulcer was accompanied by a papulo-pustular eruption on the face, trunk, and limbs It is true that histological examination of a lesion did not show *B crassus*, and that cultures of the blood were also negative but the authors maintain that the organisms were rapidly killed by the defensive powers of the system, and that the skin changes were produced or kept up by the liberated toxins

250 Infarct of the Uterus

F LISI (*Arch Ital di Anat e Istol Patol*, March–April, 1930, p 250), who records an illustrative case, states that a true infarct of the uterus is very rare, only seven having been previously described by Herxheimer (1886) Popoff (1894), Chiari (1895) Geppert (1921), Brakemann (1925), Wermbter (1925), and Danisch (1926) respectively Lisi's patient was a cachectic woman, aged 70, admitted to hospital with pulmonary tuberculosis diffuse arterio-sclerosis, and pulmonary hypostasis The necropsy showed an ischaemic infarct of the posterior wall of the uterus due to autochthonous arterio-sclerotic thrombosis of the uterine arteries He excludes the possibility of the case being one of senile uterine apoplexy, and regards it as an example of acute passive congestion of the senile uterus occurring at the point of death

Pathology.

251 The Role of Cl. welchii in Pernicious Anaemia.

W L FORSYTH and Y B ABDOOSH (*Journ Lab and Clin Med*, May, 1930 p 730 have investigated the numbers of *Cl welchii* in the stools of healthy Egyptian prisoners A faecal suspension of definite opacity was prepared, and eight successive tenfold dilutions were made the original suspension was placed in tube No 1, the last dilution, 1 in 100 million in tube No 9 These tubes were used for plating the medium employed was glucose agar containing ferrous sulphate and sodium sulphite Anaerobes reduce the sulphite to sulphide producing black colonies Of these colonies over 90 per cent. were found to be formed by *Cl welchii* Davidson using this technique reported in 1928 that in healthy persons (Europeans) tube 3 represented the upper limit from which *Cl welchii* could be isolated on the other hand in patients with pernicious anaemia (which is very uncommon in Egypt) this organism could generally be isolated from tube 9 The present authors examining the faeces of over 100 Egyptians, have found that 21 per cent. of them showed the organism in high dilutions—that is in tubes 5 to 9 According to Davidson's standards they fell into the pathological zone. These prisoners were fed on a homogeneous largely vegetable diet and are stated to have had no previous bowel complaint. The authors conclude that the stools of healthy Egyptians have an anaerobic flora differing quantitatively from that reported by Davidson for Europeans

252. Concentration of Vaccinia Virus by Centrifugalization.

F F TANG (*Journ Exper Med*, June, 1930, p 859) collected vaccinia virus from rabbits inoculated on the skin five days previously The material was ground up with glass powder, and a 5 per cent suspension was made in hormone broth This suspension was centrifuged for thirty minutes at about 2,000 revolutions a minute, and the supernatant fluid was filtered through a Berkefeld V candle under a negative pressure of 50 cm of mercury Titration of the filtrate by the intradermal inoculation of rabbits showed that it was active up to a dilution of 1 in 800 The filtrate was then centrifuged at about 4,000 revolutions for apparently two hours, and titrations were made of the surface fluid and of the deposit, the surface fluid produced a slight reaction undiluted, but was inactive in a dilution of 1 in 10, while the deposit produced a reaction in a dilution of 1 in 1,200 Since it was possible that the virus was adsorbed on to inert particles in the broth, an attempt was made to remove these by fractional centrifugalization Fresh calf virus was ground up with pyrex glass powder and filtered The filtrate was centrifuged for one hour at 3,500 revolutions, then 5 c cm of the fluid from the surface was removed and centrifuged for four hours at the same speed The surface fluid and the deposit were collected separately, and the various layers were mixed to serve as a control All three samples were titrated on the same rabbit The control fluid was active up to a dilution of 1 in 500, the surface fluid was active at 1 in 10, while the deposit was active up to 1 in 1,500 From these experiments the author concludes that it is possible to concentrate vaccinia virus by centrifugalization, even in filtrates that have been subjected to preliminary centrifugalization to throw down inert particles present in the original filtrate This fact, together with the knowledge that the virus can be almost completely held back by Berkefeld N candles, indicates that the virus may be of considerable size

253 Colorimetric Determination of Sugar in Urine

J MĚLKA (*Bratislavské Lekarske Listy*, June, 1930, p 940) describes a method for estimating the amount of sugar in urine, it is based on the change of colour taking place at the reduction of picric into picramic acid To make the standard solution a test tube is filled with 8 c cm of distilled water, 1 c cm of a 1 per cent solution of picric acid, 1 c cm of a 10 per cent solution of sodium hydrate, and 0 5 c cm of a solution of glucose (1 1 grams of glucose in 100 c cm of distilled water) The mixture is then heated till the colour of the solution becomes permanent, it is then cooled, and after the addition of 4 c cm of a 5 per cent solution of gelatin the test tube is sealed To determine the amount of sugar in the urine a test tube similar to the first is filled with 12 c cm of distilled water, 1 c cm of a 1 per cent solution of picric acid, and 1 c cm of a 10 per cent solution of sodium hydrate The mixture is heated, and, after it has cooled, the diabetic urine, diluted with an equal quantity of distilled water, is added gradually by means of a micropipette in quantities of 0 05 c cm at a time, until the colour of the solution becomes similar to the one in the standard test tube, when the necessary calculation can easily be made This method is said to give fairly accurate results, and, being relatively simple, is recommended for use in general practice

254 Acute Food Poisoning caused by B coli

J D JANSEN and L E DEN DOOREN DE JONG (*Centralbl f Bakt*, June 26th, 1930, p 193) record an outbreak of food poisoning affecting several hundred persons who had attended a festive dinner in Rotterdam The symptoms of general malaise, severe vomiting, and offensive diarrhoea came on about one or two hours after the meal, pallor, cold sweats, a weak pulse, oppression in the stomach, and faintness were common, and some patients lost consciousness completely After thorough evacuation most of the patients recovered in about twelve hours, and were able to resume their work The authors obtained at once samples of all the articles of food consumed, and commenced their examination of these articles within a few hours of the meal Chief suspicion fell on a potato puree, which was swarming with bacteria This puree, after preparation, had been left for eight hours on the rack above the oven, and contained at the time of examination about 200 million organisms per gram, of which about 50 millions were *B coli* Examination of several strains of this bacillus recovered from different articles of food showed that they all had the same fermentation reactions, they fermented glucose, lactose, sucrose, salicin, and dulcite, gave a positive indol reaction, reduced nitrates, were positive to methyl red, Voges Proskauer negative, and failed to grow in citrate The authors identify doubtfully this organism as *B coli communior* Bread soaked in a broth culture of this organism, and left at room temperature for two days, produced diarrhoea and sometimes death when given as food to mice, similar results were obtained with strains from entirely different sources Since no salmonella organisms were recovered, and since chemical examination for heavy metals and alkaloids proved negative, the authors conclude that the outbreak was due to infection of the potato puree with *B coli*, the prolonged incubation of this material enabled the organisms to multiply to a prodigious extent, and to produce certain products which were responsible for the poisoning

255 Gastric Secretion in Cancer of the Stomach

W S POLLARD and A L BLOOMFIELD (*Bull Johns Hopkins Hosp*, May, 1930, p 307) have studied 19 cases of gastric cancer If pyloric obstruction was present the stomach was washed out for several days before the tests were made, in no case was food taken during the preceding eighteen hours A small tube was then passed into the stomach, and the total secretion was aspirated continuously and collected over successive ten minute periods After two or more fasting periods histamine (0 1 mg for each 10 kilo of body weight) was given subcutaneously, and the secretion was collected over three to six further ten minute periods No test meal was introduced into the stomach The material collected consisted of a more or less mucoid grey or brown fluid, which sometimes contained blood, its chief characteristic was its small volume, never over 10 c cm After histamine stimulation there was on uniform rise, true gastric secretion being almost entirely in abeyance, the material obtained was mainly mucus Most of the patients had anacidity of the gastric juice, in only three did the values approximate the normal, and values above the normal average were not met with. Whenever acid was present in appreciable quantity pepsin was also obtained in amounts varying up to the normal limits When considering gastritis associated with growth, the authors suppose that such gastritis may be the direct cause of the defective secretion, they do not accept the common assumption that the growth produces the gastritis, but rather that gastritis precedes the growth Cancer appears to arise almost always on the basis of an already existing lesion which is usually a chronic gastritis, and less frequently a peptic ulcer

256. The Serological Diagnosis of Undulant Fever

H MEISEL (*C R Soc de Biologie*, June 6th, 1930, p 534) in Poland has examined the serum from 687 patients for agglutinins to *Br abortus*, the serums were sent to the laboratory for a Widal or a Weil Felix test The serums from two patients, each of whom was suffering clinically from undulant fever, agglutinated Bang's bacillus to a titre of 1 in 800 or 1 in 1000 Neither of these serums had any agglutinating action on the typhoid or paratyphoid A and B bacilli, or on *B proteus* X 19 On the other hand, among 167 serums agglutinating one or other members of the enteric group, there were five which at the same time agglutinated *Br abortus* to a titre of 1 in 50 or 1 in 100, and among 186 serums agglutinating *Proteus* X 19 there were 11 which agglutinated *Br abortus* to a titre of 1 in 50, 1 in 100, or 1 in 300 According to Kristensen a titre of 1 in 100 to Bang's bacillus is diagnostic of infection with this organism, but the author maintains that this criterion is liable to lead to errors of diagnosis To ascertain whether the positive results with Bang's bacillus obtained with the serums of certain enteric and typhus patients were due to coagglutination the author tested serums, prepared by inoculating animals with typhoid or paratyphoid bacilli or with *Proteus* X 19, against *Br abortus*, no agglutination occurred He therefore concludes that these results are not explicable on the basis of coagglutination, but indicate rather that the patients have at some previous time suffered from undulant fever.

257 Bacteriology of the Blood in Chronic Infectious Arthritis

H M MARGOLIS and ANNA H E DORSEY (*Journ Infect. Dis*, June, 1930, p 442) have performed blood cultures on 89 patients suffering from chronic infectious arthritis The technique employed varied throughout the investigation In some instances whole blood was used, in others blood clot or the sediment of centrifuged citrated blood, the media being beef infusion, dextrose, or placenta broth From nine patients non haemolytic streptococci—either a haemolytic or indifferent—were isolated These results are very much lower than those obtained by Cecil, Nicholls, and Stainsby, who recorded streptococci in 61 5 per cent of their cases studied, the reason for this discrepancy is not clear The authors conclude that the occurrence of streptococci in the blood as well as in the joints of patients with arthritis is indicative of their etiological significance in this disease.

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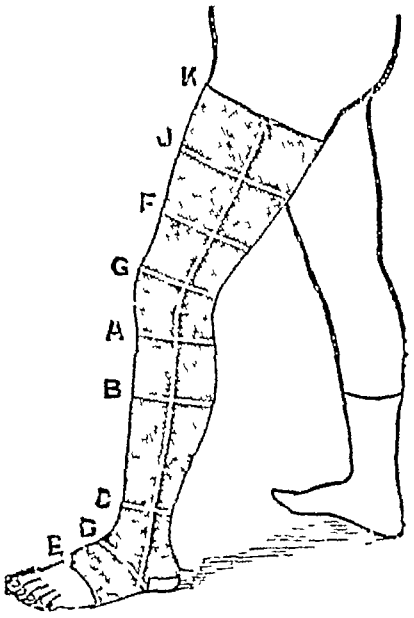
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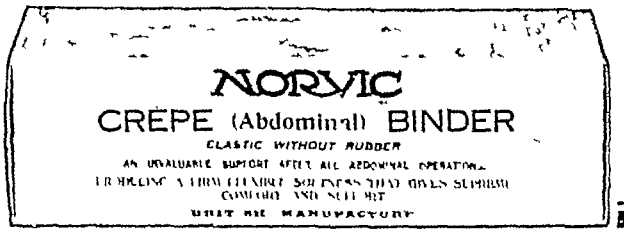
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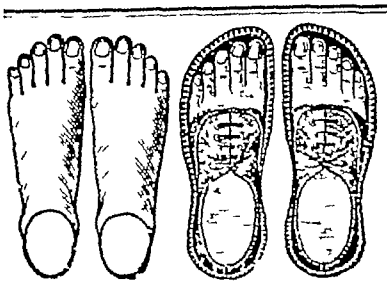
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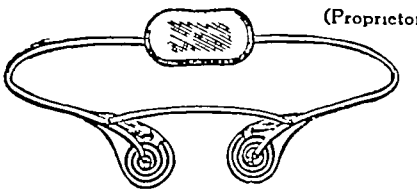
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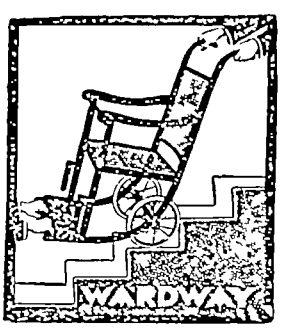


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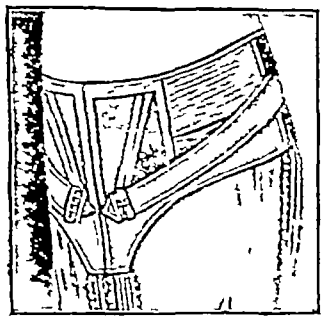
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MILE END E

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Metropolitan Hospital (2 weeks, Medicine and Surgery), Tropical Hospital (3 weeks), Central London Throat, Nose and Ear (4 weeks), Chelsea Hospital (2 weeks, Gynaecology) EVENING COURSES—M.R.C.P. (Tues. and Fri.), Final F.R.C.S. (Weds.)

WEEKLY LECTURES AND CLINICAL DEMONSTRATIONS *Syllabuses are obtainable from*

FELLOWSHIP OF MEDICINE, 1, Wimpole Street, London, W.1 MAYFAIR 2236.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners"—*Anaesthetic Courses*—*Clinical* Assistantships—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals

Prospectus from the DEAN, West London Hospital, Hammersmith, W.6

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases) Over 2 300 patients are admitted to the Wards annually and in the Ante-natal Department there are over 18 000 attendances per annum

Certificates awarded as required by the various Examining Bodies

For rules fees etc. apply ARTHUR WATTS Secretary

M.D. THESIS

(Camb., Edin., Glasg., Durh., &c.)

SKILLED COACHING, GUIDANCE, and ADVICE

From Specialist Tutors, in conformity with the Regulations of the various Universities.

Apply for particulars and free booklet, "Hints on writing a Thesis for the M.D. Degree" to the SECRETARY, Medical Correspondence College 19 Welbeck Street London, W.1

STAMMERING, SPEECH DEFECTS

BEHNKE METHOD Estab. 1882 Cases, non-resident, treated at 39, Earl's Court Square, S.W.5, and in residence in the Summer holidays, at Miss BEHNKE'S house on the Chilterns

Pre-eminent success in the education and treatment of stammering and other speech defects — "Times" Thoroughly physiological principles — Lancet "The method is scientifically correct and perfectly effective — Guy's Hospital Gazette

STAMMERING, CLEFT PALATE SPEECH, LISPING 3/9

of Miss BEHNKE, 39, Earl's Court Sq., S.W.5

POST-GRADUATE MIDWIFERY

Qualified Medical Women are admitted to The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E.5 for practical fortnightly Courses in Midwifery These include delivery of normal cases attendances at all abnormal cases, operations, ward rounds of visiting staff V.D. clinics and ante-natal clinics For further particulars fees etc. apply to EDGAR DIBDEN the Secretary

Medical and Dental Students.

Special Classes for Pre-Medical and Dental Exams. Matric., and Prelims. Chemistry Physics and Biology Labs. MANCHESTER TUTORIAL COLLEGE, 327 Oxford Road Manchester

F.R.C.S. (Edin.)

CLASSES with Museum and *Anatomical* Demonstrations for next Exam., will commence shortly Correspondence work at any time Particulars from CHAS. WHITTAKER, F.R.C.S., Edinburgh

NATIONAL POST-GRADUATE SCHOOL OF RADIOTHERAPY.

The Mount Vernon Hospital and Radium Institute Riding House Street, London, W 1
Dean - SIR CUTHBERT WALLACE, K C M G, C B, F R C S

An intensive Course in

RADIOTHERAPY

especially in its relation to Malignant Disease

will be held at the above School, commencing Monday, October 6th, 1930

The Course will be repeated on subsequent dates

Copy of the syllabus and full particulars may be obtained on application

The Dean will be glad to see prospective entrants by appointment

THOS A GARNER Secretary

33rd ANNUAL EDITION

PATON'S LIST OF SCHOOLS

An aid to Parents in the selection of Schools and Tutors

Crown 8vo. 1076 pages Price 5/ post 9d.
Contains particulars with illustrations of Preparatory Private and Public Schools for Boys Tutors Private and Public Schools for Girls Domestic Science Secretarial Training and Physical Training Colleges etc.
ADVICE ALSO GIVEN FREE OF ALL CHARGE.
J & J PATON Educational Agents
143 Cannon Street, London E C 4

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D T H must possess the D T M of this University)

For particulars apply to the Hon Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD E C 1

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery and Obstetrical complications. Monthly or Fortnightly courses.

PUPILS TRAINED as Midwives and Monthly nurses in accordance with C M B. regulations.

PRIVATE WARDS for paying patients

MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,

TAUNTON

A PUBLIC SCHOOL FOR BOYS.

Boys are regularly prepared for the First M.B. Examination University Scholarships in Chemistry Biology etc.

Special facilities are offered for the teaching of Chemistry Physics Botany and Zoology

New Science Buildings containing seven laboratories two lecture rooms, science library store rooms etc. opened in September 1925

Prospectus from Head Master

PREPARATORY SCHOOL for GIRLS

Sound modern education and healthy home life at moderate cost offered by preparatory school for daughters of professional men. Ages 5 to 14 years South Coast. Medical references Arrangements for holidays if required—Apply Miss LAWRENCE. The Haven School Parkstone Dorset.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL

(University of London)
DENMARK HILL, S E 5

CENTENARY YEAR, 1930

At the opening of the Winter Session on Wednesday October 1st the Inaugural Address will be given at 2.15 p.m. by Dr RAYMOND CRAWFURD M D F R C P Consulting Physician to the Hospital and Emeritus Lecturer in the Medical School

Professor G F STILL, M A M D LL.D F R C P Physician for Diseases of Children at the Hospital will preside.

All past Students of the Medical School are cordially invited to attend.

THE CENTENARY DINNER

at which Professor Sir ST CLAIR THOMSON M D F R C P F R C S will preside, will be held the same evening at seven for 7 30 at the Connaught Rooms Great Queen Street Kingsway W C 2.

The Dean and the Dinner Secretaries (Dr ERNEST PLATFAIR and Dr G DE BEC TURTLE) trust that Past and Present Members of the school will endeavour to be present on this special occasion and they will be glad to be informed if any Member has not received his or her invitation

H. R. WILLOUGHBY LYLE, M D F R C S
J P Dean

ST MARY'S HOSPITAL MEDICAL SCHOOL, W 2

(University of London)

The WINTER SESSION will begin on Wednesday October 1st, 1930

The Medical School provides courses in Preliminary Intermediate and Final Subject and Students can join at once after matriculation

SITUATION—Between a large population providing clinical material and one of the best residential districts thus enabling students to live in close proximity to their work

CLINICAL UNITS IN MEDICINE AND SURGERY—Certain members of the Medical and Surgical staff devote their whole time to teaching and research.

NEARLY 1 000 beds available for teaching additional clinical material being provided by affiliation to an Infirmary and other Institutions.

ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1 400 are awarded annually

APPOINTMENTS varying in value up to £250 per annum open to students after qualification

For further particulars and illustrated prospectus apply to the School Secretary

C. M WILSON (*M C*) M D F R C P
Dean.

THE POLYTECHNIC, REGENT STREET, W 1 SCHOOL OF CHEMISTRY

Head of School
H LAMBOURNE, M A M Sc. F I C

DAY COURSE in CHEMISTRY PHYSICS and BIOLOGY and EVENING COURSE in CHEMISTRY and PHYSICS for the PRELIMINARY MEDICAL EXAMINATION of the CONJOINT BOARD

New term commences
Day September 16th 1930
Evening September 22nd 1930
Fee to London Students
Day £8 8s per term.
Evening £2 2s. per term

Early application should be made to the Director of Education

New Zealand

CHRISTCHURCH HOSPITAL BOARD

The Board invites applications for a MEDICAL REGISTRAR. Salary £500 per annum with board and lodgings.

Applications should be forwarded to the Secretary Hospital Board, Christchurch New Zealand.

County of Lanark

Applications are invited for the post of BACTERIOLOGIST and PATHOLOGIST for the County of Lanark. Preference will be given to applicants heading the Diploma of Public Health. Commencing salary £750

Applications, accompanied with copies of three recent testimonials should be made to the undersigned not later than September 17th.

J McGHIE.
ROBERT BRYCE WALKER
Lanarkshire House County Clerks.
191 Ingram St. Glasgow C 2.

City of Birmingham

SELLY OAK HOSPITAL

CASUALTY OFFICER (Male).

Applications are invited from fully qualified Medical Practitioners for the appointment of Casualty Officer (male) at the Selly Oak Hospital Birmingham

The present Hospital accommodation is 550 beds divided into General Medical General Surgical Gynaecological Obstetrical Children's Disease sections. There are completely equipped Pathological and Biochemical Laboratories and X ray Electro-therapeutics Massage Ultra violet Ray and Electro-cardiographic Departments Over 3 000 operations are performed annually

The appointment will be for a period of six months in the first instance but may be extended for a further period of six months.

The person appointed will be required to assist at operations to administer anæsthetics and to undertake casualty and such other duties as may be assigned to him by the Medical Superintendent

The salary attached to the appointment is at the rate of £200 per annum together with full residence emoluments (rations apartments laundry and attendance) The officer appointed will be required to account to the Council for all fees allowances and emoluments (other than the foregoing) received by him.

Further particulars of the appointment may be obtained from the Medical Superintendent, R. P STANLEY KELWAY Esq., M.B. F.R.C.S Eng and Edin) at the Selly Oak Hospital to whom applications stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded not later than Wednesday September 24th.

F H C WILTSHIRE
Town Clerk.

The Council House,
Birmingham. August 1930

Borough of Gosport

MEDICAL OFFICER OF HEALTH.

Applications are invited from duly qualified Medical Practitioners for the appointment of Medical Officer of Health for the Borough. The gentleman appointed will also be required to act as School Medical Officer and Medical Officer to the Council's Isolation and Small pox Hospitals Salary £800 per annum. Candidates must not be more than 45 years of age.

The successful candidate will be required (1) to reside in the Borough (2) to contribute to the Corporation's Superannuation Scheme (3) to pass a medical examination and (4) to devote the whole of his time to the duties of the office. He will not be allowed to engage in private practice.

Forms of application and list of duties will be supplied on receipt of a stamped addressed foolscap envelop

Applications endorsed Medical Officer of Health" and accompanied by copies of three testimonials of recent date, must be delivered to the undersigned not later than Sept. 15th.

Canvassing either directly or indirectly will be a disqualification

H. R. MANGVALL,
Town Clerk.

Town Hall
Gosport.
September 3rd 1930

Appointment of a Registered MEDICAL MAN OR WOMAN AS A CLINICAL RESEARCH WORKER IN MENTAL DEFICIENCY

The MEDICAL RESEARCH COUNCIL the GOVERNING BODY OF THE DARWIN TRUST and the COMMITTEE OF THE ROYAL EASTERN COUNTIES INSTITUTION for the MENTALLY DEFECTIVE at COLCHESTER jointly invite applications from registered Medical Men or Women to undertake research into Mental Deficiency

The person appointed will be a member of the Medical Staff of the Royal Eastern Counties Institution and will be expected to take some part in the Administrative and Clinical work of the Institution itself but the main part of the work will be an investigation of the clinical causes of mental deficiency from the clinical social and genetic aspects A Social Investigator will be appointed to assist in the work.

Commencing salary at the rate of £300 a year non resident

A form of application can be obtained from Miss Darwin The Orchard, Huntingdon Road Cambridge, which must be completed and returned to her before July 14— Duties to commence Oct 1st 1930

FRCS (Edin)

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly Correspondence Courses for Jan and later Exams. should begin now—H. C. ORRIN F.R.C.S. Surgeons Hall, Edinburgh.

Lancashire County Council

SCHOOL MEDICAL AND CHILD WELFARE DEPARTMENT

APPOINTMENT OF ASSISTANT COUNTY MEDICAL OFFICER.

The Lancashire County Council invites applications from registered Medical Practitioners for the post of Assistant County Medical Officer. Applicants must not be over 35 years of age and must possess the Diploma of Public Health. The duties of the post include the Medical Inspection of School Children work under the Maternity and Child Welfare Acts general Public Health work and such other duties as may from time to time be imposed by the County Council.

The person appointed will be required to devote his whole time to the service of the County Council. The salary will be £800 a year, rising (subject to satisfactory service) by annual increments of £50 to a maximum of £1 000 a year together with first-class railway fares and other reasonable expenses.

The person appointed will be required to pass a medical examination and to contribute to the Council's Superannuation Fund.

Applications must be made upon a form which can be obtained together with further particulars from the County Medical Officer of Health School Medical and Child Welfare Department County Offices Preston, to whom the completed forms should be returned not later than Thursday September 18th. All communications must be endorsed "Assistant County Medical Officer."

Any form of canvassing is strictly forbidden and will disqualify.

GEORGE ETHERTON
Clerk of the County Council.

County Offices
Preston
September 1930

Cardiff City Council

PUBLIC HEALTH DEPARTMENT

APPOINTMENT OF HALF-TIME PUPIL ASSISTANT MEDICAL OFFICER (Male)

Applications are invited for the post of Pupil Assistant Medical Officer at a salary of £250 per annum. The term of appointment will be limited to one year as from October 1st and the person appointed will be required to devote half-time to the work of the Department. During this period the successful candidate must attend the course of study for the Diploma of Public Health organised by the Welsh National School of Medicine.

Forms of application may be obtained from the undersigned by whom applications accompanied by copies of three recent testimonials (endorsed "Pupil Assistant Medical Officer") must be received not later than September 24th.

RALPH M. F. PICKEN
Medical Officer of Health

Public Health Dept.
City Hall
Cardiff
Sept. 8th 1930

City of Sheffield Education Committee

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER

Applications are invited from duly qualified Medical Practitioners (men and women) for appointment as Assistant School Medical Officer to the Education Committee. The successful candidate will be required to devote the whole of his (her) time to the service of the Committee and to act under the superintendence of the Chief School Medical Officer. Commencing salary £500 per annum rising to £700 per annum by annual increments of £25 subject to satisfactory service.

The successful candidate will be required to pass a medical examination and to contribute in accordance with the provisions of the Local Government and Other Officers Superannuation Act 1922.

Forms of application and particulars of the appointment may be obtained from this office and must be returned not later than Saturday September 27th.

Personal canvassing will disqualify.

PERCIVAL SHARP
Director of Education

Leopold St.
Sheffield
September 1930

The Children's Hospital,

SUNDERLAND (70 Beds.)

Wanted beginning of November Two RESIDENT MEDICAL OFFICERS (female). Candidates must possess double qualifications (registered). Salary £100 per annum with board residence and laundry. The appointments are for six months. Applications stating age with dates of three recent testimonials to be received by the undersigned not later than September 27th.

S. C. FRYERS
House Governor & Secretary.

Lancashire County Council

PUBLIC ASSISTANCE COMMITTEE

LAKE HOSPITAL AND DARNTON HOUSE ASHTON UNDER LYNE, Near MANCHESTER

APPOINTMENT OF SENIOR ASSISTANT RESIDENT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners (men) for the appointment of Senior Assistant Resident Medical Officer at the above Hospital and Institution at a salary at the rate of £200 per annum.

Candidates should be unmarried.

The appointment will, in the first instance be for a period of six months the successful applicant however will be eligible for re appointment for a further period of six months at the end of that period.

In addition to the salary the Resident Medical Officer will be provided with the usual residential allowances.

The Hospital comprises 300 beds, and the Institution 600 beds.

Applications accompanied by copies of not more than three testimonials should be forwarded to the County Medical Officer Public Assistance (Hospital and Medical) Department County Offices, Preston not later than September 17th. Envelopes should be endorsed "Senior Assistant Resident Medical Officer."

GEORGE ETHERTON
Clerk of the County Council

County Offices,
Preston
September 1st 1930

City of Plymouth

RESIDENT MEDICAL OFFICER

Applications are invited from duly qualified and registered Medical Practitioners for the post of Resident Medical Officer at the City Hospital Plymouth.

The person appointed will work under the control of the Medical Superintendent, and will be an Assistant to the Medical Officer of Health. Preference will be given to candidates who have had previous experience as House Surgeons or House Physicians.

The salary will be at the rate of £350 per annum, and quarters, food etc. will be provided. The appointment is terminable by three months notice on either side.

Forms of application will not be provided but applicants should state their age their previous experience and present appointment.

Canvassing will disqualify.

Applications endorsed "Resident Medical Officer," together with copies of three recent testimonials must be received by the undersigned not later than Tuesday September 30th.

T. F. NAHARELL M.D., M.R.C.P., D.P.H.,
Medical Officer of Health

Town Hall
Stonehouse
Plymouth
September 4th, 1930

Rotherham County Borough

RESIDENT ASSISTANT MEDICAL OFFICER

The Public Assistance Committee invite applications for the above post at the Hospital Alma Road Rotherham.

Salary £150 per annum together with the usual residential allowances.

Candidates must be single not exceeding 30 years of age, fully qualified and registered.

Applications stating age qualifications etc together with copies of three testimonials to be sent to the Public Assistance Officer 26 Moorgate Street Rotherham not later than September 19th.

CHAS. L. DLS FORGES
Town Clerk

Municipal Offices
Rotherham Sept 1st 1930

Royal Sussex County Hospital,

BRIGHTON (237 Beds.)

CASUALTY HOUSE SURGEON (male) required immediately. Salary £120 per annum with board, residence, and laundry. Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications with copies of recent testimonials should be sent to the undersigned.

L. L. W. LANCASTER GALE,
Secretary Superintendent.

Cheshire Joint Sanatorium,

MARKET DRAYTON

HOUSE PHYSICIAN required (male). The appointment will be for twelve months. In addition salary £250 p.a. with board residence and laundry. Application to be made on forms obtainable from the Medical Superintendent which should be returned with copies of three recent testimonials not later than Wednesday September 24th.

PETER W. EDWARDS
Medical Superintendent.

Lancashire County Council

PUBLIC ASSISTANCE COMMITTEE

LAKE HOSPITAL AND DARNTON HOUSE ASHTON UNDER LYNE, Near MANCHESTER

APPOINTMENT OF SENIOR ASSISTANT RESIDENT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners (men) for the appointment of Senior Assistant Resident Medical Officer at the above Hospital and Institution at a salary at the rate of £200 per annum.

Candidates should be unmarried.

The appointment will, in the first instance be for a period of six months the successful applicant however will be eligible for re appointment for a further period of six months at the end of that period.

In addition to the salary the Resident Medical Officer will be provided with the usual residential allowances.

The Hospital comprises 300 beds, and the Institution 600 beds.

Applications accompanied by copies of not more than three testimonials should be forwarded to the County Medical Officer Public Assistance (Hospital and Medical) Department County Offices, Preston not later than September 17th. Envelopes should be endorsed "Senior Assistant Resident Medical Officer."

GEORGE ETHERTON
Clerk of the County Council

County Offices,
Preston
September 1st 1930

City of Plymouth

RESIDENT MEDICAL OFFICER

Applications are invited from duly qualified and registered Medical Practitioners for the post of Resident Medical Officer at the City Hospital Plymouth.

The person appointed will work under the control of the Medical Superintendent, and will be an Assistant to the Medical Officer of Health. Preference will be given to candidates who have had previous experience as House Surgeons or House Physicians.

The salary will be at the rate of £350 per annum, and quarters, food etc. will be provided. The appointment is terminable by three months notice on either side.

Forms of application will not be provided but applicants should state their age their previous experience and present appointment.

Canvassing will disqualify.

Applications endorsed "Resident Medical Officer," together with copies of three recent testimonials must be received by the undersigned not later than Tuesday September 30th.

T. F. NAHARELL M.D., M.R.C.P., D.P.H.,
Medical Officer of Health

Town Hall
Stonehouse
Plymouth
September 4th, 1930

Rotherham County Borough

RESIDENT ASSISTANT MEDICAL OFFICER

The Public Assistance Committee invite applications for the above post at the Hospital Alma Road Rotherham.

Salary £150 per annum together with the usual residential allowances.

Candidates must be single not exceeding 30 years of age, fully qualified and registered.

Applications stating age qualifications etc together with copies of three testimonials to be sent to the Public Assistance Officer 26 Moorgate Street Rotherham not later than September 19th.

CHAS. L. DLS FORGES
Town Clerk

Municipal Offices
Rotherham Sept 1st 1930

Royal Sussex County Hospital,

BRIGHTON (237 Beds.)

CASUALTY HOUSE SURGEON (male) required immediately. Salary £120 per annum with board, residence, and laundry. Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts. They must be unmarried, and when elected under 30 years of age.

Applications with copies of recent testimonials should be sent to the undersigned.

L. L. W. LANCASTER GALE,
Secretary Superintendent.

Cheshire Joint Sanatorium,

MARKET DRAYTON

HOUSE PHYSICIAN required (male). The appointment will be for twelve months. In addition salary £250 p.a. with board residence and laundry. Application to be made on forms obtainable from the Medical Superintendent which should be returned with copies of three recent testimonials not later than Wednesday September 24th.

PETER W. EDWARDS
Medical Superintendent.

Administrative County of Essex,

MALE ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

The County Council of the Administrative County of Essex invite applications for the above post from registered Medical Practitioners specially qualified in the treatment of Tuberculosis School Medical Inspection and Maternity and Child Welfare holding a Diploma of Public Health and not over 45 years of age.

Preference will be given to candidates who have had at least three years experience in Public Health work subsequent to their medical qualification. The salary attached to the appointment will be from £500 to £700 per annum according to experience and an allowance for travelling will be made. The person appointed will be required to devote his whole time to the service of the Council and to perform such duties and to furnish such advice and assistance appertaining to his office as may be required and to reside in such district of the County as the Council may decide. The appointment will be subject to three months notice on either side.

Applications on the prescribed form obtainable from the undersigned and accompanied by copies of not more than three testimonials which will not be returned should be addressed to me and delivered at the Shire Hall Chelmsford, not later than 10 a.m. on Monday, September 29th.

JOHN H. GOOD
Clerk of the County Council.

Shire Hall
Chelmsford
September 8th 1930

City of Bradford

Applications are invited from duly qualified Medical Men with experience in Clinical Pathology and Bacteriology for VACANCIES on the staff of the City Pathologist and Bacteriologist. The commencing salaries will not be less than £600 per annum.

The appointments will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922 and the successful candidates will be required to pass a satisfactory medical examination.

Forms of application may be obtained from the Medical Officer of Health Town Hall Bradford and should be returned to him not later than September 29th.

N. L. FLEMING
Town Clerk.

Town Hall,
Bradford
September 8th 1930

City of Bradford

Applications are invited from duly qualified Medical Men, with experience in Clinical Pathology for the post of LOCUM ASSISTANT PATHOLOGIST from October 1st.

Salary £12 12s. per week.

Applications should be sent to the Medical Officer of Health, Town Hall Bradford as soon as possible.

N. L. FLEMING
Town Clerk

Town Hall,
Bradford
September 8th 1930

City of Bradford

HOUSE PHYSICIAN required for GRASSINGTON SANATORIUM. Appointment for one year only. Salary £225 per annum, plus board and lodgings.

Applications accompanied with testimonials should be forwarded to the Medical Superintendent the Sanatorium, Crassington not later than September 20th.

N. L. FLEMING
Town Clerk

Town Hall
Bradford
September 8th 1930

City and County of Kingston-upon-Hull

ASSISTANT MEDICAL OFFICER

BEVERLEY ROAD INSTITUTION (HOSPITAL)

The Corporation of Hull invite applications from Medical Practitioners for the appointment of an Assistant Medical Officer (single) at the above named Hospital.

Commencing salary at the rate of £300 per annum for a probationary period of one year together with an allowance of £150 for board and residence outside the Hospital.

The Hospital section contains 400 beds and is equipped with modern X-ray and Ultra-violet Light Departments.

Applicants must be under the age of 40 years.

The appointment is subject to the provisions of the Local Government and Other Officers Superannuation Act 1922.

A form of application together with conditions of appointment and a list of duties may be obtained from the undersigned to whom completed applications should be returned not later than Saturday September 20th.

W. M. FRASER M.D.
Medical Officer of Health

Guildhall
Hull
August 28th 1930

ROYAL NAVAL MEDICAL SERVICE.

VACANCIES EXIST FOR MEDICAL OFFICERS IN THE ROYAL NAVY.

Candidates will be entered as Short Service Medical Officers and will be considered for transfer to the Permanent Service after 6 months' service They must be registered under the Medical Acts, and be under 30 years of age on date of entry

Medical Officers, R N, are liable to serve in Naval Hospitals or Ships in any part of the world

Excellent opportunities exist for clinical professional work both medical and surgical, as well as for study and practice of Hygiene, Pathology, Ophthalmology and other specialist branches

Adequate provision is made for Post-Graduate Study

OUTFIT ALLOWANCE of £50 is paid on joining

PAY —Pay from approximately £450 to £2,325 a year according to length of service

ALLOWANCES —When in charge of **Hospitals** and **Sick Quarters**, 10s and 5s a day

60 Specialists Allowances of 5s a day

Flag Allowances, 5s and 2s 6d a day

N.B —About a quarter of the total number of Naval Medical Officers are in receipt of the above allowances.

Provision Allowance and *Lodging Allowance are paid* when victualling and accommodation are not provided Servants allowance is also payable in certain appointments

PROMOTION —To Surgeon Lieutenant Commander after 6 years' service, to Surgeon Commander after a total of 12 years' service Promotion to Surgeon Captain, Surgeon Rear-Admiral, and Surgeon Vice-Admiral is by selection

Ante-date of seniority on account of civil hospital appointments and accelerated promotion can be gained

RETIREMENT —Gratuities are paid as follows —

Short Service Officers, after 3 years' service	£300
Permanent Officers, after 4 years' service	£400
,, 8 ,, ,,	£1,000
,, 12 ,, ,,	£1,500
,, 16 ,, ,,	£2,250

Rates of Pension range from approximately £558 a year, normally earned after about 25 years' service, to £1,112 a year, the maximum earned by a Surgeon Vice-Admiral

Copies of the Regulations and Particulars as to Conditions of Service and Emoluments may be obtained on written or personal application to the Medical Director-General of the Navy, Queen Anne's Chambers, Tothill Street, London, S W 1

United Services Fund

HEATHERWOOD HOSPITAL, ASCOT

RESIDENT ASSISTANT MEDICAL OFFICER

Applications are invited from fully qualified Medical Practitioners (bachelor, not over 30) for the above post

Candidates must have held some appointment in a General Hospital

The present Hospital accommodation is 136 beds for the treatment of surgical tuberculo is and other forms of crippledom in children

The appointment will be for a period of twelve months and may be extended at the end of that time

Remuneration is at the rate of £300 per annum together with residence, board, and laundry

The officer appointed will be required to devote the whole of his time to the duties of the office to give anaesthetics, etc , and generally to act under the supervision and direction of the Medical Superintendent Ample opportunities for study

Applications stating (1) age, (2) qualifica tions (3) experience and appointments held, accompanied by three copies of recent testi monials should be forwarded to the Secretary, Heatherwood Committee United Services Fund, 29 Cromwell Road South Kensington, London, S W 7 before September 26th

Further particulars can be supplied on appli cation to the Medical Superintendent, Heather wood Hospital Ascot Berks

The Royal Portsmouth Hospital

(Five Resident Medical Officers)

Applications are invited for the posts of SENIOR HOUSE SURGEON (male) Salary at the rate of £175 per annum, with board etc Candidates must have held an ap pointment as House Surgeon at a General Hospital as the post is a very responsible one

HOUSE PHYSICIAN (male) Salary at the rate of £130 per annum

HOUSE SURGEONS (Two male) Salary at the rate of £130 per annum each

CASUALTY OFFICER (male) Salary at the rate of £100 per annum

All officers must be qualified and will be required to commence on October 1st (six months appointments and eligible on completion of term for extension on other resident posts)

Applications stating age nationality and full details with copies of three testimonials to be sent to the undersigned as soon as possible, from whom all particulars can be obtained

B WAGSTAFF, Secretary

The Gloucestershire Royal Infirmary and Eye Institution, Gloucester.

(163 Beds)

Applications are invited for the post of SECOND HOUSE SURGEON (male) Salary £120 per annum with board, residence, and laundry (Four Resident Medical Officers)

The appointment is for six months which may be extended for similar periods by re election from time to time

Applications stating age, qualifications and nationality with copies of not less than three recent testimonials must be received by the undersigned not later than Wednesday Sep tember 24th The elected candidate will be required to enter upon his duties on Wednesday, October 8th

August 21st, 1930 F J SYMONS Secretary

East Suffolk & Ipswich Hospital, Ipswich

(265 Beds—7 Residents)

Applications are invited for the posts of CASUALTY OFFICER Salary £150 per annum Board residence and laundry Previous experience essential and

HOUSE SURGEON Salary at the rate of £120 per annum Six months contract with board residence and laundry

Applications from British (male) candidates stating age qualifications and experience and accompanied by three recent testimonials, to be sent to the undersigned

The Hospital ARTHUR GRIFFITHS, Ipswich Secretary

August 18th 1930

County Mental Hospital, Lancaster.

An ASSISTANT MEDICAL OFFICER male, unmarried required Salary £350 rising by £25 to £450 per annum with further increases on promotion together with emoluments valued at £150 subject to deduction of 5 per cent under the Asylum Officers Superannuation Act Age should not exceed 35 years

Applications with testimonials (copies only) and full particulars to be sent to the Medical Superintendent

Mater Misericordiae Hospital, Dublin

(Founded 1852 and conducted by the Sisters of Mercy)

The following positions are now vacant

VISITING SURGEON

Applications, stating qualifications, and academic distinctions, accompanied by three duplicate copies, and by three duplicate copies of not more than three recent testimonials must reach the Secretary of the Medical Board on or before October 4th The Medical Board will arrange in order of merit, the names of those candidates who they deem suitable and whose appointment they could advise and will submit the list to the authorities of the Hospital with whom the final act of appointment rests

TWO ASSISTANT SURGEONS

Applications are also invited for the position of two Assistant Surgeons on or before October 4th Each candidate is required to forward at the same time three duplicate copies of his ap plication and also three duplicate copies of not more than three recent testimonials The Medical Board will arrange in order of merit, the names of the candidates whom they deem suitable and whose appointment they could advise and will submit the list to the authori ties of the hospital with whom the final act of appointment rests The successful candidates will hold office for three years at the expiration of which term they will be eligible for re election

Canvassing for any of the above positions will render a candidate liable to disqualification Candidates who desire further information are required to communicate with the Secretary of the Medical Board

Manchester Royal Infirmary

JUNIOR ASSISTANT MEDICAL OFFICER IN RADIOLOGICAL DEPARTMENT

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment Applicants must be regis tered and hold a Medical and Surgical quali fication

The appointment (non resident) is for twelve months renewable for a further period of twelve months subject to the provisions of the By laws as to notice Salary is at the rate of £400 per annum Applicants must state age, and send twelve copies of their applica tion and testimonials to the undersigned by 9 a m on Tuesday, September 30th

By Order,
FRANK G HAZELL
Sept 13th, 1930 Gen Supt & Sec

Nottingham Children's Hospital

Applications are invited for the post of RESIDENT HOUSE SURGEON (woman) Can didates must have held a Resident Hospital appointment Experience in the administration of anaesthetics essential The salary will be at the rate of £150 per annum, with apart ments board and laundry The appointment will be for six months, duties to commence on November 1st

Applications, together with testimonials and stating age, qualifications, and experience to be sent to F PRAGNELL the Honorary Secre tary 1 King John's Chambers Bridlesmith Gate Nottingham by September 21st Selected candidates will be required to attend at the Hospital for a personal interview on September 30th when the appointment will be made

Eye, Ear, and Throat Hospital for Shropshire and Wales

APPOINTMENT OF HOUSE SURGEON

The Board of Management invite applications for the post of House Surgeon at the Eye, Ear, and Throat Hospital Shrewsbury (48 beds)

Candidates (either sex) must be unmarried and have a registered qualification in Medicine and Surgery

Salary £200 per annum, with board, lodging and laundry

Applications with copies of testimonials, to be sent in sealed envelopes marked "House Surgeon" to the Chairman of the Board of Management not later than September 20th.

CLOTHIER WATKINS & RIDDELL
Secretaries

Great Yarmouth General Hospital

(72 Beds)

Required to commence duties immediately, a SENIOR and JUNIOR HOUSE SURGEON Salaries at the rate of £150 and £140 per annum respectively together with board resi dence, and laundry

Applications together with copies of three recent testimonials to be submitted to the undersigned

FRANK JENNINGS Secretary

Royal Victoria Infirmary, Newcastle on Tyne

The House Committee declare vacant the office of HONORARY SURGEON to the Throat and Ear Department

According to statutory provision every candi date must be a registered Graduate in Surgery of any University recognized by the General Council of Medical Education and Registration of the United Kingdom or a Registered Fellow Member, or Licentiate of one of the Royal Colleges of Surgeons of the United Kingdom provided that he is practising as a Surgeon and not as a General Practitioner

Applications must be sent to the House Governor and Secretary, Royal Victoria Infirmary, Newcastle-on-Tyne, not later than Saturday, September 27th

The appointment will be made on Thursday, October 2nd

Personal canvassing will be considered a dis qualification for office

S DUNSTAN,
Sept 5th 1930 House Governor & Sec

Dorset County Hospital, Dorchester

APPOINTMENT OF HOUSE SURGEON

The Committee of Management are open to receive applications for the position of House Surgeon to take up his duties on or about October 11th

Every candidate for the office of House Surgeon must be unmarried and possess a regis tered qualification to practise Medicine and Surgery from some recognized Body in Great Britain or Ireland Salary £160 per annum with board and lodging The appointment is for a period of not less than six months All applications accompanied by three recent copies of testimonials should be sent to the Secretary, Dorset County Hospital on or before Oct 4th Candidates must be of British nationality

Dorset Mental Hospital, Dorchester

JUNIOR ASSISTANT MEDICAL OFFICER

Applications are invited from candidates duly qualified and registered Salary £350 per annum with board, apartments, laundry, and attendance. Excellent laboratory facilities exist with skilled assistance for research and clinical medicine (900 beds)

Study leave may be granted to a suitable candidate after approved service. The appoint ment is subject to the provisions of the Asylums Officers Superannuation Act, 1909

Applications stating age and qualifications, with copies of recent testimonials, and the names of three referees should be sent at once to the Medical Superintendent.

September 6th 1930

Tynemouth Victoria Jubilee Infirmary

HOUSE SURGEON (male) required October 1st. Applicants must be doubly qualified and registered Salary £100 per annum, with board residence, and laundry

Applications, stating age and other essential particulars, and accompanied by copies of recent testimonials to be addressed to the undersigned, from whom all particulars may be obtained

The Hospital has Two Resident House Surgeons and contains 80 Beds and Cots an X ray Department and an Out-patient Depart ment where accident cases are received

T E ROWELL
1, Northumberland Place, Secretary
North Shields

Bangour Mental Hospital, West Lothian

Vacancy for unmarried man as SECOND ASSISTANT MEDICAL OFFICER Experience of Mental work not necessary but Post graduate Medical or Surgical experience a recommenda tion Salary £350 per annum rising to £400 after 12 months satisfactory service together with apartments board laundry and attend ance. Appointment pensionable under the Asylums Officers Superannuation Act 1909

Applications to be addressed to the Medical Superintendent Bangour Village West Lothian

Ancoats Hospital, Manchester

HOUSE SURGEON (male) required to com mence duty on October 1st next for a period of six months Salary at the rate of £100 per annum with board apartments etc

Applications stating age qualifications expe rience if any to be forwarded to the under signed on or before September 16th next

By Order of the Board
HERBERT J DAFFORN
Gen Supt & Secretary

The King Edward VII Welsh NATIONAL MEMORIAL ASSOCIATION

Applications are invited for the post of HALF TIME ASSISTANT TUBERCULOSIS OFFICER to be stationed in the Pontypridd area. The appointment is limited to one year and commencing duties on October 1st next. The successful candidate will during the tenure of the appointment be expected to take the Course for the Diploma in Tuberculosis Disease (Wales) at the Welsh National School of Medicine and afterwards sit the examination for the Diploma. Duties to commence as soon as possible after appointment.

The applicant must have held a house appointment in medicine or surgery for at least six months in a general hospital and have served as an assistant Resident Medical Officer for at least six months in a tuberculosis institution.

Salary at the rate of £300 per annum.

Applications stating age, qualifications and previous experience together with copies of three recent testimonials to be sent to the undersigned not later than September 16th.

D. A. POWELL,
Principal Medical Officer.

Westgate St.
Cardiff.

The King Edward VII Welsh NATIONAL MEMORIAL ASSOCIATION

Applications are invited from duly registered Medical Practitioners for the post of AREA ASSISTANT TUBERCULOSIS PHYSICIAN. Salary £600 per annum together with travelling and subsistence allowances when at centre from base. Preference candidates should have had at least six months special training in Tuberculosis and either six months' experience in general clinical work or six months spent in a Hospital not confined to the treatment of Tuberculosis. Knowledge of Welsh desirable. Post will be subject to the provisions of the Superannuation Scheme which the Association may hereafter establish.

Applications stating full qualifications and previous experience together with copies of three recent testimonials should reach the undersigned not later than September 17th.

Memorial Offices,
Westgate Street,
Cardiff.

D. A. POWELL,
Principal Medical Officer.

Salford Royal Hospital

(263 Beds.)

Applications are invited for the following vacancies which will occur in the Resident Medical Staff (male) on the 30th instant:—

HOUSE SURGEON (attached to the Orthopædic Department). Salary at the rate of £125 per annum.

HOUSE SURGEON. Salary at the rate of £125 per annum.

The appointments are for a period of six months with board and residence.

Candidates must be registered under the Medical Act.

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognized for the English Fellowship (Final).

Forms of application which may be obtained from the undersigned must be delivered on or before September 17th.

By Order of the Board,
GEOFF RUDDLE,
Gen. Supt. & Secretary.

Salford Royal Hospital,
September 8th, 1930.

Cornelia and East Dorset Hospital

POOLE, DORSET.

(105 Beds.)

HOUSE SURGEON.

Applications are invited for the post of House Surgeon (male). Salary £150 p.a. with usual emoluments. Duties to commence October 1st next for six months.

Applications stating age, experience and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital as early as possible.

E. S. FOLEY, Secretary.

Liverpool Open-Air Hospital for Children, Leasowe

(250 Beds Surgical Tuberculosis.)

Vacant October 1st the post of JUNIOR RESIDENT MEDICAL OFFICER. Salary £200 per annum with board, residence and laundry.

Applications to be sent to the Senior Medical Officer not later than September 19th.

Lowestoft and North Suffolk Hospital, Lowestoft

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board residence and laundry. Duties to commence in August. Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

City of London Mental Hospital, near DARTFORD, KENT

JUNIOR MEDICAL OFFICER required. Preference will be given to applicant holding Diploma Psychological Medicine. Those not holding such Diploma must agree to obtain same within reasonable period which an increase of salary of £50 per annum would be granted. Salary £400 per annum rising by annual increments of £25 to £450 plus £50 for Diploma. Psychological Medicine and emoluments. Deductions to Superannuation Act 1909. Applicants must be male, single and fully qualified. Candidates will be required to have a medical examination before appointment and satisfactory proof of birth.

The appointment will be subject to a month's probation. Application on a form to be obtained from the undersigned must be sent not later than September 17th.

L. T. FFLDON,
Clerk to the Visitors' Committee.

5 Church Passage,
Guildhall,
London, E.C.2.

The Institute of Radiotherapy (SUNLIGHT CLINIC)

152 15 Camden Road, W.1.

RESIDENT MEDICAL OFFICER is required on October 1st. The duties will include assisting in the treatment and in the collection of clinical data for purposes of research. The appointment is for six months. Honorarium at the rate of £150 per annum with board and laundry. Experience in Light Treatment is necessary but applicants must have had a resident appointment at a General Hospital.

Application together with copies of three testimonials must be sent not later than Monday, September 22nd, to the Honorary Secretary at the address above.

Hertford County Hospital

Applications are invited for the post of RESIDENT SURGICAL OFFICER. Salary £250 per annum with board, residence and laundry. For preference candidates should have the Fellowship of the Royal College of Surgeons.

The appointment is for six months in the first instance.

Application with copies of three recent testimonials should be sent to the undersigned and be received no later than Tuesday, September 23rd.

PERCY G. BROOKS,
Secretary.

Royal Victoria and West Hants Hospital, BOURNEMOUTH

(Boscombe Branch—150 Beds—Subsidized.)

A HOUSE SURGEON (male British nationality) required.

Salary £150 per annum with board, lodging and washing. The appointment is tenable for six months and candidates must be registered under the provisions of the Medical Acts.

Applications with copies of three recent testimonials to be sent to the undersigned not later than September 25th.

GORDON M. SAUL,
Secretary.

Royal Waterloo Hospital for Women and Children

Waterloo Road, S.E.1.

There is a vacancy for an HONORARY CLINICAL ASSISTANT (male or female) for an L.C.C. clinic for children suffering from rheumatic fever and chorea. Candidates should be interested in children's diseases and cardiography.

Previous children's experience desirable.

Application for this appointment is for six months in the first instance. Applications should be accompanied by testimonials which should be sent to the undersigned from whom further particulars can be obtained not later than September 30th.

J. H. TEASDALE, Secretary.

The Royal Sunderland Infirmary

SUNDERLAND. (290 Beds.)

Wanted, One HOUSE PHYSICIAN (male). Salary £140 per annum with board, residence and laundry. Satisfactory qualifications and testimonials required. Applications should be sent to the undersigned.

S. C. FFYERS,
House Governor & Secretary.

Taunton and Somerset Hospital

TAUNTON. (104 Beds.)

SENIOR HOUSE SURGEON required. Applicants must have had a hospital residential appointment for at least six months. Salary at the rate of £150 per annum with board and laundry. Three recent testimonials to be sent to the undersigned.

Applications with testimonials should be sent to the undersigned.

F. J. J. STACEY, Secretary.

The Hospital for Sick Children, Great Ormond Street, London, W.C.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on October 14th.

Gentlemen are invited to send in their applications addressed to the undersigned not later than 12 o'clock on Monday, October 6th.

No more than three testimonials should be sent in specially for the purpose and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months and carry salaries at the rate of £100 per annum in addition to board and residence in the Hospital.

Candidates must be unmarried and possess a medical qualification to practise.

All candidates must be in attendance to appear before the Joint Committee if required at the Hospital on Wednesday, October 8th at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary.

By Order of the Board of Management,
JAMES MCRAE,
Secretary.

September, 1930.

Walsall General Hospital

The Committee invite applications from men for the post of HOUSE SURGEON. Salary £150 per annum.

Candidates who must be registered under the Medical Acts must produce three recent testimonials.

The appointment will be for six months.

The Hospital contains 100 beds and is equipped in all special departments and fully staffed. Applicants must be registered under the Medical Acts and must be prepared to reside in the Hospital.

Applications must be received not later than first post on Wednesday, September 17th.

WALTER FFRANCOMBE, Secretary.

Cresswell Road, S.E.10.

Miller General Hospital,

Applications are invited for the following appointments:—

RESIDENT ANÆSTHETIST. Salary £150 per annum.

HOUSE PHYSICIAN. Salary £125 per annum.

HOUSE SURGEON. Salary £125 per annum.

There are six Resident Officers' Quarters and they must be unmarried. Each appointment is for six months and carries with it board, residence and laundry. Each appointment is for six months from October 1st next.

Applications with copies of three recent testimonials to be sent to the undersigned not later than September 6th, 1930.

By Order of the Board,
EDWIN J. PEARCE,
Secretary and Steward.

Stockport Infirmary

The following positions will be vacant on November 1st next:—

RESIDENT SURGICAL OFFICER, salary £200.

HOUSE PHYSICIAN, salary £175 with board and residence.

Candidates (gentlemen) must be duly qualified and registered.

Applications with copies of three recent testimonials stating age, experience and salary required to be sent to the undersigned not later than Monday, the 29th instant. Not later than first post.

EDWIN J. PEARCE,
Secretary.

Stockport, 4th, 1930.

Royal Infirmary, Blackburn

(240 Beds.)

RESIDENT HOUSE SURGEON (male) required at a salary of £150 per annum with board, residence and laundry.

Applications with copies of testimonials to be sent to the undersigned as early as possible.

Royal Infirmary, Blackburn.

THOMAS SMITH,
General Secretary.

The Institute of Radiotherapy, Great Portland Street, W.1.

Examination for the FFR will be held in October.

Royal Surrey County Hospital

GUILDFORD. (180 Beds.)

Wanted, October 1st, RESIDENT HOUSE SURGEON. Salary £150 per annum with board, residence and laundry.

Applications, stating age, experience, and with copies of three recent testimonials, to be sent to the undersigned not later than September 20th.

General Superintendent.

Liverpool and District Hospital for Diseases of the Heart

HOUSE PHYSICIAN (male or female) required for a period of six months from October 1st. Salary at the rate of £52 per annum with board and residence.

Applications to Miss LEWIS, Secretary, Cook Street, Liverpool.

The London Lock Hospital, 91, Dean Street, W 1

Vacancies exist for Two HOUSE SURGEONS at the Male Lock Hospital The Board of Management invite applications from candidates, who must be doubly qualified and duly registered The appointments are at the rate of £200 per annum with furnished rooms full board and laundry The appointments are for six months Duties to commence October 6th

Applications enclosing copies (only) of three recent testimonials to be sent to the undersigned at the Male Lock Hospital 91 Dean Street W , on or before September 26th

By Order of the Board
H J EASON Secretary

Sept 9th, 1930

Ingham Infirmary, SOUTH SHIELDS (124 Beds)

Wanted HOUSE SURGEON (male) Salary £150 per annum with residence board and washing Candidates must hold registered qualifications in Medicine and Surgery The appointment will be terminable by one months notice Applications stating age, and accompanied by copies (which will not be returned) of recent testimonials to be sent to the undersigned from whom further particulars may be obtained

JOHN POTTER Secretary

Chesterfield and North Derbyshire Royal Hospital (190 Surgical and Medical Beds)

HOUSE SURGEON

Applications are invited from fully qualified men for the above post The appointment is for six months Salary is from £100 to £175 per annum according to experience with board, apartments and laundry

Applications stating age together with copies of three recent testimonials should be sent to the undersigned

G SUNNUCK
August 20th 1930 Supt & Secretary

Royal West Sussex Hospital, CHICHESTER (111 Beds)

The Board of Management invite applications for the post of ASSISTANT HOUSE SURGEON Salary £150 per annum, with board, residence and laundry

There is a probability of succession to the post of Senior House Surgeon

Applications stating age with three recent testimonials should be sent to the undersigned as soon as possible

HERBERT S ALLMORE
Secretary

General Hospital, Nottingham

Wanted CASUALTY OFFICER (male) Appointment for six months commencing September 20th Salary at the rate of £150 a year with board residence and laundry Applications stating age qualifications and experience with copies of testimonials to be delivered to me not later than Monday September 15th

PETER M MACCOLL
House Governor & Secretary

General Hospital, Nottingham

Wanted a HOUSE PHYSICIAN Appointment for six months commencing October 10th Salary at the rate of £150 a year with board residence and laundry Applications stating age qualifications and experience with copies of testimonials to be delivered to me not later than Monday, September 22nd

PETER M MACCOLL
House Governor & Secretary

Swansea Hospital (316 Beds)

HOUSE SURGEON wanted gentleman single Salary £150 per annum, with board residence, and laundry

Applications stating age nationality qualifications and experience together with copies of three recent testimonials to be forwarded to the undersigned

O C HOWELLS Secretary

Essex County Hospital, COLCHESTER (160 Beds)

Wanted at once ASSISTANT HOUSE SURGEON and REGISTRAR (male) Salary £120 with board washing and residence Medical and Surgical qualifications required

Applications with three recent testimonials to be sent by Thursday September 18th to—

ALFRED G BUCK

County Borough of Walsall MANOR HOSPITAL

RESIDENT ASSISTANT MEDICAL OFFICER

Applications are invited from duly qualified gentlemen for the appointment of First Assistant Resident Medical Officer

The salary will be at the rate of £200 per annum, together with the usual residential emoluments The appointment will be tenable for a period of twelve months

The person appointed will be required to act under the general direction of the Medical Officer from whom particulars of the appointment may be obtained

Applications, stating age professional qualifications and experience accompanied by not more than three copies of recent testimonials should be sent to the undersigned at once

C S FOTHERGILL
Public Assistance Officer

29 Leicester Street, Walsall
August 25th, 1930

Bedford County Hospital

HOUSE SURGEON (male), fully qualified, unmarried, required for a term of not less than six months commencing October 1st Salary £175, with board, lodging, and laundry

Applications stating age nationality qualifications, together with three recent testimonials, to be sent to the Hon Secretary, Hon Medical Staff Committee, not later than Wednesday September 17th

Bedford County Hospital (122 Beds)

ASSISTANT HOUSE SURGEON (male) fully qualified unmarried required for a term of not less than six months commencing at once Salary £130, with board, lodging and laundry

Applications stating age nationality qualifications together with three recent testimonials to be sent to the Hon Secretary Hon Medical Staff Committee as soon as possible

Royal Berkshire Hospital (243 Beds)

Wanted a CASUALTY OFFICER and a RESIDENT ANAESTHETIST Candidates must be fully qualified and registered The appointments are for six months and the salaries are at the rate of £150 per annum, with board, residence, and laundry

Applications with copies of testimonials, should be addressed to the undersigned

HERMAN BURNEY
Reading Secretary

Sept 13th, 1930

The Sheffield Royal Hospital

Required HOUSE SURGEON to commence duties at once, OPHTHALMIC HOUSE SURGEON for October 1st and a HOUSE SURGEON for November 1st (males) Salary for the first six months at the rate of £80 per annum, after which £100 per annum with board residence and laundry There are twelve Resident Medical Officers

Applications should be forwarded at once to—

W H BOOTH
Superintendent and Secretary

Royal United Hospital, Bath

Wanted at once a HOUSE SURGEON Salary £150 per annum The appointment will be for not less than six months and candidates must be male unmarried and of British nationality

Applications with three recent testimonials, must be addressed to the undersigned

J LAWRENCE MEARS
Secretary Supt

Sept 9th 1930

Beckett Hospital and Dispensary, BARNSLEY (152 Beds)

Applications are invited from fully qualified male Practitioners for the post of JUNIOR HOUSE SURGEON Duties to commence immediately Salary £140 per annum, with board, residence and laundry

Applications stating age qualifications and experience accompanied by testimonials to be sent to the undersigned

ARTHUR L BOURNE
Secretary Supt

Sept. 2nd 1930

Inverness District Mental Hospital.

JUNIOR ASSISTANT MEDICAL OFFICER wanted Experience of Mental Hospital work not essential but Post-Graduate Medical or Surgical experience a recommendation Salary £350 per annum with apartments board, laundry and attendance Apply with references to Medical Superintendent

St Bartholomew's Hospital, E C 1

ASSISTANT SURGEON TO THE ORTHOPAEDIC DEPARTMENT

Notice is hereby given that a Meeting of the Election Committee will be held on Tuesday October 14th at 4 o clock in the afternoon to elect an Assistant Surg on to the Orthopaedic Department.

Candidates who must be Fellows of the Royal College of Surgeons (England) are required to lodge 50 copies of their application with testimonials, with the undersigned on or before Saturday, September 27th

THOMAS HAYES
Clerk to the Governors

Sept. 1st 1930

St Bartholomew's Hospital, E.C 1

ASSISTANT SURGEON FOR DISEASES OF THE THROAT AND NOSE

Notice is hereby given that a Meeting of the Election Committee will be held on Tuesday October 14th at 4 o clock in the afternoon to elect an Assistant Surgeon for Diseases of the Throat and Nose.

Candidates who must be Fellows of the Royal College of Surgeons (England) are required to lodge 50 copies of their application with testimonials with the undersigned on or before Saturday, September 27th

THOMAS HAYES
Clerk to the Governors

Sept 1st 1930

St Bartholomew's Hospital

OFFICE OF ASSISTANT DENTAL SURGEON

Notice is hereby given that an Assistant Dental Surgeon to this Hospital will be appointed at a Committee of Governors to be held on Thursday, November 13th, at eleven o clock in the forenoon

Candidates must hold a registrable British Medical qualification as well as a registrable British Dental qualification

Candidates must lodge 12 copies of their application and testimonials with the undersigned on or before Friday October 10th

THOMAS HAYES
Clerk to the Governors

Sept 8th 1930

The New Dewsbury and District GENERAL INFIRMARY

Applications are invited for the post of JUNIOR HOUSE SURGEON one with Orthopaedic experience preferred

Salary £150, with board, residence and laundry

Applications stating age and experience, together with copies of recent testimonials, to be sent immediately to the undersigned

H C PRICE Secretary Supt

The Mount Vernon Hospital, NORTHWOOD, MIDDLESEX

There is a vacancy for a HOUSE SURGEON (male) Candidates must be fully qualified and registered Salary £200 per annum with board lodging and laundry

Applications with three testimonials should be sent to—

W J MORTON
7, Fitzroy Square, W 1 Secretary

Cameron Hospital, WEST HARTLEPOOL.

HOUSE SURGEON wanted for September 19th Salary £150 per annum with board residence and laundry Applications, with particulars of age nationality, qualifications experience and copies of testimonials to be sent to the undersigned immediately

H WOODHALL, Secretary

The St Helens Hospital

Applications are invited for the position of HOUSE SURGEON to this Hospital at a salary of £250 per annum plus board lodging and laundry Applications together with copies of three recent testimonials to be sent to the Secretary St Helens Hospital Lancs not later than September 23rd The successful applicant will be required to commence his duties at the end of September

Connaught Hospital (100 Beds) Orford Road E 17

Applications are invited for the post of HOUSE PHYSICIAN (male) The appointment is for six months from October 1st next £100 per annum with board quarters and laundry

Applications stating age nationality qualifications and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary by September 20th next.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1 (in the case of Scottish appointments, with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District	Town or District	Town or District
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MEPTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association.)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
MAERDY GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District	Hon Sec. of Division or Branch.	Town or District.	Hon Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr R. H. TODD (Hon. Sec., New South Wales Branch, Savings Bank Building 21 Elizabeth St Sydney N.S.W	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch 20 North Terrace Adelaide.	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr G F V ANSON (Hon Sec., New Zealand Branch, British Medical Association P O Box 155 Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon Sec. Queensland Branch) British Medical Association B.M.A. Building Adelaide St. Brisbane	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA *(Contract and Lodge Practices)*	Hon. Sec. Western Australian Branch British Medical Association No 6 Bank of N.S.W Chambers St. George's Terr., Perth Western Australia.

September 10th 1930 By Order of the Council ALFRED COX Medical Secretary

Mid-Wales Counties Mental HOSPITAL TALGARTH BRECONSHIRE.

The Visiting Committee invite applications for the post of ASSISTANT MEDICAL OFFICER at this Institution Salary commencing at £350 and rising by annual increments of £25 to £450 per annum with (in addition) the following emoluments, valued for the purpose of superannuation at £100 per annum apartments board washing and attendance.

The appointment is subject to the provisions of the Asylum Officers Superannuation Act 1909 A knowledge of Welsh is desirable but not essential

Applications together with testimonials should be sent to the undersigned as early as possible but not later than September 23rd.

A J ASTBURY
Clerk to the Visiting Committee

Stockton and Thornaby Hospital, STOCKTON-ON-TEES (140 Beds)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of *at least six months*. Duties to commence on or about September 12th.

Salary £150 with board residence and laundry Candidates must be duly qualified and unmarried.

Applications stating age nationality and experience, together with copies of three recent testimonials to be sent to the undersigned.

J WILKINSON Secretary

Preston and County of LANCASTER ROYAL INFIRMARY

Applications are invited for the post of HOUSE SURGEON (under Consulting Surgeon).

Six months appointment Number of Resident Staff—six.

Salary £150 per annum with board residence and laundry

Applications stating age qualifications and training, together with testimonials to be forwarded immediately to the undersigned.

JOHN GIBSON
Superintendent & Secretary

Woolwich and District War MEMORIAL HOSPITAL, Shooters Hill London S E.18 (General Hospital—112 Beds)

The Board of Management invites applications from suitably qualified male candidates for appointment as HOUSE SURGEON for a period of six months commencing October 1st next. In addition to his surgical duties he will have care of the Maternity Unit of 8 beds

An honorarium of £100 per annum will be paid in respect of this appointment plus board, residence and laundry

Applications, accompanied by copies of no more than three recent testimonials should be sent to the undersigned to reach him not later than first post on Monday September 15th.

EDWIN RADFORD
Secretary Superintendent

National Hospital, Queen Sq., W C 1

RESIDENT MEDICAL OFFICER.

The Board of Management invite applications for the post of Resident Medical Officer which should be sent to the undersigned accompanied by copies of three recent testimonials not later than Monday September 22nd. The salary is £200 per annum with board and lodging

Applicants should state if they are willing to accept the appointment of House Physician (salary £150 board and lodging).

GODFREY H. HAMILTON
Secretary

Darlington General Hospital (120 Beds)

SENIOR and JUNIOR HOUSE SURGEON required males fully qualified British. Salary £1 5 and £150 per annum respectively with board residence and laundry

Applications stating age qualifications and experience accompanied by copies of two recent testimonials to be addressed to the undersigned forthwith.

A. RIDDLE, Secretary

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON to the Special Departments with care of beds for Ear Nose and Throat, Eye Gynaecological and Maternity cases. The appointment will be for a period of six months from October 5th but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum, with board residence, and laundry. Candidates (male) who must be unmarried and duly registered are requested to forward their applications stating age qualifications etc together with copies of not more than four testimonials to the undersigned on or before Wednesday September 17th

W H HEAD
Secretary Superintendent

Addenbrookes Hospital, CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON The appointment will be for six months from October 1st but is terminable at an earlier date by one month's written notice on *either side* Salary at the rate of £130 per annum with board, residence and laundry Candidates (male) who must be unmarried and duly registered are requested to forward their applications stating age qualifications etc together with copies of not more than four testimonials to the undersigned on or before Wednesday September 17th.

W H HEAD
Secretary Superintendent

Woking and District Victoria HOSPITAL.

SURGEON TO THE EAR NOSE AND THROAT DEPARTMENT

Applications for the above honorary post, with terms of which to be sent to the Hon Secretary Woking and District Victoria Hospital from whom further particulars can be obtained.

(Appointments continued on p. 49)

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ASSISTANCIES

Wanted — Assistant, outdoor, single or married by mid October English or Scotch for Country Practice in South West County Must dispense and drive car Work light and pleasant Salary if single £250—£300 according to experience and everything found If married £400 a year References and photo—Address No 6263 B M A House Tavistock Square W C 1

Wanted — Indoor male Assistant, INT Practice private and panel in large Inland Spa Salary £300 (car provided) Dispenser kept Send age photo (returnable) Testimonials experience (not necessary) nationality when disengaged—Address No 6261 B M A House Tavistock Square W C 1

Wanted — Assistantship for winter months (or longer) by M B Ch B (Class) 1929 London preferred but not essential Male aged 29 ex H S experienced Eyes Some C P experience Well recommended State essential particulars—Address No 6290, B M A House Tavistock Square W C 1

Wanted — Assistantship, with early view by M B B S M R C S married two years Hospital experience six years General Practice Poor Law Constabulary Public Vaccinator Keen on sole charge Branch Surgery Own car Small capital—Address No 6288 B M A House Tavistock Sq, W C 1

Wanted — Indoor Assistant, male for industrial Practice twelve miles from Manchester Preference given to ex H S H P Knowledge of obstetrics desirable Car provided Dispenser kept State essential particulars Salary £350 p a—Address No 6073 B M A House Tavistock Square W C 1

Wanted immediately, Assistant-SHIP with early view to Partnership by M D, 32 single sober 7 yrs Hosp (H S and H P) 3 years H S Ear Nose and Throat Some exp G P Speaks Italian and Fr nch— No 6271 B M A House Tavistock Sq W C 1

Wanted in November, outdoor male ASSISTANT (with or without view) for private and panel Practice in A of Eng Salary £400 p a Experience of C P necessary Interview essential—Address No 6265 B M A House, Tavistock Square W C 1

Wanted — Outdoor Assistant, single for large panel and private Practice in Yorkshire (City) Salary £450—£500 according to experience essential—Address No 6260, B M A House Tavistock Square W C 1

Wanted — Assistantship anywhere at once by Woman M B B S, F M Rotunda aged 28 qualified 5 years Experience hospital private panel anaesthetics Locums considered—Address No 6269 B M A House Tavistock Sq W C 1

Wanted — Assistant (married or single) with view to Partnership in a good practice in Yorkshire Senior partner retiring shortly Salary £450 with partly furnished house and £100 car allowance— No 6264 B M A House Tavistock Sq W C 1

Wanted — Assistant for panel and private Practice in the Midlands (near University Town) Any nationality Please state essential particulars in first letter— Address No 6259 B M A House Tavistock Square W C 1

Wanted on October 1st, Assistant male indoor preferred South Midland Town Dispenser kept £400 p a petrol allowance Infirmary panel private practice — Address No 6262 B M A House, Tavistock Square W C 1

Wanted —Outdoor Male Assistant, Manchester General and panel Practice Rooms and attendance £365 per annum £50 extra if own car References, experience age nationality Usual bond— No 6276, B M A House Tavistock Sq, W C 1

Wanted —Experienced outdoor Male ASSISTANT, with or without view for panel and private Practice in Swansea Salary £400 p a and half midwifery Usual bond All particulars and testimonials—Address No 6391 B M A House Tavistock Sq W C 1

Wanted — Assistant, outdoor, man or woman in London panel Practice Commencing salary £400 p a State age qualifications and previous experience Send photo —Address No 6384 B M A House Tavistock Square W C 1

Wanted —Indoor Male Assistant for panel and private Practice in outlying suburb of large City in West Car provided and Dispenser kept Salary £300 —Address with reference No 6259 B M A House Tavistock Square W C 1

Wanted — Lady Assistant, N W London working class Practice Scottish Graduate preferred Suit recently qualified Good prospects Send age and essential particulars — Address No 6278 B M A House Tavistock Square W C 1

Wanted — An Assistantship, indoor or outdoor full time or part by Woman M B B Ch D P H experienced private panel poor law age 31 years Interview— excellent refs Five m London No 6289 B M A House Tavistock Sq W C 1

Wanted — Indoor Assistant, male for general Practice sing'e, sober Commencing salary £300 p a Must provide motor cycle Usual agreement—Address with photo and essential particulars No 6386 B M A House Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices with and without view State full particulars— BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Wanted — Assistant, indoor, male young for private and panel Practice some experience Protestant Commencing salary £300—Address with photo and reference No 6282 B M A House Tavistock Square W C 1

Wanted —English or Irish ASSISTANT country Practice Prospects of Partnership later Experience and capital not essential but must be conscientious Suit man fond of sport Photograph and letter necessary— No 6273 B M A House, Tavistock Square W C 1

Wanted — Lady Assistant, outdoor for working class Practice near London Suit one recently qualified or with twist—Address No 6381 B M A House Tavistock Square W C 1

Wanted — Outdoor Assistant, with view in Midland manufacturing town Panel and private Must be well qualified M D or I R C S preferred—Address No 6072 B M A House Tavistock Square W C 1

Wanted in a Colliery Practice in South Wales an Indoor ASSISTANT £350 p a L R C S preferred and a motor cyclist Should be experienced in anaesthetics and a motor cyclist —BELL THOMAS M R C S Maesteg

Wanted — Assistant, indoor, Southern County Country Practice Salary £300 start—Address with testimonials and photograph No 6277 B M A House Tavistock Square W C 1

Wanted — Outdoor Assistant, in a Colliery Practice in South Wales Welsh speaking preferred—Apply stating age qualifications and experience with references No 6283 B M A House Tavistock Sq W C 1

Wanted — Assistant, single, young keen outdoor, Midlands Salary commencing £400 Usual bond Photo and testimonials—Address No 6084, B M A House Tavistock Square W C 1

Wanted — Part-time Assistant for mixed Practice Suitable for Post Graduate Student—Address No 6255, B M A House Tavistock Square W C 1

Assistant, man or woman, Indoor wanted with or without view Country Town Midlands Ex H S or H P preferred State age height religion and full particulars are stated—Address No 6718 B M A House Tavistock Square W C 1

Assistantship, preferably with view required towards end October by Scots University Graduate (1927) Ex Senior H S R M O Experienced G P Able to take sole charge —Address No 6295 B M A House Tavistock Square W C 1

Assistantship, with view to Partnership, by M B Ch B (Glasgow) Scot single 28 years 3 years Hospital ex H S and H P Post Grad Midwifery 2½ years C P experience Good references—Address No 6293 B M A House Tavistock Sq W C 1

Assistantship, with or without view wanted by M B B Ch aged 30 in or near London preferred Four years experience panel and private—Address No 6251, B M A House Tavistock Square W C 1

Experienced Assistant (outdoor, English) wanted shortly in panel and industrial Practice Greater London Good salary to suitable applicant Small modern unfurnished house available — Address No 6270 B M A House Tavistock Square W C 1

M.A., B.M., B.Ch. (Oxon), Conjoint 30 ex H S H P A coucheur travelled hard worker desires ASSISTANTSHIP definite view Exp G P keen on ex midwifery or S h Eng pref Mod cap avail suitable place —No 6275 B M A House Tavistock Square W C 1

Part-time Assistant wanted in London N W 1 rivat and panel Hospitals and small remuneration Suit male Post Graduate or semi retired Practitioner— Address No 6285 B M A House Tavistock Square W C 1

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PARTNERSHIPS

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Wanted —Partner in good-class Practice in Seaside resort Half share for sale Particulars on application Average cash receipts about £2 000 — Address No 6264 B M A House Tavistock Square W C 1

Partnership in Country Town Practice in beautiful part of West Midlands Average receipts £2 800 including £1 100 from panel and appointments Cottage Hospital Half share at 2 years purchase £3 500 Most attractive house and garden price £3 500 Full particulars and photos on request—Address No 6254 B M A House Tavistock Sq W C 1

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Independent Medical Man, bachelor lately retired from private practice, requires PROFESSIONAL WORK preference given to Institution Sanatorium, Hospital (not mental) where several other medical men working Salary minor importance to congenial work. Best references. — Address No. 6257 B.M.A. House Tavistock Square W C.1.

Lady Doctor wants Charge of PRACTICE. Thursdays or Sundays. London area.—Address No. 6252 B.M.A. House Tavistock Square, W C.1.

Lady Secretary requires post with physician Experienced shorthand typing accounts filing etc. Held secretaryship royal physician 1 ft owing death. Highest testimonials. Free now.—Address No 6380 B.M.A. House Tavistock Square, W C.1

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Wanted —Large Panel and Private PRACTICE in London. Income £2 000 or over Large panel essential Ample capital available — Address No. 6294, B.M.A. House Tavistock Square W C 1

Wanted to purchase for cash PRACTICE or PARTNERSHIP Income £1 000 or over by London Graduate ex service age 46. Country South or West.—No. 5740 B.M.A House Tavistock Sq W C 1

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Cheshire Town near Manchester —Average cash receipts £800 Panel 1 450 Considerable scope Excellent modern house 2 reception 4 bedrooms garage and garden. Premium 1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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APPOINTMENTS—Contd

The Walker Dunbar Hospital
AND READ DISPENSARY FOR WOMEN AND CHILDREN BRISTOL.

Applications are invited from qualified Medical Women for the post of *HONORARY ANAESTHETIST* and MEDICAL OFFICER to the above Hospital and Dispensary

Applications together with three testimonials should be sent to the Hon Secretary Walker Dunbar Hospital before October 1st.

Royal South Hants and SOUTHAMPTON HOSPITAL, SOUTHAMPTON

ASSISTANT HOUSE SURGEON required to commence duties at once. Six months engagement Salary £180 per annum with rooms board and laundry Applications stating age to be sent to the undersigned, together with copies of testimonials (limited to five) as soon as possible.

HY TRUSSON Secretary

The Hospital for Women,
Soho Square, W.1.

Applications from fully qualified men and women are invited for the post of RESIDENT MEDICAL OFFICER for a period of six months commencing November 1st next.

The salary is at the rate of £100 per annum with board residence, and laundry Applications and testimonials must reach the undersigned from whom further information can be obtained by Saturday October 11th.

J P HEMING Secretary

City of Manchester
EDUCATION COMMITTEE

ASSISTANT SCHOOL MEDICAL OFFICER (Man)

Applications are invited from fully qualified Medical Practitioners for the post of Assistant School Medical Officer

Applicants must have been qualified three years and will be required to devote their whole time to the duties of the office. Preference will be given to those who have special experience in the prescription of spectacles

The salary is £600 per annum rising by yearly increment of £25 to a maximum of £750 There is also a yearly allowance of £10 for travelling expenses

The person appointed will be required to contribute to the Superannuation Scheme of the Corporation

Forms of application may be obtained from the undersigned and applications should be returned not later than Saturday Sept 27th.

Education Offices GEORGE GUEST
Deansgate Acting Director of
Manchester Education

County Borough of Warrington
WHITECROSS HOSPITAL. (300 Beds)

Application are invited for the post of ASSISTANT RESIDENT MEDICAL OFFICER (male)

Salary £225 per annum together with board residence and laundry at the Hospital

Candidates must be single not exceeding 30 years of age fully qualified and registered.

Appointment for six months which may be extended for a further period of six months by mutual agreement

Applications stating age qualifications and experience together with copies of not less than three testimonials to be sent to the undersigned not later than first post Tuesday Sept mber 23rd.

G W S JOSEPH M D D P H
Health Dept Medical Officer of
Sankey Street Health.
Warrington

Tiverton Hospital, Devon

Application are invited for the post of HOUSE SURGEON Salary £100 per annum with board residence and laundry Six months engagement commencing as early in October as possible

Applications with testimonials to be sent to the undersigned.

C H DEEKS
Hon Secretary

Northern Infirmary, Inverness

Wanted immediately, THIRD RESIDENT MEDICAL OFFICER, fully qualified, registered male, unmarried. Appointment will be for six months Salary at rate of £100 per annum with board residence and laundry Applications stating age medical school qualifications and experience with copies of recent testimonials to be sent to Mr ROBT GILBERT Hon Secretary Inverness

Royal Free Hospital,
Gray's Inn Road W C 1.

Applications are invited for the appointment of ASSISTANT PHYSICIAN Intending candidates (men or women) who must be Fellows or Members of the Royal College of Physicians London should submit applications accompanied by copies of three recent testimonials to the undersigned on or *before October 4th.*

REGINALD R. GARRATT
Secretary

Leicestershire and Rutland
MENTAL HOSPITAL NARBOROUGH near LEICESTER.

A LOCUM TENENS MEDICAL OFFICER is required at the above Hospital for three months, commencing October 1st next Salary seven guineas per week with apartments board, and attendance.

Applications to be addressed to the Medical Superintendent.

Assistant Resident Medical OFFICER (lady unmarried) required for the ISLINGTON DISPENSARY 303 Upper St., N.1 Applicants must be registered Medical Practitioners. Salary £250 p.a., with furnished apartments Applications before Sept 19th, on printed form to be obtained (by post card) from the Hon Secretary at the Dispensary

County Borough of Wigan
EDUCATION COMMITTEE.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from fully qualified Women Medical Practitioners for the post of Whole-time ASSISTANT SCHOOL MEDICAL OFFICER at a salary of £500 per annum, advancing by £25 to £700 in accordance with the scale jointly approved by the B of E and A E.C

Applicants must have been qualified three years and must have had experience in making prescriptions of glasses for errors of refraction Preference will be given to those possessing a Diploma in Public Health.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922

A list of duties may be obtained (on receipt of a stamped addressed envelope) from the undersigned to whom applications together with copies of three recent testimonials must be sent by not later than Wednesday Sept 24th

Education Offices L. R. MISSEN
Town Hall Director of Education
Wigan

Besford Court Catholic Mental
WELFARE HOSPITAL FOR CHILDREN

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HOUSE SURGEON (male) required Salary at the rate of £100 per annum with board lodging and washing. Good experience X-ray and Sunray Department. Ample time for study and pleasant quarters No canvassing allowed To commence duty about September 30th. Applications *in writing accompanied by* testimonials should be sent to—

A F GRAVES
September 6th, 1930 Secretary

Macclesfield General Infirmary
(100 Beds.)

RESIDENT HOUSE SURGEON

Applications are invited for fully qualified men for the above post Salary £180 per annum with board and residence

The appointment is for six months which may be extended.

Applications stating age, qualifications and nationality with copies of testimonials should be sent to the undersigned.

A. E. HANRAHAN Secretary

The Infants Hospital,
Vincent Square Westminster

There will be vacancies for Two HOUSE PHYSICIANS (female) to enter on duty on October 1st next. The appointments are for six months. Salary at the rate of £75 per annum with board residence, and laundry

Applications and testimonials should reach the undersigned on or *before September 20th.*

ALFRED J SMALL, Secretary

North Devon Infirmary,
BARNSTAPLE (70 Beds)

Wanted at once duly *qualified RESIDENT* MEDICAL OFFICER, gentleman or lad Salary £150 per annum with board apartment and laundry Appointment to be for not less than six months

Applications stating age qualifications with copies of recent testimonials to be sent forthwith to the Hon. Secretary

Richmond, Whitworth, and
HARDWICKE HOSPITAL, DUBLIN

The Board invites applications for the position of HONORARY PHYSICIAN to above Hospital Applications to Secretary on or before Oct. 1st.

A. W MacDERMOTT
Secretary Superintendent.

Bury Infirmary, Lancashire
(A General Hospital of 170 Beds)

Applications are invited for the post of THIRD HOUSE SURGEON, who must have both Medical and Surgical qualifications and have had some experience in the administration of Anæsthetics The appointment is for six months at a salary at the rate of £150 per annum with board, residence, and laundry

Applications stating age qualifications, and nationality with copies of three recent testimonials to be sent to the undersigned not later than September 19th, endorsed Third House Surgeon

ALEX W MAITLAND
Honorary Secretary

Wolverhampton and Midland
COUNTIES EYE INFIRMARY

HOUSE SURGEON wanted Ophthalmic experience preferred Duties to commence in October There are 50 beds for In patients and large Out patient Department Salary £150 a year with furnished apartments board and laundry

Applications stating age and experience with copies of three recent testimonials to reach the Secretary not later than September 16th

JUSTACE JEES
August 25th 1930 Secretary

East Ham Memorial Hospital
(100 Beds) Shrewsbury Road,
London, E.7

Applications are invited for the post of HOUSE SURGEON to Special Departments and Casualty Officer for six months commencing September 15th Salary at the rate of £120 *per annum with board residence, and laundry* Applications stating age experience and full particulars together with copies of testimonials should be forwarded to the undersigned as soon as possible

REGINALD PERRY Secretary

East Ham Memorial Hospital
(100 Beds) Shrewsbury Road,
London E 7

Applications are invited for the post of HOUSE PHYSICIAN for six months commencing September 15th Salary at the rate of £150 per annum with board, residence and laundry Applications, stating age experience and full particulars, together with copies of testimonials should be forwarded to the undersigned as soon as possible.

REGINALD PERRY Secretary

East Ham Memorial Hospital
(100 Beds) Shrewsbury Road,
London, E.7

Applications are invited for the post of RESIDENT MEDICAL OFFICER for six months *commencing October 1st* Salary at the rate of £200 per annum, with board, residence and laundry Preference will be given to candidates who hold the *diploma of F.R.C.S.* Applications stating age experience, and full particulars, together with copies of testimonials should reach the undersigned by Sept. 16th

REGINALD PERRY Secretary

The Hospital for Sick Children,
NEWCASTLE UPON TYNE (92 Beds)

Applications are invited for a RESIDENT HOUSE PHYSICIAN (male) for a period of six *months as from November 1st* Salary at the rate of £95 per annum together with board, residence and laundry Applications stating age and qualifications, with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE, 18 City Road, Newcastle on or before October 4th

The Hospital for Sick Children,
NEWCASTLE UPON TYNE. (92 Beds)

Applications are invited for a RESIDENT SENIOR HOUSE SURGEON (male) for a period of six months as from November 1st Salary at the rate of £95 per annum, together with board residence and laundry Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE, 18 City Road, Newcastle, on or before October 4th

The Hospital for Sick Children,
NEWCASTLE UPON-TYNE (92 Beds)

Applications are invited for a JUNIOR HOUSE SURGEON (male) *non resident for a period of* six months as from November 1st Salary at the rate of £100 per annum Applications *stating age and qualifications, with copies of* testimonials to be sent to the Secretary Mr NEIL BRODIE, 18 City Road Newcastle on or before October 4th

Princess Louise Kensington
HOSPITAL FOR CHILDREN
North Kensington, W 10 (50 Beds)

HOUSE SURGEON AND CASUALTY OFFICER required for six months from October 1st The House Surgeon's salary is at the rate of £75 a year should she at the expiration of three months be appointed Senior Resident (of two), the salary would be at the rate of £100 a year with board, residence and laundry, in each case Applications, *together with copies of three* testimonials, must be submitted on a form to be obtained from the Secretary, Princess Louise *Kensington* Hospital for Children, St Quintin Avenue, W 10 Applications must reach the Secretary not later than first post on Wednesday, September 23rd

Princess Louise Kensington
HOSPITAL FOR CHILDREN,
St Quintin Avenue, North Kensington, W.10
(50 beds, pending extension, for children only)

Applications are invited for the post of HONORARY RADIOLOGIST Applications stating age qualifications and experience and accompanied by copies of three testimonials should reach the Secretary of the Hospital (from whom fuller information can be obtained) not later than mid day on Monday Sept 29th

Princess Louise Kensington
HOSPITAL FOR CHILDREN
St Quintin Avenue, North Kensington, W 10
(50 beds pending extension, for children only)

There is a vacancy for an HONORARY ASSISTANT PHYSICIAN, male or female and the Board of Management invite applications Candidates must hold the M.R.C.P Applications stating age, qualifications, and experience, accompanied by copies of three testimonials should be addressed to the Secretary at the hospital and should arrive not later than mid day on Monday, September 29th

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY The Institution, which contains over 100 Beds is one of the premier Provincial Hospitals in Scotland and offers exceptional opportunities of gaining experience in all branches of the profession Salary at the rate of £100 per annum for the first seven months and £150 per annum for the following five months

Applications, with testimonials, to be forwarded to the Treasurer Dumfries & Galloway Royal Infirmary 84, Irish Street, Dumfries, by Sep *tember 29th*

Ear and Throat Hospital,
Edmund Street, BIRMINGHAM

RESIDENT ANAESTHETIST (experienced) wanted with occasional other duties Appointment for six months, and eligible for re election Salary at the rate of £150 per annum with board and laundry Duties to commence October 1st. Applications and testimonials to be forwarded on or before September 23rd, to the undersigned

S G GREW
September, 1930 Secretary

Derbyshire Hospital for Sick
CHILDREN (52 Beds)

RESIDENT MEDICAL OFFICER (lady) wanted forthwith The appointment is for six months but may be extended by mutual arrangements Applicants must be fully qualified Salary £150 per annum Applications with three testimonials one relating to anæsthetics, to be sent to the undersigned

ARTHUR N WHISTON,
25 St Mary's Gate, Secretary
Derby

Hôpital Français,
172, *Shaftesbury Avenue* W C 2

JUNIOR RESIDENT MEDICAL OFFICER (male) required *Registered, unmarried* speaking French fluently Salary £100 p.a., with full board and laundry

Candidates should send in their *applications* with three copies of recent testimonials, on or before September 27th, to—

J KNECHT, *Secretary*

Oldham Royal Infirmary

Two HOUSE SURGEONS required immediately *one for* Male Wards and one for Out Patient and Special Departments Appointments tenable until December 31st Successful applicants will be *eligible for re-appointment.* Salary at the rate of £175 per annum, with board, residence, and laundry Applications to be submitted *forthwith* together with copies of three recent testimonials to the undersigned

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Sept 2nd 1930 Secretary and

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Hants — Semi-rural — Nearly £1,000 p.a. Small panel. Fees 3/6 to 15/ House, 2—3 recep 5—6 bed. large garden.—No. 8653.

S Devon —Average £1,600 p.a. Panel over 2 000 Fees 3/6 to 5/ Large house in residential locality 5 bed., 3 attics 2 recep etc.—No. 8678

London, E —About £1,000 p.a. Panel 1 250 Visits 5/ Surgery 3/6. Mldy refused. Small house to rent.—No 8700

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London, N — About £1,700 Panel 1 300 40 mids. p.a. Fees 2 to 3 gns Visits to 5/ Corner house to rent. Premium £2,500 or near.—No. 8688

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5 LANCS —Large Town —Old-estab PRACTICE. Receipts £1,200 p.a., including 900 panel. Nice house can be had on lease. Practically no immediate opposition. Prem. 1½ yrs pur
6. MIDLAND TOWN — Old-estab PRACTICE. Receipts £900 p.a. including panel 600 Good house, long lease. Rent £70 Long introduction if desired. Premium 2 years purchase payable £800 down. First year's income £900 guaranteed.
7 WALES.—Large Town —Well-estab PRACTICE. Receipts over £1,200 a year including fair panel. Nice house on lease rent £90 p.a. Premium £1,500
8 BUCKS.—Old-established PRACTICE. Receipts now about £430 p.a., including panel 350 Has done more. Nice house available. rent £1"5 Premium moderate. Good scope.
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Telephones CENTRAL 3925 after Office Hours RUSHOLME 2549
Telegrams LOCUM MANCHESTER

Practices and Partnerships for Disposal **Full particulars sent free.**

1 HOME COUNTY —Partnership in Practice averaging £4,380 p a in pleasant growing residential district about 10 miles from London Panel 1,900 One third share at 2 years purchase Cottage Hospital

2 LONDON, S W —Partnership in non-dispensing Practice about £3,300 in first-rate residential suburb Small select panel Hospital Premium one-third share 2 years purchase.

3 FAVOURITE HOME COUNTY —PARTNERSHIP in Practice over £2 200 p a in growing residential district under 60 miles from London Panel about 1,100 Good house with all modern conveniences, for sale Premium one half share 2 years purchase.

4 MIDDLESEX —Good middle-class Practice of £1 700 p a in first-rate residential district within 10 miles of London Panel 800 Choice of house Premium 1½ years pur

5 MIDLANDS —Fourth Partner required in good middle class non dispensing Practice about £8,400 p a in prosperous Town Very small panel Small house to rent One-sixth share at 2 years purchase

6 SOUTH-WEST OF ENGLAND —Practice averaging £1 666 p a in seaport town Panel over 2,000 House, with 5 or more bedrooms for sale. Premium £2 500

7 SOUTH OF ENGLAND —Practice of £960 p a in Market Town under 100 miles from London Panel 287 House (5/6 bedrooms), garage and good garden for sale or rent Cottage Hospital Premium 1½ years purchase.

8 E MIDLANDS —Partnership in Practice nearly £1 900 p a. in good Town Panel 1,100 Suitable house Plenty of sport Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment to one holding F R C S One half share at 2 yrs' pur with ultimate succession

9 ITALY — Season Practice (March to October) in famous City Receipts from £200/£700 p a, according to Season Up-to-date Hospital Premium £250

10 N MIDLANDS —Practice over £800 p a in first rate Town Panel 500 Suitable house to rent. Premium 1½ years purchase.

11 SOUTH DEVON — Practice averaging nearly £1 850 p a. in beautifully situated Market Town, easy distance of coast Panel 480 House (5 bedrooms), garage, and garden electric light to rent Premium £2 800

12 OPHTHALMIC Practice nearly £1,400 p a in outlying suburban district of London Fees £1 1s to £3 3s House (5/6 bedrooms) to rent Moderate premium

13 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms) garage garden etc., for sale or rent Very good trout fishing Premium £1 250

14 LONDON, W — Non-dispensing Practice about £1,400 p a close to the West End. No panel midwifery, or night work Excellently situated house for sale Good scope Premium £1,750

15 SOUTH COAST — Practice averaging £1 370 p.a. in residential town and watering place Panel 500 Large house on sea front Also Surgery returning £565 p a. Premium 1½ years purchase. Great scope.

16 YORKSHIRE — Partnership in Practice £2,300 p a in seaside town. Panel over 900 Excellent house (8 bedrooms) for sale or rent Premium two-fifths or one half share 1½ years purchase. Preliminary Assistantship

17 SOUTH OF ENGLAND —Old-established unopposed PRACTICE of £1,600 Panel about 1 400 Nice double fronted house (5 bedrooms, etc), good garden Rent £90 p a on lease. Premium £2 500

18 MIDDLESEX —Rapidly increasing PRACTICE in new developing district about 12 miles from London Earnings past year £767 Panel 200 Very convenient house (4 bedrooms), garden, and garage for sale Great scope Premium 1½ years purchase.

19 LONDON, N — Practice averaging £670 p a in good suburban district. Panel 530 Seven roomed house to rent. Premium 1½ years' purchase

20 SOUTH AFRICA —Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province House (4 bedrooms) to rent. Excellent Surgical centre Purchaser should be able to do Surgery Prem £2 200, part by instalments

21 SOUTH WALES —Practice of over £1,200 p a in small seaside town Panel 540 Good house (7 bedrooms) garage, and garden, for sale Sport. Premium 1½ years purchase

22 LONDON, W — Good middle-class non-panel PRACTICE £1,160 p a in Western suburb. Attractive detached house (8 bedrooms, including attics) for sale Considerable scope. Premium £1 150.

23 SOUTH-WEST OF ENGLAND.—PARTNERSHIP in increasing middle-class Practice of about £2 500 in seaport town Panel 870 One-fourth or one third share at 2 years purchase. Preliminary Assistantship

24 SURREY — Partnership in good mixed-class Practice about £3 000 p a in Town within 10 miles South of London Small panel Suitable house obtainable Excellent scope Premium one third share 2 years purchase

25 LONDON, S E —Practice about £3,000 p a, carried on by two Medical Men in outlying suburban district Panel 1 500 Two houses available Premium 12 years purchase Or one half share would be sold with early succession

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Practices and Partnerships for Disposal (continued)

26 DEVONSHIRE —Partnership in Practice of £3 400 p.a. in first rate country town Panel 2 000 Charming old house with good gard n to rent Well-equipped Hospital with chance of appointment on staff to one keen on medicine. Premium one-third share 2 years purchase

27 SOUTH-WEST OF ENGLAND —Partnership in increasing non-dispensing Practice about £1 600 in first rate town. Small select panel. Share worth £800 p.a. at 2 years purchase Partner holding F.R.C.S will probably be elected to staff of Hospital.

28 ITALY —Non-dispensing Season Practice Receipts about £200 p.a. Suitable flat to rent. Premium £250

29 DEATH VACANCY —BIRMINGHAM — PRACTICE averaging over £1,500 p.a. (largely Homœopathic) in one of the best residential suburbs No panel or midwifery House (7 bedrooms) to rent. Any reasonable offer

30 HOME for Alcoholic, Drug, and Nerve cases in favourite resort on South Coast. Receipts last year over £1 100 Capable of increase Further particulars on application

31 ESSEX —Partnership in steadily increasing Practice about £1 800 p.a. in rapidly developing neighbourhood Panel about 500 Choice of two houses. Two-fifths share at first at 1½ years purchase

32 KENT and SUSSEX BORDER —Practice averaging £1,100 p.a. (including over £300 from panel) in beautiful country district. Very convenient house (6 bedrooms) for sale. Sport. Premium 1½ years purchase

33 SOUTH DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340 Good house and garage in acre of garden for sale All kinds of sport. Premium £1 500

34 KENT — Partnership in Practice about £4 400 p.a. in outlying suburban district. Panel 2 400 Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs pur

35 YORKSHIRE (W R.) —Practice averaging £1 700 p.a. in manufacturing town Panel 1 737 House (4 bedrooms) garage, and small garden for sale Scope. Premium 1½ years purchase.

36 WEST MIDLANDS — Partnership in Practice of about £2 850 p.a. in country town Panel 1 700 Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale Good social centre Premium one-half share 2 years purchase.

37 WEST OF ENGLAND — Partnership in old-established Practice in pleasant Country Town House to rent or purchase. Share worth about £1 000 p.a. at 2 years purchase.

38 LONDON, S.E. — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2 000 House (5 bedrooms etc.) Garden To let. Premium one fifth share 2 years purchase.

39 MIDLANDS —Practice over £800 p.a. in first rate Town. Panel 600 Detached house (4 bedrooms 3 attics) garage, and garden to rent others available Premium 1½ years purchase

40 S.W. OF ENGLAND —Unopposed PRACTICE, about £1,150 p.a. in delightful country district. Very fine house with beautiful gardens tennis lawn etc. for sale. Premium 1½ years purchase.

41 YORKSHIRE (N.R.) — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450 Visits 3/6 to 10/6 Modern house 12 rooms. Garage and good garden. Rent £42 p.a. Premium 1½ years purchase.

42 SOUTH AFRICA —Old-established PRACTICE of over £1 800 in a Town with large White population Climate ideal—no tropical diseases (altitude nearly 5 000 ft.). Delightful residence (6 bedrooms electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1 200 or offer

43 DEATH VACANCY —SOUTH COAST — PRACTICE over £850 in favourite watering place. Panel about 200 House (5 bedrooms) in half acre garden for sale

44 LONDON, S.W. —Partnership in Practice about £2,500 p.a. in first rate suburb. Panel 1,250 Double-fronted house (7 bedrooms) garage and lovely garden for sale. Share about £1 000 p.a. at 2 years purchase. Partner must be well qualified preferably M.D. or F.R.C.S

45 HOME COUNTIES — Easily worked Country PRACTICE about £2,000 p.a. in Agricultural District 40 miles from London. Panel 800 Centrally situated house (4 bed and attics) garage and garden for sale. Premium—Practice—1½ years purchase.

46 SHROPSHIRE —Partnership in Practice about £3,200 p.a. in attractive residential country district Panel 1,100 Very nice house garage and large garden for sale. Sport Premium one-half share 2 years purchase.

47 YORKSHIRE (W.R.) — Compact easily worked PRACTICE, averaging £1 600 p.a. in manufacturing town Panel over 1,300 Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

48 LONDON, N. — Sound, easily worked PRACTICE, nearly £2 600 p.a. in residential district. Small select panel. Good corner house (5 bed and dressing rooms) with very good garden for sale. Small Hospital Premium—house and Practice—£4,250 cash.

49 LONDON, E. — Practice £990 p.a. in populous area. Panel 1 240 Shop-fronted premises to rent. Plenty of scope Premium 1½ years purchase

50 ISLE OF MAN —Non-dispensing Practice in small Seaside Town. Receipts average £940 (including £350 from panel) Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2,000

51 SOUTH OF ENGLAND —Partnership in good-class non-dispensing Practice £6 000 p.a. in attractive watering place. No panel. House (3/4 bedrooms) garage and garden to rent. One-third share at 2 years purchase Partner should be 35-40 years of age and hold F.R.C.S England.

52 MIDLANDS —Practice, over £1,700 p.a., in important City Panel 1,500 Centrally situated house (7 bed and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2,250

53 LONDON, S.E. —Partnership in Practice £6 600 p.a. in outlying Suburban District Panel 2 000 Premium one-sixth share, 2 years purchase.

54 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London. Good house (6 bedrooms) to let. Share worth about £1 400 p.a. for disposal at 2 years purchase.

55 MIDLANDS — Partnership in Practice over £4 100 p.a. in flourishing town Panel nearly 3 000 House (3 bedrooms) to rent. One-fifth share 2 years purchase Preliminary assistantship Applicant must be married or about to be.

56 MIDLANDS —Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years purchase.

57 LONDON, N.W. —Practice of between £1 100 and £1,200 p.a. in suburban district. Panel 650 Corner house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

58 MIDDLESEX — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share, 2 years purchase

59 CHESHIRE —Partner required in increasing better-class non-panel Practice in first rate residential district. Cash receipts past year over £4,500 Assistant Graduate who must have held Resident Hospital appointments preferred. One-fourth share at 2 years purchase.

60 LONDON, S.W. —Practice about £630 in suburban district within half an hour of Charing Cross Panel about 400. House to rent on lease. Very good scope. Premium £900

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1 DEATH VACANCY —SOUTH CORNWALL —Old established unopposed PRACTICE situated in small but growing seaside town (much augmented by good class visitors in the summer) in a very delightful district, worth between £800 and £900 p a, including panel producing over £100 Nearest opponent 6 miles Very good house (2 reception 4 bedrooms bathroom) with 1/2 acre of garden Can be rented or purchased Efficient locum in charge

2 WEST MIDLANDS —Very old established mixed class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2,367 p a with panel over 1 000 Opposition not strong Very fine house (3 reception 6 bedrooms, bathroom, etc) standing in nearly 3 acres of ground Beautiful garden tennis lawn, and productive orchard Price freehold £2 000 Premium 1¼ years' purchase

3 DEATH VACANCY —LONDON, S W —Good residential suburb within easy reach of West End and City Well established middle-class PRACTICE Average income £1,650, including panel of about 1,000 fees 2/6 upwards Very little mid Well situated corner house with 3 reception 4 bedrooms, etc Garden and garage Price £2 ,000, or might be let Premium £2,000 Locum in charge

4 LONDON, S.E.—Pleasant residential suburb Very old established non panel (but scope for this) PRACTICE, held over 30 years by Vendor who is retiring Receipts last year over £900 Patients mixed but mostly good class Large house (part could be let off for flat) Rent £98 p a. Premium 1½ years purchase

5 PARTNERSHIP —WITHIN 100 MILES NORTH OF LONDON —A one sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better class Practice, in a large town, at present worked by three partners who now require further assistance Cross cash receipts average about £8,000 p a Selected panel of 700—800 Fees 5/ to 21/ average 7/ Suitable small house with sitting room 3 bedrooms, etc Rent £90 p a Premium 2 years purchase

6 WEST OF ENGLAND —COUNTY TOWN —PARTNERSHIP —A share, representing about £800 p a, with further increase later is offered in a very old established good middle-class Practice rapidly increasing and with large scope Selected panel of 300 Fees 5/6 to 21/ About 30 cases of midwifery at from 5 to 10 gns Choice of houses Premium 2 years purchase. Six months preliminary assistantship Purchaser should hold London degree, or I R C S Eng

7 YORKS —HOSPITAL TOWN —Well established good middle and working class PRACTICE, with beautiful surrounding country Average income over £3,000, including an appointment worth nearly £1 300 and panel of 1 648 Fees from 2/6 Midwifery from 2 gns About 35 cases Good detached house in excellent repair, with 2 reception 5 bedrooms, etc, large garden Price for freehold £2 200 Good sport and schools Premium £4,500 Very good surgical scope

8 SOUTH WEST OF ENGLAND —PARTNERSHIP —In a large thriving seaport town the third share (with increase to half later) of old established rapidly increasing middle class Practice Receipts average £2 272 p a (last year £2 549) including panel of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase Scope for surgery

9 MIDDLESEX.—Rapidly developing district, within 20 miles.—PARTNERSHIP —A one half share in an old estab good middle-class Practice, averaging for the past two years over £3,500 p a Panel of 1 100 and appts bring in £100 p a Fees 5/6 to 21/ Good corner house with 3 reception, 6 bedrooms, etc. Garden Price for freehold £2 100 Premium 2 years purchase.

10 *BORDERS OF NORFOLK AND SUFFOLK.*—PARTNERSHIP —A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village, near two good towns Income for last 12 months £1,992 including panel of 1 000, and appts worth about £150 Fees 2/6 to 10/6. House contains 3 reception, 6 bedrooms etc Sport of all kinds. Premium 2 years purchase

11 HANTS —Country PRACTICE in very pleasant district Income for last 12 months £730 including panel of 460 Fees from 4/ Very good house with 2 reception 7 bedrooms etc Three acres of garden, etc Price freehold, £1 950, part on mortgage Premium £1 050

12 [illegible] hin 40 miles of London —Pleasant Town (pop ge surrounding district)—A two fifths share (to in an old established steadily increasing Practice Income last year about £1 750, including panel and appts about £380 Small house available (rent £60) or larger house by purchase (price freehold £1,300) Premium only 1½ years purchase Excellent future prospects

13 KENT —Country PRACTICE, near Coast —Old established mixed class Practice averaging about £1,100 p a. Panel of nearly 400 Fees 5/6 upwards Convenient house with 3 reception, 6 bedrooms etc Good garden Price for freehold £1 800, £400 on mortgage Good sport and schools within reach Premium 1½ years purchase

14 LANCS —Large Town within easy reach of Liverpool —Well established SHIP —A one third or one half share (with succession later) in an old established good mixed class Practice offering large scope Cross cash receipts for past 12 months £2 645 Panel of over 2 400 Fees 2/6 upwards Suitable house available on rental Premium 2 years purchase

15 CHESHIRE —Coast Town, within reach of Liverpool —Well-established PRACTICE averaging over £1,200 p a., including panel of 780 Fees from 5/6 Mid 2 to 6 gns Double fronted house with 3 reception 4 bedrooms etc Price freehold, £1 400 £800 on mortgage Premium 1½ years purchase, £1 100 down

16 NORTH OF ENGLAND —In a small pleasant town old established sound PRACTICE averaging over £1,300 p a including nearly £500 from panel and appts Good house (3 reception, 5 bedrooms bathroom etc electric light and every convenience garage garden) Price freehold £1,300 Mortgage for full amount can be arranged Premium £1 450

17 CROYDON AREA —PARTNERSHIP —A two-fifths or one-third share is offered in a well established and increasing middle-class Practice averaging £2,600 p a (last year £2 740); Panel of 935 fees 5/6 to 21/ Midwifery 4 to 15 guineas Choice of houses Premium 2 years' purchase part by arrangement

18 DEVON —VILLAGE PRACTICE, situated in very attractive district, within 5 miles of a Hospital town Receipts for past 12 months £942, including panel producing about £230 p a Fees 2/6 to 10/6 Very good ten roomed house with professional rooms garage for two cars, cottage, etc Large garden Price for freehold £3,000, £2,000 on mortgage Premium £1 500

19 SOUTH WEST OF ENGLAND, within ten miles of coast —Steadily increasing Country PRACTICE in agricultural district producing for the past 12 months over £2,300 Panel with mileage brings in over £400 Fees 5/6 to 21/ House contains 2 reception 6 bedrooms etc Garden Garage Rent on lease £50 p a Premium £2 800

20 MANCHESTER —Chiefly working class PRACTICE Average income £1 000 including panel of 1 000 Moderate expenses. Corner house with 3 reception 8 bedrooms etc Garage Rent on lease £65 p.a. Premium £1 500 or near offer

21 NEAR HUDDERSFIELD —PARTNERSHIP —A half share in an old established mixed-class Practice Income for immediate past year over £4 250 Panel of 3,500 Fees 5/6 to 7/6 Very good house with 4 reception, 6 bedrooms, etc. 1¼ acres of garden Price for freehold £2 500 Premium 1½ years purchase

22 EASTERN COUNTIES —Old established unopposed and rapidly increasing Country PRACTICE, in very pleasant sporting and agricultural district averaging nearly £1 200 p.a. (last year over £1,400) Panel of 500 Very good house (3 sitting 6 bedrooms bathroom etc) Garden, with tennis lawn Garage Electric light Price, freehold, £2,000, £700 on mortgage Premium 1½ yrs pur

23 EASTERN COUNTIES —About 50 miles from London and within 10 miles of county town —Old established PRACTICE in pretty county district for immediate disposal, Vendor having accepted an appointment Receipts average nearly £900 p a, including panel of 600 and Union £60 Nice house with ample accommodation garden and garage Can be bought or will be let Premium 1½ years purchase, part by instals.

24 YORKS —In a clean and thriving manufacturing town old established non panel PRACTICE partly Homeopathic and held 50 years by Vendor who is retiring Cash receipts average about £2,400 p a Patients better and middle class Midwifery refused Good house rent £100 p a Premium only 1 year's purchase part down and balance by arrangement

25 *BORDERS OF BERKS AND HANTS.*—In a delightful district an old established mixed-class PRACTICE averaging for the past three years £904 p a (last year £973) including panel of 400 Visits 5/ to 12/6 medicine extra (3/6). One opponent. House contains ample accommodation (2 sitting rooms, 7 bedrooms bathroom etc) Large garden and garage Rent £50 p a Prem £1,400 Excellent sport

26 YORKSHIRE —GOOD TOWN —PARTNERSHIP —A one half share (guaranteed to produce £2,000 p a in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4,000 Small selected panel of 430 One appointment worth nearly £650 p a Fees 5/6 upwards. Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

27 NEAR HEREFORDSHIRE BORDER —HOSPITAL TOWN —Old established mainly good-class non dispensing PRACTICE averaging about £1,200 p.a. Panel of 500-600 Fees 5/ to 10/6 Nice house in centre of town Price for freehold £1 200 part on mortgage Premium £1 800, £1 300 down and balance by instalments Up to date Cottage Hospital and good scope for surgery

28 YORKS —PARTNERSHIP —Within a few miles of large residential town the half share of old established unopposed country PRACTICE owing to retirement of senior partner through age and ill health Cash receipts for past three years average over £2 500 p a, including appointments and panel of 1 200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on Price freehold £1 200 part on mortgage Premium 2 years purchase

29 PARTNERSHIP -COUNTRY TOWN, within 130 miles North of London —A one fifth share is offered in a very old established good mixed class Practice having good scope Cross cash receipts for past two months nearly £6 000, including panel of 400 Fees from 5/ Not much midwifery Suitable house available from 2 yrs pur

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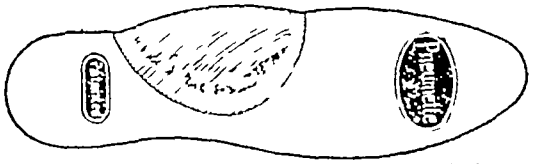
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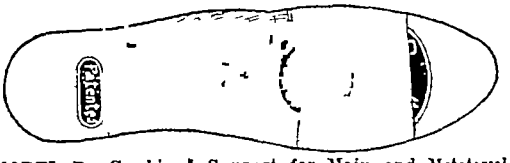
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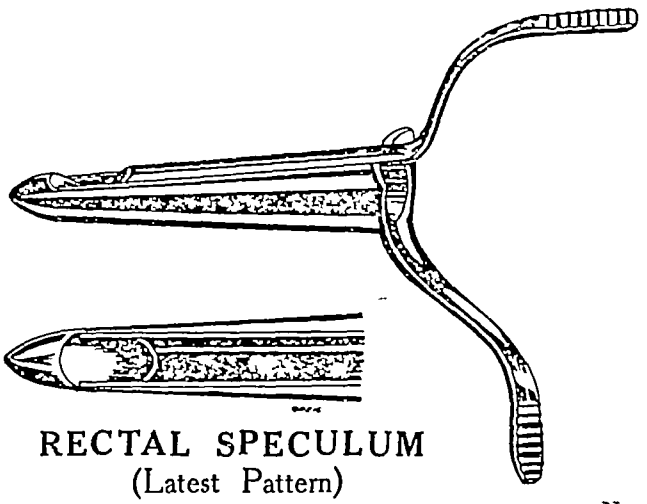
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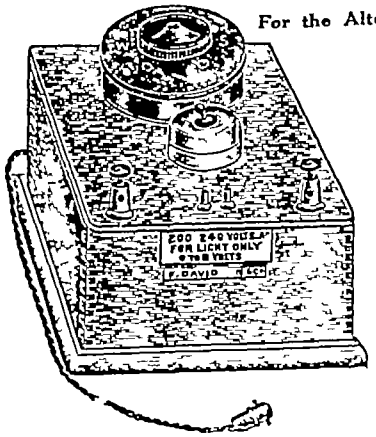
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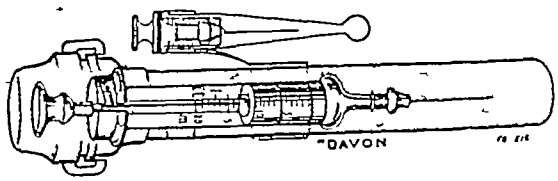
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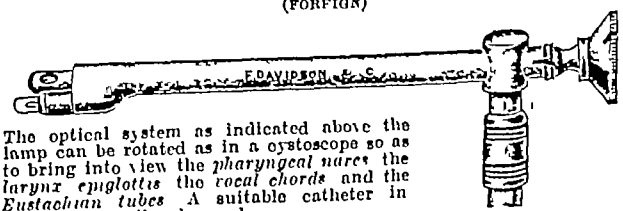
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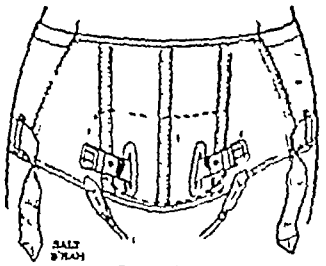
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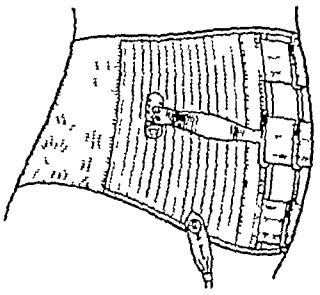
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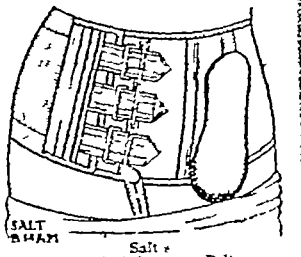
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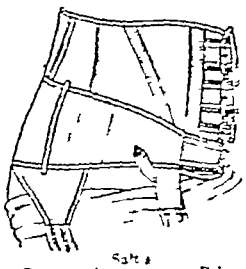
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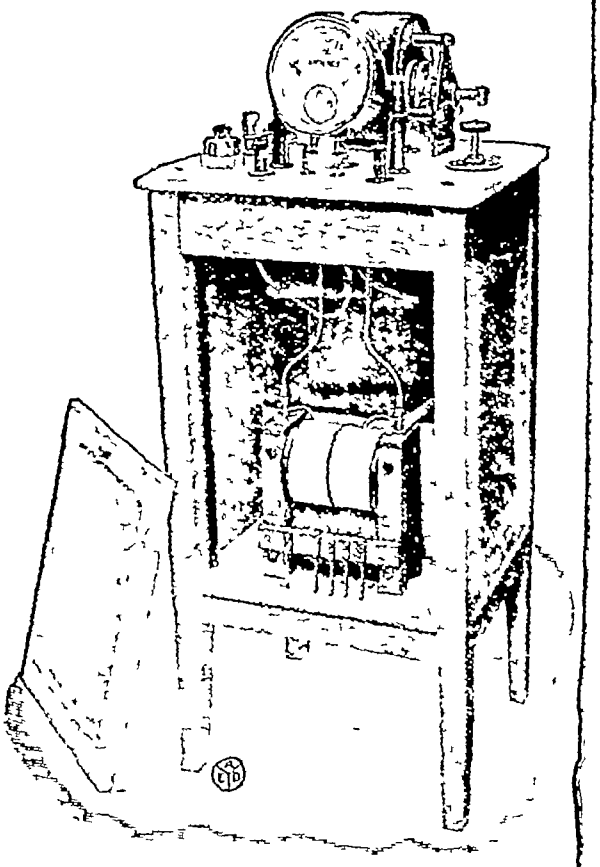
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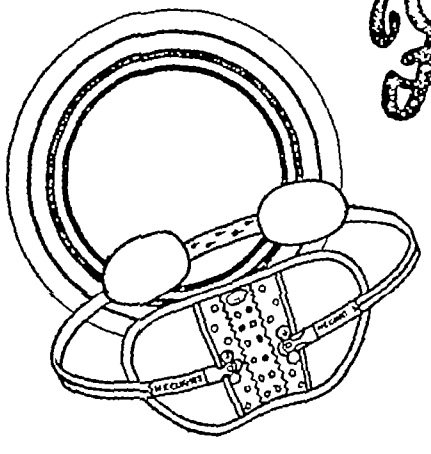
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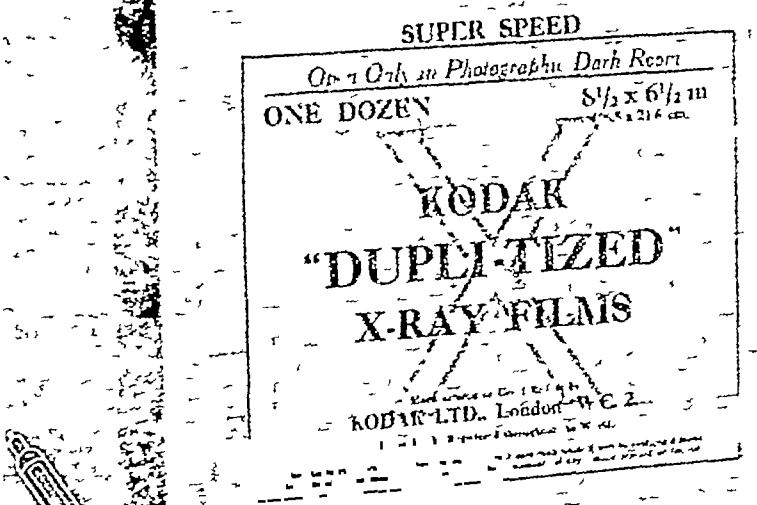
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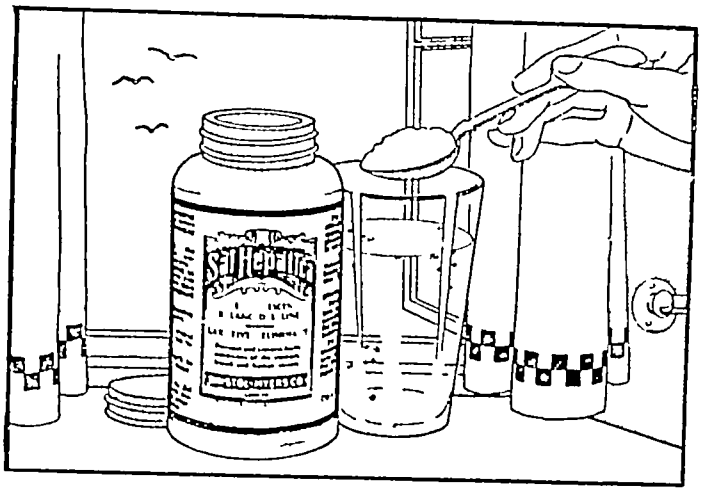
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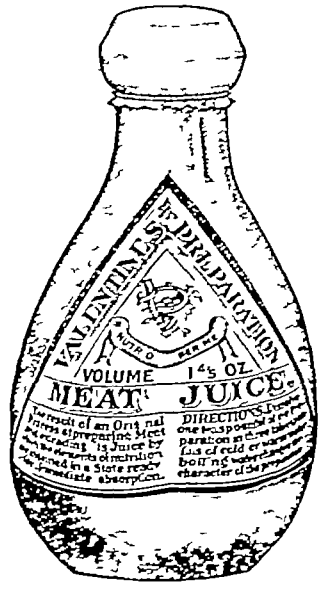


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Other references B M J June 1st 1929 p 1073. B.M.J June 28, 1930.

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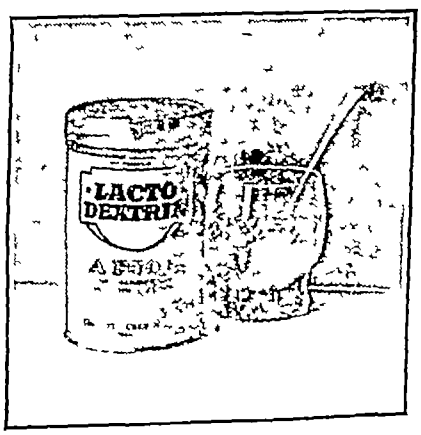


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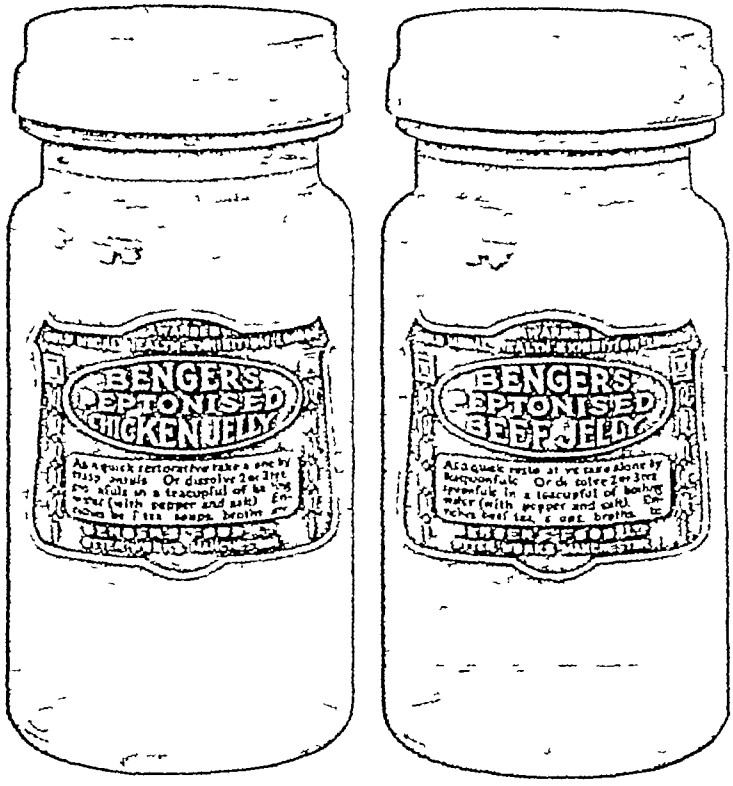
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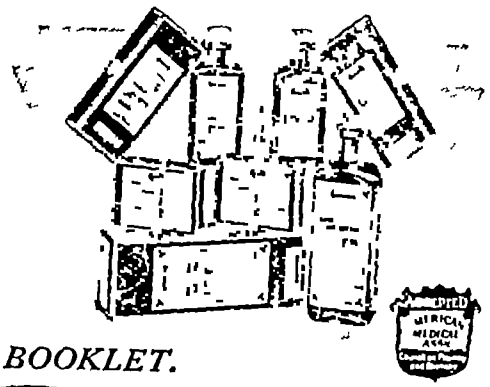
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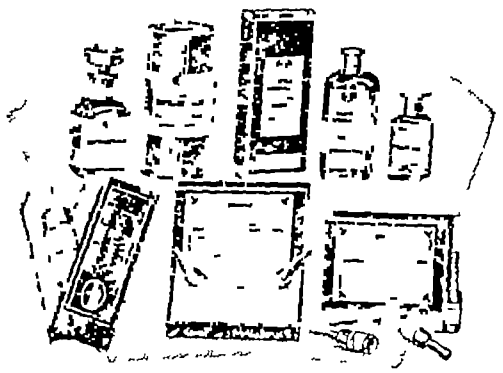


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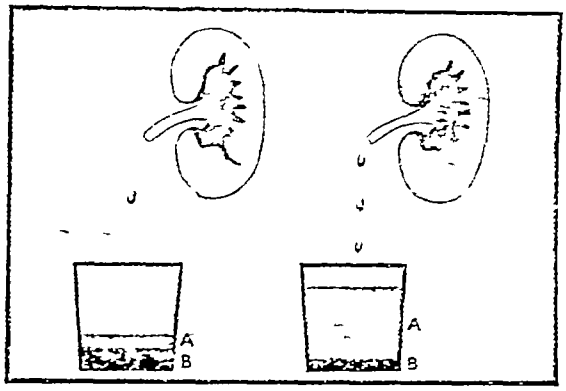
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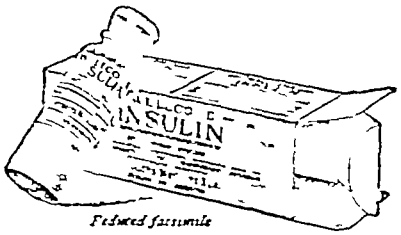
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Observations
ON
THE CONTROL OF TRACHOMA *

BY
N BISHOP HARMAN, M.A., LL.D. F.R.C.S.,
SENIOR OPHTHALMIC SURGEON TO THE WEST LONDON HOSPITAL
OPHTHALMOLOGIST TO THE EDUCATION DEPARTMENT
OF THE LONDON COUNTY COUNCIL

TRACHOMA is practically extinct in England. It is still prevalent in some parts of the British Empire. It is rampant in some Eastern countries. Trachoma was at one time common in England. The conditions that have conduced to its virtual extinction are worth investigation. They may point the way to measures calculated to secure a similar result elsewhere.

The necessity for control of a disease depends upon the measure of the damage done by it. To obtain this measure there would be needed a census of the eye conditions of the population. This is manifestly impossible. But we can fairly compare figures drawn from the examination of sections of the population. These, although not national maps, may be fair average samples. Hospital figures cannot be considered such samples, for they are obtained from selected portions of the population. The most desirable figures are to be obtained from the schools, and from the examination of recruits for military service.

Van Millingen,[1] in 1895, collected figures for eighteen countries. Clemow,[2] in 1903, supplemented these figures. They showed the wide spread of the disease and the unequal incidence in the several countries. I have collected some later figures, and these show that whereas in some countries there is an effective control of trachoma, in others the problem is still of great magnitude. From these figures we may judge the vast amount of suffering and loss of economic efficiency caused by the disease in countries where it is rife.

Egypt still heads the list of afflicted countries. In the last report[3] of the Ministry of the Interior of Egypt there are some astounding figures of the prevalence of trachoma among school children. An ophthalmic survey was carried out among all the pupils of the primary schools in certain capital towns or the provinces in which there were ophthalmic hospitals. There were seventeen schools with 8,045 pupils, 91 per cent. of all pupils were found to be infected with the various stages of trachoma whilst 23 per cent. of the total were found attacked with the serious stages of trachoma. The figures are so amazing that one might ask whether the diagnosis of trachoma in so great a proportion of the children could be justified and whether perhaps some other follicular condition might not have accounted for many. But there are available the series of reports of this department when the work was under the direction of A. F. MacCallan which fully bear out the high incidence. Also, there is Lister's[4] record of the examination of the Egyptian members of the Labour Corps employed in France by the British authorities in the great war—"at a low estimate 45 per cent. were either suffering from or had had trachoma."

China runs Egypt close. Some 25 per cent. of the population appears to be affected. In the dramatic story of Professor Harvey Howard's captivity by Chinese brigands[5] there is this passage:

> Famines, floods and disease are rampant in China, but it is common knowledge that the most devastating of these three is disease. And of all the disease the one that is the cause of the most misery and economic distress is probably trachoma. It is found all over China, it affects nearly every home and all classes of society. From statistics I had gathered I had come to the conclusion that fully one hundred millions of Chinese people have trachoma, and that probably five million new cases, mostly children, develop each year. I had estimated that not less than one million Chinese are blind in both eyes, and that three or four millions more are blind in one eye; further that not far from twenty millions have had their vision so much impaired by inflammation and the formation of scar tissue due to trachoma that they are able to eke out only the barest kind of existence.'

The situation in India is better. Members of the Indian Medical Service have told me that although there is much trachoma it is less severe than in other Eastern countries and is less important as a cause of blindness. The reports of the Madras Government Ophthalmic Hospital for the six years from 1923 to 1928 show that of an average of 21,000 new patients each year about 4·5 per cent. were suffering from trachoma.

There are two recent reports for European countries in the papers of the League of Nations. In Italy, Lutraria[6] reports that trachoma is met with in almost all parts, but it is most common in the islands of Sardinia and Sicily. The army figures of 1913 show that of 502,221 conscripts 3,543, or 0·7 per cent., were rejected for chronic conjunctivitis believed to be trachoma. In some of the islands the proportion of rejections was four times as high.

In Holland, Josephus Jitta[7] reports that trachoma is found only in Amsterdam, mostly among the poorer Jews. A commission of inquiry sitting in 1914–17 reported the existence of 3,300 cases. Of 65,418 Christian children 2,396 or 0·6 per cent., and of 7,062 Jewish children 625 or 8·8 per cent., had trachoma. He is of opinion that trachoma is not endemic in the country, but that it was imported from Poland and Russia. He states that it is above all a family disease. Children are affected at an early age either by their parents or by older children.

In the British Isles Ireland shows most trachoma. Story[10] reported that there was a decrease towards the end of the century, but that in later years it has increased.

> Most of the credit for this increase is to be given to the American doctors who inspected all immigrants to the United States at the Irish ports and remorselessly refused embarkation to any with even doubtful signs of trachoma. Consequently large numbers of most undesirable aliens were left stranded in Ireland—whole families perhaps from far regions of Eastern Europe and trachoma accordingly became more prevalent in this country.

In England the figures collected in 1922 by the Committee on Blindness[11] were informative, but to my mind the best picture of present conditions is given by the figures of the London school children. London is a vast area; it includes every variety of social condition and a considerable alien community. For the children in the elementary schools there is a regular medical inspection and there can be no doubt that every case of trachoma is accounted for. The cases found in the years 1925 to 1929 numbered 26, 20, 15, 16, and 27, so that for five years on an average roll of 650,000 children there was an average of under 21 cases of trachoma a year, or 0·00032 per cent. When we recall the risks of importation of trachoma through the huge shipping area of the Thames I think you will agree that trachoma is practically extinct in London.

In the United States, according to Webster Fox,[1] there is little trachoma among whites except in some isolated parts of Kentucky, West Virginia, southern Illinois and Ohio. It is common among the Indians. In 1912 of 39,231 Indians examined in reservations 8,840, or 22·7 per cent. had trachoma. The percentage varied in different places from 68·8 to 0·2. In 1924 the Indians of three reservations were examined to the number of 18,830; trachoma was found in 3,986, or 21·2 per cent.

The foregoing figures are sufficient evidence that there is need for a better control in some countries than exists at the present time, and that no country can relax its vigilance.

Clinical Conditions

Trachoma means 'a roughness' and a roughness of that silkiest of tissues the conjunctiva. The name is a good one. In typical cases the roughness of the tarsal conjunctiva is uncanny. The term is an old one, and the disease is old. The disease was described with an accuracy that will be little bettered to-day in the works of Hippocrates and in the later authors of the Greek school, Aetius, Paulus Aegenetus, and Alexander Trallianus. There is one passage in Celsus which may be cited:

> Pejus etiamnum est (genus videlicet lippitudinis) ubi pituita pallida aut lurida est lacrimæ calidæ et multa profluit; caput

* Made in opening a discussion in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

calet, a temporibus ad oculos dolor pervenit, nocturna vigilia urget: siquidem sub his oculus plerumque rumpitur, votumque est, ut tantum exulceretur Intus ruptum oculum febricula juvat si foras jam ruptus procedit, sine auxilio est Si de nigro aliquid albidum factum est, diu manet At si asperum, et crassum est, etiam post curationem vestigium aliquod relinquit (Lib VI, cap vi)

The characteristic signs of the disease in its early stages are the slight ptosis of the upper lid, and a variable degree of discharge from the conjunctiva The membrane shows a profuse overgrowth of the tarsal covering, so that it may look like a plush pile, or be grossly studded with enlarged follicles Many cases are so little acute that there may be no outward symptoms of the disease save the slight ptosis, and in these the inflammatory process is dry and sluggish, and the harsh roughness of the tarsal membrane is marked

Whether or not corneal involvement is a necessary clinical character of the disease is a moot point Wilson[13] of Cairo thinks that it is Other observers do not admit this My own experience is that within the first year of the disease in children it is rare, and it may never appear if efficient treatment is begun early, but it is certain to appear in long-standing cases, especially among adults

The disease is undoubtedly highly contagious Doctors and nurses have been infected, and inoculation experiments have been done Perhaps the most dramatic account of an experimental inoculation is that recorded by Treacher Collins[14] in his account of the London ophthalmia schools Children were loath to leave the lovely country schools to go back to the old-time town barrack schools, and deliberately irritated their eyes to prolong their treatment

"One child, whose name peculiarly enough was Sly, was admitted with marginal blepharitis and slight conjunctivitis, this was cured and all treatment was stopped preparatory to her leaving the school She was then caught by the nurse taking discharge from another child's eye who was suffering from trachoma and deliberately putting it into her own The symptoms of acute muco purulent ophthalmia rapidly set in, and two months later typical trachoma follicles on the tarsal conjunctiva were recognized After a year's treatment the trachoma was cured."

The most striking clinical feature of the disease is its chronicity From six months to two years is its usual duration, and most cases extend to the longer term So strongly is this impressed upon me that I am critical of my own or of others' diagnosis when a case of suspected trachoma reacts speedily to treatment!

The histological feature of the changes produced by the disease is the extraordinary proliferation of the lymphoid tissue There is a diffuse lymphocytic infiltration of the conjunctiva with numerous follicles occupying the subepithelial layer A follicle may measure from 0 5 to 2 mm in diameter The periphery of a follicle is formed of layers of lymphocytes, in the central area are many large mononuclear cells All the changes are most marked in the retrotarsal fold, but no part of the conjunctiva is exempt The beginning of a cure is shown by the breakdown of the centres of follicles and the gradual growth of connective tissue fibrils around the follicles In advanced stages the fibrosis is so extreme that the follicles are strangled by the shrinkage of the scar tissue Success in treatment is shown in a fine even spread of the scarring Failure is shown by a gross unequal scarring and consequent distortions of the lids with all their painful and disabling effects I am inclined to the view that the worst end-results are sometimes due more to ill-advised severity of treatment than to the effects of the disease

The Causes of the Disease

The control of trachoma needs a knowledge of its cause and of the conditions under which it spreads The primary exciting cause of the disease is as yet uncertain There is a general agreement that it has the characters of a distinct entity, and such that it may certainly be ascribed to some virus There is no doubt that its progress is affected by intercurrent infections, but none of these infections, which are common and well known, appears to be the determining cause From the days of Koch's investigation of the disease in Egypt in 1883 there have been many attempts to identify specific organisms So far no claim has been established The most recent work is that of Noguchi,[15] a piece of experimental investigation of much promise His *Bacillus granulosis* is described as being present in the affected tissues in extremely small numbers in the vicinity of the small and large mononuclear cells constituting the follicles It has been isolated in cultures, then it is found to have a single polar flagellum The cultures have been inoculated into monkeys, and have induced conditions of granular conjunctivitis apparently identical with trachoma in man Wilson[16] of Cairo has published the report of an investigation he has made on the lines of Noguchi's work His results are indefinite

If the primary cause of the disease is uncertain there can be no doubt of some of the *adjuvant* causes These are conditions of life which can be dealt with Trachoma is rarely found except among people of low standards of living It is found among squalid people who are herded together In these conditions there is a common neglect of what we speak of as sanitary rules, but which may be better described as the rules of civilization The easy communal generosity of the feckless has often been noted Unfortunately this liberality extends to the use of sanitary articles which in more developed communities are regarded as strictly personal It is, I believe, to the careless but pernicious generosity of these people that the ready dissemination of eye disease among them is due When once the distinction of *meum* and *tuum* in regard to toilet articles has been learned there is a distinct rise in the standard of cleanliness, and therewith a lessened risk of communicable disease I have known outbreaks of acute conjunctivitis in schools coincide with the breach of the rule of separate towels, and in no case have I known an outbreak spread where there was a strict re-enforcement of the rule Confirmation of this observation may be obtained in the care of the men of the Chinese Labour Corps in France These men at all times carried about their person a towel which was used for many purposes It was freely loaned to companions Lister found it necessary to arrange for a regular sterilization of these towels, and he was certain of the efficacy of this procedure

London Schools

In former days the chief breeding places of trachoma in London were the Poor Law schools The children of destitute families were drafted into huge barrack schools These schools were ravaged from time to time by epidemics of ophthalmia, which was always endemic Stephenson,[17] in an historical note, showed that the evil of these schools was known as early as 1848 In 1858 Bowman made recommendations regarding them Ten years later similar recommendations were made by George Critchett Nettleship in 1874 inspected all these schools, and of one he stated that "not 15 per cent of the eyes could be described as healthy" A report in 1888 by Littlejohn, the medical officer of one of the schools, in which he said "Children have contracted the disease in the school to an appalling extent," attracted the attention of Parliament An isolation school for ophthalmia was provided under the care of Sydney Stephenson From later London reports I find that the separate attempts of the local London Poor Law authorities were amalgamated by the Metropolitan Asylums Board Two ophthalmia schools were established in the country north and south of London in 1903 and 1904 in charge of Treacher Collins At the time of the foundation of these isolation schools the average number of children housed in the Poor Law schools was 10,800 The accommodation of the isolation schools was 720 In the first year 625 children were admitted, of whom 292, or 46 7 per cent, were suffering from trachoma The segregation of affected children was so efficacious that in 1918 there were only 186 entries, so one of the isolation schools was closed In 1921 there was a risk that the other would be closed too for lack of cases It was therefore determined to admit children also from the elementary schools Even with this far wider field from which to gather patients the demand upon the resources of the school at Swanley has been below the accommodation In January, 1930 only 253 of the 350 beds were occupied Thirty-nine were pauper children

gathered from the Poor Law schools with a roll of 6,375 children, 12 were cases from outside London, and 152 were elementary school children Of the total cases 67 were trachomatous, or 26 5 per cent

A most effective agency in the control of trachoma is the School Medical Service For the past twenty-five years I have been intimately connected with this work in the County of London My duties as ophthalmic consultant include work at a consultation centre at the County Hall, to which are referred children whose sight presents special difficulties in education or medical treatment

By Act of Parliament the education authority is responsible for the medical inspection and treatment of the school children The schools are visited regularly and all the children examined in specified groups Those requiring treatment are referred to their home doctors or to school clinics maintained by the authority Parallel with this arrangement there is the School Attendance Department which has the duty of investigating the reasons for the absences of children from school Absences of more than a specified period are reported to the head office for special investigation This dual organization within and without the schools ensures a very complete supervision of health of the children

The efficiency of the organization was well demonstrated a few years ago Early in 1924 an unusual number of absences from school on account of "external eye disease" were reported by the attendance officers in the Thames-side districts of Poplar and Stepney A batch of the affected children was brought to the consultation centre at the head office I found them to be suffering from early and acute trachoma Thereon all absentees and the other children of their families and also the children of the schools they had attended, were medically inspected A definite epidemic of trachoma was discovered among the children of a few schools in the poorest quarter close to the docks. Ordinarily cases of trachoma average a score a year for the whole school population of London In this year, 1924, the numbers seen were January, none, February, none, March, 17 April, 34, May, 51, June 36, July 51 August 2 September, 4 October, 4 November 10, December, 6 making a total of 215 cases The affected children were transferred for treatment to the Swanley Ophthalmia School now under the direction of Stephen Mayon, with the most satisfactory results The epidemic was confined to the original area of its outbreak and ceased at the end of the year I have heard some hard savings about the school attendance officer It has been asserted he is as hard hearted as the pedagogue of a familiar Pauline argument but his strictness is an invaluable safeguard to the children as was demonstrated in this outbreak Imagine what might have happened in densely populated London if there had been no inquisitorial attendance officer

War Conditions

An example of large-scale prevention and treatment is recorded by the ophthalmic surgeons' s detailed during the great war for oversight of the Labour Corps Large numbers of coloured men were brought into France for labour purposes Trachoma was rife among them It was recognized that with the proximity in which the individuals of the Labour Corps had to live there was a danger of trachoma becoming universal throughout these units Had this occurred their capacity for work would have been greatly impaired and there would have been a risk of the disease spreading to the British troops and to the French population

The Egyptian labourers were highly affected At a low estimate 45 per cent were either suffering from or had had trachoma Of the South African Cape boys only 3 per cent were affected The main problem was with the Chinese of whom there were roughly 100 000 The incidence among them was 8 per cent—that is about 8 000 cases besides these there were 5,500 cases of suspicious conjunctivitis

The steps taken to remedy matters were three (1) instructions were given that no labourers with trachoma should be recruited from abroad and for those on the voyage sanitary treatment was given (2) the affected men were segregated, (3) treatment was given to both the affected and the "clean", the latter received zinc drops, and their towels were sterilized regularly The effect of these measures was speedily apparent in the improved condition of the men and of their work

Conclusions

The evidence presented in this paper points to two certain conclusions (1) that trachoma can be controlled (2) that the control of trachoma is a practical proposition The measures requisite to this control may be viewed from two points that of the country where the disease is endemic, and that of the country free from the disease It will be agreed that the principal condition favourable to the spread of trachoma is squalor, the product of bad social conditions If we can raise the social status of a community the risks of communicating trachoma will be reduced until they are small—as in England Social conditions can rarely be effectively altered by outside influences, but this can be achieved if the influence works from within the community There is now scarcely a country in the world that does not maintain some sort of system of elementary education for its children Where there is such a system there is ready to hand the basis upon which an efficient campaign against trachoma can be waged The recognition that a school for children is a place for the training of the child in the use and care of its body, as much as for the training of its mind, will make the school the most efficient prophylactic against contagious eye disease Instruction in the care of the body engenders pride of body, and this in its turn fosters a sense of separateness or fastidiousness which is offended by a community of interests in toilet articles That lesson is, I believe, one of the chief gains of civilization, without it our cities would be pest centres, instead of ranking with health resorts It would do more to extirpate trachoma than any other measure It would create in countries where trachoma is rife the demand by teachers and parents for routine examination of the eyes of children on entry to school at specific intervals, and of suspects at all times Experience in London shows how readily medical inspection, at first resented becomes demanded as a safeguard to all parties—the child its family and the teacher

Discovery of disease demands treatment Isolation ophthalmic schools such as Swanley are an economic proposition in countries where the incidence of trachoma is low where it is high such measures are impossible But it is possible to provide local dispensaries and travelling hospitals after the type of the beneficent foundation of Sir Ernest Cassel in Egypt Further it will be good practice to provide for the issue to the people generally of zinc sulphate drops Regular and long-continued use of these drops in residential schools I have found safe and of value There is evidence of their value in the control of trachoma among the coolies of the Labour Corps in France Davidir in Palestine records that during a local epidemic of ophthalmia the school children were unaffected so long as they used the drops but they fell victims to the attack when their use was stopped Maybe there would be a few cases where intraocular inflammations would be injuriously affected by the use of the zinc drops but even with that risk in view I think the universal use of the drops would be justified in a trachoma ridden country Finally in such countries there should be a rule reserving appointments to posts in the public services to the healthy and disqualifying candidates with trachoma There can be no doubt that such a rule would furnish an effective sanction in a campaign against trachoma

In a country where trachoma is rare there will be a justifiable demand for the exclusion of immigrants suffering from the disease In these days of widespread travel the risk of entry of communicable disease into a clean country is great Quarantine is no service in the prevention of trachoma The disease is too enduring Exclusion is the proper remedy There have been at various times outcries against the action of some countries in rejecting immigrants for failure to attain standards or health In my view stringent rules as regards health are wholly justified both for the safety of the one country and for the improvement of the other The fact that trachoma will exclude the immigrant in any country will do much to awaken the

authorities of a trachoma-ridden country to the disability under which its nationals labour, and to the necessity for remedial measures

In conclusion, I would venture to reiterate my belief that the best line of attack is through an efficient school service Through this we can get an oversight of the children such as no other means will secure The school also tends to inculcate a sense of personal responsibility that is invaluable to the common health There is no doubt that if we could keep the children of one generation free from the disease trachoma would be extinct

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SOME IMMUNOLOGICAL PROBLEMS IN SEPTICAEMIA.*

BY

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WHEN pyogenic micro-organisms overcome all defences of the body, travel freely through, and even on occasion multiply in the blood stream, giving rise to symptoms of a general invasion, the condition is recognized as septicaemia Any definition of the term, however, is apparently subject to modification, for instance, with the extension and perfection of blood culture methods, micro-organisms may be recovered from the blood in many states, such as typhoid and pneumonia, which are not classed as septicaemia Then, too, disease entities exist in which the evidence suggests that there is a general invasion of an ultra-microscopic organism or virus The diagnosis of septicaemia, then, rests not alone on laboratory procedures, but depends also on the clinical evidence For this discussion I will consider the type of case in which the symptoms of a general bacterial invasion overshadow those of local origin, and which is characterized, clinically, by chills, sweats, irregular temperature, and is associated with the finding in the blood stream of the causative micro-organism, generally a pyogenic coccus, most frequently a streptococcus In the treatment of such cases the physician turns for help to the immunologist

The origin and outcome of such a condition depend naturally, on the two interdependent variables—the infective agent and the patient's resistance

THE INFECTIVE AGENT

Briefly let us consider the invasive power inherent to the micro-organism What is the influence of numbers? We know that a measured quantity of a certain microbe may at times be required to induce a septicaemia, yet, clearly, it is not the determining factor, for the few streptococci driven into the tissues and the lymph channels by the prick of a needle may initiate a rapid and fatal type of the disease, while on the other hand a massive infection frequently remains localized That the power of elective localization of bacteria has an essential bearing on the question has been clearly demonstrated by Rosenow Even so, in elective localization the variable factor is in evidence, for a meningococcic infection occasionally exists only as a septicaemia, with no clinical or pathological evidence of any particular involvement of the meninges Again, the *Streptococcus viridans* may invade the heart valves, which indicates that the microbe passed through the blood stream unaffected by the defences of the body, and possibly without giving rise at the time to clinical manifestations of its presence in the blood, subsequently a septicaemia arises from the endocardial focus

An overwhelming invasion following the inoculation of a few organisms suggests that the circulatory system may be the elective site, for it is not unusual in some cases to find scant evidence that any particular tissue is involved, even though the micro-organisms may be noted in direct blood smears Besredka, however, emphasizes the importance of tissue immunity at the primary site of elective localization, according to his theory a general invasion of the staphylococcus or streptococcus indicates a previous cutaneous or mucous area of infection

The capacity to produce powerful toxins, to multiply rapidly, or to resist destruction is peculiar to certain bacteria Such factors determine aggressiveness, while just as important, evidently, in favouring a continued bacteriaemia, is the inability of the causative organism to incite antibody production

As a rule bacterial association favours a local infection, but that it is, in septicaemia, an important factor receives slight support, however, a simultaneous general invasion of more than one micro-organism may occur Further, while one grants that septicaemias may be induced experimentally by the inoculation of a single selected strain of an organism, such as a streptococcus, yet the evidence shows that no single strain is responsible for all streptococcic septicaemias Here, in carrying out agglutination tests with forty-five strains of streptococci recovered from as many cases of septicaemia, we failed to obtain any common agglutinative type

Virulence as associated directly with the microbe lacks definition More recent work, such as that of Falk, stresses the theory that the dynamics of the electro-potential differences of the cells underlie some of these problems For the further elucidation of the term virulence as related to the micro-organism, Holman suggests more intensive physiological studies of the metabolism of bacteria These factors are bound up with the structure of the microbe, how infinitely complicated this may be one can judge from the fact, as Cameron illustrates, that a comparable unit, such as a red blood cell, contains approximately a million million molecules and ions

I have touched only on some of the principal characteristics of the micro-organism which are believed to determine its invasive powers, for aside from preventive measures, the nature of the microbe which infects the patient and produces a septicaemia is the accidental factor over which the physician has no control The attenuation of the virulence of an infective agent by world wide measures such as universal vaccine therapy is a problem not yet solved In Winnipeg the incidence of septicaemia caused by the haemolytic streptococcus shows periodic waves, suggesting the prevalence at intervals of a type or types of this streptococcus favouring such an infection

THE PATIENT'S RESISTANCE

The rapid spread of an infection from a small focus indicates primarily an inability of the phagocytes, other leucocytes or plasmatocytes, to cope with the infective agent A determination of the opsonic index in such cases frequently shows that the blood is deficient in natural opsonins These opsonins when present facilitate phagocytosis until such time as the body responds with the production of specific antibodies, including the thermostable opsonins, for the bacteria and their products responsible for the infection

This weakness in the defence, which allows the extended invasion of some bacteria particularly the pyogenic cocci, the haematopoietic tissue may attempt to offset by increased production of leucocytes (It is characteristic of the case

* Read in opening a discussion in the Section of Bacteriology Pathology Physiology and Biochemistry at the Annual Meeting of the British Medical Association Winnipeg 1930.

of septicaemia in the series we investigated that an increasing leucocytosis paralleled a low opsonic index and a fall in complement The frequent failure, however, of such a leucocytosis to overcome the infection suggests a more intensive effort on that ever recurring problem—the early transference of specific immune bodies to such patients

The production in the individual of specific antibodies to the infective organism requires time, the formation of such antibodies for the endotoxins and the bacterial substance postulates a previous dissolution of the bacterial cell A haemolytic streptococcus or a staphylococcus invasion may progress with such rapidity that death occurs before the lysis of a sufficient number of bacteria takes place that would stimulate the production of the necessary antibodies Such an argument, of course, does not take into account the elaboration of antitoxins for those exotoxins that the microbe may produce Even so, the development of such antitoxins frequently requires more time than the urgency of the patient s condition allows A *Streptococcus viridans* infection on the other hand, will persist in the heart valves for months, with just enough production of antibacterial substances to limit the subsequent general invasion to an intermittent bacteriaemia

Should a sufficient interval of time elapse for the development of a leucocytosis and the elaboration of antitoxins, and of agglutinins, precipitins, opsonins, and lysins, without evidence that the patient is overcoming the infection then, two factors in resistance, based on current concepts of immunity, may be especially considered First, that there may be a possible failure in antibody production, and second, that, even if such are elaborated, the body cells and fluids may fail to utilize them for the destruction of the micro-organism or the neutralization of the toxins The failure in bacteriolytic action may result, in part, from a deficiency in complement, that property of the blood serum which the fundamental researches of Ehrlich and Bordet showed was essential to complete the lysis or death of bacteria in the presence of the immune body

In this discussion I wish to dwell particularly on the *influence of complement in septicaemia, a discussion which* at once involves us in a consideration of the relation of complement to health and disease

Complement in Health

Complement, as a substance or state of the blood serum, exists, so far as we know, in all normal individuals I have found but slight variation in the titre of complement in the serum of *the blood taken from 500 persons in normal* health, and under normal conditions This power of complement was determined by its action against sensitized sheep cells However, a slight diurnal variation was noted, approximately a 10 per cent increase occurred in the titre of the specimens of blood taken in the evening compared with those taken in the morning The finding of a low complement power in a supposedly healthy person suggested disease or the results of disease, subsequent careful clinical examination of these persons proved this assumption to be correct The results obtained indicate that complement is an attribute of health, further support of this statement is supplied by Huntemueller, who, following investigations on Olympic athletes states that a fall in complement titre of the blood serum occurred in overtrained competitors, but such did not occur in those who were in perfect condition, even after sustained exertion

While it was thought that the blood of all normal animals contained the usual amount of complement characteristic of the individual species, yet there has been reported the existence of a race of guinea-pigs which showed a deficiency of this quality in the blood serum Moore pointed out that these guinea-pigs were less hardy than the normal animal, and that their opsonic index was about one-half normal Coca determined that it was the third complement component, the heat-resistant or yeast-absorbed component, which was missing and Hyde reported the arresting fact that this characteristic of the serums of these guinea-pigs was inherited as a simple recessive Mendelian unit Pertinent to the discussion is the fact that the deficient serum or plasma could be activated by very small amounts of serum from man or normal guinea pig *in vitro* or *in vivo*

Complement in Disease

Is it not important to recognize that the complement property of the blood varies widely during disease? In 1914 Gunn noted these changes in *cases of typhoid,* diphtheria, and scarlet fever Our investigations in part previously reported, of over one thousand patients, also showed that this *property, as tested by the haemolytic* system with sensitized sheep cells, varied from an increase of 20 per cent *over normal to a complete absence, depending* upon the *nature, location,* and *stage of the disease* As a rule these fluctuations follow a uniform course commonly there is a slight increase in complement coincident with the onset of the symptoms of the disease, this is *followed by* a steady decrease until the infection reaches its maximum, during convalescence complement gradually returns to normal However, in some cases, the complement property of the serum gradually decreases until no evidence of its presence, unless reactivated, can be observed by the use of the haemolytic system These latter cases as a rule terminated fatally, but exceptions were noted

More recently Hadjopoulos and Burbank *in an extensive* series of investigations on the blood of persons in health and disease, arrived at similar conclusions, while Goldner stresses the association of a decrease in complement with those infections which interfere with liver function

We observed that, as a rule, patients with chronic diseases such as tuberculosis, syphilis, chronic arthritis, uncomplicated malignant disease goitre and diabetes showed but slight oscillation in the complement titre of the blood serum However, in a patient with an acute infectious disease, and particularly septicaemia, the fall in complement titre following the initial rise, was rapid, and in the fatal cases, occasionally a complete absence as determined by the *method of investigation described* was noted

What component of complement is missing in the serum obtained *from the patients with these diseases I have not yet been able fully to determine, but a slight reactivation* 10 per cent , occasionally occurs on the addition of heated *normal serum while an average of 20 per cent reactivation* was obtained by the addition of that inactivated by ammonia In some instances a slight reactivation was noted following the addition of serum which had been inactivated with a bacterial culture, yet if the blood of a patient with streptococcic septicaemia showed deficient *complement, practically no reactivation could be obtained* by the addition of normal serum which had been inactivated by previously mixing such serum with the specific streptococcus *Muir and Browning however have shown that the* removal of the natural bactericidal power of normal serum by treatment with dead bacteria may leave the haemolytic power of complement unaltered

The recognized necessary part played by complement in the *antibacterial action of blood in vitro raises the question* of the influence of this property in the circulating blood Long ago Muir emphasized the importance of this factor in immunity, and the dependence on complement of the opsonic action of normal serum Then too that complement exists in the blood plasma in proportional amounts to that *noted in the blood serum* has been shown by several investigators (Kolmer) and Hyde has demonstrated the action of haemolytic *complement for foreign erythrocytes* in the circulatory system of the frog

The dependence on complement of the opsonic action of normal serum suggests that this property exerts some influence on the susceptibility to infection but to what extent has not been established However the necessary part played by complement in bactericidal action in conjunction with antibodies indicates that it is an *important* factor in *determining* the limits of an infection It is logical to infer if not to state from *the available evidence* that a high complement titre in the blood of a *patient with* septicaemia aids materially in overcoming the infection

Complement in Treatment

How may the treatment of *septicaemia* be influenced by deductions drawn from these observations? Small amounts of normal serum even at times one-quarter of 1 per cent , will activate blood deficient in complement both *in vitro* and *in vivo* I have determined that the addition of small

amounts of normal serum would reactivate serum obtained from a patient's blood which was deficient in cytolytic activity, in patients showing a deficiency of complement resulting from infection, reactivation occurred following transfusions of small amounts of serum derived from the blood of normal persons or animals This reactivation is immediate, and lasts, as a rule, two to three days, when the serum tends again to show a deficient complement titre, provided the infection which caused the original loss in complement has not abated

In view of these findings it appeared logical to give repeated transfusions of small amounts of serum from the blood of a normal compatible donor to patients with septicaemia It may be suggested that transfusions of whole blood would have accomplished the same purpose Small whole blood transfusions do activate complement *in vivo*, but with this difference—that the decrease in complement titre which frequently again occurs about the third day is considerably more marked than that which follows transfusions of serum

As regards massive normal blood transfusions for sepsis, I have observed in three patients who received such treatment that subsequently a severe loss of complement occurred by the third day, a greater loss than would be expected as the result of the infection, and within a week the complement titre of their blood serum had dropped 20, 40, and 50 per cent lower respectively than before such transfusions were made Consideration must also be given to the problem, as suggested by Wright, that such whole blood transfusions may furnish a pabulum which aids the further multiplication of the infective bacteria

Antibody and Complement

We found in patients with sepsis that the relation between antibody and complement followed a general rule—namely, if the patient failed to improve, and the blood showed a high complement titre, then the antibacterial content of the blood for the causative micro-organism was low, and conversely, in such patients, if the antibody content of the blood was high then the complement titre held to low values The immune content of the blood for the specific infection was determined by the agglutination reaction, and by complement fixation

Provided the complement is normal or is raised to a normal power, then to complete the destruction of the infective micro-organism by bacteriolytic action, and to facilitate phagocytosis, specific antibodies are deemed essential Yet the preparation of a specific immune serum for those organisms most frequently connected with septicaemia has always offered a problem of the greatest difficulty

The frequent failure of the administration of an anti-streptococcic serum to benefit the patient in a case of streptococcic septicaemia is generally held to be the result of an absence in the serum of essential antibodies The animal from which the serum was derived may have been immunized by a different strain of the micro-organism from the one responsible for the infection in the patient In an attempt to overcome the latter difficulty we inoculated rabbits with separate vaccines and toxins prepared from over fifty strains of streptococci and staphylococci recovered from as many different patients with septicaemia On experiment these animals became highly resistant to induced infection

Further, Gay points out that the evidence indicates that the reservoir for antibody production is in the cells Again, experiment shows that a specific stimulus, such as the inoculation of a vaccine, causes the appearance in the blood of homologous antibodies, if such are present in the tissues Then, too, success in the treatment of septicaemia has been reported following transfusions of blood from a donor who had been previously inoculated with the specific organism Sir Almroth Wright outlined the immunological factors involved in such a procedure, and the method has been further developed by Colebrook and Storer I have applied these principles in an endeavour to increase the antibody content of an immune animal serum, which was to be used in the treatment of septicaemia One of the rabbits which had been previously inoculated as before described, with some fifty strains of streptococci and staphylococci, was re-inoculated with a broth culture containing the specific strain of the organism obtained from a positive blood culture, and several hours subsequently 8 to 10 c.cm. of blood were withdrawn from the rabbit's heart under aseptic precautions The serum of such blood frequently gave a high agglutinative titre for the specific micro-organism with which the animal had been inoculated several hours previously A further procedure was to inoculate rabbits on alternate days with a vaccine and toxin prepared from the microbe isolated from the blood of the patient If the course of the disease allowed for a sufficient interval of time to elapse for these rabbits to have developed specific antibodies, the serum from the blood of such animals was also used Cardiac puncture apparently causes the animals no harm

Treatment with Normal and Immune Serum

We have treated with serum 56 patients who were suffering from septicaemia, the majority were in an advanced stage of the infection, and with these this method of treatment was adopted as a last resort Forty-five recovered. Blood cultures showed in 38 cases a haemolytic streptococcus, in 6 a *Streptococcus viridans*, in 5 a staphylococcus, in 1 an unidentified diplococcus, in 1 a colon bacillus, in 3 both a streptococcus and a staphylococcus, and in 1 a staphylococcus together with the *Bacillus pyocyaneus* Each case in which blood cultures indicated a double infection proved fatal

The following method of treatment was adopted A compatible donor reported at the laboratory From 60 to 70 c.cm. of blood were withdrawn from a vein in the arm into a large sterile vacuum tube The blood was allowed to clot at room temperature, then placed in the ice chest Five to eighteen hours subsequently the serum was drawn into a sterile glass syringe, and then the patient was transfused with this serum These transfusions were given every second day, four of such treatments constituted the average number given to a patient On alternate days 2 to 5 c.cm. of immune serum from a rabbit, prepared as previously described, were inoculated subcutaneously It needs to be pointed out here, however, that the extended therapeutic use of rabbit serum has obvious limitations, the animals are small, comparatively short-lived, and susceptible to certain infections

This method of treatment does not contraindicate the search for foci, and surgical intervention for the elimination of the same when such a procedure is feasible Moreover, it is recognized that the nature of septicaemia varies widely, and a patient with apparently an overwhelming bacterial invasion may recover without special therapeutic aid, hence the value of any particular method of treatment, judged by clinical results, is open to discussion Besides, as suggested by Churchman in a masterful review on the intravenous use of dyes, thought needs to be given to the possibility that attempts at rapid sterilization *in vivo* may defeat their own purpose, serious results may follow the too rapid absorption of freed endotoxins

OTHER FACTORS

While one may stress the value of complement and antibacterial substances generally as a part of the defensive mechanism against an extended bacterial invasion, yet the importance of any single factor naturally varies with the individual case, also with the numerous associated processes So interrelated are these that obvious difficulty arises in confining the scope of this discussion One would like to consider the absorbing questions of the origin and nature of complement and of the influence of diet and drugs on this property, or of the chemical nature of antibodies and their possible synthetic production Mention may be made, however, of the work of McIlroy and Greer in the treatment of puerperal septicaemia with vitamin A an evaluation of this work involves consideration of both the physiological and the biochemical relation of vitamins to immune processes Then, too, the beneficial results occasionally obtained in sepsis, following the use of scarlet fever antistreptococcic serum touches the key question of the relation of the toxins from the various strains of streptococci to one another Also of arresting interest are

the observations of Gay suggesting either the possible mobilization or passive transfer of the tissue macrocytes In addition the influence, however uncertain, of the bacteriophage demands attention, in five of our series of cases it was noted that following treatment the specific organisms were undergoing bacteriophagy recovery occurred in these cases In four cases with a fatal termination when it was possible to obtain the organism from a focus there was no evidence that a bacteriophage for the causative bacteria was present According to d'Herelle if a bacteriophage for a micro-organism causing infection is active in vivo, then the prognosis becomes more favourable

It must not be overlooked that some cases of septicaemia offer little hope from the therapeutic standpoint The destruction of tissue in scattered lesions caused by direct bacterial action is frequently beyond functional repair especially does this apply to lesions in the brain or heart Particularly, an infection engrafted on a previously injured heart and giving rise to a septicaemia generally signifies a permanently damaged endocardium resulting in cardiac incompetence that no method of therapy based on immunological studies will rectify This latter problem suggests some other method of approach and since a subacute bacterial endocarditis with an associated bacteriaemia is prone to develop in an individual with valvular lesions then the possible prophylactic immunization of a person with a damaged endocardium by means of a polyvalent streptococcus vaccine deserves consideration

Immunity problems of septicaemia naturally concern all the sciences represented in this Section of the Annual Meeting possibly correlation of the results obtained through the various lines of approach, either clinical or experimental, may furnish some solution Admittedly, up to the present, the clearing hewed out of the gloom of immunology by Pasteur, Ehrlich, and their disciples has been well and hopefully tilled, only to produce in septicaemia, limited therapeutic results The quickening light afforded by the efforts of those early workers now becomes shaded with the growing clouds of doubt, and some predict barren returns from further efforts in that field They say we must seek or make new clearings In advancing some of these problems for discussion to-day it is with the hope that the old furrows retilled or possibly the turning of a new furrow, may prove the field still fruitful

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THE PLACE OF PASTEURIZATION IN A SCHEME OF MILK DISTRIBUTION*

BY

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THE heating of ordinary milk during distribution is generally admitted to be an imperative necessity and is in fact demanded by many city ordinances In other quarters pasteurization is looked upon as a temporary measure advisable under present conditions which it will in time be possible to discard like other methods of preserving milk and which will cease to be employed in proportion as highly organized and efficient methods of production and distribution become general Some nutritionists take a more positive view and think that the sooner this time arrives the better it will be for the consumers especially children Some of the evidence on which an opinion may be based is clear enough, in other respects, it is still in an experimental stage

My experience leads me to adopt the view that milk supplied in bulk for consumption in large urban areas should be submitted to pasteurization by approved methods the most powerful argument being that the menace of milk borne infections is thereby largely eliminated and is restricted to such relatively infrequent incidents as may cause infection during or subsequent to pasteurization Glasgow is no exception to the general experience that the increasing practice of this procedure has caused a corresponding decline in the capacity of milk to convey specific infection to the consumer The pasteurizing of milk is now applied to between 80 and 90 per cent of the city's milk while about 70 per cent of the supply is delivered in bottles The history of milk outbreaks of disease where the source of infection was at the farm is entirely concerned with this diminishing portion of unpasteurized milk in the city's general supply

As regards the history of pasteurization this process was first practised in Glasgow in the late nineties of last century when the flash system was introduced by the large distributors that is heating to about 160° F followed by immediate cooling Prior to this the scalding or scadding of milk (to use a Scotticism) was resorted to by immersing cans of milk in open boilers at temperatures of 160° F to 180 F and thereafter cooling in running water Subsequent to 1900 the rapid growth of the city demanded further supplies from greater distances and pasteurization became more and more extensively employed to enhance the keeping qualities of the milk The old flash system has been entirely superseded by modern methods a change greatly assisted by the educative effect of the Special Designations Order of 1923 the transition to the positive holder type of pasteurizing machine as recommended becoming practically universal There is a general reluctance to exceed a temperature of 145° F and the United States standard of 142° F is sometimes adopted

Pasteurization grew up and was widely adopted for commercial reasons as it augmented the keeping quality of milk It preceded but did not as was sometimes feared prevent the undoubtedly great improvements which have taken place in recent year in the standards of production of raw milk a large proportion (at least 70 per cent) of ordinary market milk being now comparable with that of grade A quality Those who are producing and retailing graded milk have made it clear that with proper control it is possible to produce and sell unheated milk successfully even in the poorer quarters of London This remark occurs in Research Monograph No 1 of the Ministry of Agriculture and Fisheries (1929), and might be applied to any city It is quoted to show the trend of progress in the domain of milk production and may be taken to mean that the argument of commercial necessity in support of pasteurization has lost much of its force except in relation to the transport of milk over long distances

There is no doubt that pasteurization of milk has added to the security of cities against the danger of milk borne infections This is a matter of great importance and the following local illustrations may be quoted from experience in Glasgow All the outbreaks of infectious disease whose source was traceable to farms were associated with supplies delivered direct and untreated from the farm to the consumer or formed that part of the supply of a particular centre of

*A paper read in opening a discussion in the Section of Preventive Medicine at the Annual Meeting of the British Medical Association, Winnipeg 1930.

distribution not subjected to pasteurization The following incidents are taken from the records of recent years

In 1912, a group of 19 cases of enteric fever on a milk supply delivered direct from farm to dairy was traced to a carrier at the farm. In 1927, an outbreak of 67 cases of paratyphoid B infection broke out on a similar direct supply Five of the dairy farm hands gave positive blood reactions and two of them ultimately admitted having had mild and trivial recent illness In 1913, there occurred 31 cases of scarlet fever due to a milker who had a mild sore throat and was not off work, she infected the dairy keeper with scarlet fever In 1916, a group of 11 cases of scarlet fever originated from a girl, aged 12 years, at the farm, preceded by two cases of "tonsil litis" without rash In 1918, a series of 19 cases of scarlet fever occurred on the early morning direct supply from a farm, the probable source being a suspicious sore throat in a girl milker at the farm In 1919, there occurred 32 cases of scarlet fever on a direct supply, the source of which was not definitely ascertained In 1923, a series of 23 cases of scarlet fever occurred on a farm supply traced to a missed infection in a child of the dairyman, who infected the milk during the convalescent desquamating stage of her illness In 1925, a group of 6 cases of scarlet fever occurred on a farm supply where a young child was found with double otorrhœa following an apparently undetected attack of scarlet fever In the same year, a series of 15 cases on a direct milk cart and dairy supply was connected with (*a*) scarlet fever in a farm labourer's child, and (*b*) otorrhœa following an unrecognized attack in one of the farmer's children As regards diphtheria, in 1913 a group of 13 cases originated from a child at a farm who had had no definite illness but whose throat harboured the bacillus In 1915, there occurred 115 mild cases in the neighbourhood of Glasgow, related to sores on the knuckles of three milkers and lesions on the udders and teats of eight of the cows One of the milkers ultimately developed diphtheria while "diphtheroid" bacilli were recovered from four of the cows and from the sores on the hands of the milkers In 1922, a group of 10 cases on a direct supply was traced to a milker with enlarged tonsils harbouring the bacillus of diphtheria There have also occurred two considerable and severe outbreaks of septic sore throat due to undetected mastitis in dairy herds In one of these, pasteurization of the supply pending full investigation cut short the outbreak

In all these instances the milk was delivered in its natural state, and was contaminated through the medium of an infected person on a farm supplying a local dairy in a suburban area No similar incident has occurred on the main pasteurized supplies of the city It has been pointed out that the purveying of milk is becoming concentrated in the hands of large distributors, supplies from numerous farms being mixed in wholesale fashion, so that the possibilities of spread from chance infections, such as those instanced above, would be greatly enhanced in the absence of an effective safeguard Infections occur with sufficient frequency on the comparatively small proportion of raw milk to make one wonder what would happen if the protection of pasteurization were removed When scarlet fever reached a high degree of prevalence three years ago, several patients were removed from dairy farms sending milk to the city from a neighbouring county

As regards the possibility of eliminating these risks by more effective public health control, it must be confessed that this is a matter of considerable difficulty The utmost precautions are defeated by such chance infections as those due to the very mildest cases of scarlet fever or diphtheria or paratyphoid fever, which are apt to be missed entirely What is called "a chance risk of infection from some accidental carrier" is a real risk in populous areas Many opportunities of infection occur among the personnel of farms in rural areas dotted with small townships and in proximity to a large city Farms are no longer isolated communities, transport makes it easy for farm servants and their families to mix with the general population, and when infectious disease is prevalent in the district the dairying community does not escape its share It is, in fact, far from being immune Epidemiological considerations do not suggest that the safeguard of pasteurization could be substituted for preventive control, however rigorously applied In times of epidemic prevalence of infectious disease and in the present circumstances of milk distribution in large areas, the source of an outbreak might have to be sought for among numerous farms The fact is that no one who is not in perfect health should milk cows or handle milk, so mild and elusive are the forms which infection may assume It would be extremely difficult for this standard to be reached by the several hundred individual farms supplying a large city

How much dependence can be placed on pasteurization in the prevention of tuberculosis and to what extent bovine tubercle bacilli may survive this process are difficult questions to which answers are being eagerly sought Investigations into the thermal death point of tubercle bacilli in naturally infected milk by L J Meanwell are referred to in the review of this subject contained in the Research Monograph of the Ministry of Agriculture and Fisheries issued last year In view of the importance of correlating the experimental results with the ordinary commercial practice of heating milk, the conclusions reached are worth quoting in full

"L J Meanwell carried out a long series of experiments in which he studied the thermal death point, at different temperatures, of *Bacillus tuberculosis* in naturally infected milk, and has published his results In addition he has made an epitome of his own work and that of other people from which the following conclusions are drawn

"First, that Meanwell himself carried out 39 experiments, in which naturally infected and apparently normal tuberculous milk was heated to 145° F for 30 minutes, and found living tubercle bacilli present on one occasion In a second series of 10 experiments he heated naturally infected tuberculous milk which did not appear to be normal to the same temperature for the same time and again found living tubercle bacilli on one occasion Secondly, that an epitome of recent work upon this subject demonstrated that of the four workers who employed naturally infected milk for their experiments three found living tubercle bacilli after heating the milk to 145° F for thirty minutes Thirdly, that negative results were obtained by those workers who employed cultures of tubercle bacilli or pathological material which required chemical treatment before it could be inoculated Fourthly, Meanwell's work demonstrated that tubercle bacilli in naturally infected milk which had been heated to 140° F for twenty minutes were usually destroyed, but that this combination of time and temperature left no margin of safety

'Meanwell finally concluded that commercial pasteurization of milk at 145° F for thirty minutes, when efficiently carried out, is usually effective in destroying the tubercle bacillus, but that milk subjected to this process cannot always be guaranteed to be entirely free from this organism, especially when one takes into account the fluctuations in temperature, possible mechanical defects in the plant, and the natural desire to hold the milk at as low a temperature as possible in order to conserve the cream line These factors are all liable to be present when working under ordinary conditions"

It therefore appears that, from an experimental point of view, pasteurization is effective in destroying tubercle bacilli in milk in proportion to the efficiency with which it is conducted The question arises whether the positive holder method of heating milk, which, if carefully applied fulfils the time-temperature conditions laid down, and which is now universally employed, does in fact constitute a safeguard against infection Definite positive evidence on this point would be difficult to obtain On the epidemiological side, there are certain suggestive features about the remarkable decline in the incidence of non-pulmonary tuberculosis which lend support to the view that pasteurization may have been a far from negligible factor

During the last twenty years the death rate from non-pulmonary tuberculosis in Glasgow has fallen much more rapidly than has the corresponding rate for tuberculosis of the lung Tracing the former rate since 1915, it is found that the decline in abdominal tuberculosis—that is, that form of the disease which is generally accepted as being caused by the bovine bacillus—has proceeded at an accelerated rate as compared with disease of other organs Contrasting the five yearly periods 1915 19 and 1925 29, the total decline for all ages is from 59 to 30 per 100,000 of the population or 49 per cent, while for the three constituent groups of tuberculosis combined, the fall is from 21 to 10 (47 per cent) tuberculous meningitis, abdominal tuberculosis, and other forms of tuberculosis respectively Taking the age period under 1 year, the fall (46 per cent), 17 to 7 (59 per cent) and 19 to 10 (47 per cent) in abdominal disease is from 106 to 22 (79 per cent) in tuberculous meningitis from 177 to 80 (55 per cent) in other forms 41 to 21 (49 per cent) For children between 1 and 5 years, the fall is respectively 65 per cent, 36 per cent and 60 per cent There has thus taken place a decided reduction in the incidence of fatal non-pulmonary tuberculosis a fact which is also associated with an increasing mildness in its various clinical manifestations It will be observed that the decline in the abdominal form especially at the younger ages, has been outstandingly rapid The figures should however, be accepted with some reserve, owing to the fact that in children, especially infants under 1 year, infection

may readily arise in death certification as between abdominal and meningeal tuberculosis both of which may be manifestations of a generalized tuberculous infection

It is clear that some powerful protective influence has been at work the nature of which can only be surmised As regards abdominal tuberculosis this affection has become more difficult to recognize and more amenable to treatment while tuberculosis of the glands of the neck also regarded as mostly a product of the bovine bacillus has markedly declined in incidence and severity This reduction in bovine infections cannot be definitely ascribed to any particular underlying cause, but, in the absence of a satisfactory alternative explanation it appears to me that pasteurization should be included among the likely factors and that public health administration should for this reason support the efficient pasteurization of ordinary market milk excluding of course the designated milks from duly attested and inspected herds

There is however another and highly important aspect of the matter namely the relative value of raw and heated milk as an article of food especially for children Little is known about the chemical changes which take place in milk heated to comparatively low temperatures although certain suggestive observations have been made indicating that pasteurization may assail the delicate nutritive qualities of raw milk to a material degree and that fresh milk of high quality from accredited herds is best for young children Such evidence as exists is conflicting but should it be clearly demonstrated that pasteurization deprives milk of an essential constituent there will arise the question of a radical change of policy in milk distribution in the interests of the young

In conclusion the systematic pasteurization of ordinary market milk intended for consumption in large urban areas is in my opinion unavoidable under present conditions where milk is collected and mixed from widely scattered and varied sources not under such scrupulous control as to eliminate the risk of chance infections—a danger which experience shows to be very real It is difficult to resist the view which is supported by experimental evidence that efficient pasteurization is of real protective value against bovine tuberculosis and that this practice could not be dispensed with until tuberculosis in dairy herds has been reduced to a minimum

THE EARLY DIAGNOSIS OF INFECTIVE LATERAL SINUS THROMBOSIS*

BY

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INFECTIVE lateral sinus thrombosis has for many years been one of the most dreaded complications of suppurative middle ear and mastoid antrum disease The very high mortality resulting from this condition has of late years been largely reduced owing to the gradually increasing knowledge of the earlier symptoms and consequent earlier surgical intervention so much so that the prognosis may now be said to be distinctly favourable in all cases of operation previous to the breaking up of the infected clot

I have thoroughly examined the notes of the last hundred cases recorded at the London Hospital and it is remarkable how seldom I have found the more serious or later symptoms such as rigors and alterations of the central nervous system mentioned in the notes of the more recent cases the mortality also has dropped over 50 per cent in the last ten years It is therefore of the greatest importance to the patient that the earliest symptoms should be most carefully investigated

Of the 100 cases, 44 were associated with acute aural conditions (six months being taken as the acute period) and 56 with chronic suppurative aural condition Six of these cases were admitted to and eventually diagnosed in the medical ward and one remained undiscovered till the post mortem examination The admission diagnoses were pneumonia 2 pyrexia of unknown origin 3 typhoid 1 and septicaemia

It appears that children are more liable than adults in the proportion of three to one, and males than females in the proportion of two to one

Aural discharge previous to admission is almost universal only 5 of the acute cases having no discharge among the chronic cases 9 are noted as having no apparent discharge though a history of previous discharge was obtainable in all of the cases

Herpes and sordes about the lips and gums are extremely common symptoms and were present in almost all the cases I consider this to be a very early indication

Severe general malaise is another almost universal symptom of lateral sinus infection It is probably the earliest of all In only 3 cases was a positive blood culture obtained out of 42 cases where mention is made in the notes Examination of the state of the blood does not help diagnosis, as mastoid infection alone would give similar results

Downey's spinal test is only of value when the sinus clot has completely formed and is of no assistance in the early stages

Pain about the ear is another almost constant symptom in only 2 of the acute and 8 of the chronic cases was this symptom not mentioned although deep-seated discomfort rather than actual pain is frequently mentioned in many of the chronic cases

Headache is specially noted in 24 acute and 29 chronic cases while a feeling of general malaise and ill being is noted in almost all cases as having occurred in the earlier stages of the illness Vomiting occurred in 16 acute and 31 chronic cases The notes prove this to be almost invariably a late symptom occurring in very acute or advanced conditions Giddiness was noted only in 3 acute and 8 chronic cases and I do not think that it is of any special significance in lateral sinus infection

Temperature on the first day of admission was generally high. It was above normal in 36 and subnormal in 8 acute cases while in the chronic the numbers were 46 and 8 In 68 per cent of the cases the high night and low morning temperature predominated Rigors were noted in 26 acute and 31 chronic cases An early rigor or shivering fit was noted as an early symptom in almost 30 per cent of all cases but the subsequent frequent rigors were invariably a late and ominous symptom

Signs

Tenderness over the mastoid process occurred in 38 of the acute and 36 of the chronic cases the most frequent sites mentioned being the tip and directly over the antrum It was specially noted that in several chronic conditions tenderness was found only on deep pressure

Tenderness down the neck along the course of the jugular vein was specially mentioned in 11 cases two only being of the acute variety all except one chronic case were in advanced conditions

Swelling about the mastoid or oedema was noticed in 27 cases 9 being chronic It is interesting to note that all these were in children and it certainly seems that while the path of infection in the young tends to early involvement of the superficial mastoid cells and therefore a more ready diagnosis in the less frequently affected adult the infection tends to remain in the deeper mastoid cells

On examining the meatus no discharge was discovered in six of the acute cases though in all these the drum is mentioned as red and in four as bulging Similar signs are mentioned in three chronic cases

Redness or oedema of the posterior part of the meatal wall (post meatal spot) near the drum is mentioned in 31 acute and 39 chronic cases This I regard as the most important sign of mastoid disease and is alone a certain indication for operation The presence of this spot is invariably mentioned in all cases during the last six years As an indication of the great value of this sign nine of the above cases were unsuspected and were found during the course of operation for chronic mastoid on patients with prolonged ear discharge and general seediness and in whom the meatal spot was the main indicating sign for operation Where this sign is definitely established I regard operation as imperative even in

*The opening paper of a discussion in the Section of Laryngology and Otology at the Annual Meeting of the British Medical Association at Winnipeg 1929

the absence of any other operative indication, and I firmly believe that if this rule is observed the dangers of lateral sinus disease will be almost entirely eliminated both in acute and in chronic cases

Ophthalmic changes appear to be rare, and except for a very occasional squint (five cases in all, two being chronic) are rather late signs Papilloedema was noticed in 12 cases (7 being chronic) and nystagmus in 15, 9 being acute

Changes in the central nervous system were also very rare Definite signs of cerebral irritation were noted in 8 cases altogether, 5 being of the chronic type, while disturbances of various reflexes were noticed in 14 cases, 9 being chronic Facial paralysis occurred only in two chronic cases Examination of the cerebro spinal fluid is of no early value It will only show whether there is any meningitis or not

Diagnosis

Having enumerated the various symptoms and their relative frequency I am now in a position to give a short clinical picture of an early case of lateral sinus infection

If a patient with acute or chronic suppurative otitis media is found to be abnormally ill, yet with nothing definite to account for the grave general feeling of ill being, suspect sinus infection, look into the meatus and should the red oedematous meatal spot be present—operate! The accompaniment of deep mastoid tenderness, herpes and sordes, a swinging temperature and auditory pain should complete the early diagnosis, and operation should then prevent the occurrence of the more obvious signs

Another necessary early diagnosis may occur during a mastoid operation when it may be difficult to tell whether the interior of the sinus is infected or not I make the following observations on this

In the case of a perisinus abscess and a pulsating sinus surrounded with normal granulations, I have never known this condition not clear up with ordinary drainage The wash-leather sinus is the other difficult type Pulsation may be hard to get, though the sinus is felt to be full Inserting a needle is dangerous, as is also opening, on account of the possibility of infection If on compressing the sinus wall with a blunt probe and suddenly releasing I find the wall return to normal evenly and instantly, I always leave alone and watch for further indications later This sign has proved to be of great value

It will probably be a surprise to some of the specialists present that so little has been stated of pathological aids I wish to make this point very definitely, that the early diagnosis of this condition can only be done on purely clinical grounds, if the surgeon waits till the pathologist has made his diagnosis for him the chances of the patient are greatly minimized

The time to make the diagnosis is in the phlebitic stage, or not later than that of the mural clot The pathological changes in the blood and cerebro spinal fluid should have been prevented by the surgeon, and even if the patient is seen only at a late stage, there should be no need for a good clinical observer to lose valuable time in awaiting laboratory tests

The differential diagnosis at this stage is rendered difficult by the absence of any definite symptoms in an otherwise generally ill condition Unless the great importance of a previously discharging ear is recognized, it is quite easy to slip into such diagnoses as pyrexia of unknown origin and typhoid fever

In all symptomless febrile conditions a thorough search of the usual toxic foci should be undertaken, and it ought then to be wellnigh impossible to overlook the existence of a suppurative otitis media The resulting aural examination would disclose the presence or absence of the red oedematous meatal spot and offensive discharge Having now been placed on the right track, the observer should easily elicit the other abstruse signs of an infective sinus Being absolutely sure of the meatal spot I would definitely insist on a mastoid operation If there is one thing that has impressed itself on my mind it is the mistake of looking for two morbid conditions in the same person Coincidences of this character are extremely rare

The alleviation of a chronic mastoiditis, even if the sinus is not yet infected, must surely be helpful, on the other hand, the finding of a recently infected sinus not only clinches the diagnosis but saves the patient from a much graver situation.

FRACTURES OF THE ARTICULAR SURFACES OF THE KNEE-JOINT*

BY

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Of all the injuries which affect the knee-joint those which cause most concern in practice are the fractures of the weight-bearing surfaces of the joint

Statistical evidence is of little value in dealing with such a subject as this, because fractures of the articular surfaces of the knee-joint, exclusive of fractures of the patella, occur by no means commonly At Salford Royal Hospital, Manchester, in the centre of a great industrial area, about 250 fractures of the lower limb are admitted to the wards each year Two periods of three years were selected, and it was found that in the first period (excluding fractured patella and epiphyseal separations) 14 fractures of the articular surfaces of the knee were admitted, and in the second period 17 cases, an average of about 2 per cent of all leg fractures admitted

Fractures of the Femoral Condyles

I intend first to deal with examples of the minority group—namely, the fractures of the femoral side of the joint There are, in the first place, the gross fractures which split the two condyles apart and extend upwards along the shaft with more or less displacement of fragments

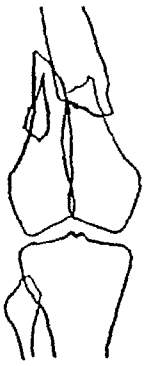


FIG 1



FIG 2.



FIG 3.

This is usually spoken of as a T-shaped fracture into the joint A typical example of this injury is shown by an outline sketch from the radiogram of the right knee of a man, aged 51, who received direct violence from the impact of a motor car (Fig 1) Under general anaesthesia extension was applied and adequate reposition of the fragments obtained A Thomas splint bent at the knee to an angle of 150 degrees was applied Union was firm after eleven weeks, and massage and active movements were commenced A calliper walking splint was worn for a further ten weeks, and the end-result is shown, so far as knee movement is concerned, by further radiograms, which demonstrate the fullest voluntary extension and flexion—namely, 180 degrees to 75 degrees Stability of the joint was good The man returned to work twenty five weeks after his accident An example of a more severe fracture of this type is that shown by the next patient, a man aged 50 His right knee was crushed between two buffers and the joint surfaces of both femur and tibia were shattered (Fig 2) A moderately good reposition of the fragments was obtained and a Thomas splint with extension applied The end-result, as might

* Read in opening a discussion in the Section of Orthopaedics at the Annual Meeting of the British Medical Association Winnipeg 1929

be anticipated from such an extensive articular injury, was poor as regards movement, a range from 180 to 140 degrees only being obtained. Stability was good and weight bearing painless.

Fractures of a Single Condyle

The more usual type of fracture of a single condyle is that shown by a man aged 35 whose knee was forcibly and suddenly abducted by a weight striking the outer side of the joint. The external condyle was found to have been fractured obliquely and forced upwards. Traction on a Thomas splint restored the position and the end result was good, there being a range of movement from 180 degrees to a right angle. Another and less common fracture of a single condyle is that in which the condyle is displaced backwards. In this case, a man aged 26 received a blow on the flexed knee in a motor collision, when I saw him eight weeks later the major portion of the internal condyle was found to have been driven backwards and a smaller fragment was lying loose in front of the joint. The loose portion was removed. The functional result has been excellent—a stable joint with a full range of movement.

Osteochondritis Dissecans

In a description of the articular fractures of the lower end of the femur one must refer to the condition described first by Koenig as osteochondritis "dissecans" sometimes incorrectly referred to in textbooks as 'dessicans". We are familiar with the punched-out area of articular cartilage usually incompletely detached and lying in its bed in the lateral aspect of the internal condyle (Fig 3). Are we to regard this as a fracture? Certain points in favour of this view cannot be neglected. The condition is found fifteen times more frequently in males than in females. Further it is found usually during the most active period of man's working life. There is hardly a case on record where a trauma has not been noted in the history. Lastly, the lesion is found at the point of greatest impact in the joint—namely the area where the inner condyle bears against the tuberosity of the tibia. For these reasons I think we must regard the condition as a localized fracture of the articular surface, and, as the fragment fails to join up with the bed from which it is detached it corresponds to an ununited fracture.

Microscopically it has been shown that although the cartilage cells of these fragments are normal in appearance and seem to be viable the underlying layer of bone is definitely dead. The cavity from which the fragment is punched is lined by a layer of fibrous tissue. Treatment consists in the removal of the fragment and the paring down of the overhanging edges of the remaining crater."

Tibial Fractures

The fractures of the upper end of the tibia are a more varied group and present a number of problems. They may be divided into (1) general fractures of the whole upper surface (2) single tuberosity compression or avulsion fractures (3) avulsion of the tibial spine and neighbouring cartilage, and (4) punched fractures of a small area of a tuberosity. The results of these injuries are often poor for these reasons—first, considerable comminution is present; secondly, there is difficulty of reposition of the fragments; thirdly, the frequent association of ligamentous tears leaving an irregular articular surface and lastly the later development of osteo-arthritic changes. In general one may say that the further away the fracture line lies from the centre of the joint the better is the prognosis for fracture.

The following cases illustrate the varieties of tibial fracture.

A man aged 25 received a severe blow on the outer side of the knee at football. The outer third of the external tuberosity was broken off and displaced outwards and backwards. Under general anaesthesia it was manipulated into position and the knee fixed in a plaster cast for six weeks. Active movement was commenced at the end of this period. He commenced to walk a week later with a calliper splint which was retained for three months. The end result showed a little widening of the condyle with a perfect range of knee movement.

In the next case a collier aged 51 had a crush of the knee from a fall of coal. The upper tibia was shattered and a third was a soiled wound leading almost to the bone. It was impossible to do anything but apply extension to the limb with some lateral compression of the fragments. The result was poor with a union of the separated fragments and absorption of articular cartilage. The knee was stable enough for walking and was not painful but the range of movement was from 180 to 150 degrees only.

The next case is an illustration of the infinitely better result which can be obtained by open operation in this type of fracture.

A man aged 25 received a direct blow on the head of the tibia in a motor cycle accident. Much shattering occurred with



FIG. 4.



FIG. 5.

separation and displacement downwards of a large fragment comprising the internal tuberosity tibial spine and part of the external tuberosity (Fig 4). Open reduction was performed and the fragments fixed by a transverse ivory peg. A good apposition was thus obtained and the limb fixed in a plaster cast for six weeks (Fig 5). At the end of this time active movement was commenced. A calliper was fitted two weeks later and this was worn for four months. It the end of six months he returned to work. The end result eighteen months after the accident showed a very stable knee with a range of movement from 180 to 90 degrees.

Punched fractures of the articular surface of the tibia are not uncommon and are best dealt with as in the case of the femur by excision of the separated fragment.

A man aged 30 fell 15 feet and came down awkwardly on his left foot. The articular surface of the inner condyle of the tibia was fractured and a fragment of cartilage and bone was removed. The specimen showed a piece of bone covered by articular cartilage about 1¼ by 1·2 inch broad. The end result after a year was good and the surface had obviously regenerated. Movement from 180 to 90 degrees was freely considerable. performed.

There remain to be mentioned the fractures of the tibial spine. These are usually brought about by severe wrenches of the joint and are associated with more or less tearing of the crucial ligament.

An example of the less severe type is that of a woman aged 40 who fell down stairs and wrenched the knee producing a forced

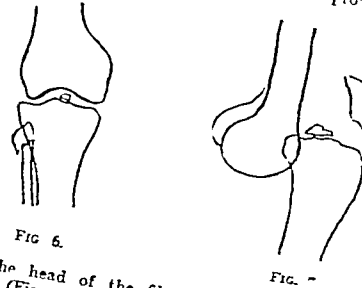


FIG. 6.

FIG. 7.

adduction. The head of the fibula was avulsed and the tibial spine broken (Fig 6). The knee was fixed in plaster for six weeks, and at the end of that time active movement was commenced. No calliper was worn and the end result was a perfectly functioning joint.

The last case I wish to refer to is that of a man aged 36 who fell 20 feet from a scaffolding and suffered a complete dislocation of the right knee. The tibia was dislocated forwards and the tibial spine torn away with complete rupture of crucial ligaments (Fig 7). After reduction a plaster cast was applied and retained for ten weeks. A calliper was worn for a further three months and later a knee cage allowing movement from 120 to 135 degrees for another three months. At the end of a year the knee was fully stable and the joint moved through a range of 180 to 90 degrees.

In summarizing I would say that, in my experience, the tibial tuberosities are broken more commonly by violence directly applied to the flexed knee or by forced abnormal lateral movement than by the so-called "compression"—a term so frequently employed in describing the fractures of this region The tuberosities appear to be fractured with about equal frequency

Treatment

There is such a wide variation in this group of fractures that it is absurd to dogmatize and to insist, as many writers have done, that either non-operative or operative treatment is the method of choice for all types Each must be treated according to its particular needs

All fractures which involve the joint surfaces must be dealt with by early manipulation under full anaesthesia, so as to restore the position as perfectly as possible Open operation must be resorted to if a satisfactory reduction cannot be otherwise obtained Bone pegs should be used where the fragments tend to move so as to jeopardize the adequate reposition Small separated fragments should be excised Fixation in plaster for an average period of six weeks has been, in my own experience, the most satisfactory means of maintaining position

After-Treatment

In the later treatment a strong distinction must be drawn between movement and weight bearing Gently graduated active movement should be commenced as early as possible after union is attained, but, in the severer injuries at least, weight bearing must be delayed for at least three months by the adoption of a calliper walking splint

The end-result, after such treatment, is frequently better than the primary injury would lead one to hope for, but the recovery of movement is usually slow, and I have many times been surprised to find how a knee which has suffered a severe articular fracture and, at the end of six months, showed 30 or 40 degrees of movement would, after another six or twelve months, regain a range of more than a right angle of free and painless movement

This paper was illustrated by numerous radiograms, of which a small selection are reproduced as line drawings

RADIUM IN GYNAECOLOGY.*

BY

SIDNEY FORSDIKE, M D, B S, F R C S

THIRTY years ago radium made an entry into surgical therapeutics, and was greeted with enthusiasm on reports of the cure of malignant tumours Claims were made which were never substantiated, or results were so transient that recurrence of the growth followed hot-foot upon the reports In the course of five or six years disillusionment was complete, and radium treatment was left to the few who still had faith We are now in the second advent, and the enthusiasm displayed suggests that history is repeating itself Responsible men are making themselves answerable for statements that 70 to 80 per cent of early cancers are curable by radium, such claims may possibly be prophecy, they are not history There is a glut of hastily written books on treatment by radium, and a still greater stream of reports of cases treated within the year I recently attended a lecture by the director of a radium clinic who recorded cures of one, two, and three years' standing What does the word "cure" mean? Is it the disappearance of symptoms for a limited time, or is it permanent freedom from disease? Assuredly the latter is the only meaning, and the propriety of using the word in any other sense is open to grave criticism This enthusiasm, sired by our profession and nourished by the press, has placed an enormous sum of money in the hands of a Radium Commission for the purchase of 24 grams of radium element It is proposed to distribute the whole of this for clinical work, not one milligram being allocated to biological research One would suppose that there was nothing unlearned of the effects of radium upon living tissues, and that, given the supply, the disappearance of the cancer was only a matter of application A certain amount of work has been done upon normal tissues, tissue cultures, and animal tumours The knowledge gleaned from these sources is of great value, but it must be multiplied ten, twenty, and a hundredfold before we are in a position to direct the gamma ray with precision and certainty At present the only research radium in the country amounts to something less than a gram, privately owned and divided into small quantities, if all the problems to be investigated are to depend on this supply alone, then another generation must pass away before they are solved These problems are urgent and imperative, and must be attacked while the wave of enthusiasm is high. The Radium Commission would serve the community to the best advantage in the organization of research work and in the allocation of whatever radium was necessary for the purpose

How Radium Acts

It is a matter of dispute between workers whether radium acts directly upon the cell or upon the stroma. The microscope shows us the change of structure which has taken place in the tissue after irradiation, but it tells us nothing of how or why the change has taken place The ingenious application of cinematography, by Canti, to irradiated tissue cultures has extended the knowledge acquired by the study of the dead cell, but while we have a dramatic view of the cell being struck down it does not solve the question why it is smitten This effect may be due to direct action on the cell by the gamma wave, but it is equally probable that it is caused by a primary change in the stroma After a long investigation[1] of the effects of radium upon normal and malignant tissues I was forced to the conclusion that the primary action was upon the stroma, and the cell change secondary to it This problem, however, is not to be settled by the study of structure alone, it must be combined with observation of the change of function in secreting and excreting glands after irradiation Furthermore, the help of the biochemist must be enlisted to investigate changes in the chemistry of the cell after exposure to radium The importance of this question cannot be exaggerated, for upon its solution depends the decision of the dose to be employed

Screens

One would think that the value of metal screens must have been settled long ago, and yet the following values are given in three different books for the absorption of 99 9 per cent beta rays

	Brass	Silver	Lead	Platinum.
Cade	1 60 mm	1.30 mm	1.20 mm	0 60 mm
Larkin	2 0 mm	1 0 mm	1 0 mm	0.50 mm.
Simpson	1 10 mm	0 80 mm	0 80 mm	0 40 mm.

Russ[2] has shown that with 0 5 mm platinum about 20 per cent of the ionization is due to the moderately penetrating rays, and they are responsible for the necrosis which occurs around the source of energy This necrosis is either beneficial or inimical to the treatment, and therefore it is of paramount importance to ascertain the true value of the screen Needles containing one, two, three, or more milligrams of radium element are being used for cancer of the tongue, breast, and cervix with a thickness of 0 5 mm platinum, and the immediate results are reported to be satisfactory On the other hand, the Radium Institutes of Stockholm[3] and Paris use a minimum equivalent of 1 mm platinum, from which permanent results are reported It is not probable that both methods are equally favourable, and it is imperative to determine which is the more favourable Some experiments by Lazarus-Barlow,[4] in which he used screens of varying thickness—0 5 mm, 1 mm, 1 5 mm, and 2 mm platinum—throw light on this problem He found that the minimum injury to normal tissues and the maximum to actively proliferating cells was produced when the heavy screens were used These results are crucial, but they need to be

* Read in opening a discussion in the Section of Obstetrics at the Annual Meeting of the British Medical Association Winnipeg 1930.

repeated and extended. A further point which needs investigation is the radiation value of the metals used for screens. Physicists tell us that 1 mm. platinum is equivalent to 2 mm. lead in screening power. Is it certain that the gamma rays which has passed through lead has a similar value to the gamma ray which has passed through platinum? Discrepancies in clinical and experimental work when using different screens of equivalent value suggest that this may be one source of error.

Split Doses

A problem equally pressing is whether the dose should be applied continuously or divided into two or more exposures. How far do living tissues conform to physical laws? *Ceteris paribus* the ionization effects of 100 mg. of radium element for one hour are equal to 50 mg. for two hours. Does the law hold when living tissues are in question? In practice Radiumhemmet gives three large doses at intervals of ten and twenty-one days, whereas the Curie Institute gives a prolonged exposure of four, five or six days of a smaller quantity. Can it be that both methods are equally favourable or are we treading the radium path blindly? Some experiments recorded by Lazarus-Barlow suggest that this is a complicated problem. Using the same dose of radium he employed a large quantity for a short time and a small quantity for a relatively long time, and found that the results upon columnar and squamous epithelium were practically reversed. He concluded that the same arrangement of time and quantity in a dose of radium produces very different effects when acting upon the three types of epithelial tissues—columnar epithelium, dry squamous, and moist squamous epithelium. Maximum effects are produced upon the epithelial cells, and minimum effects upon the associated tissues in the case of a columnar-cell growth when the quantity of radium is relatively large and the time relatively small, whereas in a squamous-cell growth the optimum effects are produced when the quantity of radium is small and the length of exposure relatively long. It is obvious that these experiments go to the root of the problem but they need amplifying and research work with this object must be organized.

Treatment of the Regional Glands

Finally, the clinical problem arises as to the treatment of the regional glands. The weakness of the Radium-hemmet technique is that it relies upon uterine and vaginal radium entirely, which means that the involved glands are being treated palliatively.

Various methods of applying radium in the pelvis have been tried from Dael's chain implanting radium and packing the pelvis with gauze for a week, fixing radium in drainage tubes, which are brought to the surface through stab wounds to burying radium needles for a week at the end of which time a second laparotomy is performed to recover them. These methods are uncertain, inexact and make a big call upon the woman's fortitude and courage. Some of these methods have been described as a "barrage of radium," an unfortunate term for it is as likely to form a mental barrage to progress as a radiological one to exclude the cancer cell.

Recasens (Madrid)[6] has combined *x* rays with radium for many years, and claims improved results over radium treatment alone. However, as far as I know he has not published statistics in support of this claim. The Curie Institute has been using *x* rays as well as radium since 1923–24, a comparison of its results before and since should prove instructive. A third method is coming into use in which the treatment of the cervix by radium is followed by excision of the regional glands. It is obvious that with such varied practice there is urgent need of organized research in this direction.

RADIUM IN BENIGN CONDITIONS

Whatever the view may be with regard to the treatment of carcinoma there is no doubt about the efficacy of radium in producing an artificial menopause. Even here however there is a difference of opinion upon two important points: (1) dose of radium, (2) whether the endometrium or the ovaries are affected.

Dose of Radium

Here we find the differences somewhat startling:

50 mg. radium element in 0.5 mm. platinum *in utero* for seventy-two hours.
100 mg. radium element in 1 mm. platinum *in utero* for forty-eight hours.
150 mg. radium element in 1 mm. platinum *in utero* for twenty-four hours.

The object we have in view in menopausal haemorrhages is to convert the endometrium into connective tissue without the production of necrosis. We find that this occurs experimentally and clinically when the hard gamma ray is used alone. A long exposure to beta rays produces necrosis of the tissues in the immediate vicinity of the radium. In the case where 50 mg. of radium element protected by 0.5 mm. platinum is placed *in utero* for seventy-two hours, 20 per cent. of the ionization effects are due to hard beta and soft gamma rays: necrosis ensues, and if it remains aseptic partial or complete obliteration of the uterine cavity occurs. Complete obliteration may or may not be desirable but with partial occlusion there is a grave risk of prometra. If the necrosed surfaces become infected sloughs of the endometrium and secondary haemorrhage follow, and when healing does take place it is again by way of partial or complete closure of the uterine cavity.

The larger doses of 100 mg. of radium element in 1 mm. platinum for twenty-four and forty-eight hours rarely result in necrosis but it is quite common to hear of severe irritation of the bladder and rectum. This irritation is often transient but it sometimes lasts for months despite all treatment, and the patient has exchanged painless haemorrhage for continuous pain and discomfort. Aschersen[7] reports the local changes which occur as a result of these heavy doses: hour-glass contraction of the vagina, atrophy of the portio, shortening and stenosis of the vagina, and ovarian neuralgia.

In 1926[8] I published the results of 200 cases of severe uterine haemorrhage treated by 53 mg. of radium element in a screen equivalent of 1 mm. platinum placed *in utero* for twenty-four hours, and expressed the opinion that this dose was probably unnecessarily large. Since then I have (in some cases) reduced the time to twenty-two hours and the results are no less satisfactory with these doses there has not been a single complaint of irritation of bowel or bladder.

Does Radium Act upon Endometrium or Ovaries?

The German view, arguing from the analogy of the Roentgen ray that "castration" by radium acts by arrested ovulation, is still widely held despite clinical, physical, and experimental evidence. The law of inverse squares was ignored: the three and a half inches separating normally placed ovaries from radium placed in the uterine cavity was forgotten, the knowledge that the demonstrable action of radium upon tissues under similar conditions is limited to three-quarters of an inch was unknown when this argument was advanced. To settle this problem I undertook a critical investigation on the ovaries of cats in which the conditions were precisely similar to those in clinical work. The results were conclusive in showing that the ovaries remained unaffected and that the changes in the endometrium were alone responsible for the cessation of haemorrhage. An account of these experiments and analysis of the clinical evidence was reported to the Gynæcological Section of the Royal Society of Medicine.[9]

FIBROIDS

Radium is used in the treatment of these tumours but in my opinion when treatment is required at all it should be by excision because while radium banishes haemorrhage and causes the tumour to shrink it will not make the growth disappear. Fibroids are peculiarly liable to degenerative changes and therefore it is advisable to remove them. The only exception is where haemorrhage is the cardinal symptom and a small fibroid is discovered during an examination under anæsthesia: in such cases treatment by radium is justifiable.

RADIUM TREATMENT OF CANCER OF THE CERVIX

It is slowly being recognized that the early results are not permanent in the majority of cases, and therefore not worth recording except as evidence of the value of radium for palliative treatment. Reports on a five-year basis will alone enable us to assess the true value of radium in the treatment of malignant disease, and for this purpose they are equally important, whether favourable or not.

The classification of cancer of the cervix under the international standard is not easy, for the definition which creates Classes 2 and 3 covers inflammatory as well as malignant conditions, and it is sometimes impossible to differentiate between them. My series of cases in the five-year period 1921 to 1925 consists of 211, divided as follows:

1. Cases in which the disease was limited to the cervix (operable) — 14
2. Cases in which the vagina and parametrium was involved and the uterus tethered (borderline) — 53
3. Cases of advanced disease (inoperable) — 144

Operable Cases

The following table shows the results in the 14 operable cases:

Recurrence of Growth				Remained Free = 28%
1 year	2 years	3 years	4 years	5 years and over
3	4	2	1	4

Remained Free.—One patient was alive and well nine years after treatment. One died of chronic bronchitis and cardiac failure seven and a half years later. She had been treated with radium and x rays. One was alive and well six years later. The fourth was alive and well five years afterwards.

Recurrence of Growth.—In three patients recurrence took place in the cervix, and in five a pelvic mass developed while the cervix remained healed.

Borderline Cases

In 20 of these cases the condition improved so much after the first exposure to radium that I performed the radical operation upon them. The results of the remaining 33 are as follows:

Recurrence or Death within 5 years					Remained Free = 12%
1st year	2nd year	3rd year	4th year	5 years	5 years and over
13	8	6	1	1	4

Remained Free.—In one a laparotomy had been performed at another hospital for a Wertheim's operation, but it was abandoned. She has remained under observation for eight and a half years, and is free from disease. The second was under observation for six years, during which time she remained well. The third is alive and well at the end of six years. This patient was treated with radium and x rays. The fourth is alive and free from disease after five and a half years.

Recurrence or Death within Five Years

Case 180.—This was a carcinoma of the stump of the cervix occurring some time after a subtotal hysterectomy. Three years after treatment her right breast was removed for a malignant growth. Two years later, and five years after the radium treatment, she returned with a mass in the pelvis, but whether it was a metastasis from the breast or a recurrence from the cervix was not decided.

Case 172.—In this case the patient died from cerebral haemorrhage four years after treatment, but there was no recurrence of disease in the pelvis.

Of the 13 patients who were lost or died within the first year, one died of uraemia after one exposure, and one patient had one exposure and then underwent an operation at another hospital.

Recurrence took place in the pelvis in 10 of these cases. It is worth remarking that of the 14 operable and the 33 borderline cases, recurrence deep in the pelvis occurred fifteen times, which corresponds approximately to the number of cases in which the glands are found to be involved.

Inoperable Cases

Recurrences after Wertheim's Operation.—These cases numbered 40. The difficulties attending their efficient treatment by radium are insuperable owing to the proximity of the bladder and rectum, and I have derived no encouragement from my results. Temporary relief was the best sequel, and not one patient survived beyond one year. Vesical fistulae occurred in three cases, but it is not possible to say whether this was due to the growth or to the radium, it is certain, however, that a fistula would have resulted if left untreated, but it is probable that the treatment hastened the condition.

Advanced Cases.—There were 104 of these, 10 of which were not suitable for treatment on account of fistulae, metastases, or cachexia. Of the 94 treated 73 died in one year, 16 in two years, 2 in three years, 2 in four years, and 1 in five years.

At this stage of the disease there is no hope of curing the patient, but the symptoms, haemorrhage, offensive discharge, and pain are relieved in 80 per cent., and life is prolonged in comfort for 20 per cent. In the cases which survived for three, four, and five years a slowly enlarging pelvic mass was present throughout, and pressure symptoms ultimately appeared.

In this class recto-vaginal fistulae occurred in two cases and vesico-vaginal fistulae in three. In advanced malignant disease of the cervix fistulae are of common occurrence before the termination of life, and it is not possible to attribute them to the radium alone. I had to ligature the internal iliacs for secondary haemorrhage on eight occasions, in three of these cases a virulent infection was present, and it is probable that the arterial wall had undergone such changes that secondary haemorrhage was imminent, for in two of them it appeared within three days of the first exposure. In the third patient there was an interval of fifteen days between the first and second exposures, and the haemorrhage ensued immediately after the second. In the other five cases healing of the ulcer had made great progress, but had reached a callous stage in which a small unhealthy cavity was surrounded by a massive deposit of fibrous tissues.

Summary of Results

The total number of patients treated by radium was 181. In the inoperable cases the results were palliation and prolongation of life, 134—none cured, borderline cases, 33—4 cured, operable cases, 14—4 cured.

The rate of cure in all the cases treated by radium was 4·5 per cent., or 1 patient out of 22, in the borderline cases 12 per cent., or 1 patient out of 8, and in the operable cases the rate was 28 per cent., or 2 patients out of 7.

If the advanced cases, where no cures could be expected, are omitted there were 47 operable and borderline cases, of which 8 were cured (17 per cent.), or 1 patient out of 6.

Remarks

These issues were not comparable to those of Radium hemmet or to those obtained by operative surgery, and I attributed the comparative failure to an immature technique which was tentative and unsettled. Therefore in the current five-year period I adopted the technique of Radiumhemmet in one series of cases, and that of the Curie Institute in another. The latter I abandoned after treating twenty cases, owing to the production of callous ulcers which never completely healed. I persevered with the Stockholm technique, and, although the five-year period is not yet up, the conclusions do not show any improvement. I visited the Institutes of Stockholm and Paris to ensure that my methods did not differ in any material way and was satisfied that the technique offered no reason for the marked difference in results.

I remain a believer in the future of radium, but feel that to-day we are a long way from accepting it as a sovereign cure for all malignant tumours in the meantime I am convinced that surgical treatment offers the patient a better chance of cure. Unless our knowledge of radium

is greatly increased, and the immediate results of treatment are placed in proper perspective, I foresee a general resumption of treatment by operative surgery

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Memoranda.

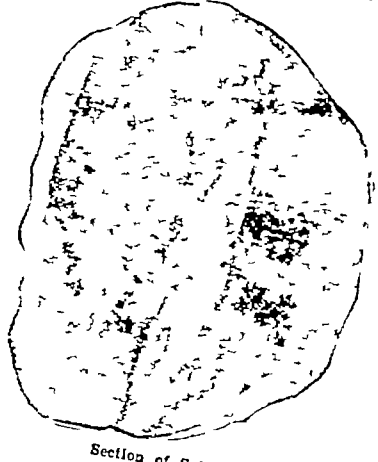
MEDICAL, SURGICAL, OBSTETRICAL

NODULAR SPLENIC TUBERCULOSIS WITH GROSS ENLARGEMENT

THE fortuitous discovery of a case of tuberculous nodules of the spleen, with gross enlargement of the organ, seems to be worthy of record, in view of the rarity of such an occurrence in an otherwise healthy subject

A youth aged 22 met with sudden death in a motor collision in May He had had no previous illness and the family history was good

At the post mortem examination fracture of the skull was found but there was no disease of the organs other than the spleen which was full of nodules these on microscopical examination were reported to be tuberculous in origin They were whitish yellow ranging in size from that of a pinhead to at least 1 ½ inch in diameter They projected slightly beneath the capsule and also from the cut surface On section conglomerate tubercles were revealed with scattered giant cells and numerous epithelial cells. The larger nodules showed commencing caseation



Section of Spleen.

The case is interesting because it is rare for tuberculous infection of the spleen to occur apart from similar manifestations elsewhere Moreover it is unusual for such great enlargement to be caused by numerous nodules the organ measured 6½ by 4½ by 3 inches and weighed 9 ounces This occurrence must be extremely rare in a youth otherwise perfectly healthy at the time of death

I am indebted to Dr J A D Radcliffe (pathologist to the Royal Portsmouth Hospital) for the pathological report

R HAMLEN HODGES M B Lond

Southsea.

REMOVAL OF SAFETY-PIN FROM DUODENUM

CERTAIN interesting features of the case here described justify, in my opinion its publication

On May 26th a male infant aged 6 months was brought to me by the mother who stated the child had just swallowed a small safety pin The child appeared quite at ease but an x ray examination revealed the pin lying open to the right of the second and third lumbar vertebrae probably in the pyloric end of the stomach. Examination of the abdomen showed no sign of peritoneal irritation but the child was admitted to the Great Western Hospital for observation and x ray photographs were taken on four consecutive days Since the pin however remained in the same anatomical position and continued to lie vertically suggesting that it had become fixed in the stomach wall I decided to remove it

On May 29th a general anaesthetic was administered and the abdomen was opened by an upper right paramedian incision. To my surprise I was unable to feel the pin in the stomach but eventually it was located in the duodenum at the junction of the second and third portions It is rather surprising that an open safety pin can proceed as far as the third part of the duodenum before it becomes anchored I reframed from opening the duodenum since it is difficult to manipulate this part of the organ especially in an infant and also one hesitates to open it because of its liability to leakage I therefore incised the stomach about one inch proximal to the pylorus and attempted to coax the pin up from the duodenum into the stomach It appears that the pylorus of an infant will just admit the little finger but it was impossible to pull the pin up—even with the aid of forceps—owing to its being fixed to the duodenal wall. The stomach was therefore closed

It appears that the pin was caught in the wall of the duodenum I succeeded in completing the perforation and in forcing out the pin as far as the head. It would have been almost impossible to incise the third part of the duodenum and to suture it successfully without fear of leakage A purse-string suture was passed around the pin and by means of a sharp pull the head was torn through the bowel wall the purse-string suture was immediately tightened and tied and the abdomen was then closed

The child made an uninterrupted recovery and was discharged from hospital thirteen days later

Should I ever be called upon to perform this operation again I should make the incision at least 1½ to 2 inches proximal to the pylorus because in suturing the wound of the stomach the pyloric sphincter was encroached upon tending to occlude the lumen Nevertheless it has been my experience that in cases of perforated pyloric ulcer treated simply by purse-string suture and invagination, however much is taken up in the suture and invaginated, pyloric obstruction does not occur and gastro-enterostomy is quite an unnecessary procedure

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PASSAGE OF GALL STONES THROUGH THE ABDOMINAL WALL

THE case described by Mr F H McCay in the *Journal* of July 26th (p 142) of the natural passage of gall-stones through an external sinus prompts me to record a somewhat similar though perhaps even more uncommon, occurrence in a patient seen recently at the Manchester Royal Infirmary

A woman aged 60 gave a six months history of gradually increasing jaundice and loss of weight with clay-coloured stools dark urine anorexia and occasional vomiting preceded by repeated attacks of typical gall-stone colic, and extending over a period of twenty four years. She stated that during this time she had passed through her abdominal wall at intervals thirty four stones of varying dimensions but usually of the size of small pebbles They appeared singly or in groups of two or three Their passage was preceded by the formation of a small swelling under the skin which when fomented discharged the stones externally leaving the sinus exuding a thick yellow fluid Abdominal examination revealed the scars of three excised ones in the epigastrium and two in the right hypochondrium. A large mass present in the latter region was subsequently diagnosed at operation as an inoperable carcinoma of the gall bladder this finding being later verified histologically

I am indebted to Mr P R. Wrigley for permission to record this case

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Reviews.

AN INTRODUCTION TO THERAPEUTICS

IT is a matter of common knowledge that students in our teaching hospitals are well and systematically taught the modern methods of diagnosis by lectures as well as in the wards, but, when they graduate, their idea of how to treat a sick patient is very rudimentary Dr Campbell's new *Handbook of Therapeutics*[1] is meant to rectify, as far as possible, this gap in knowledge, and certainly there has been no good short textbook on treatment available to our students for a number of years Materia medica and pharmacology were formerly taught by practising physicians, and Dr Campbell was fortunate in having the physician and pharmacologist, Professor Ralph Stockman, as his teacher Of him Campbell states that "he has had no direct responsibility for any of the contents of this book, but its pages inevitably reflect his teaching"

Nowadays, especially in the medical schools of Great Britain, pharmacology has to a large extent simply become a special branch of physiology, devoted to animal experiment, while pharmacy and materia medica are seldom taken seriously as a study A further handicap to the student is the necessity of using standardized mixtures and prescriptions in order to save the dispenser's time, thus little opportunity is given for learning the art of correct prescribing Professor A J Clark's treatise, *Applied Pharmacology*, was a fine attempt to bring the results of pharmacological experiment into direct relation with therapy, but his book does not bear directly on the individual patient Dr Campbell is a physician and, obviously, is constantly making use of and testing the effects of the therapeutic measures which he recommends His book may be used as a short reference in the treatment of individual cases, but larger and more detailed books or monographs would sooner or later be required Its main value is that it gives a systematic survey of the therapeutic methods which the student, with his naturally limited survey of cases in his three clinical years, only picks up spasmodically and in scraps It is an excellent book for every medical student to read in his final year, while no better present could be made to a young graduate about to take up the post of house-physician, or to begin as an assistant in general practice It is essentially a student's book, and not an advanced book It fills a real want, and at the moderate price of 12s 6d should command a ready sale in all medical schools It would be an excellent thing if this book became well known, not only in this country but in the United States, where such a view of medical therapeutics is much required

MYCOSES OF THE SPLEEN

THE suggestion put forward by Dr A G GIBSON sixteen years ago, that certain forms of splenomegaly are caused by a streptothrix, has not been generally accepted Subsequent study of the subject has confirmed Dr Gibson in his original opinion, and in a recently published work, *The Mycoses of the Spleen*,[2] he has given an impartial review of the question, and has made out a strong case in support of his thesis

The splenomegalies under discussion are those occurring in cases of splenic anaemia, acholuric jaundice, and Banti's disease As is well known, these spleens often contain small dark nodules of the size of a lentil or less, presenting a pale centre with a haemorrhagic peripheral zone They are known as Gandy-Gamna nodules From Dr Gibson's descriptions and figures there can be no doubt that the nodules sometimes contain a streptothrix, and he has demonstrated its presence in nine out of thirteen cases of splenic anaemia, in ten out of thirteen cases of Banti's disease, and in five out of six cases of acholuric jaundice Excluding three doubtful cases of syphilitic splenomegaly, the author has not been able to find nodules in other splenomegalies Other investigators, however, are said to have found them in cases of atrophic cirrhosis, haemolytic icterus, calculous cirrhosis, lymphatic leukaemia, and Still's disease, but then much more frequent occurrence in the three splenomegalies under discussion appears to admit of no doubt Dr Gibson has succeeded in isolating the streptothrix in pure culture, and finds that it belongs to the genus Nocardia, an organism composed of mycelial hyphae with a radial habit of growth, showing true branching, and tending to develop into colonies made up of these hyphae, some of which may have conidia attached, all strains conform to the old genus Actinomyces Experimental injection of the organism has shown it to be non pathogenic for guinea-pigs, rats, and mice, but pathogenic for monkeys In the latter case it produces a slow illness, the average length being 342 days, ending in death The symptoms are a gradual deterioration in bodily activity without loss of appetite, tenderness in the splenic region with or without enlargement of the spleen, slight anaemia, and no recognizable fragility of the red blood corpuscles Neither in the spleen nor in other organs has it been possible to demonstrate the presence of streptothrix threads, but in six out of seventeen cases the identical organism was recovered either from a blood culture during life or from the blood or spleen after death

Dr Gibson observes that the etiology of these splenomegalies can only be proved by the repetition of his observations by other workers, no positive opinion can be formed until the findings become general and uniform Extensive investigations on this subject have recently been undertaken by Professor Nanta, who has demonstrated the presence of what appears to be an Aspergillus in the nodules, it is possible, therefore, that certain cases of splenomegaly are due to invasion by this organism

THE PLATING OF BONE

ELEVEN dogs were experimented upon by Dr ROBERT FRANTZ to test the effects of metallic osteosynthesis by means of plates, etc, on unbroken and on broken bones[3] This research was carried out in the laboratory of experimental surgery founded by Professor Bernard Cunéo in the Ecole Pratique of the Faculty of Medicine of Paris. Professor Cunéo writes an appreciative preface The operations performed and the changes found after killing the animals many days after operation are described in full detail, but no very revolutionary conclusions are set forth Dr Frantz points out that undue pressure on the bone is to be avoided, and that this may be effected by two methods (*a*) reduction of force of constriction, and (*b*) increase of the surface of the restraining medium Of the appliances tried, the staples and wires of Cunéo affect the least and the sleeve of Contremoulins the greatest surface The fitting of appliances should not require unusual technical skill In case of intolerance, reaction is most marked when the volume of the foreign body is considerable, therefore the less the bulk of the plate or staple or other object the better

After describing and discussing these experimental operations on dogs, Dr Frantz goes on to consider their application to human surgery His conclusions appear to be sound He points out the paradox, that the functional results of open operation and "plating" may be poor although the anatomical position and the union may be ideal At the same time, one sees cases of fracture treated by non-operative methods in which the anatomical "end to-end" results are poor, but the functionals are excellent He concludes, wisely, that if one can obtain consolidation of a fracture, with restoration of the axis of the limb without cutting operation, this method should be preferred, and metallic osteosynthesis be strictly reserved for fractures of which the cure is impossible by other means

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[3] *L Ostéo synthèse Métallique dans les Fractures Diaphysaires* Par Robert Frantz. Préface du Professeur Bernard Cunéo Paris Masson et Cie 1929 (6½ × 10, pp vi + 120 34 figures 25 fr)

PHYSICAL ANTHROPOLOGY

ANTHROPOLOGY, as we understand it to-day, is a composite science and it requires a combination of experts in various biological subjects to cover its entire field. Physical anthropology is one branch of this science and broadly speaking deals with the anatomy of the Hominidæ. It is fit and proper therefore that this subject should be in the hands of the specialist in human and primate anatomy. But if is equally fit and proper that the general anthropologist with no training in anatomical science should cultivate at least a superficial acquaintance with the main points of physical anthropology so that he may rightly appreciate the significance of anatomical factors in their relation to human evolution even though he may not himself be competent to interpret them. Mr. E. P. Stibbe's book, *An Introduction to Physical Anthropology*,[1] serves to meet the need of those would be anthropologists who have no first-hand knowledge of human anatomy. It is based primarily on the syllabus for the B.A. and B.Sc. degrees in anthropology of the London University.

The main feature of the book we think is that it reduces the whole of physical anthropology to its simplest expression and thus provides for the novice a clear and concise survey of the subject. As is customary in works of this kind a very large proportion (almost half) of it is taken up with osteology, presumably because of its importance in connexion with the study of fossil remains. Unhappily however, this has the disadvantage of dissociating in the mind of the amateur the skeleton from the "soft parts" and of suggesting that it is possible to assess the significance of skeletal characters without an intimate knowledge of anatomy as a whole. Nothing could be more misleading and, indeed, the results of such an attitude of mind have more than once been illustrated by the unfortunate reconstructions of fossil man which have been put forward by scientists who have never so much as dissected a human body. For this reason we are sorry that Mr. Stibbe has not dealt with the anatomy of the "soft parts" except for a brief reference to the evolution of the brain and to surface anatomy. Perhaps however such a criticism is not of so much importance in connexion with a textbook which does not purport to be more than an introduction.

The first part of the book deals mainly with the skeletal structure of man and the man-like apes and this part has been arranged in a somewhat unusual manner. The left-hand pages read in continuity, give a description of the human skeleton and the corresponding parts of the apes are placed opposite on the right-hand pages. We confess we are not enamoured of this arrangement. To our mind it is more difficult to read in continuity thus and it might even be construed as a reflection upon the mental powers of the reader that such a tabulation should be necessary in an elementary book of this kind. Part II. deals with the anatomy of fossil man, and the value of the short descriptions is considerably enhanced by a series of excellent illustrations. Part III. deals with racial anatomy, and contains a clear account of the methods adopted for the examination of the living subject and of the skull.

A work of this type has been badly needed for a long time, and if it errs on the side of brevity, Mr. Stibbe's book certainly provides a most convenient summary of present knowledge and methods of physical anthropology.

THE COTTAGE HOSPITAL

WHATEVER fate the future may hold for the hospital system in this country under the new Local Government Act, it is possible that the authors of a recently published book on cottage hospitals[2] are right in their surmise that these institutions will remain as at present voluntary hospitals. They think, in fact, that their numbers will increase until every rural district possesses its cottage hospital. Inspired by this ideal Major Du Plat-Taylor, Mr. John Coleridge, and Mr. Johnston Abraham have combined their efforts as engineer, architect and surgeon, in order to instruct committees of the charitable in the construction and administration of suitable buildings. It is perhaps a pity that the authors did not subdivide their subject so as to show not only what should be done in areas where wealthy subscribers are numerous but also what could be done in sparsely inhabited poor districts. Their account of what a cottage hospital should be is admirable but if a network of these institutions is to be established throughout the country on a voluntary basis charitable committees might well be frightened at the cost of some of the equipment described as essential. In the authors' view cottage hospitals are primarily surgical hospitals, and "the theatre of a cottage hospital should be as well planned and equipped as any of those found in a large London teaching hospital." They base this view on the ground that it is often impossible to move surgical cases to a general or special hospital so that all equipment for major operations and a high standard of surgery are alike necessary. They seem to think that if the latter requisite is missing locally it should be obtainable from the surgeons of any neighbouring town one of whom may chance to have a country house in the neighbourhood. It is possible, however, to suggest that the argument derived from the ease with which the motor car can transfer the surgeon to the cottage hospital may be used in the opposite direction. In most cases, probably, but little extra time would be lost in transferring the patient by ambulance to the general hospital where efficiency due to frequent practice would outweigh the value of high-class cottage hospital equipment which might be rarely used. While, therefore, we may admire the authors' enthusiasm in setting before cottage hospital committees a high standard for their institutions it may be that in many cases the standard is higher than the circumstances would warrant. It is true that among the plans appended to the book there is a simple one designed apparently for a maximum of twelve beds but the letterpress seems to us to call too little attention to institutions of this size which are probably more appropriate in most areas in this country. In the scheme for hospital services put forward in the Dawson Report some ten years ago cottage hospitals formed an integral part. Their function must surely be to serve the medical and obstetric needs of the district no less than the surgical. The only excuse for over-emphasis of the surgical aspect must be sought probably in the enormous increase of road accidents. The authors have found space in their small book to express their views on the financial solution of this problem; they have also managed to include the greater part of a speech made at a hospital dinner as a model for chairmen in the art of extracting money from the charitable. Apart from these fringes of thought of doubtful or debatable value the book is an excellent exposition of the way in which a cottage hospital with wealthy subscribers should be constructed, equipped, administered and maintained.

NOTES ON BOOKS

THE scrupulous thoroughness of the American textbook seems likely not only to detract from the interest of the subject but also to quell the spirit of adventure in the reader. There is an atmosphere of awe inspiring efficiency about Miss Gladys Sellew's book, *Ward Administration*.[3] The duties of the head nurse and the placement of the floor duty nurses are minutely defined. Time studies are made of the total number of minutes required in the daily routine for every variety of duty from passing bedpans to giving Sherman's vaccine hypodermically, and from these time studies the number of nurses required to staff a ward is calculated. Everything is defined—the responsibility of the supervisor, the essential qualities of supervision and the nature of work. Algebraic formulæ are given for ascertaining the cost per hour of a nursing service. Standardization, co-operation and other blessed words appear—the statement that every nursing student should learn how to assist the doctor when he is taking blood for a Wassermann, the efficiency expected in the nurse is shown by—intervals and the exactness of the technique required in drawing from the longitudinal nose) an infant. But Miss Sellew's book

[1] *An Introduction to Physical Anthropology*. By E. P. Stibbe, F.R.C.S. London: E. Arnold and Co. 19.0. (Demy 8vo, pp. viii—140, 42 figures, 1 map. 12s. 6d. net.)

[2] *Cottage Hospitals*. By Major S. Du Plat Taylor, M.Inst.C.E., M.I. Mech.E., John Coleridge, F.R.I.B.A., and J. Johnston Abraham, C.B.E., D.S.O., M.D., F.R.C.S. London: E. Benn, Ltd. 19.0. (Cr. 8vo, pp. 103, 22 figures. 12s. 6d. net.)

[3] *A Text Book of Ward Administration*. By Gladys Sellew, B.S., R.N. Philadelphia and London: W. B. Saunders Company. 1930. (5¼ × 8, pp. 259, illustrated. 12s. 6d. net.)

is worthy of perusal partly for the light it throws on the American attitude towards organization, partly because, even if the vision of such efficiency seems blinding to our eyes, a judicious blending of methods and points of view may not be without value

By the time a book has reached its twenty fourth edition all a reviewer usually has to do is to record this fact, but in the case of the manual by Dr OTTO SEIFERT and Dr FRIEDRICH MUELLER on *Physical and Clinical Diagnosis*[7] these previous editions have been in German, and for the first time it is available in English, thanks to the work of Dr E COWLES ANDRUS This authorized translation has been adapted, mostly by means of clearly marked additions, for the American student and physician, and the slim volume of over 500 pages contains a mass of information on all varieties of physical diagnosis Illustrations are throughout good and the colour plates excellent, particularly of the blood The letterpress is most difficult to criticize from the English standpoint A third year student confronted with this book in this country would get stuck very early in his attempts to read it through, and the fluency of a comparable book, such as "Hutchison and Hunter" (late Ramy), is strikingly absent There is no hint anywhere that the patient has a mind as well as a body, and the few pages dealing with children are quite inadequate Dr G E Fahr commends this work to medical students and practitioners in an introductory note

In *The Nature of Life*[8] Dr EUGENIO RIGNANO, professor of philosophy in the University of Milan, exposes the weak points in the mechanistic conception of life, for which physiologists are largely responsible, and in the animistic vitalism explanation, supported by psychologists, and proposes a solution intermediate between them—the vitalistico energetic conception In the first part, which occupies about two thirds of the book, the purposiveness of vital phenomena is established, and part two contains the arguments for the above mentioned hypothesis as to the nature of life, which the author has previously put forward in books on the inheritance of acquired characters and on biological memory The universe as a whole is not, he believes, teleological, but that part of the universe constituted by life is alone animated by a particular form of energy which imbues with purposiveness every one of its manifestations

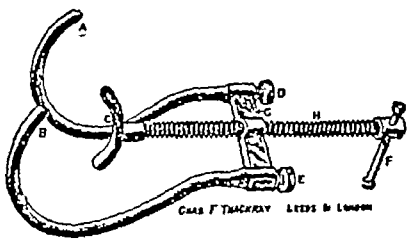
[7] *Manual of Physical and Clinical Diagnosis* By Dr Otto Seifert and Dr Friedrich Mueller Authorized translation from the twenty fourth German edition by E Cowles Andrus, M D London J B Lippincott and Co 1930 (Cr 8vo, pp xi + 543, 140 figures, 4 plates 25s net)

[8] *The Nature of Life* By Eugen[illegible] Tr[illegible]ated by N Mallinson International Library of [illegible] and Scientific Method London Kegan Paul, [illegible] Co, Ltd 1930 (Demy 8vo, pp x + 168, 7s. 6d net.)

PREPARATIONS AND APPLIANCES

OSTEOCLAST WITH SCREW CONTROL

MR ALEXANDER MACLENNAN (Glasgow) writes The accompanying figure illustrates an osteoclast made for me by Messrs Thackray, Leeds The pattern is founded on the ordinary steel rail bender I have had the instrument in use for a considerable time, and am satisfied with its performance In attempting to straighten deformed bones, to move stiff joints, or to correct such a condition as talipes, manual efforts are futile and exhausting, as so much energy is dissipated in controlling the corrective force With the screw adjustment (H) the amount of force available is very great, and yet is absolutely under control—a feature entirely absent from the lever osteoclast in general use To minimize injury to the tissues the resisting arms (A and B) and the plunger (C) are encased in thick rubber tubing (sponge rubber, wool, etc, may be used to supplement the rubber when required) I have found that with the employment of even considerable force less damage to the soft parts results if the pressure in only applied for a short time As the control is so perfect the necessary pressure may be rapidly applied, and once its action has been achieved the tension may be removed by unwinding the screw A detailed description of the apparatus is obviated by the diagram The arms (A and B) are adjustable on the bar (G) by the screws (D and E) so that curves of various diameter may be treated The bar (F) slides in its sockets, so that extra leverage may be applied to the screwed plunger (H)



The Sections.

SUMMARY OF PROCEEDINGS

(Continued from page 434)

SECTION OF MEDICINE.

Thursday, August 28th

FUNCTIONAL DISORDERS OF THE COLON

THE meeting was opened by the President, Lord DAWSON OF PENN, who called upon Dr EDMUND SPRIGGS (Ruthin Castle) to introduce the discussion on functional disorders of the colon Dr Spriggs said that the colon had been abandoned by Metchnikoff as a useless relic, stormed by half a generation of enterprising surgeons who removed large pieces, or, when most merciful, stitched it in its presumed place, laved with many waters by physicians, and dosed by the public, it had been and still was a battlefield, with long-drawn-out onslaughts and retreats, the Flanders of Medicine It was indeed fortunate that the large bowel, though easily injured by wrong habits and treatment, had great powers of recovery In 4,000 cases under Dr Spriggs's care a note concerning the colon was made in 2,086 During his discussion he eliminated all the organic lesions from the group The functional groups were classified as colonic delay, irritable colon, mucomembranous colitis, and mucous colitis Coloptosis was not considered important so long as the colon passed on its contents normally An outline of the etiology and pathology, together with an analysis of the symptoms, signs, and radiological and sigmoidoscopic appearances, in 242 cases was given Treatment was fully discussed It was considered essential to allay anxiety, abolish purges, and regulate the patient's habits and life Surgery had no part in the treatment of these conditions

The discussion of Dr Spriggs's paper was opened by Dr E E CLEAVER (Toronto), who presented a masterly analysis of the physiological and anatomical facts about the colon known at the present day He was followed by Dr THOMAS MCCRAE (Philadelphia), who stressed the condition of the nervous system in these cases This, together with the abuse of laxatives, constituted most important etiological factors He drew attention to the popular misconceptions about constipation which were fostered by the press, by advertisements, and by misguided physicians There had sprung up in America a new fad in the form of hydrotherapy, and institutes devoted to colonic irrigation were patronized by well-to-do, idle people It was necessary, however, to be careful to exclude all possible causes in these cases, and not to forget the reflex disturbances of colonic function brought on by lesions elsewhere, not the least important of which was chronic prostatitis The less said about surgery the better in these cases Dr HUGH BARBER (London) discussed the evils of roughage diet and purgatives in constipation It was, he hoped, the medical profession's business to diagnose constipation and not the patient's The colon was not meant to be completely empty That "dangerous" condition, mucous colitis with spastic colon, which caused pain in the right lower abdomen, was often diagnosed by the patient as chronic appendicitis A full investigation was the first step towards recovery Professor T G MOORHEAD (Dublin) agreed with Dr Spriggs that the portion of the colon was of little importance, provided it sent on its contents It was, he felt, a great mistake to label a case as "dropped colon" The psychic effects of such a diagnosis were very serious indeed, and it was very difficult to convince the patient that the condition was of no account Dr Moorhead also entered a protest against the very handsome abdominal belts so often provided by the surgeon These belts, of course, were of great value in cases of real ptosis, but not for the "abdomen conscious" patient He felt that purgatives did a great deal of harm, especially in the more nervous type of individual There were, however, people who could tolerate daily purgatives for years without great difficulty He felt constrained to point out that the purgative was a most useful blessing to the out-patient physician, adding

that he had a short time before been asked to sign an order for his hospital for 55,000 laxative pills for use in the out-patient department Professor WILLIAM WRIGHT (London) stated that the action of the colon was essentially reflex, but that there undoubtedly was a conscious control as well As an example he quoted Maudsley, who had described a patient who could voluntarily procure an action of the bowels at ten minutes' notice Since the lower portion of the large intestine was under control of the pelvis, sympathetic reflex disturbances from prostatitis, etc, were indeed a possibility The rectal valves might well be potent sources of trouble in rectal stasis and abnormalities in the ampulla were another cause of trouble

Lord DAWSON spoke in appreciation of Dr Spriggs's paper and of the able and interesting discussion which had followed He felt that there was some justification in labelling these conditions for the benefit of the public which could not wholly understand the technical explanations which must always be given to the patient He felt that colitis was in many instances a colonic expression of deranged function elsewhere He described the spare, highly strung nervous individuals with flat abdomens, who were most often the victims of this malady These people were abdomen-conscious He contrasted these people with the vigorous plethoric individuals who were the victims of high blood pressure In his opinion these people more commonly had low blood pressures The strain of modern life was concentrated in their abdomens, one of the chief exciting causes was mental stress These were the days of increasing speed, and the rate of progress was outstripping the power of accommodation in these people They were often conscientious souls with a high sense of duty The chief thing to do was to bring the abdomen out of their realm of consciousness Anxiety was often a factor He stressed the importance of fatigue and cold They often ate when they were cold and tired and very hungry He felt that to give these people a detailed diet was to make them more conscious of their abdomens Dr KEATING (Chicago) discussed the history of constipation, and in humorous vein condemned the indiscriminate use of laxatives and pills Dr SPRIGGS, in reply said he had noticed that left sciatica and herpes were commoner in disorders of the sigmoid flexure He agreed with Lord Dawson that the blood pressure was low in these conditions In his series the average age had been 45 and the average blood pressure 128/77 He felt that one of the causes of flatulence might be the pump-like contraction of the bowel which emptied the veins and thus prevented abortion He had found arsenic useful in small doses and continued for three weeks

SEA-SICKNESS

An interesting series of papers on sea-sickness was given by Dr T GWYNNE MAITLAND (Liverpool), Group-Captain FLACK and Dr J R MARRACK Dr Maitland said that all the evidence—experimental clinical, and empirical—led to the inevitable conclusion that though there were contributory factors—ocular visceral, and metabolic—the underlying cause of sea-sickness was vestibular The subject of sea sickness presented more than usual difficulty owing to the fact that its inception was not a morbid process it was merely an over-excitation, though eventually it might indirectly exhibit morbid features, through what was called irradiation The vestibule was equipped to respond effectively only to short and abrupt kinetic changes of posture, and it would fail not only to register correctly any movement beyond this but such movement would if carried too far result in the symptom-complex of sea-sickness An interesting observation on the semicircular canals was that, while they represented in different measure every plane of movement they were very differently susceptible, and it was for this reason that the majority of human beings tolerated very badly postural movement imposed from without in the vertical planes

With rare exceptions they bore without noticeable distress movement in the horizontal plane as in waltzing and merry go-rounds There was the strongest possible presumption that this difference in susceptibility was due to education and habituation There was considerable evidence that a certain immunity could be developed against movement in the vertical planes—for example, in sailors, in lift attendants, and in the amusement park habitués Lacking training in these directions the intending sea voyager was often compelled to resort to prophylactic measures and to remedies when symptoms actually appeared It was here that the greatest care had to be exercised to decide on the remedy, in no case should a subject take for granted the absurd claims made for some of the proprietary drugs and remedies In bad cases his reactions should be the subject for most careful study—only then would the appropriate remedy be indicated and real relief obtained

SECTION OF SURGERY

Thursday August 28th

USES OF RADIUM IN SURGERY

On the second day of the meeting the Section of Surgery held a symposium on the uses of radium in surgery With one exception the contributors were British workers, and the discussion as a whole gave an adequate presentation of the recent work on radium in this country It was the more to be regretted, therefore, that no one was present who could give an account of radium treatment of cancer of the breast

The discussion was opened by Sir CHARLES GORDON-WATSON (London) who reported his recent work on the treatment of carcinoma of the rectum One of the great advantages offered by radium was the possibility of curing the disease without recourse to the colostomy that was inevitable during some stage of treatment when present-day surgical methods were employed The problem of radium *versus* surgery however, was complicated by the recent work of Cuthbert Dukes on the spread of cancer of the rectum This work suggested that it was not necessary to excise the rectum completely in order to obtain thorough eradication of an early carcinoma which had not penetrated the wall of the rectum If this work was substantiated it might be possible in the future to obtain a cure by more limited operations than were at present used, and without recourse to permanent colostomy There was no doubt Sir Charles said that an early growth of the rectum could be destroyed by radium without colostomy and without disturbance of the function of the rectum but no observations were as yet available on a five year basis The speaker had treated 121 cases of carcinoma of the rectum with radium Small growths could be destroyed with little or no resulting deformity of the rectum The adenocarcinomas varied greatly in their radio-sensitivity and it was desirable that attempts should be made to grade tumours histologically and to correlate such findings with the radio-sensitivity of the tumour Unexpected failure had been encountered in the radiation of early growths but fortunately these failures could be made good by surgery Rapidly growing adenocarcinomas in young people were more radio-sensitive than slow-growing tumours in elderly patients In these the dose of radium required to secure complete retrogression of the tumour was very near the margin of tolerance of healthy tissues and consequently radium burns were difficult to avoid Beta-radiation should be reduced to a minimum The speaker had used filtrations of 0 5 or 0 6 mm of platinum but in the future he intended to increase this filtration to 0 8 mm He left the needles in the tumour for ten days Radium was preferred to radon because of its uniform intensity of irradiation For tumours of the perineal portion of the rectum the results so far obtained were too uncertain to justify the preference of radium to surgery in the operable type of case Carcinomas of the rectum that lay above the peritoneal reflexion were treated by radium when the tumour was fixed or when in operable tumours the age or state of health of the patient forbade an abdomino-perineal excision Transperitoneal radiation was essential in these cases and it was a more risky procedure than perineal radiation for there was danger of infection and consequent paralytic ileus or general peritonitis Radon seeds were less dangerous than radium needles inside the peritoneal cavity but so far the end-results when radon was used were not encouraging Radon

of radium was also used inside the peritoneum for barrage treatment of the mesenteric glands The speaker mentioned one excellent result in which an inoperable tumour, fixed both to the bladder and to the sacrum, had been treated by radium needles, and the patient was alive and well, with a normally acting rectum, three years after treatment In other cases great symptomatic improvement had followed the use of radium Sir Charles then discussed squamous-celled carcinoma of the anus This tumour responded much better than any of the others so far considered, and in early cases immediate initial cure could be obtained by radium The consequent avoidance of colostomy rendered this method preferable to surgery The various methods and routes by which radium could be applied to carcinomas of the rectum were then discussed, and the speaker closed with a plea for team work between the physician, surgeon, pathologist, biochemist, and physicist, to enable the radium worker to conduct his practice on a scientific rather than on an empirical basis He also showed a film illustrating the implantation of radium needles into a rectal carcinoma by the perineal route

Radium treatment of carcinoma of the mouth and tongue was the subject of the next three papers, by Mr STANFORD CADE (London), Dr DOUGLAS QUICK (New York), and Dr G E BIRKETT (Manchester), whose paper was read by Professor BURGESS In many respects there was remarkably close agreement between these three workers, and as a result there emerged a fairly authoritative declaration on the radium treatment of buccal carcinoma For treatment of the primary growth all were agreed on the advantages of radiation over surgery, but whereas Mr Cade and Dr Birkett favoured radium needles, Dr Quick preferred radon seeds In the opinion of the first two speakers it was difficult with seeds to obtain a uniform intensity of radiation, not only because the intensity of the radiation rapidly diminished within a period of four days, but also because the small seeds could not be so accurately placed as the larger needles Carcinoma of the posterior part of the tongue, especially in or near the vallecula and the lingual tonsil was much more radiosensitive than the more differentiated carcinoma of the anterior part of the tongue, but it was prone to give rise to early metastases For the treatment of metastases of the neck that were operable, all the speakers favoured free surgical excision on the lines laid down by Crile They stressed the importance of very radical removal, and urged that the operation should be carried out only by those who were specially trained and practised in the performance of this operation An incomplete dissection of the neck was worse than useless When there were large inoperable metastases the glands should be actively treated by radium needles in large doses, and the balance of opinion favoured open operation as the method by which this treatment should be carried out For early cases in which no palpable metastases could be found there was sharp divergence of opinion as to the treatment of the neck Dr Birkett advocated a waiting policy, provided the patient reported for examination once a month Mr Cade and Dr Quick, on the other hand, believed that the neck should never go untreated Mr Cade advocated needling of the neck by the closed method, or, as an alternative, external treatment by means of a radium collar Dr Quick employed heavily filtered high-voltage x-radiation, and more recently a four-gram radium element pack Speaking of the radium bomb at the Westminster Hospital, Mr Cade felt that it was too early to form a judgement of its value, but he did feel that it was not an economic method of using radium, for the same amount of radium in the form of needles would treat ten patients where only one could be treated by the bomb Dr Quick stressed the importance of cleaning the mouth before treatment of the neoplasm was begun, and as a preliminary to irradiation of the primary tumour he recommended external irradiation of the neck and the site of the primary growth for a period of two weeks The results of treatment reported by the speakers cannot be adequately reported in abstract but the impression formed was that radium gave results that were definitely better than those of surgery alone, especially when it was remembered that healing was attained with no impairment of speaking, eating, or drinking Dr Birkett made a strong plea for the concentration of radium treatment at large centres

Mr FRANK KIDD (London) reported the results of treatment of 32 cases of carcinoma of the bladder by radon seeds after preparatory diathermy In some cases the treatment was administered by open operation, in others by the cystoscope Sixteen of the patients were alive and well for periods up to eight years, and two others were still living, but showed evidence of recurrence In some of the fatal cases the use of radon had appeared to accelerate the course of the disease It was sometimes difficult to estimate accurately the extent of the tumour, even at open operation, and the results were still not predictable with any certainty There had been some very encouraging results, and further work along these lines was indicated

Mr HUGH CAIRNS (London) reported on work done during the last three years in the use of radium in the central nervous system For a variety of reasons it was highly desirable that radium should be given an extensive trial in the treatment of malignant intracranial tumours These tumours were unlike most of those hitherto treated by this method, as they did not give rise to systemic metastases The greatest problem of the neuro-surgeon in doing radical extirpations of infiltrating intracranial tumours was to avoid maiming the patient by removing healthy nervous tissue If radium could be shown to have a selective action on malignant gliomas, a great advance would be achieved in the treatment of these tumours Results so far observed gave evidence that in certain types of tumour radium had a destructive effect It was too early as yet to pronounce on the results of radium treatment in this field In assessing the results it was necessary to distinguish clearly between the symptomatic improvement that followed relief of hydrocephalus and that which was actually due to destruction of tumour tissue The methods of using radium and radon in intracranial tumours were briefly described Mr CLIFFORD MORSON (London) discussed the radium treatment of malignant diseases of the genito-urinary tract By far the most favourable of all these neoplasms was carcinoma of the penis He had treated seven cases of this disease with radium, and had had six successful results The one failure had been due to pyogenic infection

Throughout the meeting emphasis was laid on the view that radium should not be regarded as a panacea for cancer The whole discussion was conducted in a critical spirit It was evident that much more work was necessary in all fields before the position of radium in treatment could be properly assessed, but the general attitude was one of cautious optimism

SECTION OF OBSTETRICS AND GYNAECOLOGY

Thursday, August 28th

ALBUMINURIA OF PREGNANCY

AN exceptionally large number of members and visitors, under the chairmanship of Professor D S MACKAY (Winnipeg), heard Mr J BRIGHT BANISTER (London) open the discussion on the commonest abnormality in pregnancy and labour and its late results In a series of 6,000 cases of pregnancy which he had investigated he found that some 30 per cent suffered from albuminuria, the majority being transient only He pointed out the difficulties met with in following out the after-histories, it was because records were incomplete that so little was known on the subject All investigations should cover a period of at least five years, and the collaboration of a general physician should always be obtained in treating a case of albuminuria of pregnancy after delivery if dire consequences were to be eliminated Cases might be classified, as suggested by Dr Standen, into (1) those in which albuminuria existed with vomiting in pregnancy, (2) cases with a low kidney reserve, (3) cases of true nephritis complicating pregnancy, (4) cases of pre-eclampsia, (5) eclampsia In approaching the subject the lecturer set himself several questions Was a patient who developed albuminuria likely to suffer from a recurrent

attack in a subsequent pregnancy? Was a patient with chronic nephritis likely to suffer from progressive deterioration of kidney function during a future pregnancy? Did eclampsia recur? What place did albuminuria of pregnancy occupy in the etiology of chronic nephritis? He investigated the records of 30 000 cases of pregnancy in various London hospitals, and found 1 700 of them required some treatment during the pregnancy, and in 86 per cent of these albuminuria recurred more or less severely in subsequent pregnancies The conditions from which these patients suffered were too varied to permit of precise conclusions, but he had arrived at certain general answers to the questions set He did not believe that a patient developing albuminuria in one pregnancy was particularly liable to a similar complication in a subsequent gestation if she belonged to the low kidney reserve group Cases of chronic nephritis would have the condition aggravated by a subsequent pregnancy He thought that some 30 per cent of cases of pre-eclampsia and eclampsia suffered from some toxic condition in a subsequent pregnancy He considered that the shorter the time the albuminuria persisted the less was the risk of the complication in a subsequent pregnancy Raised blood pressure was the most significant clinical sign In cases in which the blood pressure was up to 150 for any length of time the damage was probably permanent, and there was likely to be trouble in a subsequent pregnancy In considering how future recurrences might be prevented Mr Bannister stressed early diagnosis and early and thorough energetic treatment This treatment should not be carried on medicinally for too long and should recover not occur in about seven days then radical treatment should be chosen He felt that Caesarean section might have a place in the treatment of the severe toxaemias of recent origin He mentioned the frequency of mental symptoms in albuminuria and concluded by stating that in the light of present knowledge it was impossible to state what was the part played by albuminuria of pregnancy in the etiology of chronic nephritis

Professor O BJÖRNSSON (Winnipeg) was in agreement with most of the points mentioned, and particularly with reference to the evil results of delaying the induction of labour or institution of therapeutic abortion He regretted that Mr Bannister had not outlined his treatment in these cases Dr J HOLLENBERG (Winnipeg) asked the opener about his experience of the value of Stroganoff's treatment in albuminuria of pregnancy Mr ERIC STACEY (Sheffield) discussed cases of albuminuria of pregnancy associated with some form of ante partum haemorrhage In the term 'toxic haemorrhagic states" he included cases of accidental haemorrhage with or without albuminuria in which there were evidences of a toxaemic state often expressed only by high blood pressure, and cases of what he called toxic placenta praevia By the latter term he referred to those cases which, while inevitably bleeding from the abnormally situated placenta, showed signs of a toxic state by oedema, albuminuria, high blood pressure, and other symptoms of pre-eclampsia In a follow-up of a series of roughly 500 of these cases he had found that toxic conditions occurred in 37 per cent of the patients who had a subsequent pregnancy He considered that the raised blood pressure was the most important danger sign rather than the albuminuria, and referred to the frequency of mental aberration in toxic pregnancies and the danger of recurrence if a future pregnancy had an associated albuminuria He disagreed with Mr Bannister about the short period of treatment he would allow before considering therapeutic abortion or induction and felt that with a rigid rest and dietetic treatment many of the patients could be prevented from suffering permanent damage, except such as already existed and at the same time have the satisfaction of delivering a living child He asked Mr Bannister to pronounce his views on this matter more definitely in case error had arisen

Professor HILDING BERGLUND (Minnesota) pleaded for rather more conservative treatment than that advocated by the opener, and only induced when there was deterioration of the patient's condition or a persistence of the high blood pressure for six to seven weeks He was struck by the fact that even when albuminuria could be eliminated by treatment on whatever lines, certain cases tended to persist with nephritis subsequently, and ended fatally with uraemia from three to nine months later On the other hand, he had known patients to carry on their vocation in life for thirty years with a progressive nephritis which had started with a pregnancy, and felt that repeated pregnancies in these conditions led to permanent damage to the kidneys Dr T G STEVENS (London) believed in early termination of pregnancy in cases of severe albuminuria, but felt that Caesarean section held no place in its treatment Dr MARGARET BASDEN (London), on the other hand, said she treated these cases for twenty-four hours medicinally and, failing improvement, induced If during that time the patient's condition became worse she always performed Caesarean section as better in the interests of the child, and she had not had a fatal case when exploiting this method of delivery

The President, Mr COMYNS BERKELEY in the course of a historical review, said that Kellogg gave the name recurrent toxaemias of pregnancy" to those cases which gave no clinical manifestations of chronic nephritis when not pregnant, and thought that 8 to 15 per cent of pregnancy toxaemias belonged to this group He thought that these might turn out to be cases of a faulty kidney balance which when the load of pregnancy was added, developed kidney insufficiency Stander and Beckham had described a group, called low reserve kidney, which appeared to be the same Young believed with Kellogg that women with a toxaemic history had resident within their bodies some morbid influence an *x* factor not inconsistent with good health in non pregnant women, but inconsistent with the normal continuance of pregnancy to term because of placental damage, which he thought was the cause of eclampsia He suggested that this *x* factor might be of an infective nature—for example, chronic endometritis, metritis in primiparae Gibberd did not agree with these views He found that in 13 per cent of patients who had had at least two pregnancies all of whom had healthy kidneys, signs of renal damage persisted for a year or longer after the termination These therefore had become chronic nephritics The average time between the first appearance of albuminuria and the termination of pregnancy was nine weeks In the remaining 41 cases there were 27 in whom the first albuminuric pregnancy was terminated later than three weeks Of the first group terminated within three weeks and 14 in whom it was 40 per cent, and of the second 70 per cent had albuminuria in the next pregnancy which suggested that the rate of recurrence could be related to the duration of the albumin su[illegible] Mr Comyns Berkeley believed that he had obtained [illegible]idence showing that in all cases in which toxaemia occurred in successive pregnancies there was a pre-existing chronic renal damage not detected by the ordinary methods of clinical examination

Dr S KORENSKY (Winnipeg) thought that induction should not be resorted to too early, as many of the patients continued with the condition subsequently, and asked whether Mr Bannister had tried treatment with magnesium sulphate Mr BANNISTER in replying wished to make it clear that he considered Caesarean section in these cases of albuminuria should be reserved for certain severe fulminating cases of pre-eclampsia only He had no experience of the use of magnesium sulphate but having seen Stroganoff working, felt that if his treatment was carried out as done by him the results were excellent

HYPERTONIC SALINE IN PREGNANCY TOXAEMIA.

Professor V J HARDING (Toronto) then described experiments carried out by himself and Dr H B VAN WYCK (Toronto) on the effects of hypertonic saline on toxaemias of later pregnancy Four years had elapsed since they had described the use of salt-free diet in the treatment of pre-eclampsia and since then they had reinforced their conclusions by observations on the use of sodium chloride intravenously The object of the older methods of treatment—namely water purging venesection hot packs—was to remove toxins but at the same time they removed body fluid The administration of hypertonic saline solutions might produce oedema in cases complicated by parenchymatous nephritis, but to relieve

convulsions and high blood pressure was considered worth while at the cost of a little oedema In the speaker's view, valid though such arguments might sound, the use of hypertonic saline solutions in the toxaemias of later pregnancy was harmful, and he cited cases in which this treatment had undoubtedly aggravated toxaemia Their observations contraindicated the use of hypertonic saline solutions in post-operative work in toxaemic pregnancy unless the pregnancy was to be simultaneously terminated Their more recent observations had led them to conclude that a high intake of salt at the time of a developing toxaemia might rapidly produce fulminating eclampsia Salt restriction was a necessary part of pre-natal care, protein was harmless They conceived the toxaemias of later pregnancy as due to a fundamental disturbance of water distribution which might be associated with water retention Such a disturbance might show itself as epigastric pain and vomiting, albuminuria, hypertension, oedema, convulsions, or peripheral liver degeneration, alone or in combination Dame Louise McIlroy (London) said that here was a definite scientific pronouncement on what she had maintained from clinical experience—namely, that administration of intravenous saline where a toxic state existed was contraindicated, she relied on colonic lavage She then showed two cinematograph films (1) classical Caesarean section performed at the Royal Free Hospital, London (2) method of resuscitation of the newborn in a case of asphyxia after forceps delivery, also at the Royal Free Hospital

SECTION OF BACTERIOLOGY, PATHOLOGY, PHYSIOLOGY, AND BIOCHEMISTRY

Thursday, August 28th

Immunological Problems in Septicaemia

Professor William Boyd (Winnipeg), Vice-President of the Section, presided at the second session Professor Fred T Cadham of the University of Manitoba opened a discussion on some immunological problems in septicaemia His paper appears in full in this issue at page 460 Professor G S Wilson (London) expressed his diffidence in dealing with a subject of which he had had very little direct experience He wished to know whether in the titration of complement allowance had been made for the natural sheep antihaemolysis, which is present in normal human serum, and which is known to show considerable variations even in health In order to assess the significance of the difference in complementary titre between groups of normal and of diseased persons it would be of great value if Professor Cadham would publish his exact figures, so that the standard deviation of the difference between the means might be worked out The evidence that a parallelism existed between the complementary titre and the degree of immunity was not very satisfactory, and the work of Gunn, particularly in relation to enteric fever, was by no means favourable to this conception In severe, and often in fatal, cases of this disease, the complementary titre might be very much above normal, indicating that failure to establish immunity was not due to insufficient complement Since complement was active only in association with immune bodies, it was clear that in order to obtain information of value, it would be necessary to determine both the complementary and the antibody titre of the serum The little evidence we possessed in favour of the value of the antibacterial serums pointed to their action being specific, and it was noteworthy that the beneficial effect of antipneumococcal and antistreptococcal serum appeared to depend on the presence of precipitating and antitoxic antibodies respectively, neither of which required the co-operation of complement Professor Cadham's results were very striking, but it was not clear that the explanation which he had put forward was able to account for the facts

Professor Oliver S Waugh dealt with the subject from the clinical point of view While only one case of Cadham's series was his own patient, he had seen a large number of the series To the surgeon an acute progenic infection was of grave importance, leading to apprehension, the methods previously available for combating such an infection had been largely empirical Vaccines had not been beneficial in acute conditions, and chemotherapy and other treatments were disappointing or useless, 80-90 per cent of such cases proved fatal Professor Cadham would appear to have used the body as a human test tube to build up a lytic reaction against the invader Some of the recoveries obtained in Winnipeg by his treatment had been astonishing, especially since the method had for the most part been used as a last resort, and some of the patients had been unconscious and in an extremely alarming condition Dr Waugh stressed the importance of early diagnosis and treatment of various foci as potential sources of septicaemia

Professor Robert Muir (Glasgow) expressed high appreciation of the painstaking work that Professor Cadham had reported He considered it important to try to understand exactly what we meant by septicaemia There were two extreme types of bacterial invasion of blood one, exemplified by typhoid fever, in which the bacterial invasion was reduced as rapidly as it occurred, the other, a more rapid invasion leading frequently to a rapid fatal termination Clinical cases presented all intermediate stages, and septicaemia remained a very hazy term It was essential to recognize that phagocytosis was all important for destruction of organisms, and he considered that complement was not so important as antibodies for recovery The raising of the complement titre observed by Professor Cadham he regarded as an important biological observation In septic infections there were many borderline cases and a little something to help might make all the difference Professor William Boyd (Winnipeg) thought that immunologists should not overlook entirely the findings of morbid anatomy in connexion with their work Professor Cadham, in the course of his reply, stated that he could not entirely agree with the view that complement was not involved in the toxin-antitoxin reaction He would not wish to advocate his type of treatment as the most desirable, but hoped that the discussion would prove to have been useful

Physiology of the Parathyroid Glands

Professor J B Collip of McGill University, Montreal, opened the discussion on the physiology of the parathyroid glands He dealt particularly with the more recent developments in this field The function of the parathyroid apparatus was apparently directed towards the maintenance of a definite level of total calcium in the circulating plasma, and was subserved by the action of the internal secretion elaborated by the glands He dealt with the general metabolism of calcium, its different physiological roles, its absorption and excretion, and the relation to it of the metabolism of phosphorus, especially in parathyroid deficiency In connexion with the preparation of the hormone he stressed the fact that preliminary hydrolysis with very dilute hydrochloric acid (3 per cent) for forty minutes on a boiling water bath gave the most potent extracts, prolonged acid hydrolysis destroying the active principle Purification had not yet been carried beyond a proteose-like fraction Either the hormone itself was of protein nature or else it was intimately associated with such a substance Trypsin and pepsin destroyed the activity, and no effective method of oral administration had been obtained The physiological effects and the pathological effects of overdosage were reviewed In such overdosage there was marked increase in the calcium content of kidney tissue, other glandular tissue being practically unaltered in this respect Hunter's study of generalized osteitis fibrosa was referred to and also other diseases affecting calcium metabolism or inducing tetany The interrelationship of the parathyroid secretion and vitamin D was discussed

Professor V H K Moorhouse (Winnipeg) discussed the mechanism of secretion by the parathyroids To what stimuli was this secretion a response? There were nerve fibres along the course of the blood vessels, apparently autonomic and probably arising from the cervical sympathetic It still remained to be ascertained whether excitation of these would induce the secretion The

chemical excitors, if there were such, were unknown Perhaps the level of blood calcium was the determining factor The actual manifestation of tetany was characteristic of a nerve protoplasm disturbance Excitation of nerve muscle became increased about ten times over normal It could be observed after section of the nerve, and up to the time of its degeneration The peripheral nerves were not the only sites of disturbance following parathyroidectomy Chronaxie was lengthened, suggesting lowering of excitation, and this observation could not at present be easily correlated There were sensory and afferent as well as motor disturbances In dogs and cats intense irritation about the mouth and nose was observable The loss of appetite and vomiting seen in such animals following parathyroidectomy were probably due to effects on the nerve centres in the mid brain and medulla There was a general involvement of the nervous system but different parts were unequally affected

Professor J C MEAKINS (McGill University) considered that the criterion of disturbance of parathyroid function was to be found in the study of blood calcium and calcium balance, although the latter was open to many fallacies There were six diseases associated with disturbance of calcium metabolism parathyroid deficiency (spasmodic tetany) nephrosis steatorrhoea with megalocolon, infantile rickets osteomalacia and generalized osteitis fibrosa (von Recklinghausen's disease) Of these only two were associated with lesions of the parathyroid parathyroid tetany, and its antithesis, generalized osteitis fibrosa There had been considerable confusion in the study of the latter and of osteomalacia and this must be borne in mind in utilizing the earlier literature In nephrosis with a calcium deficiency there was usually a good response to parathyroid therapy, though the cause and effect were not yet known

Dr D ROY MCCULLAGH (Cleveland Clinic) reported the findings in a series of cases exhibiting parathyroid deficiency following operation studied by himself and Dr E P McCullagh they had endeavoured to find means of controlling phosphate metabolism in this condition They observed that while many such cases exhibited a constant low level of serum calcium the patient's tetany symptoms varied from day to day parallel with the serum inorganic phosphate In normal sugar tolerance curves it was well recognized that as the blood sugar rose the phosphates showed a slightly delayed fall In post-operative parathyroid tetany the relationship was somewhat emphasized As the phosphate fell the neuro-muscular excitability lessened An attempt had been made to apply this finding to treatment After a carbohydrate meal the symptoms were greatly but only temporarily relieved calcium gluconate was ineffective, but administration of lactose had been found to give very beneficial results, these being accompanied by a slow steady fall of blood phosphates

Professor A T CAMERON (Winnipeg) referred to results he had obtained showing that the blood calcium of normal young rats was below normal, and at a level associated with tetany, for a large part of the year, though open tetany was never manifested The explanation obviously seemed to be a dietary deficiency in vitamin D and he reported results recently obtained by one of his students Mr C F Code, supporting this view In these animals the blood calcium could be maintained during winter at maximum or normal levels by giving food irradiated from a carbon arc lamp or by adding irradiated ergosterol to the diet Numerous observations by various workers had shown beyond doubt that marked overdosage of the vitamin would considerably increase the plasma calcium Since, however, over a considerable range of vitamin dosage the blood calcium remained constant whereas any injection of the parathyroid secretion had its effect the inference was reasonable that the main control over the height of blood calcium was exercised by the vitamin perhaps through the parathyroids The available evidence bearing on the effect of vitamin dosage and overdosage following parathyroidectomy was quite conflicting while little if any work seemed to have been done to ascertain the result of continuous parathyroid injection in experimental rickets, and the speaker suggested that study of these problems might well throw much greater light on the whole problem of calcium metabolism

SECTION OF MENTAL DISEASES AND NEUROLOGY

Thursday, August 28th

THE CLASSIFICATION OF BRAIN TUMOURS

THE chair was taken by Dr A T MATHERS Vice-President of the Section, who, in introducing the speaker, gave a brief historical sketch of the subject Dr WILDER PENFIELD (Montreal) commenced by saying that to be of more than academic interest, a classification of brain tumours must group together neoplasms whose biological behaviour and histological structure had certain similarities Any other type of classification was, he considered of little value from the standpoint of treatment and prognosis Tumours of the brain might be considered first under two main headings (*a*) gliomas and (*b*) tumours of the sheaths of the nervous system which were encapsulated After referring to much of the work done by others in the study of gliomas the speaker submitted the following as the most useful and simple classification of these tumours (1) neuro-epithelioma, (2) multiform spongioblastoma, (3) medulloblastoma, (4) oligodendroglioma, (5) polar spongioblastoma, (6) astroblastoma, (7) astrocytoma and (8) ependymoma The pathology of these types was described in great detail and clinical examples of each were presented and well illustrated by slides Tumours of the sheaths of the nervous system the speaker thought had generally been better recognized than the gliomas, though the cytological interpretations had been curiously varied These tumours, he considered, could best be classified as follows (1) meningeal fibroblastoma, (2) perineural fibroblastoma, and (3) neurofibroma of von Recklinghausen's disease Considerable time was given to a discussion of the histology of sheath tumours, and clinical cases in which operative treatment had been most successful were cited In concluding, it was urged that technical excellence in neuro-surgery was not enough It was necessary that the surgeon himself should understand as nearly as possible the characteristics of the lesion he would combat, and that clinical judgement and therapeutic insight should be based upon discriminating histological study The classification presented was only one of a number of possible ones but it had in its favour the fact that it had withstood the test of practical clinical application

Dr R G ARMOUR (Toronto) followed by congratulating the speaker on the excellence of his presentation Dr HENRY WOLTMAN (Rochester Minn.) commented on the classification of tumours presented and cited a number of clinical cases which had been operated on at the Mayo Clinic Operative treatment he pointed out had done much to prevent blindness in cases which, at one time, would have gone into darkness with no hope of relief He referred to x ray therapy of certain cases, and stated that he was of the opinion that the more embryonic the structure of a tumour, the more responsive it was to this type of therapy He had noted also that in certain cases where operative treatment had been carried out, the tumour was subsequently found to have altered in histological structure The newer studies in tumours of the brain he maintained, might do much to settle medico-legal disputes about injury as a possible etiological factor in the development or tumour SIR JAMES PURVES-STEWART (London) urged that it was now the duty of the diagnostician not only to localize the lesion in the brain but also to make a pathological diagnosis This he contended was essential because there were many cases in which complete removal of the tumour should be done immediately whereas there were others in which nothing more than a decompression should be attempted He complimented his Canadian colleagues on their diagnostic technique in the use of ventriculography and encephalography and stated that it was unfortunate that often in Great Britain these diagnostic aids were not adopted early enough He stressed the use of both methods of diagnosis pointing out that when it was suspected that the tumour was subtentorial, a ventriculography should be done but if it was thought that the tumour was supratentorial, an encephalogram should be the method employed Work like Dr Penfield's, Sir James felt, was a stimulus to them all.

DR ADSON (Rochester, Minn.) commented on the opener's classification, and said that Dr Penfield's work was doing much to clarify diagnostic difficulties. A diagnosis based on an understanding of pathology he considered as sound. What the surgeon wanted to know was (1) Was the tumour encapsulated? (2) Was it removable? His experience of many years as a neuro-surgeon had made him much more conservative than once he had been. In view of the fact that all cases of brain tumour did not go on to death, but that many enjoyed life expectancy, radical surgery was, he felt, not always indicated. The pendulum had in recent years been swinging in the direction of radicalism, but the time would come when they would become as conservative in their judgement as if the operation was to be performed on themselves. DR WILLIAM BOYD (Winnipeg), who had been acting as chairman to the Pathology Section, arrived at this time, and expressed his regret at having missed the main part of the discussion. He commented on more modern methods of staining nervous tissues, and asked if Dr Penfield could explain why one so frequently found hydrocephalus associated with brain tumours. DR PENFIELD, in reply, said that he had been greatly interested in Sir James Purves-Stewart's remarks on diagnostic methods. Where ventriculography was employed, he considered it should be followed immediately by operation. He concurred with Dr Boyd in his observations regarding the association of hydrocephalus and brain tumour, but did not feel that he could offer a satisfactory explanation of the phenomenon.

SECTION OF PREVENTIVE MEDICINE.

Thursday, August 28th

THE LABORATORY IN A SCHEME OF PREVENTIVE MEDICINE.

THE members of the Section met, with Professor A. J. DOUGLAS (Winnipeg) *in the chair*. The subject was introduced by Dr. W. G. WILLOUGHBY (M.O.H., Eastbourne) in a paper which was published in full in the *Journal* of September 13th at page 418. The CHAIRMAN expressed the appreciation of the Section in receiving this paper from the President-Elect of the Association. DR. M. R. BOW (Alberta) said that in providing efficient laboratory service for small urban and rural districts he had found that the plan of employing the municipal hospital laboratory for public health purposes (on a sliding scale of charges) had worked most satisfactorily. This arrangement gave the hospital laboratory workers the preventive viewpoint. To discourage the use of inadequate doses of diphtheria antitoxin no packages containing less than 20,000 units were distributed. In remote districts diphtheria patients were released after three weeks' quarantine without swabs. In districts accessible to a laboratory two negative cultures were required. DR. A. S. M. MACGREGOR (Glasgow) referred to the function of the laboratory in dealing with the problems of bacteriological immunity. He described the situation that had arisen under the Local Government Act, which enlarged the scope of the medical work of local authorities in Great Britain. One of the problems of the future would be how to take full advantage of the facilities for research which these new responsibilities would provide. This branch of preventive medicine should develop in co-operation with all the other laboratory facilities in the area. DR. J. T. PHAIR (Ontario) stated that the provincial department maintained a central laboratory at Toronto, with some seven branches placed at strategic points in the province. The service was gratuitous and largely used. During the last two months a full-time pathologist had been added to the staff, and the department was now prepared to offer further assistance to the general practitioner by examining pathological tissue of any type, for this service a fee of one dollar per specimen was charged. Professor J. S. FITZGERALD (Toronto) emphasized the value of the early administration of a large dose of antitoxin in every case in which the practitioner had reason to suspect that the patient was suffering from diphtheria, regardless of the result of the examination of the material submitted to the laboratory. DR. JAMES ROBERTS (Hamilton) held that the laboratory should be situated within easy access of the building in which the work of the administrative health officer was carried on. Schick and Dick tests to determine the susceptibility of contacts were preferably done by a laboratory expert, and the number of such examinations, with others such as those for ringworm in school children, was found to be materially increased if the laboratory service was readily available to the executive officer. The general public was entitled to the financial saving which followed lessened detention of suspects and contacts when frequent use of the laboratory was made, and this should be pressed for by the chief of the department. DR. A. GRANT FLEMING (Montreal) gave it as his experience that practitioners did not often expect the laboratory to make a diagnosis, and that in this matter the form of the report was of some importance. He asked whether in England the release swabs after diphtheria attacks were taken by the private physician or the public health officer. DR. ALFRED GREENWOOD (M.O.H., Kent) expressed his appreciation of Dr. Willoughby's paper. The bacteriological laboratory in the county of Kent examined 25,000 specimens annually for 1,100 general practitioners in the county free of charge. The laboratory should be considered primarily as an aid to diagnosis. He emphasized the desirability of injecting large doses of antitoxin in diphtheria at the earliest possible moment without waiting for a report from the laboratory, and even after negative reports where the clinical signs suggested a diphtheria infection.

PASTEURIZATION IN A SCHEME OF MILK DISTRIBUTION.

The paper read by DR. A. S. M. MACGREGOR (M.O.H., Glasgow) in opening this discussion appears in full at page 463. DR. M. R. BOW (Alberta), who followed, said it was the duty of the health department to ensure a safe milk supply. While theoretically pasteurization was undesirable, in practice it was to be given a definite place in any scheme of milk distribution. Clean milk was not necessarily safe milk, though all measures to improve the cleanliness of the milk had to be encouraged. The need for continuous careful supervision of pasteurizing plants by health authorities was shown by a recent disastrous typhoid epidemic in Montreal. Without this precaution there was a most dangerous sense of false security. Apart from its effect on vitamin C, it appeared that the process of pasteurization did not impair the nutritive value of milk, fruit and vegetable juice could be given to the child to make good this deficiency. For efficient pasteurization the milk had to be held at the required temperature for a sufficient length of time and then rapidly cooled. The experience in Canada had been that wherever scientific pasteurization had been employed milk-borne infections had been reduced to a remarkable degree. The degree to which the process was used differed widely in different parts of the country. Professor J. S. FITZGERALD (Toronto) referred to the work of Dr. Ray Price in Toronto on strains of *B. tuberculosis* isolated from children suffering from non-pulmonary forms of tuberculosis. These children were admitted to the hospital for sick children both from communities in which pasteurization laws were and from those in which they were not in force. DR. GRANT FLEMING (Montreal) welcomed Dr. Macgregor as a supporter of pasteurization. He did not believe in milk grading, but urged that *all* milk should be pasteurized certified milk. Certified milk was not safe, because of the human element. Pasteurization destroyed not only the tubercle bacillus, but pathogenic organisms responsible for other communicable diseases. The CHAIRMAN summed up briefly, and expressed the opinion that all milk should be pasteurized, scientifically and under official supervision, in order to obtain the best results. DR. MACGREGOR, in reply, expressed his appreciation of Dr. Bow's contribution as a clear and inspiring exposition of the subject. He stressed once again his view that clean milk was not necessarily safe milk. In Great Britain the big milk distributors had adopted pasteurization for commercial reasons. The impulse to such measures had diminished, however, with the production of cleaner milk. The public was confused by official "grading." The higher grades were unpasteurized, and their increased production would diminish as more pasteurized milk was consumed.

MR. J. GIBBARD (Ottawa) read a paper entitled "[illegible] phoresis of *Neisseria intracellularis* (meningococcus)

SECTION OF OPHTHALMOLOGY

Wednesday, August 27th

THE CONTROL OF TRACHOMA

At the opening meeting of the Section the President, Mr N BISHOP HARMAN invited the members to congratulate Dr Harvey Smith (Winnipeg) on his election as President of the British Medical Association for the coming year It might well be accounted an honour, not only to the recipient, but also to the Ophthalmological Section, of which he was a member Professor HERBERT BELL (Winnipeg) then took the chair, and Mr HARMAN read a very interesting paper on the control of trachoma, which will be found printed in this issue at page 457

Mr A REID MOODIE (Dundee, Scotland) discussed the value of the various measures already in existence He believed that compulsory notification was a valuable weapon in the fight against trachoma It had been adopted in twenty-four countries, but in Great Britain Glasgow alone had made the disease notifiable, and it was always followed up in that city by treatment under the supervision of an ophthalmic surgeon During the first six years of compulsory notification in Glasgow (1914–19) the average number of cases notified was seventy four while in the period 1924–29 it was forty two, a decrease of 39 per cent , 39 per cent of the cases occurred during school age Nearly all the patients (99 2 per cent) came from houses of three rooms or less, and the incidence among inhabitants of one and two-roomed houses was almost double that among families occupying three rooms Dr Wibaut, at the Amsterdam Congress, had determined for each country its trachoma index, and with its aid had classified the countries into seven groups, with indices ranging from 0 1 per cent as in Great Britain and Germany, to over 61 per cent as in Egypt and Palestine A chart illustrating this grouping was shown Antitrachoma measures in Amsterdam included the regular inspection of school children, the keeping of a trachoma register, and semi compulsory treatment In Italy, Government subsidies were granted to local authorities to provide free ambulant and hospital treatment, there were also university courses for the training of medical practitioners in early diagnosis The United States, in addition to immigration restrictions, had instituted propaganda by lectures and literature Infected areas were visited by teams of medical specialists and nurses, whose visits, when considered necessary, were followed by the arrival of a mobile dispensary in the form of a rail car fully equipped for carrying out treatment In Japan very wide powers had been delegated to administrative bodies, enabling them to carry out a general medical inspection when considered necessary The poor received free treatment and instruction in prophylaxis Mr Moodie thought it might be useful for countries to offer prizes for scientific research

Dr WHITESIDE ROBERTSON (Guernsey) gave particulars of the International League against Trachoma which he had received from Dr Wibaut of Amsterdam this had now come into being in Geneva (*Journal*, August 30th p 328) He outlined the objects of the league, and the action intended to be taken It was proposed to notify the different Governments of the establishment of this organization, to point out the devastating and contagious nature of the disease, and to ask for moral and if possible, financial support The league hoped to advance the co-operation of different organizations to inaugurate a centralized campaign, and when necessary to give advice about the best measures for controlling the disease It was proposed to form a library on trachoma by asking authors to send reprints of any articles or books on the subject Dr Whiteside Robertson described the ophthalmic schools at Swanley in Kent, and eulogized the work of Mr Stephen Mayou, who had control of them For a country in which the incidence of trachoma was low, Swanley could well be taken as a model A number of excellent photographs of the homes were shown The secretary read a communication from Mr Stephen Mayou, in which he stated that in conjunction with Dr McCartney, pathologist to the Metropolitan Asylums Board he had carried out investigations, but that they had failed to isolate the *Bacillus granulosis* of Noguchi In one instance a kindred organism had been isolated, which probably belonged to the xerosis group They had failed to inoculate trachoma directly from the patients into monkeys They had also experimented with the organism sent by the Rockefeller Institute, and had failed to reproduce trachoma in monkeys with their organism, although some redness and slight follicular enlargement was apparent for a week or so after inoculation Ordinary monkeys kept in a dirty condition, or in cages with sawdust or sand, were liable to get some follicular enlargement from irritation Professor JACKSON (Denver, U S A) said that the American experience of trachoma had emphasized its contagious nature and the factor of family or racial immunity In the Southern States the negro living in large numbers and always gregarious, imported from Africa under general conditions as bad as those of immigrants from Southern Europe and largely segregated from the whites as were the Indians, had remained practically free from trachoma Cases occurred in them, but very exceptionally and rarely among those of mixed blood. The American Indians were very subject to trachoma, which had increased rapidly among them in the last century, until now a few hundred living on the shore of Lake Superior were reported as the only tribe free from the disease In Philadelphia, forty years ago, all the cases of acute trachoma occurred in recent immigrants In Colorado in the last thirty years most of the cases had been in the Indians chiefly segregated on reservations The belt of what might be called indigenous trachoma in the United States began in the Southern Allegheny Mountains, and among the whites more purely British in origin than any other part of the population of the United States The worst family and locality endemics had been found in the mountains of Kentucky and North Carolina Professor Jackson discussed next the relation of the Noguchi bacillus to trachoma Noguchi had obtained it from five Indians suffering from this disease in New Mexico and Arizona, and had termed the small slender organism *Bacillus granulosis* a name that had helped to favour the idea that it was connected with follicular disease of the conjunctiva other than trachoma It had never been found in any other disease of the human conjunctiva, as had the so-called inclusion bodies of Prowazek and the blue bodies of Lindner It had been found in trachoma in patients other than Indians in the United States and in North Africa It had been isolated in pure culture, transmitted through many generations and its inoculation gave rise in monkeys to a disease very closely resembling that produced by inoculations with material from the trachomatous conjunctiva In at least two instances of inoculation into the human conjunctiva it had also originated a disease which resembled early trachoma in man From watching the dozen monkeys which had been inoculated by Drs Finnoff and Thygeson, the speaker's belief was that the Noguchi bacillus was probably the cause of trachoma. He thought that a general search for this bacillus should be made in all cases of this disease

Dr A J BALLANTYNE (Glasgow) said he had been unable to satisfy himself of the infectivity of the disease He had been struck by the marked difference in individual cases in epidemics of conjunctivitis occurring in school convents etc and he thought that in cases termed trachoma on there might be more than one infection He considered the tissue reaction a most important factor in determining the disease He had experienced great difficulty in tracing the origin of the infection in sporadic cases Mr ARNOLD W ORMOND (London) believed that many cases called trachoma were simply follicular conjunctivitis and he was no single factor which could conclusively prove a patient was suffering from this complaint he regarded epidemics of the disease as due to a mixed infection In his own experience he had not had a single case of a person blinded by trachoma He agreed with Dr Ballantyne in considering that the soil was a matter of the most

importance Dr AUSTIN A HAYDEN (Chicago) described his own personal experience in contracting the disease while a house-surgeon in York In the act of expressing follicles in a case of trachoma some fluid from the patient had accidentally entered the speaker's eyes, and although they had been washed out within half an hour, he contracted the disease, which was well developed in five weeks He had known other doctors who had contracted the disease in a similar way, and whose general health, which was excellent, could not possibly have aggravated the condition He strongly recommended the use of protecting goggles in dealing with cases of trachoma

COLOUR VISION

Professor FRANK ALLEN (Winnipeg) read a most suggestive paper on certain aspects of colour vision The conclusions drawn had resulted from extensive laboratory researches, and he viewed the subject from the standpoint of the physicist He emphasized the fact that he had been able to show that colour vision conformed to other sensory and secretory reflexes

Thursday, August 28th

INCIPIENT CATARACT

The second session of this Section was devoted to a discussion of the management and treatment of incipient cataract The paper of the opening speaker, Mr L V CARGILL (London), was printed in the *Journal* last week at page 419

Professor T HERBERT BELL (Winnipeg) reported three cases in which he had endeavoured to treat incipient cataract by one of the new methods, in two there had been apparent success, but the other was a complete failure The treatment followed had been characterized by Mr Cargill as useless, but he could not subscribe to that statement, nor could he absolutely controvert it, his first two cases certainly encouraged him, however, to make further attempts in suitable conditions The method he followed was that described by Davis of New York—the hypodermic injection of lens antigen, with dietary regulation, and attendance to the general health A manœuvre which he had occasionally found useful in cases of early central opacity, where the patient had attained some improvement of vision under a mydriatic, was to perform a double preliminary iridectomy He had not wandered so far as had Mr Cargill from the precepts of their mutual teacher, the late Professor MacHardy, since he occasionally made use of a slight trituration of the more affected eye, so far he had had no bad results, but a more rapid maturation of the cataract, with greater ease of extraction Mr A W ORMOND (London) discussed the various procedures which he had tried He had carefully watched many cases in which drops of potassium iodide, lens antigen, and the other treatments had been employed, but had been unable to satisfy himself of the efficacy of any local measure He had not seen any case in which the lens opacities had retrogressed He had experimented with the administration of paraphakin, and had also been disappointed in that method of treatment Focal sepsis was of the greatest importance, it seemed to influence the incidence of cataract and also its treatment In certain specified cases he advocated the artificial maturation of the lens Mr Ormond agreed with Mr Cargill that it was most unfortunate that they were tied to the term "cataract," which was applied to any lens opacity, patients had frequently come to him in a very nervous and anxious state, having been told by opticians that they had cataract He would limit the use of the term cataract to cases in which vision was reduced to about 6/18 He thought that there was an underlying factor in the general condition, and that many cases of so called primary cataract were in reality secondary to some general systemic defect, he was inclined to regard most cases as pathological rather than physiological He allowed patients to use their eyes, short of fatigue Professor JACKSON (Denver, U S A) objected to the term "incipient cataract" because it seemed to imply that the opacities would increase In his experience about half the patients over the age of 50 had lens opacities, of these only a small proportion progressed to the stage requiring operation, but a partial opacity frequently called for relief He mentioned the case of a woman, aged 65, who had a general haziness of the lens which rapidly reduced her vision She apparently was not drinking enough water, she was recommended to take more, and her visual condition decidedly improved after carrying out this simple measure The study of early cataract could be conducted better on private patients than in the mass in a clinic where many of them would not co-operate in the treatment prescribed Patients should have proper optical correction, and periods of rest from reading and other close work, they should be taught how to command and maintain the best condition of illumination Dr A J BALLANTYNE (Glasgow) agreed with Mr Ormond in limiting the use of the term "cataract," but he thought it might be extremely difficult to confine the term to any definite standard of lowered visual acuity In diabetic patients he had often seen the vision improve with general treatment, in spite of the apparent stationary condition of the lens opacities He then discussed the influence of toxic conditions He made it a rule to endeavour to improve the vision by optical correction, bad cases should not be considered unimprovable, for he had frequently been surprised at the relief obtained by the use of carefully prescribed glasses Dr ROBERT BEATTY (Detroit, U S A) related his experience as regards lens antigen He had made very careful tests in twenty-five selected cases, with examination of the visual functions and fields, and had prepared very accurate diagrams of the opacities, but he could not say that, except in a few cases of questionable improvement, he had obtained any very favourable results Mr A REID MOODIE (Dundee) dealt with certain aspects of the preliminary and other operations, and Dr FREDA RAMSAY (Beckenham) gave an account of her experience in India when attached to the hospital of Colonel Smith Mr BISHOP HARMAN (London) reviewed the various treatments, and agreed with Mr Cargill, Mr Ormond, and the other speakers as to the necessity of having a patient with cataract thoroughly overhauled He gave an interesting account of the examination of his first patient in Harley Street The patient was his own mother, and he was terrified to find lens striae in both eyes He had cautiously avoided making mention of them to her, and her vision had remained perfectly good for fifteen years That had been an excellent lesson to him in the way patients with lens striae should be handled Mr KELIX (Montreal) also took part in the discussion

Mr CARGILL, in his reply, referred to Professor Bell's and Mr Ormond's remarks regarding preliminary operation, while it was doubtless safe in their hands, he considered it unwise to teach students the trituration operation, and he considered it unnecessary to practise it himself He reviewed the remarks of the various speakers on the influence of sepsis, and mentioned a remarkable case of a private patient who, after developing a septic gall bladder, and undergoing the mental strain of her husband's death from cerebral tumour, had developed well marked cataract within a year, although she had not previously shown the slightest sign of lens opacity

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SECTION OF DISEASES OF CHILDREN

Wednesday, August 27th

BACILLUS COLI INFECTIONS OF THE URINARY TRACT

THE President, Dr ROBERT HUTCHISON, took the chair and made a short opening address, in which he recalled the two previous meetings of the British Medical Association in Canada, at both of which he was present There had been no Section of Paediatrics then, as it was not then thought a sufficiently important subject Dr Hutchison reviewed the progress in diagnosis and treatment of disease in children, attending especially to the diminution of acute gastro-enteritis in England and the improvement in the prevention and treatment of rickets

Dr K D WILKINSON (Birmingham) opened a discussion on *Bacillus coli* infection of the urinary tract in children with the paper which appeared in full in our last issue

He said that it was a common condition, the frequency depending upon one's definition of the disease It was not easy to diagnose in young infants He classified cases clinically as (1) acute, (2) subacute, and (3) chronic, and described the symptoms and signs of these varieties He challenged the new conception of pyuria as an interstitial nephritis, as put forward recently by Dr Bruce Chown, and stated his opinion that the infection was not blood borne, but was an ascending infection up the urinary tract Dr D Navarro (London), whose introductory paper was published also last week, said there was little direct evidence that the infection was primarily one of the renal pelvis The *B coli* was a harmless saprophyte in the bowel, though even there it had been credited with a pathogenic role It had pathogenic properties in other organs He did not believe that cultural characters of organisms became fixed, but that they might vary with circumstance and environment Different strains of *B coli* had been found, some haemolytic others non haemolytic Urine should be repeatedly examined to see whether the same organism was present He emphasized the proportion of cases in which *B coli* pyuria was secondary to congenital or acquired abnormalities of the urinary tract It had been found that 2 5 per cent of all post-mortems on children showed some congenital abnormality of their urinary passages He showed pictures of specimens illustrating these abnormalities

Dr HELMHOLZ (Rochester, Minnesota) agreed with Chown, Wilson, and Schloss that post-mortems of these cases usually showed a lesion of the kidney, but was not convinced that such lesions were due to the *B coli* Experiments he had performed on animals showed that while the blood borne streptococcus and staphylococcus tended to localize particularly in the kidney, the *B coli* very rarely did so This fact was against the theory of blood infection in children It had been denied that any pelvic inflammation existed in post mortem cases, but he pointed out that the kidney pelvis was not easy to examine microscopically, numerous sections would be necessary to show its pathology, and in his opinion the pelvic lining was destroyed very rapidly after death He had found definite inflammation when the post-mortem was performed within two or three hours of death Pelvic inflammation was also found to heal very rapidly in experimental animals On the whole he was inclined to believe that the infection was only haematogenous in the newborn, but that after the first few weeks of life it was an ascending infection He did not, however, deny that kidney lesions might be present, even in the milder cases The disease was frequently associated with gastro-enteritis and was there commoner in girls than in boys He had pursued much the same lines of treatment as Dr Wilkinson Experiments had shown that if *B coli* were grown in alkaline broth and rapidly transferred to acid broth, they almost ceased to multiply, though the reverse was not the case He had had good results from treatment by urotropine (hexamine) in 0 5 gram doses, and generally used ammonium chloride and ammonium nitrate to acidify the urine up to a *p*H of 5 to 5 5 He thought that urotropine ought to be pushed to the point of bladder irritation, haematuria when it occurred came from the bladder If there was no improvement within three weeks he thought then all cases should be examined for congenital abnormalities

Dr BRUCE CHOWN (Winnipeg) dealt especially with the pyuria of infants under 2, as most of his work had been on these cases He did not think that there had ever been proof of a pure pyelitis occurring in infants nor was there often any post-mortem evidence of pyelitis even where the kidney was much diseased He had found a suppurative interstitial nephritis in most of his fatal cases, and others had reported the same At the earliest ages boys were affected only slightly less frequently than girls, though in older children girls were more commonly affected He believed the infection to be haematogenous in origin, though he admitted the possibility of a lower urinary tract infection occurring in some cases It must be borne in mind that the sex incidence and the route of infection were inseparable subjects, and that at present we were not in a position to state the exact sex incidence One point in favour of the presence of nephritis even in milder cases was the comparative frequency of pus casts in the urine Dr Chown pointed out the interesting fact that young calves who were too early deprived of the colostrum or their mothers' milk frequently developed a *B coli* infection of the kidneys This might have some practical bearing on the colostrum intake of young babies and the incidence of suppurative pyelonephritis

Dr R R STRUTHERS (Montreal) said that he had found pyuria very rare in male infants, and he had had no deaths from this cause In chronic cases he had investigated for congenital abnormalities and had often found that a cure could be brought about by surgical treatment Dr H C CAMERON (London) said that one must be careful not to jump to the conclusion that a case of pyuria with pus in the urine was necessarily a simple urinary infection This conclusion was often a complication of other infections, such as meningitis He pointed out also the difference between the clinical course and the bacterial course of the disease the former was often short while the latter persisted for a long time The PRESIDENT, taking a wide view, observed that more light might be thrown on the question if one could explain the incidence of the disease in adults, the question why *B coli* pyelitis should be so common in pregnant women, and why it should occur especially on the right side He suggested that a lateral infection should be considered as well as an ascending or descending infection Many cases had been associated with a diseased appendix He thought that an important part of the treatment was to raise the general standard of vitality Diet was also important, he believed that cases improved if the milk in the diet was cut down Dr WILKINSON replied and showed a radiogram of enlarged kidneys probably congenital cystic disease, in which there had been a secondary *B coli* infection

SECTION OF LARYNGOLOGY AND OTOLOGY

Thursday, August 28th

DIAGNOSIS OF LATERAL SINUS THROMBOSIS

THE PRESIDENT, SIR STCLAIR THOMSON opened the proceedings by expressing his pleasure at being in Canada again and at seeing so many of his old friends in the specialty He welcomed especially the visitors who had come from the United States Mr FRANCIS MUECKE (London) opened the discussion on the early diagnosis of infective lateral sinus thrombosis with a paper which is printed at page 465

In the subsequent discussion Dr JAMES T ROGERS (Montreal) said that the indifference of the public to the potential danger of a discharging ear, and the failure at times of the medical profession to recognize the aural source of the general epsis were two factors which seriously militated against an early diagnosis of lateral sinus thrombosis It was not surprising that many of these cases owing to the prominence of their general symptoms and the masked ear signs, found their way into medical wards where they were treated as pneumonia, typhoid fever, meningitis, influenza, malaria or gastro-enteritis In the early diagnosis of the condition the otologist was influenced by a marked euphoria of the patient, a high septic temperature chills and sweats oedema and tenderness over the emissary vein tenderness along the course of the internal jugular vein and the blood picture of high leucocytosis and positive blood culture Mr J F O'MALLEY (London) emphasized the importance of tenderness over the mastoid, a sudden rise in temperature, and rigor as pointing to systemic infection and indicating operation Other symptoms were less significant Dr AUSTIN A HAYDEN (Chicago) noted with some satisfaction that on the matter of blood culture there was some disagreement because he felt that this was a valuable point The leucocyte count was also often of considerable interest as was the haemoglobin estimation He laid most stress on chills and sweats, a history of ear discharge, the very characteristic temperature

curve, and the feeling of well-being experienced by the patient in the face of an obviously severe illness. Dr. A. LEISHMAN (Winnipeg) had operated on 703 mastoid cases in five years, among these were 18 cases of lateral sinus thrombosis with 11 recoveries. In most instances the symptoms appeared at about the fifth day, the first being a chill, though the patient felt particularly well between the rigors. He welcomed the insistence by Mr. Mucklo on operation before waiting for all the signs of sinus thrombosis to develop. Mr. A. J. M. WRIGHT (Bristol) asked what was the risk of exposing a lateral sinus, and also how far this method of diagnosing the condition was accurate. How often was infection present when the sinus was exposed? Mr. MUCKLO in reply said he felt sure that in many of the cases described a developing, one day later, the condition was actually present at the time of operation; others originated from a small spicule of bone penetrating the sinus wall or because an infected mastoid cell had been left. In reply to Mr. Wright he considered it better to explore the lateral sinus than to run any risk of overlooking an infected one.

CANCER OF THE LARYNX

With Professor H. S. BIRKETT (Montreal) in the chair, Mr. F. D. D. DAVIS (London) initiated a discussion on the diagnosis of cancer of the larynx (*Journal*, September 13th, p. 421). He said that extrinsic laryngeal cancer, or cancer of the pharynx which had extended to the larynx, usually came under observation so late that the diagnosis was obvious. The problem of diagnosis was intensified by the fact that cancer in itself produced no specific signs or symptoms. Intrinsic cancer of the larynx was seen at an earlier stage, since the early symptom of hoarseness sent the patient to the doctor much sooner, but cancer seen in its earliest stage was more difficult to diagnose accurately. If the nature of the condition was in any way doubtful, a diagnostic section was imperative and hastened the arrival at a correct conclusion. He had never seen any harm follow the removal of a diagnostic piece, but the picture might be entirely altered and the diagnosis be made more uncertain in the case of a negative section. In suitable cases time would settle the diagnosis, and judicious waiting, with an examination once a week, or at even longer intervals, would finally reveal the truth. If these methods failed in a case of suspected cancer, it was justifiable to perform an exploratory laryngo-fissure, having previously obtained full permission to proceed to a radical operation.

Sir STCLAIR THOMSON (President) said that earlier diagnosis of intrinsic cancer was not likely to eventuate until the public learned to consult the medical profession earlier for slight but persistent pharyngeal symptoms, and until the profession was more constantly on the watch for this disease in men of cancer age and in women of any age. In intrinsic cancer there should be no precipitancy in the attempt to establish a diagnosis. A few weeks of vocal rest (even silence), abstinence from tobacco, reduction of alcohol, and repeated examinations were valuable aids in confirming or eliminating suspicion, the interval afforded an opportunity for other complete investigations which, in addition to a blood examination, should include every reliable test for tuberculosis, it being remembered that a positive sputum finding was not invariably present in pulmonary or laryngeal lesions. Tuberculosis was more often mistaken for cancer than any other condition, the mistake was less frequent of diagnosing an epithelioma in the larynx as tuberculosis. All neoplasms removed from the larynx should be carefully examined under the microscope, and the larynx should be inspected once a fortnight for the three succeeding months. A malignant growth (whether indicated or not by the microscope), however completely removed, would show any recurrence within that time. If the biopsy reported the growth to be innocent, such a recurrence would almost certainly prove it to be malignant. True subglottic cancers were very difficult to diagnose in an early state, since the symptoms were absent or insignificant until the neoplasm had extended far enough to invade the edge of the vocal cord. It was in such cases, and in all doubtful cases, that an exploratory laryngo-fissure might be justifiable. When the diagnosis remained uncertain in spite of complete investigation, repeated observation, and rest to the larynx, a biopsy was indicated, but it did not always give a positive finding. It was most useful when the appearances suggested the presence of an innocent neoplasm or a tuberculous lesion. As Chevalier Jackson had said, "Every adult patient with hoarseness should be considered a possibly cancerous until proved otherwise", this was particularly important when, as Mr. F. D. D. Davis had insisted, the alternatives of pachydermia, tuberculosis, syphilis, and simple tumour had been excluded. If the diagnosis remained doubtful it might be well to advise a middle-aged or elderly subject to submit to treatment by the laryngoscopic route, sooner than risk the strain of uncertainty and the danger of delay. Dr. PETER GOLDSMITH (Toronto) congratulated the Section on the papers of Sir StClair Thomson and Mr. Davis. He reminded practitioners that old people could have cancer as well as middle-aged ones. Laryngectomy, he considered, should not be performed until the patient fully realized what that operation meant. Mr. J. J. O'MALLEY (London) was influenced by Sir StClair Thomson's insistence on the importance of relying on clinical symptoms in the diagnosis of cancer of the larynx, rather than on information supplied by the laboratory. Dr. CLAIG (Montreal), referring to the treatment of cancer of the larynx, said that his personal results had greatly improved since employing electrocoagulation and radium. Mr. F. D. D. DAVIS, in reply, emphasized the difficulty of reaching an early diagnosis in the case of a subglottic growth.

SECTION OF ORTHOPAEDICS

Thursday, August 28th

FRACTURES INVOLVING THE KNEE-JOINT

Mr. F. JAMING EVANS (President) took the chair. The opening of the discussion took the form of a symposium, fractures of the weight-bearing areas being dealt with by Mr. R. OLLERENSHAW (Manchester), whose paper is published at page 466, epiphyseal injuries by Mr. W. A. Cochrane (Edinburgh), and injuries of the extensor apparatus by Mr. R. Watson Jones (Liverpool). A short paper by Dr. Gallie (Toronto) on injuries to the ligaments and tendons of the knee was incorporated in the discussion. In the absence of Mr. Ollerenshaw his paper was read by the local secretary.

Mr. W. A. COCHRANE (Edinburgh) said that the important point in the treatment of forward displacement of the lower femoral epiphysis was to keep the knee fully flexed for at least two weeks, in order to prevent redisplacement. In neglected cases, exposure by a free anterior and posterior incision was preferable to a single incision, because by this exposure shock was reduced, the danger to the vessels was less, and reduction was easier. In old cases united with deformity, good results were secured by supracondylar osteotomy. Fourteen personal cases of anterior displacement of the lower femoral epiphysis were reviewed. Mr. WATSON JONES (Liverpool) remarked that in all injuries of the extensor apparatus, including avulsion of the quadriceps, fracture of the patella, avulsion or rupture of the ligamentum patellae, and separation of the tibial tubercle, the problem of treatment was to restore extensor power without in any way impairing flexion movement. In fracture of the patella this necessitated sufficiently firm operative fixation to render splintage unnecessary and to allow early movement. Cases were shown of fixation by double sutures of silk where full movement had been retained throughout. The difficulty of repairing avulsion of the ligamentum patellae from the patella was pointed out, and an operation was described by which the patella was anchored to the tibia by a strip of the iliotibial band. Cases illustrating the so-called "myositis ossificans of the quadriceps" were shown, it was pointed out that the condition was due to avulsion of the quadriceps from the patella, and was to be avoided by suturing the muscle to the bone before instituting movement. Separation of the epiphysis of the tibial tubercle demanded operative treatment, unless the injury occurred after fusion of this epiphysis with the

upper epiphysis of the tibia in such a case displacement was limited and could be controlled by simple strapping and a back splint Dr CALLIE (Toronto) stated that when tendons or ligaments were ruptured the end retracted and spontaneous union always resulted in a wide weak scar Immediate operative treatment was therefore advised in all cases, and this should take the form of repair by living fascial sutures or of replacement by living tendons cut from the *Achilles* or *semitendinosus tendons* Various types of operation were described including a new procedure for replacement of the posterior crucial and internal lateral ligaments The technique of this operation was very simple, the procedure was safe and although results were not perfect they were as good as the results of Hey Groves's operation For repair of avulsion of the quadriceps and ligamentum patellae the speaker preferred to use free fascia lata drawn through the muscle or ligament and passed through a drill hole in the bone A new technique was described for anchoring the patella to the inner femoral condyle in lateral dislocation Dr CRONGE (Winnipeg) described the treatment and results in a comminuted fracture of the upper end of the tibia which he had personally sustained some years previously Dr GALLOWAY (Winnipeg) said that in comminuted fractures of the upper end of the tibia it was impossible to restore accurately the original anatomical conditions Since osteo-arthritis was liable to supervene in later years he advised immediate excision of the joint in many cases He asked if Mr Watson Jones took any special precautions in the sterilization of the silk used, because in his experience it was *frequently necessary to remove it later* Mr CHITTY (Bristol) advised three months' immobilization in plaster for the repair of rupture of the crucial ligaments this treatment gave perfect results with no disability Her *Groves's operation was unsatisfactory* because, although the results were good at first, the tendon subsequently stretched, and instability of the joint recurred Mr E LAMING EVANS (London) showed a case of forward displacement of the lower femoral epiphysis in which displacement had recurred despite operative reduction it had been necessary to operate again and to use a Steinman pin through the epiphysis and diaphysis The pin was removed after three weeks Mr COCHRANE, replying said that although he had never used a pin through the lower femoral epiphysis to augment fixation he had seen one such case in which the end-result was unsatisfactory owing to infection Mr WATSON JONES replied that the silk was boiled for fifteen to thirty minutes and was then stored in spirit The essential point was that the silk was under no circumstances touched by hand Silk had been used in over fifty cases, and only once had it been removed

SCIATICA

Dr NUTTER (Montreal), in a short paper on sciatica maintained that true sciatic neuritis was due to mechanical *pressure on the fifth lumbar root* usually exerted on the nerve as it lay in the intervertebral foramen between the disc and the intervertebral joint All the symptoms and signs met with in sciatica were attributable to irritation of the fifth root alone, and the speaker did not consider that sacro-iliac disease, lumbo-sacral arthritis and sacralization of the fifth lumbar transverse process were important etiological factors The most valuable therapeutic agent was heat in any form Diathermy for long periods—averaging forty-five minutes—was the routine treatment and immobilization by a plaster spica or leather supports was only occasionally employed Manipulation was sometimes useful to liberate adhesions of the nerve in the intervertebral foramen

CLINICAL CASES

At a clinical session in the afternoon Dr H P H GALLOWAY (Winnipeg) showed cases of congenital dislocation of the hip reduced by operation including cases five and eight years after conclusion of treatment The patients had full movements and good stability with no limp Dr A GIBSON (Winnipeg) demonstrated cases illustrating a new operation for fusing the spine by a special H shaped graft from the tibia A case in which arthrodesis of the shoulder had been performed ten years previously showed marked failure of development of the clavicle owing to functional disuse Although the patient was still prepared to perform the operation in both the right it was *contraindicated* in girls Cases of tendon transplantation for thenar palsy and for abductor palsy of the hip were also exhibited A case of partial fusion of the lower tibial epiphysis with resulting talipes varus owing to *unbalanced growth of the fibula* provoked considerable discussion Dr GARDNER (Winnipeg) asked whether it would be feasible to excise the lower epiphyseal line of the fibula in order to balance growth Dr GALLOWAY (Winnipeg) said that he had seen a case where the lower epiphyseal lines of both tibia and fibula had been excised with a good result although there was considerable shortening Dr GIBSON (Winnipeg) preferred to perform osteotomy of both bones above the epiphyses Since the girl was now 15 years old he did not anticipate further growth, and thought that an operation was now due Mr WATSON JONES (Liverpool) said that McFarland of Liverpool had reported several such cases he thought that the condition was due to compression of part of the lower epiphysis of the tibia by the upper and inner angle of the astragalus More than one osteotomy was necessary as the child grew older and it was advisable to overcorrect the deformity by taking a piece from the fibula, and forcing it into the linear osteotomy of the tibia, so converting it *into a cuneiform osteotomy base inwards* Cases were also demonstrated by Dr W A GARDNER (Winnipeg) Dr A P MACKINNON (Winnipeg), and Dr A A MURRAY (Winnipeg)

SECTION OF RADIOLOGY

Thursday, August 28th

BENIGN TUMOURS OF THE STOMACH

THE President of the Section, Dr A E BARCLAY, having thanked the medical men of Winnipeg for their kind hospitality called on Dr W H DICKSON (Toronto) to open the discussion on benign gastric tumours Dr Dickson dealt first with diffuse gastric polyposis its incidence, age period of onset, and radiological diagnosis He then passed in review the radiological diagnosis of a second group of tumours, which included single polyps, myomas, fibromas, neurofibromas, angiomas, and lipomas The third group consisted of syphilitic gastric tumours, and the *lecturer gave some account of the radiological method of* demonstrating these lesions His conclusions were (1) while benign tumours of the stomach did not occur nearly as frequently as the malignant type they were not as rare as was formerly supposed (2) a correct diagnosis would be of inestimable value to the surgeon, (3) if correct diagnosis was not obtained malignant degeneration of the benign tumour might result (4) syphilitic tumours of the stomach occurred with greater frequency than previous teaching had led us to believe More accurate information on the pathology of these cases would be obtained from the *x-ray* room and the operating theatre than from the healed condition occasionally found at necropsy

Dr BERNARD MOONEY (Edmonton), who followed said that he had looked up the records of the four general hospitals in Edmonton, and, having excluded inflammatory masses of a syphilitic character, those due to ulcer and linitis plastica, he was surprised to find that not a single case of benign gastric neoplasm was available *The rarity of these conditions was also borne out by the published* statistics of Charles Higgins and James Douglas In the only case in his experience the *x-ray* investigation showed the duodenal bulb deformed but not the characteristic appearance of a duodenal ulcer The interpretation of this finding was thought to be a benign pedunculated tumour about the size of a plum An exploratory operation was performed and a *small tumour* about three-quarters of an inch in diameter was found on the duodenal bulb, with a small pedicle extending through the pyloric sphincter which was attached to the lesser curvature of the stomach about one inch from the pyloric ring The pathological report was "simple fibroma" He concluded by congratulating Dr Dickson on the large volume of this

type of work he had presented The President thanked Dr Dickson for his paper, which he described as a classic

X Rays in Medico Legal Cases

Dr MALCOLM DONALDSON (London) then took the chair and called upon Dr A HOWARD PIRIE (Montreal) to read his paper on x-ray diagnosis in medico legal cases Dr Pirie opened his paper by quoting from the *British Medical Journal* of June 8th, 1901 (p 1390), in which Mr Golding Bird pointed out the need for having an expert to make the radiogram, and also an expert to interpret it The radiologist had as much right to know the history of the case as the physician, he had to know all about unusual epiphyses, and to be able to recognize the rare bones of the foot and wrist when these existed He stressed the importance of making more than one view in every case of suspected fracture, as some might only be visible at certain angles In some injuries of the limbs he advised that a radiogram of the corresponding region of the opposite side be taken as a routine A negative x ray might have considerable value Dr Pirie then showed a table completed by P V Davis showing the average number of days of disability following various fractures It was interesting to note that 208 days was the average disability following a fractured femur and forty eight days following a Colles fracture Dr J F SMITH (Saskatoon) stressed the importance of securing plates immediately in all accident cases A mild trauma was sometimes sufficient to activate a quiescent pathological condition such as chronic osteo arthritis, in this way employers of labour were frequently held responsible for conditions alleged to have been caused by serious injury, when in reality the disability was pre existent in a dormant state The accurate interpretation of these changes was the field of the radiologist, who should be able to say whether they were acute and due to the alleged trauma, or chronic and due to pre-existing disease Dr W H DICKSON (Toronto) called attention to certain cases of injury to the carpal bones, in which immediately after injury there was no change or fracture, but two or three months later there were signs of collapse and degeneration Dr FRANK A SMITH (Winnipeg) laid stress on the importance of correct interpretation of x ray films, and said this could only be done by a medical man skilled in radiology

The Mechanism of Swallowing

The discussion which followed was opened by the President, Dr A E BARCLAY (Cambridge) The members of the Section of Otology and Laryngology had been invited to take part in this discussion, during which Sir STCLAIR THOMSON (London) took the chair Dr BARCLAY said the act of swallowing was very complicated It was definitely established that there was invariably a moment during which the pharyngeal space was obliterated prior to opening up to allow food to pass down As the mouth, nasopharynx, and larynx were closed at this moment, it was strongly suggestive that a negative pressure must be produced, and that this was the dominant factor in the act of swallowing Further, it was suggested from the rate at which the food passed, and also from the shape of the bolus, that this negative pressure extended some distance down the oesophagus The larynx was shut off from the pharynx during swallowing by the drawing up of the laryngeal pharynx behind the laryngeal opening till it was in contact with the posterior surface of the epiglottis In this epiglottic position, the laryngeal pharynx appeared to be an open-mouthed receptacle ready to accept the food as it came off the back of the tongue Dr Barclay described how this study had been carried out by x-ray observation, and mentioned that arrangements had been made to complete the investigation by research into the anatomical conditions that made this mechanism possible

Dr L J CARTER (Brandon), who followed, pointed out the difficulties of such an investigation owing to the exceeding rapidity of the first phase of the act of swallowing He awaited eagerly the confirmation of Dr Barclay's first statement that the first portion of the act of swallowing was due to a kind of vacuum in the laryngeal pharynx immediately preceding the reception of the food bolus Dr Barclay's work was an illustration of the progress radiology was making through the use of new instruments This research had been made possible by the use of serial radiography, and by the adoption of the methods of the experimental physiologist Radiology to-day was passing through a change similar to that which came to cardiology fifty years ago It began with the fluoroscope and the radiograph, to day we were using the moving picture and the method of the experimental physiologist Mr JOHN F O'MALLEY (London) said he was of the opinion that the pharynx was a muscular sac held open by the hyoid, and that the tongue pushed food into it by a piston like action He had some doubt about the epiglottis folding over as was usually taught He had pointed out some four years ago that in the human foetus at five months the epiglottis was in the nasopharynx, which was the position in the adult The whale and alligator and such animals had no difficulty in swallowing without any falling over of the epiglottis Mr I D D DAVIS (London) pointed out that the epiglottis was a vestigial structure which directed the air into the nasopharynx and nose, and became modified for the production of speech The larynx was pulled up against the cushion of the epiglottis and the base of the tongue during swallowing In his opinion the epiglottis did not fall over the orifice of the larynx Removal of the leaf of the epiglottis did not affect swallowing in any way He considered the act of swallowing demanded a combination of air pressure and muscular action, as shown by the inability to swallow in paralysis of the muscles of the pharynx Dr AUSTIN HAYDEN (Chicago) thought a cinematograph of the act of swallowing would be very instructive Intra oesophageal and intragastric photography should soon become an illuminating factor in the study of diseases as well as of the function of these organs He said it was an interesting fact that the sword swallowers passed the sword through an absolutely immobile throat and oesophagus, and the ventriloquist could drink and sing simultaneously

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SECTION OF MEDICAL SOCIOLOGY AND HISTORY OF MEDICINE

Wednesday, August 27th

Migration Within the Empire

THE President, Dr JOHN D COMRIE, took the chair, and briefly conveyed greetings from British medical schools, and from Edinburgh in particular to Canada he made mention of the influence of Scotland on the development of Canadian medical schools Dr T C ROUTLEY then opened the discussion on the first subject of the programme—namely, migration within the Empire Dr Routley emphasized the importance of the medical profession taking an interest in this subject, which required analysis, the main object was to establish and maintain a balance of population A graph was shown giving evidence of the disturbed balance in the United States, and the speaker insisted on the necessity for securing a larger proportion of British stock to maintain the balance The type wanted was the pioneer type, and the wisdom of the dole system was questioned as leading to deterioration of this The treatment of the problem was a matter of supply and demand, but it must be intelligent The formation of a national board was suggested to deal with population, and to study and make recommendations, an Imperial Board might be worth creating to take the matter in hand and gradually evolve an imperial scheme Sir JAMES BARRETT combined his own remarks on the Australian problems with comment on Dr J S PURDY's paper, which, in the author's absence, was taken as read The hope of world progress lay in the proper development of the British Empire He explained the New Dublin League, and pointed out that migration was no solution of over-population, but only of the distribution thereof, conducted through the agency of churches it worked well He gave an interesting account of the assimilation of the Maoris Sir James then expressed strong views on the standards

adopted for migrants. He suggested that all that was necessary was a certificate from an approved board of examiners that the person was in such physical condition as not likely to become a burden on the country which he entered. A resolution to this effect was later adopted by the Section. He was also strongly of the opinion that no governmental responsibility should be taken for a migrant after his arrival. He pointed out that tropical Australia could be populated by whites because there were no fatal indigenous diseases, there being no native population.

Dr H M. SPEECHLY then opened a discussion on juvenile immigration to Canada, giving what he called a clinical example—an account of the work of the Church Army and its hostel. Boys came from families, and had good references, but the medical examination was weak. The hostel was responsible for a boy for three years, or until the age of 20. They were placed with responsible farmers, and visited frequently. The importance of correct clothing was realized, and it was provided. Saving money was encouraged. A very interesting series of lantern slides was shown to illustrate stages of these lads' careers.

The PRESIDENT then declared the subject open for discussion. Dr J. H. HARVEY PIRIE of Johannesburg said that their problem in South Africa was that of the whites holding their own against the blacks. Quarrels among whites would settle themselves. Migration was outwards rather than inwards. White immigrants required to be possessed of enough capital for three to five years. No white races could establish themselves in tropical South Africa, but Dr. Pirie was prepared to believe the statement of Sir James Barrett that the existence of natives with indigenous diseases was responsible for this. The "poor white" question was largely a matter of diet. The present one of "mealies," being quite unsuitable. Dr. WARDELL (Moose Jaw) asked for a fuller discussion of economics, and thought it an unfriendly act on the part of Britain to buy Argentine wheat. He also pointed out the local difficulties of doctors in outlying districts. Professor J. W. CRANE (London, Ontario) gave an amusing account of the confusion with London, England, and reminded the Section that there was a Piccadilly and St. Paul's on this side. He thought Canada was losing graduates to America and made a point of advising his travelling students not to choose the American nurses for wives but to come back for Canadian ladies. Moreover, he always tried to get his graduates a post in Canada and to ensure that they were helped. Dr SPEECHLY, replying, thought 14 to 16 was the ideal age for immigration and agreed with the dangers of unregulated immigration.

After the other openers had very briefly replied the PRESIDENT put to the meeting two resolutions—one favouring the establishment of an Imperial Board of Immigration and the other the acceptance of a general certificate of fitness. Both resolutions were adopted and referred to the secretaries for formulation and report to the Council of the Association.

Thursday, August 28th

FACTORS INFLUENCING HEALTH IN CANADA

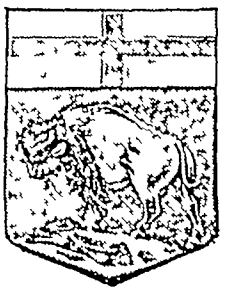
Dr JOHN D. CORRIE (President) again took the chair, and called on Dr J. J. HEAGERTY (Ottawa) who said that the original title of his paper had been "Factors influencing the development of medicine in Canada", he would try to correlate the two conceptions. In the course of a brief journey through the past, describing the passage of the St. Lawrence as an effort to reach Cathay and mentioning the first medical treatment of the Indian chief Agontawa by the "laying on of hands" by Cartier for paralysis, the speaker reached the onset of scurvy among the Indians. This disease spread to the whites and in an effort to discover the cause the first necropsy in Canada had been performed in 1534. Cartier was made an Indian chief for the same reason as in the case of Lord Dawson on August 27th 1930—namely that he was a great healer. McGill University was built on the site of the first medical treatment in Canada. The Indian remedy for scurvy was found in a decoction of the bark and sap of the spruce tree, which quickly relieved the symptoms but the disease continued as a scourge to succeeding expeditions and small pox came as an additional disaster. This last infliction with alcohol and war, had almost exterminated the Indian. Interesting accounts of small pox epidemics and their effect in antagonizing the Indians, or the way we dread known as the "Jesuit Relations", or the reports, of the disease and the introduction of vaccination in 1897 were given, also of the establishment of the Hôtel Dieu in Quebec in 1639 by the Duchesse d'Aiguillon, niece of Cardinal Richelieu. The history and trials of this harbour were outlined. Its first surgeons had been barber-surgeons," with no need for degrees or apprentice hip. Mention was made of Duchesne and Sarrazin of the influence of the early physicians on the community. The founding of hospitals was then described leading up to the present state of licensing and reciprocity and the development of public health. In conclusion, the speaker foreshadowed special licensing requirements for specialization. Dr SPEECHLY (Winnipeg) explained the confusion as regard titles mentioned by Dr Heagerty. Sir JAMES BARRETT remarked that military campaigns were affected by diseases more than was commonly realized. The first campaign conducted on the basis of health was that of Allenby in Palestine where action was often only possible in the interval between infection by and incapacity from malaria. He referred to Cleopatra's warning to Antony not to attack Persia because armies sent there did not return. He also commented on the fact that Cook went round the world free of scurvy but his crews perished from malaria after reaching Batavia. The freeing of Jerusalem from malaria, the inscription of the Desert Mounted Corps on the Conqueror's Stone at Dog River and the advisability of writing up campaigns from the medical point of view, were also noted. Professor CRANE (London, Ontario) mentioned Dr Heagerty's book *Four Centuries of Medicine in Canada* and the discovery in the Ottawa archives of a book presented by Jenner to the Five Nations. He pointed out that the white had given to the world syphilis and civilization and suggested disease changed history. Dr T. C. POTTER (Toronto) mentioned the lack of knowledge in England of Canadian conditions though almost all the discoveries in Canada came from the Mother Country. Sir JAMES BARRETT poke of the cairns erected along the route of discoveries in Australia, seven out of eight bore the names of people from the Old Country. Dr MACKINTOSH asked about the origin and spread of tuberculosis and Dr HEAGERTY replied that no signs had been found in old bones to reveal how tuberculosis and all European diseases were common.

Dr D. A. STEWART (Nanette) read a most interesting paper on the life of Sir John Richardson surgeon explorer of the Arctic and also sailor naturalist and scholar. His early life and "wisdom in the choice of his parents," with his many and wide enthusiasms, were pointed out. At the age of 19 when an assistant surgeon in the Navy he had seen service against the French and Americans and then became interested in exploring for the North-West Passage. he had joined the Franklin expedition in 1824. He became chief medical officer to the Royal Hospital at Haslar and was one of the first to free insane people from the barbarous treatment then in vogue by proving to the Admiralty that his methods were less costly. He took part in the search for Franklin and was knighted by Queen Victoria. He personally knew Florence Nightingale, Thomas Carlyle, and Burns. Dr HEAGERTY congratulated Dr Stewart on his paper describing it as replete with food for thought and interest. Sir JAMES BARRETT, remarking on the smallness of the world mentioned that Franklin as a midshipman had limbed a hill at Melbourne and again as Governor of Van Diemen's Land before leaving ultimately to disappear in the Arctic. Sir James also proposed that in the best interest of medical education the Section should recommend that the history of medicine ought to be a subject for all higher degrees or qualifications. This was carried unanimously. Dr GORDON BAKER thanked the readers of papers he expressed the view that study of this subject would tend to prevent a tendency to sectionalism, which he thought was becoming apparent.

British Medical Journal.

SATURDAY, SEPTEMBER 20TH, 1930

THE WINNIPEG MEETING



THE Annual Meeting of 1930 will be memorable for many reasons It is one of the three occasions on which the Association has met outside what is still medically the United Kingdom, and it is the third Annual Meeting held in the Dominion of Canada The warmth of the welcome given to the Association can hardly be overstated, and the event has been everywhere regarded as one of high moment The evidence supporting these propositions was by no means confined to the medical profession On the contrary, it has been abundantly supplied by the most distinguished representatives of the Federal and Provincial Governments, and by the municipalities and citizens in all places visited by the Association The visit to Canada has indeed been interpreted as possessing a note and quality of patriotism, and has been welcomed as an expression of cordiality and good feeling between peoples who share a common tradition and a common loyalty, and look with confidence also to a common future It may be accepted as certain that, other values apart, the British Medical Association is widely credited with large and worthy motives in its decision to travel to Winnipeg for its Annual Meeting Another certain conclusion is that the habit of reciprocity will be encouraged The centenary meeting of 1932 will, in any event, attract many individual visitors from the Dominions, and it may be well to consider without delay the possibility of some comprehensive official invitations British hospitality has received a fair challenge and must use its opportunity in no grudging fashion Even further, the experience of 1930 must be added to other events which emphasize the importance of multiplying personal contacts between members of the Association in the various parts of the Empire Manifestly the Association can only on rare occasions cross the seas for its annual meeting, but official delegations will be more and more earnestly desired in the Dominions, and both for these and for the reception of delegates in the home country adequate provision must certainly be made If Winnipeg has not exactly set the ball rolling she has certainly contributed an added impetus

We have already begun publication of reports of the technical or strictly professional activities of the Annual Meeting, here it is sufficient to say that many important communications were made in the various Scientific Sections, that the attendance of members was rather above than below the average, and that the reports printed in the local press were creditably accurate as well as full The proceedings were clearly recognized to be of great public interest Naturally this was particularly true of the larger and semi-public functions At the adjourned general meeting a telegram of welcome and good will from Lord Willingdon, the Governor General of Canada, was read, and a suitable reply from the President was warmly endorsed by the audience Cordial and inspiring speeches were delivered from the platform by the Hon John Bracken, Prime Minister of Manitoba, and by Lieut.-Colonel Ralph H Webb, the Mayor of Winnipeg, who presented a flag of the city to be placed in the Great Hall of the Association The new President in his address commanded the attention of a large audience, and he was received with much enthusiasm Interesting features included in the ceremony were the investiture of new officers with their appropriate badges, the introduction of foreign delegates and of delegates from the Dominions and Colonies, and of Dr Alex D Blackadder of Montreal and Sir Ewen Maclean as Vice-Presidents, while the reception given to the Most Rev Samuel Pritchard Matheson, D D , Archbishop of Rupert's Land and Primate of All Canada, and to Mr Thomas Bassett Macaulay, LL D , showed a cordial local approval of the action of the Association in adding these names to the list of its Honorary Members Besides the official representatives already mentioned the platform party included the Hon J D McGregor, Lieutenant Governor of Manitoba, the Hon Dr Egbert, Lieutenant-Governor of Alberta, and the Hon E W Montgomery, Emeritus Professor of Medicine and Minister of Health and Public Welfare for Manitoba

A feature of special distinction in the programme was the religious service, and no one who took part in this is likely to forget it Processions of the British and Canadian doctors and of visitors were organized at headquarters and marched through crowded streets to the picturesque square in front of the stately Legislative Building of Manitoba Having passed to their places members saw in front of them effectively arranged groups of naval cadets, boy scouts, hospital nurses, ex-service nurses, and immigrants from Iceland and other countries in their picturesque national dresses, the whole, including members in their academic robes, forming an attractive and inspiring scene The setting was most artistic and the stage management admirable It is noteworthy that the "committee" to whom the organization of this function was committed consisted of one man, Dr H M Speechly, who proved himself more than equal to the occasion and received thanks and congratulations from all quarters The service was conducted by Archbishop Matheson, the Lesson was read by the President of the Association, and the music was rendered by the band of Princess Patricia's regiment under the direction of Captain I W James On the way to the religious service the procession halted while the President, on behalf of the Association, placed a wreath at the base of the Cenotaph, and everyone stood to attention while a bugler sounded the "Last Post" Winnipeg may claim an Annual Meeting with many features having an individual quality, and high among these must be placed the outdoor religious service held in picturesque surroundings and organized with delicate and artistic skill Effective management was shown also in many other directions, and particularly in the arrangements for the official dinner, where some 1,600 persons found their places without difficulty and enjoyed the benefit of a prompt and admirable service, it was a triumph of organization The company enjoyed a brilliant speech from Lord Moynihan, who proposed "The Empire," and a happy and characteristic contribution from Sir StClair Thomson, who submitted the toast of "The Guests," while Mrs Harvey Smith gaily responded for "The Ladies," proposed by the Past President, Professor Burgess, an effective acknowledgement of the toast of "The Association" was made by Dr Brackenbury

Winnipeg has yet to build its worthy university ceremonial hall, but as it has made an attractive and flourishing city out of the prairie in the course of fifty to sixty years there can be no doubt of its capacity for academic and other developments. In the meantime the convocation for the conferring of honorary degrees was held in the Winter Club and was a very impressive ceremony. A special welcome was given to Dr. T. Wilbs Prowse, Dean of the Faculty of Medicine in the University of Manitoba, in recognition of his successful efforts to raise to a university level the teaching in the medical school. Lord Dawson of Penn acknowledged, on behalf of the new honorary graduates, the courtesy of the university, and spoke of the common interests of the home country and of Canada. On the first evening of the meeting was the Listerian Oration, which delivered by Lord Moynihan drew a crowded audience, and will certainly take a worthy place in the numerous tributes paid to the fame of the great English surgeon. The chair was appropriately taken by Dr. John Stewart, Emeritus Professor of Surgery, Halifax, Nova Scotia, who was at one time house surgeon to Lister, and was himself the Orator when the Canadian Medical Association met at Ottawa in 1924. Not the least pleasing of the various ceremonies was the gift to the British Medical Association of a buffalo head as a souvenir of the Winnipeg Meeting, and added significance will be found in the fact that the presentation was made by the Hon. R. B. Bennett, K.C., Premier of Canada. Of many other ceremonies, including the one that made Lord Dawson into an Indian chief, we can only say that they were admirably planned and were carried out with genial and hearty good will. Hospitality, both official and personal, reached its farthest possible bounds, and was given not only generously but gladly; guests found hosts who were obviously pleased to offer a full welcome. The President and Mrs. Harvey Smith and their numerous colleagues, lay and medical, are to be congratulated on a great success; they have contributed a special and distinctive record in the history of the British Medical Association.

THE MENTAL TREATMENT ACT 1930

In the realm of psychological medicine the outstanding event of the past twelve months was the introduction by the Government in November 1929 of the Mental Treatment Bill which received the Royal Assent and became an Act of Parliament on July 10th, 1930. It is natural therefore that the Commissioners of the Board of Control should have chosen to devote the introductory section of their latest annual report[1] to an explanation and appreciation of the provisions of this Act. The Commissioners believe that this measure will come to be regarded as a great landmark in the history of legislation dealing with the treatment of mental disorder. The new Act for the first time authorizes the reception of voluntary patients into public mental hospitals. It is earnestly hoped that local authorities will realize that from the point of view of both humanity and economy treatment cannot begin too early, and that they will therefore see that any charge made for the reception of voluntary patients shall not be such as to discourage admissions in the incipient stages of the disease.

An even more important feature of the new Act is the provision for temporary treatment of non-volitional patients, on the recommendation of two medical practitioners and without the intervention of any judicial authority. In the Board's opinion this is an epoch making change, but it will fail of its full effect unless local authorities rise to the measure of their new opportunities. It is of the utmost importance that the non-volitional patients whose prospects of early recovery may be favourable, should have a chance of escaping the supposed stigma of certification. But the change will become a mere alteration of label, a mere detail of nomenclature, if patients, under the new procedure, are to be warded indiscriminately with certified chronic cases. The new provision is based on an implicit understanding that local authorities will provide, as many have already done, a separate admission hospital equipped with modern therapeutic resources and supplemented by adequate convalescent villas.

The Board of Control welcomes also the provision whereby it has power to approve institutions and hospitals other than mental hospitals for the reception of voluntary and non-volitional patients. There are many smaller general hospitals which do not possess either the staff or the equipment desirable for the treatment of any form of mental disorder, and in any case the Board does not expect that voluntary hospitals will, in general, be prepared to receive into their ordinary wards patients who might be disturbing to others. But there are many cases which could with advantage, be treated in teaching hospitals and in those non-teaching hospitals which are large enough to have wards for nervous and mental disorders. In the case of the teaching hospitals such an arrangement would be of special value not only from the point of view of the patient but in the interests of medical and nursing education. At present the amount of teaching which the undergraduate student receives in psychiatry is lamentably inadequate, though it cannot be appreciably increased without adding to a curriculum recognized as already overloaded. But the admission of suitable cases to neurological and mental wards of teaching hospitals would, in the Board's opinion, provide favourable opportunities of experience to the student without any addition to the present curriculum. The Board however points out that if developments on these lines are to be successful the staff of the mental hospital should be associated with any treatment given at the voluntary hospital. Association between the two will be beneficial to both; for the advancement of medical knowledge is only hampered by the treatment of mental and physical diseases in watertight compartments instead of in relation to one another.

Another change of great importance to which the Commissioners' report draws attention is the statutory recognition of the out patient clinic for patients suffering from mental illness. Authorities are now empowered to provide such a clinic and arrange for its provision with the voluntary hospital of the area. There are obvious advantages in conducting an out patient clinic as a part of a voluntary hospital. Patients in the earliest stages of mental instability will more readily resort to a centre which is not dominated in their minds with mental disorder, while other patients who are in need of treatment by a psychiatrist though they themselves do not realize their need will come under the notice of the medical staff in the ordinary course of their work. It is essential to the success of voluntary treatment in the early and hopeful stage to secure the patient's confidence and co-operation, and the Board does not believe that

[1] Sixteenth Annual Report of the Board of Control for the year 1929. Part I. H.M. Stationery Office. 1s. 6d. net.

THE MEDICAL REGISTER UNTRACEABLE PRACTITIONERS

WE publish in the *Supplement* this week (p 141), at the request of the Registrar of the General Medical Council, a list of the names of those medical practitioners who have not replied to his inquiries as to the accuracy of their postal addresses Any practitioner whose name is included in this list should communicate at once with the Registrar of the General Medical Council, 44, Hallam Street, Portland Place, London, W 1, or, in certain specified cases, with the Registrar of the Scottish Branch Council, 12, Queen Street, Edinburgh

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THE next meeting of the International Association of Surgery will be held in Spain in 1932, when the following subjects will be discussed treatment of intraspinal tumours, non-tuberculous pulmonary suppuration, and *surgery of the oesophagus*

ARSENIC IN SWEETS.

A REPORT ON THE STOKE CASES

THE following note on the recent outbreak of poisoning in sweets contaminated by arsenious oxide has been contributed by Dr A Wotherspoon, medical officer of health for the city of Stoke-on-Trent

On September 2nd, 1930, notice was received at the Health Department from Dr Glass, a general practitioner in the Norton district of Stoke-on-Trent, that some twelve children in his practice had been taken ill after eating certain sweets Inquiries were at once set on foot, and it was discovered that all the sweets had been purchased at a shop in the neighbourhood The particular sweets were cough-drops, and had caused twelve children to be ill shortly after eating them The symptoms in every case were the same, and came on from one to two hours after eating one or more of the sweets Everything pointed to some irritation of the stomach, followed by vomiting, which, in the mildest cases, lasted from six to seven hours

The suspected sweets were sent off the same day for analysis, and a wire was received the following day stating that large quantities of arsenic had been found in them Just previous to receiving the wire from the analyst the medical officer for the Congleton Urban District telephoned to say that he had had similar cases of poisoning in his district due to consuming cough-drops, and after submitting samples to the Ministry of Health had heard that they contained arsenic

The premises of the wholesaler were visited, and it was found that the sweets had been manufactured by a Stoke-on-Trent firm The factory, which was a small one, was next visited, and the proprietor was questioned as to the ingredients of the cough-drops These were given as follows White sugar, brown sugar, glucose Flavouring consisted of paregoric, oil of peppermint, oil of cloves, horehound essence, eucalyptus oil, and oil of aniseed The proprietor, in the course of conversation, said that the cough-drops manufactured on August 27th had not been made by him but by another sweet-boiler, as he himself had been ill He also said that this same man had brought a bag of dusting powder to the works a week previously, which he had purchased

Samples of all the ingredients were taken, including the white powder brought by the man who made the boiling of the cough-drops and some other sweets on the 27th This man in interview, gave the same ingredients already mentioned by the proprietor as those he had put in the cough drops The following morning, September 5th, the works were again visited by myself and Dr Monier-Williams from the Ministry of Health, and further samples of everything likely to contain arsenic were taken Up to this date no cases of illness had been reported or suspected from any other type of sweets from the factory, but on September 6th some cases were heard of from other sweets —namely, mint rock—and the whole of the sweets made at *the works* after August 27th—the date on which the poisoned boiling was made—were seized

On September 8th a wire was received from the Ministry of Health to say that the dusting powder sold to the works on August 18th was pure arsenious oxide This being the case, all sweets made after August 18th, the date the powder was taken to the works, were then recalled, and the works sealed up until such time as an analysis of all the substances in use there had been made and pronounced free from arsenic

The extraordinary thing about the whole case is the fact that there have been no deaths, possibly because the large quantities of arsenic caused vomiting, and so were expelled from the system before further absorption had taken place The quantities of arsenic varied in the several analyses carried out from 77 to 150 grains in every pound of sweets Some of the sweets contained as much as two-thirds of a grain in each one, and there were about five sweets to an ounce, which could be purchased for a halfpenny There were no further cases after Saturday, September 6th, so far as the Health Department is aware, except for one child who was given a sweet purchased several days before The question as to how the man who sold the arsenic, which was pure arsenious oxide, came to have it in his possession is now a police matter, but it would suggest that some tightening of the regulations concerning the sale of arsenic is necessary, as I am informed that one can purchase large quantities from colour merchants and manufacturers with little or no trouble The difficulty in tracing the source of the bottles of sweets was greatly hampered by the lack of book-keeping on the part of the manufacturer and *the wholesalers* The enormous quantities of arsenic used as a dusting powder in the process of manufacture had also permeated almost all the ingredients in the works, and arsenic has already been found in quite large quantities in treacle and several other substances

The source of the arsenic which was sold as dusting powder to the manufacturer has been found to be from a box of pure arsenious oxide found on the engineering works where the man who made the boiling for the factory had resided The explanation of its presence on the works was that it had been left there by a previous lessee of the works, who made enamel letters for shop windows This man is now in America, so it has not been possible to trace where the arsenic was manufactured The whole of the arsenic is now being destroyed, so that no further cases can arise from this source unless from sweets already purchased of which the Health Department is unaware

The lesson of the whole case would seem to be that there should be more control over all premises where food or sweets of any kind are manufactured Such premises can always be entered by a medical officer of health or his representative, but the existence of such premises is often unknown, and I would suggest that notification of the commencement of such a business should be made to the authorities Another point of extreme importance is the ease with which large quantities of arsenic can be purchased from manufacturers such as colour merchants, and over the sale of which the police have no control Further, it seems that some legislation is necessary to prevent a case like the present, where a manufacturer on vacating the premises can leave a large amount of a deadly substance such as arsenic without any label or means of telling its noxious nature Surely such deadly poisons should never be lost sight of, but should be returned to the manufacturer or their presence reported to some authority I would suggest that the attention of the Home Office should be called to such a situation, which could obviously arise on some other occasion

As I have already stated, the circumstance that surprised me more than any other was that there were no deaths, in spite of the fact that these sweets, heavily contaminated with arsenic, were sold at one halfpenny an ounce The manufacturer and his son have both suffered severely from the effects of the arsenic—irritation of the skin, especially on the hands, forearm, and face, as well as pains and diarrhoea due undoubtedly to eating food with hands contaminated during the making of the sweets

THE BRITISH ASSOCIATION

ANNUAL MEETING IN BRISTOL

(Concluded from page 491)

SEVERAL topics of direct or indirect medical interest were discussed during the annual meeting of the British Association at Bristol, which terminated on September 10th. We referred last week to the two presidential addresses in the Sections of Physiology and Psychology respectively, and it is not possible to do more than indicate certain other topics which were dealt with. In the Section of Psychology Professor C. W. Valentine devoted himself as president to the consideration of the psychology of early childhood and some kindred aspects of this subject received detailed attention later.

The Pre-School Child

In the Section of Educational Science Miss Margaret Drummond urged the necessity of a healthy educational environment for the early years of life. Solution of the housing problem, even associated with the training of the ignorant mother and her freeing from other responsibilities in order that she might attend to her children, was not in itself an adequate measure, for the 3-year-old child, like his older brothers and sisters, had needs which no mother could fully satisfy. A child's development should be continuous and be safeguarded from sudden changes in environment—as for example an abrupt transition from the nursery school freedom to the cramping and deadening mass instruction provided in many infant schools. Dr. W. E. Blatz described the methods adopted in the clinics and schools of Toronto to keep children off the "psychological rocks." He said that the background of personality was laid down in the first five or six years of life in the winning of control over attitudes, appetites, and emotions. The mother of a child in the Toronto nursery school attended courses in parental education for three years. Dr. J. A. Hadfield (London) show how false attitudes to life adopted in the pre-school period resulted later in adult abnormalities of character and personality. Prevention of these faults was obviously better and easier than their cure. Full and harmonious expression of the child's personality in legitimate accordance with its environment was essential to health, and could be achieved by the fostering of the quality of self-discipline, which was latent in every child. The imposition of ideals, such as discipline and considerateness, qualities desirable in themselves, might easily lead to mental morbidity, no discipline was of any value which did not lead to self-discipline. Mrs. S. Isaacs discussed the relation between thought and fantasy in young children.

The Psychology of Adolescence

Various aspects of this subject were dealt with by speakers. Professor Olive Wheeler defined three emotional developments characteristic of this period—namely, the increased feeling for self, tending to the development of psychological independence, and the finding of a vocation, the appearance or intensification of sexual emotions, tending to the development of hetero-sexuality and finding a mate, and the evolving of social, aesthetic, and religious emotions leading to the formulation of a working philosophy of life. Variations occurred among normal adolescents as regards the time and rate of emotional developments, the relative emphasis laid on differing ones, and the "conflicts" which might ensue. Moreover, environmental influences had their part to play, the family circle, educational institutions, modern industrial difficulties, and religious organizations might have good or bad results as regards the developing personality and the physical and mental health.

Dr. R. G. Gordon emphasized the importance of problems of adjustment being tackled healthily and outlined the way in which introversion should proceed to extraversion, the quality of the social being. He then dealt with the the quality of the social being. He then dealt with the herd instinct, the ill-defined instinct of suggestion, primitive sympathy and imitation and the ex instinct: these three had to be integrated with each other and with other emotional dispositions as well as with physical factors. Study of the mental defective, Dr. Gordon remarked, supplied a slow motion picture of the development of the social self. Such a defective did not lack any of the instinctive bases of the social self but he was deficient as regards integration, discrimination and control and therefore in the power of social adjustment. These missing functions were cortical in nature, and the amentlacked an efficient cortex. Hughlings Jackson's work had revealed how the cortex was concerned with control. Sherrington had shown how it was involved in integration, and Head had illustrated the faculty of discrimination. These functions were related to adaptation, which could only be achieved by a fully developed cortex. Recent work by Drs. Gordon and Thomas had thrown light on the continued development of the mentally defective, and the late adjustment to social conditions made by backward children. Amentia was not solely deficiency of intelligence, it included a group of cases showing deficiency in social adjustment, and divisible into those who compensated by excessive egocentricity (often epileptic), and those who were generally inefficient (psychasthenic). All psychoneurotics were not defective, but many of those regarded as psychoneurotic were really suffering from a degree of amentia. Miss A. H. McAllister described the adolescent modes of thinking, and Miss M. Phillips discussed the adolescence of the wage-earner.

Psychology of the Tuberculous Patient

Dr. H. Banister, in a paper dealing with the mental effects produced by tuberculosis, described the discoveries which had been made at the Papworth Village Settlement. Tuberculosis had there been shown to be not necessarily hereditary, and even though 173 children had been born there of tuberculous parents, and had lived the ordinary family life with them, not one had contracted the disease. He did not agree with those who assumed that genius was one of the products of tuberculosis, though to be crippled by the disease might supposedly give rise to imaginings of what might have been the career otherwise, such imaginings being the very essence of the art of romance. The 'spes phthisica"—the planning of grandiose schemes by the obviously moribund—was less usual than was generally believed and constituted a state of dissociation. Similar dissociations were fairly common, forming the basis of many novels, in the consumptive the patent fact that he was doomed to early death might be concealed from him by an unconscious process of this kind. Such a hopeful mental attitude might promote cure in cases of less severity. The patient must be shown that life was still worth living though not on the scale previously planned. Such considerations offered a possible explanation of the fact that the expectation of life at Papworth was about three times that given by ordinary sanatorium statistics. It had to be remembered that the patient was not cured when he left a sanatorium, the disease was only arrested. Moreover, he might be going back to the very environment in which he had broken down, and the worry and difficulties consequent on his return were bound to bring about relapse eventually. After the arrest of the active process the patient should adopt suitable work under adequate medical supervision: this was the line on which the Papworth treatment proceeded.

Colours and Colour Vision

Dr. J. Drever, in the Section of Physiology opened a discussion on the definition of primary colours, showing that there were four different view-points in this respect—namely, those of the artist, the physicist the physiologist, and the psychologist. While the artist and physicist applied the same logical principle of classification—the admixture of three pigments or lights—the psychologist and physiologist maintained that colour was a phenomenon pertaining to their special sciences. Standardization by wave-lengths offered a better basis for classification and it would be well to discontinue use of the undefined term "primary." Professor H. E. Roaf discussed the mode of production of colour sensation with special reference to the histological structure of the human and avian retina. Dr. R. J. Lythgoe suggested a correlation of the different standpoints. Dr. F. W. Edridge-Green read a paper on pseudo-isochromatism and the detection of colour-blindness, and

reported the results obtained by an examination of cases at the Board of Trade He concluded that a test for a dichromic would not necessarily detect a trichromic who had the three colour sensations—red, green, and violet—but no yellow sensation, and who was obviously dangerous, as was shown by the lantern and spectrum tests He emphasized the value of his own "card test" in this connexion A test which was difficult for the normal sighted was not necessarily so for the colour-blind In fact, a test might be constructed which could be passed by the colour-blind but not by those with normal colour vision

Chemotherapy

In the two Sections of Chemistry and Agriculture attention was paid to the value of chemotherapy in human and veterinary medicine The President of the latter Section, Dr P J DuToit, in his address on veterinary science and agriculture, reviewed the notable advances made in recent years, with special reference to trypanosomiasis and its arsenical treatment, and the piroplasmoses, such as redwater and biliary fever, which yielded to trypan blue In the Section of Chemistry Dr A J Ewins read a paper on the application of arsenicals to tropical medicine, and Dr H King described the mechanism involved in the action of these substances Dr T A Henry described the derivatives of quitenine A discussion on the present position of the dyestuff industry in the same section was opened by Professor A G Green, F R S, who gave an account of the advances made since 1914, and eulogized the Dyestuffs (Import Regulation) Act which came into force in January, 1921

Ireland.

Northern Ireland Insurance Act.

THE National Health Insurance Act, which received the Royal Assent at the close of the last session of the Parliament of Northern Ireland, established a scheme of medical benefit for persons insured under the national health insurance scheme All persons who are insured under this particular scheme, with the exception of voluntary contributors whose incomes exceed £250 a year, and a limited class of deposit contributors, will be entitled to medical benefit, which begins on October 1st, 1930 Unlike the cash benefits under the health insurance scheme, medical benefit will not cease at 65 years of age, but will continue for life Every qualified medical practitioner in Northern Ireland is entitled to undertake the treatment of insured persons, and a list will be prepared by the Ministry of Labour, the Government department responsible for the administration of the scheme, showing the names and addresses of the doctors who have agreed to do so This list will be compiled by county areas, and the appropriate district list will be displayed in employment exchanges and post offices Any insured person is entitled to choose as his doctor any doctor practising in his district whose name is on the list, and who is willing to accept the insured person as a patient During the next few weeks the Ministry of Labour will send a medical card to every person entitled to medical benefit This card, besides being proof of title to medical benefit, should be used by the insured person when selecting his doctor He need only take the medical card to the doctor of his choice, who will send it to the Ministry of Labour as a notification that he has accepted the applicant as a patient, and the card will then be returned by the Ministry of Labour to its holder As a consequence of the introduction of medical benefit, sanatorium benefit will cease to be one of the benefits under the national health insurance scheme after September 30th, 1930, from that date the County Insurance Committee will cease to exist Insured persons suffering from tuberculosis, who are now being treated in their own homes under the sanatorium benefit arrangements, will in future be given treatment by their own doctors, and supplied with medicines under the medical benefit scheme The arrangements for other forms of treatment for tuberculosis will however, be in the hands of the County Tuberculosis Committee.

Peamount Settlement for Tuberculous Patients

The Irish Free State Department of Local Government and Public Health has agreed to the payment of a special weekly fee in respect of every patient who receives industrial training at the village settlement which is being established in connexion with Peamount Sanatorium near Dublin In a letter recently addressed to the boards of health the Peamount committee of management states that important developments have taken place during the past few months Thirty-one patients are now receiving industrial training, concurrently with medical treatment, with a view to their becoming permanently employed by the Peamount industries Goods are being produced and sold on an economic basis, so that patients who eventually become permanent employees will be able to maintain themselves and their families at little or no cost to public funds At the same time, they will remain under medical supervision, so that the relapses, or breakdowns, which form so prominent a feature of tuberculosis after-care, may be avoided, and the risk of infection limited Special stress is laid upon the fact that, while the fees now approved are no higher than those payable in respect of patients treated at ordinary sanatoriums, the Peamount institution can offer additional benefits which are unique The latter states that at Peamount it is now possible not only to provide full sanatorium treatment with occupational therapy of a purposeful kind, but, further, to develop this occupational therapy into a permanent paid employment for suitable cases In inviting boards of health to send tuberculosis patients to Peamount for treatment and training, with the object of permanent settlement, the Peamount committee declares its intention of providing a village settlement for the tuberculous of the Irish Free State, and hopes that its success may emulate that already achieved by the Papworth Village Settlement in Cambridgeshire, which has been described as "the most important international demonstration of anti-tuberculosis work at present being carried on anywhere" At the request of the Marchioness of Aberdeen and Temair, president of the Women's National Health Association, Dr P C Varrier Jones, the founder and medical director of Papworth, has undertaken to supervise the development of Peamount, so that it may proceed along lines that have proved to be successful

Meals for School Children

The annual report of the Ministry of Education of Northern Ireland states that schemes for medical inspection of public elementary school children are in operation in all areas except Derry City and County Armagh Outside the city of Belfast, committees have evidently not attempted to cope with the question of providing at least one free meal daily to necessitous children in town and country The winter proved only too clearly the need for concerted philanthropic endeavour in this direction Badly nourished and ill-clad children were seen even in some of the rural schools, where the provision of a hot meal at midday would have done much to save them from becoming a permanent burden on the State owing to physical weakness According to a report there is no reason to fear that service of this kind in season will produce pauperization

Scotland.

Changes in Edinburgh Public Health Department

DR WILLIAM ROBERTSON, who had been medical officer of health for Edinburgh for over seven years, retired from the position on September 8th, when he was succeeded by Dr John Guy Many useful contributions, to both the literature and practice of public health, have been made by Dr Robertson during his tenure of office While medical officer of health for Leith, prior to his appointment in Edinburgh, he manufac[illegible]pioneer in the work of the medical inspection [illegible]om the effects [illegible], and drew up an exhaustive report on [illegible]ecially on the hair pupils in Leith before these examinat[illegible] and diarrhœa du[illegible]d in other places He was also [illegible]lands contaminated dur[illegible]; protective inoculation of

school children against diphtheria He is well known as an organizer of successful health exhibitions, and as a popular lecturer in health subjects His book on *Sanitary Law and Practice*, now in its sixth edition, and his work on *Meat and Food Inspection* are among the textbooks used by those qualifying for the diploma in public health During the war, in conjunction with Dr Oliver of Roxburghshire, he designed a steam disinfector, which was used by several of the allied armies

It was intimated at the meeting of the public health committee of Edinburgh Town Council on September 9th, that Dr John Guy had been appointed lecturer on public health at the University of Edinburgh in succession to Dr Robertson At the same meeting Dr H C Elder was appointed tuberculosis officer for the city in succession to Dr Guy Dr Elder graduated M B at Edinburgh University in 1917, and was assistant for a time to Sir Robert Philip, professor of tuberculosis in the University He was afterwards transferred to the public health department of Edinburgh as deputy tuberculosis officer

On September 11th Dr John Guy was entertained at a luncheon by the Rotary Club of the city, and gave an outline of the present state of the public health services in Edinburgh In that city, he said, there were ten subdepartments in public health, of which eight were directed by medical men, one by a veterinary inspector, and one by the sanitary inspector Seventeen years ago the total sum expended on public health was £35,000 per annum, while the estimate for the present year amounted to £347,000 The oldest special department was that of tuberculosis, which had three medical officers and a large staff of nurses, but he believed that the time would come when this department would disappear In the child welfare department there was a medical officer with four assistants and a large body of nurses The venereal diseases department had been set up during the war, and was administered in conjunction with the Royal Infirmary, where all the expenses incurred in connexion with this disease were paid by the city The inspection of school children was under the care of a medical officer with four assistants, no recent advance in public health showed better results than did school inspection, which had been responsible for a marked improvement in the general growth and physique of the children A new charge had been laid upon the public health department in the care of the sick poor, who numbered about 700 They were admitted to the hospital at Seafield, formerly a poorhouse, which now provided the highest standard of medical treatment The department had also taken over Bangour Asylum, which had 1,000 inmates, and also the care of the mentally defective, for whom an institution was being erected at Gogarburn

Sanitary Congress in Edinburgh.

The Royal Sanitary Association of Scotland, instituted in 1875, held its annual meeting at Edinburgh on September 10th and 11th The delegates were welcomed by Lord Provost T B Whitson, who referred to the excellence of the work carried on by the association While the provisions of the Local Government Act of 1929 might be difficult of adjustment, they made towards the uniformity and extension of health services, and the future might be regarded with great confidence The public conscience had been awakened since the war to the evils of bad housing conditions, and the new Housing Act of 1930 gave an impetus in dealing with the slum problem He thought that they must get rid of the idea that slum dwellers would create slums wherever they went and look forward to a time when a generation brought up under the influences of food, air, light, and sanitation and the beauty of small gardens would change the whole of life There was some danger that in clearing slums municipalities might work on a patchy system, he thought that there was sometimes wisdom in a bolder policy that effected clearances which might be used for the better architectural and business development of the town No official efforts of a department could have brought about the present extensive system of public health administration unless the feeling of the citizens had been behind it While civic government was carried out more and more by experts care was necessary that the old mistake should not be repeated of taking away responsibility and interest from the community A discussion on gas undertakings and smokeless fuel in relation to public health was introduced by Sir William E Whyte, chairman of the Scottish executive committee of the National Gas Council He gave statistics showing the relation between an increase in the use of gas and a purer atmosphere In Glasgow in 1915–16 the fall of soot was 450 tons per square mile, in 1921–22 it had been reduced to 241 tons During the interval the increase in the amount of gas supplied had exceeded 500 000,000 cubic feet Sir William remarked that some public alarm had been caused recently in regard to the dangers that attended the use of gas, and the fact that gas was largely used by suicides He considered however, that the number of accidents caused by gas poisoning was very small in comparison with accidents from other causes, and the abuse of gas by a small section of the community was no reason why its proper use should be discouraged, because the people who committed suicide would still do so if gas was not available A lecture was delivered by Mr Gilbert Thomson on progress in sanitation, dealing chiefly with water supply, drainage and sewage He pointed out that the progress which was specially needed in the future concerned the improvement of rural water supplies, and that these could probably be most easily provided by comprehensive undertakings A discussion on housing was opened by Mr Allan W Ritchie, chief sanitary inspector, Edinburgh, who said that the great task of slum clearance and housing improvement had recently become a party cry of politicians Many persons were of the opinion that slum conditions were largely due to careless and destructive tenants, but he was compelled to correct this erroneous view, for while bad tenants might contribute to the evil, the main causes were site congestion, subdivision, overcrowding, and lack of sanitary conveniences Powers for improving the housing of the working classes had been available since 1890, but the results obtained up to the present time had been very meagre There had been a process of condemnation, demolition, and clearance of congested areas, and in recent times large numbers of modern dwellings had been erected by local authorities These efforts, however, had only touched the fringe of the problem Local authorities had estimated after 1919 that 34,755 houses were necessary to replace houses that should be closed and demolished while a further 41 820 were required to meet cases of overcrowding In the annual report of the Department of Health for Scotland for 1929, it was stated that the total number of houses dealt with in the ten years had been 14,527 In his opinion the problem could be solved within twenty years if the local authorities faced the situation seriously The question was one of finance for in order to build houses at the present cost and let them to the citizens who urgently required them at a reasonable rent, they would have to get the money for nothing, thus the private builder was excluded until he was in a position to build freely as in pre-war days Dr Clark, assistant medical officer of health for Glasgow, pointed out that the Act made provision for hostels, and there might be some inducement for local authorities to erect such places because anything which would do away with the one-roomed house would be welcome A discussion on rural housing was opened by Mr James T Storry county sanitary inspector for Midlothian who said that there was little difference in the housing problems of rural and urban areas About 43 per cent of the new houses estimated to be required were needed in landward districts, including agricultural, industrial, mining and crofting areas This shortage had not been remedied since the war The necessarily isolated sites of these houses tended towards a low standard of sanitary services and it was often found that all sanitary conveniences were absent unless provided by the occupier The houses were generally, however, of substantial structure,

and could be reconditioned at much less cost than a new building, so as to conform with the highest present-day standards. The Housing (Rural Workers) Act, 1926, had offered an unprecedented opportunity for making a marked impression on housing and extensive improvements had already been carried out under the Act. The process of bringing housing conditions up to a satisfactory standard in rural areas must, however, necessarily be slow.

The Scottish Western Asylums' Research Institute.

Dr Sarah H. Maclachlan, director of the Laboratory of the Scottish Western Asylums' Research Institute, gives an account in her report for the year ended December, 1929, of an investigation she carried out in conjunction with Dr. A. S. Paterson on the blood sugar reaction to insulin in the psychoses. In the *Archives of Neurology and Psychiatry* (January, 1929) Appel and Farr had stated that a relatively sharp fall in the blood sugar to the extent of 29 per cent. took place in most cases within ninety minutes of the injection of 5 or 10 units of insulin, and that the recovery process was more gradual and not complete in three and a half hours. These results Drs. Maclachlan and Paterson were able to corroborate. Further, they investigated ten cases on lines suggested by Appel, Farr, and Marshall, who had studied the effect of insulin on the under-nutrition of patients with psychoses. The method consisted in giving the patient increasing doses of insulin each day for a month, beginning with 10 units and working up to 40 or 45 units. The dose was then gradually lessened, and a course of over-feeding without insulin administration was adopted for another month. In all cases a special diet of 4,000 calories was given. In the third month the patients received the special diet with insulin. No change was found in the character of the blood sugar curve, as far as the patients' condition was concerned, a few gained weight, in some the weight remained stationary, and in all the mental condition was unchanged.

India.

Medical Aid for Women in India.

THE annual reports for 1929 of three separate organizations under the presidency of Lady Irwin have been issued in a single volume. These organizations are the National Association for Supplying Medical Aid by Women to Women of India, which incorporates the original Dufferin Fund and the Women's Medical Service, the Victoria Memorial Scholarships Fund, and the Lady Chelmsford All-India League for Maternity and Child Welfare, including the Lady Reading Health School. In the introduction to this volume tribute is paid to the valuable work accomplished by the late Marchioness of Reading, who was president of the various funds when important administrative changes in their management were brought about. Among other services she appointed a committee which enabled the various organizations to become more closely related thereby effecting helpful economies, her sympathy and active support were largely responsible for the establishment on a sound basis of the hospital at Simla and the health school at Delhi, and she used her influence to promote the annual holding of baby weeks in widely scattered centres in India. The financial condition of the Countess of Dufferin's Fund has slightly improved during the period reviewed in the present report, although no increased help was received from the Government of India. Serious overcrowding and financial stringency continues to handicap certain hospitals in which the Women's Medical Service is functioning, but increases in staff are reported in the United Provinces and the Central Provinces. A more definite effort is now being made to reach the women in rural areas in the United Provinces. Regional conferences have been arranged by the Victoria Memorial School Fund to discuss the training and work of nurse midwives. This new departure has proved very popular, for it has provided an opportunity for delegates to exchange their varied experiences. Details are given of the steps taken to instruct these women, and some of the difficulties encountered are enumerated. In the report of the Lady Chelmsford League special attention is paid to health schools, it is mentioned that the grants-in-aid which have been contributed have proved particularly useful in that they have been made conditional on satisfactory instruction being given. These schools train women more especially for child welfare work, they now exist in all the large provinces of India except Bihar and Orissa, and Assam. Since the requirements of these two provinces are being met by other health schools, there is no need at present for special schools to be established by the League. Accounts of the work in progress at various branches and schools are published, and the impression produced on reading the report is one of admiration for the immense amount of devoted service rendered by the health workers. Baby weeks and health schools continue to gain popularity, and are found to have more than a passing influence because they create a desire for permanent health work in centres where hitherto little has been done. Such activities as general improvements in hygiene, the correction of imperfect sanitation, and the improvement of water supplies are among the useful results of these baby and health weeks.

Progress of Vaccination in the Punjab.

In commenting on the rapid progress of vaccination in the Punjab during the triennium 1926 to 1929, Lieut.-Colonel C. A. Gill, I.M.S., director of public health, Punjab, emphasizes that both primary vaccinations and revaccinations must become much more general before effective control can be exercised over small-pox. Vaccination, he points out, is the only means of protection at present, since hospitals for segregation have not been established. The disease is apparently much more widespread than official statistics suggest, it is reported to be nearly twice as prevalent in the towns as in the rural areas. A great obstacle to early treatment seems to be the public attitude in regarding small-pox as an inevitable evil, to be concealed as long as possible. It is rarely notified, even in municipal towns, and the danger of allowing infected persons to appear in public is not realized. A striking instance, already referred to in these columns, occurred recently in Lahore, where the parents of a student who was found to have small-pox brought an action against the university authorities for refusing to allow him to continue an examination. Apart from the education of the public—which was actively maintained by propaganda—the extension of facilities evidently depends mainly on increasing the number of local vaccination establishments, and on the enforcement of the Vaccination Act and of the regulations framed under it by local authorities. During the triennium the Act was adopted by fifty-three municipal and small towns, but the arrangements for vaccination in municipal towns is considered to be unsatisfactory. Although all of them have adopted the Act, many had made no regulations at the date of the report, while in others such regulations as had been passed were a dead letter. By the Vaccination Law (Amendment) Act, 1929, district boards are now empowered to make vaccination compulsory in any part of the area under their jurisdiction. Another preventive measure, instituted during the triennium, was a scheme for the employment of female vaccinators for women. Training in vaccination has been added to the curriculum of the Punjab Health School, and health visitors carry out vaccination as part of their ordinary duties. The total number of operations performed during the period was over four million, the highest recorded, being an increase of more than 919,000 over the figure of the previous triennium. An increase of 212,272 operations is reported for the year 1928–29 over the number of the preceding year, the increase in respect of primary vaccinations and revaccinations being 93,889 and 118,383 respectively. The results are attributed partly to the larger number of vaccinators available, partly to the exceptionally high birth rate and low infant mortality rate, and partly to the healthiness of the year, which enabled a close supervision to be maintained over the vaccination staff.

Correspondence.

THE RESEARCH DEFENCE SOCIETY

SIR,—I wish I could persuade more members of the medical profession to be subscribers to the Research Defence Society

We do not need any large sum, but if we could get two hundred more annual subscribers of £1 it would make our work easier to carry on We are the only society that exists to expose the misstatements of the anti-vivisection societies and agitators They preach that all experiments on animals are useless, that no good has come from them to man or beast, and that the experiments are grossly cruel

An uninformed public accepts such statements as true and the only way to get the facts known is by the propaganda of a society such as ours But this is expensive and so I ask the help of those who wish it well —I am, etc,

11, Chandos Street, Cavendish Square, London W.1 Sept. 13th KNUTSFORD Chairman Research Defence Society

PERFORATING DUODENAL AND GASTRIC ULCERS

SIR,—I read Mr John Watson's paper on acute perforating duodenal and gastric ulcers in your issue of August 2nd with interest, and I have also noted the discussion in your correspondence columns on this subject I should like to add my comments on 101 cases operated upon by me between the years 1920 and 1930 at the two hospitals in Bradford, including also private cases

Of these 101 cases, 12 died, giving a mortality of a decimal under 12 per cent Of the 12 who died, 3 were over 70 years of age, of the remaining 9, 3 were operated upon thirty six hours after perforation Of the remainder, one persisted in going to the St Leger after perforating in the train, another perforated in the ward and was taken immediately to the operating theatre The remaining four perforated on a full stomach the perforation in each case being as large as a sixpenny piece Shock in the latter cases was extreme, and there were no signs of improvement with resuscitative measures

My own experience is that immediately after perforation there is an interval of intense shock in which it is unwise to operate Transit to hospital or home only aggravates the shock, and it is always preferable to wait two or three hours, during which resuscitative measures should be employed Of these the best are radiant heat with saline and glucose, with brandy given per rectum If no improvement occurs from these measures, as happened in four of these cases, the outlook is extremely grave Spinal anaesthesia is unquestionably the one of choice This allows the operation of suture to be performed through a minimal incision and therefore the minimum of exposure—hence the minimum of shock A roll of gauze is first introduced into the kidney pouch and all exudate is absorbed A rubber drain is left in extending to the bottom of the kidney pouch and this is removed at the end of forty-eight hours Nothing further has been done either by way of more extensive drainage (a useless business) or of more heroic measures such as gastro-enterostomy

Only 8 of these cases have returned with symptoms of obstructive ulcer, and these have been dealt with successfully I have seen many of the others since who are now in good health and have no symptoms A few I cannot account for Of my 101 cases, 16 have occurred in the better classes (16 per cent)—business men and heavy cigarette smokers, 5 occurred in women Of the remainder the preponderance has been in such occupations as postmen tramway men, and men following irregular occupations where meals are taken irregularly and combined with the inveterate habit of cigarette smoking I am convinced that this latter pernicious habit has a great bearing on gastric and duodenal crises Combined with irregular and unsuitable food the ideal conditions for ulcer and perforation are established

What are we to do to reduce the mortality? Looking down the list published by Mr John Watson in the *Journal* of September 6th I find that the mortality is far too high To see mortalities of over 20 per cent against the names of distinguished surgeons takes considerable explaining against my own of 12 per cent for my own manipulative and surgical skill and experience can only pale before theirs and I recognize this fact from my elders The only explanation is the anaesthetic employed, and I feel sure that if spinal anaesthesia or infiltration anaesthesia (as I have often employed) were used the mortality from perforating ulcers would reach a far lower standard —I am, etc

Bradford Sept. 11th. BASIL HUGHES D.S.O., M.A., M.B., B.Sc., F.R.C.S.

SIR,—The following case may be added to the list Mr Russell Coombe has given of operations for perforated gastric ulcer in the early days of the operation

On September 15th 1894 I was sent for to see a young woman who had been seized with sudden pain in the abdomen at 9 p.m. I sent her into the Royal Berkshire Hospital, and at 10.30 on the following morning—thirteen and a half hours after the perforation—the late Mr James Hopkins Walters operated and sewed up a small perforation The patient recovered

I have a vivid recollection of the Simon and Barling case at the General Hospital Birmingham as I gave the anaesthetic No time was wasted in getting the operation done but there was an unusually large amount of stomach contents in the abdominal cavity, and I think the death was due to this —I am, etc,

Reading Sept. 1th G. H. R. HOLDEN, M.D.

ETIOLOGY OF PUERPERAL SEPSIS

SIR,—Dr Colebrook is entirely at fault (September 13th p. 446) in suggesting that we have attached insufficient importance to his paper on anaerobic streptococci in puerperal fever (July 26th p. 134) We did but seek to learn the relationship of these new cases of mixed anaerobic streptococcal infection in the puerperium to the clinical condition diagnosed puerperal thrombo-phlebitis We still await instruction on this point

Dr Colebrook states in his letter that 'there was definite evidence of thrombo-phlebitis in only one third of the cases giving positive blood cultures of anaerobic streptococci" The impression given by his original paper is as follows (1) Emphasis is laid on Schottmuller's findings that the clinical conditions most frequently associated with infections by *Streptococcus putridus* were subacute and chronic thrombo-phlebitis affecting the parametrial venous plexuses and salpingitis" (2) Six complete cases in Dr Colebrook's series came to necropsy, in four septic thrombosis was found in pelvic veins and in the other two infarcts were demonstrated (3) Dr Colebrook's description of the clinical features of his cases runs 'there is usually no pain and little can be made out by physical examination except perhaps a slight tenderness on deep palpation over the brim of the pelvis—a sign which can often be related at necropsy to a septic thrombus in the ovarian veins' We submit that no alternative was left to us save the reasonable interpretation advanced in our letter (August 23rd, p. 305) that Dr Colebrook has been concerned with the clinical state known as pelvic thrombo-phlebitis in the puerperium

Dr Colebrook misquotes our letter of August 23rd in that he states that 'Dr Armstrong and Mr Burt-White infer that these microbes can do little harm to human beings' Our letter contains no such suggestion All that we affirmed was our personal experience that the anaerobic streptococci were normal inhabitants of the genital tract and of low pathogenicity Our tests were made on laboratory animals Dr Colebrook records no animal tests in his paper We by no means denied (vide our letter) the potential danger from these organisms when the factor of trauma becomes superimposed

We cannot seriously accept Dr Colebrook's declaration that (in his own words) most of our discussions about

the etiology of puerperal fever are but waste of time" So reactionary a spirit in a scientific worker is surely to be deplored —We are, etc,

RICHARD R ARMSTRONG
HAROLD BURT-WHITE

London, E C 1, Sept 13th

THE TREATMENT OF PRURITUS ANI AND ANAL FISSURE

SIR,—In the *Journal* of August 30th (p 311) Mr Gabriel advises 10 c cm of A B A solution as the initial dose, this large amount is in marked contrast to the 2 c cm he recommended previously (June 15th, 1929) I have found A B A very effective in the smaller dosage, and would be chary, despite Mr Gabriel's reassurance, of using 10 c cm initially, for the following reasons Injection of large quantities of oily solutions—for example, 5 to 15 c cm of 5 per cent phenol in oil—was formerly used extensively for haemorrhoids, especially in America (Mitchell, 1871) Pyrexia, rigors, and extensive inflammation frequently resulted, and many deaths were reported (Andrews) Except amongst a few practitioners here and on the Continent the treatment was abandoned years ago The outstanding point noted was that marked idiosyncrasy (pyrexia, rigors, collapse) to *large* doses of oily solutions was frequent I recently saw a pitiful case following injection of 15 c cm of 5 per cent carbolized oil, the patient was disabled for two months

In my opinion the initial dose of all local anaesthetics, oily or aqueous (I have used the latter extensively in pruritus), should be small, to test the patient's susceptibility, Mr Gabriel's "knock-out blow" theory for the pruritus is admirable provided there is no risk of the *patient* having to take the count The ideal is not to give the maximum but the minimum dosage necessary to stop the pruritus One can always increase the amount I have used and advocated anaesthesin for many years, and for that reason prefer Mr Gabriel's oil solution of that drug (A B A) to the many others now recommended

He states "In pruritus ani it is only the intractable cases which need treatment by injection of A B A three doses—10, 5, and 5 c cm—of A B A *is sufficient for cure*" (The italics are mine) As this large initial dosage has only been given in recent months (a year ago his advice was 2 c cm), I hope I will not be considered carping if, whilst congratulating him on his success, I say that a longer experience will be necessary before so definite an assurance as "cure" can be given for such an intractable complaint If injections give complete relief for even six months their value will be great, as they can easily be repeated and will supersede all undercutting operations

Spinal anaesthesia with forcible dilatation of the sphincter to admit five or six fingers is drastic treatment for fissure Neither as house-surgeon and temporary assistant surgeon at St Mark's Hospital nor in private practice have I seen a case needing it A chronic fissure, no matter of what type, is only an ulcer, when relaxation of the sphincter is obtained by local anaesthesia and the fissure incised, it should then be treated as are ulcers elsewhere The diamond-shaped incision (one-third in the anal canal, two-thirds on the skin) employed in my time at St Mark's Hospital has the advantage of the large triangular incision recommended by Mr Gabriel (the diamond is simply two smaller triangles base to base) without the disadvantage of having a wide, sore skin area—that is, the base of the larger triangle—much of which does not help drainage The "inevitability" of the healing of the anal wound will depend more on its treatment than on the shape of the skin wound

A special fissure speculum made to my design by Messrs Bell and Croyden some years ago enables me after anaesthetizing the sphincter to investigate fully any type of fissure without forcible dilatation It is about twice the length of the "Mummery" speculum, its groove being prolonged to the tip, so that the speculum does not come in contact with the fissure —I am, etc,

London, W C 1, Aug 31st P KENNEDY MURPHY

GENERAL EDUCATION OF THE MEDICAL STUDENT

SIR,—Professor Dean, in his very able article in the Educational Number of the *Journal*, published on September 6th, emphasizes the point that the general education of the medical student is in danger of being neglected Everyone will agree with him, but something more than agreement is needed I think he may approve my contention that the best thing that can be done for the profession of medicine, or indeed any other profession, is to devise some method whereby the number of men therein with first-class literary attainments can be increased I submit the following ideas for his consideration and support

The General Medical Council should issue a regulation that men who take a first in "Greats" at Oxford or a similar degree in classics and philosophy at Cambridge, and desire to enter the profession of medicine, may ignore the time table and regulations incumbent on others, being required merely to become attached to a medical school and to pass the examinations An Oxford don once remarked to me "If the G M C would act thus, they would get the men" What more do we want than to achieve the utmost that can be done for any profession? We all learn medicine after we have taken our degree I submit that it is quite unreasonable to ask, as the G M C does, that a man with first-class literary attainments should go through a course laid out for the average medical student —I am, etc,

London, W 1, Sept 10th DAVID ROXBURGH

TECHNIQUE OF INJECTING VARICOSE VEINS

SIR,—I have followed with interest the series of letters which have recently been appearing in the *Journal* on the treatment of varicose veins by injection There is no doubt that as a valuable therapeutic measure this method has come to stay It appears to me that one point which is insufficiently stressed by writers on the subject is the essential simplicity of the method as regards both the patient and the practitioner The description of numerous varying points of technique tends to render the beginner doubtful which to employ, whereas all that is required to achieve satisfactory results is what the law demands—namely, the employment of reasonable skill and care In dealing, however, with large numbers of hospital out patients a method must be adopted which is not only simple and efficient, but which takes the minimum amount of time There are two points which I believe are of the greatest importance in achieving this end—namely, the use of suitable needles, and the standing position for the patient on a couch or chair

The advantage of using a needle which is short in length and short in the point, instead of the ordinary hypodermic variety, cannot be over-emphasized The only drawback is that these needles require more frequent sharpening or renewal, but so long as this is attended to there is no danger of missing the vein nor of the needle-point slipping out while the injection is being given Such needles are either in the vein or outside it, and the preliminary attempt to withdraw blood decides which is the case The standing posture of the patient has the following advantages It obviates the use of a tourniquet, and gives the surgeon the best possible access to any part of the leg or foot without requiring him to crouch on the ground, at the same time it enables him to steady his arm on the couch while giving the injection

In other points the technique adopted is similar to that described by Dr Noel Scott in the *Journal* of July 12th (p 58), except that quinine and urethane in 2 c cm ampoules is the only solution used By commencing with an initial 1 c cm dose, continuing with weekly injections of not more than 2 c cm, and always applying a firm pad and bandage immediately after the injection, no untoward reactions have been noted in a series of 100 cases With regard to 10 per cent sodium morrhuate, I have not found it so satisfactory a sclerosing agent as quinine urethane, moreover, its oily nature renders the thorough cleansing of the syringe between injections more difficult In fact, its

only advantage appears to be that it is less liable to cause a slough if the vein is missed, an accident which I believe can be entirely avoided by the employment of short-pointed needles and the prevention of any extravasation of blood by a firm pad.—I am, etc.,

London, W.6, Sept. 15. CHARLES R. McCASH, M.B., F.R.C.S.Ed.

THE PERFORMANCE OF POST-MORTEMS BY CENTRAL PRACTITIONERS

SIR,—Though I have retired from active work I find this correspondence extremely interesting. Many years ago, as county medical officer of the West Riding of Yorkshire, I conferred with the coroners of the Riding—able and progressive men—about initiating a position such as "county autopsy officer", and, with the permission of the Public Health Committee, I delegated these duties to the bacteriologist, now designated also "county pathologist" who as far as his laboratory work would allow, performed necropsies especially in relation to criminal cases and cases of suspected poisoning. Many of our colleagues engaged in general practice welcomed this help and in my opinion the time is now ripe for making such appointments in county areas.—I am, etc.,

Hove, Sept. 13th. JAMES ROBERT KAYE

SIR,—I have read with interest the correspondence on this subject, and agree with the opinions of Dr. Binns (September 13th, p. 449). Is the general practitioner going to abandon another branch of his profession? Many men on entering practice shirk surgery, fearing the responsibility, and after a time are afraid to incise an abscess. Midwifery, which thirty years ago was considered the backbone of general practice, is likewise given up and handed over to "homes" and midwives. Less and less dispensing appears to be done, I suppose, now that the chemist does the bulk of it (panel), it is thought not worth while to keep a dispensary, moreover, handing out tablets is so much simpler. In the above ways the practitioner loses many pounds every year, and, what is more to the point, loses his self-confidence. I always welcomed—and would still if the opportunity occurred—an order to make a post-mortem examination, it is an interesting change from the daily routine and teaches many things—self reliance among others. What if the surroundings are inconvenient? I have done an examination in a caravan by the light of one candle and the circumstances do not take away one's scientific interest.

G.P." (September 13th, p. 449) groans at a seven miles journey on a winter night—in a comfortable closed car, I presume perhaps with a chauffeur! He should try an open gig with carriage candles he might then have more reason for "writing home about it". I consider it will be most regrettable if the proposed abandonment of post-mortem examinations by general practitioners is carried out. By all means let us have mortuaries and necropsy rooms—a post-mortem examination in a private house is most unpleasant for the relations—but let us do our own work and face our responsibilities.—I am, etc.,

Plymouth, Sept. 13th. H. W. WEBBER

SIR,—As a young man with but seven years of general practice to speak from I view this correspondence with a little amusement and a greater apprehension. Apprehension because I am reminded of the only time in which I raised my voice (somewhat hesitatingly) at a meeting of the local Division of the British Medical Association, regretting the passing of midwifery from the hands of the G.P. I was then informed that I had only myself to blame, as in the distant past I had been unwilling to exert myself sufficiently to get up at night etc.

I venture to write because I feel that too often we younger men leave all this sort of thing to those "of thirty years' experience" and authors of pamphlets "in 1894". As a young rural G.P. I take it that the objections raised fall into three groups, and beg to comment on them in the light of my own experience.

1. A dislike for the performance of a rather unpleasant task under unsatisfactory conditions with inadequate instruments. *Ehen, fugaces*—and midwifery! As to the task and the conditions I, like Dr. Binns and I feel sure many others perhaps not yet old and sophisticated, welcome the experience and education afforded. As for the instruments, my experience is that these, like stethoscopes, thermometers, sphygmomanometers etc., are of our own providing. Perhaps the feelings of the relatives might here be considered, who look upon the whole thing as a most disgusting necessity which the law imposes on the bodies of their lost ones. They dislike it at their home but to remove the body to the mortuary would in many rural minds class it with unclaimed derelicts, and add yet more publicity to an unwanted procedure. There are in this area two mortuaries, in neither of them any instruments in one of them until a few months ago no hot water and I unhesitatingly prefer the farm kitchen table with plenty of newspaper, plenty of hot water and privacy to the gloom of the mortuary.

2. The inadequacy of the fee. This might with equal reason be argued about any of the daily duties of the rural G.P. In this case with one operation to be performed and one report written the fee compares handsomely with that received for emergency midwifery where operative risks are undertaken on two lives with the liability to visit any number of times during the following ten days.

3. Lack of skill and practice on the part of the G.P. Looking back—not very far—on the opportunities of student years I fail to see why this skill is less than that with which we launch out, armed with a stethoscope etc., and endeavour to make a diagnosis of any of the conditions of infants and children. If he is conscientious and willing I see no reason why any G.P. should face a post-mortem examination with any more apprehension than he faces any anxious mother who calls him in to see her child with a high temperature, wretched pulse, an obviously ill appearance and yet no diagnostic signs in chest or abdomen. Do we therefore at some future date propose to put such cases outside the domain of the G.P.? It almost looks like it. In the case of the post-mortem examination as in the case of any clinical problem the G.P., if in any serious doubt, has ample recourse to specialist advice without any implication of saving his face, or medico-legal humbug. As to practice my own experience of seven post-mortems in just over two years may have been fortunate but it compares favourably with my experience of small pox, bronchiectasis, pernicious anaemia and spinal myelitis, with which I am supposedly familiar and competent to deal.

To me the unsatisfactory thing is the total lack or need for and the complete uselessness of the majority of necropsies. Their sole purpose I take it is to protect the public against criminal deaths, they enable the coroner to issue a certificate of death from natural or accidental causes in the vast majority of cases a fact which is generally fully substantiated without the post-mortem examination. My own experience may be illustrative. Five necropsies were on elderly people—over 70 with one exception—who for years were known to have bad hearts, oedema of ankles and legs, breathlessness and failing health generally. They died trying to perform some task beyond their years and condition. There was no suspicion of domestic or financial trouble no reason for suspecting criminal operations of any kind but because they had not been seen by a doctor for weeks before the event off had to come their sternums off their cranial vaults, and nothing gained but a properly filled in report. The little amusement I find from the correspondence is in the vision it conjures up of motor pantechnicons racing from some vast headquarters carrying pathologists, loaded with retorts, Berzelius's tubes, microtomes, stains, and microscopes, a staff of laboratory assistants and expert chemists all careering to some farm labourer's cottage to examine the corpse of "granfer" who at the age of 89 has ceased to exist without the knowledge of the local G.P. I wonder what cause of death they would find?—I am, etc.,

Bideford, Sept. 13th. R. E. S. GIBSON, M.B., Ch.B.

TECHNIQUE OF RADIUM THERAPY

SIR,—I have used for twenty-five years, and still use, unscreened radium for the treatment of rodent ulcers of small size and when not involving bone I give a single dose, and place the radium at a distance from the surface equal to the diameter of the ulcer A marked reaction occurs in about ten days, followed by scabbing In six to eight weeks the cure is complete in almost all cases Recurrence is very rare The beta rays have certainly a very marked and valuable medicinal action —I am, etc,

Leeds, Sept 13th LEO A ROWDEN

TRANSECTION OF ULNAR OR MEDIAN NERVE

SIR,—I am anxious to see, for the purpose of some simple observations, a few cases of quite recent transection of the ulnar or median nerve, preferably lesions in the region of the elbow and of less than five days' standing, and I should be grateful to any of your readers in London who could place me in contact with such patients —I am, etc,

University College Hospital Medical School, W C 1 Sept. 13th THOMAS LEWIS

Obituary.

MICHAEL BEVERLEY, M D ED,

Consulting Surgeon, Norfolk and Norwich Hospital, Fellow of King's College, London

A VETERAN member of our profession, Dr Michael Beverley, consulting surgeon to the Norfolk and Norwich Hospital, died at Overstrand on August 31st He came of an old Norfolk family, and was for more than half a century prominent in the city and county, where he enjoyed a high reputation as a "general practitioner-consultant"

Michael Beverley was born at Brooke on September 26th, 1841, and on leaving school was indentured, as was then the custom, to a general practitioner, William Bransby Francis of Norwich Part of the apprentice's duty was to keep the surgery in good order, and there he learnt to make pills and compound medicines, he was initiated also into "the art and mystery of physic," visiting poor patients in the slum parishes of the city and in the neighbouring country districts Small-pox and typhoid were very prevalent at that time, and young Beverley took notes of many cases attended by him He then acted as dresser and clinical clerk at the Norfolk and Norwich Hospital, and continued his studies in London at King's College Hospital under Sir William Ferguson, and in Edinburgh, where he "dressed" for Syme and "clerked" for Sir James Simpson After graduating M D Ed in 1863 he spent a year in Paris, attending daily the Hôtel-Dieu and other hospitals News of a vacancy in the house-surgeoncy at the Norfolk and Norwich Hospital led him to become a candidate, and he entered on his duties at the end of 1864, thus beginning an official connexion with the hospital which lasted until 1912 After acting as resident medical officer for six years he went to Dublin to brush up his midwifery, and thence, in 1871, to Edinburgh, with an introduction from his friend William Cadge to Lister, who invited him to be present at his operations and follow up the subsequent treatment of surgical cases in hospital and private practice Beverley returned to Norwich full of enthusiasm and ready to carry out the then Listerian system He often recalled in later years the first time the antiseptic method was tried by Mr Cadge and himself in the operating theatre of the Norfolk and Norwich Hospital It proved a great success, although surgeon and patient had cause to remember the irritating effects of the carbolic spray Beverley was present at Lister's introductory address at King's College, and kept in touch with "The Master" up to the last Speaking at a public presentation at the time of his retirement he said "Whatever success I have had in life I attribute in the main to my early and subsequent connexion with the Norfolk and Norwich Hospital Mr work there during a long series of years not only grounded me with practical experience in all forms of accident and disease, but it brought me in touch with my professional brethren, amongst whom I made many and lasting friendships It gave me the privilege of taking pupils, of whom I once had six, and finally it led to my partnership with the late Mr Cadge" Professor Ernest W White, who was a resident pupil at the hospital in 1868, recalls that Dr Beverley was a first-class botanist, and would take his students out for walks in search of wild flowers before breakfast in the summer months, he was also one of the founders of the Norfolk and Norwich Naturalists' Society "He was a thorough master of his profession, and both willing and anxious at all times to impart his knowledge in an impressionable manner, and his kindly sympathetic nature endeared him to us all and laid the foundation of lifelong friendships Those who survive him will ever revere his memory"

For many years Dr Beverley was intimately concerned in the work of the British Medical Association, which he had joined in 1870, and acted as honorary local general secretary for the Annual Meeting at Norwich in 1874 He was elected to the Central Council in 1893 as a representative of the East Anglian Branch, and served continuously until 1906 He frequently took part in debates, and was a diligent member of several committees After twenty years' service as honorary secretary of the East Anglian Branch he held office as president in 1890-91, and for the following twelve years was a vice-president He was also for some years a member of the council of the Medical Defence Union

Dr Beverley was the senior magistrate of Norwich, his appointment dating as far back as 1875, and after his election to the consulting staff of the Norfolk and Norwich Hospital he served as vice-chairman and chairman of the board of management He was always delighted to talk of Sir Thomas Browne, and proud to call himself a fellow citizen of the author of *Religio Medici*

The funeral service was held on September 3rd in Norwich Cathedral, in the presence of a large and representative congregation, including Mr A J Blaxland, president of the Norfolk Branch of the British Medical Association, Dr George Day, honorary secretary of the Norwich Division, and many other leading members of the local medical profession

LEONARD PORTAL MARK, M D

LEONARD MARK was born on February 4th, 1855, the son of Edward Walhouse Mark, who became consul at Marseilles in 1858, and grandson of William Mark, who had been consul at Malaga Leonard Mark was educated at the Lycée Imperial at Marseilles, with 1,200 other boys, from October, 1866, to 1870, and under the guidance of his father (who entered Rugby under Dr Arnold in 1830) he learnt to swim, fence, and walk in a manner admired by his fellow students but not copied by them At the age of 18 he entered his father's office, but, the work proving uncongenial, he came to London and entered St Bartholomew's Hospital in October, 1875, the choice of hospital being determined by the fact that Dr Patrick Black, who had married in 1843 his aunt—Miss Mark—was then the senior physician Mark qualified M R C S Eng in 1879, but did not take the L R C P Lond or the L S A until 1881, nor the M D Durh until 1899 He served as assistant house-surgeon at the Sussex County Hospital, Brighton, house-surgeon at the Richmond Hospital, Surrey, house-physician at the Lying-in Hospital in York Road, Southwark, and resident clinical assistant at the Bethlem Hospital He then made a voyage to Australia, and for a time thought of practising in Calcutta Eventually he settled in London, first at Beulah Hill, Sydenham, and, finally, at 49, Oxford Terrace, where he was in partnership with Mr Henry Cripps Lawrence after the death of Mr C H Cosens He was at this time an active member of the profession who took a prominent part in the work of the Harveian Society, and was honorary secretary of the West London Medico-Chirurgical Society

Coming of an artistic family, and being already known for his skill in water colours, he was invited to act as pathological artist at St Bartholomew's Hospital upon the resignation of Mr T Godart, who had filled the post for many years Mark accepted, and attended on certain specified afternoons, although he was immediately available if a case was found unexpectedly in the wards, the

out patient room, or the post-mortem room. The collection of drawings in the hospital museum contains many examples of his skill. At this time and for several years previously he had suffered from the disease now known as acromegaly and in 1912 he published *Acromegaly: A Personal Experience*. The work is of interest and value because it traces the course of the insidious disease which wrecked his life, from the appearance of the first symptoms, through its full development, to the time when it began to fail, or at least to become stationary. Fifteen years later he wrote a supplement entitled *The Apologia of an Acromegalic*. Neither account is in any way morbid or introspective, for he took a detached view of his case and recorded the various symptoms as he would have done had they occurred in one of his own patients. The account is rendered the more valuable because it is illustrated with photographs from the age of 4 to 57 years. It is remarkable that, in spite of the enlargement of his hands and feet and the intensity of the headaches the fact that he was suffering from acromegaly only became known to him as if by a sudden intuition about forty-five years after the onset. He then discovered that it had long been known to his medical friends, and even to some members of his own family.

Leonard Mark died having never married on September 5th at 49, Oxford Terrace aged 75. In a true scientific spirit he directed that an examination of his brain and skull should be made by a skilled pathologist. He also left a detailed diary which should be of value in still further elucidating his symptoms. Although Mark's life was crippled and spoilt by disease he was not nor would he like to have been thought, a martyr. So long as it was possible he went about his daily work quietly without repining, and when he was no longer able to leave his house he welcomed his friends with the courtesy of an English gentleman bred in France. His knowledge of French, both colloquial and written, was complete and was usually called upon at the various medical international congresses and at gatherings to promote the entente cordiale. He was often asked to give an opinion upon questions of antiquarian medical art and his decision was always considered final. He was a lover of Montaigne and wrote a pleasant account of the great essayist's travels which he was able to elucidate from personal knowledge.

Dr F R B ATKINSON writes:

Although I did not know the late Dr Leonard Mark so well as many others I should like to say a few words of tribute to his memory. Always interested in his malady he was ever ready to hear anything concerning it found in the literature and it was not long since I told him he was the oldest case recorded as far as I knew. Ever suffering great discomfort during the fifty years of his illness often in extreme pain, he never gave in. The last time I saw him he was deaf, nearly blind, could hardly walk and was suffering from various complications connected with his disease. To show what manner of man he was I cannot do better than quote the words he uttered to me not so long since: "I have much to be thankful for." The medical profession is honoured by such a one.

THE LATE DR CHARLES BUTTAR

DR W CRAIG WILKINSON writes:

It is fitting that I should bear testimony to the truth of your obituary notice of an old friend who has recently been engaged in investigating scientific methods of dealing with tuberculosis among the poorer classes. I sympathized with Dr Buttar's energetic crusade to prevent the general practitioner among the poorer classes being brought under the control of a Government bureaucracy, and my old friend Sir Dawson Williams brought Dr Buttar within the ambit of my work.

Dr Buttar was a man of keen intellect and high character. He had a logical mind and soon found any weak spot in the armour of those who magnified the importance of ideas based mainly on authority or custom. He was a patient eager searcher after truth and friends and opponents alike will remember his bright eyes sparkling with energy as he proceeded to apply his own knowledge and critical faculty to any difficult problem with unerring logic and telling emphasis—and yet without any unworthy motive or personal bias. Recently I have had many opportunities of observing his keen power of analysis, despite his ill health, and in his death medicine has lost a noble and loyal exponent of its highest ideals. His death is both a personal and a public loss. I trust that it will be proved that even in the throes of his last sickness his courage has enabled him to render a useful public service in attempting to sift the wheat from the chaff in the vexed question of the value of Koch's scientific method of dealing with the problem of tuberculosis among the poorer classes of society.

Dr W H REES THOMAS of Basingstoke who died on August 9th at the age of 60 was educated at the London Hospital Medical College and in Brussels. He obtained the diplomas M R C S, L R C P in 1893 and two years later graduated M D Brux. He held the posts of medical officer of health for the borough of Basingstoke medical officer of health and public vaccinator of the Basingstoke Union medical superintendent of the Basingstoke Isolation Hospital and surgeon to the Basingstoke Cottage Hospital. Dr Rees-Thomas was a member of the British Medical Association.

We regret to record the death at the age of 49 of FREDERICK LIVINGSTONE TULLOCH, M B, Ch B, which took place at Aberdeen on August 10th. After graduating at Edinburgh University in 1911 Dr Tulloch served as house-physician to several hospitals in England, and at the outbreak of war was in general practice in Birmingham. Being in the Army Medical Reserve he was drafted to France in September 1914 and served there during the whole period of the war. On his return to civil life he entered into partnership in general practice at Nuneaton where he became first honorary radiologist to Nuneaton General Hospital, visiting medical officer to Bramcote Sanatorium and medical referee under the Ministry of Pensions and took an active part in the work of the Nuneaton Branch of the St John Ambulance Association. Dr Tulloch was not only exceptionally well versed in the essentials of medicine but was one of those lovable men who always interested themselves in the welfare of others. He endeared himself to his patients and was very popular among the young men of the district entering actively into their recreations. About five years ago he had an attack of pneumonia from which he never completely recovered. In his infirmity he showed the fortitude that is seen only in those who possess stability of character in an exceptional degree. He leaves a widow and young son.

Dr JOHN ARGENT BALL who died at Oxford on August 23rd in his eighty-eighth year, had been associated with Stockport Infirmary for sixty-three years and at the time of his death was senior consulting surgeon to that institution. He received his medical education at Guy's Hospital where he later held the posts of house-surgeon and obstetrical resident. Having obtained the diploma M R C S in 1855, and graduated M B Lond. in the following year, he was appointed the first resident house-surgeon at Stockport Infirmary in 1867. Two years later he commenced general practice in that town being elected honorary surgeon and chairman of the medical board of the Infirmary and consulting surgeon eighteen years later. In 1869 he went to Heaton Norris. A keen member of the British Medical Association he was elected President of the Lancashire and Cheshire Branch in 1887 and a banquet attended by many celebrated men including Sir Andrew Clark was given at Old Trafford in his honour. In the same year he moved to Wantage becoming later a vice-president of the Oxford Branch but retaining at the special request of the governors of Stockport Infirmary, his appointment there of consulting surgeon. He went to

Bromsgrove in 1894, and soon built up a large practice, finding congenial surgical work at the local cottage hospital. Dr Ball was twice married, after his second marriage in 1902 he took charge of his stepfather's practice at Stradbroke, Suffolk. He retired in 1913, and went to live in Warwickshire, but on the outbreak of war resumed practice, acting as locumtenent for medical men engaged in military service. Soon after the end of the war he settled finally in Oxford. Dr Ball was an outstanding figure in the medical and social life of every town in which he practised. He was a strong Churchman, a sympathetic and loyal colleague, and a skilled and devoted general practitioner.

Dr G. W. R. SKENE, who died on September 2nd at the age of 54, was a prominent figure in Willesden. He received his medical education in Edinburgh, where he obtained the diplomas L.R.C.P., L.R.C.S.Ed., and L.R.F.P.S.Glas. in 1901, and graduated M.B., Ch.B. in 1903; he proceeded M.D. seven years later. After a short residence in Stoke Newington he went to Kensal Rise twenty-five years ago, and built up a considerable practice. He rendered great service as medical officer to Willesden General Hospital, and was for twelve years a member of the council of that institution, he had recently been elected vice-chairman. He latterly associated himself actively with the work of the Willesden Nursing Association. He became a member of the Willesden District Council in 1921, and five years later was appointed its chairman. He took a leading part in the erection of Brondesbury Park Congregational Church, and was for many years superintendent of the Sunday school. The Rotary movement received his support and he was largely instrumental in founding the East Willesden Club, of which he was the first president. He was a member of the British Medical Association, and was chairman of the Willesden Division from 1922 to 1923. He married twice, and is survived by a widow, a daughter, and two sons, one of whom is in the medical profession.

Dr JOHN COCKCROFT of Middleham, Yorks, died on September 7th at the great age of 92. He began his medical studies at Owens College, Manchester, and continued them at St. Andrews, obtaining the M.R.C.S.Eng. and L.S.A. diplomas in 1860, and graduating M.D.St. Andrews in the following year. Soon afterwards he began practice at Middleham in partnership with three other members of his family. The partners visited their patients on horseback, making long journeys to hamlets scattered among the moors and dales of North-west Yorkshire, and travelling as far afield as Garsdale, Kettlewell, and Pateley Bridge. The partnership was dissolved many years ago, and Dr. John Cockcroft thereafter continued the work single-handed. According to an obituary notice in the *Harrogate Advertiser*, to which we owe these particulars, there were few families in Wensleydale who had not called upon Dr. Cockcroft's services during his seventy years of active practice. Among his many reminiscences was a bad epidemic of typhoid fever at Thornton Steward in 1870, when he sent out medicine in clothes baskets to this little village. Dr. Cockcroft had a wonderful physique, and retained full possession of his faculties until two and a half years ago, when he had a stroke. His death removes one of those hardy self-reliant Yorkshire doctors of the old school whom Sir Clifford Allbutt came to know so well and esteem so highly during the days of his consulting practice in the West Riding.

The death has taken place at the residence of his mother, 440, King Street, Aberdeen, of Dr ALEXANDER HUTCHISON of Buckley, Chester. Dr. Hutchison graduated in arts at Aberdeen University in 1899, and in medicine in 1904. He was in practice at Grantown-on-Spey from 1906 to 1924, and was well known and highly esteemed on Speyside. Latterly he had been in practice at Buckley, near Chester. He had not been in good health for some time, and went to Aberdeen to recuperate.

The Services

DEATHS IN THE SERVICES

Lieut.-Colonel Sidney Browning Smith, C.M.G., Bengal Medical Service (ret.), died after a long illness at Otford, Kent, on July 15th, aged 63. He was born on November 12th, 1866, the son of Dr. Thomas Browning Smith of Sittingbourne, Kent, was educated at Epsom College and at St. Bartholomew's Hospital, and took the M.R.C.S. and L.R.C.P. Lond. in 1889, subsequently the D.P.H. of the London Colleges in 1910. Entering the Indian Medical Service as surgeon on July 28th, 1891, one of the last term who entered Netley under that title, before the grant of compound titles, he became lieutenant-colonel after twenty years' service, was placed on the selected list for promotion on June 24th, 1918, and retired on November 12th, 1921. When at Netley he gained the Parkes Memorial Medal for Hygiene. He served in the Chitral campaign of 1895 in the actions of Chakalwat and Nisa Ghol, was mentioned in dispatch No. 8 c. of July 26th, 1895, and received the frontier medal with a clasp; he contributed some drawings to Younghusband's *Relief of Chitral*. He also served in the Waziristan campaign of 1901–2. He then entered civil employ in the Punjab, was posted as district plague medical officer at Amritsar in 1902–3, and was chief plague medical officer in the Punjab from 1903 to 1912. He was recalled to military duty on the outbreak of war in 1914, accompanied the Indian Expeditionary Force to Europe, and first served in charge of the Mont Dore Hospital for Indian troops at Bournemouth and subsequently in Egypt; was mentioned in dispatches in the *London Gazette* of July 27th, 1917, and received the C.M.G. on June 4th, 1917. On his retirement he married Lady Edith Rattigan.

Medical News.

THE opening ceremony of the ninety-sixth winter session of the Middlesex Hospital Medical School will be held at the Queen's Hall, Langham Place, on Wednesday, October 1st, at 3 o'clock. Mr. Eric Pearce Gould will deliver the introductory address, and the Rt. Hon. Arthur Greenwood, M.P., Minister of Health, will preside and distribute the prizes gained during the past year. The wards of the new west wing, the new nurses' home, the medical school, and research departments will be open for inspection. The annual dinner will be held at the Savoy Hotel (Embankment entrance) on Wednesday, October 1st, at 7.30 p.m.

THE annual prize giving at St. George's Hospital Medical School will take place in the board room of the hospital at 3 p.m. on Wednesday, October 1st, when an address will be given by Lord Riddell on "Some things that matter for doctors, from a lay man's point of view." The annual dinner will be held the same evening at the Hyde Park Hotel at 7.30 o'clock, with Dr. James Collier in the chair.

AT the opening of the new session of the Pharmaceutical Society's School of Pharmacy on October 1st, at 3 p.m., the inaugural address will be given by Dr. Arthur W. Hill, F.R.S., Director of the Royal Botanic Gardens, Kew.

THE Harben Lectures for 1930 will be delivered at the Royal Institute of Public Health (37, Russell Square, W.C.1) by Professor William H. Park, director of the Bureau of Laboratories, Health Department, New York City. His subject is "Pneumonia," and the lectures will be given at 4 p.m. as follows: October 6th, "Types of pneumococci in adults and children and their significance"; October 7th, "Epidemiology. The refining of antipneumococcus serum"; October 8th, "Therapeutic use of vaccines and antibacterial sera." No ticket of admission is required.

A COURSE of nine lectures and demonstrations in tropical hygiene and nursing will be given on Wednesdays, at 8 p.m., at 27, Grosvenor Place, commencing on October 1st. The course, which will cover such questions as food, clothing, and the medical and sanitary precautions necessary for health in hot countries, will be conducted by a medical man and a nurse, both of whom have had practical experience of life in the Tropics. Inquiries should be addressed to the county secretary, County of London Branch, British Red Cross Society, 27, Grosvenor Place, S.W.1.

THE next course of lectures and demonstrations in tropical hygiene, for men and women outside the medical profession proceeding to the Tropics, will be given by Lieut.-Colonel G. E. F. Stammers, on October 8th–10th, and 13th–17th, from 11 a.m. to 12.30 p.m. The fee for the course is one guinea. The synopsis can be obtained on application to the secretary, London School of Hygiene and [illegible] Street, W.C.1.

A THREE months course of lectures and demonstrations on clinical practice and in hospital administration for the D P H will be given at the North Eastern Hospital, St Ann's Road Tottenham, N 15, by Dr F H Thomson on Mondays and Wednesdays at 4 45 p m , and alternate Saturdays at 11 a m , beginning October 1st Medical men desiring to attend the course are required to pay the requisite fee (£4 4s under new regulations or £3 3s under old regulations) to the Medical Officer of Health, London County Council Public Health Department (Special Hospitals) Victoria Embankment E C 4, giving their full name and address

THE Fellowship of Medicine announces that from September 29th to October 11th there will be a special post graduate course in medicine and surgery and the special departments at the Metropolitan Hospital Kingsland Road E 8 from 10 30 a.m to 5.30 p m each day, with special demonstrations in the morning attendance at the surgical medical, or special departments in the afternoon, and ending with a formal lecture at 4.30 p m There will also be daily pathological demonstrations Luncheon and tea are obtainable at the hospital at a small charge Special courses in October will deal with the following subjects diseases of the ear nose and throat October 6 h to November 1st tropical medicine, October 6th to 25th (all day) Gynaecology, October 13 h to 24th, diseases of children, October 27th to November 5th and orthopaedics October 27th to November 5th There will also be evening courses in preparation for the M.R.C P examination (17 lectures on Tuesdays and Fridays), and for the F R.C S (final) examination 16 demonstrations on Wednesdays) Further particulars and syllabuses of all courses may be obtained from the secretary of the Fellowship 1 Wimpole Street, W 1

A POST-GRADUATE course in genito-urinary diseases, free to medical practitioners and students will be given at St Paul's Hospital, Endell Street W C.2 on Wednesdays at 4 30 p m , from October 1st to December 10 h Tea at 4 o clock

UNDER the auspices of the National Council for Mental Hygiene a series of lecture discussions will be delivered on Thursdays at 5 15 p m from October 16th to November 27th, in the lecture room of the Medical Society of London 11 Chandos Street Cavendish Square W 1 Dr G W B James will open the series with a lecture entitled A physician looks at history The second on preventive treatment in childhood will be given by Dr Alice Hutchison and the third on alcoholism and drug addiction by Dr Edward Mapother Mental conflict and the development of character will be subsequently discussed by Professor William Brown, and the psychology of adolescence by Dr Doris S Odlum The concluding lecture will be delivered by Dr R G Gordon and will deal with the importance of mental deficiency Tickets (price 1s 6d each or 7s 6d for the course) may be obtained from the secretary of the National Council 78 Chandos House Palmer Street S W 1 or at the door It is also announced that the second Mental Health Conference organized by the National Council, will be held in May 1931.

THE British Science Guild announces that the sixth annual Norman Lockyer Lecture will be delivered by Professor Sir William Pope F R S , on Thursday November 13th at 4 30 p m in the Goldsmiths Hall London the President of the Guild, Sir Samuel Hoare will take the chair at the lecture, the title of which will be announced later The second annual Alexander Pedler Lecture will be given by Lieut Colonel Sir David Prain F R S in Liverpool on Wednesday October 22nd at 5.30 p m The lecture will deal with Science Discipline and its delivery will be under the joint auspices of the University of Liverpool and the Guild

A POST-GRADUATE course, open to all medical practitioners without fee will be held in the library of the Medical School of St Mary's Hospital on the three days October 3rd to 5th Subjects to be dealt with include the after treatment of some common operations coronary thrombosis and cardiac pain some minor common digestive disorders nephritis diagnosis of breast tumours causes and treatment of vaginal discharge and irregular uterine haemorrhage refusal of food by children the management of septic infections, and the restoration of septic fingers and hands to normal function the surgical uses of radium and the treatment of diabetes Further information may be obtained from Dr C M Wilson dean of the Medical School St Mary's Hospital Paddington W 2

AT a meeting of the Royal Sanitary Institute to be held on Friday, October 10th in the Guildhall Nottingham discussions will take place on river pollution and on industrial medicine in relation to public health The chair will be taken at 4 30 p m by Dr Charles Porter

THE thirty sixth Congress of the Italian Society of Internal Medicine will be held in Rome from October 13th to 16th, when the following subjects will be discussed pneumonia oedema introduced by Professor C Frugoni diagnosis between visceral neuroses and organic disease, introduced by Professor P Castellino and the diagnosis and treatment of haematuria introduced by Professor A Ferrata Further information can be obtained from the secretary, R Clinica Medica Rome

THE Italian Society of Colonial Medicine and Hygiene will hold its third congress at Tripoli from October 3rd to 8th, when the subjects for discussion will be framboesia or pian African relapsing fever, dengue, and animal trypanosomiasis

THE first congress of the French Society of Plastic Surgery will be held in Paris on October 3rd and 4th under the presidency of Professor Dartigues There will be an exhibition of surgical instruments models, skiagrams and photographs Further information can be obtained from the secretary, Rue d Arian 41 Bordeaux

DR M I FITZCANE who since 1913 has been surgeon and medical officer to the A Division Metropolitan Police was presented on September 10th with a silver cigar and cigarette box subscribed for by the officers and men of the division The presentation was made by Chief Constable Brigadier James Whitehead in the presence of a very large gathering

THE September issue of *Acta Rheumatologica* the official journal of the International League against Rheumatism contains an account of the recent congress of the league held at Liege The principal subject for discussion was the disturbance in the skin circulation in rheumatic diseases, in which the following members took part Jens Foyed of Copenhagen J van Breemen of Amsterdam Gunnan Kuhl meter of Stockholm Lajpnel Lavastine of Paris, and Ralph Pemberton of Philadelphia

THE Water Pollution Research Board of the Department of Scientific and Industrial Research has issued a further series of abstracts of current literature in 1928 to 1929 dealing with water supplies the analysis and examination of natural waters sewage and trade waste waters pollution of natural waters and various miscellaneous subjects This booklet may be consulted in the library of the British Medical Association

DR RUDOLF KRAUS of Vienna has been appointed director-general of public health in Chili

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House Tavistock Square, W C.1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

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All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

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The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin) and of the Scottish Office 7 Drumsheugh Gardens Edinburgh (telegrams *Associate Edinburgh* telephone 24361 Edinburgh)

QUERIES AND ANSWERS.

INHERITANCE OF MENTAL DISORDER.

"AFFLECK" writes A mother has been to see me recently with the following query She has one child 5 years old who is mentally abnormal but otherwise healthy A maternal uncle is confined in a mental hospital the maternal grandmother died there and it is said to be recovered All other relatives are normal What are the chances of another child which the parents are anxious to have being normal in mind and if normal what is the outlook for the generation to follow? I have in the meantime advised against pregnancy but would like the opinion of other medical men about the inheritance of mental abnormality

WRITER'S CRAMP

DR W BLACK JONES (Creigiau, Cardiff) writes: In reply to "Devon" (September 13th, p. 455), I suggest that treatment by electrolysis would be very beneficial, the methods are described in a paper which I published in the *British Medical Journal* of January 17th, 1925, entitled "Treatment of neuritis by electrolysis." Some years ago I suffered from this complaint, and the treatment has been quite successful.

"E. A. B." (London, W.1) writes: This condition should be regarded as a neurosis. Relief will almost certainly follow appropriate psychotherapeutic treatment.

SOUR MILK

DR H. M. SUTTON (Medstead, Hants) writes: Among the various methods of making sour milk mentioned by your correspondents I have not observed any reference to the very simple method in use in Germany. Fresh unboiled milk is put into a bowl or pie dish or any such open vessel, without the addition to it of anything, whatsoever. The vessel is placed in the larder in warm weather, or in the kitchen in cold weather, and after standing untouched for thirty-six to forty-eight hours it is ready for use, having the appearance of junket and a very pleasant, slightly acid flavour. It may be eaten alone, or, as is usual in Germany, with a mixture of powdered cinnamon and sugar sprinkled over it. We have used this method in our house for forty-five years, and have found none other so simple and easy and none to give better results, after having lived amongst and tried the methods of many nations.

WHITE SPOTS ON FINGER NAILS

DR G. W. FILMING (Todmorden) writes in reply to "R. L.'s inquiry (September 15th, p. 455): I believe from observation of my own nails that these white spots are entirely due to injury to the quick of the nail (the white crescentic part) in pushing back the cuticle. If this is done gently with as little pressure on the quick of the nail as possible, no further spots should appear.

DR F. DOUGLAS MARSH (Edgbaston, Birmingham) writes: White spots on the finger nails are scars. They are caused by injury to the base of the nail fold usually inflicted by pressing back the cuticle when it is dry. If the cuticle is dealt with only when soft and moist, the white spots will cease to be formed.

"E. J. P." writes: These spots can be caused by excessive zeal in manicuring, through bruising the nail bed with a sharp instrument. Let the patient use only a rubber "hoof" to push back the cuticle, but warn her that some spots have yet to appear from damage already inflicted.

"D. Y." writes: In my experience persons showing white spots on finger nails are invariably of a very nervous temperament, and frequently suffer from definite psychoneurotic symptoms.

ANHIDROSIS AND ABSCESS

DR A. KENDREW (Ticehurst, Sussex) writes: In reply to Dr. R. Johnston McNab (September 13th, p. 456), who describes two cases of axillary adenitis following the use of a toilet preparation, it may be of interest to record a case of mine now under treatment for axillary adenitis and abscess, due to the use of one of the proprietary depilatories. There was no pyrexia.

DR SPENCER CHURCHILL (Ryde, I.W.) writes: In reply to Dr. Johnston McNab's inquiry, I have had a similar experience. A maid in a boarding house applied a toilet preparation to her axillæ for the purpose of removing hair. She made only one application, which was followed immediately by smarting and pain. A week later I was asked to see the patient (a plump brunette) because she was prevented from sleeping by pain in the right axilla. On examination she presented the signs of acute cellulitis of the right axilla. On the ninth day after the application of the irritant I incised an abscess and evacuated about 1/2 oz. of pus. One of the patrons of the boarding house declared that she had used the same toilet preparation without harm.

1 LB. AT BIRTH

DR E. H. HEATON (Clacton-on-Sea) writes: I do not know what is the smallest living baby recorded, but think the following might be worth reporting. 6 months' baby, male, weight 1 lb., was living and survived for 57 hours.

*** In the *Journal* of November 10th, 1928, Dr. W. L. Hubbard recorded the survival of a child whose weight at birth was 15 oz. and on December 8th, 1928, Dr. Herbert Shackleton recorded that of a child weighing 17 oz.

INCOME TAX

Cash Basis

"T. B. E." has been assessed on the cash basis in the past, but has now been asked to state the total amount of debts outstanding at the end of the year.

*** It would be obviously wrong to include these outstanding debts without deducting the amount outstanding at the beginning of the year. That combined adjustment would have the effect of converting the 'cash basis' to a "bookings basis," and is justifiable if there has been any appreciable change in the volume of the work done, otherwise, the result of the two methods should be substantially the same, and there is no necessity to discard the more convenient "cash basis." It should be remembered that in making the conversion mentioned above, an allowance should be claimed for bad debts—that is, the probable losses should be carefully computed and deducted from the gross totals at the commencement and the end of the year. It is largely in the avoidance of these troublesome estimates that the advantage of the cash basis lies.

LETTERS, NOTES, ETC.

INTERNATIONAL ORAL HYGIENE EXHIBITION

WE have received the following communication from Mr. A. E. ROWLETT (165, London Road, Leicester) and Mr. I. MENZIES CAMPBELL (14, Buckingham Terrace, Glasgow, W.2), who are acting as joint organizers for the British Section of the Oral Hygiene Exhibition, Eighth International Dental Congress:

It was unanimously decided by the Hygiene Commission of the Federation Dentaire Internationale during the recent session held at Brussels that an International Oral Hygiene Exhibition should form part of the Eighth International Dental Congress at Paris from August 3rd to 8th, 1931. The organizing of this exhibition was delegated to a committee, comprising representatives chosen from all countries affiliated to the Federation Dentaire Internationale. In this way its international character is assured. As it is most desirable that Great Britain should be adequately represented we should be glad if those who are in a position to assist with suitable exhibits relating to all branches of oral hygiene, including the teeth of children of all ages as well as those of adults and the care of the expectant mother, would forward to either of the above full particulars of any exhibits which they may be prepared to loan. This should be done as soon as possible, because the organizers of the Hygiene Exhibition will require to know before the beginning of December the exact space to allot to each country. It is particularly requested that our colleagues will assist in making the British Section of the exhibition eminently successful.

SPECIALISM IN RADIUM SURGERY

DR A. CAMPBELL (Perthshire) writes: I shall be glad if Mr. Duncan Fitzwilliams would enlighten us on the following matters. (1) Who are the people referred to in his paper on the technique of radium therapy (*British Medical Journal*, August 30th, p. 309) as "trained and capable" of using radium? (2) How is one to know who may rightly be described as a specialist in radium surgery? (3) Are the institutions to blame if it is indeed a fact that "radium treatment in this country has survived in spite of ... institutions which have loaned radium to people entirely ignorant of the subject"? Should they have left the radium in charge of a surgeon—that is, an F.R.C.S.—or a radiologist—that is, one who holds a D.R.M.E.—or should the appropriate specialist have had both degrees? I do not think that radiology is an optional subject for an F.R.C.S. examination, as it is for the M.R.C.P. Ed. How, then, is a hospital board to be guided? It seems plain to me that "radium surgery" should be in the hands of radiologists who are capable surgeons, and that radiology should be made a special subject for F.R.C.S. examinations.

PREGNANCY AND CERTIFICATION

"H. R." writes: I think it is time that a committee was appointed jointly by the British Medical Association and the Ministry of Health to lay down rules for the guidance of national health insurance practitioners in certifying pregnancy. I suggest this as much for our own protection as for the benefit of the patient. Guided by our regional medical officer, my habit has been to "sign the patient on" five weeks before the expected date. My experience has been that patients come up between four and a half and six months and ask to be signed on the panel. They want to get "something out of the panel"—an investment to be repaid a thousandfold. I am sure that most of them who are signed on do heavy manual work in the house all the time. When I decline to sign them on, as I do in uncomplicated cases until the last five weeks, I am told that Dr. X. or Dr. Y. signs patients on without any fuss at the sixth month or earlier, and, what is more, allows a few weeks after the confinement. In one case I was told that for weeks one doctor was giving wool, lysol, sheeting, etc., in preparation for the confinement. Very often the patients are urged to this attitude by unscrupulous insurance agents, who seek thus to curry favour and effect private insurances. Some of my patients have transferred because of my refusal to sign them on at six months. Those who have stayed have been discontented. I suggest there should be definite times for signing on uncomplicated cases, thus, for example, light manual workers, eight months, heavy manual workers, seven months, and that no certification should be accepted on other times. This would put a stop to an undesirable situation, and to public accusation of liberal certification.

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 46, 47, 51, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48, 49, and 50.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *143*.

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

258. Immunization against Diphtheria.

S SCHMIDT (*Ugeskrift for Laeger*, June 25th 1930, p 634), of the State Serum Institute in Copenhagen, prefaces his account of his own investigations with a short review of the work of Löwenstein, who attempted to induce active immunity to diphtheria by rubbing into the skin an ointment containing diphtheria toxoid and diphtheria bacilli Schmidt notes that various clinicians have employed this preparation on human beings, who have subsequently It is claimed shown themselves to be immune during epidemics of diphtheria As it is obvious that this procedure if it is effective, possesses considerable advantages over the system of injections hitherto practised, Schmidt has submitted Lowenstein s claims to tests on guinea pigs using that author s preparation in some cases and two preparations from the laboratory of the Serum Institute in other cases. Löwenstein s ointment was rubbed into the shaved skin of 25 guinea pigs, a fatal dose of diphtheria poison being injected three weeks after the beginning of this treatment twenty four other guinea pigs were tested with the preparations of the Serum Institute Only in one case was there evidence to suggest that immunity of any value could be achieved by this process and in no case could a degree of immunity be reached, such as that which treatment by injections provides

259 V BIE (ibid p 635) contrasts the diphtheria records among nurses in his fever hospital according as they were or were not artificially immunized against this disease In the period 1924–28, the incidence of diphtheria among the probationers was so high that approximately every ninth probationer contracted it Since October 1st, 1929, Bie has vaccinated every probationer joining the staff of his hospital, whether she gave a positive or a negative reaction to Schick s test Burroughs Wellcome s toxoid antitoxin was used, the dosage of the injections being 0 5, 1, and 1 c cm , and later 0.5, 1 and 1.5 c cm An interval of two weeks was allowed between each injection Between October 1st, 1929, and March 1st, 1930, eighty-eight probationers were thus immunized, in the period October 1st, 1929 to May 31st 1930 only one of these developed diphtheria, which ran a light course the duration of illness and convalescence being only thirteen days For the sake of comparison Bie has collected the records of the probationers joining the staff of his hospital between October 1st 1928, and May 31st 1929 These controls had not been artificially immunized and twenty one of them developed diphtheria, the total number of their days of illness and convalescence being 655 After discussing various objections which might be raised to his statistical comparison and dismissing them as inadequately pertinent, Bie concludes that the practical cessation of diphtheria among probationers in his fever hospital must primarily be traced to their artificial immunization

260 Low Blood Pressure.

E N CHAMBERLAIN (*Liverpool Med Chir Journ*, 1930 Part II, p 235) discussing low blood pressure, considers that anything below 110 should be regarded as hypotension though he points out that such a definition is arbitrary since a patient with a normal pressure of 140 might be regarded as suffering from low blood pressure if this suddenly fell to 110 which might be the normal in another patient Examination of a number of apparently normal students showed that a considerable percentage fifteen out of sixty were the subjects of hypotension The pathology of postural and essential hypotension is considered, as well as that due to shock and haemorrhage, the latter being caused by rapid reduction in the blood volume combined with the loss of colloids from the blood In both acute and chronic bacterial infections the blood pressure is low, and its study may afford reliable information as to the progress of the disease Pneumonia, diphtheria, scarlet and rheumatic fevers and notably in influenza are associated with hypotension the persistence of which for some considerable time in the latter accounts for the asthenia and depression accompanying convalescence, either directly, or due to some common cause Hypotension in the chronic infections is seen in syphilis and tuberculosis, and most constantly in the latter In the cardiovascular diseases hypotension is found least often except as a terminal event Some cases require no treatment and in others it is unavailing It is necessary for some patients when it is one of several symptoms requiring attention, or is urgent as in shock or haemorrhage The treatment of hypotension in the infectious is essentially that of the disease itself particularly when a specific remedy is available, as in diphtheria. Of the endocrine disorders associated with hypotension Addison s disease is the most important, though notoriously resistant to treatment, the administration of whole suprarenal gland extract with subcutaneous injections of adrenaline has proved useful in some cases

261 An Epidemic of B paratyphoid C Infection

R. LEWILLON (*Bruxelles Méd*, June 1st 1930 p 841) records an epidemic of 41 cases of *B paratyphosus* C infection which occurred among native troops at Katanga (Belgian Congo) at the end of 1928 The characteristic feature of this disease being septicaemia the anatomical lesions were not very marked In 20 necropsies hypertrophy of Peyer's patches was found in only 3, and in 3 other cases there was congestion or ulceration of the large intestine On the other hand, splenomegaly was present in 14 cases, and enlargement of the liver and jaundice was very frequent Congestion of the pulmonary bases was evident in several cases In the meningeal forms the cerebro-spinal fluid was under tension, it was clear and contained an excess of albumin but no polynucleosis Treatment was chiefly symptomatic Twenty five of the patients died, a mortality of 62 per cent The epidemic was probably due to contamination of the drinking water

Surgery.

262. Intestinal Tuberculosis

L BÉRARD and J HEITZ (*Lyon Chir*, May–June, 1930, p 273) comment on the frequent occurrence of intestinal involvement in cases of pulmonary tuberculosis, and suggest that if diagnosed at an early stage the condition can be treated surgically with success The symptoms on which the diagnosis can be made are primarily gastric—loss of appetite, indigestion sometimes accompanied by vomiting, and pain in the epigastrium These symptoms, which are frequently reflex in origin do not respond to medical treatment, and by their persistence should lead to intestinal examination Intestinal symptoms follow with varying rapidity, and consist of constipation alternating with attacks of diarrhoea pain usually in the right iliac fossa a feeling of heaviness distension of the abdomen and tenderness on pressure Intestinal haemorrhage irregular pyrexia, and a lowering of the general condition are further indications that intestinal tuberculosis has developed Radiological examination is the best means of verifying this diagnosis, and should always be employed Therapeutic methods must be tried when the patients are not fit for operation but in every other case surgical treatment is of much greater value This may consist of a radical operation such as resection of the bowel, which is the operation of choice, or a palliative procedure such as a simple laparotomy which sometimes gives surprisingly good results an entero-anastomosis, unilateral or bilateral exclusion or the establishment of an artificial anus in the caecum In all cases of intestinal tuberculosis if the lesion is diagnosed and operative treatment is undertaken at an early stage the prognosis is said to be less grave than in former years, and good results are frequently obtained

263. Carcinoma of the Duodenum

J E SCHOFIELD (*Brit Journ of Surg* July 1930 p 87) describes carcinoma of the duodenum as an extremely rare condition, rather more common in the duodenum than in any other part of the small intestine The greatest number of duodenal cancers occur in the ampullary region and tend to encircle or extend along the intestine Various causes are suggested one being that the condition arises in aberrant stomach glands another that the primary site is in pancreatic rests a third that the cancer originates in Brunner s glands It has not been proved conclusively that duodenal ulcer is a predisposing cause of duodenal cancer Symptoms of growth in the supra ampullary region resemble those of pyloric cancer If the growth is in the ampullary region the symptoms are usually severe and jaundice with enlargement of the liver and gall bladder appears at an early stage.

Vomiting is usually present and wasting occurs owing to the obstructed flow of the pancreatic juice In cases of cancer in the infra ampullary region the early symptoms are nausea and indigestion with much vomiting of bile, rapid emaciation follows, also dilatation of the stomach and duodenum near the growth Treatment varies according to the site, size, and fixity of the growth Supra ampullary cancer is treated in the same way as pyloric cancer Ampullary cancer may be treated by palliative operations such as cholecystostomy, or anastomosis of the gall bladder to the stomach or first part of the duodenum, or by radical treatment such as the excision of the growth or the resection of the duodenum The mortality from this severe treatment is so high that palliative treatment, although offering only temporary relief, is held to be preferable Cases of infra ampullary cancer are best treated by resection A case is reported in which cholecystoduodenostomy and posterior gastro enterostomy were performed, the patient making a good recovery Six weeks later a further operation was carried out to implant radon seeds round the growth, but a duodenal fistula developed and the patient died It is suggested that had radium been available at the first operation the chance of success would have been considerably greater

264 Post-operative and Experimental Tetany.

A. CHRIST (*Deut Zeit f Chir*, July, 1930, p 34) reports a number of cases of post operative tetany in human subjects and a series of experiments on dogs, he concludes that the symptoms mainly due to defect or extirpation of the parathyroids may appear after various disturbances of the endocrine system Thus tetany may follow total extirpation of the thyroids may also occur after partial extirpation of the parathyroids when the thyroid is not functioning normally, though this "athyrosis" is not identical with hypothyroidism and cannot be gauged by basal metabolism estimations Tetany is a general toxicosis associated with the presence of pathological products of metabolism in the blood (derivatives of guanidin, etc) which interfere with calcium metabolism, the reduction in blood calcium being directly proportional to the severity of the tetany As a result of his animal experiments the author recommends the administration of standardized solutions of irradiated ergosterin (vitamin D) to human subjects in addition to glandular extracts and calcium Acute cases should be vigorously treated with calcium A milk and vegetarian diet is advised, and the consumption of meat should be limited, treatment by parathyroid grafts was found useless The author insists that it is as important to control the blood calcium content periodically in a case of tetany as it is to estimate the basal metabolism and the blood sugar content in Graves's disease and diabetes respectively

265 Orthopaedic Treatment of Little's Syndrome.

FROM an orthopaedic point of view L MICHEL (*Lyon Méd*, August 10th, 1930, p 161) defines the syndrome of Little as a spastic state, sometimes localized but always predominant in the lower limbs, and consisting of two elements—namely, a static or muscular contracture which causes articular stiffness and abnormal attitudes, and a dynamic or voluntary motor disturbance This disturbance results in the child being unable to contract the proper muscles alone, but at the same time has to contract the antagonists, so that the desired movement is executed only after a struggle between the various muscle groups, either slowly or abruptly and jerkily Michel maintains that, as regards treatment, no one method should be employed to the exclusion of others, and that after an operation, which should be performed at the proper time and should realize the mechanical conditions necessary for an upright posture and walking, a prolonged course of functional training should be instituted This treatment, which at its commencement should be given at a hospital or clinic, consists in a prolonged rest in the correct decubitus, daily hot baths, a prudent, passive movement of the joints, and instruction in executing, at first voluntarily and then automatically, isolated or co ordinated muscular contractions This training comprises three stages The first, which usually takes some days, proceeds slowly from simple to complex efforts In the dorsal decubitus the child should alternately flex and extend each lower limb, then, supported under the arms, it should maintain the most correct upright position possible and practise walking movements The second stage, which is of longer duration, consists in walking with artificial supports Two appliances, designed by Michel, are described In the third stage, when the child may return home, free walking with the aid of two canes is permitted During this stage daily exercises as prescribed should be continued The author emphasizes the long duration of the treatment, which is a matter of years and recommends that during its course the child should go home for occasional short periods for its psychical development

Therapeutics.

266 Gold Salts in Lupus Erythematosus

H HAXTHAUSEN (*Arch Derm and Syph*, July, 1930, p 77) records his experience over a period of two years in the treatment of lupus erythematosus by intravenous injections of gold chloride in over 100 patients Favourable results had previously been obtained with complex gold compounds, these suggested the possibility of their being the result of a "metal salt effect," and led the author to investigate the theory by using intravenous injections of gold chloride Injections of 1 c cm of a 0 1 per cent solution (representing 1 mg of gold chloride) were given once a week If no effect was produced by several injections the dose was increased to 5 c cm of the same solution (5 mg), and, if this failed, the dose was increased to 10 c cm (10 mg) Cure or decided improvement ensued in so many patients that the results appeared to be fully equal to those obtained with the complex gold compounds, and it was found that the most favourable results followed weekly injections of rather small doses Still better results were obtained when the method was combined with Finsen light or carbonic acid freezing Treatment with the complex gold compounds has been accompanied at times by annoying sequels or even serious effects, but with gold chloride there were no dangerous or even alarming results, and since this salt appears to have at least an equal therapeutic effect its use is preferable The 0 1 per cent solution is strongly bactericidal, and does not require sterilizing, it has the advantages of being easily prepared, and of being much cheaper than the complex compounds such as potassium gold cyanide and sodium aurothiosulphate

267 Xylene Treatment of Pediculosis

O FERGUSON (*Journ Amer Med Assoc*, April 12th, 1930, p 1134) recommends the routine employment of xylene ointment in pediculosis He finds that a large number of merchant seamen examined at Lillis Island suffer from this disease—*Pediculus pubis* is the chief offender, it is less noticeable than *P corporis* and is less irritating Seamen are often covered with these parasites from the eyebrows to the ankles, but most ships are supplied with tincture of larkspur and mercury ointments, which are efficient if used intelligently The tincture, however, evaporates too quickly in the hands of the average seaman, and mercurial ointment is preferable, but it causes dermatitis in many cases, while prolonged use by ignorant patients may cause mercurialism. Since, moreover, the cost of these preparations is a considera tion to the authorities concerned, Ferguson recommends the employment of xylene (25 per cent) in a base of equal parts of adeps lanae hydros and paraffin molle because it is effectual and cheap If applied undiluted, xylene is too irritating to the skin, mixed as directed it produces for a few minutes a mild warmth and a tingling sensation This is relieved by rubbing which distributes the ointment around the hair bases Patients are instructed to apply the ointment from the axillae to the ankles twice daily for at least five days This is necessary to ensure destruction of the hatching nits, which process continues for four to seven days

268 Balneotherapy in Salvarsan Collapse.

F WIRZ (*Münch med Woch*, July 18th, 1930, p 1225) describes the sudden alarming crises which occasionally occur during or after an injection of salvarsan The symptoms are similar to those of wound shock or anaphylaxis, and commence with flushing of the face and a feeling of heat, followed by pallor, sickness, cold skin, and cyanosis Usually the colour returns and the patient rapidly recovers, but the condition may progress to the stage of collapse when the blood pressure falls, the pulse becomes almost imperceptible, respiration is shallow and irregular, and consciousness may be lost At post mortem examination in fatal cases the heart and peripheral vessels are found to be relatively empty, the blood having collected in the splanchnic area The treatment of severe cases is very unsatisfactory, since adrenaline, ephetonin, and similar remedies remain unabsorbed at the site of injection owing to circulatory failure Acting on the well known fact that heat causes an increased flow through the peripheral arteries and arterioles, the author has treated several severe cases by immersing the unconscious patient in a bath so hot as almost to burn the hand The effect is described as rapid and striking the colour returns and consciousness is regained in a few minutes Recovery is so complete that the patient is usually allowed to return home within an hour or two of the onset of the symptoms The author suggests that the method may also prove useful in cases of collapse due to other causes

Ophthalmology.

269 **Diathermy in Diseases of the Eye**

P FIGNOR (*Brit Journ of Ophthalmol*, August 1930, p 405) describes his experience of the use of the alternating current of high periodicity in treating ocular diseases and painful eyes The current heats up the tissues of the orbit uniformly thereby inducing hyperæmia of that region, which together with the heat generated by the resistance of the tissues accounts for the therapeutic value of this procedure A glass eye cup with a hollow stem having a rubber rim where it fits into the orbit and pierced by an electrode is sterilized dried and placed in position by the operator Warm sterile normal saline solution is then poured in through the hollow stem The patient grasps in his right hand the other pole which is in the form of a handle and is warned not to relax his hold or a burn may result The operator must take care that during the treatment (usually lasting from four to six minutes, according to the sensations of the patient) there is no movement of the eye electrode or leakage from it While the current is passing the operator must watch the electrode closely, and be prepared to switch it off if the patient moves The patient is instructed to report if the eye becomes too hot making no movement of his head in doing so for fear of a burn Two applications weekly are generally given the amount of current ranging from 350 to 600 milliamperes though few patients are able to stand a higher dose than 500 No special protection for the eye is needed after the treatment Ocular conditions usually respond well to a few applications but the treatment may be continued for over a year without any evil consequences to the patients The author asserts that pain in the eye from whatever cause can always be relieved The types of cases that have given good results are glaucoma, chronic senile conjunctivitis episcleritis, chronic blepharitis, and gonococcal conjunctivitis

270. **Acute Ocular Pemphigus.**

ACCORDING to W O MARTIN jun (*Arch of Ophthalmol*, June, 1930 p 744), true pemphigus of the conjunctiva may exist and be associated with a similar condition in other parts of the body It may occur in an acute fulminating form, as in a case which he reports or in a chronic form The site of predilection is the lower half of the ocular conjunctiva and the inner angle of the lids As the shrinkage continues symblepharon develops Chronic pemphigus runs a long course with cycles of attacks and sometimes remissions Martin remarks that pemphigus is a rare disease attacking patients of all ages and sexes, and is not hereditary Its etiology is obscure, and not one certain causative factor is known There is no definite cause or duration of the disease and the prognosis is uncertain The subjective symptoms are not characteristic but consist usually of soreness tenderness burning, and itching with diffuse discharge The involved areas are rapidly converted into cicatrices with excessive contraction The conjunctiva shrinks becomes white and tense and the folds disappear Bands form which extend from the globe to the lids giving rise to varying degrees of symblepharon The lacrymal ducts may be occluded and the conjunctiva becomes dry, often with resulting total symblepharon The cornea is involved by extension of the conjunctival process Ulceration and suppurative keratitis may be found early in the disease Treatment is of no avail and is purely symptomatic Arsenic arsphenamine and neoarsphenamine radium x rays and high frequency currents have been tried but have proved ineffectual The pathology of the condition is obscure

271 **Traumatic Rupture of the Choroid.**

A J BEDELL (*Amer Journ of Ophthalmol* May 1930 p 390) describes a case of traumatic rupture of the choroid with detachment of the retina and spontaneous reattachment in a man aged 23 who was struck in the left eye by the closed fist He did not lose consciousness although he was badly mauled Three and a half days after the accident he complained that the vision was blurred The right side of the face and the right eye were normal the vision was 20/20 and the pupil was 3 mm in size regular and active as regards its movements The left side of the face showed a very extensive ecchymosis extending from the eyebrow to the angle of the mouth The left eye had vision of 20/70 and the 4 mm pupil responded slowly to light stimulus There were many dense floating clouds in the vitreous with a thick blood stained film in the lower portion of the fundus The blood in the vitreous began to be absorbed on the following day the oedema of the retina became less and concentric diverging rolls were noted in the retina There was a noticeable change in the vessels the arteries especially the superior nasal branches were contracted with an irregular calibre Three days afterwards there was more definite gray oedema of the entire fundus the haemorrhage in the lower portion of the vitreous was almost absorbed but the edge of the choroidal rupture was filled with blood Ten days after the accident the vision improved to 20/40 and four days later was 20/20 After four more days the most striking changes were in the level of the retina and included the decrease in the subretinal blood the restoration of the reflex in front of the macula and the increased whiteness of the nasal branch of the artery The central vision was 20/30 The various stages of healing are illustrated by photographs, and Bedell points out that the surgery of ocular injuries is of interest to almost all ophthalmologists especially since the war Many papers have been presented in relation to the diagnosis and treatment of intraocular foreign bodies but few have been devoted to the intraocular changes resulting from the impact of large non penetrating objects. Diagrams and charts have been prepared to convey the reporters impression of fundus changes but so far as the author is aware, there never appeared before in the literature the photographic life history of a traumatic detachment of the retina with a rupture of the choroid Probably stereoscopic photographs will materially assist ophthalmologists in drawing conclusions in relation to the time that has elapsed between the injury and certain residual conditions

Obstetrics and Gynaecology.

272. **Insulin Treatment of Menstrual Disorders.**

A. HOFMAN BANG (*Zentralbl f Gynæk*, May 17th, 1930 p 1223) found that in five patients with normal menses and pelvic organs the injection of insulin led to varied modifications of menstruation In eight out of nine amenorrhoeic patients, aged 22 to 2- who were given small doses of insulin for three to eight weeks menstruation returned in some cases it recurred without further treatment Coincident increases of weight and appetite were noted In a group of four patients with metrorrhagia and eleven with menorrhagia in all of whom gross uterine or ovarian disease was absent the injection of larger amounts (6–10 units) of insulin daily before or during menstruation had a favourable effect These observations were made in demented asylum patients who were instructed that the purpose of the injection was to increase the appetite The fact that insulin affected favourably both the amenorrhœa and excessive bleeding is ascribed to the action on the follicular and corpus luteum hormones respectively Vogt in three hundred cases of metropathia haemorrhagica has reported good results from insulin treatment, especially in patients at puberty and the climacteric

273 **The Capillary Resistance Test in Ovarian Insufficiency**

R SEYDEPHELM and M HEINEMANN (*Deut med Woch*, May 23rd 1930 p 860, state that though recent researches have thrown much light on the physiology of the ovarian hormone and made the standardization of dosage possible in ovarian therapy diagnosis and treatment have so far been based chiefly on the subjective symptoms of the patient Since the Rumpel Leede capillary resistance test has been found to be positive during menstruation and in certain phases of the men pause (when the ovarian hormone is present in the blood in minimal quantities) the authors have applied it in numerous cases of ovarian insufficiency The technique is simple The blood pressure armlet is inflated to 20 mm mercury above the diastolic pressure and is left on he arm for three to five minutes It is then released and the skin of the forearm and fold of the elbow is examined with a lens when minute cutaneous haemorrhages will be found if the reaction is positive There are many causes of a positive reaction such as infections and intoxications and (according to the authors) hyperacidity in gastric and duodenal ulcer diabetic acidosis chronic circulatory disease, scurvy and late rickets In cases where the positive reaction was presumed to be caused by ovarian insufficiency the oral administration of 100 200 and 300 mouse units of ovarian hormone on three successive days was followed by a negative reaction Ovarian treatment had no effect however on positive reactions due to non-ovarian factors More than 1 000 tests have been made and only 2 per cent of cases are apparent exceptions Thyroxine is apparently the only other hormone which will convert a positive reaction into a negative one, and the authors state that this accords with other evidence that the thyroid undertakes part of the ovarian function at the menopause A negative capillary resistance test is always found in early pregnancy—that is when the ovarian hormone is plentiful in the blood stream The authors consider that the lowered capillary resistance in ovarian insufficiency is related

to the vasomotor reactions, and to the occasional haemorrhages from skin and mucous membranes which occur during menstruation and the climacteric, the test, if carefully interpreted, is suggested as a useful objective control in ovarian therapy

274 Red Degeneration of Fibromyoma

M B CETRONI (*Ann Ostet e Ginecol*, May, 1930, p 423) records details of twelve cases of necrobiosis of uterine fibromyoma, and of six of angiomatous uterine fibromyoma He states that necrobiosis (red degeneration) in a myoma may be total or partial, giving rise to chiefly acute or chiefly chronic symptoms in the respective cases The symptoms consist in (1) pain, due partly to expulsive uterine contractions and partly to peritoneal irritation, (2) pyrexia, due in the absence of infection to toxic absorption, (3) increase in the size of the tumour, due to oedema, (4) metrorrhagia, and (5) amenorrhoea succeeding metrorrhagia Sufficient attention has not usually been paid to the last named symptom, which is allied to a general state of auto intoxication *Of 100 cases of necrobiotic myoma 80 are interstitial, 17 subserous, and 3 submucous, association with pregnancy is common Angiomatous and necrobiotic tumours* (the two varieties of "red myoma") constitute 3 4 and 7 4 per cent respectively of uterine fibromyomata, the symptoms of the former condition are
the acute symptoms of the latter
fibromyoma is found at operation there have been acute pain and pyrexia, if not removed surgically, an angiomatous fibromyoma usually becomes necrobiotic

275 Krukenberg Tumour following Plastic Linitis

F MERCKLN (*Bruxelles Med*, May 25th, 1930, p 818) reviews the literature and records the case of a woman aged 30 the mother of three children, who had suffered for six years from epigastric pain which had been particularly severe for the *last two months* A ray examination showed the presence of a dilated stomach with pyloric stenosis caused by a callous ulcer On laparotomy a large tumour was found situated at the pylorus Resection of the stomach according to the Billroth II method modified by Kronlein Mikulicz (gastrectomy enterostomy) was performed Examination of the specimen showed plastic linitis associated with an ulcer of the prepyloric portion of the stomach and an epithelioma Two and a half years later the patient developed signs of a tumour of the left ovary Laparotomy was performed, the growth removed showed the characteristic appearances of Krukenberg's tumour Death from multiple metastases ensued two years later There was no necropsy

Pathology.

276 Experimental Syphilis in the Mouse

A. BESSEMANS and F DE POTTER (*C R Soc de Biologie*, June 27th, 1930, p 818) have succeeded in producing macroscopic lesions of syphilis in the mouse Hitherto, though many workers have demonstrated the receptivity of the mouse to *Trep pallidum*, they have never been able to produce more than a so called inapparent infection—that is, one in which the spirochaetes multiply in the tissues without giving rise to macroscopical lesions or to clinical signs of illness The authors inoculated two white mice intravenously at the root of the tail with 0 5 c cm of a virulent suspension of *Trep pallidum*, from a testicular syphiloma of a rabbit Three months later one of the mice showed a cutaneous nodule, of pinhead size, situated in the inguinal region between the anus and the testicles This nodule progressively increased in size, and at the end of three weeks ulcerated, leaving a typically syphilitic chancre with indurated and slightly inflamed borders The lesion reached a size of 3 by 6 mm, remained stationary for several weeks, and then slowly retrogressed Spirochaetes were readily demonstrable in the lesion Material from this chancre was inoculated on to the scarified skin of the ano scrotal region of six fresh mice One of these mice after three weeks developed a small chancre containing spirochaetes, this lesion, however, healed completely in a fortnight *The authors* believe that the chancre in the first mouse resulted from infection of the skin at the site of intravenous inoculation

277 Transmission of Congenital Syphilis

P MULZER and C F HAHN (*Munch med Woch*, July 25th, 1930, p 1261) have shown by their experiments on mice and rabbits that the offspring of syphilitic mouse parents, experimentally infected with "Kolle rabbit virus" are congenitally syphilitic Injection of an emulsion of the internal organs of these young mice into the testicles of healthy rabbits, though producing no local syphilitic lesions, will, after an interval of several months, render these rabbits refractory to a subsequent dose of syphilitic virus, control rabbits not so treated give positive reactions The immediate offspring of a syphilitic female and a healthy male mouse were always congenitally syphilitic, in subsequent generations the results obtained were not so regular A male mouse infected with syphilitic material—a piece of rabbit testicular syphiloma *introduced under the skin of the back—can infect healthy* female mice with syphilis, the offspring have latent syphilis and are refractory to a subsequent inoculation with the virulent homologous virus The results of this infection are variable, the mother and the young may remain healthy, as tested by the inoculation of emulsions of the internal organs into the testicles of rabbits and the subsequent delayed reinfection of these rabbits, which will show no resistance, and presumably behave as healthy control rabbits

278 Effect of Carbon Dioxide on the Plasma

H J FUCHS (*Zeit f Immunitatsf*, July 11th, 1930, p 266) has studied the coagulability and the complementary power of blood plasma, with reference to the statement made by Lumiere and Grange that *venous blood coagulates* more rapidly and has a greater amount of complement than arterial blood Blood was withdrawn from the carotid artery of the rabbit by means of a paraffined glass cannula, and sodium oxalate was added, the blood was then centrifuged in paraffined tubes, and the clear plasma containing 1 per cent of oxalate was withdrawn Air or CO_2 was bubbled through the plasma and calcium chloride was added, the coagulation time being observed at 37°C The aerated plasma clotted in eight and a half minutes, and the CO_2 plasma in four minutes When air or CO_2 was bubbled through the plasma for a little over half an hour the aerated plasma clotted in eight and a half minutes as before, while the CO_2 plasma took eighteen minutes In the first experiment both specimens were weakly alkaline to litmus, in the second the aerated plasma was weakly alkaline, but the CO_2 plasma was slightly acid Similar observations were made on the complementary activity Compared with the control, plasma aerated for a short time was less active, and plasma treated with CO_2 was more active When aerated for a longer time the plasma showed again a diminished complementary activity compared with the control, while the CO plasma displayed even less activity than the aerated plasma It would therefore appear that increase in the CO_2 content of plasma, so long as the reaction remains weakly alkaline or neutral, increases its coagulability and its complementary activity Further increase, sufficient to render the reaction acid, decreases both functions The author considers that this may explain why in certain cases of suffocation the blood clots rapidly, while in others it clots more slowly

279 The Influence of Blood Groups in Malarial Transfusions

IN 1928 Farnell, while treating cases of general paralysis of the insane with injections of human blood containing malarial parasites, noticed that the period of incubation of malaria in the recipients varied, that in some instances a single injection of the blood failed to produce symptoms in the recipient, and that two patients receiving blood from the same donor at the same time often differed widely in the incubation periods of their malarial symptoms As a result of these findings, E M KNIGHTS (*Journ Lab and Clin Med*, July, 1930, p 980) has typed various donors of malarial blood and the recipient patients, and records the findings in twelve cases Early in the study it became evident that the question of blood groups was an important factor in determining the incubation period of the malaria The *Plasmodium vivax* of benign tertian malaria was used in the work, and it is an accepted theory that in man the only time that the parasite is found free from the erythrocytes is during that stage of schizogony when the merocyte ruptures and the merozoites migrate to fresh red cells *If*, due to an incompatibility of blood groups between the donor and recipient, agglutination and lysis of the donor's red cells occur, it is probable that only those parasites which are in the merozoite stage and ready to infest new cells may survive *If*, on the contrary, the donor and recipient are in the same group or in such relationship that the donor's erythrocytes are not agglutinated by the recipient's serum, *a minimum incubation period may be expected* Another factor influencing this period is the stage of the development of the parasite in the donor's blood at the time of the transfusion In cases of incompatibility with a short incubation period, it was often found that there was a predominance of full grown merocytes in the blood of the donor and that the merozoites liberated by red cell destruction due to incompatibility were ready to attack fresh erythrocytes regardless of blood group Hopf has come to similar conclusions in a study of eighty one cases in which blood groupings were made before transfusions of malarial blood

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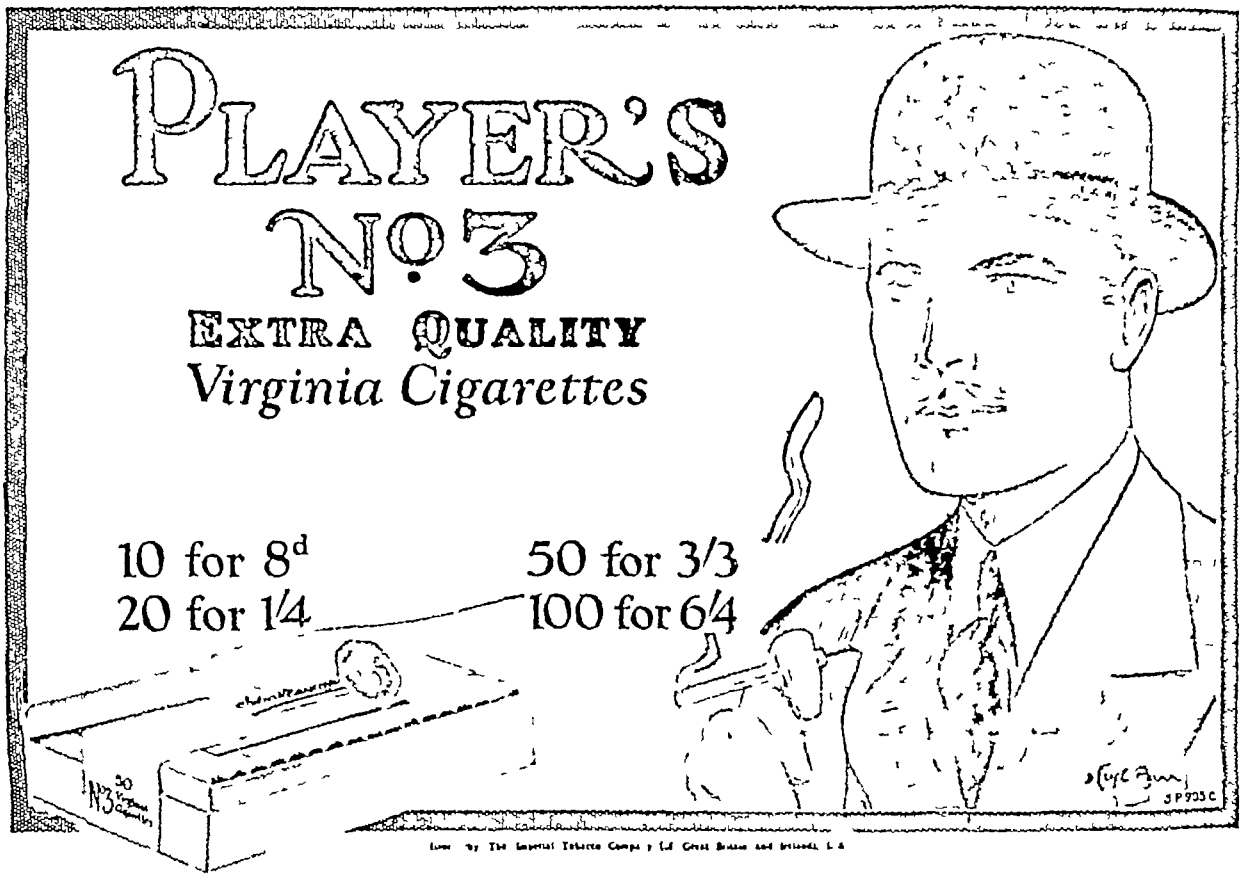
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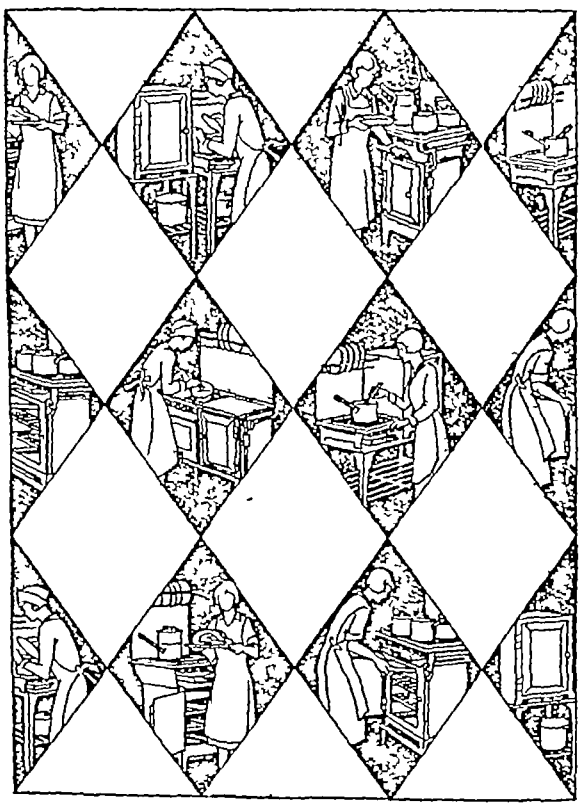
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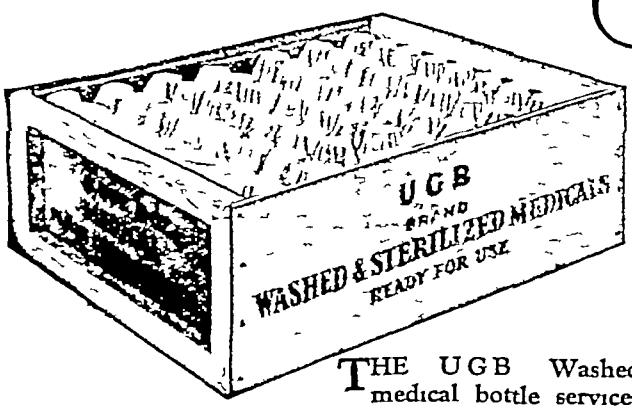
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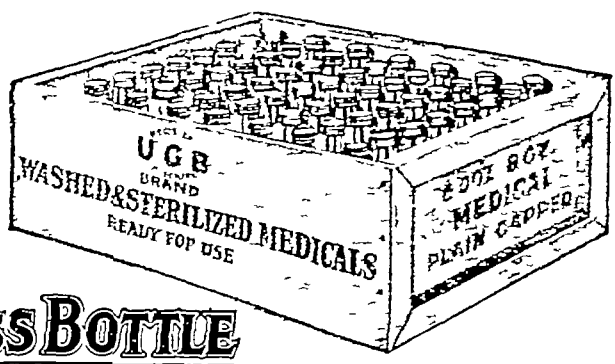


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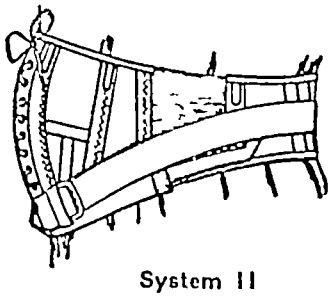


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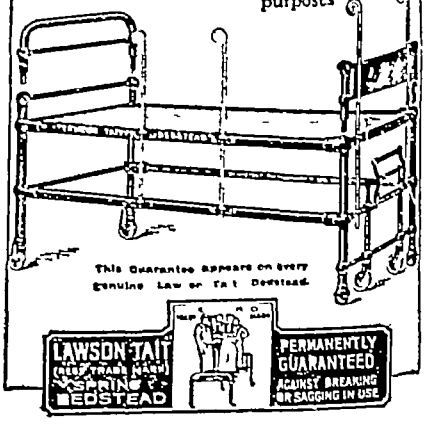
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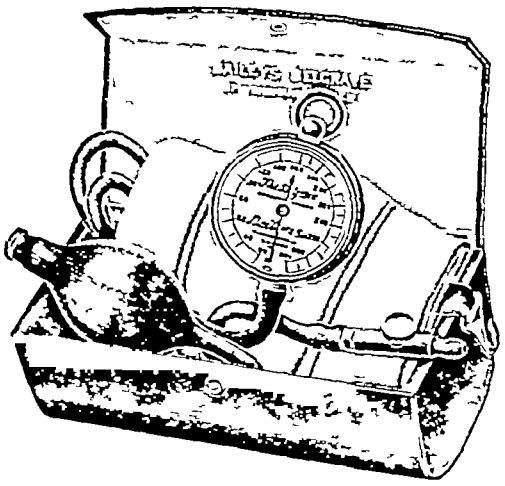


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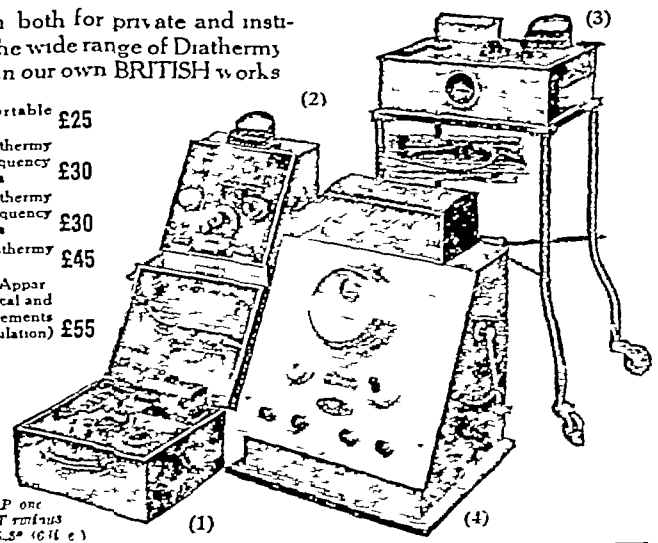
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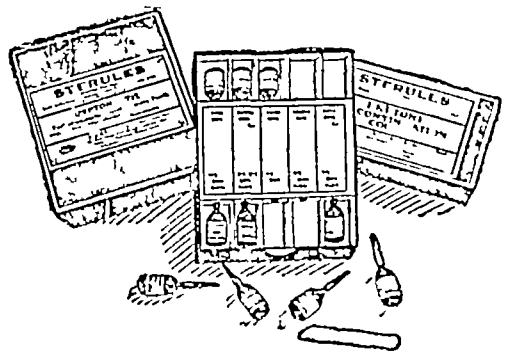
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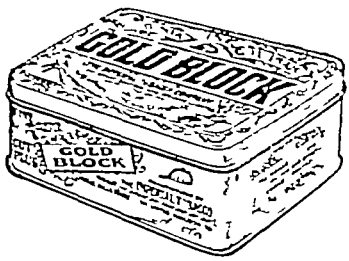
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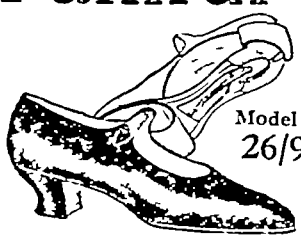
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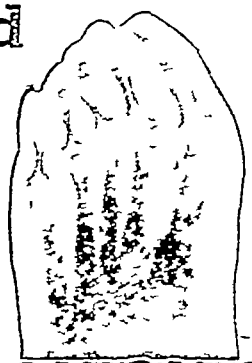
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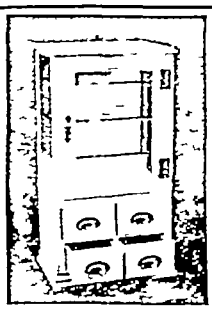


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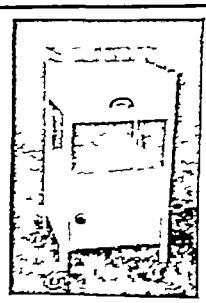
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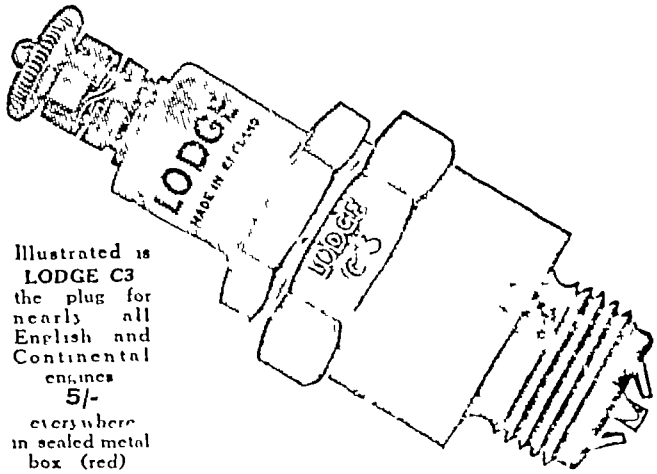
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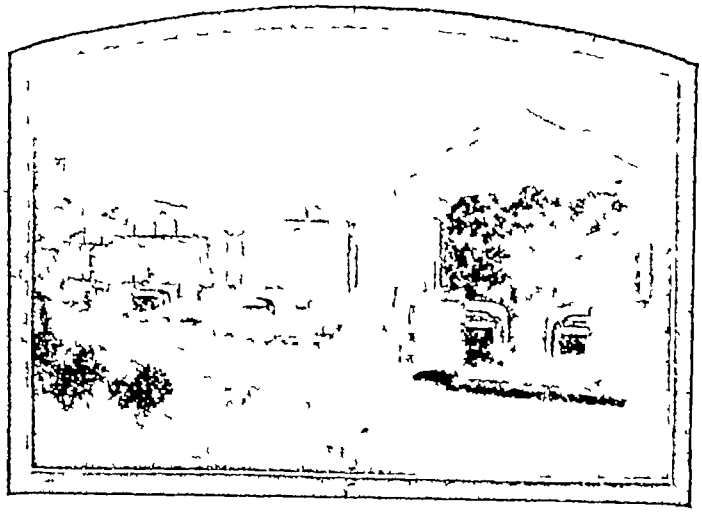
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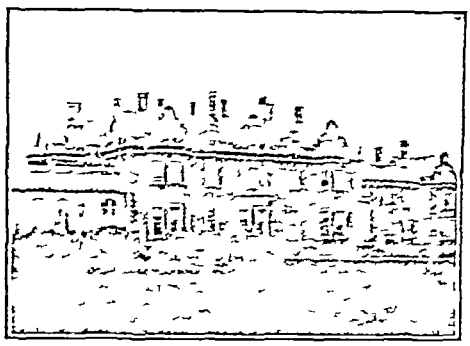
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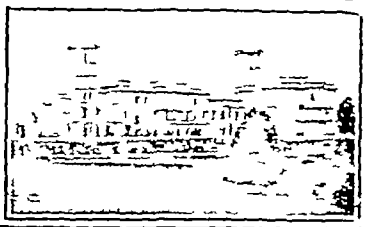
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At the opening of the Winter Session on Wednesday October 1st the Inaugural Address will be given at 2.15 p.m. by Dr RAYMOND CRAWFURD M.D. F.R.C.P. Consulting Physician to the Hospital and Emeritus Lecturer in the Medical School.

Professor G. F. STILL, M.A., M.D., LL.D. F.R.C.P. Physician for Diseases of Children at the Hospital will preside.

All past Students of the Medical School are cordially invited to attend.

THE CENTENARY DINNER

at which Professor Sir ST. CLAIR THOMSON M.D. F.R.C.P., F.R.C.S. will preside will be held the same evening at 7 for 7.30 at the Connaught Rooms, Great Queen Street, Kingsway, W.C.2.

The Dean and the Dinner Secretaries (Dr. ERNEST PLAYFAIR and Dr. G. DE BEC TUTTLE) trust that Past and Present Members of the School will endeavour to be present on this special occasion, and they will be glad to be informed if any Member has not received his or her invitation.

H. H. WILLOUGHBY LYLE, M.D., F.R.C.S.
J.P., Dean.

THE LONDON HOSPITAL MEDICAL COLLEGE.

(University of London.)

ADVANCED MEDICINE

A Course in Advanced Medicine suitable for candidates preparing for the M.D. and M.R.C.P. Examinations will begin on Monday October 13th. Application for admission should be made not later than September 27th.

Further particulars may be obtained on application to the Dean, Professor WILLIAM WRIGHT, M.B., D.Sc., F.R.C.S. London Hospital Medical College, Mile End, E.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D.T.H. must possess the D.T.M. of this University.)

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS.

Messrs J. & J. PATON having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent will be pleased to AID PARENTS in their choice by sending (free of charge) prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred and rough idea of fees should be given.

J. & J. PATON, Educational Agents, 143, Cannon St., London, E.C.4. Tel. Mansion House 5053.

Appointment of a Registered MEDICAL MAN OR WOMAN AS A RESEARCH WORKER IN MENTAL DEFICIENCY

READVERTISED AT AN INCREASED SALARY

The MEDICAL RESEARCH COUNCIL, the GOVERNING BODY OF THE DARWIN TRUST and the COMMITTEE OF THE ROYAL EASTERN COUNTIES INSTITUTION for the MENTALLY DEFECTIVE at COLCHESTER, jointly invite applications from registered Medical Men or Women to undertake research into Mental Deficiency.

The person appointed will be a member of the Medical Staff of the Royal Eastern Counties Institution and will be expected to take some part in the Administrative and Clinical work of the Institution itself but the major part of the work will be an investigation into the causes of mental deficiency from the clinical, social, and genetic aspects. A Social Investigator will be appointed to assist in the work.

Commencing salary at the rate of £ 500 a year, non-resident.

A form of application can be obtained from the Medical Superintendent, Royal Eastern Counties Institution, Colchester, which must be completed and returned before October 4th. Duties to commence January 1st 1931.

Shanghai Municipal Council

PUBLIC HEALTH DEPARTMENT

SECOND ASSISTANT COMMISSIONER OF PUBLIC HEALTH (HOSPITALS)

A Second Assistant Commissioner of Public Health (Hospitals) is required in the Public Health Department of the Shanghai Municipal Council.

Candidates preferably unmarried, should not be more than 30 years of age and must hold qualification in Medicine and Surgery of Unit Medical standard a D.P.H. though not essential is desirable. Candidates must have held resident Hospital appointments, medical and surgical and practical experience of Isolation Hospital, V.D. and T.B. service is desirable.

Salary Taels 630 per mensem or Taels 700 per mensem if holding a D.P.H. during three years agreement.

The agreement is renewable in the event of satisfactory services at a triennial increase of Taels 100 per mensem up to Taels 1,000 or Taels 1,050 per mensem if holding a D.P.H.

A Tael at the present rate of exchange equals about 1/7d. Exchange is however subject to fluctuation.

A temporary bonus of Taels 75 per mensem is granted at the present time to compensate for the increased cost of living and under certain limitations a guarantee of one-third of pay and bonus will be paid at the equivalent of 2/6 to the Tael to offset the adverse fluctuations in the rate of exchange.

The Assistant Commissioner of Public Health (Hospitals) provided he holds the D.P.H. is eligible for the higher appointments of Deputy Commissioner of Public Health and Commissioner of Public Health the present maximum pay for which is Taels 1,350 and Taels 2,000 per mensem respectively.

First-class passage is given with half pay during voyage.

Eight months' leave is given on full pay with first-class passage, after every period of five years service in Shanghai.

Free medical attendance is provided, and there is participation in the benefits of a Superannuation Fund.

Particulars of the appointment, and full details as to the benefits enjoyed by Municipal employees under their Terms of Service may be obtained from the Council's Agents.

Applications in candidates own handwriting with full information as to their qualifications, experience etc., accompanied by at least three recent testimonials and endorsed "Second Assistant Commissioner (Hospitals)" on the cover should be forwarded to Messrs. JOHN POOK & CO., Agents for the Municipal Council of Shanghai, 63, Fenchurch Street, London, E.C.3.

September 1930.

County Borough of Wigan

EDUCATION COMMITTEE.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from fully qualified Women Medical Practitioners for the post of Whole-time ASSISTANT SCHOOL MEDICAL OFFICER at a salary of £300 per annum advancing by £25 to £400 in accordance with the scale jointly approved by the B.M.A. and A.E.C.

Applicants must have been qualified three years and must have had experience in maintenance of glasses for errors of refraction. Preference will be given to those possessing a Diploma in Public Health.

The appointment will be subject to the provisions of the Local Government and other Officers' Superannuation Act 1922.

A list of duties may be obtained (on receipt of a stamped addressed envelope) from the undersigned, to whom applications together with copies of three recent testimonials must be sent not later than Wednesday, Sept. 24th.

Education Offices, Town Hall, Wigan.
L. R. MISSEN, Director of Education.

The Institute of Ray Therapy

(SUNLIGHT CLINIC)
152/154, Camden Road, N.W.1.

A RESIDENT MEDICAL OFFICER is required on October 1st. The duties will include assistance in the treatment and in the collection of clinical data for purposes of research. The appointment is for six months. Honorarium at the rate of £150 per annum with board, residence and laundry. Experience in Light Therapy is not essential, but applicants must have had a resident appointment at a General Hospital.

Applications, together with copies of three testimonials, must be received later than Monday, September 22nd, by the Honorary Secretary at the above address.

Administrative County of Essex

MALE ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

The County Council of the Administrative County of Essex invite applications for the above post from persons interested Medical Practitioners specially qualified in the treatment of Tuberculosis, School Medical Inspection and Maternity and Child Welfare, holding a Diploma in Public Health and not over 45 years of age.

Preference will be given to candidates who have had at least three years experience in Public Health work subsequent to the requisite medical qualification. The salary attached to the appointment will be from £500 to £700 per annum according to experience, and an allowance for travelling will be made. The person appointed will be required to devote his whole time to the service of the Council, and to perform such duties and to furnish such advice and assistance appertaining to his office as may be required, and to reside in such district of the County as the Council may decide. The appointment will be subject to three months' notice on either side.

Applications on the prescribed form obtainable from the undersigned, and accompanied by copies of not more than three testimonials which will not be returned, should be addressed to me and delivered at the Shire Hall, Chelmsford, not later than 10 a.m. on Monday, September 29th.

Shire Hall, Chelmsford, September 8th, 1930.
JOHN H. COOLD, Clerk of the County Council.

Dickinson Scholarships

The Trustees invite applications on or before September 30th for a SCHOLARSHIP IN CLINICAL MEDICINE of the value of £150 for one year. For particulars apply to the undersigned.

Manchester Royal Infirmary.
FRANK G. HAZELL, Secretary.

New Zealand

CHRISTCHURCH HOSPITAL BOARD

The Board invites applications for a MEDICAL REGISTRAR. Salary £500 per annum with board and lodging.

Applications should be forwarded to the Secretary, Hospital Board, Christchurch, New Zealand.

City of Bradford

Applications are invited from duly qualified Medical Men with experience in Clinical Pathology and Bacteriology for VACANCIES on the staff of the City Pathologist and Bacteriologist. The commencing salaries will not be less than £600 per annum.

The appointments will be subject to the provisions of the Local Government and Other Officers' Superannuation Act 1922, and the successful candidates will be required to pass a satisfactory medical examination.

Forms of application may be obtained from the Medical Officer of Health, Town Hall, Bradford, and should be returned to him not later than September 29th.

Town Hall, Bradford, September 6th, 1930.
N. L. FLEMING, Town Clerk.

National Radium Centre for MANCHESTER.

The Committee wish to appoint a RADIUM REGISTRAR (male) in connection with the above Centre. The appointment will be non-resident and a minimum salary of £350 per annum will be given. Possibly the duties will be combined with others at the Manchester and District Radium Institute and in that case the salary might be considerably augmented for a suitable applicant.

Applications should reach the Hon. Secretary, National Radium Centre, 87, Mosley Street, Manchester, not later than September 30th.

The King Edward VII Welsh NATIONAL MEMORIAL ASSOCIATION

Applications are invited from duly registered Medical Practitioners for the post of ASSISTANT RESIDENT MEDICAL OFFICER at the GLAN-LLYN CONVALESCENT HOSPITAL, Barry, which is maintained by the Association. The appointment will be for a period of [illegible] months, commencing [illegible] and will be subject to the Rules and Regulations of the Association. Applications, stating age, qualifications and experience, together with copies of three recent testimonials, should be sent to the undersigned not later than [illegible].

Medical Officers' Chambers, 1, Park Place, Cardiff.
E. A. POWELL, Principal Secretary.

City of Birmingham

SELLY OAK HOSPITAL

CASUALTY OFFICER (Male)

Applications are invited from fully qualified Medical Practitioners for the whole time appointment of Casualty Officer (male) at the Selly Oak Hospital Birmingham

The present Hospital accommodation is 550 beds, divided into General Medical, General Surgical, Gynaecological Obstetrical, and Children's Disease sections There are completely equipped Pathological and Biochemical Laboratories and X ray, Electro therapeutics, Massage, Ultra violet Ray, and Electro cardiographic Departments Over 3,000 operations are performed annually

The appointment will be for a period of six months in the first instance but may be extended for a further period of six months

The person appointed will be required to assist at operations, to administer anaesthetics, and to undertake casualty and such other duties as may be assigned to him by the Medical Superintendent

The salary attached to the appointment is at the rate of £200 per annum together with full residence emoluments (*rations apartments*, laundry and attendance) The officer appointed will be required to account to the Council for all fees, allowances and emoluments (other than the foregoing) received by him

Further particulars of the appointment may be obtained from the Medical Superintendent R. P STANLEY ATLMAN, Esq, M B, I R C S Eng and Edin) at the Selly Oak Hospital, to whom applications stating age, experience, and qualifications, accompanied by copies of recent testimonials, should be forwarded not later than Wednesday, September 24th

F H C WILTSHIRE,
Town Clerk.

The Council House, Birmingham August 1930

City of Leicester

RESIDENT MEDICAL OFFICER

The HEALTH COMMITTEE of the City of Leicester invite applications for the position of Resident Medical Officer (male) at their City General Hospital, for a period of 12 months

The Hospital is a modern building with 550 beds, and Two Resident Medical Officers

Salary £250 per annum, increasing after six months approved service to £300 per annum, together with full residential emoluments The gentleman appointed to the post will be required, when requested to assist at the Institutions of the Public Assistance Committee.

The successful candidate will be required to pass a medical examination and to contribute to the Corporation Superannuation Fund

Further particulars of the appointment may be obtained from the Medical Superintendent, E. C HADLEY, M D, B S (Lond) F R C S City General Hospital, Gwendolen Rd, Leicester Applications, stating age, experience, qualifications and nationality, accompanied by copies of three recent testimonials should be addressed not later than September 26th to—

WILFRID CARR,
Secretary
Health Dept

Health Offices Grey Friars, Leicester
September 11th, 1930

The Sheffield Royal Hospital

Required OPHTHALMIC HOUSE SURGEON for October 1st and a HOUSE SURGEON for November 1st (males) Salary for the first six months at the rate of £80 per annum, after which £100 per annum with board, residence, and laundry There are twelve *Resident Medical Officers*

Applications should be forwarded at once to—

W H BOOTH
Superintendent and Secretary

Tiverton Hospital, Devon

Applications are invited for the post of HOUSE SURGEON Salary £100 per annum with board residence and laundry Six months engagement commencing as early in October as possible

Applications with testimonials, to be sent to the undersigned.

C H. DEEKS
Hon Secretary

London Hospital, E1

There is a vacancy for the post of ASSISTANT SURGEON

Candidates must be Fellows of the Royal College of Surgeons England

Applications should be sent to the House Governor and must arrive not later than on Saturday October 18th

A G ELLIOTT
House Governor

Sept 15th 1930

City of Plymouth

RESIDENT MEDICAL OFFICER

Applications are invited from duly qualified and registered Medical Practitioners for the post of Resident Medical Officer at the City Hospital, Plymouth

The person appointed will work under the control of the Medical Superintendent and will be an Assistant to the Medical Officer of Health Preference will be given to candidates who have had previous experience as House Surgeons or House Physicians

The salary will be at the rate of £350 per annum, and quarters, food, etc will be provided The appointment is terminable by three months notice on either side

Forms of application will not be provided, but applicants should state their age their previous experience, and present appointment Canvassing will disqualify

Applications endorsed "Resident Medical Officer together with copies of three recent testimonials must be received by the undersigned by Tuesday September 30th

A T NANKIVELL M D
M R C P D P H,
Medical Officer of Health

Town Hall Stonehouse Plymouth
September 11th, 1930

Borough of Gosport

MEDICAL OFFICER OF HEALTH

Applications are invited from duly qualified Medical Practitioners for the appointment of Medical Officer of Health for the Borough The gentleman appointed will also be required to act as School Medical Officer and Medical Officer to the Council's Isolation and Small pox Hospitals Salary £800 per annum Candidates must not be more than 45 years of age

The successful candidate will be required (1) to reside in the Borough (2) to contribute to the Corporation's Superannuation Scheme (3) *to pass a medical examination* and (4) to devote the whole of his time to the duties of the office He will not be allowed to engage in private practice

Forms of application and list of duties will be supplied on receipt of a stamped addressed foolscap envelope

Applications endorsed Medical Officer of Health and accompanied by copies of three testimonials of recent date, must be delivered to the undersigned not later than Sept 15th

Canvassing either directly or indirectly will be a disqualification

H R MANGNALL,
Town Clerk

Town Hall, Gosport
September 3rd, 1930

City of Manchester

EDUCATION COMMITTEE

ASSISTANT SCHOOL MEDICAL OFFICER (Man)

Applications are invited from fully qualified Medical Practitioners for the post of Assistant School Medical Officer

Applicants must have been qualified three years and will be required to devote their whole time to the duties of the office Preference will be given to those who have special experience in the prescription of spectacles

The salary is £600 per annum rising by yearly increments of £25 to a maximum of £750 There is also a yearly allowance of £10 for travelling expenses

The person appointed will be required to contribute to the Superannuation Scheme of *the Corporation*

Forms of application may be obtained from the undersigned and applications should be returned not later than Saturday Sept. 27th

GEORGE GUEST,
Acting Director of Education

Education Offices, Deansgate, Manchester

County Borough of Barnsley

SENIOR DENTAL SURGEON

Applications are invited from Licentiates in Dental Surgery for the position of a Whole-time Dental Surgeon to the above Authority at a commencing salary of £600 per annum

The officer appointed will be responsible for the work of the Dental Department, and will work under the direction of the Medical Officer of *Health* His duties will consist chiefly in the dental inspection and treatment of children attending the Elementary Schools but he will also treat cases sent from Maternity and Child Welfare Clinics and under the Tuberculosis Scheme of the Borough

Applications, with full details of experience, and copies of three recent testimonials (which will not be returned) should be sent to the undersigned on or before October 3rd

A D MASON,
Town Clerk

Town Clerk's Office, Barnsley
September 12th 1930

Administrative County of London

HOSPITALS SERVICE

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to positions at the undermentioned Hospitals Candidates must have had previous residential hospital experience. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent, and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council

(a) ARCHWAY HOSPITAL, Archway Road Highgate N —ASSISTANT MEDICAL OFFICER Salary £300 a year, with board lodging, and laundry The appointment will be for one year only in the first instance No quarters are available *for a married man and the accommodation* will be only for the person appointed (man or woman)

(b) HACKNEY HOSPITAL High Street, Homerton, E 9—ASSISTANT MEDICAL OFFICER Salary £350 a year, with board lodging, and laundry The duties are mainly in the out patient department of the hospital and candidates must have held a residential surgical appointment. The appointment will be for one year only in the first instance. There is accommodation only for the person appointed (man or woman) There are no quarters for a married man

(c) ST PHILIPS HOSPITAL 74, Wallace Road N 1 — ASSISTANT MEDICAL OFFICER Salary £450 a year, with board lodging, and laundry Candidates should have had experience in the administration of anaesthetics and post graduate experience in obstetrics. The person appointed will be required to assist the Medical Superintendent with the outdoor medical work of the district. No quarters are available for a married man or for a woman medical officer

The salaries and conditions of appointment in each case are provisional and are subject to review by the Council

Forms of application may be obtained from the Medical Officer of Health (Staff Division), The County Hall, Westminster Bridge, S E.1 A stamped addressed foolscap envelope should be enclosed and forms must be returned by September 26th Canvassing disqualifies. Candidates desiring to apply for more than one appointment must send in a separate form of application in respect of each hospital. Inquiries for further details as to the nature and scope of the duties at the individual hospitals should be addressed to the Medical Superintendent of the Hospital concerned.

MONTAGU H COX
Clerk of the London County Council

The County Hall, S E.1

City of Leicester

EDUCATION COMMITTEE

APPOINTMENT OF AN ASSISTANT SCHOOL MEDICAL OFFICER (Male).

The Education Committee invite applications for the post of Assistant School Medical Officer (male) to carry out duties connected with the medical inspection of school children in the City of Leicester under the direction of the School Medical Officer

The person appointed will be required to devote his whole time to the duties of the office.

Salary according to scale—viz. minimum £500 per annum increasing by annual increments of £25 to maximum of £700 If the officer appointed has served previously under a Local Authority such service will be taken into account in determining his commencing salary

Application (by letter and accompanied by copies of not more than three recent testimonials) should be forwarded to the undersigned not later than Tuesday September 30th.

F P ARMITAGE
Director of Education

Town Hall Leicester
September 15th 1930

St Bartholomew's Hospital

OFFICE OF ASSISTANT DENTAL SURGEON

Notice is hereby given that an Assistant Dental Surgeon to this Hospital will be appointed at a Committee of Governors to be held on Thursday, November 13th, at eleven o'clock in the forenoon

Candidates must hold a registrable British Medical qualification as well as a registrable British Dental qualification

Candidates must lodge 12 copies of their application and testimonials with the undersigned on or before Friday, October 10th

THOMAS HALES
Clerk to the Governors.

Sept 8th, 1930

The Hospital for Sick Children,
Great Ormond Street London W C 1

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on October 14th Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday October 6th with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months Salaries at the rate of £100 per annum laundry allowance £5 board and residence in the Hospital

Candidates must be unmarried and possess a legal qualification to practise.

All candidates must be in attendance to appear before the Joint Committee if required at their Meeting on Wednesday October 8th at 4-45 p.m precisely

Forms of application and copies of the rules may be obtained from the Secretary

By Order of the Board of Management

September 1930 JAMES MCKAY Secretary

Royal London Ophthalmic
HOSPITAL (Moorfields Eye Hospital)
City Road E.C.1.

Applications are invited for the office of SENIOR RESIDENT OFFICER.

Candidates must be registered Medical Practitioners and must be prepared to begin duties on November 1st.

Salary at the rate of £150 a year with board and residence in the Hospital Additional income will accrue to this post from the care of private patients being included in the duties

In the event of the First House Surgeon being appointed other candidates are requested to state whether they would accept the office of First House Surgeon at the rate of £150 a year Second House Surgeon at the rate of £125 a year or Third House Surgeon at the rate of £100 a year

The appointments are for a period of six months

Applications with testimonials stating age and qualifications must be received not later than October 3rd.

A J M TARRANT Secretary

The Royal Portsmouth Hospital
(Five Resident Medical Officers)

Applications are invited for the posts of SENIOR HOUSE SURGEON (male). Salary at the rate of £175 per annum, with board etc. Candidates must have held an appointment as House Surgeon at a General Hospital as the post is a very responsible one.

HOUSE PHYSICIAN (male). Salary at the rate of £130 per annum each.

HOUSE SURGEONS (Two male). Salary at the rate of £130 per annum each.

CASUALTY OFFICER (male) Salary at the rate of £100 per annum.

All officers must be qualified and will be required to commence on October 1st (six months appointments and eligible on completion of term for extension and resident posts)

Applications stating age nationality, and full details with copies of three testimonials to be sent to the undersigned as soon as possible from whom all particulars can be obtained.

B. WAGSTAFF Secretary

Royal Buckinghamshire County
HOSPITAL AYLESBURY
(78 Beds.)

Applications are invited for the office of HONORARY CONSULTING SURGEON to the Throat Nose and Ear Department from gentlemen who are Fellows of the Royal College of Surgeons of England Edinburgh or Ireland.

The appointment is now vacant and the selected candidate will be required to attend the Hospital one afternoon weekly or fortnightly for the usual duties of this appointment.

Applications should be sent to the Secretary from whom further particulars regarding the appointment may be obtained.

By Order of the Board of Management

M. W BROWN Secretary

Besford Court Catholic Mental
WELFARE HOSPITAL FOR CHILDREN

RESIDENT MEDICAL REGISTRAR wanted at once for a period of six months to a year

Honorarium at the rate of £150 per annum with first-class board

The Institution contains 250 high grade mentally defective boys and offers a unique opportunity for experience and research in psychological medicine and endocrinology

Full particulars sent on application to the Administrator Besford Court Hospital Worcestershire.

Royal Westminster Ophthalmic
HOSPITAL
Broad Street Holborn W C 2

APPOINTMENT OF HOUSE SURGEONS

Required for November 1st for six months FIRST HOUSE SURGEON (male) Salary at the rate of £100 per annum with share of fees for private room cases

SECOND HOUSE SURGEON (male) Salary at the rate of £80 per annum.

With board, resid nce and laundry

NOTE—Candidates must be duly qualified Medical Practitioners registered in this Country and must have had experience in Ophthalmology

Applications in which should be stated whether the candidate is prepared to accept the Second House Surgeonship if appointment accompanied by copies of testimonials are to be sent to the Secretary on or before October 4th.

The Royal Devon and Exeter
HOSPITAL EXETER. (225 Beds)

HOUSE SURGEON TO SPECIAL DEPTS

Applications are invited for the post of House Surgeon to the Ear Throat and Nose X-ray and Casualty Departments at this Hospital shortly becoming vacant. The appointment is for six months and candidates are eligible for re-election

Salary at the rate of £150 per annum with board apartments and washing

Applications giving particulars as to age and qualifications together with copies of recent testimonials should be sent to the undersigned as soon as possible.

By Order of the Committee

S S COLE Secretary & Manager

Sep 12th 1930

Princess Louise Kensington
HOSPITAL FOR CHILDREN
North Kensington W.10 (50 Beds.)

HOUSE SURGEON AND CASUALTY OFFICER required for six months from October 1st. The House Surgeon's salary is at the rate of £75 a year should she at the expiration of three months be appointed Senior Resident (of two) the salary would be at the rate of £100 a year with board residence and laundry in each case. Applications together with copies of three testimonials must be submitted on a form to be obtained from the Secretary Princess Louise Kensington Hospital for Children St. Quintin Avenue, W10 Applications must reach the Secretary not later than first post on Wednesday September 24th.

The Newcastle - upon - Tyne
DISPENSARY

VISITING MEDICAL ASSISTANT

Wanted for this Institution a Visiting Medical Assistant. Must be doubly qualified and registered. The appointment to start on November 1st for a period of six months Salary for period £150

Forms of application and information as to duties etc. may be obtained from the Resident Medical Officer at the Dispensary 115 New Bridge Street Newcastle-upon-Tyne. Applications to be sent to me at 26 Mosley Street Newcastle-upon-Tyne no later than 5 pt 24th Canvassing not allowed.

ANGUS M. MCCRACKEN Hon Secretary

Royal Waterloo Hospital for
CHILDREN AND WOMEN
Waterloo Road S.E.1

There is a vacancy for an HONORARY CLINICAL ASSISTANT (male or female) for an L.C.C. Clinic for children suffering from rheumatic fever and chorea Candidates should be interested in children's diseases and cardiography

The appointment is for six months in the first instance. Applications accompanied by testimonials should be sent to the undersigned of whom further particulars can be obtained not later than September 30th.

J H TEASDALE, Secretary

Royal Victoria and West Hants
HOSPITAL, BOURNEMOUTH.

CASUALTY OFFICER AND HOUSE SURGEON (male, British nationality) required. Salary £150 per annum with board, lodging and washing The appointment is tenable for six months and candidates must be registered according to the provisions of the Medical Act. Applications stating place of birth with copies of three testimonials to be sent immediately to the undersigned. Women and married men are ineligible.

September 1930 GORDON M. SAUL, Secretary

The London Lock Hospital,
91 Dean Street, W.1.

Vacancy exists for Two HOUSE SURGEONS at the Male Lock Hospital.

The Board of Management invite applications from candidates who must be doubly qualified and duly registered. The appointments are at a rate of £200 per annum with furnished rooms full board and laundry The appointments are for six months. Duties to commence October 5th.

Applications enclosing copies (only) of three recent testimonials to be sent to the undersigned at the Male Lock Hospital 91 Dean Street W.1 on or before September 25th.

By Order of the Board.

Sept 9th 1930 HY J EASON Secretary

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION
GLOUCESTER. (153 Beds.)

Applications are invited for the post of SECOND HOUSE SURGEON (male) Salary £120 per annum with board residence, and laundry (Four Resident Medical Officers)

The appointment is for six months which may be extended for similar periods by re-election from time to time.

Applications stating age, qualifications, and nationality with copies of not less than three recent testimonials must be received by the undersigned no later than Wednesday September 24th. The elected candidate will be required to enter upon his duties on Wednesday October 8th.

August 21st 1930 F J SYMONS Secretary

Tynemouth Victoria Jubilee
INFIRMARY

HOUSE SURGEON (male) required October 1st. Applicants must be doubly qualified and registered. Salary £100 per annum with board, residence and laundry

Applications stating age and other essential particulars and accompanied by copies of recent testimonials to be addressed to the undersigned from whom all particulars may be obtained.

The Hospital has two Resident House Surgeons and contains 80 beds and cots, an X-ray Department, and an Out patient Department where accident cases are received.

T E ROWELL, Secretary

1 Northumberland Place, North Shields.

Manchester Victoria Memorial
JEWISH HOSPITAL, CHEETHAM.
(Non Sectarian.)

Applications are invited from registered Medical Practitioners for the post of SENIOR HOUSE SURGEON (male). The appointment is for one year the holder being eligible for re-election for a further period of one year

Salary at the rate of £250 per annum with board residence, and laundry The successful applicant will be required to commence duties as early as possible.

Applications, stating age qualifications and experience, with copies of three testimonials to be forwarded to the undersigned immediately

FRED BARNES, Superintendent and Secretary

Manchester Babies' Hospital,
Burnage Lane LEVENSHULME.

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER. Appointment is for six months from November 1st

Salary at the rate of £50 per annum with laundry

Applications together with copies of testimonials should be sent to the undersigned and marked "J R M O" by Monday October 6th.

ANGELA LOPEZ, Secretary

Leicestershire and Rutland
MENTAL HOSPITAL, NARBOROUGH,
near LEICESTER.

A LOCUM TENENS MEDICAL OFFICER is required at the above Hospital for three months, commencing October 1st next. Salary seven guineas per week with apartments board, and attendance.

Applications to be addressed to the Medical Superintendent.

Kent County Ophthalmic and
AURAL HOSPITAL, MAIDSTONE.
(165 Beds.)

The Board of Management invite applications for the post of HONORARY OPHTHALMIC SURGEON Full particulars may be had upon request to the undersigned to whom applications should be sent not later than Friday October 17th.

JOHN W STRICKLAND Secretary

West London Hospital,
Hammersmith W 6 (231 Beds)

Applications are invited for the post of HONORARY OPHTHALMIC SURGEON for which the present Honorary Assistant Ophthalmic Surgeon is a candidate In the event of his election, there will be a vacancy for an Honorary Assistant Ophthalmic Surgeon, for which applications are also invited

Candidates must be Fellows of one of the Royal Colleges of Surgeons of England Edinburgh, or Ireland The successful candidate will be required in addition to his other duties, to undertake such teaching for the Post Graduate College as the Board may approve

Applications with copies only of testimonials, must reach me not later than Thursday October 23rd Candidates must attend the Meeting of the Medical Council on Friday, October 24th, at 4 30 p m and prior to that date call upon and send copies of application and testimonials to each member thereof They must not canvass members of the Board of Management but nevertheless must send copies of their application and testimonials to each member thereof, and if so notified, be in attendance at a Meeting of the Board at 5 p m on Tuesday, October 28th, when the election will be made

H A MADGE Secretary

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & CALLOWAY ROYAL INFIRMARY The Institution, which contains over 100 Beds is one of the premier Provincial Hospitals in Scotland and offers exceptional opportunities of gaining experience in all branches of the profession Salary at the rate of £100 per annum for the first seven months and £150 per annum for the following five months

Applications with testimonials, to be forwarded to the Treasurer Dumfries & Calloway Royal Infirmary 84, Irish Street, Dumfries, by September 29th

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Walsall General Hospital

The Committee invite applications from men for the post of HOUSE SURGEON Salary £150 per annum

Candidates who must be registered under the Medical Acts must produce three recent testimonials The appointment will be for six months

The Hospital contains 100 beds and is equipped in all Special Departments

Applications stating age qualifications and nationality must be received by the undersigned immediately

WALTER FRANCOMBE Secretary

Royal Sussex County Hospital,
BRIGHTON (237 Beds)

CASUALTY HOUSE SURGEON (male) required immediately Salary £120 per annum, with board, residence and laundry Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts They must be unmarried and when elected under 30 years of age

Applications with copies of recent testimonials should be sent to the undersigned

L L W LANCASTER GAYE,
Secretary Superintendent

The New Dewsbury and District
GENERAL INFIRMARY

Applications are invited for the post of SECOND HOUSE SURGEON one with Orthopaedic experience preferred

Salary £150 with board, residence and laundry

Applications stating age and experience, together with copies of recent testimonials to be sent immediately to the undersigned

H G PRICE Secretary Supt

Royal Free Hospital,
Gray s Inn Road, W C 1

Applications are invited for the appointment of ASSISTANT PHYSICIAN Intending candidates (men or women) who must be Fellows or Members of the Royal College of Physicians, London should submit applications accompanied by copies of three recent testimonials, to the undersigned on or before October 4th

REGINALD R GARRATT
Secretary

Swansea Hospital
(316 Beds)

HOUSE SURGEON wanted gentleman, single Salary £150 per annum with board residence, and laundry

Applications stating age nationality qualifications and experience together with copies of three recent testimonials to be forwarded to the undersigned

O C HOWELLS Secretary

Royal West Sussex Hospital,
CHICHESTER

The Board of Management invite applications for the post of HONORARY ASSISTANT ORTHOPAEDIC SURGEON

Applicants must be registered under the Medical Acts and submit evidence of special training and proficiency in Orthopaedic Surgery

The appointment will be made on Tuesday October 7th at 2 30 p m

Applications should be sent to me not later than October 1st

HERBERT S AYLMORI
Secretary

Stockton and Thornaby Hospital,
STOCKTON ON TEES
(140 Beds)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months Duties to commence on or about October 14th

Salary £150 with board residence and laundry Candidates must be duly qualified and unmarried

Applications stating age nationality and experience, together with copies of three recent testimonials to be sent to the undersigned

J WILKINSON Secretary

Herefordshire General Hospital,
HEREFORD

Applications are invited for the post of HOUSE PHYSICIAN (male) six months appointment renewable Salary £150 per annum, with board residence and laundry

Candidates must be fully qualified and registered Applications stating age qualifications, and experience together with not more than three copies of recent testimonials should reach the undersigned not later than Oct 4th

H AUBREY PROCTT,
Secretary

Ancoats Hospital,
CONVALESCENT HOME
GREAT WARFORD, ALDERLEY EDGE

Applications are invited for the post of HONORARY VISITING PHYSICIAN to the above Honorarium £50 per annum Applications stating age qualifications etc., to be in by October 1st next accompanied by not more than three recent testimonials, and to be forwarded to the undersigned, from whom all particulars can be obtained

By Order of the Board
HERBERT J DAFFORNE
Gen Supt & Secretary

Ancoats Hospital, Manchester

HOUSE SURGEON (male) required to commence duty on October 1st next for a period of six months Salary at the rate of £100 per annum with board, apartments etc

Applications, stating age, qualifications experience if any, to be forwarded to the undersigned on or before Wednesday, September 24th next

By Order of the Board
HERBERT J DAFFORNE
Gen Supt & Secretary

Mildmay Mission Hospital,
Austin Street, Bethnal Green, E 2

Applications are invited for the post of HONORARY DENTAL SURGEON to Out patients. One visit per week required The Council is anxious that all Members of the Hospital Staff should be in full sympathy with the religious work of the Hospital Applications, with testimonials, should be sent immediately to the Medical Superintendent Mildmay Mission Hospital, Austin Street, Bethnal Green E.2

Great Yarmouth General
HOSPITAL (72 Beds)

Required to commence duties immediately, a SENIOR and JUNIOR HOUSE SURGEON

Salaries at the rate of £150 and £140 per annum respectively together with board residence, and laundry

Applications together with copies of three recent testimonials, to be submitted to the undersigned

FRANK JENNINGS Secretary

North Devon Infirmary,
BARNSTAPLE (70 Beds)

Wanted at once duly qualified, RESIDENT MEDICAL OFFICER, gentleman or lady Salary £150 per annum with board apartments and laundry Appointment to be for not less than six months

Applications stating age, qualifications, with copies of recent testimonials to be sent forth with to the Hon Secretary

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Southampton Children's Hospital
AND DISPENSARY FOR WOMEN
(45 Beds.)

The Board of Management invite applications for the post of MEDICAL OFFICER (lady) Appointment for six months To commence duties on October 1st. Salary at the rate of £100 per annum with board, residence and laundry Applications stating age and accompanied by copies of testimonials to be sent to the undersigned from whom further particulars may be obtained

ELLA K MATTHEWS, Secretary

South Devon and East Cornwall
HOSPITAL PLYMOUTH
(240 Beds)

HOUSE SURGEON Salary £100 per annum with board residence and laundry Appointment is tenable for six months and is subject to renewal Duties to commence at once

Candidates must be registered under the Medical Acts

Applications stating age and qualifications together with copies of recent testimonials, to reach the undersigned by September 30th

ARTHUR R CASH
Sept 13th 1930 Gen Supt & Secretary

Staffordshire General Infirmary,
STAFFORD

HOUSE SURGEON, male or female required immediately Salary at the rate of £200 with board residence and laundry Candidates must be duly qualified and registered under the Medical Acts The appointment to be held for at least six months Applications stating age accompanied by copies of three recent testimonial should be sent at once to the undersigned

Stafford A E COLLINS
September 13th 1930 Secretary

Royal South Hants and
SOUTHAMPTON HOSPITAL,
SOUTHAMPTON

ASSISTANT HOUSE SURGEON required to commence duties at once Six months engagement Salary £180 per annum with rooms, board and laundry Applications stating age to be sent to the undersigned together with copies of testimonials (limited to five) as soon as possible

HY TRUSSON Secretary

St John's Hospital, Lewisham

Vacancies will occur in the appointments of HOUSE PHYSICIAN HOUSE SURGEON, and CASUALTY OFFICER on November 1st next These appointments are resident and are tenable for six months at a salary of £100 p.a.

Applications from duly registered Practitioners should reach the undersigned not later than the morning of October 18th. The Selection Committee will sit on October 21st

J C GILBERT,
Secretary Superintendent.

Royal Berkshire Hospital
(243 Beds)

Wanted a CASUALTY OFFICER and a RESIDENT ANAESTHETIST Candidates must be fully qualified and registered The appointments are for six months and the salaries are at the rate of £150 per annum, with board, residence and laundry

Applications with copies of testimonials, should be addressed to the undersigned

Reading HERMAN BURNEY,
Sept. 13th 1930 Secretary

Oldham Royal Infirmary

Two HOUSE SURGEONS required immediately, one for Male Wards and one for Out Patient and Special Departments Appointments tenable until December 31st Successful applicants will be eligible for re appointment Salary at the rate of £175 per annum with board residence and laundry Applications to be submitted forthwith together with copies of three recent testimonials to the undersigned

CHARLES D DRAKE
General Superintendent

Ear and Throat Hospital,
Edmund Street BIRMINGHAM

RESIDENT ANAESTHETIST (experienced) wanted with occasional other duties Appointment for six months, and eligible for re election Salary at the rate of £150 per annum with board and laundry Duties to commence October 1st Applications and testimonials to be forwarded on or before September 23rd to the undersigned

S G GREW
September, 1930 Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District	Town or District	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd)*	**PUBLIC HEALTH**
EBBW VALE MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OAKDALE MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Bryndari Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon Sec of Division or Branch	Town or District.	Hon. Sec of Division or Branch	Town or District.	Hon Sec o Division or Branch.
NEW SOUTH WALES *(All Friendly Society Appointments)*	Dr R H TODD (Hon Sec. New South Wales Branch Savings Bank Building 21 Elizabeth St Sydney N S W	SOUTH AUSTRALIA *(Lodge Appointments)*	Secretary South Australian Branch 207 North Terrace Adelaide	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr G F V ANSON (Hon. Sec. New Zealand Branch, British Medical Association P O Box 156 Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon Sec Queensland Branch) British Medical Association B M.A Building Adelaide St Brisbane	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr FRANK DAVIES (Hon Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon Sec., Western Australian Branch, British Medical Association No. 6 Bank of N S W Chambers St. George's Terr., Perth, Western Australia.

September 17th 1930 By Order of the Council ALFRED COX Medical Secretary

Mater Misericordiae Hospital, DUBLIN

(Founded 1852 and conducted by the Sisters of Mercy)

The following positions are now vacant

VISITING SURGEON

Applications stating qualifications and academic distinctions accompanied by three duplicate copies and by three duplicate copies of not more than three recent testimonials must reach the Secretary of the Medical Board on or before October 4th The Medical Board will arrange in order of merit the names of those candidates who they deem suitable and whose appointment they could advise and will submit the list to the authorities of the Hospital with whom the final act of appointment rests.

TWO ASSISTANT SURGEONS

Applications are also invited for the position of Two Assistant Surgeons on or before October 4th Each candidate is required to forward at the same time three duplicate copies of his application and also three duplicate copies of not more than three recent testimonials The Medical Board will arrange in order of merit the names of the candidates whom they deem suitable and whose appointment they could advise and will submit the list to the authorities of the hospital with whom the final act of appointment rests The successful candidates will hold office for three years at the expiration of which term they will be eligible for re-election

Canvassing for any of the above positions will render a candidate liable to disqualification

Candidates who desire further information are required to communicate with the Secretary of the Medical Board

The St Helens Hospital

Applications are invited for the position of HOUSE SURGEON to this Hospital at a salary of £250 per annum plus board lodging and laundry Applications together with copies of three recent testimonials to be sent to the Secretary St Helens Hospital Lancs not later than September 23rd The successful applicant will be required to commence his duties at the end of September

Manchester Royal Infirmary

JUNIOR ASSISTANT MEDICAL OFFICER IN RADIOLOGICAL DEPARTMENT

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment Applicants must be registered and hold a Medical and Surgical qualification.

The appointment (non resident) is for twelve months renewable for a further period of twelve months subject to the provisions of the By laws as to notice. Salary is at the rate of £400 per annum Applicants must state age and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Tuesday September 30th.

By Order
FRANK G HAZELL,
Sept 13th 1930 Gen Supt & Sec

Dorset County Hospital, DORCHESTER.

APPOINTMENT OF HOUSE SURGEON

The Committee of Management are open to receive applications for the position of House Surgeon to take up his duties on or about October 11th.

Every candidate for the office of House Surgeon must be unmarried and possess a registered qualification to practise Medicine and Surgery from some recognized Body in Great Britain or Ireland. Salary £160 per annum with board and lodging The appointment is for a period of not less than six months. All applications, accompanied by three recent copies of testimonials should be sent to the Secretary Dorset County Hospital on or before Oct. 4th.

Candidates must be of British nationality

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board, residence and laundry Duties to commence in August. Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

County Borough of Walsall MANOR HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified gentlemen for the appointment of First Assistant Resident Medical Officer

The salary will be at the rate of £200 per annum together with the usual residential emoluments The appointment will be tenable for a period of twelve months

The person appointed will be required to act under the general direction of the Medical Officer from whom particulars of the appointment may be obtained.

Applications stating age professional qualifications, and experience accompanied by no more than three copies of recent testimonials, should be sent to the undersigned at once

C S FOTHERGILL,
29 Leicester Street Walsall. Public Assistance Officer
August 25th 1930

Hertford County Hospital

Applications are invited for the post of RESIDENT SURGICAL OFFICER. Salary £250 per annum with board residence and laundry

For preference candidates should hold the Fellowship of the Royal College of Surgeons

The appointment is for six months in the first instance

Applications with copies of three recent testimonial should be sent to the undersigned and be received not later than Tuesday September 23rd.

PERCY G BROOKES
Secretary

The Royal Infirmary, SUNDERLAND (290 Beds)

Wanted, One HOUSE PHYSICIAN (male). Salary £140 per annum with board, residence and laundry Should have taken M.B. and qualified not more than 2 years and submit copies of three recent testimonials to—

S C. FFYFES
House Governor & Secretary

(Appointments continued on p 50)

ASSISTANCIES

Wanted —Indoor male Assistant Practice private, and panel, in large Inland Spa Salary £300 Car provided Dispenser kept Send age photo (returnable), testimonials experience (not necessary), nationality when disengaged —Address No 6261, B M A House Tavistock Square, W C 1

Wanted — Assistant, outdoor, in Autumn North of England with view to Partnership Salary £500 Must be ex H S or H P and well qualified Some C P experience essential —Address, No 6473 B M A House Tavistock Square W C 1

Wanted -- Assistant, male, indoor to manage Branch Irish or Scotch preferred Panel Practice S E Salary £300 Half midwifery Not much night work Principals young and unmarried — Address No 6455 B M A House Tavistock Square W C 1

Wanted —Assistant (male) for Country Practice Northumberland, end Sept or early Oct Salary £300 indoor Car provided Golf course Give particulars and references —Address No 6474, B M A House, Tavistock Square, W C 1

Wanted in October, Lady ASSISTANT indoor mixed private and panel, provincial City cyclist State qualifications (English or Edinburgh preferred) age, experience etc — Address No 6470, B M A House Tavistock Square W C 1

Wanted — Outdoor Assistant, male single young Practice private and panel Yorks (W R) Dispenser bookkeeper kept Salary commencing £400 Usual bond Full particulars —Address No 6531, B M A House Tavistock Square, W C 1

Wanted early October, Assistant, Indian young indoor mixed Practice, London suburb Midwifery essential Salary £250 State qualifications age Send photo —Address No 6477, B M A House, Tavistock Square, W C 1

Wanted — Assistant, married, age about 30 English or Scotch, to live at Branch (unfurnished), London suburb Salary £30, com on mids el and gas Send photo — Address No 6466, B M A House, Tavistock Square W C 1

Wanted — Assistant, with or without view £6 10s weekly (indoor) Eye work No midwifery Motor car State available capital Easy terms Send photo Suitable for married man —Address No 6485, B M A House Tavistock Square, W C 1

Wanted — Assistant (British), with view to very early Junior Partnership in a large three man industrial and panel Practice in large Midland City —Address, stating essential particulars, No 6575, B M A House, Tavistock Square W C 1

Wanted — Part-time Assistant to run Branch Surgery, S W London (male young English or Scot) Duties very light mornings and evenings Suit man recently qualified —Address with full particulars, No 6468 B M A House Tavistock Sq, W C 1

Wanted —Indoor male Assistant for good class Country Practice in Midlands. Preference given to Public School and University Graduate Good salary to conscientious loyal keen worker State age refs, photo —No 6464 B M A House Tavistock Sq W C 1

Wanted — Outdoor Assistant, single for large panel and private Practice in Yorkshire City Salary £450—£500 according to experience Personal interview essential —Address No 6260 B M A House Tavistock Square W C 1

Wanted — Assistant (Englishman) in good class Practice near Manchester Small panel Good prospects for suitable man Salary £300 all found Car provided To commence duties middle or late Oct —Address (with photograph height etc) No 6541 B M A House Tavistock Square W C 1

Wanted — Part-time Woman ASSISTANT for Surgery Practice in poor district Central London Experienced private and panel Practice with dispensing Write stating free time and experience.—Add, No 6478 B M A House Tavistock Sq W C 1

Wanted —Indoor male Assistant for Country Practice in Shropshire Salary £275 to £300 according to experience Usual bond State age experience reference nationality phone —Address No 6463 B M A House Tavistock Square W C 1

Wanted — Keen Assistant for Liverpool Industrial PRACTICE (R C preferred) Cottage Hosp with up to date X ray Salary £250 with bed sitting room Work light Commence November 1st —Address No 6460 B M A House Tavistock Square W C 1

Wanted —Outdoor Male Assistant, Manchester General and panel Practice Rooms and attendance £365 per annum £50 extra if own car References, experience, age nationality Usual bond —No 6467 B M A House Tavistock Sq, W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices with and without view State full particulars —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

Wanted — Outdoor Assistant, in a Colliery Practice in South Wales Welsh speaking preferred —Apply stating age qualifications and experience with references, No 6285, B M A House, Tavistock Sq, W C 1

Wanted, for Oct 1st, young male ASSISTANT for general panel and private Practice in Liverpool Rooms and attendance —Apply, Dr M'CONNELL, 1, Kelvin Grove, Liverpool

Aber Graduate (1924), ex H S, H P, 4 years C P, excel refs keen, well received own car, desires ASSIST (view), partnership or early succession, prefer hospital town — Address No 6459, B M A House, Tavistock Square W C 1

Assistantship, outdoor, with or without view wanted by M B Ch B, Irish aged 30 sober reliable keen and conscientious Five years experience panel and private Excellent refs Free when required Please state terms —Address No 6484, B M A House Tavistock Square, W C 1

Assistantship wanted by British subject, Singapore, 24 keen, London Conjoint Some experience panel private locum work Steamship job considered Disengaged Testimonials. Interview —Address No 6479, B M A House Tavistock Square W C 1

Assistantship wanted by M R C S L R C P, recently qualified aged 30 in or near London preferred Moderate remuneration — Address No 6574, B M A House Tavistock Square W C 1

Experienced Assistant (with view) for new branch in outer London Excellent opportunity for single or married man House provided State essential particulars — Address No 6570, B M A House, Tavistock Square W C 1

Scot, 27, L R C P, M R C S, desires ASSISTANTSHIP in or near London One years experience G P Own car —Address, No 6461, B M A House, Tavistock Square, W C 1

LOCUMS

FOR LOCUM TENENS APPLY TO
Mr PERCIVAL TURNER, Ltd
The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals
4, ADAM ST, Strand, London, W C 2
Teleg 'Epsomian, Lond' Phone Temple Bar 9011
After Office Hours Epsom 9142

Wanted — Locum for Country Practice, experience in midwifery Car provided State particulars Male or female — Address No 6571, B M A House, Tavistock Square W C 1

Experienced Practitioner disengaged —LOCUM TENENS or daily work London preferred but not essential —Address, No 6576, B M A House Tavistock Sq, W C 1

Locum Tenens and Assistants required please apply to Messrs R SUMNER & Co Ltd, Manufacturing Chemists 40 Hanover Street Liverpool

HOLIDAY LOCUMS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM H GRANT)
WATERGATE HOUSE, 15 YORK BUILDINGS, ADELPHI W C 2 *Tel* TEMPLE BAR 1054, RIVERSIDE 1254 (*Night Calls*)
Telegrams
REASIDE TUBERCLE, WESTRAND LONDON

MEDICAL POSTS, DISPENSERS, etc.

Required by owner of old established Nursing Home £2,000, additional CAPITAL at 6 per cent, for extension and improvements Might suit Medical Man, retired or with appointment, desiring comfortable home and opportunity for increasing income. References exchanged —Address No 6483, B.M.A House Tavistock Square W C 1

Wanted, fully qualified Ophthalmic SURGEON for service in the TROPICS Agreement for three years. Salary £1 000, £1 100, £1 200 Renewable thereafter by arrangement Free furnished quarters and first class passage provided Provident Fund Candidates must be unmarried and under 35 years of age Ladies not eligible.—Address with copies of testimonials (no returnable) No 6481 B M A House Tavistock Square W C 1

Wanted at once, Resident MEDICAL SUPERINTENDENT for THE RETREAT, ARMAGH (Mental Home). About fifty patients Salary £200 per year all found. Outside practice not objected to —Apply, with references, to CAPT ALLEN, The Retreat, Armagh

Wanted —Lady Doctor —Residential Country Practice Cotswolds Desirable tact experience up to date skill, facility in management and sociabilities Possible view to succession Age snap please —Address, No 6488 B M A House Tavistock Sq W C 1

Wanted — Young married man TAKE CHARGE old established Practice N London One third share offered with option of purchase on easy terms later Capital now required £500 State experience and full particulars —Address No 6532, B M A. House Tavistock Square W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write, wire, or 'phone (Park 0969), Secretary 7, Westbourne Park Road W 2.

A General Practitioner, retired from his own Practice after 30 years, seeks DAILY WORK of interest in or near London Would assist a busy Practitioner or help in an Institution — Address No 6537, B M A House Tavistock Square W C 1

Branch Managership or Assistantship wanted by Scots M B Ch.B, aged 31 five years C P experience. Free early in October Good references Give full particulars Interview —Address, No. 6482, B.M.A. House Tavistock Square W C 1

Doctors requiring qualified Dispensers Nurse Dispensers, Secretary Dispensers or Chauffeuse Dispensers are invited to write wire or phone Temple Bar 8558 THE DISPENSERS BUREAU, 15 Lindsay House, 171, Shaftesbury Avenue London W C 2.

Cardiff District — Woman DOCTOR required for Clinic giving advice on Birth Control One afternoon session weekly Salary as for official welfare centres —Apply stating qualifications MISS WILLIAMS, 14, Great James Street, W C 1

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers, Secretary Dispensers, Nurse Dispensers and Chauffeuse Dispensers.—Write wire or phone Central 3679 THE RELIANCE BUREAU FOR DISPENSERS 12 Holborn Viaduct E C 1

Grampian Sanatorium, Kingussie —RESIDENT wanted For particulars.—Apply to FELIX SAVY M D

Highly recommended HOUSEKEEPER requires POST Experienced and thoroughly domesticated — Address No. 6462 B M A House Tavistock Square, W C 1

Independent Medical Man, bachelor lately retired from private practice requires PROFESSIONAL WORK preference given to Institution Sanatorium Hospital (not mental) where several other medical men working Salary minor importance to congenial work Best references. — Address No 6257 B M A House Tavistock Square W C 1

Lady Dispenser - Bookkeeper (Hall certificate) desires POST with Doctor or Hospital locum or permanency — MIL, 22, Major Street Ramsbottom Lancs

Lady Doctor (duration preferred) wanted October Panel Practice Central London Salary £2-5 p.a. and small furnished flat State age experience height and if any for small capital.—Addr No 6539 B.M.A. House Tavistock Square W.C.1

Lady requires post as Reception-ist or SECRETARY to Surgeon Doctor or Dental Surgeon General trained expert need Highest references—Address No 6456 B.M.A. House Tavistock Sq. W.C.1

Lady Dispenser - Bookkeeper (Hall certificate) thirteen years experience desire POST Doctor or Institution—Miss ALLARD St Mary's Priory St Marychurch Torquay Devon

Lady Secretary, shorthand, typewriting 7 years experience with Consulting Surgeon care of Instruments etc requires similar POST —Address No 6536 B.M.A. House Tavistock Square W.C.1

London Medical Man recommends young Lady good appearance (Doctor's daughter) as SECRETARY ASSISTANT RECEPTIONIST CHAUFFEUSE, to a Doctor or Dentist in London Disengaged—No. 6485 B.M.A. House Tavistock Sq W.C.1

Medical Practitioner wanted for ISLAND OF NORTH RONALDSHAY ORKNEY under the Scottish Board of Health Salary £400 house rent and rates free Duties Practice State nationality birth etc to Dr FORRESTER Solicitor Kirkwall Present North Ronald hay Medical Association—D

Part-time work wanted by MRCP free 4 aft noons and evenings in the week. London area.—Address No. 6535 B.M.A. House Tavistock Square W.C.1

The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work—Dispensers (capable of undertaking) secretarial work etc connected with Ministry of Health) Clerks Laboratory Assistants General hospital duties Porters Caretakers etc—Apply Secretary 65 Eccleston Square S.W.1

Typewriting—Expert undertakes Theses Testimonials etc Numerous letters of appreciation from Doctors—BEATRICE PADRO 3-1 Finchley Road N.W.3 Phone Hamp stead 6430 (any hour)

PARTNERSHIPS

Wanted—Third Partner—Old-established Practice Home County Share disposal £1,500 Short prelim assistant hip Previous exp good-class G.P. essen Residence either country branch or town with hosp appt—No 6573 B.M.A. House Tavistock Sq W.C.1

Experienced Doctor, recently in practice at Health Resort requires salaried PARTNERSHIP or Branch work with view to good-class patients Willing to do a week's work on approval Terms—Address No 6575 B.M.A. House Tavistock Sq W.C.1

For Sale—A three-tenths share equal to £900 in an industrial Practice in West Midlands at 12 years purchase two other partners Terms half down and balance in 2 half yearly instalments House £2 000 to be sold £1 000 down and balance in 4 half yearly instalments. House £2 000 Address No 6534 B.M.A. House Tavistock Square W.C.1

Kent Coast—Half Share in old-established town country and seaside Practice Senior Partner retiring Returns about £1 950 12 years purchase and valuation of stock Excellent modern house £2 000 Great scope for increase.—Mr HUISH Summerhill Redhill Surrey

Partnership in Country Town Practice in beautiful part of West Midlands Average receipts £2,800 including £1 100 from panel and appointments Cottage Hospital Half share at 2 years purchase Most attractive house and garden price £3 500 Full particulars and photos on request —Address No 6254 B.M.A. House Tavistock Sq W.C.1

Partnership in old-established PRACTICE in South West Lancashire Average receipts £2 750 Panel 2 000 2 5 share at 12 years purchase Short prelim assistantship available.—Address No. 6533 B.M.A. House, Tavistock Square W.C.1

Partner in South Coast Resort Practice required. Panel and private Experience and capital essential — Address No. 6457 B.M.A. House Tavistock Sq W.C.1.

PRACTICES

Wanted — Practice or Partnership by M.B. Ch.B. (Class.) Scot aged 34 — wife expert C.I. Energetic Excellent testimonial Hosp with gard n pref to rent Capital available Income not to exceed £2 000 —No 6465 B.M.A. House Tavistock Sq W.C.1

Wanted — Practice or Partnership in class town Income £1 000 or over by Scotch Graduate ex H.S. e.c. aged 30 experienced Full particulars in strict confidence—Address No 6472 B.M.A. House Tavistock Square W.C.1

Wanted — Practice in country district or small country town Really good house and large garden Income £1 000 up Ample capital Details in strict confidence —Address No 6284 B.M.A. House Tavistock Square W.C.1

Wanted — Practice, private and panel about £1,000 outer London suburb Southern County or Coast Moderate sized hous in about 6 months time—Address No 6454 B.M.A. House Tavistock Sq W.C.1

Wanted by M.D., F.R.C.S., wished to good-class general practice a PRACTICE pref rally in London Income £2 000 or over—Address No 6480 B.M.A. House Tavistock Square W.C.1

Wanted by M.B., Panel and Private PRACTICE in London Income about £1,500 Details in confidence—Address No 6543 B.M.A. House Tavistock Sq W.C.1

Bucks — Old-established Practice. Receipts now about £430 p.a. including panel 350 Has done more. Nice house available rent £1-5 Premium moderate Good scope—Apply PEACOCK & HADLEY Ltd 19 Craven Street W.C.2

Cheshire Town near Manchester —Average cash receipts £800 Panel 450 Considerable scope Excellent modern house 2 reception 4 bedrooms garage and garden Premium 1½ years purchase—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Death Vacancy, near Chester — Country PRACTICE. Average cash receipts £500 p.a. Panel 424 Scope Modern house 2 reception 3 bedrooms Garage and garden Rent £7-5 p.a. Premium Garage and best offer—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Death Vacancy—Lancs Town—Old-estab. PRACTICE. Average cash receipts £1 715 p.a. Panel 1 194 Good house 2 reception 4 bedrooms Garage Rent £66 p.a. on long lease Premium best offer—BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

For Immediate Sale — Near Ilford—Old-established PRACTICE worked half time averaging £880 p.a. part 4 years Excellent corner house with garage to rent Premium 14 year For has—Address No 6552 B.M.A. House Tavistock Square W.C.1

For Disposal—A good Practice is no always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised Inform free on application—4 Adam St. W.C.2

For Sale — Midland Town — NUCLEUS panel and private. £450 p.a. Panel rapidly increasing 380 Central Surgery House to rent £50 Garden tennis Splendid scope Mids £3 3s House for rent or accommodation at Surgery Premium £525 Vendor going abroad. Quick sale—Address No 6453 B.M.A. House Tavistock Sq W.C.1

For Sale — Unopposed Country PRACTICE in Lancs Receipts £700 increasing House to rent £50 Garden tennis court. Will take 1 year's purchase for quick sale — Address No 6486 B.M.A. House Tavistock Square W.C.1

For Sale — In favourite South Coast watering place mixed panel and private PRACTICE (panel 1,500 increasing) Average receipts for part 2 years £2 400 Premium £4 000—Address No 6530 B.M.A. House, Tavistock Square W.C.1

Isle of Man—Seaside Town — Old-estab PRACTICE. Receipts at present £945 (including £350 p.a. from panel). Semi detached house 3 recep 4 bedroom Garden Good school Premium—Practice and house £2 000 part by arrangement.—BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

Lancs Town — Old-established Receipts £2 500 Panel 1 850 Two excellent houses each with garden and garage rents £90 and £80 Approximate rents £120 Price 14 years purchase part deferred—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Lincolnshire—Country Practice Cash receipts 1929 £990 Panel 607 Excellent detached house 2 reception 5 bedrooms garage and large garden Rent £50 p.a. Premium—Practice—£1 600—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Liverpool (near) — Residential Coast Town—Middle and upper-class PRACTICE. Average cash receipts £1 249 p.a. Scope Excellent house 2 reception 6 bedrooms garage and garden Premium 1½ years Purchase—Vendor retiring — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

London, S.W (nr Kennington) —Well-established PRACTICE. Receipts £630 p.a. including panel 400 Nice house available. Premium £900—Apply PEACOCK & HADLEY Ltd 19 Craven St. Strand W.C.2.

London, S.E — Old-established non-panel PRACTICE in pleasant suburb. Receipts about £1 000 Holder retiring from age would give any reasonable introduction suitable for a university grad. with some experience No 6286 B.M.A. House, Tavistock Sq W.C.1.

London, S.E (15 mins Elephant and Castle)—Very old-established and panel PRACTICE. Receipts £2 600 each including panel 4 700 Good house low rental Premium £5 000 cash if possible. — Apply PEACOCK & HADLEY Ltd., 19 Craven Street Strand W.C.2

Manchester — Nice residential Suburb—PRACTICE capable of increase. Average cash receipts £995 Excellent house in main road 2 reception 6 bedrooms garage and garden Price—Practice and house—£2,250 —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Manchester (residential) —Old-established. Nice corner house, large gardens lawn garage rent £120 Receipts £2 000 good scope Panel over 1,500 Price 2 years purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Near Leeds — Industrial Town PRACTICE. Average cash receipts £1,280 Panel 1 350 Hospital appointments £80 Good house 2 reception 3 bedrooms Price £1,100 Premium—Practice—14 yrs purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Nr Manchester — Well-established PRACTICE. Receipts last year £5-0 panel 280 Good house garden Rent £50 p.a Premium £-50 Districts growing rapidly part of purchase price can be paid by arrangement—Apply PEACOCK & HADLEY Ltd. 19 Craven Street Strand W.C.2.

North-West Coast — Old-established PRACTICE. Cash receipts 1929 £1 129 Panel 580 Good scope Easily worked 6 to 7 sessions 3 reception, 5 bedrooms Garage and garden Premium—Practice—1 year's purchase—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Old Kent Road — Required, PRACTICE within 10 minutes walk of East Street—Address No 6812 B.M.A. House Tavistock Square W.C.1

Practice, old-established, cash receipts average over £1 000 p.a. Panel and appointments over £400 p.a. Agricultural country near two Hospital towns. Modern house conveniences and electric light. Premium and part deferred by arrangement — Address No 5815 B.M.A. House Tavistock Square W.C.1

Practice wanted, North of England. Minimum income £1 500 p.a. Over 40 per cent. panel.—Reply "H.R." c/o G.P.O. Newcastle

Recently married Doctor (M.B.) qualified 1926 aged 31 now earning £-00 yearly unencumbered post seeks PRACTICE (panel) £1 000 yearly Part purchase rate £-00 per annum Good references—Address No 5340 B.M.A. House, Tavistock Sq. W.C.1.

Riviera — English Ophthalmic PRACTICE for Sale. Winter months only —Address No 6452, B.M.A. House, Tavistock Square W.C.1.

Sale—Panel (1,100), and Consulting PRACTICE, South Wales, about £1 700 p a One years premium Would consider easy terms — GRIFFITHS MEDICAL AGENCY Tredegar Chambers, Newport Mon

Scotland (suburbs of City)—old-established PRACTICE for disposal Private and panel Non dispensing Suitable house garage and garden Income about £1 800 — Address, No 6469, B M A House Tavistock Square W C 1

Shropshire — Pretty Country Town PRACTICE Cash receipts £1 100 p a Panel 600 Scope for surgery Cosy house, 2 reception 3 bedrooms garage and tennis court Premium—Practice and house—£2 500 —BRITISH MEDICAL BUREAU, 33 Cross Street Manchester

South Coast — Cash offer — Wanted PRACTICE panel 6/800 income £1 000 Sussex preferred town 30 000 or over Essential good house Cash for *house and Practice* kept strictly confidential No agents—Address No 6451 B M A House Tavistock Sq W C 1

To Purchasers — Do not buy *without expert assistance* With 40 years experience Mr PERCIVAL TURNER can advise in all cases Terms free on application to 4 Adam St Strand W C 2 Telephone Temple Bar 9011 Telegrams Epsomian London

Yorkshire (N R) — Unopposed Country PRACTICE in pretty district Average cash receipts £750 p a Panel 150 Excellent modern house 12 rooms Garage and large garden with tennis court Rent £42 p a Premium 14 years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

HOUSES CONSULTING ROOMS

Commodious Three Rooms, first floor over business premises gas and electric water Central position bus tram stop, minute station Suitable Dental Surgeon Agreement or lease £150 p a inclus—Apply, QUATIL 5, Obelisk Parade, Lewisham Bridge, S E 13

Consulting Rooms to be Let—Harley Street and District Whole and part time Lists sent on application—FIGOOD & Co, 10 Henrietta Street, Cavendish Square W 1 Langham 2601

Corner Residence, adjoining large residential estate Five bedrooms 2 reception Garage for two cars—Apply BILL & CLARK, Solicitors 6 Cherry St, Birmingham

Edinburgh — House for Sale, 18, Chalmers Street near Infirmary and Medical Schools Very suitable as Nursing Home or for Professional Apartments Reliable caretaker presently resides in basement quarters. — Apply PRINGLE & CLAY, W S Edinburgh

For Sale — Within 50 miles of London (Beds) commodious HOUSE, standing in 33 acres chiefly park land containing 20 beds, 5 recep, 4 bathrooms, usual offices central heating own electric light, garages, good out buildings prolific kitchen garden, orchards well laid-out pleasure grounds Easily adaptable and most suitable for NURSING HOME.
Price £7 750 or near offer
Apply, MRS ANDERSON c/o ROSE, JOHNSON, HICKS 9, Suffolk Street Pall Mall

For Sale — House, suitable for Doctor desiring to commence Practice in favourite suburb London, S W Four bedrooms bathroom garage 3 reception rooms, kitchen and nice garden Price £1 525 of which £600 could remain on mortgage—Address No 6455, B M A House Tavistock Square W C 1

Grange Park—An opportunity in a thousand—Absolutely new and fast growing district good class residence excellent prospects for Doctor on new estate Houses of all sizes from 3 to 5 bedrooms 2 reception kitchen bath all modern conveniences garage, garden Prices from £1 500—GILBEY 27, Ridings Av Grange Park N 21 Enfield 1274

Harewood Chambers, 74 to 80, Gower Street W C near Marylebone, Euston St Pancras and Kings Cross Quiet comfortable rooms h and c Bedroom, bath, table d'hote breakfast 7/6 dinner 4/ From 8 gns p w—Phone Museum 3941—2

N W—Shop and Room to Let, being surgery last nine years Thickly populated working class neighbourhood Easy rental and no premium Particulars—28, Sherwood Street Brondesbury N W 6, or phone Maida Vale 7942

Queen Anne Street — For Sale, long LEASE of modernized RESIDENCE fitted with every convenience Lettings produce £70 per annum Whole of 2nd 3rd and 4th floors available for purchaser together with use of Consulting Room on ground floor Price £6 000 of which £3 500 can remain on mortg —No 6389 B M A House Tavistock Sq W C 1

To Let, just off Harley Street, CONSULTING ROOMS furnished or unfurnished with plates from £170 p a —Address No 6471 B M A House, Tavistock Square W C 1

Two Doctors want Upper Part of HOUSE Harley Street for Practice and residence Reasonable rental Would take for term of years as required—Address No 6481, B M A House, Tavistock Square, W C 1

Westcliff-on-Sea—To be Let or Sold lately Doctor's Residence exceptionally well built pre war fine central position 5 bed, 3 recep rooms small dispensary, kitchen scullery, etc Garage Cards Tuesday Oct—OWNER, 39 Upland Road Sutton Surrey

West End Consulting Room wanted if possible with treatment room and living accommodation—Address No 6338 B M A House Tavistock Square W C 1

MISCELLANEOUS SALES etc.

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MEMBERS OF THE MEDICAL PROFESSION

Can secure Perfect Fitting and Distinctive Clothes of Exceptional value FINEST QUALITY MATERIALS *BEST WORKMANSHIP ONLY*

SPECIAL OFFER

JACKET & VEST (in black or grey) £5 5s.
SOLID FANCY WORSTED TROUSERS £2 2s
THE Ideal Suit for Professional or Business wear

TWEED SUITS & OVERCOATS to measure from £6 6s
SOLID WORSTED SUITS " £7 7s
DINNER SUITS fr £8 8s DRESS SUITS fr £10 10s
PLUS FOUR SUITS Coat with Pivot Sleeves fr £6 6s
THE IDEAL Suit for ALL Sporting Purposes.
GOLD MEDAL RIDING BREECHES from £2 2s.
RIDING HABITS fr £10 10s COSTUMES fr £6 6s

UNSOLICITED APPRECIATION

I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd, as all the clothes I have had from them during 30 years have been perfect in Fit, Cut and Finish (Signed) S J A, M A, M B, T R C P S

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TAXATION CONSULTANTS,
49, Chancery Lane, London, W C.2
Phone Holborn 6659 Write for Tax Guide, Free

Medical Surgical Sundries Ltd

Supply Instruments, etc. Esseff Inhaling Apparatus price £12 10s (can be hired particulars on application) Write for price list of Tablets and Government surplus articles. *Showroom* 97, Swinderby Road Wembley

Wanted to purchase by Doctor starting Practice, SECOND HAND MODERN EQUIPMENT — Address No 6542, B M A House Tavistock Square, W C 1

Bergonie Apparatus, consisting of Couch Cabinet, Batteries, all accessories in good condition Offers?—FANNIN, 41, Grafton Street Dublin.

South Charitable Infirmary and COUNTY HOSPITAL CORK

TO X RAY AND ELECTRO MEDICAL MANUFACTURERS AND FIRMS

The Committee of Management will at their Meeting to be held on Thursday the 25th inst, consider estimates for the installation of a modern and up to date RADIOGRAPHIC APPARATUS Estimates must give detailed specifications prices of plant and all accessories Estimates must be lodged with the Secretary, not later than Monday, the 22nd inst
By Order
H KELLEHER M B,
House Surgeon

Safety First — Ernest Grimaldi, Ltd have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements This valuable experience is at your disposal Your present car accepted in part exchange All used cars sold carry 12 months written guarantee Special deferred terms for Doctors financed by ourselves to ensure strictest privacy List of cars available for immediate delivery posted on request Extensive list of testimonials available for inspection Personal attention guaranteed —ERNEST GRIMALDI Ltd 148/150 Ct Portland Street W 1 Museum 3931 & 7236.

The Proprietors of British Patent No 267007 are prepared to sell the patent or to licence British Manufacturers to work thereunder It relates to containers for surgical suture material — Address, BOULT, WADE & TENNANT, 112, Hatton Garden, London E C 1

Trinity Lamp (mercury, vapour, tungsten and carbon) for Sale perfect condition £20 Also good portable microscope with sliding stage in leather case, as new, £12 centrifuge bacteriological filler — BM/ICPV London W C 1

For Sale—Full length reclining RADIANT HEAT BATH Cost £50 used twice accept £25 or nearest offer — Phone Ascot 615 or write FOLLIT Henderson Ascot

APPOINTMENTS—Contd

St Mary's Hospital for Women AND CHILDREN Plaistow, E 13.
(71 Beds)

Applications are invited for the posts of RESIDENT and ASSISTANT RESIDENT MEDICAL OFFICERS (vacant November 1st) male or female The appointments are for six months Board and residence provided Salaries at the rate of £175 and £120 per annum respectively and £5 extra allowed for personal laundry
The duties of the Resident Medical Officer are mainly surgical and those of the Assistant Resident Medical Officer mainly medical Personal canvassing not desired Applications with copies of three recent testimonials to be sent to the undersigned not later than Sept 30th.
A ERNEST WILKES Secretary

Darlington General Hospital
(120 Beds)

JUNIOR HOUSE SURGEON required male, fully qualified, British Salary £150 per annum with board residence, and laundry
Applications, stating age, qualifications, and experience accompanied by copies of two recent testimonials to be addressed to the *undersigned forthwith*
A RIDDLE, Secretary

South London Hospital for WOMEN Clapham Common S W 4

The Board of Management invite applications from qualified Medical Women for the appointment of CLINICAL ASSISTANT to Surgical Out patients (mainly Gynaecological cases) to attend on Tuesday mornings Applications, with testimonials to be forwarded to the Secretary at the Hospital

Queen Charlotte's Maternity HOSPITAL, Marylebone Road, N W 1

Two RESIDENT ANAESTHETISTS required to commence duty on October 1st. Applicants must be registered Appointment for six months Salary at the rate of £80 per annum each with board, residence and washing allowance (4/ weekly) Copies (not originals) of not more than three testimonials will be received by the Secretary up to September 29th
ARTHUR WATTS Secretary

County Borough of Gateshead

CLINICAL TUBERCULOSIS OFFICER AND ASSISTANT MEDICAL OFFICER OF HEALTH

The Council invite applications for the appointment of Clinical Tuberculosis Officer etc at a salary of £650 per annum rising by four annual increments of £25 to £750 per annum A house (unfurnished) is provided free of rent rates and water The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and it may be terminated by either side on one month's notice Candidates must be registered Medical Practitioners possess a Diploma in Public Health and will be required to give satisfactory evidence that he has subsequent to qualification devoted at least six months to Special Training in Tuberculosis and at least eighteen months to General Clinical work of which six months should have been spent as resident in a hospital for general diseases or other hospital not confined to the treatment of tuberculosis The person appointed will be required to devote the whole of his time to the duties of the office to act under the direction of the Medical Officer of Health (who is Administrative Tuberculosis Officer) and will be required to undergo an examination as to his physical fitness Applications stating age qualifications and previous experience accompanied by copies of not more than three recent testimonials to be sent to me not later than Thursday September 25th

Town Hall J W PORTER
Gateshead Town Clerk
September 11th 1930

County of London

The LONDON COUNTY COUNCIL invites applications for appointment as EIGHTH ASSISTANT MEDICAL OFFICER (man) in the Mental Hospital Service Candidates must be under 35 years of age and be registered to practise both in Medicine and Surgery in England Salary £445 a year rising by annual increments of £25 to £570 a year No emolument Charges for board lodging etc (at present £2 9s a week) if required to be resident Candidates appointed will be pensionable under the Asylums Officers Superannuation Act 1909 Form of application giving full particulars can be obtained from the Chief Officer Mental Hospitals Department The County Hall Westminster Bridge SE1 Applications must be received by Thursday October 2nd Canvassing disqualifies

The County Hall MONTAGUE HOUGH
SE1 Clerk of the London County Council

Western Ophthalmic Hospital,

Marylebone Road London NW1

SENIOR HOUSE SURGEON (Resident) required November 1st
JUNIOR HOUSE SURGEON (Non resident) required November 1st

Applications are invited for the above posts The salaries are at the rate of £150 and £100 per annum respectively and the appointments are for six months Previous Ophthalmic experience is required Applications accompanied by copies of three testimonials should reach me by October 1st

Candidate should be prepared to attend before the Medical Committee on Friday October 3rd at 5 p m

Applicants for the Senior post should state if they are prepared to accept the Junior post

H W BULLEIGH
Honorary Secretary

City of London Hospital for DISEASES OF THE HEART AND LUNGS

Victoria Park E2
(Bus Tram and Rail Cambridge Heath L & N E Railway)

A vacancy for a HOUSE PHYSICIAN (male) will occur on November 1st Six months appointment Salary at the rate of £100 per annum Board residence and laundry provided

Applications with copies of (three) testimonials should be sent to the undersigned on or before Friday October 17th

GEORGE WATTS Secretary

Lingfield Epileptic Colony,

SURREY

Wanted ASSISTANT MEDICAL OFFICER (lady preferred) Commencing salary £225 resident or more according to experience.—Apply to the Medical Superintendent.

Huntingdon County Hospital

MALE HOUSE SURGEON required at once Salary £125 with board residence and laundry.—Apply W R GROVE M D

Hertfordshire County Council

WARE PARK SANATORIUM

ASSISTANT MEDICAL OFFICER.

Applications are invited for the appointment of Assistant Medical Officer of the County Sanatorium Ware Park near Ware Age not less than 25 or more than 40 years Applicants must be married men and should be qualified Medical Practitioners with hospital experience and preference will be given to those who have had experience of the institutional treatment of tuberculosis The appointment is for one year Salary £300 per annum with furnished rooms rent free together with board washing light fuel and service

Forms of application with particulars can be obtained from the Clerk of the County Council Clerk of the Peace Office Hertford and must be returned duly completed before September 30th

Clerk of the Peace Office ELTON LONGMORE
Hertford Clerk of the
Sept 1930 Hertfordshire County Council

County Council of the West Riding of Yorkshire.

MIDDLETON IN WHARFEDALE SANATORIUM

The County Council of the West Riding of Yorkshire invite applications for the appointment of JUNIOR RESIDENT MEDICAL OFFICER at the Middleton in Wharfedale Sanatorium near Ilkley (300 beds) The appointment will be for one year Salary at the rate of £250 per annum with board residence and laundry

Hospital experience is an advantage

Applications together with copies of recent testimonials should be sent to the County Medical Officer County Hall Wakefield not later than October 6th

County Hall J CHARLES McGRATH
Wakefield Clerk of the County Council

Preston and County of Lancaster ROYAL INFIRMARY

Applications are invited for the following posts

HOUSE SURGEON (under Consulting Surgeon)

HOUSE PHYSICIAN (to take charge of Medical and Eye Ear etc Ward)

Salary in each case £150 per annum with board residence and laundry

Applications stating age nationality qualifications and experience together with copy testimonials to be addressed immediately to JOHN CINCH Superintendent and Secretary Royal Infirmary Preston

Essex County Hospital,

COLCHESTER (160 Beds)

Wanted in October a HOUSE PHYSICIAN (male) Salary £150 per annum with board washing and residence in the Hospital Medical and Surgical qualifications required

Application with three recent testimonials to be sent on or before Thursday September 24th to—

ALFRED C BUCK Secretary

Durham County and Sunderland EYE INFIRMARY

Wanted TWO OPHTHALMIC SURGEONS for the above Institution to attend three times a week on three alternate days first week and one afternoon clinic per week Commencing salary £350 per annum All attendances Copies of recent testimonials to be sent to JOHN BUTTERFIELD Secretary E Infirmary Stockton Road Sunderland

Western General Dispensary,

Marylebone Road London NW1

There is a vacancy in the post of HONORARY OPHTHALMIC SURGEON to this Dispensary Applicants who must be either a Fellow or Member of the Royal College of Surgeons are invited to send in their applications together with copies of testimonials to the Hon Secretary on or before Thursday October 2nd

Manchester and Salford Hospital FOR SKIN DISEASES

HOUSE SURGEON

Applications are invited for the post of House Surgeon Must be registered The appointment is for twelve months from October 1st Salary £100 per annum with board and residence

Applications with copies of three testimonials to be sent to the undersigned Quay Street Manchester

JOHN HALL Secretary

Town Council of Pretoria

VACANCY FOR ASSISTANT MEDICAL OFFICER OF HEALTH

Applications are invited from duly qualified Medical Practitioners for the above whole-time appointment The duties include Diploma in Public Health and a knowledge of Afrikaans language are essential Salary £800 rising by annual increments of £50 to £1,000 plus £135 locomotion allowance

The duties will mainly be in connection with Child Welfare Maternity and Ante-natal Clinics and the supervision and control of infectious diseases and to carry out such other duties delegated to him by the Medical Officer of Health In addition the successful applicant will be required to act as Medical Officer official He shall also be required to contribute to the Town Council Provident Fund and Sick Fund and should be able to take up duty on January 1st 1931

Applications together with copies of at least three recent testimonials should reach the undersigned not later than 6th October Personal canvassing is prohibited Further information may be obtained from the Medical Officer of Health P O Box 234 Pretoria.

JOSHUA PEES
Town Clerk

Notice No 104 of 1930
August 27th 1930

South London Hospital for WOMEN

South Side Clapham Common SW4

The Board of Management invite applications from fully qualified Medical Women for the undermentioned appointments

HOUSE PHYSICIAN
HOUSE SURGEON

each for a period of six months from November 1st Salary at the rate of £50 per annum with board residence and laundry and later are expected to call upon Members of the Honorary Medical Staff Part value to be of about from the Secretary before Monday October 6th by which date applications and copies of testimonials must reach the Secretary at the Hospital

East Ham Memorial Hospital

(100 Beds) Shrewsbury Road
London E

Applications are invited for the post of HOUSE SURGEON to Special Departments and Casualty Officer for six months commencing immediately Salary at the rate of £120 per annum with board residence and laundry Applications stating age experience and full particulars together with copies of testimonials should be forwarded to the undersigned

REGINALD PERPER Secretary

The Royal United Hospital,

BATH

HOUSE SURGEON (male) British nationality required Salary £200 per annum with board residence and laundry The appointment is for a minimum period of six months Applications stating age qualifications etc together with three recent testimonials should be forwarded to the undersigned

J LAWRENCE MEARS
1930 Secretary Superintendent

Royal Isle of Wight County HOSPITAL, RYDE.

RESIDENT HOUSE SURGEON wanted for October 1st either six unmarried Double qualified and registered St to age and nationality Salary at the rate of £120 with board residence and laundry Applications giving copies of testimonials to Secretary before Saturday September 27th

Return railway fare for selected candidates

T S GORDON Secretary

The Hospital for Epilepsy and PARALYSIS Maida Vale W9

HONORARY DENTAL SURGEON REQUIRED

Applications are invited for the post of Honorary Dental Surgeon Applications with copies of not more than three recent testimonials should reach me by October 4th.

H W BULLEIGH
Secretary and General Superintendent

Birmingham Maternity Hospital

HOUSE SURGEON wanted (man or woman) for six months from November 1 (3 months in district and 3 months in Hospital) Salary to be at the rate of £75 per annum Applications with full particulars and copies of testimonials to be sent to HUGH C ASHBY 45 Newhall Street not later than September 25th

The Prince of Wales's General HOSPITAL, Tottenham, N 15

The following resident posts will be vacant on November 1st next
SENIOR HOUSE PHYSICIAN SENIOR HOUSE SURGEON, and SPECIAL HOUSE SURGEON Salaries at the rate of £120 per annum
JUNIOR HOUSE PHYSICIAN and TWO JUNIOR HOUSE SURGEONS Salaries at the rate of £90 per annum
Board, residence, and laundry
Appointment held for six months, but holders are eligible for reappointment for a further term
Candidates (male) must be fully qualified and registered and applications (on the prescribed form) together with copies of three recent testimonials should be sent to me on or before the first post on Wednesday October 1st next
J C BURDETT
Sept 15th 1930 Director

Central London Throat, Nose, AND EAR HOSPITAL Cravs Inn Road W C 1

ASSISTANTS IN THE OUT PATIENT DEPT

There are vacancies for Two Assistants in the Out patient Department
Assistants are graded first second and third according to experience in the specialty and length of service at the Hospital
The posts are honorary tenable for one year subject to re-election Attendance is required at one or two Clinics each week to assist the Surgeons in seeing the patients—vacancies at present on Wednesday, Thursday, and Friday, at 2 p m each day
Applications should be sent to the under signed immediately
JOHN H YOUNG
Secretary Superintendent

East Suffolk & Ipswich Hospital, IPSWICH (265 Beds—7 Residents)

Applications are invited for the posts of CASUALTY OFFICER Salary £150 per annum Board residence and laundry Previous experience essential
HOUSE SURGEON Salary at the rate of £120 per annum Six months contract with board residence, and laundry
Applications from British (male) candidates stating age qualifications and experience and accompanied by three recent testimonials, to be sent to the undersigned
The Hospital, ARTHUR GRIFFITHS
Ipswich Secretary
August 18th 1930

Bristol General Hospital

Notice is hereby given that a meeting of the Election Committee will be held at the Hospital at 1 o clock p m on Wednesday October 8th for the purpose of electing an HONORARY DENTAL SURGEON Applications, together with proof of qualification, to be forwarded to the undersigned on or before Monday, September 29th
N B—An Honorary Assistant Dental Surgeon is a candidate for the appointment
By Order of the Committee,
THOMAS W GREGG
Sept 10th 1930 Secretary

Bury Infirmary, Lancashire (A General Hospital of 170 Beds)

Applications are invited for the post of THIRD HOUSE SURGEON, who must have both Medical and Surgical qualifications, and have had some experience in the administration of Anaesthetics The appointment is for six months, at a salary at the rate of £150 per annum with board, residence and laundry
Applications stating age qualifications and nationality with copies of three recent testimonials to be sent to the undersigned not later than September 24th, endorsed Third House Surgeon
ALEX W MAITLAND
Honorary Secretary

Chesterfield and North Derbyshire ROYAL HOSPITAL (190 Surgical and Medical Beds)

HOUSE SURGEON

Applications are invited from fully qualified men for the above post
The appointment is for six months
Salary is from £100 to £175 per annum according to experience with board apartments and laundry
Applications stating age together with copies of three recent testimonials should be sent to the undersigned
G SUNNUCK
August 20th 1930 Supt & Secretary

Bristol Homoeopathic Hospital (Bruce Melville Wills Memorial)

The Board of Management invite applications for the appointment of RESIDENT MEDICAL OFFICER to commence duties on or about October 1st next at a salary of from £120 to £150 per annum, according to experience with board, laundry and residence The Hospital is now with the latest equipment and a most comfortable suite of rooms are provided in the Hospital
Opportunity for good Surgical and General experience
Applications should be forwarded, with three copies of recent testimonials, addressed to the undersigned
H HUNTER (Lt-Colonel),
Secretary

The Willesden General Hospital (Incorporated) N W 10

Applications are invited for the following appointments
(a) CLINICAL ASSISTANT to the Ear Nose and Throat (Out patient) Department
(b) CLINICAL ASSISTANT to the Medical Out patient Department
The Ear Nose and Throat Department session is held on Wednesday afternoons, the Medical Department session on Tuesday afternoons
Applications should be addressed to the Secretary of the Hospital not later than Monday, September 22nd
September 15th 1930

National Hospital, Queen Sq, W C 1

RESIDENT MEDICAL OFFICER

The Board of Management invite applications for the post of Resident Medical Officer, which should be sent to the undersigned accompanied by copies of three recent testimonials not later than Monday, September 22nd The salary is £200 per annum, with board and lodging
Applicants should state if they are willing to accept the appointment of House Physician (salary £150 board and lodging)
GODFREY H HAMILTON,
Secretary

Royal Albert Hospital and Eye INFIRMARY, DEVONPORT

The post of SENIOR HOUSE SURGEON exists
Applicants must be fully qualified registered and unmarried Salary £150 per annum with apartments, board, and laundry free
Applications stating age, accompanied by copies of not more than three testimonials, addressed to the Chairman of the Selection Committee, should reach the undersigned not later than Monday, September 29th
FRANK ROWE,
Sept. 15th 1930 Secretary

Northern Infirmary, Inverness

Wanted immediately, THIRD RESIDENT MEDICAL OFFICER, fully qualified, registered, male unmarried. Appointment will be for six months Salary at rate of £100 per annum, with board, residence and laundry Applications stating age, medical school qualifications and experience with copies of recent testimonials to be sent to Mr ROBT GILBERT, Hon Secretary, Inverness

Inverness District Mental HOSPITAL

JUNIOR ASSISTANT MEDICAL OFFICER wanted Experience of Mental Hospital work not essential, but Post-Graduate Medical or Surgical experience a recommendation Salary £350 per annum, with apartments board, laundry and attendance. Apply, with references to Medical Superintendent

Worthing Hospital

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) now vacant The appointment is for six months renewable. Salary at the rate of £150 per annum with board lodging and laundry Applications, stating age, qualifications, and experience with copies of three testimonials should be sent to the Secretary at once

Golden Square Throat, Nose, and EAR HOSPITAL, London W 1

Applications are invited for the following honorary posts
1 REGISTRAR
2 CLINICAL ASSISTANT
Particulars of the duties may be obtained from the undersigned
F P CARROLL
Sept 12th 1930 Secretary Supt

Northampton General Hospital (230 Beds.)

There will be vacancies on October 1st next for TWO ASSISTANT HOUSE SURGEONS. British nationality Salary £150 per annum, with board, residence and laundry
The successful candidates will be appointed for a period of six months and will be eligible for re election for a further period
Candidates must be duly qualified and registered
Applications stating age sex, qualifications etc with copies of testimonials to reach the undersigned not later than first post on September 24th
H ST JOHN WOOD
Sept 15th 1930 Secretary Supt

The Royal Gwent Hospital, NEWPORT, MON (160 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out patients and as House Physician
Salary £135 with board, lodging and laundry Resident Medical Staff—five. Eligible for promotion
Large Out patient Department
Applications stating age and qualifications, with copies of three recent testimonials, to be sent to the undersigned.
Applications from ladies not entertained.
J K MILLWARD
Sept 2nd 1930 Secretary-Supt.

Taunton and Somerset Hospital, TAUNTON (104 Beds.)

SENIOR HOUSE SURGEON required Applicants must have held a hospital resident appointment for at least six months
Salary at the rate of £150 with board, residence and laundry Three residents altogether
Applications with testimonials to—
F J J STACEY Secretary

The Mount Vernon Hospital, NORTHWOOD MIDDLESEX.

There is a vacancy for a HOUSE SURGEON (male) Candidates must be fully qualified and registered Salary £200 per annum with board lodging and laundry
Applications with three copies of testimonials should be sent to—
7, Fitzroy Square, W J MORTON
W 1 Secretary

Telephone WELBECK 2728
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S W County near Coast—Dispensing PRACTICE agricultural Just 5 miles Surgery 1,100 Land—No 8723

N E Wales, near Border—Three attractive properties Fees £5 up Land 2,600 Large house and garden at £750 p.a. Partnership £350 arranged—No 8725

West of England Town—Half of £1,700 p.a. Fees 5/6 to 5/ Land over 2,100 Fees and Payments—No 8726

North Kent—Unopposed—Over £1,000 p.a. Panel £250 Appts. £200 Fees 3/6 to 12/6 Choice of house to buy or rent—No 8719

Kent Country, near Coast—Over £1,100 p.a. Panel £290 Appt £55 Fees 5/ to 21/ Very convenient house 3 reception 6 bed. etc.—No 8718

South Coast—Town—About £1,800 p.a. Panel 1,400 Half share succession in few years Fees 3/6 to 7/6 Choice of houses Mids refused scope—No 8716

Surrey—Country Town—£460 and great scope. Appts. over £100 p.a. Panel 85 Fees 5/ to 21/ House, 4 bed. 3 recep on lease—No 8715.

Kent Suburb—Residential—Share worth over £500 exceptional scope. Fees 5/ to 21/ Choice of houses—No 8712.

London, S E—About £1,100 Ophthalmic PRACTICE. Death Vacancy carried on by relative House £120 p.a. or principal rooms to let. About £1,500—No 8709

South Coast—About £1,300 PARTNERSHIP with succession Small panel. Fees 3/6 mostly and up to 10/6. 5 roomed house to rent or buy—No 8706.

Lincs—Unopposed—Nearly £1,000 p.a. Old-established. Panel 540 Appts. and clubs about £165 Fees 5/6 to 5/ Med extra. Good detached house and garden to rent.—No 8705

Lancs Town—About £1,100 p.a. Panel 560 Club £50 Fees 3/6 to 5/ Good house and nice garden Rent or sell—No 8704

Eastern County—Woman Doctor's industrial dispensing PRACTICE average over £500 p.a. Fees 3/6 to 7/6 Hour 4 Led. etc. at £8 p.a. long introduction—No. 8691.

Hants—Semi-rural—Nearly £1,000 p.a. Small panel. Fees 5/6 to 15/ House, 2–3 recep 5–6 bed. large garden—No 8653

S Devon—Average £1,600 p.a. Panel over 2,000 Fees 3/6 to 5/3 Large house in residential locality 5 bed attics 2 recep etc.—No 8678

London, E—About £1,000 p.a. Panel 1,250 Visits 5/ Surgery 3/6. Midw refused. Small house to rent—No 8700

Midlands—Share worth £1,400—£1,500 Good house (7 bed. etc.) and garden in village 3 miles from town Fees 5/ to 42/—No 8694

London, S E—Woman's PRACTICE. About £600 Panel 220. Fees 3/6 to 21/ Scope for midwifery and increase. Ground floor flat—No 8686

Yorks Country—£800 p.a. Panel 445 Appts. abt. £60 Visits 5 to 10/6 Med house 7 bed. Rent £42—No 8684

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr Percival Turner

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1 LONDON—In a genuine residential district within 10 miles (West) a well-established PRACTICE averaging over past 4 years £1,450 Land £860 Fees 3/6 and 5/ Hours 11 to 1 and 6 to 7 Large house situate (ground floor) with garden and garage Premium £2,000

2 S DEVON—Dental PRACTICE of £940 situate in residential village within 10 miles of Coast Excellent opportunity for energetic man with small capital Premises consist of Lounge Surgery Waiting room and kitchen Land £60 Fees 3/6 and 5/ Large garage Premium £1,500

3 SOUTH STAFFORDSHIRE—Active Partner required in Practice of £3,300 p.a. Good land and attractive House (Main Rly station) Excellent opportunity for man with capital Partnership Fee £1,000

4 DEVON—PARTNERSHIP—Active Partner required in Practice of £3,300 p.a. Good land and attractive House (Main Rly station) Excellent opportunity for man with capital Partnership Fee £1,000

5 SOUTH COAST—Dental PRACTICE of £930 a year in a pretty country town within easy run of fashionable South Coast resort Cott House Excellent house with acre of garden garage and rent on lease £110 Lease 14 years purchase

6 FIVEFIELDS SUBURB—Modern PRACTICE in attractive locality and averaging over £1,800 Panel and appts £600 House 10 bedrooms etc on lease at £90 Six months' agreement or introduction Premium 3,000 guineas

7 HANTS—Unopposed PRACTICE of over £700 with panel and appts situate in a good social and sporting district Pleasant old world residence with central heating electric garden garage etc Freehold £2,000 Goodwill £1,000 Personally known

8 IN A CHARMING Country Town within 30 miles old-estab PRACTICE returning last year £900 incl panel of 500 Held over 30 years Good society Suitable residence available Scope for younger man of ability

9 MANCHESTER—Mixed PRACTICE of £1,100 a year for Prompt sale Part 1,000 Consideration spacious premises and garage In fine To effect quick sale Premium only £1,250

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FOR DISPOSAL

1 MONMOUTHSHIRE.—Well-established Practice of the panel and working class PRACTICE. Receipts £—51 Panel 700 Good house garage and yard

2 SOUTH OF ENGLAND—Panel Private Others and Club PRACTICE Receipts average £800 p.a. Panel 1,500 Appts £350 Good house to rent Could rate scope for energetic man

3 SOUTH STAFFORDSHIRE.—Well-established Country PRACTICE. Receipts over £1,000 p.a. Panel 700 Good house garage and garden

4 MANCHESTER (suburb)—Lock up Surgery Industrial PRACTICE. Receipts Panel 600 and increasing Excellent opportunity

5 CHESHIRE—Well-established Panel and PRACTICE. Receipts £300 Good house garage and outbuildings Rent £50 Land 2,400 increasing Appt worth about £50

6 LANCASHIRE—Well-established Panel and PRACTICE. Receipts £943 Better class PRACTICE. Receipts £943 Panel 900 both increasing App £50 p.a. Transferable Good house garage and all conveniences

WEST MIDLANDS—Well-established PRACTICE in market town and agricultural district Rec pts £1,5 2 Panel 3 Appts worth £118 Good house garage and all conveniences

8 YORKSHIRE—Large Counties Borough Well-established working and middle-class PRACTICE. Receipts over £1,500 p.a. and steadily increasing Panel about 1,700 Good house to rent

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(FOUNDED 1880)

12, Stratford Place,

Oxford Street, W.1.

Tele Address Triform, Wesdo—London

Telephone Mayfair {1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr A V STORLY the General Manager, in all transactions requiring the services of a Medical Agent

Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them

The business undertaken by the British Medical Bureau is divided under the following heads —

TRANSFER OF PRACTICES, PARTNERSHIPS, etc

Medical Practitioners wishing to dispose of Practices or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau Vendors may depend upon receiving introductions only to eligible and bona fide purchasers All information is treated in strictest confidence Full and trustworthy information regarding Practices, Partnerships etc, for disposal supplied gratis to Purchasers

ASSISTANTS AND LOCUMTENENTS

Assistants and Locumtenents can be secured at short notice It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out

RESIDENT PATIENTS

Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau A large number of Patients are placed yearly through this medium

ACCOUNTANCY

The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i e, Investigation of Practices for purchasers Income Tax, Auditing Books & Accounts, etc

Practices and Partnerships for Disposal — **Full particulars sent free**

1 S DEVON —Partnership in non-dispensing Practice about £2,400 p a in favourite watering place Panel 950 Good hospital One-third share at 2 years purchase Preliminary Assistantship

2 LONDON, W —Good middle-class Practice in Western suburb Cash receipts year ended March 1930 £889 No panel Large attractive detached house for sale Considerable scope Premium only £750

3 FAVOURITE INLAND HEALTH RESORT —Non dispensing PRACTICE of over £1 550 p a Panel 700 Nice house (7 bedrooms), garage and garden, for sale Scope. Premium 2 years purchase

4 WEST MIDLANDS —Practice of £2,400 p a in small residential country town Panel about 1 000 Excellent non basement house (6 bedrooms) in about 3 acres of grounds for sale Very good sport. Premium 1½ years purchase

5 MIDDLESEX —Practice averaging £1,450 p a. in pleasant up river suburb Panel 860 House with 4 bedrooms in residential area, for sale. Premium £2 250

6 LONDON, N —Increasing Practice of over £500 in pleasant residential district Panel over 100. Well situated house (4 bedrooms) for sale or rent Ample scope Premium 1½ years purchase

7 S W OF ENGLAND — Practice over £2 000 p a in small country town near coast Panel 1 086 House (5 bedrooms), with electric light, for sale Premium 1½ years purchase

8 S WALES — Non-dispensing Practice of £760 p a in one of the Principal Towns Panel 620 Corner house in residential part for sale. Good scope Premium £750

9 LONDON, E — Cash and Panel Practice (held by Medical Woman) in densely populated area Receipts £360 p a Panel 290 Small house Rent £50 Premium £450

10 S WALES —Mixed Private and Industrial PRACTICE of £1 300 p a in town of 12 000 Panel 1 300 Well built house (6 bedrooms) in own grounds good garden and garage, to rent. Premium £1,700

11 HOME COUNTY —Partnership in Practice averaging £4 380 p a in pleasant growing residential district about 10 miles from London Panel 1 900 One third share at 2 years purchase Cottage Hospital

12 MIDLANDS —Fourth Partner required in good middle-class non dispensing Practice about £8 400 p a in prosperous Town Very small panel Small house to rent One-sixth share at 2 years purchase

13 SOUTH-WEST OF ENGLAND —Practice averaging £1 666 p a in seaport town Panel over 2 000 House with 5 or more bedrooms for sale Premium £2 500

14 SOUTH OF ENGLAND —Practice of £960 p a. in Market Town under 100 miles from London Panel 287 House (5/6 bedrooms), garage, and good garden, for sale or rent Cottage Hospital Premium 1½ years purchase

15 MIDLANDS — Partnership in Practice nearly £1 900 p a in good Town Panel 1,100 Suitable house Plenty of sport Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment to one holding F R C S One-half share at 2 years purchase with ultimate succession

16 ITALY — Season Practice (March to October) in famous City Receipts from £200/£700 p a, according to Season Up-to-date Hospital Premium £250

17 MIDLANDS — Practice over £800 p a in first rate Town Panel 500 Suitable house to rent Premium 1½ years purchase

18 S DEVON — Practice averaging nearly £1,850 p a in beautifully situated Market Town, easy distance of coast Panel 480 House (5 bedrooms), garage, and garden, electric light to rent Premium £2 800

19 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms), garage garden, etc, for sale or rent Very good trout fishing Premium £1,250

20 SOUTH COAST — Practice averaging £1 370 p a in residential town and watering place Panel 500 Large house on sea front Also Surgery returning £565 p a Premium 1½ years purchase Great scope

21 YORKSHIRE — Partnership in Practice £2,300 p a in seaside town Panel over 900 Excellent house (8 bedrooms) for sale or rent Premium two fifths or one half share 1½ years purchase Preliminary Assistantship

British Medical Bureau

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Practices and Partnerships for Disposal (continued)

22 MIDDLESEX.—Rapidly increasing PRACTICE in new developing district about 12 miles from London. Earnings past year £700. Panel 200. Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Minimum 1½ years' purchase.

23 LONDON, N.—Practice averaging £670 p.a. in good suburban district. Panel 530. Seven roomed house to rent. Premium 1½ years purchase.

24 SOUTH AFRICA.—Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre. Purchaser should be able to do Surgery. Prem. £2,200 part by instalments.

25 LONDON, W.—Good middle-class non-panel PRACTICE £1,150 p.a. in Western suburb. Attractive detached house (8 bedrooms including attics) for sale. Considerable scope. Premium £1,150.

26 SOUTH-WEST OF ENGLAND.—Partnership in increasing middle-class Practice of about £2,500 in seaport town. Panel 800. One-fourth or one-third share at 2 years purchase. Preliminary Assistantship.

27 SURREY.—Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London. Small panel. Suitable Locum obtainable. Excellent scope. Premium one-third share 2 years purchase.

28 LONDON, S.E.—Practice about £3,000 p.a., carried on by two Medical Men in outlying suburban district. Panel 1,350. Two houses available. Premium 1½ years purchase. Or one-half share would be sold with early succession.

29 DEVONSHIRE.—Partnership in Practice of £3,400 p.a. in first rate country town. Panel 2,000. Charming old house with good garden to rent. Well-equipped Hospital with chance of appointment on staff to one keen on medicine. Premium one-third share. 2 years purchase.

30 SOUTH-WEST OF ENGLAND.—Partnership in increasing non-dispensing Practice about £1,600 in first rate town. Small select panel. Share worth £800 p.a. at 2 years purchase. Partner holding F.R.C.S. will probably be elected to staff of Hospital.

31 ITALY.—Non-dispensing Season Practice. Receipts about £200 p.a. Suitable flat to rent. Premium £250.

32 DEATH VACANCY.—BIRMINGHAM.—PRACTICE averaging over £1,500 p.a. (largely Homœopathic) in one of the best residential suburbs. No panel or midwifery. House (7 bedrooms) to rent. Any reasonable offer.

33 ESSEX.—Partnership in steadily increasing Practice about £1,800 p.a. in rapidly developing neighbourhood. Panel about 500. Choice of two houses. Two-fifths share at first at 1¼ years purchase.

34 KENT and SUSSEX BORDER.—Practice averaging £1,100 p.a. (including over £300 from panel) in beautiful country district. Very convenient house (6 bedrooms) for sale. Sport. Premium 1¼ years purchase.

35 S. DEVON.—Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage, ½ acre of garden, for sale. All kinds of sport. Premium £1,500.

36 KENT.—Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs. purchase.

37 WEST MIDLANDS.—Partnership in Practice of about £2,850 p.a. in country town. Panel 1,700. Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre. Premium one half share 2 years purchase.

38 W. OF ENGLAND.—Partnership in old-established Practice in pleasant Country Town. House to rent or purchase. Share worth about £1,000 p.a. at 2 years' purchase.

39 LONDON, S.E.—Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2,000. House (5 bedrooms etc.) Garden. To let. Premium one fifth share 2 years purchase.

40 S.W. OF ENGLAND.—Unopposed PRACTICE, about £1,150 p.a., in delightful country district. Very fine house with beautiful gardens, tennis lawn etc. for sale. Premium 1½ years purchase.

41 YORKSHIRE (N.R.).—Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450. Visits 3 & 10/6. Modern house, 12 rooms. Garage and good garden. Rent £52 p.a. Premium 1½ years purchase.

42 SOUTH AFRICA.—Old-established PRACTICE of over £1,800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5,000 ft.). Delightful residence (5 bedrooms electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1,200 or offer.

43 DEATH VACANCY.—SOUTH COAST.—PRACTICE over £250 in favourite watering place. Panel about 200. House (5 bedrooms) in half acre garden for sale.

44 LONDON, S.W.—Partnership in Practice about £2,500 p.a. in first rate suburb. Panel 1,200. Double-fronted house (7 bedrooms) garage and lovely garden for sale. Share about £1,000 p.a. at 2 years purchase. Partner must be well qualified preferably M.D. or F.R.C.S.

45 SHROPSHIRE.—Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1,100. Very nice house garage and large garden for sale. Sport. Premium one-half share 2 years purchase.

46 YORKSHIRE (W.R.).—Compact easily worked PRACTICE averaging £1,600 p.a. in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

47 LONDON, N.—Sound, easily worked PRACTICE, nearly £2,600 p.a. in residential district. Small select panel. Good corner house (5 bed and dressing rooms) with very good garden for sale. Small Hospital. Premium—house and Practice—£4,250 cash.

48 LONDON, E.—Practice £990 p.a. in populous area. Panel 1,240. Shop-fronted premises to rent. Plenty of scope. Premium 1½ years purchase.

49 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £940 (including £350 from panel). Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2,000.

50 MIDLANDS.—Practice, over £1,700 p.a., in important City. Panel 1,500. Centrally situated house (7 bed and dressing rooms), with garage and garden for sale. Scope for increase. Premium £2,250.

51 LONDON, S.E.—Partnership in Practice £6,600 p.a. in outlying Suburban District. Panel 2,000. Premium one-sixth share, 2 years' purchase.

52 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London. Good house (6 bedrooms) to let. Share worth about £1,400 p.a. for disposal at 2 years purchase.

53 MIDLANDS.—Partnership in Practice over £4,100 p.a. in flourishing town. Panel nearly 5,000. House (5 bedrooms) to rent. One-fifth share 2 years purchase. Preliminary assistantship. Applicant must be married or about to be.

54 MIDLANDS.—Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years purchase.

55 LONDON, N.W.—Practice of between £1,100 and £1,200 p.a. in suburban district. Panel 650. Corner house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

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All Communications to be addressed to Mr A. V. STOREY, General Manager

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The commission chargeable in respect of any practice or partnership in Great Britain placed exclusively in the hands of this Agency has been fixed on an exceptionally favourable scale, the maximum chargeable on any transfer being fifty pounds (£50)

No charge is made to Principals for the introduction of Locum Tenens or Assistants
Accountancy and legal services furnished by the Agency, where desired, at moderate inclusive charges.

1 Near HARROGATE —Country PRACTICE —Well established and rapidly increasing chiefly middle and working class Practice in delightful district producing for last 12 months nearly £1,450 Panel of 537 Fees 3/6 to 12/6 Mid 2 to 5 gns About 40 cases yearly Suitable house with 2 reception, 3 bedrooms etc., and professional rooms Rent £30 p a Very good sport Premium £1,800, part by instalments

2 LINCS —COAST TOWN — Well established mixed class PRACTICE averaging £2 749 p a (last year £2,868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly) Newly built modern house, with special professional accommodation central heating etc. Garden Garage. Price freehold, £2 300 part on mortgage Good sport and schools within reach Premium 1½ years purchase

3 DEATH VACANCY —SOUTH CORNWALL —Old established unopposed PRACTICE situated in small but growing seaside town (much augmented by good class visitors in the summer) in a very delightful district worth between £800 and £900 p a including panel producing over £100 Nearest opponent 6 miles Very good house (2 reception 4 bedrooms, bathroom) with 1/2 acre of garden Can be rented or purchased Efficient locum in charge

4 WEST MIDLANDS —Very old established mixed class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2 367 p a., with panel over 1 000 Opposition not strong Very fine house (3 reception, 6 bed rooms bathroom, etc), standing in nearly 3 acres of ground Beautiful garden tennis lawn, and productive orchard Price, freehold £2,000 Premium 1½ years purchase.

5 LONDON, S E —Pleasant residential suburb Very old established non panel (but scope for this) PRACTICE, held over 30 years by Vendor who is retiring Receipts last year over £900 Patients mixed, but mostly good class Large house (part could be let off for flat) Rent £98 p a Premium 1½ years purchase

6 PARTNERSHIP —WITHIN 100 MILES NORTH OF LONDON —A one-sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better-class Practice, in a large town, at present worked by three partners who now require further assistance Gross cash receipts average about £8,000 p a Selected panel of 700—800 Fees 5/ to 21/ average 7/ Suitable small house with sitting room, 3 bedrooms etc Rent £90 p a Premium 2 years purchase

7 WEST OF ENGLAND —COUNTY TOWN —PARTNERSHIP —A share, representing about £800 p a, with further increase later is offered in a very old established good middle-class Practice rapidly increasing, and with large scope Selected panel of 300 Fees 3/6 to 21/ About 30 cases of midwifery at from 5 to 10 gns Choice of houses Premium 2 years purchase Six months preliminary assistantship Purchaser should hold London degree, or F R C S Eng

8 YORKS —HOSPITAL TOWN —Well established good middle and working class PRACTICE with beautiful surrounding country Average income over £3 000, including an appointment worth nearly £1,300 and panel of 1 648 Fees from 2/6 Midwifery from 2 gns About 35 cases Good detached house in excellent repair, with 2 reception, 5 bedrooms etc large garden Price for freehold £2,200 Good sport and schools Premium £4,500 Very good surgical scope

9 SOUTH WEST OF ENGLAND —PARTNERSHIP —In a large thriving seaport town the third share (with increase to half later) of old established rapidly increasing middle-class Practice. Receipts average £2 272 p a (last year £2 549), including panel of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase Scope for surgery

10 MIDDLESEX —Rapidly developing district, within 20 miles.—PARTNERSHIP —A one half share in an old estab good middle-class Practice averaging for the past two years over £3 500 p a Panel of 1 100 and appts. bring in £100 p a Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms etc Garden Price for freehold £2 100 Premium 2 years purchase

11 BORDERS OF NORFOLK AND SUFFOLK —PARTNERSHIP —A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village near two good towns Income for last 12 months £1 992 including panel of 1 000, and appts. worth about £150 Fees 2/6 to 10/6 House contains 3 reception, 6 bedrooms etc Sport of all kinds Premium 2 years purchase

12 HANTS —Country PRACTICE in very pleasant district Income for last 12 months £730, including panel of 450 Fees from 4/ Very good house with 2 reception 7 bedrooms etc. Three acres of garden, etc Price freehold £1 950 part on mortgage. Premium £1 050

13 PARTNERSHIP —Within 40 miles of London —Pleasant Town (pop over 6 000 with large surrounding district) —A two-fifths share (to commence) is offered in an old established steadily increasing Practice Income last year about £1,750 including panel and appts about £380 Small house available (rent £60) or larger house by purchase (price freehold £1 300) Premium only 1½ years purchase Excellent future prospects

14 KENT —Country PRACTICE near Coast —Old established mixed-class Practice averaging about £1 100 p a. Panel of nearly 400 Fees 3/6 upwards Convenient house with 3 reception 6 bedrooms etc Good garden Price for freehold £1 800 £400 on mortgage. Good sport and schools within reach Premium 1½ years purchase.

15 LANCS —Large Town, within easy reach of Manchester —PARTNERSHIP —A one third or one half share (with succession later) in an old established good mixed class Practice offering large scope. Gross cash receipts for last 12 months £2 615 Panel of over 2 400 Fees 7/6 upwards Suitable house available on rental Premium 2 years purchase

16 CHESHIRE —Coast Town within reach of Liverpool —Well-established PRACTICE averaging over £1 200 p a including panel of 780 Fees from 3/6 Mid 2 to 5 gns Double fronted hous with 3 reception 4 bedrooms etc Price freehold £1 400, £800 on mortgage Premium 1½ years purchase, £1 100 down

17 NORTH OF ENGLAND —In a small pleasant town, old-established sound PRACTICE averaging over £1,200 p a, including nearly £500 from panel and appts Good house (3 reception 5 bedrooms bathroom etc electric light and every convenience garage garden) Price freehold £1,300 Mortgage for full amount can be arranged Premium £1 450

18 CROYDON AREA —PARTNERSHIP —A two-fifths or one-third share is offered in a well established and increasing middle class Practice, averaging £2 600 p a (last year £2 740) Panel of 935 Fees 3/6 to £1/ Midwifery 4 to 15 guineas Choice of houses Premium 2 years purchase part by arrangement

19 DEVON —VILLAGE PRACTICE situated in very attractive district, within 5 miles of a Hospital town Receipts for past 12 months £942 including panel producing about £230 p a. Fees 2/6 to 10/6 Very good ten roomed house with professional rooms garage for two cars cottage etc Large garden Price for freehold £3,000 £2 000 on mortgage Premium £1 500

20 SOUTH WEST OF ENGLAND —COUNTRY PRACTICE within 10 miles of the Coast Good mixed class rapidly increasing Practice offering further scope and situated in very pleasant agricultural district Average gross cash receipts £1,841 (last year £2 300). Panel produces about £420 p a. Fees 3/6 to 21/ Suitable house with 2 reception 5 bedrooms etc Electric light Garden Garage Rent on lease £50 p a. Good sport and schools within reach Premium £2 500

21 MANCHESTER —Chiefly working-class PRACTICE Average income £1 000, including panel of 1 000 Moderate expenses Corner house with 3 reception 8 bedrooms etc. Garage Rent on lease £65 p a Premium £1 500 or near offer

22 NEAR HUDDERSFIELD —PARTNERSHIP —A half share in an old established mixed class Practice Income for immediate past year over £4 250 Panel of 3 500 Fees 3/6 to 7/6 Very good house with 4 reception 6 bedrooms etc. 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

23 EASTERN COUNTIES —Old established, unopposed, and rapidly increasing Country PRACTICE, in very pleasant sporting and agricultural district, averaging nearly £1 200 p a (last year over £1,400) Panel of 600 Very good house (3 sitting 6 bedrooms bathroom etc) Garden, with tennis lawn Garage Electric light Price freehold £2 000 £700 on mortgage Premium 1½ yrs' pur

24 YORKS —In a clean and thriving manufacturing town old-established non panel PRACTICE partly Homoeopathic and held 50 years by Vendor who is retiring Cash receipts average about £2 400 p.a. Patients better and middle class Midwifery refused Good house rent £100 p a Premium only 1 years purchase, part down and balance by arrangement.

25 BORDERS OF BERKS AND HANTS —In a delightful district, an old established mixed class PRACTICE averaging for the past three years £904 p a (last year £973), including panel of 400 Visits 5/ to 12/6 medicine extra (3/6) One opponent House contains ample accommodation (2 sitting rooms, 7 bedrooms bathroom etc) Large garden and garage Rent £50 p a. Prem £1 400 Excellent sport

26 YORKSHIRE —GOOD TOWN —PARTNERSHIP —A one half share (guaranteed to produce £2,000 p a. in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4 000 Small selected panel of 430 One appointment worth nearly £650 p a Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

27 NEAR HEREFORDSHIRE BORDER.—HOSPITAL TOWN —Old-established mainly good class non-dispensing PRACTICE averaging about £1 200 p a Panel of 500 600 Fees 5/ to 10/6 Nice house in centre of town Price for freehold £1,200, part on mortgage. Premium £1 800, £1 300 down and balance by instalments. Up to-date Cottage Hospital, and good scope for surgery

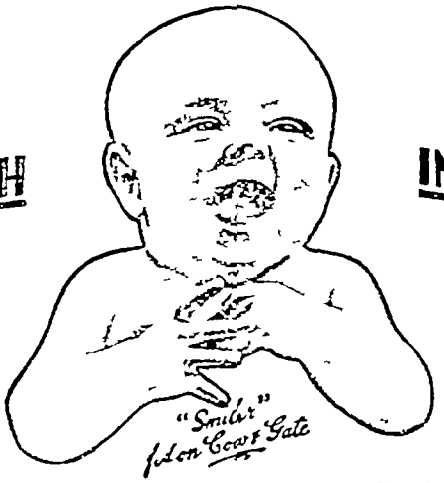
28 YORKS —PARTNERSHIP —Within a few miles of large residential town the half share of old established unopposed country PRACTICE owing to retirement of senior partner through age and ill health Cash receipts for past three years average over £2 500 p a., including appointments and panel of 1 200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on Price freehold £1 200 part on mortgage Premium 2 years purchase

29 PARTNERSHIP —COUNTRY TOWN, within 130 miles North of London —A one-fifth share is offered in a very old established good mixed class Practice having good scope Gross cash receipts for past twelve months nearly £6 000 including panel of 3 400 Fees from 4/ Not much midwifery Suitable house available Prem 2 yrs pur.

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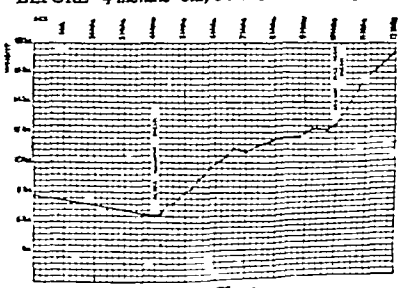
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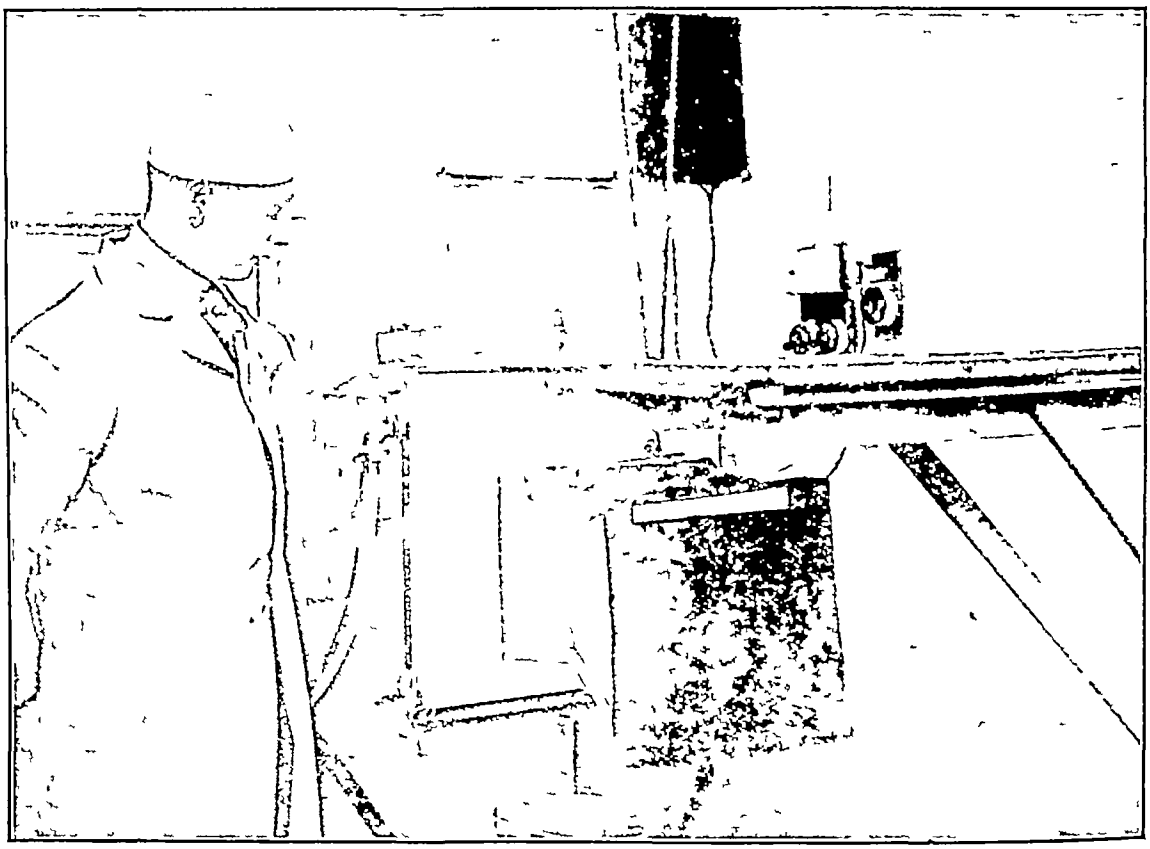
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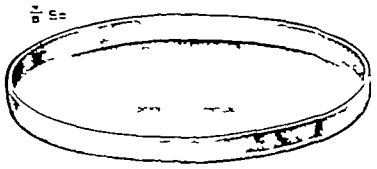
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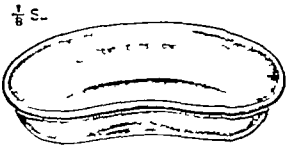
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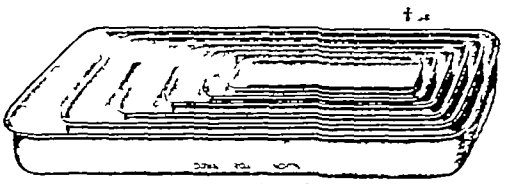
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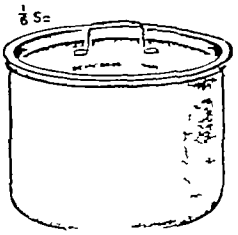
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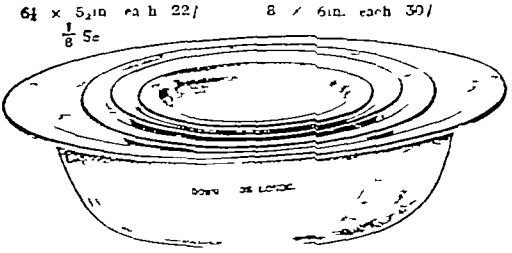


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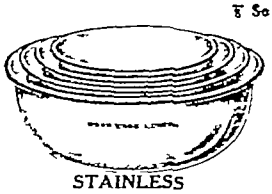
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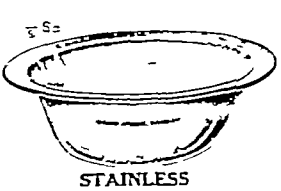


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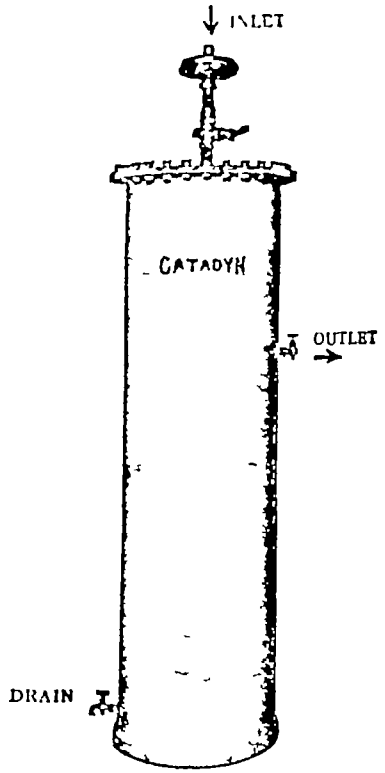
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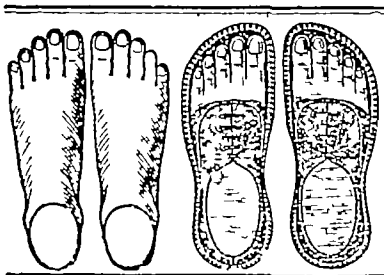
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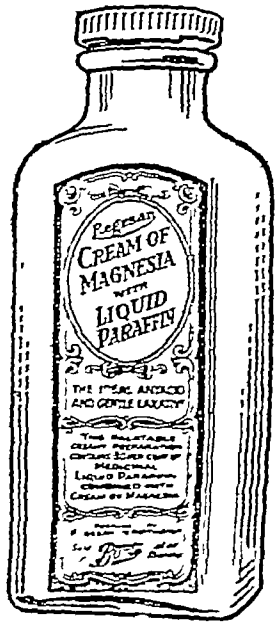
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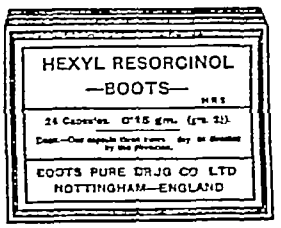
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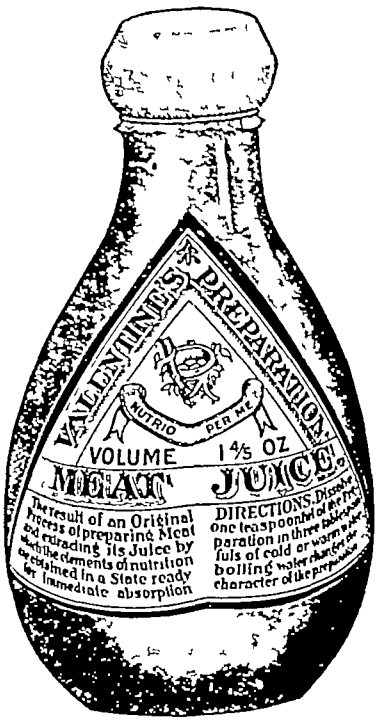
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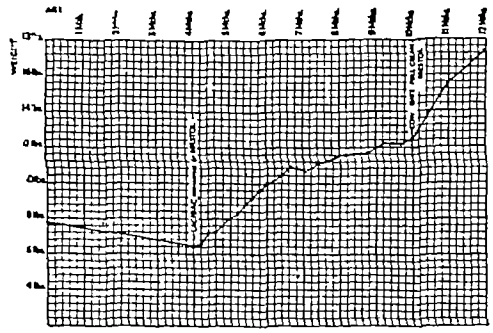
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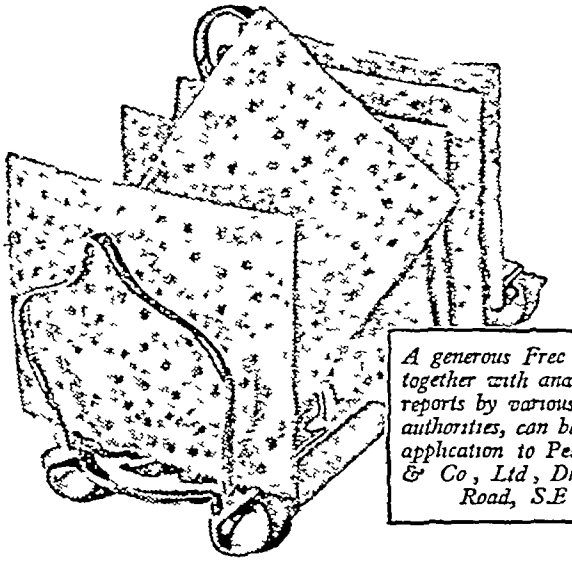
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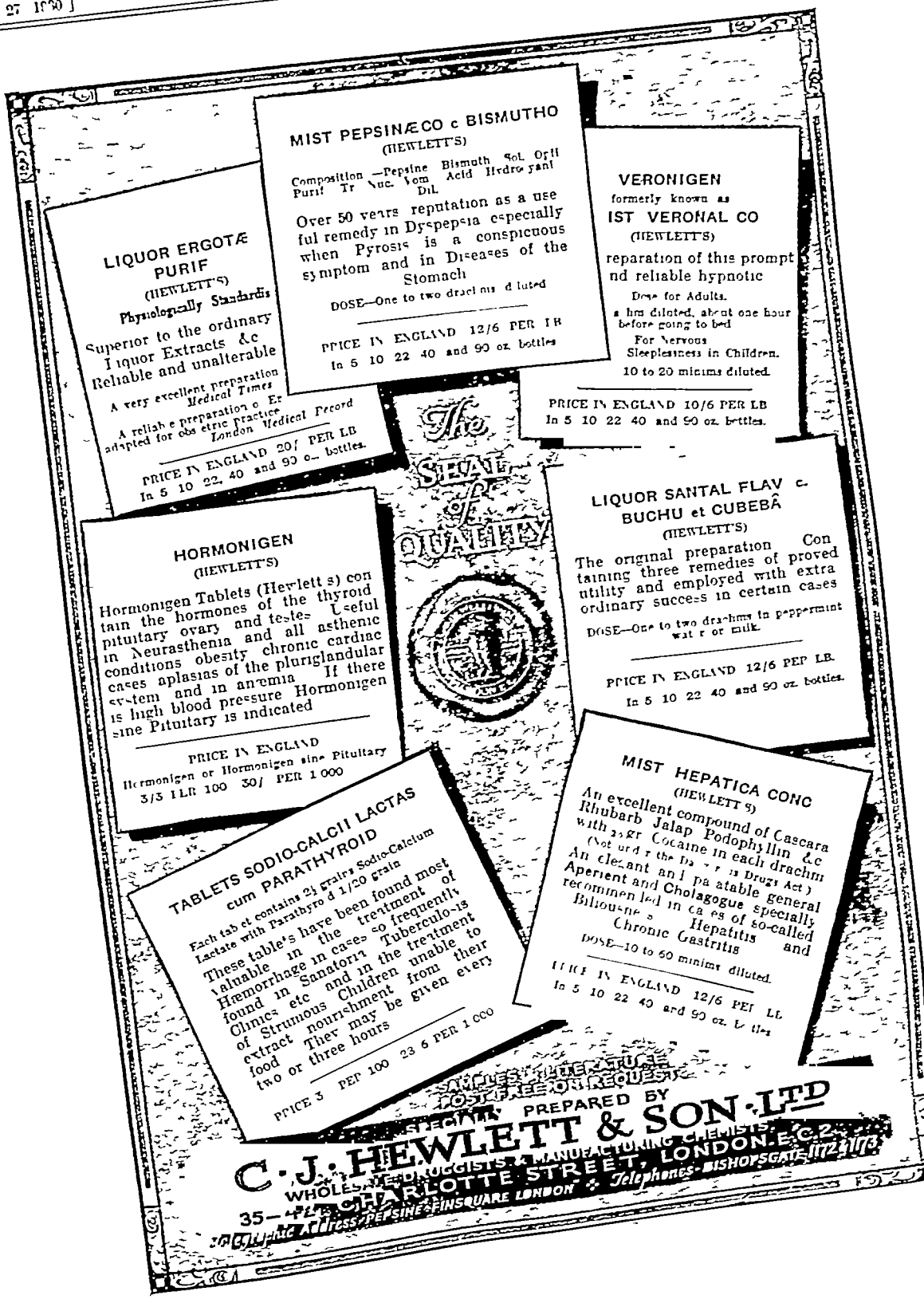
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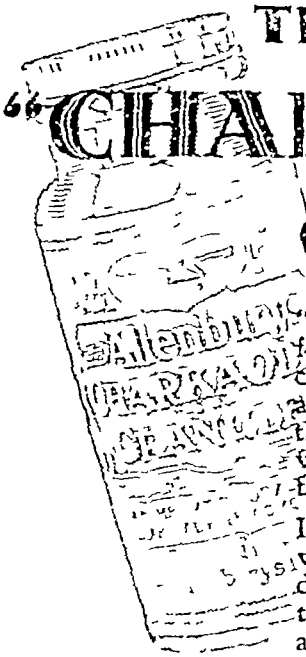
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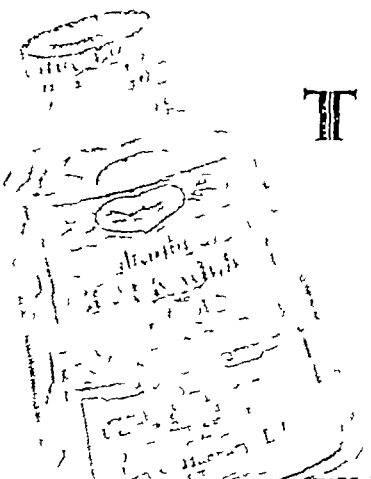


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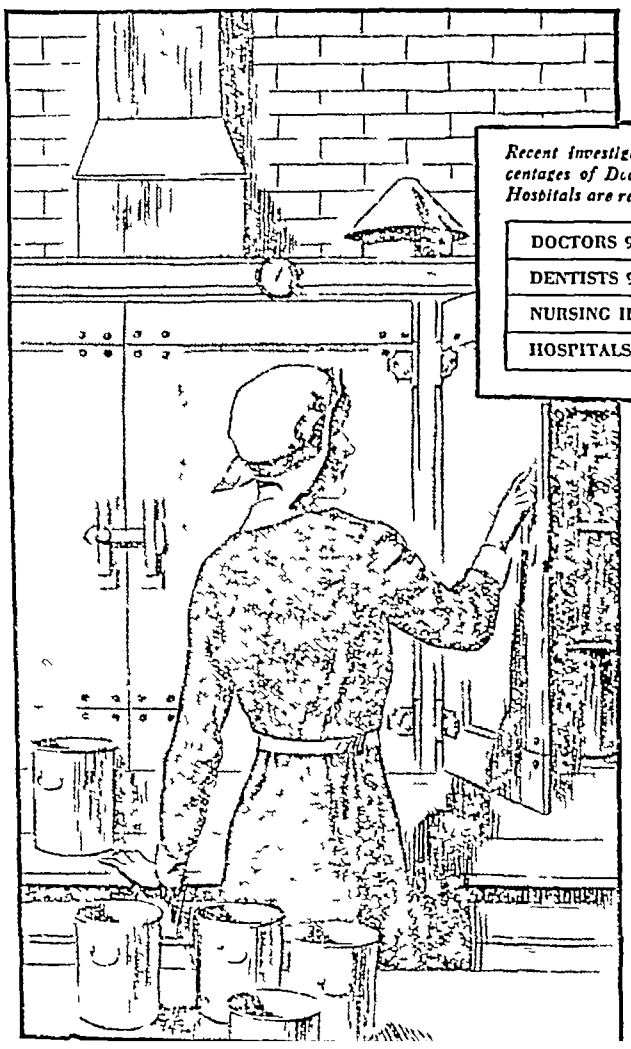
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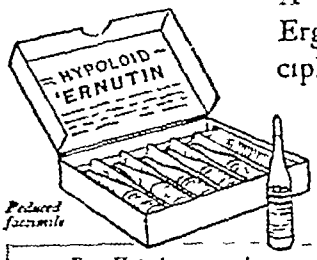
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A Paper
ON
FILTERABLE VIRUSES AND PRACTICAL MEDICINE *

BY
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I appreciate the invitation to open this discussion, not *as a personal honour, but rather as a compliment* to the laboratory worker, and an instance of that spirit of co-operation between the two branches of medicine—clinical and scientific—which is daily becoming more intimate and consequently more fruitful. There is one point that I should like to bring into prominence. The clinician faced as he is daily with the vital problems of disease should be, and often is, one of the great initiative forces in research. Since my appointment to a research post at the London Hospital I have come to realize how stimulating a close contact with the clinical side of medicine can be to the laboratory worker. But for this to be effective the clinician must have some conception of the lines along which the pathologist is thinking, and I feel, rightly or wrongly, that many clinicians may be out of sympathy with investigation in the field of filterable viruses as suggesting too much of what is termed academic research. I therefore welcome the opportunity of describing some aspects of recent work on this group of disease agents, and hope to show that if something of practical value has already been achieved, the future promises that the laboratory may become of even greater assistance in this realm of disease. I propose, first of all, to discuss very briefly the probable nature of these so-called filterable viruses, and then to deal with the question of immunity in diseases of this class, for it is in connexion with this latter question that much of practical import is going on.

The Nature of Filterable Viruses

Much of the work and speculation which this intriguing problem has incited has merely heightened that atmosphere of mystery with which the unknown is invariably surrounded. This I think, goes a long way to explain the difficulty which the clinician has experienced in approaching the subject. Some have endeavoured to show that these viruses are unorganized enzyme-like agents a *contagium vivum fluidum* as Beijerinck first suggested. Others, while admitting their particulate nature, consider that they represent a form of life differing from that of the cultivable bacteria. Some would even have us believe that they are the product of diseased cells, a product which when brought into contact with fresh susceptible cells give rise to the same diseased state, and in so doing engenders more of itself, the virus thus becoming both the cause and the result of the disease. I do not deride speculation, for I recognize that it denotes a healthy and useful attitude of mind, but it is perhaps unfortunate that much of the speculation which this problem has called forth has served largely to cloud the issue. Surely it would have been better to start from the simpler and more obvious conception that these viruses are akin to bacteria than to evolve an ingenious hypothesis postulating a new form of life and endeavour to make observed facts support it. If one accepts a view of kinship as a working hypothesis, the first question is: Are these viruses living? Now this is not such a simple matter to settle as one might imagine. The line of demarcation between the living and non-living is by no means clearly drawn; in fact there is no single criterion of life. But there are certain characters (such as the power to multiply, to adapt to altered environment, and to assimilate from the surrounding medium without loss of individuality) which, when present together, are characteristic of living things. The filterable viruses possess all these; one is justified in assuming, that they are alive.

Having admitted the living nature of these agents a second question demands solution: this concerns their relation to the bacteria with which we are familiar. One factor, more than any other, has tended to obscure this issue—namely, the limitations of the microscope. Using the visible portion of the spectrum, particles below a certain size cannot be seen with the microscope, although of course, this is a purely artificial limit it has had a profound effect on the way in which the problem of the nature of filterable viruses has been envisaged. We have become so used to staining bacteria and examining them by means of the microscope that we question the bacterial nature of a virus which does not lend itself to demonstration by the usual methods. This has led to the use of viruses being termed ultra-microscopic, but though some of them probably do merit that designation, there are others which are almost certainly within the limits of visibility with the microscope. The bodies described by Paschen in vaccinia virus, which many now hold with Paschen to be the virus, can be stained and seen under the microscope, and the virus of psittacosis is definitely associated with most characteristic bodies which I believe to be the virus. Another example is the virus of fowl pox, so that there seems good reason for stating that "ultra microscopic" is not a character common to this group of viruses. Undoubtedly they are extremely small, as is evidenced by the fact that the majority can traverse filters which hold back the ordinary bacteria, but is this a sufficient reason *for marking them off as something different? I do not* think so. Some of the so-called filterable viruses filter with great difficulty—vaccinia for example—and on the other hand there are visible and cultivable bacteria, such as *Bacterium pneumosintes*, and a number of small saprophytes in the human nasopharynx studied by Olitsky and Gates[1] and by Dochez and his colleagues,[2] which pass through the more porous *bacterial filters*. On the score of size, then, there seems no good reason for separating these viruses from the bacteria, the one group merges imperceptibly into the other.

The inability to cultivate the so-called filterable viruses in a lifeless medium is another reason advanced for assuming that they are not bacterial in nature. For a time our only method of cultivation was in the tissues of the living animals, but the work of Steinhardt and Lambert,[3] Parker and Nye,[4] Carrel and Rivers,[5] and others has *shown that they could be made to multiply in the presence* of living cells in tissue culture, and the Maitlands[6] have further simplified this method of cultivation. Even though we were still unable to grow these viruses apart from living cells, I should hesitate to advance this as a reason for their being unlike bacteria, for there are visible bacteria such as the leprosy bacillus, the cultivation of which in artificial media despite repeated attempts in the past is now a recent achievement which awaits confirmation. Recent work by Muckenfuss and Rivers[7] with the virus of vaccinia would seem to suggest, however, that the virus does not multiply either inside or at the surface of the living cells. Using Maitland's medium which consists of rabbit's serum diluted with Tyrode's solution, added to fragments of fresh tissue, they have obtained survival and possible multiplication of vaccinia virus when the living tissue was separated from the virus by means of a collodion membrane. This would suggest that the function of the living cell is to supply some diffusible substance necessary to the growth of the virus. Should this work be confirmed it may ultimately lead us to a method of artificial cultivation which would remove this apparent difference between the filterable viruses and cultivable bacteria.

No doubt there are competent authorities who will disagree with me, but in my opinion the available evidence strongly supports the view that filterable viruses are bacterial in nature. With each step forward in the knowledge of these viruses the line of demarcation between them and the bacteria becomes less and less obvious, and I look forward with some degree of confidence to the time when the filterable viruses and bacteria will be merged into one large group inside which, of course, there will be minor differences—subgrouping—just as there is in the case of bacteria at the present time.

* Read in opening a discussion in the Section of Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

Immunity in Virus Diseases

It has become usual to speak of the immunity in virus diseases as being solid and long-standing, lifelong even, in contradistinction to the immunity resulting from bacterial disease, which is so often fugitive, but like most generalizations this is only partially true Undoubtedly recovery from many filterable virus diseases is accompanied by the development of an immunity of high degree and long duration One knows, for instance, how seldom an individual contracts diseases like measles, mumps, or yellow fever more than once But there are diseases due to filterable viruses such as foot-and-mouth disease, herpes, and the common cold—the recent work of Dochez and his colleagues would seem to warrant the inclusion of the last disease in this category[8]—in which the immunity is fleeting and of low grade, just as there are bacterial diseases such as typhoid fever which confer a good immunity Here again the division between the two groups is not absolute

Immunity to a bacterium is associated with the development of antibodies, the presence of which in the blood can be demonstrated in a variety of ways Although the importance of these antibodies in ensuring the immune state varies in the different bacterial diseases, there can be no doubt that either alone or in co-operation with the phagocytic cells of the body they play an important part in the defence mechanism of the organism This is not their only importance, for, of course, they are of the greatest service to us in diagnosis It has been recognized for some time that immunity to filterable virus diseases is associated with the development of specific antibodies which, from the method employed for their demonstration, have been spoken of as neutralizing antibodies During the last few years there has been a tendency to minimize the importance of these antibodies in the vast majority of filterable virus diseases, and to speak of the immunity as being almost entirely cellular—a tissue immunity Recent work, however, has gone a long way to controvert this view, and there seems little doubt that in filterable virus diseases, just as in those of bacterial origin, the two factors—cells and humours—work together in defending the tissues from invasion An active immunity can be obtained against a filterable virus by methods similar to those employed in the case of a bacterium, a virucidal serum can be utilized to procure a passive protection, and with this serum the same immunity reactions that we are familiar with in bacterial diseases can be demonstrated Let us consider these phenomena more closely

Active Immunization

There are two diseases due to filterable viruses against which prophylactic vaccination has been practised for a considerable time I refer to small-pox and rabies In the case of the former disease we make use of the fact that the virus of small-pox when adapted to the cow loses its invasive power for the human organism, so that when implanted in the skin it gives rise to a local lesion only, the evolution of which, however, confers immunity against the virus of small-pox The principle involved—namely, the use of living virus which has been altered by passage through another animal species—is of limited application, for, apart from small-pox, fowl-pox is the only other example of a virus disease in which it is applicable

Although this method of prophylactic immunization is good in that it produces a high degree of immunity, it is not without its dangers Vaccination in Europe has been complicated of late years by an encephalomyelitis with a high mortality It is true that the incidence of this complication is very low, about 1 in 40,000 vaccinated, or 1 in 4,000 of primary vaccinations at a susceptible age But few though these cases are they cannot be ignored, and we must consider what steps are to be taken to avoid their occurrence

The etiology of the condition is still under dispute, some holding that the disease of the central nervous system is the work of the virus of vaccinia, while others maintain that it is due to a dormant neurotropic virus which is stirred up by the vaccinia virus Whichever view may be correct it would seem obvious that the occurrence of such a complication would be minimized or entirely avoided by reducing the amount of virus inserted locally in vaccinating, for the more virus implanted in the skin the greater the amount of virus which will invade the body generally In England this view has led the Ministry of Health to issue an order that vaccination is to be made with one insertion only, with minimal trauma, and at the London Hospital we have employed dilution of the lymph Gins also advocates dilution of the lymph, and it is possible that in Canada the immunity from these troubles has been due in part to the fact that vaccination is less drastic than in Great Britain By still greater attention to the question of dosage the method might possibly be made quite safe, but, personally, I should like to see a method evolved in which inactive or dead virus was used There are considerable difficulties to overcome, however, before such a method will be available

Active immunization against rabies involves another principle—namely, the use of attenuated or inactive virus The classical method makes use of drying to attenuate the virus, but carbolized virus is used with equally good results For long this principle was not considered as applicable to other virus diseases, and the view that the production of lesions with living virus was an essential factor in the development of the immune state was almost universally accepted The observation, made independently by Vallée and his colleagues[9] at Alfort, and by the British Foot-and-Mouth Committee,[10] that the virus of foot and mouth disease could be rendered inactive by low concentrations of formalin and yet retain its antigenic power has put another aspect on the matter I am not claiming that the immunity produced by inactive virus is as solid as that called forth by living virus, I do not believe that it is But the method has its uses, and it has since been shown that vaccines can be prepared by this method from other viruses, such as fowl plague, distemper, and yellow fever The work of Laidlaw and Dunkin,[11] in the prophylaxis of distemper, has been particularly successful They make use of two vaccines the first an inactive formolized vaccine which produces a certain degree of immunity, which is then converted into a solid immunity by the second vaccine consisting of living virus The method has already passed beyond the sphere of experiment, and has been applied in the field with manifest success

In other diseases progress along these lines has not been so rapid Although in France a formolized foot-and-mouth vaccine has been used in the field to a limited extent, in England it is still in the experimental stage In the case of this disease, however, it must be remembered that the spontaneous disease gives only a fugitive immunity, and a further complication is the existence of three immunologically distinct types of virus If an attack of a disease does not confer a durable immunity one cannot hope to achieve very much by the administration of vaccines as a prophylactic measure, and this fact must be borne in mind when considering such diseases as the common cold and influenza, where one attack appears to confer little or no resistance to subsequent ones There is another observation made by Laidlaw and Dunkin in connexion with their work on distemper which puts a check on undue optimism The supply of a filterable virus in any great quantity, at any rate at the present time, is obtained from the tissues of an infected animal In the preparation of distemper vaccine, for instance, use is made of the tissues of an infected dog Both the dog and the ferret are susceptible to this disease, but though a formolized ferret vaccine works admirably in the ferret it is a poor vaccine for the dog, and vice versa, the animal tissues present in the vaccine, when foreign to the vaccinated animal, interfere with the development of immunity to the virus It is easy to see how this will mitigate against the successful application of the method in man, at any rate for the present I make that qualification because much will depend on the progress which we can make in the cultivation of the filterable viruses The work of Muckenfuss and Rivers, which I have already mentioned, gives some hope that this apparently insuperable difficulty will eventually be overcome We had hoped at the London Hospital to evolve a method of vaccination against small-pox on lines similar to those employed in distemper My colleague Dr Bland has carried out a

number of experiments with this object in view, but his efforts so far have not met with success. Formolized vaccine virus inactive to the extent that serial passage in animals will not reactivate it has only produced a very low-grade immunity, insufficient to protect even against a comparatively small dose of active virus. This has been a disappointment, but it should stimulate us to renewed effort. Research has given us a method of prophylactic vaccination against the filterable viruses which has proved its value in veterinary medicine, and I am optimistic enough to hope that further work will overcome the difficulties in the way of its exploitation in protecting man against some of the filterable viruses to which he is susceptible.

Passive Immunity

I mentioned previously that immunity to a filterable virus was associated with the presence of a specific antibody in the blood. The serum of a person for instance, who has had yellow fever, when mixed with yellow fever virus in suitable relative proportions will render that virus innocuous for a susceptible animal: it has neutralized it, hence the term neutralizing antibody. Put the presence of the antibody can be demonstrated in another way, of which I propose to give you an experimental example.

The guinea pig is susceptible to the virus of herpes. Implanted in the shaved hairy skin this virus gives rise to the typical vesicular lesion which characterizes human herpes. If one infects a series of guinea pigs and essays reinfection in them at daily intervals it will be found that seven days or so after infection they can no longer be reinfected: they are immune and it can further be shown that the onset of this immunity coincides with the appearance of a specific herpetic antibody in the blood. Such an immune guinea pig can be hyperimmunized by giving it a series of inoculations of living virus and thereby the neutralizing power of its serum for herpes virus can be considerably increased. Inject 2 c.cm. of such a hyperimmune serum into a normal guinea pig and twenty-four hours later test its susceptibility to herpes virus. It will be found to react very slightly if at all to a dose of virus which produces an intense reaction in an untreated guinea-pig: the guinea-pig has been passively immunized to herpes virus.

This method has its application in human disease, but since one cannot subject individuals to a process of hyperimmunization as was done in the case of the guinea pig use has to be made of convalescent serums. In Canada there is full appreciation of the value of the use of convalescent serum in poliomyelitis, but less, perhaps, of the prophylactic use of measles convalescent serum. Serum collected early in convalescence has a considerable antibody content, so much so that when administered up to the fifth day after exposure to infection in doses varying from 1 to 10 c.cm. according to the age of the person, it will give complete protection and the same dosage given later, from the fifth to eighth day after exposure, though no longer protecting against measles, modifies the attack. In children under 2 years old, in whom measles is a redoubtable disease, one aims at giving complete protection, but in older children, unless they are delicate, it is better to give partial protection, for the modified measles is a trivial affair and the patient gets the benefit of acquiring a solid immunity to this disease.

Although this method has its uses in private practice it has its chief applications in children's hospitals and in the children's wards of our large general hospitals. In the Hospital for Sick Children, Great Ormond Street this method has been applied for some time now, and has proved of the greatest service. It is also in use in the wards of the children's department at the London Hospital and whereas prior to its introduction a case of measles appearing in the ward meant closing the ward to new cases and passing through a period of quarantine now the offending case having been dispatched to the fever hospital, the remaining children receive passive protection and the routine of the ward continues uninterrupted. The great drawback is, of course the difficulty of procuring an adequate supply of convalescent serum. The recent success recorded by Fairbrother[11] in producing an effective anti-poliomyelitis serum in a horse makes one hope that it may not be impossible to produce virucidal serums of effective titre in animals such as the horse and so become independent of the limited and precarious supply of antiserum which convalescents now provide. But here again in the case of active immunization with vaccine [illegible] depend on the progress made with the [illegible] cultivation.

Immunity Reactions

A valuable aid to diagnosis is given by [illegible] as the Widal and the complement fixation tests and [illegible] virus infections give rise to specific antibodies one might expect that these same reactions would be of service in this group of diseases also. Experience is showing that this is the case.

Gordon[12] has shown that with the viruses of vaccinia and small pox both specific flocculation and complement fixation reactions can be demonstrated, and recent work by Burgess, Craigie and Tulloch[13] has demonstrated the practical value of the flocculation test. Small pox in England is almost entirely of the mild type the so-called alastrim, and frequently these cases present difficulty in diagnosis. The flocculation test is performed with a specific serum prepared in the rabbit and a suspension of the crusts from the lesions of the suspected case. The use of this test by Burgess, Craigie, and Tulloch during an outbreak of mild small pox in the South of England and North East England, has shown how very helpful it may be. These investigators examined material from fifty-three cases of small-pox, fifty two of which were of the mild variety, and in only three of these cases was there any difficulty in interpreting the result of the test. The findings with the flocculation test were checked by comparison with the clinical and epidemiological data, and by the result of vaccination during convalescence, complete agreement between the laboratory and field investigations was observed. Further, the crusts from twenty-seven cases of varicella, one case of septic rash, and one of impetigo were examined with entirely negative results.

When it is recalled also that in Great Britain the percentage of the population vaccinated against small-pox is steadily decreasing it becomes evident that the control of this disease will depend to an increasing extent on the early recognition of cases, and the value of a diagnostic flocculation test as an aid to this cannot be over-estimated. The Bordet-Gengou reaction or reaction of complement fixation, is also given by an antiviral serum in the presence of the specific virus. Mention has been made of the work of Gordon with vaccinia and small pox viruses in this respect, and the researches of Netter and Urbain, Wollman, Marie Cinca, and others have shown that this reaction can be demonstrated in the case of other filterable viruses as well. At the London Hospital Dr Bland and I have devoted a considerable time to the study of this question and we have evolved a technique which has given very satisfactory results. The viruses worked with have been the [illegible] vaccinia small pox herpes and zoster and although much of the work has been carried out with hyperimmune [illegible] in laboratory animals we have been able to demonstrate the same phenomenon with serum from convalescents though here the reaction is weaker, as one would expect. In the case of the work on zoster convalescent serum have been used entirely because of the lack of a suitable experimental animal in which to prepare a serum. It is true that difficulties are encountered in performing this test with filterable viruses and its application is limited in certain directions. For instance a vaccinia antigen prepared from the brain of a rabbit inoculated intracerebrally with this virus will not in our hands give specific fixation of complement although one can demonstrate that the antigen contains an abundance of active vaccinia virus. And yet this same brain antigen will produce a serum which will give good fixation with an antigen prepared from vaccinial lesions produced in the skin or testicle. The reason for this is obscure and [illegible] being investigated but despite these occasional irregularities findings we consider that the reaction is virus-specific and capable of considerable service in practice. I will give some examples.

A case of encephalomyelitis was admitted to the London Hospital under the care of my colleague Dr W. E. Brain. The patient had an extensive zoster of the head and neck and symptoms indicative of involvement of the brain and cord which

had developed subsequently to the zoster eruption The question naturally arose whether the encephalomyelitis was due to the zoster virus or not, but since both the vesicle fluid collected from the eruption and the cerebro spinal fluid fixed complement in the presence of known zoster convalescent serums, there was little doubt that the case was in fact one of zoster encephalomyelitis It is true that the reaction given by the cerebro spinal fluid was not as strong as that obtained with the vesicle fluid, but it was nevertheless quite definite and cerebro spinal fluids from cases of encephalomyelitis complicating diphtheria and scarlet fever gave entirely negative results

Recently I have had the opportunity of examining the serum of individuals who had recovered from psittacosis for the presence of specific complement fixing antibodies, and here again I have obtained evidence of a specific reaction Psittacosis may not be so rare a condition as is imagined, and apart from extensive outbreaks like the recent one, where the number and severity of the cases inevitably attracted attention, sporadic cases probably occur from time to time and pass unnoticed The inoculation of animals is too slow a method to be of practical use as a diagnostic procedure, and a specific serum reaction would be a great help in clearing up the diagnosis

It may be said that the examples given are both of rather rare conditions, but the principle is nevertheless of general application In this brief and rather sketchy survey of the present position of research in the realm of filterable viruses an attempt has been made to show that something of practical import has been achieved Undoubtedly an enormous amount remains to be done, but the number of workers in this field is steadily increasing, and on every hand a determined effort is being made to gain a clearer understanding of this group of viruses Some of the problems seem almost insoluble, but it must not be forgotten that the commonplace in bacteriology to-day must have appeared equally obscure to those who preceded Pasteur

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MIGRATION AND HEALTH

BY

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TO DAY the distribution of the white population throughout the British Empire is so important that it warrants consideration not only from an economic and social point of view, but also from the point of view of health

It is perhaps as necessary for Great Britain as for any country other than Japan to organize emigration on an extensive scale, on account of over population After or during every great war, there appears to have been a 'stock-taking" Thus, after the South African war, the English Inter Departmental Committee in 1904 showed that sections of the people, more especially in the more congested centres of population, were liable to suffer from the ill effects of overcrowding, or an artificial, unnatural environment As a matter of fact, there was no evidence of actual physical deterioration, since no previous standard for comparison existed

Actually the average span of life has advanced ten years during the present generation, and man to day has excelled in feats of physical endurance and established records surpassing those of earlier periods We do know, however, that a considerable proportion of people are below an optimum of health and efficiency, physical, mental, and moral Conscription in Great Britain, the United States, and New Zealand during the later stages of the war, brought to light some startling statistics Although it is possible to prove anything by statistics—even the truth—yet it is certainly disquieting to learn that "in the average, out of every nine men of military age in Great Britain, only three were found fit, two were upon a definitely infirm plane of health, three were incapable of undergoing any extra exertion, being practically physical wrecks, and the remaining man was a hopelessly chronic invalid" In Great Britain alone, a million men examined at the recruiting depots were found to be not sufficiently fit to be worth training for war service owing to structural defects or organic disease

In regard to conditions to day, the following passage occurs in Mr and Mrs Sidney Webb's monumental work, *The History of the Poor Law*

"Is there any condition more sordidly tragic than the lot of the youthful unemployed—to day counted by the hundred thousand, under nourished physically undeveloped, empty minded, loungers in disconsolate groups at street corners, or aimlessly tramping from one casual ward to another—a prey to all evil influences?"

In Australia and New Zealand, although the conditions under which the masses live are vastly better than in Great Britain, still it is comforting to read the statement of the late Professor Cunningham, the distinguished anthropologist

"In spite of the marked variations which are seen in the physique of the different classes, anthropologists believe, with good reason, that there is a mean physical standard, which is the inheritance of the people as a whole and that no matter how far certain sections of the people may deviate from this by deterioration the tendency of the race as a whole will always be to maintain the inherited mean. In other words, those inferior bodily characteristics which are the result of poverty (and not vice, such as syphilis and alcoholism), and which are therefore acquired during the lifetime of the individual, are not transmissible from one generation to another To restore, therefore, the classes in which this inferiority exists to the mean standard of national physique, all that is required is to improve the conditions of living and in one or more generations all the ground that has been lost will be recovered"

The Anzacs

Together with the sister overseas Dominions of Canada and South Africa, Australia and New Zealand offer a field for studying the effects of what is or ought to be *generally* a healthy and natural environment on a people, for the most part at least, only one or more generations removed from the parent stock of the British Isles, or, in the case of parts of Canada and South Africa, people from France and Holland Sufficient data have already been collected with regard to school children to show that the improved environment has had a beneficial effect Records collected by the late Mr Symons and myself for the New Zealand Health Department in 1908 and 1909—quite as extensive as to numbers examined as the data available to witnesses at the time of the Inter Departmental Committee—were especially interesting in showing that, while the average stature at the ages of 11 to 12 of boys in the public schools in England in 1883 was 54 98 inches, that of the cadets of the Auckland Grammar School and King's College was 56 inches at the same age Contrasting the heights of boys at Marlborough College, England, with those of King's College, Auckland, and Wanganui College, we found that between the ages of 14 and 15 the figures were 61 96 for the famous English public school and 63 for the New Zealand schools Even more interesting was the fact that a comparison between the boys of the Chapel Street School, Auckland (probably the children of the poorest parents of the largest New Zealand city), with the boys of Remuera (the wealthiest suburb), showed less disparity than the measurements and weights of children in the poorer districts of English cities as compared with the children of the more prosperous parents residing in the suburban centres and the boys of the English public schools Such a result was only to be expected in a country where there is not the severe handicap of poverty—such a dead weight in some of the congested centres of Great Britain Moreover, the prowess of the young Australian and New

* A paper contributed to the Section of Medical Sociology and History of Medicine at the Annual Meeting of the British Medical Association, Winnipeg 1930.

Zealander in the field of war or of sport need not make him ashamed to meet the stranger either within or without his gates

Dr Harvey Sutton Director of the School of Hygiene and Tropical Medicine, Sydney, late Principal Medical Officer to the Education Department New South Wales, has shown by statistical tables and graphs that the individual Australian boy or girl is physically superior to the Australian born with one British parent and the latter to the child with both parents born overseas judging by height and weight Whether the comparison is made in the metropolis, town, or country, the more Australian the child the better the physique The rural child of whatever "Australianship has been shown to outstrip the child of the large country town and of the metropolis between these the difference is much slighter Although the Australian figures for recruiting examinations have not been properly analysed, where three out of nine were classified A1 in England about four in every nine were up to the standard in Australia The C3 class was certainly smaller The predictions of school hygienists in regard to the findings of from 50 per cent to 60 per cent of defectives in schools were thus verified Dr Sutton points out that the defects in the years of school life prove to be the basis of the later physical deterioration

Thus all is not well, even in Australia Lieut General the Honourable Sir Neville Howse V C, K C B the distinguished Director-General of Medical Supplies of the Australian Imperial Force later Australian Minister of Defence and Minister of Health expressed grave doubts in 1921 whether 50 per cent of Australia's young men were fit for active service In a note on the health of the young male Australian written in reply to a request by myself, as to the percentage of those volunteering for service who were fit he stated

'The necessary information is not available to make an authentic statement but a certain amount of reliable evidence does exist which lends support to my belief

(a) Out of 21 000 senior cadets born in 1905, who were examined, 13 6 *per cent were found unfit for transfer to the Citizen Forces* notwithstanding that many medical officers passed a number whom they recognized would never be fit for service but who would, in their opinion be benefited by a few years of physical training

(b) Dental examination of Citizen Forces at camps of training shows that a large proportion suffer from dental defects unfitting them for active service

These facts together with the appalling number of men who during the war were found, on examination unfit not only for active service but for strenuous civil employment are a travesty on public health. Speaking generally and comparatively however, the good physique of the Australian Imperial Force was conspicuous—as might be expected in a voluntary army from a country blessed with a good climate good stock and with a people given to outdoor life and sport—even in our cities which possess a healthful open air environment where slum conditions are few and overcrowding has not existed long enough to cause any deterioration of type

The analysis of the present population of Australia shows that 97 per cent are of British origin and actually 99 per cent are British subjects Although Australia and New Zealand have the greatest natural increase of population in the world except Quebec at the present rate of natural increase—the difference between births and deaths being only 2 per cent per annum—we would have 12 million people in thirty years even if we did not get a single immigrant and at least 50 million in a century through natural growth, actually as many people as there were in the United States of America at the end of its first century

Ellsworth Huntington, in *Civilization and Climate* makes out a convincing claim that climate is the chief factor in the development of a nation A mean temperature of 64° F a mean humidity of 80 per cent and frequent changes of temperature are the best conditions for physical work He shows that people who like the Scotch live under conditions of relative storminess, become industrious capable and successful

McCollum, on the other hand in *The Newer Knowledge of Nutrition*, emphasizes diet as the prime factor in the development of a people He ascribes for instance the rise and progress of the Canadians in contrast with the high improvidence and retrogression of the people of the B ha ma —both descended from a common loyalist stock who emigrated from the Northern and Southern States rather than live under the Stars and Stripes—not so much to the highly stimulating climate of Lower Canada in contrast to the mild and uniform climate of the Bahamas as to the difference in diet The Bahamas produce tamarinds, olives, lemons oranges, limes, citrons pineapples, pomegranates, figs bananas melons yams potatoes cucumbers sugar, maize and peas or fruits and vegetables not unlike those of Queensland and the Northern Rivers district of New South Wales but their bread and meat are imported. The people of Lower Canada subsist mainly on cereals peas beans potatoes meat milk cream butter and cheese—a diet similar to that of the people of Australia

With regard to the Australian national diet D T Sawkins, in a memorandum to the New South Wales Board of Trade, states

The average food supplies per head of population remain the most important factor in determining national physique It is hard to avoid the conclusion that the comparatively superior physique of the Australian soldiers was built up on the liberal average diet of the decades before the war Then, the average gross supply of meat in New South Wales was 240 lb to 290 lb in contrast to the present [1922] consumption of 170 lb to 200 lb per man per annum. If this great change in the national diet is to stand for any considerable period then a great change may be expected in the national physique

Equally true with the dictum that an army fights on its stomach is it that the fate of nations depends upon how they are fed and as my old teacher Professor E. J Hamilton used to say It is better for a man to have a good stomach than a good head.

As far as the health and longevity of the individual is concerned, however second only in importance to being begotten of a healthy long lived stock or parentage is the food of the mother during his pre natal life and his diet in infancy The first fundamental requisite to rear a healthy race is of course that children should be fed as Nature intended them to be at the breast of mothers who have themselves been well nourished by a well balanced vitamin and mineral-containing diet of which fresh milk salads and fruit should be the chief constituents

The superior physique of the pastoral peoples of the past as of the present is chiefly the result of a generous milk ration One cannot visit the Hawkesbury District of New South Wales without commenting on the fine physique of the people undoubtedly due as far as the earlier generation is concerned to a diet of milk, maize meat fruit and other fresh foods rich in vitamins and mineral constituents combined with a life in the glorious sunshine and fresh air It is regrettable that resort to the grocery store rather than to local farm produce and the feeding of whole maize to the fowls rather than to the children is not maintaining the fine physique of the Hawkesbury native The cornstalk a New South Wales type with a reputation for lankiness and thinness is the immediate successor of the Hawkesbury native A visit to a Hawkesbury race meeting shows that the older generation consists of tall brawny well made big men Mr J H M Abbott hailing from the Hawkesbury River Flats, writes

The first of the free settlers who commenced the march westwards squatted there and owned the land by right of occupation. If they could obtain them, they took wives unto themselves and reared up families And the families subsisted principally on pumpkin and ground maize and wore no boots in their childhood, and led a free wild, untrammelled sort of life So they grew into tall, clean limbed, deep-chested men, and sturdy comely women, and spread north and west and south over the land—and their offspring were the fathers and mothers of the Cornstalks of to-day

The Analogy of the Merino

The people of Australia to-day owe a great debt to Captain John MacArthur of Camden Park, who imported the first merino sheep in 1796 The pioneers were told that the climate was unsuitable and that the merino wool would deteriorate as the sheep were taken nearer the Equator At the beginning of last century the heaviest fleece grown weighed 3½ lb., whereas actually a fleece of 35 lb was recently

cut from a stud sheep The merino sheep to day, however, is very different from the original stock Some of the direct descendants are still to be seen at Camden Park Various strains have been crossed with the original blood—Saxon, Negretti Infantado, and, above all, the French Rambouillet Thousands of the last strain were brought to Australia in the first half of last century So readily did they adapt themselves to their new environment that it was speedily recognized that this type was ideal for producing fine wool under our special conditions of sunshine, climate, and green pasturage Since then the great sheep breeders have evolved a truly national Australian merino, quite distinct from all the older strains of Europe—greater in every respect, greater, indeed, than any other variety of the breed in any other country in the world

Two young Englishmen of French extraction—the Pepins—must be credited with the actual development of the merino as it is known to day In 1861 they began to build up a stud flock at Wanganella, by purchasing a ram, now famous under the name of "Emperor," a big well proportioned plain-bodied, outstanding animal with strong head and horns So well did he mix with the Wanganella ewes that he became leader of the stud The progeny of the other imported animals was gradually eliminated, until the whole flock became inbred to him

Various sheep breeders since the day of the Pepins, like the Falkiners, the Austins, the Mills, the Millears the McKaugheys, and others, by careful selection, judicious mating, and heavy culling, have improved each generation until now our large flocks are bred to type with variations according to climate and soil Stamina above everything else is the quality demanded Pampering is anathema to the big breeders Science has come to the assistance of the stud masters For instance, Professor Brailsford Robertson says that 'if any one of the amino acids that build the tissues of the sheep is lacking in the food supply of the animal, the whole of the rest of the food becomes valueless as far as building up the tissue is concerned"

The industry of sheep breeding is now being conducted on a more scientific basis Who can say whether sheep at the end of the present century will not be carrying twice the fleece they carry to day, when they average 8 lb per sheep, instead of the average of 3 lb half a century ago? If we could apply the same system to the human element in Australia—that is to say, cull by the elimination of the unfit, especially the mentally unfit, and select the best type of immigrant, physically, mentally, and morally—we would still further improve the present breed Certainly the fine agricultural country type of Englishman, Irishman, and Scotsman, predominating before 1820, which may have deteriorated to a certain extent by the industrialism of the later years of last century, is being reproduced in Australia, South Africa, Canada, and New Zealand by a type which bids fair to be even better in physique

The Growth of Population in Australia and Canada

The causes of emigration are stated to be adversity, economic distress, and the attraction of the prospect of wealth and improved conditions, apart from the earlier causes, such as political or religious oppression The great migration between 1841 and 1847 when 2½ million people left Ireland, mainly for the United States, was caused by the years of potato famine As far as Australia, including Tasmania, is concerned, although in the early days a certain number of people are said to have left their country for their country's good, undoubtedly many of them made good in the new country, as was the case also with Virginia and Maryland in America, where those transported became in many cases industrious and exemplary citizens

Australia to day is peopled by immigrants or the descendants of immigrants There is no one living in Australia (other than the aborigines) who is a descendant of the fourth generation of Australians We have actually an area of 3,000,000 square miles, nearly equal to that of the United States of America, four fifths of that of Canada, over one-fifth of the area of the whole of the British Empire—that is, more than three quarters of the whole area of Europe, and actually twenty five times as large as Great Britain and Ireland We have a population of only 6½ million, while Great Britain and Ireland have a population of roughly 50 million As a matter of fact, the Dominions overseas, embracing Canada, Australia, New Zealand, and South Africa, have only about 18 million whites It is to be remembered, however, that five thirteenths of Australia is within the Tropics

In spite of the distance from the Motherland, the population of Australia since Governor Phillip landed 141 years ago has shown phenomenal growth, especially in the last hundred years During this period it has grown to the same size as that reached in Canada in three centuries The most conservative estimate of the population that Australia could accommodate has been stated to be 40 million The Right Honourable William Morris Hughes estimated that Australia could maintain a population of 100 million, while some have put the figure as high as 200 million

While Canada occupies one sixteenth of the world's area, it has only one two hundredth of its population The first settlement in Canada was at Port Royal or Annapolis, Nova Scotia, in 1605 By 1763 there were 90,000 people, in 1800 a quarter of a million, whereas now there are 10 million In Canada to day 78 per cent of the people are native born, while only 11 per cent are British born

As showing how history repeats itself, the Napoleonic wars, just like the last war, created tastes, habits, and conditions incompatible with the peaceful activities of the new era that followed The total population of the world in 1800 was 700 million, whereas it is 1,900 million to day During that time the population of England and Wales increased from 12 million to 38 million

Immigration Problems

The problem of the distribution of population throughout the British Empire is not so simple as it might appear The mere transfer of the surplus population from one part to another which is sparsely populated, so far from solving the problem of unemployment, may tend to aggravate it In Australia it is extremely difficult to absorb some immigrants, especially those whose ways and ideas have been set before they arrive, youths under 20 years, provided they are of reasonably good stock, can be made into good Australians Older people find the conditions so different from their previous environment that they have difficulty in accommodating themselves

One method of settling immigrants has been that of the group settlements in the south west of Western Australia, where immigrants receive 160 acres of land and 10s a day for two and a half years These settlements are well described in *Amateur Settlers* by Lord Apsley, who found that one third of the settlers within an area abandon their holdings He ascribed seven failures out of ten to ill health Mr W Banks Amery, British Dominions Office Representative in Australia, found that 32 5 per cent of British settlers either abandoned their holdings or were dismissed Of 1,105 Australian settlers, 45 per cent left their holdings or were dismissed Thus actually among "stickers" 68 per cent were recent British arrivals and 59 per cent native born Australians A Royal Commission found that one of the difficulties was the dislike of the women for dairying, and the preference of numbers of men to work for wages rather than accept the responsibility of fending for themselves It was also found—as in the case of the returned soldiers from the war for whom many millions were spent in settlement on the land in Australia—that poor and unsuitable land had sometimes been selected The opinion now prevailing is that these settlers should be placed only on first class land, that payment should be by piece work, and that they should be drafted into preliminary training camps Altogether there have been 135 groups of settlers, which have provided a population of 9,580 at an expenditure of 3½ million pounds

The Big Brother Movement, by which boys are brought out to Australia and placed under the protection of citizens, as the boys brought out under the Dreadnought Fund, has been satisfactory

The general impression of the people with regard to the immigrants that arrive is that they are less than "fair average quality" Most of the States welcome land workers and

domestics, but do not encourage other immigrants except nominees—that is those who have friends already in the country prepared to assist them

Where the medical profession might do great work for the Empire is by encouraging a suitable type of youth to emigrate one with a good family history of good physique ambitious and above all with a will to work Dr Stewart Mackintosh's observations[1] suggest that readiness of adaptation to change argues an ancestry derived from many and varied stocks such as are usually bred together by urban influences One result of the rapid transition from an agricultural to an industrial nation has been the disintegration of rural communities their aggregation in new centres and the extraction by a severe process of natural selection of types that could adapt themselves to industrial exigencies and climatic and other conditions The New World has drawn some of its most hard working labourers from limbos of despair, men who develop a surprising physique and energy as soon as they can enter environmental conditions at all conformable to their physical needs Professor Karl Pearson emphasizes that it is essentially the man who makes his environment and not the environment which makes the man We have chosen to make ourselves an industrial nation and allow our agriculture to decay, we have offered industrial work to those who made their living on the soil luring them into the cities and into environments differing in many respects from those in which they were brought up

A few sons of medical men have come out to Australia since the war, received some training at the Hawkesbury Agricultural College and in some cases are doing well on the land to-day If anyone cared to organize a batch of sons of medical men, it would not be difficult to arrange for them to be met on arrival and have them distributed to sheep and cattle station owners or farmers in Australia and New Zealand on similar lines to the Big Brotherhood Movement Certainly if they came out with the intention of settling and marrying the Australian girls who are even a finer type than the men, would give them a hearty welcome

REFERENCE

[1] Mackintosh J S The Effect of Intra Migration on National Health, *British Medical Journal* 1912 ii p 367

RADIUM TREATMENT OF EPITHELIOMATA OF THE SKIN*

BY

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IN this opening paper I propose to deal mainly with the subject of basal-celled epithelioma or rodent ulcer and to touch briefly on the question of squamous epithelioma believing as I do that this disease has a surgical rather than a *radiological* aspect

RODENT ULCER

Radium is undoubtedly the best treatment in most cases of rodent ulcer it is in this condition that the most striking and permanent results of radium therapy are obtained Excision is equally effective in some cases but owing to the difficulty in excising completely even a small growth from the situations most commonly affected radium is to be preferred Cosmetically it gives results which cannot be obtained by any other method, the resulting scar being supple and the skin almost normal in appearance X rays will cure a number of these lesions but the treatment is tedious, and the action of the rays cannot be limited with such great accuracy Recurrences are more frequent, and permanent healing is not so certain

Clinical Varieties.—A rodent ulcer usually begins as a smooth, waxy, semitranslucent pearly nodule which grows very slowly, often assuming the form of a rosette of nodules with a raised margin and depressed centre A growth such as this belongs to the early hypertrophic variety and frequently shows cystic degeneration More nodules may appear and coalesce, thus forming a larger hypertrophic growth, or, owing to some slight trauma, the growth may break down, with the formation of a brownish scab Gradually there develops a superficial ulcer with a gelatinous base and the raised pearly margin both characteristic of the disease The ulcerated area may heal over in one part, leaving a smooth atrophic scarred area while in another part the disease continues to advance This is known as the superficial flattened cicatrizing type which has a characteristic braided margin Both the hypertrophic and superficial ulcerative types may reach a considerable size, but generally remain limited to the surface The disease may, however, extend deeply to reach the underlying tissues penetrating muscle and bone, thus giving rise to deep irregular cavities Such lesions of the deeply ulcerative variety seldom have the typical rolled edge the margins are usually indurated and sharply cut with a well marked inflammatory zone surrounding the ulcer Although there may be extensive local destruction of tissue, these growths never give rise to metastases unless they assume the clinical and histological appearances of a squamous-celled epithelioma It is very important to recognize this transitional type The relative frequency of the various types can be shown from an analysis of 1 773 consecutive cases treated at the Radium Institute, London

Type of lesion.	Relative frequency
Hypertrophic (small and large)	51 per cent
Superficial	
Ulcerative	30
Cicatrizing	3 "
Deeply ulcerated	16 "

The following shows the results for each group

Type	Apparently cured.
Hypertrophic	91 per cent
Flat	77
Deeply ulcerated	33 "
All cases	77

Many of the last group were such that healing was out of the question, owing to extensive involvement of bone and cartilage

Sites.—Rodent ulcers are most common on the face The most frequent situations are the nose and cheek, as shown in the following table

Nose	763	Chin	36
Cheek	377	Mastoid	22
Inner canthus	193	Trunk	21
Lower eyelid	151	Neck	20
Temple	141	Upper eyelid	19
Forehead	93	Lower lip	17
Ear	84	Eyebrow	12
Outer canthus	56	Scalp	10
Upper lip	47	Hand	4
Preauricular	37		

Etiology

The disease is more common in men than in women—953 patients were male and 820 females The youngest patient under treatment was a girl who was first seen at the Radium Institute at the age of 19 She was sent on account of a deeply ulcerative lesion which affected the inner canthus and had started as a nodule at the age of 12 It will be seen that the disease is most common between the age of 60 and 70

Age	Frequency
10–20	1
20–30	11
30–40	63
40–50	213
50–60	394
60–70	464
70–80	332
80–90	82
90–100	2

Multiple lesions are more common than is usually supposed There were 94 cases in this series 55 were in men and 39 in women. In one case a woman aged 28, had as many as nineteen different lesions treated with radium

Previous Treatment.—A number of patients had been operated on once or several times, and many had received treatment by x rays or radium at other hospitals The disease had either recurred or had become resistant to

* A paper read in opening a discussion in the Section of Radiology at the Annual Meeting of the British Medical Association Winnipeg 1929

repeated x-ray treatments It is interesting to note that of the 240 patients whose lesions had previously become refractory to these rays, 102 were healed as the result of radium treatment, 32 were improved, while the remainder did not show any improvement or the results were not recorded

Transitional Type.—Occasionally, as already pointed out, an undoubted basal-celled growth takes on the characteristics of a squamous-celled epithelioma When this occurs the disease progresses extremely rapidly There is early involvement of the lymphatic glands, and death occurs from cachexia and septic absorption There were 40 such cases in this series, in 25 the lesions were situated in the neighbourhood of the ear, and in 11 of these they actually started in the pinna It is interesting to note that all these patients had received repeated exposures of radium, and 11 had had previous x-ray treatment In all there was marked secondary infection, no doubt an indication of lowered resistance

Diagnosis.—The clinical diagnosis of a rodent ulcer is comparatively easy Since there is a possibility that biopsy tends to activate a growth, it is our custom to confirm the diagnosis microscopically only in doubtful cases

Treatment.—The fundamental principle, in this as in other conditions, is to estimate the dose sufficient to bring about the death of all the malignant cells without impairing the vitality of the surrounding normal tissue, so that healing will take place satisfactorily The more radiosensitive types may be treated successfully by various techniques, and this probably accounts for the similarity in the results obtained at various radium centres, although the methods adopted are in many cases quite different In discussing treatment it is advisable to consider each variety separately, the technique employed is determined by the type of lesion and the structures affected

Small Hypertrophic Growths

Growths extending only a little beyond the surface and mobile on the underlying structures should be treated by surface radiation Exposure to the unscreened full strength applicator is the method of choice This apparatus is a solid plaque containing 5 mg of radium element per square centimetre, the whole of it is covered with thin rubber tissue to prevent contamination by discharges All crusts must first be removed, and it is wise to protect the surrounding skin by rubber-covered lead sheeting in which a hole has been cut a little larger than the lesion, so that any outlying groups of cells may be treated The apparatus should be applied for one to two hours, according to the thickness of the lesion

The applicator emits a strong intensity of beta rays, which are sufficiently penetrating to reach all parts of the tumour As a result of the beta radiation an erythema is noticed in about ten days, reaching its height in about three weeks Over this inflamed area a crust forms, which dries and falls off towards the sixth week, leaving a soft and supple scar When it is necessary to limit the irradiated area on account of the proximity of especially sensitive organs, it is advisable to use buried radium in the form of screened seeds

Large Hypertrophic Growths

It is particularly important in these cases to adopt a technique which will result in a homogeneous distribution of the rays to all parts of the tumour under consideration, so as to avoid any stimulating action which may be produced at the limit of the zone of action It is therefore necessary to use screened apparatus Probably the most useful procedure is to employ needles buried in and around the growth The needles most commonly employed have walls of 0·3 mm of platinum, and contain 2 mg of radium per centimetre of active length As a rough guide to the technique it may be stated that no part of the growth should be further than one centimetre from a source of irradiation, and it should be remembered that more massive doses should be placed at the periphery in order to obtain a homogeneous distribution If needles were placed at the same distance throughout the growth, the centre, being irradiated by its own foci as well as those adjacent, would be exposed to a greater dose than the periphery

Various modifications of this technique are employed with equally good results Some authorities prefer a comparatively large dose for a short time, while others advocate exposures for ten days, and sometimes even as long as thirty days It has been the practice at the Radium Institute never to increase the time factor beyond seventy-two hours' continuous treatment So radio-sensitive are these tumours that equally satisfactory results are obtained by either method It is the rule for complete cure to ensue even in advanced cases, providing they are of the purely hypertrophic type

The Superficial Ulcerative Variety.—These are at first small hypertrophic growths which have ulcerated superficially at the centre, leaving the remainder of the growth as a rolled edge Their treatment is similar to that of the hypertrophic growths from which they originate In the case of small ulcers, which are mobile on the deeper structures, an unscreened applicator should be used for one and a half to two hours A cure is almost invariably obtained. Larger ulcers in which there is much subjacent infiltration must be treated by other methods By using a light screen, such as 0·1 mm of lead, the less penetrating rays, which only act near the surface, are absorbed, leaving a more penetrating but weaker radiation, which must be employed for a correspondingly longer time The full strength applicator, thus filtered, should be applied for two to four hours, according to the amount of infiltration present

The Superficial Cicatrizing Variety.—This type should be treated in the same way by unscreened radium plaques It is necessary to irradiate a considerable distance beyond the visible margin of the growth as outlying columns of cells are undoubtedly present in these situations

The Deeply Ulcerative Variety.—This is the most severe form of basal-celled epithelioma and the most difficult to treat Gamma radiation must be used, beta radiation with unscreened or lightly screened radium is not suitable The method of employing Columbia paste plaques for prolonged periods of two to three weeks has been advocated for this form of rodent ulcer The results are usually unsatisfactory and frequently disastrous, for, although in the course of these long applications the rays have more chance of finding the neoplastic cells at the moment of their greatest fragility, it is no less certain that the normal cells of the surrounding tissues are also affected adversely The prolonged irradiation of the normal cells, and those already debilitated by the spread of the disease or by secondary infection, may result, not only in a radium necrosis, but in increased activity of the neoplasm It is therefore advisable, in order to avoid the disadvantages of prolonged exposures on the one hand, or insufficient screenage on the other, to employ much larger amounts of radium screened through a minimum of 2 mm of lead or its equivalent for a comparatively short period In addition, means must be found to absorb the secondary radiations, and sometimes this is done by the interposition of Columbia wax or sorbo rubber, a measure which also provides a more homogeneous dose, by the distance which is created between the radium and the lesion With this technique the duration of treatment varies between forty-eight and seventy-two hours If the time is increased beyond a total of seventy-two hours, damaging effect may be produced, especially in old people Although, of course, it is desirable to destroy all the neoplastic cells to avoid recurrence, this should never be done at the expense of destroying the adjacent tissues, the integrity of which is so necessary for satisfactory repair Recently the use of needles or screened seeds has in some cases replaced or supplemented surface treatment Needles are either inserted into or laid along the growing edge In many of the more extensive lesions better results have been obtained by using this form of treatment than with a plaque of uniform intensity Such are the lines along which the deeply ulcerative type should be treated when limited to the soft tissues If, however, bone or cartilage has been invaded, an even shorter exposure will be advisable, since these structures, especially when devitalized by the invasion of the neoplasm, have a great tendency to radium necrosis The results in this class of ulcer are not so good as in the former types About one-third of the cases treated become healed, but many cases show

little or no improvement Should no improvement be noted within two months, surgical treatment, such as excision with the diathermy knife and subsequent skin grafting, should be considered In the more advanced cases it is exceptional to obtain a cure, but a large proportion show improvement with temporary arrest of the disease

Repetition or Irradiation Treatment

There is no doubt it is best to give a maximum dose at the *first treatment, for after each successive dose a* rodent ulcer becomes more refractory to treatment It is supposed that repeated treatments cause some degree of radio-vaccination On the other hand, a growth which has proved refractory to beta radiation will often respond to gamma radiation A second exposure in those cases in which no healing has been obtained is usually of no use, and may only aggravate the condition If however complete healing has not occurred, but a definite improvement *is noted and there is still some induration left, a second* treatment with a thicker screen may be required to affect the deeper limits of the lesion Previous treatments produce an avascularity of the tissues rendering them more susceptible to radium necrosis

Radium should never be employed within six weeks of any previous treatment When it is decided to give a *renewed treatment it is important to know whether a patient has had previous x ray treatment The age of the* patient, the details of the previous dose and its subsequent reaction, must all be taken into consideration It is important to estimate the dose so as to avoid a 'radium burn' Infection readily takes place, and an intractable ulcer forms which may take months or even years to heal The term 'radium burn" is often used incorrectly, being applied to the simple vesication and ulceration which follow upon an unscreened radium exposure, and which are an essential part of the reaction In these cases a destructive reaction has been *deliberately produced for a definite* purpose and satisfactory repair can be anticipated The term 'radium burn" should be reserved for the few instances in which the dosage has been excessive The resultant ulceration may be extreme in degree, pain is severe and persistent, and repair is always slow

Prognosis

This depends on the age of the patient, the type of growth, its position, and the extent of the disease when treatment is commenced In old people there is less resistance offered by the surrounding tissues to the advance of the disease Ulcers of the hypertrophic group usually respond exceedingly well to irradiation The flattened cicatrizing type shows a tendency to recurrence, and ulcers of the deeply ulcerative group are not so suitable for treatment, in fact, the value of radium in very advanced cases is doubtful, the patient's resistance to the disease is poor and the power of repair is deficient When the lesion is small radium treatment is usually successful It is only when the disease extends to the deeper tissues and infiltrates underlying bone or cartilage, that the prognosis becomes grave

Ulcers in certain situations such as the forehead ear and inner canthus, have a serious prognosis When a mucous membrane is implicated, the condition also proves more resistant, and is often only eradicated by free excision When an ulcer becomes secondarily infected it often responds poorly to radium In some cases the sepsis appears to be aggravated by treatment, thereby only adding to the patient's discomfort

Squamous Epitheliomata

Squamous epitheliomata of the skin differ from rodent ulcers in their more rapid growth and in their formation of metastatic deposits in the neighbouring lymphatic glands These lesions are susceptible to the rays of radium although not to the same degree as the basal-celled growths The warty type in particular may be readily destroyed by irradiation, whereas ulcerative lesions prove more resistant In the early stages of the disease the results of excision are so good that radium should be reserved for the more extensive cases In patients treated with radium a high percentage of cures has resulted, nevertheless the growth should be excised in operable cases and this should be done with the diathermy knife

When radium treatment is considered advisable gamma radiation must be used, interstitial radiation being the method of choice Needles of low content should be employed with walls of 0·6 mm of platinum and containing *0·5 mg of radium element for each centimetre of* active length They should be introduced into the healthy *tissue in the immediate vicinity* of the growth, and allowed to remain in position for a week By the end of six to eight weeks the resultant reaction subsides and the growth gradually disappears, leaving a smooth scar The primary growth should not be regarded as apparently cured unless the treated area is perfectly soft Any residual induration should be excised, as this may be the nucleus of a rapidly growing recurrence Prophylactic doses of radium to the neighbouring lymphatic areas are of doubtful value

When the glands are definitely invaded the prognosis is very grave In these cases needles or Columbia wax plaques may be employed The immediate result is often encouraging but the permanent disappearance of infected glands is exceptional Much can be done to relieve symptoms and prolong life but in its later stages the disease proves resistant to all forms of treatment

THE TREATMENT OF LATE SYPHILIS.

BY

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During the past six years I have made increasing use of bismuth preparations in the treatment of late cases of syphilis It had been my usual practice to treat such cases with bismuth intramuscularly, and with mercury and iodide orally during the first three months continuing *thereafter with combined bismuth and arsenical therapy* Finding that in a considerable number of cases the Wassermann reaction became negative after the first three months course I decided to try the effect of more prolonged bismuth treatment instead of exhibiting the arsenicals

The bismuth preparation used in this series of cases was neotrepol, of which 1 c.cm is equal to 0·03 gram bismuth 2 c.cm of it were given weekly so that in the normal three months course each patient received 2·03 grams bismuth together with 1·260 grains potassium iodide and 210 grains hydrargyrum cret One month's rest was given between each course and the number of courses given ranged from two to six

Records are available of 46 consecutive cases treated on this plan The Wassermann reaction of 24 of these had proved resistant to previous arsenical treatment while 22 had had no previous treatment whatever

Clinically the results were striking Only two cases—one of central nervous system syphilis and the other an advanced heart lesion—failed to respond and the amelioration of symptoms was so marked that it was difficult to persuade many of the patients of the need for further treatment

The influence of treatment on the blood Wassermann reaction, if less dramatic, was notable In 30 cases (65·2 per cent.) the Wassermann reaction was rendered negative, in 13 cases (28·1 per cent.) the strength of the positive reaction was reduced and in only 4 cases (8·7 per cent.) did it remain unaltered Of the 30 cases in which the Wassermann reaction became negative 9 did so after *the first course 7 after the second 4 after the third and* 4 after the fourth Of the 13 cases in which the strength of a positive Wassermann reaction was reduced 5 received only two course of treatment and 5 had three, while of the 4 cases in which the Wassermann reaction was uninfluenced, 2 had two courses and 2 had three

The results in the cases which had resisted arsenical treatment differed little from those obtained where no

treatment had previously been employed—62 per cent of the former became negative and 68 per cent of the latter

Of the 46 patients dealt with, 12 presented no symptoms when referred for treatment, *although several of them* were mothers of children showing clinical evidence of congenital syphilis The Wassermann reaction in 11 of these cases was made negative, in the other it remained unaltered Sixteen showed tertiary syphilitic lesions which had been present for over a year, the Wassermann reaction was made negative in 7 of these and remained unaltered in 2 In the remaining 18 cases the lesions, *though tertiary, were of more recent appearance*, in 12 of these the Wassermann reaction was made negative, while in 1 it remained unchanged

In only 22 of the cases was the approximate date of infection known In 12 the disease was of less than ten years' standing, and of these the Wassermann reaction was made negative in 7, the other 10 were of longer duration, and 4 of them became sero-negative It was noted that the clinical and serological results in cases of late skin lesions were particularly good Three of the cases in which serological improvement occurred were at one stage of their treatment sero-negative, but *subsequently relapsed* One of these patients attended for treatment very irregularly, and only received three courses in two and a half years

The patients tolerated the treatment well, though in three cases it was necessary to suspend it for a few weeks, twice on account of gastro-enteritis, and once on account of severe stomatitis One other case developed a fine scarlatiniform rash, which came up within twenty-four hours of each bismuth injection and gradually faded away during the remainder of the week It caused her no inconvenience, and her treatment was not interfered with

The average patient will stand three such courses during the first year of treatment and two during the second, and, if the patient can be given five such courses, the Wassermann reaction will be rendered negative in about 70 per cent of cases Many will be sero-negative much earlier, in this series over 80 per cent of the cases began to show serological improvement by the end of the second course

It must be remembered that these are cases of old-standing disease, often occurring in elderly subjects, for recent infections arsenical treatment is essential I am convinced that in *many of these old cases bismuth* is even more efficient than arsenic, and that the safety, ease, and rapidity of administration, and its relative cheapness, render it of great practical value

PUERPERAL SEPSIS.*

BY

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THE strict measures adopted at the Princess Mary Maternity Hospital, Newcastle-upon-Tyne, to prevent contagion produced vastly improved results, some details of these were published in the *British Medical Journal* of May 3rd (p 814) It would not be fair to attribute all the improvement to the new routine, a "scare" regarding sepsis has a tonic effect on nursing in general

There should be a larger proportion of fully trained nurses on the staff of maternity hospitals, especially for the nursing of *suspect and septic cases Clean* and suspect cases cannot be nursed together, the former are endangered, and the latter tend to be neglected The problem of *isolation is one of great anxiety*, as many maternity hospitals are quite unequal to the demand made on them They were designed before the notification of puerperal pyrexia produced such an influx of febrile cases requiring hospital treatment, which at times tends to convert them into fever hospitals

* Summary of a paper read before the Edinburgh Obstetrical Society

The following would appear to be the minimum requirements of a modern maternity hospital (1) an admission room for preliminary classification, (2) examination room and wards for (*a*) clean, (*b*) suspect cases, (*c*) cases of genital sepsis, (*d*) cases of extragenital sepsis Each of the four units should have its own labour ward and nursing staff

The present method of recording morbidity in maternity hospitals is largely valueless owing to the indiscriminate grouping together of cases The only reliable record is that made of clean cases that are delivered in hospital

The periodic pyrexial wave among suspect cases admitted to hospital was studied from 1925 to 1930 When compared with clean case (Group B), which have similar complications, but for whose safety from sepsis the hospital is *primarily responsible*, it will be seen that the outside cases have a higher sepsis curve, but that there is a degree of sympathy between the curves

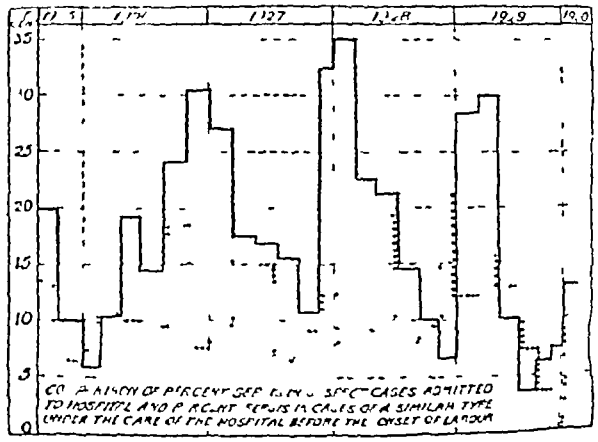


CHART 1

Thick black line = percentage sepsis in suspect cases sent *into* hospital Dotted line = percentage sepsis in Group B clean cases delivered in hospital

In looking for the cause of these pyrexial waves, it seemed reasonable to exclude the hospital because, with its admitted defects *during some of the years* in question, there was no reason why its own cases should not follow a similar curve The possibility of periodic overcrowding was excluded, as the numbers admitted, especially of suspect and septic cases, were remarkably constant

Since the pyrexial waves occurred during the winter months, I wondered if, during periods of epidemics, doctors were perhaps too rushed to devote sufficient time to maternity work This theory was investigated by studying certain types of cases which were sent in during the four months of highest pyrexia and the four months of lowest pyrexia for the years 1926, 1927, and 1928 Cases of "failed forceps," haemorrhages, abnormalities, and eclampsia were studied

Suspect Cases

	High Sepsis		Low Sepsis	
	No of Cases	Percentage Septic	No of Cases	Percentage Septic
Failed forceps	18	33	24	15
Haemorrhages	57	21	54	13
Abnormalities	50	32	77	10
Eclampsia	18	39	22	10

The results of this investigation completely exonerated the profession Not only did it reveal that the septic factor is one which is general and not selective, but—still more important—that a larger number of cases of failed forceps and abnormalities were sent in by doctors during periods when they were slack and when the sepsis rate was low than when they were busy and the sepsis rate was high

The seasonal character of the waves suggested that they might correspond to period of general lowering of the individual resistance to infection Dr H Kerr, medical officer of health for Newcastle, provided a list of deaths of both sexes occurring from influenza and pneumonia during the years 1925 to 1930 There is a marked similarity between the death curve and the sepsis curve (ee Chart 2)

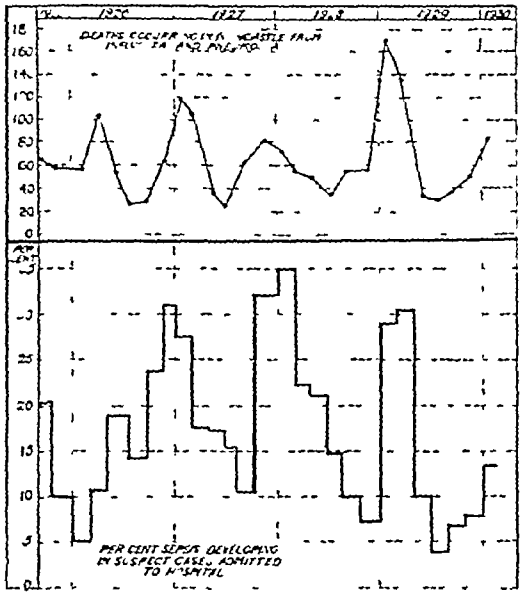


CHART 2

The difference between the sepsis curve of cases sent into the hospital and cases of a similar character which have been under the care of the hospital remains to be explained If the seasons or the hospital were entirely to blame, then the curves should have been identical The following difference existed between hospital and outside cases

High Sepsis

	Hospital		Others	
	No of Cases	Percentage Septic	No of Cases	Percentage Septic
Haemorrhages	25	16	57	21
Abnormalities	59	9	50	32
Eclampsia	8	Nil	18	39
Low Sepsis				
Haemorrhages	24	8	51	13
Abnormalities	83	15	77	10
Eclampsia	4	Nil	22	10

With only one exception the hospital cases showed better results This suggested that under existing conditions many patients of the industrial class do not get as good medical and nursing supervision as they obtain in hospital It will be readily understood by anyone with a practical knowledge of the subject that cases sent to hospitals by doctors are not necessarily "doctors" cases and, even when they are, the doctor in charge has too frequently been without skilled nursing assistance

Conclusions

1 The liability to puerperal sepsis is greater at certain seasons than at others

2 Its incidence can be considerably modified by proper medical supervision and adequate nursing attention

RESPIRATORY COMPLICATIONS FOLLOWING SURGICAL OPERATIONS DURING A FOUR-YEAR PERIOD *

BY

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THE subject of respiratory complications following surgical operations has been a source of worry to all concerned, while endless controversies have arisen as to the part inhalation anaesthesia plays as a causative factor There was a time when almost every post-operative complication except haemorrhage was put down to the latent influence of the anaesthetic The whole of the anaesthetic vapour necessary to produce anaesthesia passes through the lungs to the patient, while 90 per cent is excreted by the same route, any abnormal post-operative lung trouble was so easily ascribed to 'irritation from the ether Time heals all things,' and during the last decade the etiology of respiratory complications has changed the extensive use of novocain for major surgical procedures, with subsequent pulmonary lesions, has brought forcibly to mind the realization that other factors besides ether irritation enter into respiratory complications

"I have flowers from many gardens, but only the string which holds them together is my own" In the following analysis of lung lesions following a four-year period in a large general hospital, the only claim I make for originality lies in the compilation of data peculiar to this hospital and geographical situation, and I can only touch upon a few of the salient features

Series of cases giving the pulmonary complications following surgical operations vary widely in the ratio to numbers of operations, so much so that comparisons are of limited value An extensive review of the literature dealing with the subject varies in the interpretation of the end-result, yet there is agreement upon some points Thus, for example, patients who undergo upper abdominal operations and those with gross sepsis have a high ratio of post-operative pulmonary trouble, as compared with patients free from gross sepsis and not submitted to abdominal operations Considering the magnitude of modern surgical procedures it is remarkable that respiratory lesions are not more frequent

STATISTICAL RETURNS FROM OTHER HOSPITALS

For comparative purposes I am including a limited number of reports from other hospitals These comparisons are not invidious since such factors as climate, surgical technique and the type of operation suggest a wide variation in the end result

Silk [1] in 1897 reported 5 000 operations, 13 with respiratory complications Of these 13 cases, 5 followed operations upon the tongue or jaws Thirty years ago laparotomies were not entered upon so lightly as at the present day Mikulicz and Henle[2] record that of 1 767 upper abdominal operations 145 (8 per cent) were followed by lung lesions Mikulicz asserts that as many respiratory complications follow after local as after general anaesthesia Armstrong[3] in 2 500 major operations in Montreal reports 55 cases (2.2 per cent), and Feather stone [4] in a most exhaustive review of the literature quotes 222 gastric cases from Birmingham, with a morbidity of 10 81 per cent Whipple,[5] at the Presbyterian Hospital New York reported upon 3 719 patients of whom 97 (2.3 per cent) developed post-operative lung lesion Elwyn,[6] from the wards of the Mount Sinai Hospital New York states that in 299 operations under some form of local anaesthesia 11 patients (2 7 per cent) contracted some form of pulmonary trouble In 1922 I published a brief survey [7] of 7 000 operations followed by 19 respiratory complication

* A paper read in opening a discussion in the Section of Anaesthetics at the Annual Meeting of the British Medical Association at Winnipeg 1930.

STATISTICS OF THE HOSPITAL

The statistics now to be reported consist of 33,066 operations performed during the four years 1926-29, 31,301 operations were under general anaesthesia, and the remaining 2,765 were conducted under some form of local anaesthesia. According to the hospital records there were 55 respiratory complications with 23 deaths.

Methods of Induction

Before going into a detailed analysis of these 55 cases a few words giving the pre-operative routine might not be out of place, probably about 65 per cent. of the patients would have a preliminary injection of 1/6 grain of morphine sulphate, combined with 1/150 grain of atropine sulphate. We rarely use large doses of morphine. Great care is exercised in excluding from operation patients with a cold or coryza, even if afebrile. In cases with a history of recent respiratory trouble or tonsillitis operation is postponed for two to four weeks.

More than half of this series received ether dropped upon a thick cotton fabric supported by a wire frame, a mixture of two parts of chloroform with three parts of ether was added in any operation where ether would not induce sufficient relaxation by itself. Nitrous oxide and ethylene were administered by McKesson machines, one in six would be a rough estimate of gas anaesthesia. Post-operative ward treatment varied widely according to the individual clinician. The gravity of the operation ranged from excision of a sebaceous cyst, and brief dental extractions, to thousands of appendicectomies and herniotomies, and severe operations upon patients with grave renal or cardiac conditions. The ages of the patients ranged from 4 days to over 80 years.

One feature which emerges most prominently when first looking at the morbidity of this series of cases is the number of patients with additional pathological changes to that for which the operation was designed to relieve. Kipling states: "Indeed when you come to think of it, had the British Army consistently waited for reserves in all its little affairs, the boundaries of our Empire would have stopped at Brighton Beach."

Nature of Cases with Ensuing Respiratory Complications

Of the 55 patients with respiratory complications in this report, 13 had sequels of a minor nature, 7 infarcts, and there were 6 cases of pleurisy, the remaining 42 suffered from pneumonic processes. These 42 cases included 9 emergency operations, 16 patients (including 7 of the previously mentioned) had marked elevation of the pulse, temperature, and respiration at the time of operation. Nine patients were over the age of 60, and in 23 (more than half) the operation involved the gastro-intestinal tract, including herniotomies.

Another interesting point is the gravity of sepsis at the time of operation, 23 of the 42 patients with major complications died, and at the time of operation 19 of these 42 had gross sepsis. Of these 19 patients with sepsis, 14 died (73 per cent.). Twenty patients out of the 55 originally mentioned were first-class operative risks with one death, this may be compared with the 35 substandard patients with 22 deaths.

In 1929 of 1,772 abdominal operations (excepting 242 thyroidectomies), there were 6 respiratory complications with two deaths, both patients who died were over the age of 70, and the operations were emergency ones. In the same hospital in 1922, Dr. H. Morrison[8] reported upon 408 patients operated on for appendicitis, with one death from pneumonia. Broadly speaking, this report agrees with the ratio of respiratory lesions given for 1929—a morbidity of 6 in 1,772 cases.

The sexes were approximately equally affected in this series. Some writers have stated that respiratory complications occur more frequently in males than females, owing to the interference with the abdominal type of breathing rather than with the thoracic type characteristic of women. As regards age, each decade over 40 adds to the operative risk. Fair comparisons of the type of operation are difficult to establish. An American writer has stated that post-operative pulmonary complications occur in 14·8 per cent. of stomach operations, and in 5 per cent. of operations upon the gall-bladder, averaging altogether 7·7 per cent.

No definite conclusion can be reached as to the influence of the length of operation. A number of the poor risk patients had short anaesthesia periods and succumbed. It might be said, however, that the shorter the time under a general anaesthetic the less interference would there be with the vital processes of the body. Gas anaesthesia carried with them a higher ratio of pulmonary lesions than ether, but in many instances gas anaesthesia was given in preference to handicapped patients. Neuhoff[9] reports 500 necropsies following surgical operations. Pneumonia was diagnosed previously in 81 cases and found after death in 51 subjects, or 60 per cent. He states also that "a diagnosis of post-operative pneumonia in such patients is fraught with difficulty, and the classical physical signs of pneumonia do not prove its presence in serious post-operative conditions." In addition, Neuhoff found pneumonia a much more common cause of death in clean wounds than in infected wounds, 11 per cent. in the former, 1·5 in the latter.

Theory of Lung Infection

The splinting of the abdominal muscles due to pain in the wound and tight binders causes more or less circulatory stasis in the bases of the lungs. This area of stasis is invaded by infection passing up the lymphatics through the diaphragm. Collyns believes that atelectasis and pneumonia are different phases of the one process. He states: "In the atelectatic portion of the lungs the vessels exude a sticky secretion. This secretion prevents the passage of air, and consolidation follows, after consolidation infection follows so easily."

CONCLUSIONS

1. Post-operative pulmonary complication is a serious hazard to recovery, 40 per cent. of the patients died in this series. Of 13 patients with elevation of pulse and temperature at the time of operation 11 died (84 per cent.).

2. Taking into consideration the number and gravity of modern surgical procedures, pulmonary complications following operations are less numerous than might be expected. In this series 15 per cent. of the patients were 70 years old, and 21 per cent. had elevation of the pulse, respiration, and temperature at the time of operation.

3. Sepsis (gross) at the time of operation is a greater risk than post-operative pneumonia.

4. Careful selection of patients, and pre-operative measures with equal attention to the matter of after-care, will keep the incidence of respiratory lesions down to the minimum, until such time as a definite cause is known for this dreaded operative sequel.

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THE INFLUENCE OF LACTATION ON OVULATION AND OESTRUS

BY

J. T. CUNNINGHAM, M.A., F.L.S.

ACCORDING to Crew and Mirskaia[1] oestrus and ovulation occur in the mouse within twenty-four hours of parturition, and if no fertilization then takes place there is no second oestrus for an interval of twenty to twenty-five days, which is the normal duration of lactation. This interval, called the lactation interval, cannot be appreciably lengthened by prolonging the actual lactation by means of supplying new litters of young, but on the other hand, if the original litter is removed at a shorter interval—for example, seven or fourteen days after birth—oestrus recurs on the second to fourth day after such removal. They state that, according to the evidence of experiment, lactation causes the

corpora lutea of the first post partum oestrus to persist, and that these corpora lutea inhibit oestrus during the lactation interval. The theoretical explanation proposed is that the stimulus of sucking acts on the anterior lobe of the pituitary, and that the excess of pituitary secretion so produced causes the persistence of the corpora lutea.

The weakness of this theory is that there are many animals in which lactation does not inhibit oestrus. In the ungulates—the cow, mare, and sow—according to Parkes, lactation has no effect on the recurrence of the oestrous cycle, and therefore pregnancy or ovulation. In the human species the occurrence of menstruation during lactation seems to be quite common but not without exception. In cases where there is no succession of short oestrous cycles the question of the effect of lactation does not arise; for example, in the dog pregnancy lasts about two months, and is followed by lactation for about the same period, and there is no recurrence of oestrus during all this time but oestrus is also absent for a similar period when no pregnancy or lactation occurs.

The case of the ferret, recently investigated experimentally by Hammond and Marshall is in strong contrast to that of the dog, though both animals are carnivores. Oestrus in the female ferret is marked by a conspicuous feature—namely, great swelling of the labia of the vulva. Ovulation occurs only after copulation and in the absence of this, oestrus continues till the end of the breeding season. The duration of pregnancy is forty-one or forty-two days, and the recurrence of oestrus after parturition depends entirely on lactation. When the young were killed immediately after birth oestrus began nine days later, but while lactation continued there were no signs of it. Moreover, during lactation the corpora lutea do not remain large, as in the rat, but rapidly atrophy, as in the rabbit, from which it would appear that the influence of lactation in suppressing oestrus does not act through the medium of the corpus luteum.

Another instructive contrast is afforded by the rat or mouse and the guinea-pig. Both genera are polyoestrous, the cycle in the rat occupying five to six days, in the guinea pig about sixteen. In the guinea pig, there is no lactation interval, there is, as in mouse or rat, an immediate post partum oestrus, followed by a second at the normal interval of sixteen days during lactation. As the suppression of oestrus only occurs in the mouse when more than two young are suckled, the absence of oestrus—suppression in the guinea-pig has been attributed to the smaller number and greater maturity at birth of the young in this animal.

According to the results of O'Donoghue[2] and Hartman[3] the difference between the marsupials *Dasyurus* and *Didelphys virginiana* is similar to that between the dog and the ferret. The former is monoestrous and oestrus is absent not only during the period of lactation but during the corresponding period when there are no young in the pouch. In *Didelphys virginiana* on the other hand in the absence of pregnancy oestrus recurs every twenty-eight days but is suppressed during the whole of lactation, the young remaining in the pouch about fifty days. But if the young are removed from the pouch and destroyed oestrus returns ten to fifteen days later.

It is not possible to discuss details at greater length in such an article as the present, but enough has been stated to prove that there is no general correlation between the stimulus of sucking and the suppression of oestrus as is assumed by the theory of Crew and Mirskaia. This correlation occurs in the mouse and rat, in the ferret, the rabbit and the Virginian opossum, but it is absent in cow, mare, goat, pig and frequently if not always in the human species. It seems to me that the really significant correlation is between the suppression of oestrus and the condition of the newborn young. In those cases where oestrus is inhibited the young are naked immature and kept for the greater part of the time enclosed in a warm nest in close contact with the mother. In the other cases where oestrus occurs during lactation, as in the cow and the guinea pig, the young are born covered with hair and able to run almost at once. If the inhibition of oestrus were due to the absorption of soluble substances by the mother from the bodies of the young, either from the mouths of the latter through the teats or from skin to skin, the correlation between the ridiculous immature condition of the young and the suppression of oestrus during lactation would be explained, while on the theory of the stimulus of sucking, since this stimulus occurs in the cow as in the mouse, there is no reason for the difference between the two in respect of oestrus during lactation. The case of *Didelphys* is especially important, for here the young are born after a gestation of only thirteen days in an early foetal stage of development, and are transferred to the pouch where they become permanently attached to the teats. The skin within the pouch is naked, vascular and glandular, and removal of the young from it has the same effect with regard to oestrus as removal of the foetuses from the uterus in higher mammals. The stimulus of sucking maintains the process of lactation in all cases, whether in the cow or the opossum, and it has been shown in the opossum and in the rabbit that the stimulus determines secretion, not in the whole system, but in each gland individually, but it is improbable that it affects the occurrence of oestrus.

How the hormones supposed to be absorbed on the theory I have suggested could affect the recurrence of oestrus, whether by acting on the corpora lutea or on the pituitary, is a matter for future investigation, but it may be mentioned that in most cases there is reason to believe that substances absorbed from the foetuses in the uterus determine the persistence of the corpora lutea. Considering the atrophy of the latter after abortion, it is a question whether it is the function of corpora lutea to maintain pregnancy, as frequently stated, or the effect of pregnancy to maintain the corpora lutea.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

FOREIGN BODY IN THE CAVERNOUS SINUS

A case similar to the one here recorded was reported by J. F. I. King in the *British Medical Journal* of October 30th, 1926, where a woman fell on her face and struck her head against some wood outside her cottage door. Six pieces of wood were found in the cavernous sinus and she died of meningitis, orbital abscess, and a cerebral abscess in the right temporal lobe. In the present case there was only septic meningitis.

A man aged 40 was admitted into the General Hospital, Colombo, under the care of Dr. Lucian de Zilwa with a history of fever of ten days' duration.

Some time ago he was walking in his garden when a coco-nut branch fell on his head, causing a small wound just above the inner canthus of his left eye. He was treated at the Victoria Memorial Eye Hospital where the surgeon extracted a small piece of splinter and treated the external wound. In a few days he developed fever and headache and later became very drowsy. He was then transferred to the General Hospital. Examination revealed a penetrating wound above the inner canthus of the left eye. He was semi-comatose and did not answer any questions. There was bilateral proptosis, the pupils were dilated and inactive, the left being more dilated than the right. There was no paralysis. The lungs, heart and abdomen were normal. *Further examination could not be carried out as the patient died within two hours of admission.*

Post mortem Examination.—On opening the skull evidence was found of septic meningitis. There was a thin layer of pus over both hemispheres anteriorly—more marked on the left side. The left cavernous sinus was occupied by a thrombus in which were embedded two pieces of splinter. One piece measured 1·2 inch by 1/5 inch, the other was smaller. Pus and yellow material in the thrombus had been caused by suppuration. There was also a thrombus in the right cavernous sinus. Extravasations of blood and minute pieces of splinter were found along the floor of the left orbit. The eyeball was not damaged, nor were the orbital muscles. There was no fracture of the bones of the orbit.

The absence of damage to the eyeball was remarkable. The splinters must have been driven with considerable

force to have entered the cavernous sinus The passage of the splinters was probably along the orbit through the sphenoidal fissure straight into the cavernous sinus

I must thank Dr Lucian de Zilwa for permission to publish this case

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TREATMENT OF RHINOPHYMA

THE remarkable improvement in a case of rhinophyma as the result of surgical intervention seems worthy of record

A man, aged 47, had suffered from rhinophyma for ten years, but had not had medical advice because a friend had informed him that if anything was done he would bleed to death He



was, however, recently persuaded to consult me, and I took him into hospital for an operation Anaesthesia was induced with open ether, chloroform was then given with a Junker's apparatus

Removal of the growth was effected with a scalpel, and presented *no difficulty*, the only neighbourhood requiring care being that around the nostrils, where the growth had invaded the nares, and new nostrils had to be fashioned Haemorrhage, though free, was very easily controlled by swab pressure and a few forceps The wound was dressed with acriflavine emulsion on gauze, and had quite healed in ten days, when the patient was discharged

The most striking feature of the case was the change in the patient's morale From having been afraid to go about, he is now a very happy, cheerful, and grateful fellow

I am indebted to my partner Dr R H Blair for the photographs of the condition "before" and "after"

Camborne R SHEARSMITH COLDREY, M B , B S

A CASE OF SOMNIFAINE POISONING

THE following case should be of interest to all who are accustomed to prescribe somnifaine in cases of insomnia, and to those who intend employing the drug

At 7 30 p m on April 29th, I was called to see a man, aged 73, who had been found by the police lying unconscious in an open field, and had now been brought to a suitable place for treatment A perfectly new 12 c.cm bottle labelled "Somnifaine" was found empty beside him

On examination his pulse was regular and normal in rate and tension breathing quiet and normal, and eyelids closed His pupils were slightly dilated and the conjunctival reflexes were present Any attempt at moving his arms or legs was feebly resisted Strychnine 1/15 gram was injected hypodermically, and I left him in the charge of a nurse, stating that there was no cause for alarm

Four hours after the injection the nurse reported that he muttered a few words, but relapsed into sleep again Forty eight hours after my first examination the man awoke slightly confused and very hungry, but otherwise none the worse for his protracted sleep He *admitted drinking all* the somnifaine (12 c cm) at one go, but asked to be spared further questions 'as it was a painful subject"

Somnifaine is supplied as a liquid hypnotic in 12 c cm bottles, and the label bears in small red lettering the word "poison," in accordance with Part I of the Regulations "1 c cm contains 0 1 gram diethyl-barbituric acid and 0 1 gram allyl-isopropyl-barbituric acid in the form of salts of diethylamine" A medium dose is 25 drops, and I find by measurement that the man took eight times the medium dose

Slough. N C HYDER B A B Sc , M R C S , L R C P

Reviews.

CLINICAL RADIOLOGY OF THE ALIMENTARY TRACT

THE first volume of the series of works on the clinical radiology of the gastro-intestinal tract, edited by Pierre Duval, J -Ch Roux, and Henri Béclere, was published in 1927, and dealt with affections of the stomach and duodenum This work has recently been followed by two volumes which together form an atlas of the clinical radiology of the oesophagus, intestine, liver, and other accessory intestinal glands the authors are Professor J GATELLIER and MM F MOUTIER and P PORCHER, all of the faculty of medicine of Paris

The arrangement adopted by the authors is very convenient for the reader, in the text they give a full account of the methods used and of the disorders illustrated in the radiograms, and to each photograph they append an explanatory drawing with a brief description The first volume opens with a study of the oesophagus Among the radiograms are some showing slight variations from the normal, including unusual contractions, the appearances of compression from without stenosis, cancer, diverticula, and fistulae, and a mega-oesophagus which held two to three pints of fluid In the chapter on the jejunum and ileum, a part of the gut that often receives but scant attention, there is a good picture of an obstructing gall stone in a loop of small intestine lying in the left iliac fossa

The authors state that the right colon is normally a mobile organ, though the mobility may vary in degree, and show how volvulus of the caecum may arise from inversion, rotation, or transposition Among the illustrations of abnormal positions of the caecum are some showing its penetration into diaphragmatic and scrotal hernias, and a skiagram of a case of congenital abnormality in which the right colon is seen to be situated entirely in the left side of the chest, the caecum being at the level of the apex of the left lung A full account is given of redundancy of the sigmoid, the characteristic of which is regarded as length, whereas the distinguishing feature of megacolon is increased diameter

In the second volume the authors discuss and illustrate the radiographic evidence of colitis Their statement that there is no individual x-ray feature characteristic of this condition will not, we believe, meet with general acceptance, for many radiologists can recognize with certainty the disordered segmentation of colitis The signs of colitis they classify as static and kinetic, the latter including abnormalities of filling, spasm, and disorders of emptying The authors point out that spasm should be taken to indicate disease only when it is constant in different postures Acceleration of the rate of passage occurs frequently, material arriving at the sigmoid flexure in nine hours and being evacuated within twenty four Static signs are short sigmoid segmentations, inhibition, a lessened diameter of the lumen, variable spasms, and areas of gas The appearances resulting from adhesions are dismissed shortly, but the investigator in this field soon learns that the signs of fixation are only presumptive, not certain The authors point out specially that a low position of the bowel is no evidence of immobility

In discussing cancer of the colon the authors state that they find the barium meal valuable in establishing the state of the lumen—this is, the canalization The enema is given with the patient in the prone position, on the assumption that the flexures are thus more readily passed, in some cases atropine is given to make the filling easier Arrest of the head of the meal, they point out, is of little diagnostic importance unless it coincides with evidence of a tumour

Nearly one hundred pages of text and pictures are devoted to the radiology of the accessory glands—namely, the salivary glands, the liver, the gall-bladder, the spleen,

[1] *Radiologie Clinique du Tube Digestif* (Clinical Radiology of the Alimentary Canal) Publiée sous la direction de P Duval J Ch Roux et H Béclere II *Oesophage, intestin fois et glandes annexes* Par J Gatellier, F Moutier et P Porcher Clinique Thérapeutique Chirurgicale de la Faculté de Médecine de Paris Fascicule I et II Paris Masson et Cie 1930 (Roy 4to pp 389 416 radiographs, 427 figures Foreign edition, 330 fr the 2 volumes, bound)

and the pancreas. The illustrations include skiagrams of biliary, renal, and pancreatic calculi *in situ*, with notes on their differential diagnosis, pictures of the biliary and pancreatic ducts and an attractive plate of 79 radiograms of biliary calculi with a table of their relative densities. Most of the photographs are good, and many have unusual interest. The descriptions are carefully worded, and in some sections of the work are to be found facts and illustrations that would not be easily available elsewhere. These volumes are likely long to remain a standard work for radiologists and practitioners.

THE MECHANISM OF EVOLUTION

PATHOLOGY as a factor in evolution should have a special interest for the medical profession. But it has been left to Mr MORLEY ROBERTS to explore that avenue, and in *The Serpent's Fang*[1] he has further elaborated the views expressed in his earlier works *Warfare in the Human Body*, and *Malignancy and Evolution*. He is a sociologist turned biologist, which gives him a fresh and individual outlook. he is also a bonny fighter and those who differ from him must expect some shrewd blows.

The sight of a viper on Exmoor stimulated an engineer to ask Mr Morley Roberts how a serpent's fang became long, curved, hollow, and movable. That a mechanism so complicated could arise by the accidental addition of accident to accident, each minute and spontaneous, was too much for an engineer to believe. He would as soon have attributed the modern steam engine to a similar set of causes. Now there are many to-day who faced with evolutionary theory, are in like case with that engineer. Here as elsewhere rigid orthodoxy is proving incredible, and is maintained by an act of faith rather than by reason. Dr Russell Brain in his little book *Galatea, or the Future of Darwinism* (which was reviewed in our columns on June 16th, 1928, p. 1029), pictures the course of evolution according to Neo-Darwinians thus: "Imagine a company of people setting out from London and deciding their destination by opening at random the pages of Bradshaw, and taking a ticket for the first town on which their glance alighted. Suppose them to repeat the process on reaching their first destinations and assume that there is a law by which all who are unfortunate enough to hit upon a second town which is not on the same line as the first are forthwith executed." This would not appear to be a rational mode of locomotion nor would it achieve much. But it would be simplicity itself compared with the course of evolution as pictured by rigid Mendelians and followers of Weismann. Can we really believe that mutations are fortuitous and owe nothing for their origin to environment when it is only in relation to environment that they have any value. Mr Morley Roberts cannot believe it. But he feels that if the strict Darwinian view is denied in favour of a modified Lamarckism, even this is itself incomplete and must be added to. That Darwin himself, with his addiction to use and disuse was more Lamarckian than he knew is nowadays quite clear. That natural selection is an exceedingly severe censor on unsuitable mutations is evident. That many critics of Lamarck neglect his insistence on the importance of the time factor must be admitted. But the whole question has been looked at too exclusively from the morphological standpoint and the importance of function in determining structure has been disregarded. "For life *is* function." Perhaps Mr Roberts is a thought too sceptical of genes and chromosomes which he regards as mere tools with which the cytoplasm works. But the special contributions he has made to the theory of evolution are the conception that the tissues of the multicellular organism exist in a state of lotile symbiosis, and that breakdown and repair are important as forerunners of new developments.

Such views explain a great deal. If each tissue is competing within the individual body to obtain the best possible conditions for itself we can understand why the individual is himself the scene or conflict why isolated cell unrestrained by other tissues acquire a positively malignant growth and why a strong central nervous system is needed to maintain order. All this is in accord with Wilfred Trotter's demonstration of the way in which the nervous system insulates and virtually protects it from its rebellious subjects in the soma. Further if the effort to overcome obstacles is a recognized factor in development, surely the obstacle of disease must be one that most irresistibly calls out such effort. The last enemy that shall be overcome is death, and the approach of death by disease will be strenuously combated, successful combat is rewarded by new adaptations.

But if Mr Morley Roberts finds the heaping of accident upon accident such an inadequate explanation, the reader must not suppose he believes in evolution by design. Far from it, he reserves his choicest satire for those who seek short cuts to a final explanation of the universe. Particularly does the abstract philosopher come under his ban. There is much better work to be done in this world than to chop logic at the bar of the Absolute.' He even dislikes Spemann's idea of a differentiator which determines the course of development and it affords him some gratification to link it up with that other fantastic quasi-deity the 'censor' in the latest psychology.' His last chapter entitled "Obscurantism and Biology" affords entertaining reading even though one may feel some sympathy for the victims of his lash. In Mr Morley Roberts's view "to leave the laboratory bench and assume the mantle 'star-enwrought' of the metaphysician harms the whole cause of science."

He would push the scientific method as far as possible, and not have any commerce with attempts to solve the insolvable. But such attempts will always have their attraction for the human mind, although, as Dr Charles Singer says, all the cosmologies which have been constructed to provide an explanation of the world become, in course of time, an obstacle where they were once an aid.

W L B

AMERICAN GYNAECOLOGICAL PRACTICE

THE new edition of ANSPACH'S *Gynecology*[2] has been brought up to date by the inclusion of the most recent advances. The first part gives a complete account of the development, anatomy and physiology of the pelvic organs and calls for no special comment. This is followed by a survey of methods for the examination of patients together with a general account of the significance of the various signs and symptoms that may be encountered and is a section of the book that will be appreciated by medical students. The various gynaecological diseases are then considered one by one each special organ being dealt with in turn. Syphilis tuberculosis and gonorrhoea have each a special chapter. A full account of operative technique and of post-operative treatment forms an important section of the book.

It is perhaps a pity that some less well-established methods have been given places in prominence equal to those which time has shown to be sound. At the present time the treatment of functional disorders of menstruation by administration of ovarian extracts can scarcely be regarded as standing on a satisfactory basis yet in this textbook the limitations of their uses are not sufficiently pointed out. The more recent work on the diagnosis and treatment of sterility due to blocking of the Fallopian tube is very fully considered but here again a more critical attitude towards this branch of gynaecology would have been better. There is an excellent chapter on "backache" in which the importance of orthopaedic causes is stressed. Full consideration is paid to the diagnosis and treatment of such cases and although the subject is strictly speaking outside the province of the gynaecologist he is so frequently confronted with the symptom of backache that it is important to have a clear plan of all its causes. A short review of the part played by radium and deep x rays in the treatment of carcinoma and in the production of an artificial menopause is given at the end of the book but in view of the importance of these methods the details of the technique employed might well have been fuller in a work as comprehensive as this.

[1] *The Serpent's Fang*. By Morley Roberts. Lond.: Evelyn Nash and Grayson Ltd. 1930. (Demy 8vo. pp. 253. 18 net.)

[2] *Gynecology*. By Brooke M. Anspach, M.D. With an Introduction by John G. Clark. Fourth edition, revised by the author with the assistance of Philip F. Williams, M.D. London: J. B. Lippincott Company. (Med. 8vo. pp. xvi + [illegible]. 56 figures. 42s. net.)

The book is well written throughout, and although its outlook is typically American its clear enunciation of first principles may make it appeal to British students As an account of established American practice it is very useful as a book of reference, and its value in this respect is enhanced by the inclusion at the end of each chapter of an extensive bibliography The references, it is true, are drawn mainly from American and German literature, but this makes them the more valuable in this country Like most American books, it is profusely illustrated, but on more careful consideration one wonders whether some of the illustrations might not have been omitted without loss to the clarity of exposition

HYDROTHERAPY

THE practice of hydrotherapy in a French institution is well described by DR DUBOIS DE SAUJON in a small book entitled *L'Hydrothérapie médicale*.[4] His is one of several special installations which are conducted under medical direction, and in which the treatment is often administered by the medical man himself In this volume he gives a clear and brief outline of the physiological action on the organism of applications of water, and describes in detail the technique of making these applications both in the home and in the hydrotherapeutic institution

Among the great variety of methods that should be available in the patient's own home the author enumerates (1) the half-minute bath with frictions, (2) the very brief cold shower with frictions, (3) the cold pack with wrung-out cloths, the cloth being constantly rubbed to and fro upon the skin, (4) the pack with waterproof cover, for sedation and transpiration, (5) the half-bath of Winternitz with affusion and friction, (6) baths progressively cooled or heated, (7) footbaths with rising temperatures The frequency with which frictions are enjoined is noteworthy Adjuncts include thermo-resinous baths for rheumatic subjects, with profuse perspirations and copious water-drinking The chief method at the establishment is the douche, which in its varied forms in France is admirably described—for example, cold, hot, alternating, with and without manipulation, general or localized to particular regions, precordial, hepatic, lumbar, plantar, etc

A final section of the book gives in full detail the indications and contraindications of hydrotherapy in a variety of cases The use of baths in fevers is carefully defined, a wide range is given for nervous diseases, forms of paralysis, neuroses, psychoses, Graves's disease, etc The applications proper in cardiovascular, dyspeptic, and rheumatic cases are fully detailed, and the directions given for treating these varied conditions are practical and precise The book itself is interesting and well arranged, and should serve as a sufficient guide to any medical man proposing to employ hydropathic methods in his own practice

HEALTH OF CHILDREN IN THE TROPICS

IN *The Care of Children in the Tropics*,[5] DR ERIC C SPAAR has provided a manual which should be of great value to the mother faced with the problems of a hot country The difficulties of feeding, clothing, and general management take on such a different complexion in the Tropics that the usual textbooks on child care either do not apply or are definitely misleading, and it is precisely to the points on which advice intended for temperate countries proves fallacious that DR SPAAR has paid most attention The book is divided into three sections, of which the first is concerned with the general management of the infant, the second with modern methods of artificial feeding, and the third with the care of the sick child The importance of breast-feeding is emphasized, not only on physiological grounds, but because it affords the best chance of avoiding the enteritic infections which so often prove fatal to children in the East The points to be observed in choosing a wet-nurse, and those on which an ayah requires close supervision, are set out in detail, and the chapters on artificial feeding have been made extremely clear and straightforward The difficulties of obtaining clean cow's milk can only be surmounted, DR SPAAR finds, by buying the cow The final chapters on common ailments, though they should be an excellent guide to a sensible mother, may conceivably have the opposite effect on the nervous type, who, learning for the first time that headache may mean meningitis, and distended abdomen peritonitis, will weary the overworked doctor with false alarms There can be no doubt, however, that the book successfully meets a need felt alike by the mother and the medical practitioner in the Tropics

[4] *L'Hydrothérapie médicale* Par R Dubois de Saujon Les Actualités [illegible] Paris Cauthier Villars et Cie 1930 (Post 8vo, [illegible] 15 fr)

[5] *The Care of Children in the Tropics* By Eric C Spaar M D, B S [illegible] Tinlall and Cox 1930 (5½ × 8½ pp xiv + 265, [illegible])

NOTES ON BOOKS

THE second edition of *Recent Advances in Diseases of Children*,[6] by DRS W J PEARSON and W G WYLLIE, appears less than two years after the first, and although "advances" in this branch of medicine have certainly occurred during the interval the changes in the text are more extensive than mere bringing up to date will account for The "acid" and "alkaline" children of the first edition have undergone some modification into "neuro-arthritic" and "lymphatic" respectively, and, indeed, all the chemistry of the book has been carefully revised and loose terminology deleted From the preface it may be deduced that this is largely due to "helpful criticism" by DR G A HARRISON Sections on encephalitis, on chest conditions, including asthma, and on skin tests have been considerably altered and brought up to date, while changes also appear in the sections dealing with chronic infection of the tonsils and adenoids, chronic abdominal conditions, and on congenital syphilis DRS PEARSON and WYLLIE acknowledge that they have purposely been provocative in this work, which still remains more a textbook than a mere record of recent advances While there is much less cause for direct criticism in this second edition it still contains a great deal of material which is novel by reason of the authors' approach to the subject, and the book as a whole gives considerable food for thought.

The second edition of the *Slit-lamp Microscopy of the Living Eye*,[7] by DR KOBY, which is translated by MR CHARLES GOULDEN and MRS HARRIS, is considerably enlarged and improved in comparison with the first The general arrangement of the text is preserved, but it has been amplified by inclusion of the very large mass of new observations which have been recorded since the book first appeared five years ago The thoroughness with which DR KOBY keeps abreast of current literature in this ever-enlarging field of clinical ophthalmological practice is no small achievement, and the value of his book is enhanced by his own observations and by the lucid expression of his own criticism or appreciation of the work of others The number of illustrations has also increased very considerably, and although they fall short of the beauty of those found in the German atlases they are not lacking in clarity, and are all the more valuable in that the vast majority of them come from the author's own hand The present volume is an already very useful book considerably improved

[6] *Recent Advances in Diseases of Children* By Wilfred J Pearson, D S O, M C, D M, F R C P, and W G Wyllie, M D, M R C P Second edition London J and A Churchill 1930 (5½ × 8½, pp x + 584; 34 figures, 20 plates. 15s)

[7] *Slit-lamp Microscopy of the Living Eye* By Dr F Ed Koby Translated by Charles Goulden, O B E, F R C S, and Clara Lomas Harris, M B Second edition London J and A Churchill 1930 (Demy 8vo, pp xvi + 360, 104 figures 15s)

PREPARATIONS AND APPLIANCES

APPARATUS FOR INTRAVENOUS TRANSFUSION

THE Crookes Laboratories have prepared a series of solutions suitable for intravenous transfusions, each put up in a special glass container and ready for use in emergency The containers, as will be seen from the accompanying illustration, are ampoule shaped, and have at one end an air inlet to which an air filter can be fitted by means of a short rubber tube, and at the other an outlet tube which, when the apparatus is required for use, is connected to a cannula The standard aseptic solutions at present available are gum saline, hypertonic saline, normal saline solution, and normal glucose The transfusion ampoule is supported in a metallic holder, so designed that it can be suspended over the patient's bed or near the operating table A small pamphlet giving full particulars may be obtained on application to Crookes Laboratories (22, Chenies Street, London, W C 1)



The Sections

SUMMARY OF PROCEEDINGS

(Concluded from page 517)

SECTION OF OBSTETRICS AND GYNAECOLOGY

Friday, August 29th

THE PLACENTAL HORMONE.

THERE were 229 present when, under the chairmanship of Mr CONYNS BERKELEY, a paper entitled "The placental hormone 'emmenine'" was read by Professor J B COLLIP (Montreal). In summarizing his work in the *Canadian Medical Association Journal* (1930, xxii, 761) he had he said, drawn the following conclusions. There were three distinct active principles or hormones in the placenta which were alike, in that they had all been observed to be oestrogenic in the immature female rat. "Emmenine" was the active principle in the second fraction (85 per cent alcohol soluble), and was very similar to oestrin in its ultimate physiological effects. It was ineffective however, in the castrate, and hence it might be concluded that it functioned directly or indirectly by stimulation of the intact ovary. Also it differed from oestrin in the degree to which it was effective by oral administration. The third fraction, prepared from the alcohol insoluble material of the original extract, was similar to the other two in that it was oestrogenic, but differed from the "emmenine" fraction on three points: (1) it was ineffective by the oral route; (2) it produced corpora lutea in the immature rat coincident with induced oestrus; (3) it caused an increase in the rate of growth of the accessory sex glands in the immature male. As yet he had been unable to obtain with certainty any of the above fractions other than oestrin from pig and cow placenta, and this observation, which must be studied further, suggested that in the human placenta hormones existed which were absent in the lower mammals. This suggestion received support from the observation that pregnancy urine of certain of the lower mammals has failed to give an Aschheim Zondek reaction when injected into immature mice. He considered the two oestrogenic placental hormones other than oestrin ("theelin") to be the counterparts in placenta of the "prolan A" (oestrogenic) and "prolan B" (oestrogenic and luteinizing) of urine described by Zondek and Aschheim. He was also of the opinion that these active principles were the specific products of placental tissue functioning and were actively related to the condition of pregnancy. Much more research was necessary before we could correlate the functional interrelationship between the pituitary sex hormones and those of the placenta.

Mr CONYNS BERKELEY having drawn the attention of the meeting to the profound biological researches of Dr Collip particularly in connexion with the establishment of a workable manufacturing process for the isolation of insulin and the parathyroid hormone, said that this new work in the field of sex hormones was a great advance and would be of immense value when the results could be accurately interpreted. Dr A D CAMPBELL (Montreal) related a series of cases in which "emmenine" had been given therapeutically in various derangements of menstruation. He considered that the periodicity of menstruation was due to a hormone released from the anterior pituitary gland, but that alterations were usually due to ovarian derangements. He found that 'emmenine' did not disturb the normal menstrual cycle, that its exhibition in cases of primary and secondary amenorrhoea had little effect, but that in epimenorrhagia the intervals were appreciably lengthened. The best results were obtained in cases of dysmenorrhoea which were nearly always relieved, but the effect was not permanent and on discontinuing the administration the symptom recurred. He had never found that abortion was brought about when the hormone was administered to a pregnant woman. Professor W W CHIPMAN (Montreal) said that while this was only a preliminary report on the work of production and use of "emmenine" the results were so far satisfactory and should stimulate further investigation. He said that the placenta, which was really an ovarian tissue, and the ovum were dependent on one another and probably the placenta was the storing-ground for ovarian hormones and not the site of origin of specific hormones. Professor V J HARDING (Toronto) said that much confusion had arisen from the multiplicity of hormones present in the ovaries, and that he was struck by the fact that extracts of "emmenine" had no deleterious effects in contradistinction to the results from overdosage with other endocrines, this was probably because 'emmenine' acted as a sort of pre-oestrin stimulating the production of oestrin. He had found improvement in cases of vomiting of pregnancy by the administration of "emmenine."

TREATMENT OF PROLAPSE.

Mr T G STEVENS (London) then gave a very clear demonstration on the operative treatment of prolapse, defining the principles and technique he had used in the treatment of 1,800 cases. This closely followed the teachings of Donald and Fothergill of Manchester but in the anterior colporrhaphy he made a vertical mid line incision and carefully dissected the bladder from the cervix, which was supported by mattress sutures inserted in the parametrium. He considered that amputation of the cervix was performed far too frequently, and he only carried out this part of the Manchester operation when there was marked hypertrophy or mobility of the cervix. He only added a laparotomy when there was a persistence of symptoms, or retroflexion or some abdominal complication associated with the prolapse. He treated the rectocele by a straightforward posterior colporrhaphy, commencing at the top of the vagina, and never considered it necessary to open the pouch of Douglas to treat the hernia occurring here. The operation was discussed, with general agreement on the main principles by Mr CONYNS BERKELEY, Mr C D LOCHRANE (Derby), and Professor JOHN FRASER (Montreal). Mr Lochrane said that he did not find it necessary to separate and dislocate the bladder upwards in most cases and that this procedure was called for only when a relatively high amputation of the cervix was needed, in cases of definite cystocele without much descent of the uterus, and in a majority of post-menopausal cases in which the corpus uteri was markedly retroverted and bulky. In cases of the latter type the procedure was helpful in allowing the suture of the lower part of the corpus uteri to the anterior vaginal wall to maintain the uterus in an anteverted position.

ANAESTHESIA AND ANALGESIA IN CHILD-BEARING.

The concluding discussion of a long session was opened by Dame LOUISE MCILROY, who, in the course of her remarks on the position of anaesthesia and analgesia in child bearing said that there was much interest in the subject at present in England. Public discussions were taking place and funds were being raised for the establishment of special resident anaesthetists in the maternity departments of the large hospitals. The medical profession was anxious to relieve suffering, but painless labour could not be achieved artificially without some risk to the mother and more especially to the child. Anaesthetics were always given in maternity operations and as a rule in complicated deliveries, but the medical profession had to solve the problem, How far with safety could freedom from pain be procured? Much more could be done to relieve pain than had been done hitherto. If every woman was to have anaesthetics this would involve longer attendance by the medical practitioner and therefore more expense. Skilled anaesthetists would be required to assist at the confinement. Anaesthetics tended to prolong labour, and there was much discussion on the most suitable drugs that should be employed as sedatives during the stages of labour, and the most suitable anaesthetic for delivery. The use of drugs diminished fear and shock and therefore was a factor in the reduction of maternal mortality. Operative intervention was also prevented by the use of analgesics as the patient and her relatives were not harassed by the sufferings of a prolonged labour. Turning to the actual consideration of the drug to be used she said that morphine in small doses was most beneficial, but had to be used with skill and caution as it might have a harmful effect upon the child. Morphine was frequently

combined with scopolamine In very few cases was twilight sleep fully induced in England, as it involved special skill and surroundings for its administration Chloral hydrate, with or without potassium bromide, was the favourite sedative in use It was safe and easy to give For the latter part of labour chloroform or ether was given at intervals, and deeper anaesthesia during delivery The majority of obstetricians preferred ether, but chloroform had many advocates Chloroform was unsafe in cases of toxaemia, such as eclampsia, or in heart disease Ether was irritating in its effect in cases of lung complications The safest and best anaesthetic was nitrous oxide gas and oxygen It, however, required to be given by a trained anaesthetist, and it necessitated carrying about cumbersome apparatus Various local and spinal analgesics were being employed, but opinions differed on the advantages and disadvantages of each The conclusions arrived at by Professor McIlroy were as follows Every maternity case must be given individual attention with regard to the most suitable sedative and anaesthetic to be employed The age, parity, temperament, general health, and complications all had to be carefully considered Obstetrical anaesthesia was not comparable with surgical The pain was prolonged, and had to be combated with sedatives as well as anaesthetics The effect of these sedatives had to be taken into consideration when an anaesthetic was decided upon Light anaesthesia was of little use in surgery, while it was generally employed in midwifery practice except in cases where operative intervention was required It was important that the action of the uterus should be maintained and haemorrhage after delivery prevented Time and cost were considerations Private patients should have the continuous attendance of the practitioner during labour if sedatives or anaesthetics were to be given, just as patients had in hospital practice, yet it was impossible to demand this unless adequate payment was made by the patients

SECTION OF SURGERY

Friday, August 29th

THE SYMPATHETIC NERVOUS SYSTEM

At its final session the Surgical Section considered various aspects of the physiology and the surgery of the sympathetic nervous system Dr W J MAYO (Rochester, Minnesota) opened the discussion by giving an historical account of the discovery of the anatomy and physiology of the sympathetic ganglia and rami, mentioning the contributions of Winslow, Petit, Haller, Remak, Muller, Claude Bernard, Gaskell, and the work of the Cambridge school He pointed out that the surgical approach to the sympathetic involved the wider problem of the relation of this system to the endocrine glands Dr Mayo was unwilling to admit that removal of a single adrenal gland caused any permanent disturbance in the physiology of the organism, and he therefore questioned the wisdom of such a procedure in patients suffering from high blood pressure In closing, he referred to the effect of ramisection on conditions such as arthritis, Raynaud's disease, and Buerger's syndrome, and asked whether coronary disease might not be an end-result of a similar vasospastic process, and whether early sympathectomy might not prevent the onset of angina pectoris and allied disturbances

Dr N D ROYLE (Sydney, N S W) then followed with a paper entitled "The clinical results following the operation of sympathetic ramisection," in which he stated that he had performed the operation six hundred times with a mortality rate of 0 5 per cent —that is, with three deaths The operation was introduced by him originally in 1923 for the treatment of spastic paralysis, and, excluding extrapyramidal conditions 70 per cent of the patients so treated had been distinctly benefited A large proportion of them had been followed carefully and end-results were summarized More recently Dr Royle had used the operation experimentally for treatment of the following conditions Parkinsonian rigidity (results poor), Hirschsprung's disease (results excellent in all cases), sarcoma of [illegible] (relief of pain), Raynaud's and Buerger's [illegible] gratifying, but better in the former condition), writer's cramp (one case, relief), poliomyelitis (results poor) conditions simulating tic douloureux (one case), retinitis pigmentosa (five cases, recovery of vision following extirpation of thoracic sympathetic) The most important new development related to Dr Royle's discovery that retinitis pigmentosa responded to sympathectomy to a degree that caused the recovery of 20/30 vision in one patient whose visual acuity had previously been reduced to shadow perception Dr Royle still enthusiastically favoured the operation of ramisection in cases of spastic paralysis

Dr J F FULTON (Oxford), who discussed the physiological basis of the surgery of the sympathetic system, described first the relation of this system to the general physiology of the organism, mentioning Claude Bernard's prediction that regulation of the internal activities of the animal body was carried out by the nervous system, and alluding to the recent discovery that the centres of the autonomic system lie in the hypothalamus (Beattie and Long and their co-workers) In discussing the mechanism of postural responses Dr Fulton pointed out that the stretch reflex, which was at the basis of posture, was not abolished by sympathectomy, though the transient diminution in rigidity occurring in spastic cases after ramisection suggested that the operation might cause an increase in threshold for eliciting the stretch reflex From the physiological point of view justification for the employment of ramisection in cases of hypertonia was an open question The operation of periarterial sympathectomy was without anatomical or physiological foundation There were no long vaso-constrictor fibres passing distally in the larger arteries The operation might, however, be useful for the relief of intractable pain Apart from certain visceral conditions, such as Hirschsprung's disease, the only clear-cut indication for sympathectomy was ischaemia Any pathological process in which healing would be greatly accelerated by an increased blood supply offered an indication for ramisection, especially if the morbid process threatened the existence of an extremity Since collateral circulation in a limb was established more readily after ramisection than with vaso-constrictors intact, an extremity in gangrene from thrombosis should not be amputated without first giving it the benefit of ramisection It was emphasized that conditions improved by sympathectomy were not due necessarily to hyperactivity of the sympathetic

Dr J R LEARMONTH (Rochester, Minnesota) emphasized that the action of both parasympathetic and sympathetic nerves upon the bowel and bladder should be regarded as a means of harmonizing an important physiological necessity —the disposal of the waste products of the body Operations upon the sympathetic nerves of the bowel were indicated in cases of nervous imbalance, such as Hirschsprung's disease, and constipation due to dulling of the defaecation reflex He described a new operation by which the whole sympathetic nerve supply to the lower colon, the rectum, and the internal anal sphincter could be interrupted, with preservation of the vasomotor nerves to the limbs In the case of the bladder, he described two cases in which defective micturition, due to lesions affecting the parasympathetic pathway, had been rectified by division of the sympathetic nerves to the bladder, and advanced the hypothesis that these nerves might mediate an inhibitory action on the musculature of the human bladder He also described cases of vesical dysfunction which had been benefited by removal of agents compressing the dural sac under a lumbar or sacral spina bifida occulta The operation of total denervation of the bladder was also referred to and the indications for performing it were discussed

Dr R B WADE (Sydney, N S W) gave a commendably critical report of progress concerning the treatment of Hirschsprung's disease He had carried out left-sided lumbar ramisections for this condition in fourteen cases, and had had striking improvement in all but one, with the establishment of regular bowel movements and normal control of the anal sphincter The unsuccessful case responded temporarily, however, when the rami on the right side also were sectioned The unilateral operation

had been employed in many cases of chronic constipation with satisfying results

Dr WILDER PENFIELD (Montreal) in a paper entitled "Vascular changes observed in the brain during epileptiform seizures" mentioned at the outset that he had been able to demonstrate small medullated nerve fibres supplying a large proportion of the cerebral blood vessels, three cases of epilepsy were then described in which during exposure of the brain under local anæsthesia sharply circumscribed areas of anæmia appeared at several points in and about the motor area in the course of several carefully studied focal seizures. In the second case one of the recorded seizures consisted merely of clonic twitching of the eyelids and turning of the eyes to the right and the seizure was accompanied with an isolated area of chalky pallor in an area corresponding to the frontal eye field. In some circumstances the larger cerebral arteries were seen at several points to constrict sharply, giving a beaded appearance to the whole vessel. Dr Penfield concluded that since stimulation of the sympathetic nerve caused such extreme vasomotor activity the cerebral vessels must receive some innervation other than the sympathetic and therefore that surgical extirpation of the sympathetic in epilepsy was of doubtful value.

Dr A. W. ADSON (Rochester, Minnesota) who dealt with indications for, and the therapeutic value of, sympathetic ganglionectomy and trunk resection in the treatment of peripheral vascular diseases, mentioned the two existing theories concerning the origin of Raynaud's disease, one upheld by Lewis who maintained that the vascular spasm was due to a purely local condition in the tissues affected, while Dr Adson and others contended that the disease resulted from hyperactivity of vaso-constrictor reflexes and that the fault therefore lay in the central nervous system. The speaker pointed out that in his cases after complete removal of the vaso-constrictors supplying the lower limb, it was impossible to evoke vasomotor spasm, however intense the stimulus. The occasional persistence of spasm in the upper extremities was attributed to failure to remove all fibres. The more favourable results from the radical procedure recently introduced for the upper extremity supported this inference. At the Mayo Clinic the suitability of a case for operation was determined by a "vasomotor index"—that is, the ratio of the rise of temperature in the extremities to that in the mouth in fever produced by injection of typhoid vaccine. Dr Adson had also proved that retinal arteries dilated after thorico-cervical ramisection. In concluding he showed his first case of Raynaud's disease operated on five years ago which had remained free from symptoms during that period, and also a case of Buerger's disease in which the morbid process had been successfully arrested in the upper extremities two years previously.

At the end of the discussion Lord MOYNIHAN read a paper by S. H. HARRIS and R. C. S. HARRIS of the urological department of the Lewisham Hospital, Sydney on renal sympathicotonus and renal sympathectomy. This operation was introduced in the hope of relieving certain obscure cases of persistent renal pain. Details were given of the nerve supply of the kidney, the operative technique for denervation of the kidney, and the indications for the new procedure. Pain associated with delayed emptying of the renal calyces and pelvis together with dilatation of the pelvis constituted the chief positive signs. The writers *proposed to consider* at a later time the relation of this operation to nephritis and essential hæmaturia.

In the discussion which followed Dr ROBERTSON (Toronto) described a case of spastic paralysis operated on in his clinic by Dr Royle three years ago in which the result was distinctly favourable and had remained so. He also mentioned several cases of arthritis and of Hirschsprung's disease which had been successfully treated by ramisection. Dr FLOTHOW (Seattle) said that he had seen Dr Royle's cases in Australia and could confirm his claims. He then described a case in which some months after lumbar ramisection a cervical ganglionectomy was performed, and during the general hyperthermia (108° F.) which followed, the lower extremity, whose lumbar sympathetic chain had been removed, showed evidence of extreme vaso-constriction. In a happy speech Lord MOYNIHAN drew attention to the high level of the discussion and pointed out its relationship to the development of surgery in the past fifty years. Following upon the revolution effected by the work of Lister, surgeons had concerned themselves with the restoration of mechanical disorders by mechanical means. Surgery was now entering an era which might aptly be termed an era of physiological repair. The divorce of physiology and anatomy that supervened at the close of the career of Sharpey had been unfortunate, and its ill effects had persisted up to the present time. Lord Moynihan, however, seemed to discern the restoring hand of the surgeon. The synthetic action of surgeons, begun by Dr Royle was bringing physiology and anatomy together again, not by means of animal physiology but by means of human physiology. The inaugural symptoms of disease should be studied by those who were conversant with normal physiology rather than with the pathology of the post-mortem room. For the philosopher this was the lesson offered by the day's meeting.

SECTIONS OF MENTAL DISEASES AND NEUROLOGY AND MEDICINE.

Friday, August 29th

ACUTE POLIOMYELITIS

LORD DAWSON OF PENN, President of the Section of Medicine acting as chairman, took the opportunity, as it was the last meeting of the Sections, of thanking all officers for their untiring efforts in making the meetings the success they had undoubtedly been. Sir FARQUHAR BUZZARD in opening the discussion, considered it fitting that the subject of acute poliomyelitis should be discussed in Canada, not only because the Dominion had been visited by severe epidemics of the disease, but because its public health authorities and medical profession had compared very favourably with those of other countries in the enlightened and progressive policy for combating the disease. Referring to epidemics of recent years and the work that had been done in dealing with the situation, he concluded that there was little doubt that, in the organized employment of serum therapy, a definite forward step in communal preventive medicine had been made, and that as a result many limbs and lives had been saved. For a number of years it had been held that the virus of poliomyelitis entered the central nervous system from the respiratory mucosa via the perineural lymphatics, as in tetanus, rabies, and diphtheria, and that it reached the grey matter to set up an acute inflammation of the intertitial tissues. This mode of spread, it was thought, would explain both the pathology and the clinical course of the disease. Recent research on experimental animals by Fairbrother and Hurst tended, however, to disprove this theory and suggested that the axis cylinders were the chief routes or transmission of the infective agent. Before accepting this revolutionary doctrine as applicable to human poliomyelitis the speaker felt that further critical examination was necessary, as the theory did not fall in line with the anatomical and symptomatic features of the illness as they were known. The question was more of academic than of practical importance however and there were many others more urgently needing solution. One of these the speaker thought to be the possible modes of propagation in the community. Direct contact and spread by respiratory droplet infection was accepted as a possible though uncommon mode of transmission but that carriers were largely responsible for epidemics was more likely. Until we had more practical methods of testing and distinguishing between natural and acquired immunity, the problem was not likely to be solved. There was no doubt that immunity was frequently acquired by the response to infection with the virus without affection of the nervous system and it was impossible with our present knowledge to estimate the activity of such carriers in spreading infection. The chief methods of propagation were contact with acute cases, healthy or unhealthy carriers, and occasionally foods such as milk. The hypothesis that some of

the obscure febrile illnesses of children were really attacks of poliomyelitis, and that increasing immunity among adults could be so explained, had not been proved, but it was pointed out that if a test for the virus in all cases of pyrexia of unknown origin could be established, the first step towards the truth would have been made According to Collier, epidemics of poliomyelitis were preceded by "carrier epidemics," and, in congested communities, acute cases of the disease developed rapidly about the same time, having all been infected by carriers If this was correct, there would be little need for isolating acute cases of the disease However, there was not general agreement on this subject, and certainly not sufficient evidence to justify the exposure of healthy children to others suffering from the disease Detection and control of the "carrier" would appear to be the most important step in preventing epidemics, but when the present status of prophylaxis and treatment was reviewed, we were faced with so many doubtful and misleading factors that no dogmatic statement could be made, further progress would depend on advances in knowledge of the virus There was still some doubt as to the causative agent in spite of the apparently successful attempt by Flexner and Noguchi to cultivate specific globoid bodies The absence of a specific test for recognizing early and abortive cases made this gap in our knowledge a serious obstacle to accurate statistics The importance of the use of convalescent serum could not be overestimated, but who could predict what would have happened in the absence of such therapy? Other methods of treating acute poliomyelitis had been tried with no more positive results, and one was forced to the conclusion that further advance could not be made until a biological test ensuring early diagnosis had been discovered For this purpose the speaker suggested that an exhaustive study of all pyrexias of unknown cause in children would be necessary In conclusion, he mentioned the period of separation as the one in which the orthopaedists of late years had minimized the tragic disablement of infantile paralysis and it was, he thought, one of the brightest chapters in the recent history of the disease

Prof H B CUSHING (Montreal) followed by giving an historical sketch of epidemics in Canada and the development of convalescent serum therapy The efficacy of the latter he felt had been positively proved by the following arguments in its favour (1) it was analogous to serum treatment in other diseases, (2) in animal experimentation it had been shown that small doses of the serum produced immunity to large doses of the virus, and (3) it had withstood the clinical test It had, however, the following limitations (1) satisfactory immunity was of short duration (2) serum was effective only in the pre-paralytic stage (3) serum being ahuman, was difficult to obtain in sufficient quantity During epidemics, health departments in Canada had found communities anxious to co-operate At Montreal, during the past epidemic, cripples for miles round had written to the health department offering to come at their own expense to supply serum, if required In concluding, the speaker said that he held no special brief for convalescent serum, but he would like to impress on health authorities the extreme importance of always having on hand a sufficient supply to meet any possible emergency At this time Lord Dawson of Penn vacated the chair to Dr Edmund I Spriggs (North Wales), Vice President of the Section of Medicine Dr J M MCLACHLIN (Winnipeg), following, stated that it was his privilege to speak on behalf of the Medical Research Committee of the University of Manitoba, and therefore on behalf of a large number of workers who, under the able leadership of Professor C R Gilmour, had made a special study of the Manitoba epidemic in that province in 1928 Possibly the most important results to be presented were those obtained by convalescent serum therapy The method was not new and the evidence in its favour was not conclusive but since it was for the first time used extensively in Canada in the 1928 epidemic, the results had come to attention Over 8,000 cases of the disease had been treated under the direction of Professor C T Hagan Convalescent serum used during the Manitoba epidemic was the particular method of administration was used by them It had been the committee's experience that the serum was practically useless except in the pre-paralytic stage, hence the importance of being able to recognize the prodromal symptoms of the disease Of the 435 cases recorded during the epidemic, 161 had been selected for the purpose of estimating the value of serum therapy The basis of selection had been (1) a positive diagnosis, and (2) the accuracy and completeness of records obtained The series had been divided into the following groups (1) cases which received one dose of serum intramuscularly in the pre-paralytic stage, (2) those which received two or more doses by various routes in the pre-paralytic stage, (3) those which received serum after the onset of paralysis, and (4) those which received no serum The following table, which was shown on the screen, illustrates the outcome in each group

Group	No of Cases	Completely Recovered		Residual Paralysis		Deaths	
		Number	Percent	Number	Percent	Number	Percent
1	57	53	93	4	7	0	0
2	17	16	94	1	6	0	0
3	33	7	22	15	45	11	33
4	54	14	26	34	63	6	11

In concluding, the speaker stated that the committee, as a result of its work, was convinced of the value of convalescent serum in poliomyelitis Dr GEORGE RIDDOCH (London), following, said that his whole interest in the discussion centred around the research work done in Canada and the use of convalescent serum He was convinced that it should be employed more extensively in Great Britain He agreed with Sir Farquhar Buzzard that isolation of the causal agent was most important Dr ALEXANDER GIBSON (Winnipeg), speaking for the orthopaedic division, followed by saying that there was no work more gratifying than that of reparation in cases of poliomyelitis These cases illustrated the necessity for co-operation between the different specialties, specialists were too prone to confine their interests in watertight compartments The discussion, so far, had centred round the acute phase of the illness, and from what he had heard the speaker concluded that if serum were more extensively used the work of the orthopaedist would be much lessened No one knew to what extent recovery might occur, but it was the duty of the orthopaedist, after the acute phase had passed, to prevent distortion Massage and electrical treatment should not be prescribed, muscles were best left alone, except for the stimulation of "skin stroking" After outlining briefly orthopaedic measures for preventing contracture of muscles, the speaker concluded by saying that the more that was accomplished by those working on the problems of immunity, the less there would be for the orthopaedists to do Dr R G ARMOUR (Toronto) said that an aspect of the disease which had always impressed him as important was the frequency with which gastro-intestinal symptoms occurred during the pre-paralytic stage He referred to a series of cases studied by him in New York in 1911 It had been noted in this study that where a large dose of castor oil had been administered early in the disease the acute phase was never so severe, and the sequelae never so serious, as in cases not so treated From this he concluded that any case of diarrhoea and vomiting might be a case of poliomyelitis, and that castor oil should always be given Another therapeutic measure which had not been mentioned was rest during the acute stage Absolute rest during this period tended to lessen the spread of congestion in the spinal cord, and thus lessen the severity of sequelae During poliomyelitis epidemics it was noteworthy that there were always a number of illnesses diagnosed as intestinal influenza Might not these be cases of poliomyelitis in which there was no paralysis? Sir FARQUHAR BUZZARD, in replying, complimented the Sections on the fruitfulness of the discussion, and stated that he agreed with all that had been said He wished to emphasize the importance of Professor Cushing's statements about the

need for health departments always to be forearmed He was much interested in Dr Gibson's remarks, and agreed with his views regarding the ill effects of massage and electrical treatment on sequelae He thought that swimming should be more universally employed as a remedial measure and referred to the good results obtained by swimming exercises for a group of paralytics which he had had under his care during the war He agreed with Dr Armour that gastro-intestinal disturbances were common but not universal The transportation of poliomyelitis cases during the acute stage was extremely dangerous, and he agreed with the speakers who had stressed the importance of rest during the acute stage of the disease

SECTION OF DISEASES OF CHILDREN

Friday August 29th

DISORDERS OF SLEEP IN CHILDHOOD

WITH DR ROBERT HUTCHISON in the chair, DR HECTOR CAMERON (London) opened a discussion on disorders of sleep by remarking that no more was known of the physiology than of the pathology of this condition and therefore up to the present clinical observation had been the only help to the study of the subject He dealt with four types (1) sleeplessness and continuous crying in young infants, (2) sleeplessness in older children, (3) night terrors, and (4) nocturnal enuresis In the first type he considered that there were three factors—pain, inherited neuropathy, and faulty management Among common causes of pain, most of them well known, he included aerophagy, which interfered with suction action, produced unrest and discomfort with a minimal food intake, and so led to the establishment of a vicious circle "To prevent wind we must secure sleep, and to secure sleep we must prevent wind" He advocated the use of chloral hydrate in one-grain doses, given before feeds, in these cases of unrest Two common causes of failure of lactation and consequent sleeplessness were nervous unrest and nasal obstruction Dr Cameron painted a vivid picture of the infant with a neuropathic inheritance, but went on to say that only a few babies suffered from this, a more frequent fault was bad management on the part of the nurse or mother He stressed the exaggerated psychical stimulus which passed from the over anxious mother, and referred to the sensible arrangement by which the Indian squaw carried her baby on her back and went on with her work In older children sleeplessness was also very often a nervous reaction to the mother, refusal of food had the same origin The child should never be urged to go to sleep, but should be encouraged by the natural assumption that it would succeed. Sleeplessness might be transitory but if encouraged by maternal fears would be erected into a formidable habit These observations did not exclude the necessity of inquiring into such practical points as warmth, adequate ventilation, excessive fatigue, and lack of exercise Insomnia peculiar to children often evidenced itself by two particular symptoms—namely, night terrors and enuresis The metabolism of children was less stable than that of later life, in the nervous child especially a slightly abnormal biochemical reaction might be provocative of the severest symptoms In children the carbohydrate reserve was more easily exhausted The blood sugar fell and ketones accumulated in the blood The speaker described the symptoms of a child with ketonaemia including confused dreams and night terrors Enuresis was a specific night terror, and generally affected the child who was particularly sensitive about such matters He had often found that night terrors could be controlled by the administration of glucose DR R F ROBERTS (Winnipeg) limited himself to the clinical manifestations of sleeplessness during infancy Sleep in the young child was profound, so that it was undisturbed by the ordinary activities of a household The child should not be too much shielded from noise, or it would soon come to demand these conditions for ordinary sleep The dressing bathing, and feeding of young infants produced enough fatigue to be a factor in deep sleep The chief nursing difficulties were lack of an adequate sucking reflex and the impatient, awkward child such difficulties could be overcome by good management DR PORKE considered that constitutional tendencies played an important part in the disturbances of sleep He described the restless neuropathic infant and thought that this type of child generally lay on one side because of its tendency to head retraction it was easily disturbed by noise colic, or the contact of a soiled diaper, and required attention at frequent intervals during the night It always reacted in a pronounced way to digestive disturbances had frequent small stools with mucus and passed much gas This generally occurred during the first few weeks, and there was always a tendency to improvement as the child grew older It was necessary to reassure the mother since she often ascribed the symptoms to the poverty of her own milk She should be advised to take open air exercise and to cut down the fat and protein of her food When possible it was important to secure rest at night for the mother In case of severe colic the infant should be given castor oil and be kept on a diet of boiled water for eighteen hours If it was suspected that the infant was getting too much food, water or lime-water could be given before each nursing DR PORKE agreed that nasal obstruction was a common cause of failure in sucking and sleeping. He advised the use of paraffin and in many cases the early removal of adenoids He had not previously considered acidosis as a cause of sleeplessness Among other more obvious causes of sleeplessness he mentioned otitis media, acute infections, pyelitis eczema, and mental deficiency

DR A H SPOHN (Vancouver) said that sound sleep was an index of good health, pain and inherited neuropathy were the two important factors in sleeplessness Children had a relatively longer gut than adults and a thinner abdominal wall, so that they were more prone to dyspepsia He disagreed with Dr Cameron's theory of ketonaemia because he thought that night terrors were more marked after excessive carbohydrate ingestion In Canada and the United States the carbohydrate intake was in great excess, and there was also a high percentage of disturbed sleepers He considered the interference in carbohydrate metabolism referred to was rather a symptom than a cause Dr Spohn emphasized the inherited predisposition for disturbed sleep, and believed that it was becoming more common He did not think that nocturnal enuresis was a manifestation of hysteria, since it occurred when the patient was beyond the reach of hysterical influences, nor did he associate nocturnal enuresis with sleeplessness the former was common in institutional establishments, but the latter was rare In summing up the practical points of management he emphasized the necessity for considering eugenics, the readjustment of modes of living, and the establishment of a more normal home life He had used both atropine and luminal with some success and thought that hydrotherapeutic treatment was occasionally indicated DR ALAN BROWN (Toronto) suggested that thymus disease might be a cause of insomnia in some infants Children manifesting sleeplessness with some difficulty in breathing were occasionally found by x-ray examination to have enlargement of the thymus There might also be swelling of the nasal mucous membrane, which was supplied by a branch of the vagus He had seen six such cases, in which exposure of the thymic region to x rays produced relief and ability to breathe and sleep comfortably DR SWALLOW (Winnipeg) considered that one of the commonest causes of crying and restlessness in young infants was hunger DR RAWSON said that some cases of enuresis in childhood had been cured by distension of the bladder

ARTIFICIAL SUNLIGHT

DR ROBERT HUTCHISON announced that DR A. EIDINOW had been prevented from coming to Canada to speak in person DR ALAN BROWN (Toronto) had, however, consented to give the gist of DR EIDINOW'S paper and then to proceed with his own remarks on the subject DR EIDINOW'S paper referred in detail to the use of heat, infra-red luminous ray, and ultra-violet ray therapy in the treatment of disease Ultra-violet therapy might be employed for the normal skin for the irradiation of diseased parts such as ulcers, and for the irradiation of foods and

drugs The reaction of the skin depended on the intensity of radiation, character of wave-length, time of exposure, distance from the source of light, sensitivity of the skin, and area of skin exposed He described the methods of utilizing the long rays and the short rays He had himself designed a new lamp, the daylight lamp, with rays similar to natural sunlight Patients could be exposed for many hours, and could sleep under it without danger of skin reactions It consisted of a long mercury arc enclosed in a frosted vitreosil tube, and a series of tungsten filament lamps, easily controlled and foolproof Experiments showed that animals exposed to this lamp developed a greater power to withstand intravenous injections of staphylococci It should prove useful in convalescent states, but was contraindicated in all cases of acute pyrexial disease Dr Eidinow then described the various methods of short-ray therapy He said that pigmentation should be avoided, since this immunized the skin to ultra-violet rays The technique of short-ray therapy needed careful supervision, and was only safe in the hands of the specialist In 85 per cent of his cases the bactericidal power was increased on an average 7 per cent Dr ALAN BROWN said that Dr Eidinow's work conformed closely with that done in Canada, but that they had not much experience of local actinotherapy because there was very little lupus among children in that country Actinotherapy was not a form of treatment for all diseases, but it increased the resistance to disease He alluded to the experiments of Dr Robertson (Toronto), who had cultivated an organism of slight pathogenicity to rats, and had then produced in the rats by ultra-violet radiation a resistance to the organism 600 times greater than before In Toronto head colds had been very prevalent, and all forms of therapy had been tried, it was now the speaker's habit to administer long-ray therapy in November and February, and the results had been very beneficial Regarding the effect on digestion, it had been found that the hydrogen-ion concentration of faeces was increased in irradiated children, probably by the removal of buffer substances Dr Brown was convinced that sunshine was not used enough The active rays of the sun only became effective in Toronto in the first week of March, and lasted till the first week of October In winter the sun's rays were below an angle of 35 degrees with the axis of the earth, and were therefore useless The latitudes in which rickets occurred were those between 40 and 60 degrees It was important to remember the beneficial effect of "sky-shine"—the rays of the sun in the shade or through a film of cloud, these had as much as one-half to two-thirds of the value of direct sun rays Dr Brown recommended the use of foods with added vitamins in addition to the use of the direct ray Professor H B CUSHING (Montreal) said that the Alexandra Hospital for contagious diseases was nearly empty during July and August, he supposed this was due to the decreased virulence of organisms during the sunshine months, and the increased resistance of the children He hoped that eventually artificial sunlight would be provided in all schools, nurseries, etc Dr D NABARRO (London) spoke of the exposure of milk to actinic rays in the process of cooling Professor W E DIXON (Cambridge) disagreed with the former speakers, and said that human natural functions were not improved by adding excess of vitamin any more than by adding excess of any other food constituents Most living animals avoided excess of sunlight, and it was evident that the sun could do much harm He observed that with regard to the raising of an animal's resistance it had been shown that any substance injected into an animal raised its resistance One should not ignore the effect of irritation after exposure to rays or the psychical effect Dr MOORHEAD called attention to the fact that while advocating the use of vitamins most people preferred the bleached vegetables—notably celery, lettuce hearts, and asparagus Dr ROBERT HUTCHISON closing the discussion said that they had not heard enough of the contraindications for artificial sunlight, and little or no allusion had been made to the positive results of the experiments carried out under the auspices of the Medical Research Council He had noticed that in Canada they took precautions to exclude sunlight from their houses

SECTION OF ANAESTHESIA

Thursday, August 28th

POST-OPERATIVE RESPIRATORY COMPLICATIONS

At the second meeting of this Section Professor W WEBSTER, a Vice-President, occupied the chair Dr D C AIKENHEAD (Winnipeg) read a paper summarizing and commenting upon the post-operative respiratory complications in a series of 33,000 cases The paper is printed at page 515 of this issue of the *Journal*

The President, Dr R E APPERLY (London), congratulated Dr Aikenhead upon the magnitude of his figures Referring to his own experience, Dr Apperly stated that in twenty-two years he had administered over 37,000 anaesthetics to all types of patients He considered that the preliminary use of atropine had been largely responsible for the abolition of post-operative pneumonia, which nowadays was not so common as previously The routine practice in England was to give upwards of 1/100 grain of atropine, according to the age of the patient, this reduced the incidence of post-operative complications He had found that nose and throat operations were singularly free from respiratory complications, and he held the view that the inhalation of septic material was not the sole cause of such difficulties In pelvic cases he had observed almost as great freedom from post-operative respiratory complications, those which did occur usually followed radical hysterectomy These complications were noticed most frequently after operations upon the upper abdomen In such cases respiratory movement was restricted, which might be a factor He had found splanchnic anaesthesia valuable in these cases Dr Apperly added that there was no known routine method by which respiratory complications could be prevented, each case must be considered individually Dr LA FLECHE (Winnipeg) thought that lung complications should be styled "post-operative" rather than "post-anaesthetic", he considered the condition due to many factors, and especially to the pre-operative condition of the patient, preliminary medication, the site and region of the operation, the type of anaesthesia, the reduction of vital capacity, and the degree of post-operative care During an operation many of these circumstances tended to lower the patient's resistance The most important factors in prophylaxis were the use of CO_2 and oxygen to prevent atelectasis, and frequent changes of the patient's position in bed Dr FEATHERSTONE (Birmingham) stated that some years ago he had analysed forty different possible causes of post-operative respiratory complications, and concluded that the most prominent factors in their production were shock and infection, especially in operations upon the upper abdomen His impression was that post-operative pneumonia was not so frequent as it was ten years ago Possibly this was due to deficient nutrition consequent upon lung conditions Dr LAMB (Glasgow) said that some years ago he went through a series of post-mortem reports, and found no case of pure pneumonia as a post-operative complication, this was invariably associated with a septic condition He considered there was a great danger in operating upon patients with coryza, and he referred to the high incidence of abscess of the lung following tonsillectomy in America, as compared with its rarity in England Dr S JOHNSTON (Toronto) recalled a case of tonsillectomy followed by lung abscess in which the same culture was obtained from both sites In America tonsils were usually removed in the upright position, while recumbency was the rule in England Dr BOTSFORD (San Francisco) stressed the necessity of clearing up all throat infection before operating She believed that the nasal administration of gas and oxygen had largely reduced respiratory complications after tonsillectomy Professor W WEBSTER (Winnipeg) recommended the leaning forward position for tonsillectomy Anaesthesia should not be sufficiently deep to relax the soft palate, because in these circumstances blood and pus were inhaled This frequently happened when tonsillectomy was performed under local anaesthesia Dr F I McKESSON (Toledo, Ohio) considered that many factors predisposed to respiratory complications the most important was the depth of anaesthesia In tonsillectomy the patient should be kept lightly under, the airway should be free,

because any obstruction tended to cause congestion of the lungs Dr BLEZARD (Edmonton Alberta) said he had a great regard for atropine and gave 1/100 grain four-hourly after operation as a prophylactic Dr HAYES (Christchurch, New Zealand) stated that he had never seen a post-operative lung abscess in New Zealand Dr BIRKENHEAD replied to the questions raised in the discussion

SODIUM AMYTAL AS AN ANAESTHETIC

Dr L C ZERFAS (Indianapolis Indiana) read a paper dealing with the pharmacology and clinical applications of this drug a derivative of barbituric acid Dr J S LUNDY (Rochester, Minnesota) stated that he regarded 16 to 45 grains as an anaesthetic dose when given intravenously larger doses were toxic In some cases there had been post-operative excitement and he considered this due to the formation of isomers which had an entirely different action Sodium amytal should be regarded as an hypnotic rather than an anaesthetic The largest total dose he had seen administered was 9 000 grains, which had been given in individual doses, each of 3 grains for several months to check the convulsions of a patient with an intracranial tumour Sodium amytal was useful in the treatment of gastric and duodenal ulceration because it checked the secretion of the gastric juice Like all barbiturates it must be given with caution It was prone to cause oedema of the lungs, for which the best treatment was an oxygen tent and concentrated glucose solution intravenously Sodium amytal should not be employed in comatose conditions Dr BOTSFORD (San Francisco) described the effect of sodium amytal upon children She had employed this drug in a large number of cases and had noticed that, so far as children were concerned, the fear of operation was abolished with consequent diminution of the risk of causing subsequent mental complexes She administered the drug in capsules by the oral route, and obtained sleep or unconsciousness in five to twenty minutes She had seen no post-anaesthetic complications and had noticed no ratio between the lowering of blood pressure and the psychic effect She concluded that sodium amytal could be administered to children with safety, that it was more effective than opium in abolishing fear and that minimal doses should be given by the oral route Dr MOORE (Grand Forks, North Dakota) reported good effects in obstetrical work, particularly from its intramuscular administration Labour and even low forceps delivery could be conducted without the use of any other anaesthetic There was never any complaint of after-pains In reply to Dr FEATHERSTONE (Birmingham) he said that there was no untoward effect upon the child Dr BLEZARD (Edmonton) had employed the drug in obstetrics He stated that it relaxed the cervix Dr F B PARSONS (Cambridge) thought sodium amytal should be regarded as a particular form of premedication rather than as an anaesthetic With all non-volatile anaesthetics it was impossible to secure rapid absorption and excretion and therefore the anaesthetist could never be sure of his position, for these reasons inhalation anaesthesia was the more satisfactory He observed that there was considerable divergence in the recommended doses of sodium amytal this was an important point when dealing with derivatives of barbitone

Friday, August 29th

AVERTIN ANAESTHESIA

At the final meeting of this Section Dr H W FEATHERSTONE (Birmingham), Vice-President occupied the chair, and Dr F B PARSONS (Cambridge) read a paper on avertin He surveyed the field of non volatile anaesthetics in general, and discussed their disadvantages when compared with volatile anaesthetics especially in connexion with their absorption and excretion He described the pharmacological and anaesthetic properties of the drug stressing the importance of careful preparation of the solution Avertin had a marked effect upon respiration, this function was depressed with ordinary doses, while the cardiovascular system was uninfluenced In man both the duration and the depth of anaesthesia were subject to considerable variation and in no circumstances should the anaesthetist endeavour to produce full anaesthesia by increasing the recommended dose Anaesthesia could always be deepened by the subsequent administration of a volatile inhalation anaesthetic After discussing the absorption and excretion of the drug and its use in special conditions (particularly for patients suffering from exophthalmic goitre), Dr PARSONS said that the death rate intrinsic to avertin, after making all allowances for the submission of bad risks to operation, was about 3 in 10,000 This figure was comparable to that for chloroform, and he concluded that avertin was not an anaesthetic for general use when there were others, much safer, at our disposal Nevertheless in his opinion the drug was the best of the solid anaesthetics available at the present time, and it was of particular service in certain conditions

Dr J S LUNDY (Rochester, Minn.) stated that although the death rate for avertin for the first 30,000 cases was 3 in 10 000, this figure might conceivably be reduced considerably in the future He had ceased to administer avertin in aqueous solution, and now gave it in 6 per cent gum acacia Since adopting this practice he had seen no case of tender anus following administration Dr R WATERS (Madison) stated that he had used avertin intravenously In a very few minutes the patient was anaesthetized, but detoxication was rapid, and in approximately ten minutes the patient had regained consciousness The CHAIRMAN said his impression was that avertin was of considerable value for induction, and for this purpose it was the most pleasant anaesthetic we possessed In his opinion the ether test was too severe He preferred to give small doses of avertin During the recovery period the patient, although anaesthesia was light had muscular relaxation and it was necessary to watch the jaw He had had rectal irritation even when the solution had been most carefully prepared He asked if the solution of avertin in amylene hydrate deteriorated in the course of time Dr HAYES (New Zealand) asked what effect avertin had upon young children Dr S JOHNSTON (Toronto) questioned its value in nose and throat operations on account of the delayed return of the cough reflex He inquired if there was any appreciable fall in the blood pressure Dr BOTSFORD (San Francisco) felt that avertin was of less value than sodium amytal or other barbiturate preparations Patients did not regain their normal mental outlook for some days A disadvantage so far as America was concerned was that avertin could not be administered by a nurse Dr PARSONS in replying stated that avertin could be given to children provided the rules concerning dosage were observed There was very little fall in blood pressure during anaesthesia The solution in amylene hydrate was permanent

PRE-ANAESTHETIC HYPNOTICS

Dr F I MCKESSON (Toledo, Ohio) read portions of a paper with the above title On account of previous discussion on sodium amytal and avertin, he confined his remarks to pernocton Dr McKesson stated that pernocton was a complex synthetic barbiturate closely resembling sodium amytal It differed from the latter drug however, in that with hypnotic doses there was no fall in blood pressure The hypnotic power of pernocton was approximately twice that of sodium amytal, while the recovery period was half as long and was characterized by much less restlessness The drug was administered intravenously injection should be slow, otherwise the incidence of post anaesthetic sickness was increased Another distinct advantage was that only a small amount of solution had to be injected This was approximately 4 or 5 c.cm for the recommended dose was 1 c.cm for every thirty pounds of body weight In regard to pre-operative medication he said that he gave morphine 1/4 grain hyoscine 1/100 grain, and eactin 1/60 grain

Professor W WEBSTER (Winnipeg) remarked that nowadays a patient was given several drugs to produce anaesthesia He questioned the advisability of giving morphine then hyoscine then pernocton or avertin followed by nitrous oxide or ethylene and perhaps ether Dr R HANGRAVE (Toronto) asked if pernocton had any especial value in obstetrics, and the chairman, Dr H W FEATHERSTONE, inquired if the chemical composition of pernocton was similar to that of sodium amytal In reply, Dr MCKESSON

stated that we were using more and more drug in order to obtain balanced anæsthesia, and that better results were obtained with the "blunderbuss" method. He had had insufficient use of the drug in obstetrical work to give a considered opinion of its value. Pernocton had a close chemical relationship with sodium amytal. The President, Dr. R. E. MURPHY, said that the Section would wish to thank the Canadian officers for the excellent arrangement which had been made for the meeting. He also thanked them very much indeed for their wonderful hospitality. Dr. H. W. FEATHERSTONE endorsed the President's remarks. He referred to the coming centenary meeting of the Association, at which members of the Canadian Medical Association would receive a hearty welcome.

SECTION OF RADIOLOGY

Friday, August 29th

RADIATION THERAPY

THE second day's proceedings took the form of a discussion on different branches of radiation therapy, with Dr. A. J. BARCLAY, President of the Section, in the chair.

Professor GENDREAU (Montreal) outlined the recent progress made in the radiotherapy of cancer. He described a Coolidge tube which had been recently built to withstand 300 Kv. pulsating current at 3 Ma., and was now in daily use. High-tension generators capable of producing this current have been available for some time. He discussed how these highly penetrating *x* rays could be used with advantage. With a longer skin focal distance, higher filtration, and a larger field, it was possible to increase the dose at a depth. X rays could be used alone or in combination with radium, in those cases where extensive areas had to be homogeneously irradiated, and large quantities of radium were not available; it was of great advantage to combine *x* rays with radium. He stated that the rays of this new tube had a wave-length as short as the softer gamma rays of radio-active substances, and the intensity of radiation at any given moment was equal to that of 300 grams of radium.

Dr. DOUGLAS QUICK *then surveyed the general position as* regards the uses of radium in the treatment of cancer. He described the conditions in which radium could be employed with particular advantage, and laid stress on others in which it was only of value in certain phases of disease. There was no essential difference between the action of the salt and the emanation. The important thing was the particular method employed and the quantity of irradiation used. In certain circumstances he advocated the combination of operative surgery with radium and *x* rays. In describing the work which was being carried out in connexion with the more accurate estimation of dosage, he stated that the application of irradiation from a quantitative standpoint was largely dependent on the relative radio-sensitivity of a given tumour as determined histologically.

Professor JAMES EWING (New York), who followed, said that the new high-voltage *x*-ray machines described by Dr. Gendreau were a real triumph in physical research. There were some indications that the intermediate wave-lengths between *x* rays and radium might give therapeutic results not produced by any of the agents now available, but too much should not be expected. Moreover, the apparatus was very costly, *and it was well*, therefore, to look for other methods of intensifying the action of *x* rays, such as the use of toxic metals and bacterial poisons and elevation of temperature. Dr. Quick had emphasized the need for determining the dose necessary to destroy a given tumour, and then making sure that that dose was delivered. As a pathologist, said Dr. Ewing, he had been impressed with the importance of determining the nature of the tumours in the laboratory. It was essential to determine the degree of malignancy and the degree of radio-sensitivity of every variety of tumour that came under observation. It was not now possible to attain these results in every instance, yet progress was being made rapidly. In an apparently homogeneous group were found the widest variations in malignancy and radio-sensitivity, and unless these differences were known it was impossible to manage intelligently any form of treatment. Returning to the principle now adopted in determining the dose of radium and *x* rays, he said that there were some highly sensitive tumours which disappeared rapidly under radiation as a result mainly of direct killing of cancer cells. But there was a much larger group of relatively or extremely resistant tumours that could not be cured by killing cancer cells except by destructive doses, and with this group the principle of growth restraint by moderate repeated doses was probably much safer and more effective. It was essential that the radiologist should determine not only what type of tumour he had to deal with, but on what principle he would proceed in treating it. Dr. SEARS (Kansas City) laid stress on preventive treatment. He said that no situation had yet been conquered by cure. We must eliminate the cure. Radiation was like a small green.

Dr. MALCOLM DONALDSON (London) asked Dr. Quick whether he believed radon and radium had the same action provided the same amount of irradiation were given. In England great importance was paid to the time factor; perhaps we had become obsessed with the idea of a small dose for a long time. He asked Dr. Ewing whether he thought a neoplastic cell in a lymph gland was more resistant by virtue of its surroundings.

Professor GENDREAU, replying, said he had great hopes of rapid development of deep *x*-ray therapy. Dr. QUICK said that at the Memorial Hospital they were very much committed to prolonged irradiation. External radiation alone would not as a rule cure an adult form of carcinoma. He advocated a combination of treatments, both surface and interstitial. Dr. EWING, in reply, said he believed England was in a more favourable position as regards the fight against cancer than any other country. He thought that there were two forms of irradiation, direct and indirect action. In the low-growing adult cancers the cells were not killed by direct action.

TREATMENT OF UTERINE HÆMORRHAGE

Dr. MALCOLM DONALDSON emphasized the importance of radiotherapy in non-malignant conditions, especially those distressing attacks of irregular hæmorrhage so often associated with the onset of the menopause. He stressed the importance of excluding malignant disease. Either *x* rays or radium might be used in the treatment of these cases. If it was decided to give an anæsthetic to explore the uterus, then radium was the method of choice. On the other hand, in cases of pure menorrhagia, where malignant disease could easily be excluded, it was justifiable to use *x* rays, as this avoided an anæsthetic and enabled the patient to continue her work without lying up. Dr. Donaldson discussed the question whether an artificial menopause produced more severe symptoms than a natural one. He had found that in patients of 40 there was no difference.

Dr. F. W. PROUD (Vancouver), who followed, said he considered radium was specific in the treatment of hæmorrhagic diathesis in women. He drew attention to the fact that menorrhagia and metrorrhagia occurred at all ages. The young were most tractable *and sensitive*, the old were less so. Great care should be taken in the irradiation of patients below 20 years of age, as the ovarian function might become permanently impaired. For this reason *x* rays, because of its smaller dosage and greater margin of safety, was given at monthly intervals. In multiparæ, however, radium was the method of choice. In his work he used a dose of 1,800–2,000 milligram hours, and found that this dose was necessary to avoid recurrences. He laid stress on the sequels—necrosis and endometritis—but *pointed out that these could be controlled*. In treating the hard fibrous uterus the minimum dose should be given and repeated if necessary in three months. After this treatment about half the cases bled profusely once, and about one-third had two or more periods before becoming free. Diagnostic curettage was performed as a routine. In certain circumstances he advocated surgery, and in others a combination of radium and *x* rays. Dr. SHIPLEY (Saskatoon) suggested that an anæsthetic was not necessary for

the introduction of radium into the uterus He stated that he had found 300 milligram hours a sufficient dose to achieve the desired effect He suggested that the cessation of menstruation was brought about by some hormonal reaction of the endometrium Dr MALCOLM DONALD of stated in reply that as curettage was usually necessary he did not favour local anaesthesia He was surprised to hear that Dr Shepley was able to obtain complete amenorrhœa with a dosage of 300 milligram hours He believed the action of the radium to be on the ovaries primarily

RADIUM IN EPITHELIOMATA OF THE SKIN

Dr ROY WARD'S observations in opening this discussion are published in full in this issue at page 511

Dr HUGH MACKAY (Winnipeg), who followed, said he had had the pleasure of visiting the London Radium Institute and seeing Dr Roy Ward's work He congratulated him on his paper He considered radium was the method of choice in the treatment of basal-celled growths Cosmetically it gave good results, and it avoided the necessity of operation, and many elderly patients were thereby spared nervous shock He discussed the advisability of giving prophylactic doses to the primary lesion and to the glands after operation in cases of squamous epitheliomata Dr PROUD mentioned that he had been treating cases of rodent ulcer with a combination of x rays and radium, and Dr PIRIE spoke of his experiences in the treatment of rodent ulcer with x rays

Dr A F BARCLAY expressed the gratitude of the Section for the boundless hospitality it had received, and Drs PIRIE and MACMILLAN thanked the President and other members of the Section who had so kindly visited Canada for the meeting

SECTIONS OF PREVENTIVE MEDICINE AND TUBERCULOSIS

Friday, August 29th

PRIMITIVE RACES AND EPIDEMIOLOGY

THE members of both Sections met together, with Dr CHARLES PAPPITT (Calydon Sanatorium, Ontario), Vice-President in the chair, and considered during the first half of the session four papers upon the subject of primitive races and epidemiology

Professor S LYLE CUMMINS (Cardiff) opened with a paper on tuberculosis in African natives when brought into contact with civilization His attention had first been drawn to the subject by his experiences with the Egyptian Army between 1899 and 1909 Writing in 1912 he drew the conclusions 'that primitive tribes are highly susceptible to tuberculosis because, in the absence of the tubercle bacillus, they have never been obliged to protect themselves against the organism", and that civilized peoples are highly protected against tuberculosis because they have, in contact with the tubercle bacillus elaborated protective substances against this organism" European war experience led him to lay increasing stress on the individual acquisition of resistance through contact with infection Most of the acute tuberculosis on the Rand was due to the lighting up of old foci rather than to infection from without acquired for the first time in the course of mining work It was the young recruit arriving with "larval" or 'childhood" lesions still active in the glandular reservoirs that was in danger of acute generalization of infection, fatal within a few weeks when exposed to the combination of unfavourable physiological condition implied in the exchange of the native way of life for work in the mines and compounds of the Rand The lesions found were such as could be produced only by generalization through the blood stream from a preexisting lesion The facts of tuberculosis in Africans could best be explained by postulating that the race had not as yet developed inherited "immunity potential to the same extent as the white races Professor Cummins showed lantern slides contrasting the environment and ways of life of the natives (1) primitive in their natural surroundings (2) semi sophisticated from prolonged contact with the white races but living on their own lands, as in Portuguese East Africa, and (3) cooped up in the insanitary slums of modern industrial townships Later he dealt with the measures of prevention available The essential first steps consisted in affording to the natives in their territories conditions of life which ensured good nourishment and in the building up of a sound medical service

Dr J HARVEY PIRIE (Johannesburg) followed with some remarks on post-mortem findings in South African negroes The labour population was 400,000, there were 1,200 deaths from tuberculosis per annum, and five or six times that number were repatriated for tuberculosis In a study of 700 tuberculous individuals it was found that one-third had the disease complicated with silicosis These were practically all long-service men in the thirties and forties The two-thirds with uncomplicated tuberculosis were mostly short-service men in the early twenties The disease was acute and rapidly generalizing death was frequent within the first three months of service Invasion was overwhelmingly by the respiratory route There was a complete absence of bovine strains The post-mortem findings were those of generalized miliary tuberculosis, mostly with caseous bronchial or other gland mass At times the infection had tracked along the lymphatics from the thorax to the abdomen, or there was marked involvement of the serous sac, including the myocardium The liver and spleen frequently showed marked change, the kidneys rarely, bones and joints very rarely In the lungs a gelatinous pneumonia had been found, and in a few instances showed pulmonary tuberculosis

Professor J G FITZGERALD (Toronto), in a paper on laboratory evidence as an aid in early recognition of tuberculosis in contacts, directed attention to two laboratory procedures which he believed to be of value in epidemiological investigations of pulmonary tuberculosis —the tuberculo-complement fixation and inhibitive tests Caulfield and his collaborators in 1925, Norrvien and others, and recently Ogden had published the result of investigations Unpublished works by Ogden indicated that in a number of instances positive serological findings well in advance of the appearance of clinical changes made definite diagnosis possible much earlier than otherwise would have been the case Three to eight tests over a period of one to five years might be necessary The procedures were extremely complicated and could only be performed by skilled serologists Professor Fitzgerald described some encouraging results obtained at Toronto His paper gave references to the literature

Dr C H VROOMAN (Vancouver) presented a paper on the racial incidence of tuberculosis in British Columbia The population of British Columbia, some 600 000, was predominantly white but a group of about 70 000 consisted of Indians Japanese and Chinese in almost equal numbers The vital statistics of the province for the last nine years showed that this group comprising little over 10 per cent of the population was responsible for nearly 40 per cent of the total deaths from tuberculosis Among the white population 1 out of every 13 deaths was due to tuberculosis among the Japanese 1 out of every 6, among the Chinese 1 out of every 5, among the Indians 1 out of every 3 These very striking discrepancies raised the question of racial susceptibility to the disease The results of the physical examination of 1,248 individuals from selected groups of the 25,000 Indians of British Columbia including fishermen, agriculturists, and hunters were then described 6 per cent were found to be suffering from active tuberculosis, or 1 in 10 of the population if suspects were included The great majority of the attacks were of active fibro-caseous adult type showing little tendency to fibrosis, children between the ages of 5 and 14 were commonly affected Tuberculosis had not infected Indians for more than three or four generations As to the Japanese and Chinese it was probable that they too would show an incidence of tuberculosis proportional to their death rates Owing to their modes of life and lack of sanitary care the members of these three peoples were exposed especially in childhood, to more massive doses of tubercle bacilli than the white population

There was little time left for discussion of the papers Dr R G FERGUSON (Qu'Appelle, Sask.) said there was

little to be added to the known description of African conditions, but the report of the commission on silicosis was awaited with interest Work among the Indians was proceeding steadily in the pre-school, school, and reservation groups under whole-time physicians Dr A S M MACGREGOR (Glasgow) spoke of the incidence of tuberculosis among the Irish population of Glasgow, as compared with that of the indigenous population of the city Dr D A STEWART (Ninette) said that the medical problems of primitive races had been neglected Latterly the needs of the Indians, infected by the whites, were being realized A beginning had been made at Ninette among mixed strains of Indians long in association with the whites—a population permeated with tuberculosis and living under very bad conditions Raising of the standard of living and the practice of rational pursuits were required Professor CUMMINS, in reply, said that he found himself increasingly sympathetic to the view that there existed differences in racial susceptibility After some generations of intense endemicity no appreciable evidence of increased resistance was found in some races He laid great stress on the influence of habits and modes of life to which peoples were accustomed He preferred the term 'inherited resistance"—varying potentials of resistance—to "inherited susceptibility" The study of the disease in children would, in his judgement, prove the key to these problems

ANTITUBERCULOSIS SCHEMES

The subject of antituberculosis schemes was introduced by Dr A S M MACGREGOR He pointed out that the relation of such schemes to the public health presented two aspects the progress and efficiency of current preventive measures and the nature of the disease The preventive measures in tuberculosis had had much effect on public health generally—for example, in determining its present aspect towards housing standards and environmental hygiene Prompt diagnosis early treatment, and efficient after-care factors which controlled modern tuberculosis work were the fundamentals of public health principles He (the speaker) believed that the dispensary did its best social, medical and preventive services as an outpost of the public health department the main principles on which it should work should be that it had all possible modern facilities for diagnosis including efficient observation He thought that the new Local Government Act would work to the interest and competence of the dispensary physician, bringing him again more into line with the progress of general medicine The dispensary had no effect on the incidence of tubercle in young adults because, in his experience, the disease had been sporadic rapid and already far advanced when discovered The other great difficulty was the discovery of cases among contacts As far as institutions went he thought too much stress might have been laid on the pure sanatorium as an instrument in treatment of early cases What was required more to-day for the general population was hospitalization, 60 per cent of his cases resided in one and two-apartment houses, so that domiciliary treatment was impossible, and the sanatorium-hospital was a necessity His cases were hospital against sanatorium in the proportion of 4 to 1, half his cases were advanced when reported, and three quarters of the patients had died in two years He believed that the arguments in favour of colonies depended on considerations outside the [illegible] public health With regard to the nature of the disease he pointed out that the rate of influx of susceptibles and the number of slum areas in any city [illegible] the incidence of tuberculosis to vary Investigation [illegible] there was little decline in tubercle between [illegible] 15 and 25 the decline had been above and [illegible] this age group There had been a fall of 50 per cent in the age group 35 to 45 showing that there [illegible] much more infection in middle age, while [illegible] about cases of the young adult There [illegible] domiciliary tuberculosis in Scotland, but a [illegible] done in an attempt to diminish incidence of infection and to introduce [illegible] There had been marked reductions in death rates as contrasted with the first decade of the century He strongly advocated pasteurization, while he believed it had assisted materially in the decline of bovine tuberculosis in Scotland

Dr R E WODEHOUSE (Ottawa) described Canada's experience as regards tuberculosis programmes He said that the field work in Canada was in the direct charge of provincial departments of health The institutional care of tuberculosis was, for the most part, under the direction of other than Government departments, but nearly one-third of the estimated cost of maintenance was contributed by the provincial Governments The best diagnostic work, in so far as civilians were concerned, was carried on by what were known as travelling chest diagnosticians, these were medical men who were usually ex-sanatorium staff, and who visited, on an average once in three months, different centres in order to examine cases referred by the district practitioners Home visiting and school inspection nursing services were not uniform over Canada, where they existed they were maintained by voluntary committees in small centres, and by official authorities in larger ones Canada was marking time on the question of after-care or village settlements, and was waiting to copy the most useful and economic practice evolved elsewhere He believed that real results were being obtained by the efforts now put forth, and that the feature which had had the greatest influence up to the present was the provision of sanatorium beds The best results had been obtained under the management of voluntary committees, owing to the predominance of indigent cases cared for Where a sanatorium was administered by a voluntary committee the administration had to be economic, efficient, and humane, so that it might attract the tuberculous to seek treatment and the municipalities and public to contribute more towards construction and maintenance He concluded by enumerating the efforts of the Canadian Tuberculosis Association, which were mainly to stimulate the routine examination of presumably well school children, to obtain greater action in regard to the care of North American Indians, to hasten the provision of stronger efforts in the Maritime Provinces, where the death rates had been highest, to emphasize the importance of full-time medical services in industry, and to devise some approved form of after-care of discharged sanatorium cases Dr McDOUGALL of Preston Hall, at the request of the chairman, outlined the scheme of that institution, and after a short discussion Dr Macgregor summed up the proceedings

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SECTION OF OPHTHALMOLOGY

Friday, August 29th

OPERATIONS AND DEMONSTRATIONS

THE third session of this Section was held at the Winnipeg General Hospital, and was of a clinical and practical nature Operations were performed, and demonstrations by lantern and models were given by the President (Mr BISHOP HARMAN) and Mr A J BALLANTYNE Mr A W ORMOND (London) gave a detailed, illustrative account of Gonin's operation for detachment of the retina He did not regard the operation as likely to be a success in every case of detachment, but he thought that up to the present time it was the best contribution that had been made to the methods of dealing with that most difficult and unsatisfactory condition He had himself been able to record a few successes He would certainly aim at improving his technique with a view to getting the results claimed by Gonin Mr Ormond also demonstrated some excellent drawings of the eye conditions associated with Mongolian idiocy, leprosy, and other diseases Mr VERNON CARGILL showed some stereoscopic slides and a series of photographs, coloured and uncoloured, of fundus conditions, which he said were very useful for case records He mentioned that with a little practice the interpretation of the uncoloured photographs became a comparatively easy matter The members were much interested in his instruments brought from Amritsar, with which he demonstrated the operation of "couching" the lens as practised by the Indians

Definition of Blindness

Sir James Barrett (Melbourne, Australia) asked for a definition of blindness which would be applicable for industrial purposes, and for admission to institutions for the blind in the course of his duties he frequently had to give an opinion The standards he used in Victoria were total blindness = inability to count fingers at 2 metres, almost total blindness = vision less than 6/60, partial blindness = vision less than 6/36 He frequently found people endeavouring to secure entrance into blind institutions with far higher standards than these and he was anxious to have the support of the British Medical Association in fixing a standard Mr Bishop Harman replied that, although a standard similar to that of Sir James Barrett was what was used in Great Britain, it was difficult to fix a numerical standard to decide the question whether a person was blind for economic purposes since the limitation of the field of vision was an important consideration In Great Britain the opinion of the ophthalmic surgeon was generally accepted after a thorough review of the case He proposed that Sir James Barrett's problem should be referred to the Council of the Association

Defective Vision and the Pilot Service

Sir James Barrett commented on the necessity for a complete ocular examination in the case of a man in the pilot service who had had any accident with his ship As oculist to this service in Victoria he had in mind one very instructive case A pilot had missed a buoy and run his ship on to a sandbank, the explanation given at the inquiry was that at the moment of reaching the buoy a flight of birds obscured his vision This was accepted but not long afterwards the same man was involved in a collision, and his sight was then found to be defective Sir James Barrett considered it a most anomalous thing that after an accident these pilots should be medically examined in every other respect except in the matter of the condition of the eyes It was decided to refer this question also to the Council of the Association

Interesting cases were presented to the Section by Professor T Hepbert Bell and Dr F D McKenty of Winnipeg but owing to the lateness of the hour they had to be examined later, Mr Bishop Harman, Mr Cargill Dr Ivor Campbell, and Dr Whiteside Robertson then discussing them

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SECTION OF BACTERIOLOGY PATHOLOGY PHYSIOLOGY AND BIOCHEMISTRY

Friday, August 29th

Histology of the Glioma Group

At the final session with Professor M J Stewart, a Vice-President, in the chair, Professor William Boyd (Manitoba) read a paper entitled "The glioma group studied by ordinary histological methods" Referring to Bailey and Cushing's classification, to Penfield's brilliant contributions, and to the methods of Cajal and his pupils of the Spanish school of neuro-pathology, which constituted the basis of all recent work, the speaker reported a series of 31 cases of which 16 were classified as astrocytomata 9 as spongioblastomata, 1 as astroblastoma 3 as medulloblastomata, and 1 as ependymoma, one was unclassified He emphasized the fact that a diagnosis could be made satisfactorily by ordinary histological methods and that subdivision was of importance because of the different clinical behaviour of these tumours Professor Wilder G Penfield (McGill University) stated that from the point of view of the neurological surgeon the present classification of gliomas was of great assistance

Glomic Tumour

Dr L C Simard (University of Montreal) contributed an account of glomic tumour of the forearm, illustrated by a series of beautiful slides prepared by Masson's technique The speaker recalled that in 1914 Masson described the occurrence of small (benign) tumours under the nail, and termed the condition anterior angioneuromyoma, or glomic tumour Clinically these tumours generally also under the nail, which bulged exhibiting a bluish growth There was piercing and almost unbearable pain. The growths might occasionally arise in the skin and forearm Dr Simard reported a case of the forearm type in a man aged 45 He added that Masson had associated these pathological structures with certain apparatus of glomerular like structure, normally present at such sites he believed them to be the regulators of the peripheral circulation Answering questions by Professors Stewart and Muir, Dr Simard stated that a total of about twelve or fourteen cases had been reported, of which only five were elsewhere than on the finger

Physiology and Pathology of the Endometrium

Professor J H Teacher (University of Glasgow) read a paper on the normal structure of the endometrium and decidua and the menstrual cycle He said that there was only one method by which the ages of human corpora lutea and decidua could be determined—namely, from the history of properly dated young human ova A corpus luteum only signified the ripening of an ovum its relation to menstruation was problematical The speaker preferred to ignore the classical description of the menstrual cycle and to accept the theory of Heape originally formulated thirty years ago, in its present form it stated that (1) the menstrual cycle in the human subject normally proceeded all the year round, but ovulation and corpus luteum formation occurred only from time to time (2) there was no regular date of ovulation and the lunar rhythm of the cycle was not due to ovulation nor to any as yet known cause, (3) in the absence of fertilization it was probable that several ovulations occurred in succession, as in polyoestrous mammals like the mare or guinea-pig Professor J B Collip (McGill University) emphasized the importance of considering as distinct entities the two types of hormonal activity, for proof of which he mentioned the work of Loeb, Doisy, Corner, Wiesner, and others He referred to non fertile oestrus at normal puberty as being the usual condition rather than a rarity in mammals he based this conclusion on the work of Evans and Long, Mirskaia and Crew, and his own personal observations He commented on the association of non-fertile cycles with the absence of corpora lutea in the rat, and the relationship of these observations to those on the occurrence of menstruation in absence of ovulation in monkeys (the Hartmans and Corner) In his opinion the whole subject of sex physiology was in the melting pot and before final conclusions could be formulated the work of the biochemist, physiologist and pathologist would have to be correlated and greatly extended

Intra-epithelial Growth of Carcinoma

Professor Robert Muir (University of Glasgow) read a paper dealing chiefly with the growth and extension of cancer cells in the epidermis Such an occurrence he said, could be met with under three conditions (1) The cancer cells might reach the normal epidermis by direct spread from an underlying growth, thereafter extending within the epidermis (2) The cancer cells might reach the epidermis by continuous growth from the duct of a gland opening on the surface the outstanding example of this was Paget's disease of the nipple occurring secondarily to intraduct carcinoma (3) The cancer might start in the epidermis itself and spread within it instead of infiltrating the subjacent tissue as was usually the case In some apparent instances of this type however, the point of origin might be in the skin appendages In all three conditions the growth of the cancer cells in the epidermis apparently met with considerable difficulty and was accordingly relatively slow It was not uncommon to find the cells scattered in the rete malpighii, and sometimes spreading widely into the sebaceous or sweat glands The speaker had never seen a clear example of a return from the epidermis to the connective tissue although its possibility could not be excluded It could at least be said that once the intra-epidermal extension of the growth had been established the cells tended to be restricted to the epidermis.

THE PLASMA PHOSPHATASE IN BONE DYSTROPHIES

PROFESSOR H D KAY (University of Toronto) contributed an account of the phosphatase of the blood plasma in bone dystrophies He had extended to bone pathology the rôle in bone formation which Robison first suggested in 1923 for the enzyme phosphatase A reasonably accurate method has been evolved for the determination of the amount of this enzyme present in 1 c.cm of plasma, and the method has been applied to the plasma of patients suffering from various types of disease The enzyme actively present in a localized zone in the growing bone hydrolized the phosphoric esters in the circulating blood, bringing about deposition of insoluble lime phosphate salts in the ossifying zone Whereas in patients with diseases in which the bone was not involved the amount of phosphatase was normal, or only above it, in patients suffering from bone diseases in which a large portion of the skeleton was involved the plasma content of this enzyme was greatly increased Such an increase had been found in osteitis deformans, in generalized osteitis fibrosa, in osteomalacia, in infantile, adolescent, and renal rickets, and also in one very severe case of calcinomatosis of the spine and pelvis It was not present in arthritis, osteomyelitis, and bone disease of a purely local nature, nor in fragilitas ossium The rise in phosphatase in generalized bone disease was not necessarily associated with any changes in the serum calcium or inorganic phosphate The amount of increase found was from ten to thirty times the normal average, far beyond the limit of error of the method and the normal extent of variation Professor Kay considered that whereas up to the present in bone diseases there had been known only two useful variables in the blood constituents, a third, the plasma phosphatase, might now be considered as being definitely available to assist in the attack on the problems of bone pathology DR D R MCCULLAGH (Cleveland Clinic), instancing the usefulness of the method, mentioned that a sample of blood from a case strongly suggestive of generalized osteitis fibrosa (a condition confirmed by subsequent removal of a parathyroid tumour) had been sent to Dr Kay without comment or information, the latter had reported that the plasma indicated extensive bone pathology

COAL MINER'S LUNG

PROFESSOR S LYLE CUMMINS (Cardiff) outlined the earlier work on anthracosis, including the evidence from experiments on animals by Haldane and others that coal dust and soot in the lungs were readily taken up by phagocytic cells and swiftly removed from the respiratory apparatus, and also the observations of Mavrogordato that if guinea-pigs were first exposed to silica dust and then to coal dust, the latter instead of being easily removed, was held up in the lungs, which then presented the typical appearance of anthracosis Professor Cummins wished to focus attention on the dust risks to which coal miners were exposed, and to modify the current view that this industry was one in which the danger of pneumoconiosis might be to a great extent ignored Tattersall (1926) had described silicosis in South Wales coal miners working in "hard headings" the speaker in 1927 had described the pathological and clinical findings in a "hard heading" worker, and had suggested that the accumulation of coal dust in the lungs was caused by an underlying silicosis which had led to interference with the lymphatic drainage of the lungs That such in effect might follow a low degree of silicosis, insufficient in itself to produce serious interference with health was suggested by the fact that in this case the lung ash contained only 12 per cent of silica There was urgent need of further pathological, histological, and chemical investigations For the past two years the speaker, in conjunction with Dr A T Sladden, had been devoting attention to this side of the question Up to the present 38 lungs had been examined, Dr Tideswell being responsible for the chemical analyses a limited number from persons engaged in industries other than coal mining serving as controls They showed no marked accumulation of coal dust, and the lung ash contained about 1 per cent of silica A second group showing definite anthracosis, although the patients had exhibited no lung disability, gave a lung ash silica content of 5 to 20 per cent, while in a third, from patients definitely exhibiting lung disease, the silica content ranged from 25 to 42 per cent, this group had nearly all worked in "hard headings," and the lung tissue showed an almost universal blackening Summarizing his results Professor Cummins concluded from his series that the greater the amount of silica the more marked was the fibrosis, and, in consequence, the more complete was the blockage of lymphatic channels and the more intense the accumulation of coal dust in the lungs. Anthracosis was silicosis complicated by coal dust accumulation Unlike simple silicosis it might lead on to serious respiratory disability and death without the intervention of tuberculosis Bronchitis, the characteristic terminal lung disease of old coal miners, appeared to bear the same relation to anthracosis as tuberculosis did to the silicosis of gold miners on the Rand

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SECTION OF TUBERCULOSIS

Thursday, August 28th

TUBERCULOSIS IN CHILDREN

PROFESSOR S LYLE CUMMINS, President of the Section, occupied the chair at the second session, when the subject of tuberculosis in children was opened by Dr MAURICE MCPHEDRAN (Philadelphia) He began by stressing the different appearances in the lesions in childhood and adolescence The interaction of seed and soil presented a complex problem as regards the type, age, sex, and resistance, the significance and correlation of each could be shown by comparison of the x-ray representation of the types of tubercle in children and adults with the normal picture He insisted on the importance of using x rays, and pointed out how they might reveal the only evidence of activity He illustrated his contentions with quoted cases of tuberculosis associated with normal pulse, temperature, blood count, and sedimentation rate He showed how *diagnosis could be similarly aided in the common non-tuberculous basal lesions* DR RAY M PRICE (Toronto) dealt with the bacteriology of tuberculosis in children From the standpoint of incidence, she said, the human was the most important of the various forms of childhood tuberculosis, the bovine type came next, and its morbidity was to a degree parallel with the amount of tuberculosis in the bovine species, the avian type was an occasional factor Referring to research being carried on in Toronto, she mentioned 207 medical and surgical cases of tuberculosis in children under 14, these showed that of 65 cases of medical tuberculosis 63 were due to the human type of tubercle bacillus and 2 to the bovine type Pulmonary tuberculosis was essentially due to infection of the human type Of 75 cases of bone and joint tuberculosis there were 72 in which the infecting organism was human, while 3 were bovine In 30 cases of tuberculous cervical adenitis 17 were human and 13 bovine, while of 20 cases of renal tuberculosis 18 were human and 2 bovine Only 2 cases of primary abdominal tuberculosis were encountered, and both proved to be bovine One case of generalized glandular tuberculosis was found to be of the avian type The research workers had interested themselves in the study of raw market milk Of 250 samples from small dairy farms supplying Toronto with milk for pasteurization only 3·7 per cent proved to be infected, but in striking contrast 26 per cent of pooled bulk milk prior to pasteurization proved to be infected The work went to show that the effective pasteurization of milk eliminated the menace of bovine tuberculosis DR D NABARRO (London), who discussed mediastinal glands and primary lung tubercle in children, said that his observations of the last two years had proved that the primary lung focus arose from insufflation, and that it gave rise to secondary tracheo-bronchial glands The primary focus was usually found immediately beneath the pleura, and on the right as against the left side in the proportion of 3 to 2 His research led him to believe that if a lung focus was present tuberculous mediastinal glands would be discovered, if glands were found to be infected a lung focus would be present His work at Great Ormond Street had shown that in 424 post-mortem examinations on children

under the age of 12 15 8 per cent had shown tuberculous disease in only one case had he found lung signs with no corresponding change in the mediastinal glands

Dr W J Donnir (Weston, Ontario) emphasized the need for more adequate measures for the prevention of tuberculosis in childhood He believed that the infection rate was a point of paramount importance Since the sources of infection were well known, and the conditions of development recognized, the hope for the future lay in the active and persistent application of the knowledge already available While he welcomed research, it would be better to apply what was already known He stressed the application of the following measures (1) adequate means of protection, (2) the removal of all children under the age of 16 from active open cases (3) the adequate prevention of expectoration in public places (4) proper medical inspection of children, with immediate segregation on the discovery of a lesion, (5) the removal from schools of all open cases among pupils or staff, and (6) appropriate treatment being carried on for some years It might, he added, be claimed that such a scheme would produce a generation without resistance from lack of immunity, but he believed that such fears were groundless Dr PARSONS commented on the importance of pasteurization in the fight against tuberculosis in children He pointed out that the obtaining of pure herds, free from tuberculosis, would be the ideal, but would take generations to accomplish The best form of control was pasteurization The evidence of its efficiency was the presence of tubercle bacilli in raw milk and their absence after pasteurization The practical result of its application on the incidence of tuberculosis and its mortality could be determined from a study of non pulmonary disease in the age groups of 1 to 4, or even of 1 to 14 Bovine infection had a preference for the lymph nodes in early life It was evident from their work in Toronto that the pasteurization of milk was showing tangible results They now saw very little glandular tuberculosis, while peritoneal tuberculosis was a rarity From 1911 to 1915 hospital records indicated 0 025 per cent non pulmonary tuberculosis, the figure for 1924 to 1928 inclusive was 0 013, a reduction of 50 per cent He concluded by pointing out that pasteurization did not harm the milk Dr J A JAMES (Montreal) dealt with childhood tuberculosis and housing He submitted figures connected with a survey of 1,256 cases of tuberculosis at the Bruchesi Institute Complete investigation of the cleanliness and peopling of the houses was made, and his conclusions were that in Montreal the problem of the slum did not exist while the dwelling by itself was clean He had found that the situation was aggravated by the overcrowding of homes and the overpeopling and lack of aeration in the central wards of the city He had concluded that family contamination and underweight in children were the dominating problems, and he believed that the solution for the future was dependent on the education of the people and the protection of childhood He stressed the importance of giving all possible help to students and physicians who wished to investigate tuberculosis In the end, the problem lay in early diagnosis, and this fact presupposed in every physician the required competence to discover the disease on its first symptoms Dr BRUCE CHOWN (Winnipeg) discussed tuberculosis in childhood with special reference to the pulmonary form No one could be dogmatic about the etiology of tuberculosis in childhood, since what applied to one community did not necessarily apply to all others In Winnipeg he had come to look on the problem as one almost entirely of human infection, since the bovine tubercle bacillus as a causative agent was so rare as to be a curiosity while the human bacillus was so often encountered as to be appalling It was a common mistake to believe that tuberculosis early affected the child's nutrition Cough was more often present than mentioned and pleurisy with effusion was often the first definite symptom In diagnosis he stressed the value of getting a history of contact a positive tuberculin reaction and an x ray film The tuberculin test ought always to be correlated with the type of community in which it was practised he believed that a positive test was not only of diagnostic value for one particular child, but pointed the way back along which the bacillus had come He would warn against the all too-frequent and unjustified diagnosis of hilar increase and enlarged hilar glands In treatment he was constantly surprised to find how well an infant could handle a quite extensive infection if kept isolated from adult re-infection No child with a positive tuberculin reaction should be declared free from pulmonary tuberculosis without a good x ray film properly interpreted A very full and interesting discussion followed

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SECTION OF LARYNGOLOGY AND OTOLOGY

Friday, August 29th

NASAL SINUS SUPPURATION PERSISTING AFTER OPERATION

Dr PERRY GOLDSMITH (Toronto) opened the second day's discussion, with Dr S W PROWSE, Vice-President, in the chair He said that he was not alone in his view that there had been a great deal of unnecessary and unwise surgical zeal devoted to the nasal accessory sinuses Persistence of discharge from any nasal accessory sinus following operation did not necessarily demand further surgical measures of a more radical nature The main symptoms which troubled the patient, such as pain or discomfort in the head, nasal or post-nasal discharge, nasal obstruction, recurring head colds, and mental depression, might have been so greatly benefited that even if some nasal or sinus secretion persisted it was not usually of sufficient importance to require further surgical intervention The type of patient was of importance in determining the treatment the neurotic patient might simply require to be encouraged not to worry about a little nasal discharge Dr Perry Goldsmith reviewed some of the reasons for failure in the operative treatment of the different nasal sinuses He felt that the use of ionization with zinc in large irregular sinuses was likely to be a useful and hopeful adjunct, though he had had little clinical experience of it A not uncommon cause of persistent discharge from an antrum that had been operated on by this method was failure to recognize frontal and ethmoidal disease He preferred the canine fossa route in operating on the maxillary antrum, because it gave much better access than the intranasal route In all cases it was better to remove the anterior third of the inferior turbinal Assuming an antrum to have been thoroughly cleared of all progenic oedematous mucosa and an efficient opening made into the nose, it might be some months before all noticeable secretion ceased The patient might have poor recuperative powers owing to ill health produced by anaemia, tuberculosis syphilis, chronic nephritis or any debilitating disease His manner of living habits diet and even the atmosphere in which he worked, might have a bearing The heavy, rapid, immoderate eater and drinker, with chronic intestinal sepsis and constipation did not clear up well after sinus operations Lack of exercise and confinement indoors had a definite influence Many patients with oedematous manifestations of their sinus mucosa had as an underlying factor an allergic state The persistence of suppuration following operations of the ethmoid was in most cases due to free and spontaneous drainage not having been provided Mr A J WRIGHT (Bristol) said that one factor of the utmost importance in the treatment of nasal sinus suppuration was that of time many so-called incurable cases cleared up eventually Dr A LOGAN TURNER (Edinburgh) with the aid of a series of excellent lantern slides insisted on the importance of the part played by the ethmoidal cell labyrinth in maintaining the nasal discharge This was a factor which must not be overlooked in the consideration of the subject by some it was regarded as the key position He showed slides illustrating the development of the various groups of border cells' the more extensively these were developed the more difficult became the problem of successful drainage of the ethmoid cells There were many cases in which no intranasal operation however radical could reach every infected ethmoidal cell and the question of the advisability of an external operation might be usefully discussed.

DR M F ARBUCKLE (St Louis, U S A) said that allergy was a condition that had been mentioned with regard to post-operative nasal sinus suppuration he thought it deserved more attention from the rhinologist Many persons afflicted with headache, asthma, chronic bronchitis, hay fever, nasal obstruction, abnormal nasal discharge, and the like consulted the rhinologist or the internist, and in many cases they had had one or more nasal operations without relief A very considerable percentage of such cases represented persons who were suffering from a so-called allergic reaction, and the most important step in their treatment was the discovery and removal of the offending substance or substances, which often brought about most unexpected and striking results Professor G W FIFTCHER (Winnipeg) said that, although the border-line between chronic non-suppurative and chronic suppurative sinus disease was not strictly marked, and one often merged into the other the main picture stood out clearly Chronic non-suppurative inflammation was much commoner than was generally supposed and was often described by the patient as a "chronic nasal catarrh" There was no purulent discharge present, except in periods of acute infection MR TILLEY had claimed that these cases were often overlooked by the physician, since transillumination revealed no opacity A radiograph however, showed an opacity caused by degenerate or thickened membrane The symptoms in these cases were not marked They consisted of excessive mucoid discharge from the affected cavity and mild attacks of neuralgia in the first and second divisions of the fifth nerve Diagnosis was made by x-ray examination and puncture, which might yield a mass of thick, glairy mucus Pathologically this was essentially a low-grade inflammation resulting in oedema and thickening of the mucous membrane The cellular elements were very scanty The cilia might be present at certain parts and scanty in others, and polypoid changes might be present Hyperplasia of the glands occurred and the formation of cystic dilatations in the sinus Chronic suppuration of the maxillary sinus was characterized by purulent nasal and post-nasal discharge from the affected cavity or cavities Other symptoms that might be present consisted of supra-orbital pain headache at time tendency to contract colds, nasal obstruction, cough and chronic chest sequelae This was the ordinary form of mucoid disease, being much more common than the form previously described The process was also much more active and the symptoms more pronounced The pathology differed from the catarrhal form inasmuch as infiltration with cells was much more marked The membrane was, as a rule much thickened This might be uniform or patchy in distribution Patches of granulation occurred sometimes and areas of completely desquamated epithelium Polypi might be found springing from any part of the walls Caries and necrosis of the bone did not occur except in cases of syphilis and tuberculosis In long-standing cases fibrosis developed, especially in the deeper layers The excellent work done by Knowlton and McGregor was worthy of note The antral linings in dogs were removed completely in three cases it was found that regeneration of the mucous membrane commenced in the period of one to two weeks, at the end of three months it was largely completed, and at the end of six months it was practically impossible to tell the difference from normal antral lining the cilia had been so completely restored

MR I I MUECKE (London) said that the more he operated on the nose the more conservative he became He thought that the turbinates should not be removed, he looked on them as among the most important tissues in the body Simply on stopping irrigation a nasal discharge frequently cleared up He had abandoned the intranasal method of operating on the antrum, since one could not see round the corner, and he preferred to leave the sphenoidal sinus untouched He believed strongly in correcting any gross septal deviation to aid nasal drainage DR MCGREGOR (Toronto) described experimental work on the nasal sinuses He had also been interested in the eosinophils for some time with respect to asthmatic conditions Such patients varied surprisingly from time to time and the eosinophils disappeared almost completely in the presence of almost any infection SIR STCLAIR THOMSON (President) said that the slides shown by DR LOGAN TURNER indicated why nasal suppuration was sometimes inevitable in spite of any operation They showed, too, that one should be tender of the reputation of one's colleagues who had operated on such cases In opposition to MR MUECKE, he considered the sphenoidal sinus the most satisfactory one for operative treatment The ethmoidal labyrinth might be termed the *bête noire* of the rhinologist Vaccines, in his hands, had proved absolutely useless

A SAFE METHOD OF DEALING WITH ETHMOIDITIS

MR I A PETERS (London) read a paper in which he urged that in all cases of ethmoiditis radiograms should be taken to obtain information as to the infection of the sinuses Radiographic pictures of the frontal sinus were usually definite, of the maxillary sinuses less definite, and of the sphenoidal sinus very indefinite He considered that primary ethmoiditis operations should, except for simple polypus, consist in removal of the middle turbinal and intranasal drainage of the sphenoidal sinus and maxillary antra Excision of the middle turbinal should be carried out by Luc's forceps, either in its entirety by gripping the body of the bone or by nibbling from the anterior end and removing the opened cell Ethmoidal cells should be opened later under local anaesthesia only if symptoms of closed empyemata appeared extensive opening of these cells was rarely indicated

DEAFNESS IN SCHOOL CHILDREN

DR HORACE NEWHART (Minneapolis) read a paper, illustrated by lantern slides, on recent efforts to prevent deafness among school children He gave details of the work he had been carrying out in Minneapolis, showing the successful results brought about by the thorough organization of the diagnosis of deafness and its preventive treatment in the schools of that city DR AUSTIN A HAYDEN (Chicago) looked upon DR NEWHART as a revolutionary in otology He insisted on the value of the 2 A audiometer, which in his opinion standardized the testing of the hearing DR HAYDEN also showed an interesting cinematograph film dealing with the work of the League of the Hard of Hearing

TREATMENT OF OTOSCLEROSIS

MR SCOTT STEVENSON (London) read a paper on otosclerosis, with special reference to treatment He said that it appeared to be almost anathema among otologists to mention treatment with respect to otosclerosis yet the subject continued to interest and perplex them on both sides of the Atlantic He went on to review recent methods of treating otosclerosis which had been reported including the administration of parathyroid extract by E Watson-Williams and the operative treatment suggested by M Sourdille so far he had found nothing to displace the electrophonoride method of Zund-Burguet, which he had employed with a certain degree of success for some years, in spite of the criticisms the method had received at the hands of many otologists

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UNDER the auspices of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy a course of post graduate lectures on maternity and child welfare will be given from October 13th to December 15th on Mondays from 6.30 to 7.30 p.m. in the lecture hall Carnegie House, 117 Piccadilly, W.1. This course is intended to prepare candidates for the post graduate certificate of the association Tickets, which cost 7s 6d are obtainable from the secretary at the above address Another course, consisting of elementary lectures on infant care in preparation for the crèche nurses elementary certificate, will be held at Carnegie House, from October 9th to December 11th, on Thursdays, from 7.30 to 8.30 p.m. Matrons of crèches, not fewer than two of whose probationers or other workers are attending the course, are invited to accompany their students free of charge The cost of tickets for the whole course of ten lectures is 10s., and must be applied for in advance to the secretary, National Society of Day Nurseries, 117, Piccadilly, W.1.

British Medical Journal.

SATURDAY SEPTEMBER 27TH, 1930

THE FILTERABLE VIRUSES AND PRACTICAL MEDICINE

THE gradual lifting of the curtain on the filterable viruses is one of the most fascinating movements of our time, and accordingly the discussion on these specific pathogenic agents in relation to practical medicine which was introduced by Lord Dawson of Penn in the Section of Medicine at the Winnipeg Annual Meeting last month, is in good season. Moreover, as the present year has witnessed the demonstration by a group of clinical and laboratory workers at the London Hospital that psittacosis is due to a virus of this nature, and this observation has since been abundantly confirmed by others, the choice of Dr. S. P. Bedson to open the discussion was singularly appropriate. His paper, which is printed this week at page 505, comprises a review of the present state of knowledge of these disease agents and its application to clinical medicine. It is an admirable survey of the progress that has been achieved, while at the same time no secret is made of the difficulties—some of them formidable—that remain to be surmounted. The problem of the nature of these viruses is indeed most perplexing and of far more than academic importance. During the past thirty years the list of diseases, both of plants and of animals, which are due to agents of this class, has grown so large as to make it imperative to understand the nature of the agents and so be in a position to deal with their ravages in a scientific and more successful manner.

The view taken by Dr. Bedson that the filterable viruses are nothing more nor less than minute living micro-organisms akin to bacteria is one that is shared by a considerable number of those who have studied them closely in the light of an extensive experience of the more easily handled pathogenic bacteria. With each step forward in our knowledge of these viruses the line of demarcation between them and the bacteria becomes less and less obvious, and I look forward with some degree of confidence to the time when the filterable viruses and bacteria will be merged into one large group, inside which of course there will be slight differences—subgrouping—just as there is in the case of bacteria at the present time. It is difficult to see how, on the evidence to which he refers, any other view is feasible. Moreover, much of the progress that has been made during recent years in the elucidation of these viruses is directly due to the application of knowledge previously gained in the practical study of bacteria, and it is possible, and even probable, that additional advances will be made before long by further application of the same principle. Was it not William Harvey who wrote: "There is but one road to science—that to wit in which we proceed from matters more known to matters less known, from matters more manifest to matters more obscure"? Speaking generally, the trend of recent developments in the study of filterable viruses is to bring these infections more and more into line with those produced by the ordinary pathogenic bacteria.

The chief interest of practical medicine in these viruses lies however in the applications that can be made of new knowledge gained in the experimental laboratory to the prevention, diagnosis, and treatment of the specific diseases produced by them. Dr. Bedson's paper contains an account of what has been accomplished in these several directions. The employment of living virus for purposes of prophylaxis, even when the virulence is reduced by suitable measures, is obviously an early stage in the practical prophylaxis to the filterable viruses, and in view of recent experience with vaccinia improvement in this direction is especially desirable. Exploitation for purposes of diagnosis of the specific antibodies that are certainly formed against some of the filterable viruses, and probably against all, has hardly begun, but the successes already accomplished and described by Dr. Bedson in the course of his survey indicate that further advances may be expected in this direction before long. Finally, it would seem that the method of passive immunity has already been applied to the prophylaxis of poliomyelitis and measles with encouraging results. There is ground therefore for hoping that further study of the serum of hyperimmunized animals in the experimental laboratory may lead in due course to the introduction of a successful form of treatment for virus diseases by specific serum, the lack of which is at present only too obvious.

THE TRAFFIC IN DANGEROUS DRUGS

THE Assembly of the League of Nations at its meeting last year somewhat tardily arrived at the conclusion that the magnitude of the illicit traffic in dangerous drugs, disclosed by the reports of its Advisory Committee, could only be dealt with effectively by the strict limitation of the production of such drugs to the amounts required for medical and scientific purposes. The resolution passed unanimously by the Assembly on September 21st 1929 stated that, impressed with the disclosures as to the large quantities of dangerous drugs still passing into illicit traffic, and desiring that if possible steps supplementing the Convention should be taken without delay to limit the manufacture of dangerous drugs to the amounts required for medical and scientific purposes, the Assembly requests the Advisory Committee to prepare plans for such limitation, regard being had to world requirements for medical and scientific purposes. The Committee's report will be submitted to the Council, which will decide on the convening of a conference of the Governments in whose countries the above-mentioned drugs are manufactured and the principal consuming countries in a number not exceeding that of the manufacturing countries. It was thought that it would be necessary to hold a preliminary conference of the drug manufacturing countries before the summoning of the larger conference which would include representatives of both consuming and manufacturing countries, but on July 9th of this year the British Government informed the Secretary General of the League that the requisite material for the earlier conference was not yet available and that this conference contemplated for the end of July could not be convened. At a meeting of the Council of the League on September 18th it was announced that the larger conference on limitation of manufacture would be held on May 27th 1931, and that the preliminary conference of manufacturing countries would assemble in London on October 27th of this year.

It is clear that any scheme for the limitation of production must have regard to some standard for the legitimate requirements of the world for medical purposes. It will be remembered that some years ago a mixed commission of the Health and Opium Committees of the League reported that the medical use

should be considered the only legitimate use of the drugs, and that the use of opium as a stimulant, as in some tropical countries, was not regarded as legitimate It was later reported by the Health Committee that 450 mg of raw opium might be regarded as the medical requirement per head per annum As the result of a more recent investigation by the Health Section of the League on "world consumption of opiates and cocaine," a figure of 140 mg of raw opium per head per annum was arrived at, which covers the medical requirements of medicinal opium, morphine, heroin, and codeine, or less than one third of the earlier figure which had been propounded Taking the estimated population of the world at 1,950 millions, this would give the world requirement of raw opium for medical purposes as 273 tons Dr Wasserberg, commenting on these statistical results, regards this as an overestimate, and considers that "250 tons of raw opium and 6 tons of cocaine are sufficient for the world's requirements" It is true that the data from which these statistics have been compiled were incomplete, and the figures in many cases were merely estimates, but they appear to represent the best available basis on which to formulate—it may be provisionally—the world requirements When these results were considered by the Advisory Committee the representative of India intimated that "he had always been against the fixation of a standard," and "he thought it preferable to abandon any attempt to fix a figure for the world consumption" M Bremer, who for nine years was the able assessor to the Committee, drew attention to the wide diversities in the consumption of medicinal opium and morphine respectively in the United States, Great Britain, Switzerland, and Germany

Unless and until some more reliable standard of world requirements is forthcoming it will be well, in view of the appalling extent of the illicit traffic in the drugs in question, of which there are almost daily disclosures, to agree on some maxima of production in the manufacturing countries No one would wish that the supply for legitimate usage should anywhere be insufficient But it is now eighteen years since the Powers chiefly concerned undertook by The Hague Convention to co operate among themselves to prevent the use of these drugs for other than medical and legitimate purposes, and five years since this obligation was reiterated and endorsed by a yet larger number of Powers in the Geneva Convention

THE ETIOLOGY OF SUMMER DIARRHOEA

Although an alarming increase in gastro-enteritis cases among infants is no longer a common event of the summer months these maladies are still a persistent cause of infant mortality and morbidity, and investigations made to discover their origin have much practical importance Theories put forward at one time or another, which attribute the so-called acute intestinal intoxication to dietetic faults, to this or that organism or to parenteral infections (of which, according to W McKim Marriott, otitis media plays the principal part), have not met with general acceptance Now we have the record of a valuable investigation recently carried out at *Toronto* by M M *Johnston*, Alan Brown and F F Tisdall,[1] who made a precise study of 171 cases of intestinal intoxication during the period October 1928 to October, 1929 Some of the cases in this series occurred in the winter months, but with the onset of the warmer weather their numbers increased, reaching a peak some time after the hottest season of the year Most of the patients belonged to the "out-patient" class, a sufficiently well-defined social group, and of these 97 were males and 74 were females Only 5 were breast-fed; 5 had an unknown dietary history, 20 were receiving a mixed diet, and 141 were bottle-fed On their admission to hospital all these infants were examined for signs of ear involvement, and these were found in 45 Of the 126 whose ears seemed normal, 65 developed otitis media later, making a total of 109, or 63·7 per cent of the whole series Attempts were made to cultivate the organisms present in the ear, nasopharynx, and throat, but while streptococci were isolated in a large proportion of cases, particularly from the nasopharynx and throat, these organisms did not appear in pure culture Their failure to isolate one species of bacteria from the series, or a uniform flora, tells, in the authors' opinion, against the theory that masked mastoiditis is at the root of the intestinal intoxication They carried their investigation a stage further by studying a control series of 84 infants of the same age and social group, of whom 53, or 61 per cent, had otitis media on admission to hospital or developed it during their stay There was no significant difference between cultures of the organism from these patients and those from the intestinal intoxication group These findings, together with the fact that 126 out of the total of 171 infants had no otitis media after the intestinal symptoms had become established, seemed to the authors adequate grounds for discarding the theory that ear disease is an etiological factor in intestinal intoxication They then turn to the results of bacteriological examinations of the stools, and these are suggestive, for from no fewer than 129 of the cases they isolated a large variety of strains of Gram-negative bacilli In the control group, on the other hand, the organism isolated could be considered important in only two of the cases Agglutination tests were carried out with all available serums, and the demonstration of the presence of immune bodies in some of the serums seems to have established a connexion between the organisms found and the condition of the patients The final conclusion reached in this study is that intestinal intoxication in infants is an external infection caused not by one specific bacterial species, but by a variety of bacilli belonging to the colon-typhoid-dysentery group

[1] *Canadian Med. Assoc. Journ.* August 1930

INTERNATIONAL CO OPERATION IN HEALTH

THE British delegation (writes our Geneva correspondent), although it lacks this year the presence of the Prime Minister, is a very capable and effective one, and British contributions to the debates in the Assembly and its committees are full of initiative Nothing could have been better than the presentation of the account of the health activities of the League by Miss Susan Lawrence, Parliamentary Secretary to the Ministry of Health Miss Lawrence recalled with pride the fact that more than one international conference on the health work of the League had been held at the offices of the Ministry of Health in London To quote her words "In considering the work which is being done to improve conditions of health in my own country and the contributions we are making to health work in the British Empire by our School of Hygiene and Tropical Medicine, and by our most recent School of Post-Graduate Medical Education, the reflection presents itself to my mind how essentially similar, in spite of wide differences of local circumstances, are the problems which confront us all" The same difficulties, she added, repeated themselves in every crowded urban area, and in every scattered rural population, the experience of each country was immensely valuable to all the others The Health Organization had achieved results which proved how successful international co operation in health matters might become "International co-operation in health is relatively easy, there are few, if any, vested interests comparable to those which are

a bar to progress in the economic field, while in that even more difficult field of internat onal co-operation, the political, success is to be gained only by greater determination and more strenuous efforts to overcome more serious obstacles." The ten years' work of the Health Organization Miss Lawrence said, had been marked roughly by three stages first, the study and collection of information, secondly, the formation of general judgements on the basis of the material collected, and, thirdly, the stage of action As an example of the kind of inquiry which it was open to any country to ask the Health Committee to take up, she instanced the supply and distribution of radium Recently Great Britain found itself among the countries in which the public, as well as the Government, desired to extend the beneficial effect of radium in the treatment of cancer, and a large sum of money was acquired for the purchase of radium for hospitals But the question arose at once as to the best and most economical means of its application When this matter was placed before the Health Committee it was found that many other countries desired the same international study which had now been started, and already had produced most useful results Miss Lawrence paid a tribute to the medical director of the Health Organization, Dr Rajchman, and his staff, and to the Health Committee of the League, a small body, several of whose members had served from the foundation of the organization, and had spared themselves no trouble to give to the League the technical guidance which it needed "And we must never forget that it is the co-operation of the different health administrations, and the many experts who have given their services in different lands, that make it possible for us to record satisfactory progress from year to year" She considered that the inquiries with regard to infant mortality, which had been made in selected districts in seven countries, might well be extended Attention might be drawn to the high rate of mortality during the first days of life, together with the stillbirth rate, which apparently remained constant in most countries These conditions were largely due to obstetric causes, and an inquiry into maternal mortality might not only indicate means of reducing the death rate among women, but also of lowering neo-natal mortality Speaking of the courses of study, the so-called interchanges, which have taken place in three countries during the past year, Miss Lawrence referred to the new type of health work in Yugoslavia—one of the countries in question—designed to improve social and economic, as well as health, conditions This departure in the Balkans had been investigated by a group of fourteen health officers, who also spent a fortnight in Rumania, studying new features of the health and medical work there She also mentioned that several schools of hygiene, which had been established in different countries for the training of public health officers, had been exchanging experience and comparing methods, and the Health Organization had fostered this exchange by bringing the directors together for consultation and discussion, meetings for this purpose had been held during the last year in Dresden and Paris The discussion on the health work of the League, following Miss Lawrence's able summary, was continued by Sir Deva Prasad Sarvadhicary, former vice-chancellor of Calcutta University, who mentioned the work on plague in India, and also the need for obtaining a polyvalent serum for snake-bite by Viscount Inoue, member of the Japanese House of Peers, who testified to the interest of Japan in the development of public health in China, by M Zumeta, delegate of Venezuela, who suggested that the League should collect a body of information regarding medicinal plants, many of which, he said, were of specific value in certain diseases, but were quite unknown outside the regions in which they grew, and by Mr P E Coleman, a member of the Commonwealth Parliament, who said that in his view the League of Nations had achieved its greatest success in the field of health He also stated that the studies of the Cancer Commission of the League had been of special value to the Australian Government which had purchased large quantities of radium Australia was also particularly interested in the inquiry made by the League into the health position of certain Pacific islands Altogether, no one had anything but bouquets for the work of the Health Organization, and the Financial Committee passed without criticism the health budget for 1931, which involves an expenditure greater by £7,000 than the estimates for 1930, and by £15,000 than the actual expenditure for 1929 The Health Committee is appointed for terms of three years, and the new committee, the third in the history of the League, is holding its first session at Geneva at the end of September

THE HISTORY OF RUBELLA

In the July issue of the *Archiv für Kinderheilkunde* Dr Max Dirrigl of the children's clinic at Würzburg gives an instructive account of the history of the disease known in this country by the name of German measles, rubella, or its German name of röteln It may be said in passing that, though the "h" in röteln, as in most other words formerly containing "th," has been omitted for the last thirty years in Germany, this fact has not been generally recognized by British or American writers The term rubella, introduced by Veale in 1866, does not appear to be used except in English medical literature, but in Germany, as in other countries, rubeola is the usual synonym According to Dr Dirrigl this term first appears in literature in a Latin translation published at Vienna in 1492 of a work by Ali Ebn Abbas a Persian physician of the tenth century, entitled *The Knowledge and Cure of Diseases* Subsequent writers seem to have attached widely different meanings to the word Baillou (1574), for example, applied it to scarlet fever, Platen (1643) to small-pox, and Sauvages (1649) to measles Ludwig (in 1758), who seems to have been the first to differentiate röteln from measles, spoke of it as a milder disease, and the same view was expressed by Fritsch in a note in his translation of Cullen's nosology, in 1786 The earliest epidemic occurrence of rubella was noted by Jahn of Rudolstadt in 1807, but it was not until 1834 that the first detailed description of the disease was given by Wagner in Hufeland's Journal, followed by Thomas in 1872 in his article in Ziemssen's handbook In France the autonomy of rubella was maintained by Trousseau (1866), and in Russia by Nymann (1877) and Enko (1880) of St Petersburg This view, however, did not receive general acceptance until the International Medical Congress held in London in 1881, when, as the result of the communications of Cheadle, Eustace Smith, Squire Shuttleworth, and Charles West, the existence of rubella as a disease *sui generis* was finally established, in spite of the opposition of such notable authorities as Hebra and Kaposi, who maintained similarly that variola and varicella were manifestations of one single disease

TWINS

THE study of twins is interesting from many points of view To the eugenist it suggests the possibility of evaluating the relative importance of "nature and 'nurture," because, if one could measure the qualities—physical, physiological, and psychological—of monozygotic twins brought up under different environments, one would have as close an approximation as possible to a measure of pure environmental influence To the physiologist or paediatrist it is of interest to compare the anthropometric and physiological characters of twins with those of their brothers and sisters, since in this way some light might be thrown upon the respective shares of pre- and post-natal environmental factors in development The current

number of the *Eugenics Review* contains the first part of a memoir by Dr Percy Stocks describing the results of a research into the characters of twins based on measurements made in the elementary and central schools of the London County Council Dr Stocks has dealt *inter alia* with height weight head measurements blood pressure pulse rate respiratory rate and eye colour He has determined averages measures of variation and of correlation while taking care to allow for age in determining the weight of differences It appears that monozygotic twins tend to be taller and heavier than dizygotic twins while their brothers and sisters occupy an intermediate position as regards height but are superior to both in weight Monozygotic twins and to a less extent dizygotic twins tend to have higher blood pressure and quicker pulse and respiration rates than their brothers and sisters of the same ages The degree of resemblance between brother and sister born at different times is the same as in pairs of like sex born at different times and the degree of resemblance between dizygotic twins is not appreciably different from that met with in all pairs of children born to the same parents at different times Although at birth the mean difference in respect of various characters between members of a monozygotic pair has been shown to be of the same order as that separating members of a dizygotic pair, before school age is reached the former difference is approximately half the latter in respect of static characters and weight This differentiation occurs later in respect of blood pressure Various attempts have been made to evaluate the respective shares of "nature" and "nurture," and Dr Stocks points out the objections to which these are open tentatively he is inclined to rank height weight head dimensions blood pressure pulse and respiration rates in descending order of relative power of constitutional to environmental influences A very interesting section of the memoir is devoted to the problem of obtaining a practically applicable diagnostic criterion of monozygotism since information as to the existence of a separate chorion will rarely be available when one has to deal with adults while mere mental likeness may be misleading It is, as Dr Stocks points out extremely easy to reason in a circle If for example we assume that such or such a proportion of like-sexed twins are monozygotic in order that a particular diagnostic criterion may give this proportion of monozygotic twins in an examined sample only justifies the diagnostic method if the assumption is certainly correct Hence Dr Stocks has applied a number of tests which, even if some of them depend on assumptions are at least partly independent, and although he modestly fears that he himself may not altogether escape the charge of circular reasoning his methods seem to us cautious and satisfactory He concludes that the most satisfactory method is one which requires four head measurements and the child's finger-prints but that a reasonably good result can be obtained from finger-prints alone Clear practical instructions for the carrying out of the tests are provided It is perhaps superfluous to say that this memoir reaches the usual high standard of the Galton Laboratory in presentation and in

RICHARD VON VOLKMANN

In a sympathetic memoir[1] Professor Willy Anschütz of Kiel describes the life and work of Richard von Volkmann the pioneer of antiseptic surgery in Germany on the occasion of the celebration of the centenary of his birth on August 17th The son of Professor Alfred Wilhelm Volkmann a distinguished anatomist and physiologist at Halle Richard showed no special gifts in his early years, and it was not until 1855 shortly after his qualification, when he had to act as deputy for his sick chief, Professor Blasius director of the surgical clinic at Halle that his abilities as a surgeon became known forth Ten years later he succeeded Blasius in the chair of surgery at Halle and in addition to making valuable contributions to surgery and pathology founded the well-known collection of clinical addresses to which his name is attached Returning to Halle after the Franco-Prussian war the prevalence of wound infection raised the question of the reconstruction of the clinic As a last resource Lister Volkmann with some misgiving introduced Lister's antiseptic method with such marvellous results that for many years his clinic at Halle became the Mecca for surgical pilgrims In addition to bone and joint surgery, which had always been his favourite subject Volkmann contributed much to the advancement of orthopædics since he possessed a gift for technique and the solution of mechanical problems Mention should also be made of his work on cancer particularly in relation to its occurrence among workers in tar and paraffin Besides being a bold and successful operator Volkmann was an excellent teacher and counted among his pupils such well-known surgeons as Schede Kraske Sprengel Ledor Krause Heinrich Braun, and Hedenus Volkmann died at the comparatively early age of 59 at the height of his fame His native town of Halle of which he had been made a freeman erected a statue of him in front of the clinic where he had worked with such distinction

[1] [illegible] Twins and their Brothers and Sisters [illegible] Cambridge University Press [illegible] and 16th, p. 229

THE BRITISH ASSOCIATION'S APPEAL

In our notes on the recent annual meeting in Bristol of the British Association for the Advancement of Science we mentioned on September 13th (p 440) that it was intended to appeal for £50,000 as a centenary endowment fund Research has always been one of the primary interests of the British Association and several important investigations have been endowed by it There are normally in existence about seventy committees concerned with such researches or with inquiries into the state of various branches of science Grants have been provided for materials and instruments as well as for publication of the results Payments are not made to research workers the Association being essentially an organization for the encouragement of voluntary work in the cause of science Apart from the publication of its annual report and other necessary printings, which form a large item in the general accounts there has hitherto been no systematic provision for issuing a full record of the transactions at the annual meeting In undertaking the custody of Down House the British Association accepted liability for about £3,000 towards the restoration of the property and there are further commitments for upkeep The cost of celebrating the centenary next year in a fitting manner is another item of unavoidable expense It is hoped that a generous response to the appeal will enable the Association to extend its support of research to ensure the means of carrying out its imperial responsibilities, and to increase the facilities offered to junior students of science besides meeting those obligations which have already been mentioned Contributions should be sent to the General Treasurer British Association Burlington House W 1

The Harveian Oration will be delivered before the Royal College of Physicians of London on Saturday October 18th (St Luke's Day) at 4 o'clock by Professor John Beresford Leathes M B F R S

The Shorstein Memorial Lecture will be given by Mr H S Souttar F R C S at the London Hospital Medical College on Friday, October 17th at 4 15 p m His subject is radium in the service of surgery Members of the medical profession are invited to attend

THE DIETETIC TREATMENT OF LUPUS VULGARIS

A very interesting clinical experiment is now being conducted by Professor Jesionek at Giessen where he is in charge of the dermatological clinic of the local university. Professor Jesionek is also the head of a hospital of over 160 beds all of which are devoted to lupus vulgaris with the exception of a very few filled with patients suffering from allied conditions. This hospital is the only one in Germany exclusively devoted to this disease and the only other hospital in Europe of which we are aware which admits sufferers from lupus alone is the Finsen Institute at Copenhagen.

The hospital at Giessen was first erected in 1913, and had originally twenty-eight beds only, but since the war it has grown very considerably. Professor Jesionek has been in charge of it since the first, and its present size and importance is largely due to his efforts, and to his success in persuading the local authorities to finance the building and find the necessary funds for the upkeep of the institution. Professor Jesionek is well known to our profession as a prominent worker in actinotherapy, and of course light both natural and artificial, has played a conspicuous part in the treatment of the patients. He greatly prefers natural to artificial sunlight when he can get it, and the hospital, which is situated at the top of a hill, and looks south-east over open country, is well placed to take advantage of all the sunlight there is, but for many months in the winter season there is little sunshine, and he is compelled to fall back upon artificially produced ultra-violet light. He himself has devised a special form of mercury vapour lamp, which is well known in this country.

Up to recent years the treatment of the patients has largely consisted of the judicious use of actinotherapy combined with every agency which may help to improve the general nutrition, and especially to bring the skin itself into the healthiest possible condition. Professor Jesionek works on the theory that in the skin there resides the chief antituberculous defences of the body, and he employs light solely as a stimulus to the skin to make it produce fluids of high antituberculous value in large quantities. He sedulously avoids any suspicion of an inflammatory reaction, for that would mean that the skin had sustained injury, and, in consequence, diminution of its antituberculous power. In addition to light he also advocates the employment of other agencies such as exercise, exposure of the skin to fresh air and the use of cool baths—all for the purpose of improving the cutaneous condition. Locally he employs the Kromayer lamp, and does not despise the older methods of erasion and the use of chemical caustics. He does not, however, use the Finsen lamp, or its more manageable modification, the Finsen-Reyn. The chief reason is the great expense involved owing to the necessity of having a nurse in attendance the whole time for each patient, and money is very scarce in Germany at the present time. But the experiment which is now being conducted at this institution has nothing to do with light. About two and a half years ago Professor Jesionek began tentatively to employ in a few cases the dietetic treatment of lupus on the lines first suggested by Gerson, and subsequently developed by Bommer, Sauerbruch, and Hermannsdorfer. This originally consisted in the administration of an absolutely salt-free diet—that is sodium chloride-free. Such a diet being extremely unpalatable to many people, a special mixture of salts (excluding, of course, sodium chloride) termed "mineralogen" was given instead. In addition to their food the patients were given a teaspoonful of phosphorized cod-liver oil three times a day.

At the outset only a dozen patients were put on this dietetic treatment and at the same time the usual routine actinotherapeutic measures were continued. But, quite contrary to the professor's expectation these patients underwent remarkable improvement and since then more and more have been put on this dietetic treatment until at the present time all patients without exception are treated dietetically and the other more conventional methods of treating lupus have fallen more and more into the background. While all the patients are treated dietetically they are not now given quite the same diet as they were at the outset of this large experiment. The leading feature of the original Gerson diet was the complete absence of ordinary table salt, in the diet now given in the Giessen Hospital salt is still absent, but the essential feature of the regime at the present time is rather the fact that all the food is uncooked. The special "mineralogen" mixture is dispensed with, and latterly even the administration of cod liver oil has been discontinued, but the results of the diet are still excellent. These results are quite consistent with Professor Jesionek's theory of the incidence of tuberculosis. He is never tired of pointing out that tuberculosis is exclusively a disease of civilized man and domesticated animals. Both men and beasts living in a wild state are free from it, owing to the fact that their skins are able to produce antituberculous fluids in sufficient quantity to destroy at once any tuberculous bacilli with which they may come in contact. When civilized or domesticated this property is greatly diminished, and in consequence the man or animal becomes liable to tuberculous infection. The whole basis of the treatment of tuberculosis should be, according to Jesionek, the restoration of the skin to its natural state, with adequate power for the production of antituberculous bodies. It is exclusively with this object that he employs actinotherapy, baths, and exercises of various kinds. The new dietetic treatment falls in line easily enough with this theory. Men and animals living uncivilized and undomesticated existences, and consequently free from tuberculous troubles, eat their food raw, nor do they take salt with it. Consequently, he holds that the diet now administered at the Giessen Hospital gives a further opportunity for the patients to approach the conditions under which their skins may acquire once more their antituberculous properties to the fullest extent.

The practical side of the dietetic treatment of lupus is not without its difficulties. Owing to the fact that many patients find saltless food very dull, meals are kept to very small dimensions but given at frequent intervals, and there are no fewer than seven meals per diem. The food is of a mixed character (for it is uncertain whether the food of primitive man was animal or vegetable or mixed in character), containing a small quantity of meat, but fruits and vegetables form an important part. Eggs milk, and butter are also given freely. It need hardly be said that all smoked and salted articles of food are religiously eschewed. When the present writer visited the hospital he saw a number of cases of great severity and long standing which had resisted all attempts to cure them until they had been put on the dietetic treatment and which now had either completely recovered from the disease or at all events were within a little of that achievement. None of them had been dieted for more than two years, and most of them much less. At the same time their general health had been well maintained, and there had been a moderate increase in weight.

Professor Jesionek and his assistant Dr. Bernhardt have published a booklet on the dietetic treatment of lupus and the biology of nutrition which details their results up to January 1930.[1] Up to that time 341 patients had been treated but by now the number must have been greatly increased. They give very convincing illustrations of the benefit received by patients suffering from obstinate and widespread lupus, and there is no doubt that the possibility of the cure of lupus vulgaris by means of diet has been proved. Whether there is much need for those of us in this country who have charge of lupus cases to adopt this method of treatment is another matter and moreover it would be quite impossible to carry it out on out-patients as are most of our lupus cases. On the other hand it is undoubtedly worthy of study by those who are responsible for the public health of large districts and who maintain large hospitals containing many patients suffering from both lupus vulgaris and surgical tuberculosis (for the dietetic treatment of the disease applies also to the latter). The whole subject certainly deserves examination by the medical departments of the L.C.C. and other county councils who are responsible for the treatment of large numbers of tuberculous patients and into whose hands finally gravitate the most obstinate and difficult cases.

H. HALDIN-DAVIS

[1] *Diätetische Behandlung der Hauttuberkulose und Ernährungsphysiologie*. By A. Jesionek and L. Bernhardt. 1930. Leipzig: J. A. Barth. R.M.6.

Scotland.

Vital Statistics for Scotland in 1929

THE seventy-fifth annual report of the Registrar-General for Scotland dealing with the year 1929, has just been published. The population of Scotland in the middle of the year is estimated to have been 4,894,032, which is 9,150 less than the estimated population of the previous year owing to the net emigration having been greater than the excess of registered births over deaths. The births registered during the year numbered 92,880, giving a birth rate of 19·02 per 1,000. This number is 3,942 less than the number for the previous year, and is the lowest recorded in any year since the introduction of registration in 1855. The maximum birth rate recorded was 35·62 in the year 1876. Up to the year 1893 the Scottish birth rate was always over 30 per 1,000, and from 1894 to 1914 consistently over 25. Since 1921, the rate has always been under 25 and since 1926 under 20. The Scottish birth rate compares favourably with that of England and Wales, which was 16·3 per 1,000, while that of Northern Ireland was 20·4, and that of the Irish Free State 19·8. The deaths registered during the year numbered 70,917, giving a death rate of 14·52 per 1,000. The number of deaths exceeds that of the previous year by 5,646, and the death rate, 14·52 per 1,000, is the highest Scottish death rate since 1922. In the preceding year the death rate was 13·34 per 1,000, the rise is attributed to a severe epidemic of influenza which occurred during the earlier months of 1929. The infantile mortality rate for the year was 86·8 per 1,000 registered births, which is higher by 1·1 than that of the previous year, but lower by 2·4 than the mean of the preceding five years, and lower by 4·2 than the mean of the preceding ten years. The only years in which the Scottish infantile mortality rate was lower were 1923, 1926, and 1928, when the rates were 78·9, 83·1, and 85·7 respectively. Previous to 1915 this rate was always over 100, and exceeded 130 on eight occasions. The number of centenarians whose deaths were recorded in 1929 was 14, of which 10 were verified. In the last twenty years 281 reputed centenarians have been recorded and their ages investigated with the result that the attainment of an age over 100 has been verified in 139 cases, disproved in 43, while in 99 cases confirmation could not be obtained.

Causes of Death

The 70,917 deaths registered in Scotland during 1929 included 35,386 males and 35,531 females. Compared with the figures of the previous year the excess of male deaths was 2,809, and of females 2,837. The total number of deaths exceeded that of any year since 1922, but was less than that registered in any year between 1863 and 1915. The death rate in the male population was 15·09, and in the female 13·99 per 1,000. With regard to age at death 12,201, or 17·2 per cent., were children of less than 5 years of age, 40·6 per cent. were persons between 5 and 64, while 42·2 per cent. were persons aged 65 and upwards. The number of deaths at ages under 5 was 345 less than in the previous year. The infantile mortality rate for the year among male children was 97·3 per 1,000 and among female children 75·7, the male infantile mortality rate exceeding the female by 21·6. Deaths from enteric fever during the year numbered only 18, which is the smallest number yet registered in any year. In 1865, which was the first year in which deaths from enteric fever were shown separately, these deaths numbered 1,048, and fell below 1,000 for the first time in 1883, since then they have been progressively diminishing. For the second year in succession no death has been registered as due to typhus fever in Scotland, and for the eighth consecutive year no death has been registered as due to small-pox. The number of deaths attributed to measles was 149, which is 856 less than in the previous year, 780 less than the mean of the preceding five years, and 900 less than the mean of the preceding ten years. This is the smallest number of deaths from measles registered in any year since 1855, the previous smallest being 512, which occurred in 1925. All the deaths with the exception of 4, were of children under 10 years of age. Deaths from scarlet fever numbered 109, which is the smallest number of deaths from this cause recorded since 1855. The number of deaths from whooping cough was 901, being 171 less than in 1928. Of the 901 deaths, all occurred among children under 10 years of age, with the exception of 4. Deaths attributed to diphtheria numbered 471—17 fewer than in the previous year. With the exception of 40, these deaths occurred among children under 10 years of age. Deaths attributed to influenza during the year numbered 3,435, giving a death rate of 70 per 100,000, which is the highest number of deaths from influenza in any one year since 1922, and 2,474 more than in the previous year. The number of deaths attributed to all forms of tuberculosis was 4,580, which is 142 less than that of the previous year, 519 less than the mean of the preceding five years, and 941 less than the mean of the preceding ten years. This is the smallest number of deaths from tuberculosis recorded since 1855, the previous smallest number being 4,722 in 1928. The maximum number of deaths from tuberculosis in Scotland was 13,027, which occurred in 1870. The number of deaths fell below 10,000 in 1888, below 8,000 in 1914, below 6,000 in 1921, and below 5,000 in 1926. Of the 4,580 deaths from tuberculosis, 3,288 were ascribed to tuberculosis of the respiratory system, 519 to tuberculous meningitis, 303 to tuberculosis of the intestines, 65 to tuberculosis of the spine, 40 to tuberculosis of joints, and 365 to tuberculosis in other sites. Deaths from cancer and other forms of malignant disease numbered 7,108—207 more than in the previous year, 381 more than the mean of the preceding five years, and 755 more than the mean of the preceding ten years. The death rate from this cause was 146 per 100,000, which is the highest death rate yet recorded, the previous highest being 141 in 1927 and 1928. The death rate from cancer is now more than twice as high as that from respiratory tuberculosis, and indicates a great change from the year 1879, when the death rate of respiratory tuberculosis was over four times as high as that of cancer. Of the deaths from cancer, 91·2 per cent. occurred among persons aged 45 and upwards. The commonest sites were stomach (857), intestines (537), rectum (239), liver (187), prostate (149), tongue (105), oesophagus (159), and lung (116). Deaths from diabetes numbered 616, and were 93 more than in the previous year, 115 more than the mean of the preceding five years, and 121 more than the mean of the preceding ten years. Of the 616 deaths 231 occurred in males and 385 in females. Deaths attributed to accidents of pregnancy and parturition numbered 638, which is 38 fewer than in the previous year. Of these, 221 were attributed to puerperal sepsis, this number being 13 less than in the previous year. These deaths were equivalent to a death rate of 6·9 per 1,000 registered births, which is 0·1 less than the death rate of the previous year.

Vaccination of Children

An appendix to the Registrar-General's report for 1929 deals with the vaccination of children born in Scotland during 1928, who should have been vaccinated during that year or during the first half of 1929. Of the 96,869 children born in 1928, 6,648 died before reaching the age of statutory vaccination (six months). Of the 90,221 children surviving, 58·13 per cent. were certified to have been either successfully vaccinated or reported to be insusceptible. Unvaccinated cases constitute 40·43 per cent., the majority of these children, or 33·91 per cent. of the total, were unvaccinated by reason of a declaration of conscientious objection on the part of the parents. The percentage vaccinated is 2·58 less than in the previous year. It is pointed out that after the passing of the Vaccination (Scotland) Act, 1907, the number of vaccinated children continued to diminish, reaching a minimum of 54·49 in the year 1918, in 1920, following an epidemic of small-pox, the rate rose to 70·54, and thereafter continued to fall again.

Conference of Cremation Authorities

At the ninth annual conference of cremation authorities, recently held in Edinburgh, Dr. A. A. Musson, medical officer of health for Liverpool, supported the suggestion that the statutory regulations for cremation and the certificates B and C should be included as part of the study of medical students in their last year of training.

in all universities and medical colleges Although most medical practitioners, he thought were in favour of cremation, it was advisable that medical students should be more precisely informed of its advantage and instructed in the proper filling up of the various forms This was done at Liverpool, where the medical students were taken round and shown the working of the crematorium It was difficult to persuade people to regard cremation as a serious proposition but he was of the opinion that the movement was making satisfactory progress Dealing with the question of the adoption of uniform standard forms by all cremation authorities, Mr J Dan Lasson said that in his experience doctors sometimes made mistakes in filling up the forms He suggested that certain short instructions should be printed in bold type, so that doctors might have them brought before their eyes at once A great deal of trouble and expense might be saved in consequence It was often very difficult to get any mistake made by a doctor rectified in the short time available between the receipt of the application and the time appointed for cremation If there was one standard type of instructions doctors would know exactly what they had to do In opening the discussion on cremation from the public health point of view, the chairman, Mr Murray A Phelps, LL B, said that between 4,000 and 5,000 deaths were registered every year without any medical certificate as to the cause of death Although the details of such cases were remitted to the coroner, there was urgent need for the revision of the rules affecting certification where burial was the method adopted Mr G Noble, representing the Cremation Society, emphasized that cremation was a matter of the utmost importance to the health of the living and ought to be more closely considered by the sanitary services In this connexion the proposal was made by another member that its regulation should be transferred to the Ministry of Health Among other subjects discussed was the attitude of undertakers towards cremation, and the reduction of fees in the case of persons insured under the national health insurance scheme A number of addresses were read at the conference, which included papers by Professor S A Smith of the University of Edinburgh on cremation and crime, by Rev Dr George Christie on the Church and cremation, and by Dr J J Jervis medical officer of health for Leeds, on public health authorities and cremation The proceedings concluded with a visit to the Glasgow crematorium by about forty of the delegates and their friends

Dundee Royal Asylum

The one hundred and tenth annual report of the Dundee Royal Asylum, including that of Dr Arthur B Dalgetty medical officer of the institution, states that 57 patients were on the register at the close of the year ended June 16th 1930 Of these, 20 patients were admitted including 15 voluntary patients and 5 under certificate Fifteen were discharged, and 8 died Of the 15 discharged 14 were voluntary patients most of whom had derived benefit from their stay in the hospital The report points out that the excess of voluntary patients over those certified indicates that full advantage is being taken of the method of voluntary entrance, and that it works in a very satisfactory manner

Royal Asylum of Montrose.

The report of the Royal Asylum of Montrose for the year ended May 15th, 1930 including the report of Dr C J Shaw, physician superintendent of the institution states that the number of patients on the register at the end of the year was 745 During the year 66 men and 64 women were admitted, while the number of discharges was 68 Of the latter, 43 patients left the institution recovered 12 relieved, and 13 not improved There were 78 deaths—38 of men and 40 of women—which gave a death rate, calculated upon the average number resident of 10 4 per cent The average age at death was 65 25 years Six of the deaths were due to tuberculous disease from which the patients suffered on admission Thirteen deaths resulted from diseases of the nervous system (one from general paralysis), and 33 from senile decay There were 44 voluntary patients resident at the beginning of the year, and 32—22 men and 10 women—were admitted In this year for the first time two voluntary patients were admitted chargeable to a parish, and the hope is expressed that this procedure will now be more largely adopted No change is reported among the service patients who numbered 31 altogether, including 5 officers As conditions predisposing to mental breakdown, heredity was noted in 44 instances alcoholic intemperance in 13 cases, in 7 cases the illness was stated to be due to financial and business worry, and in 5 cases to privation Only 2 patients with general paralysis were admitted during the year, which is the lowest number on record Thirty-one patients suffered from melancholia 12 from mania, 24 from dementia of various forms, and 17 from senile dementia

England and Wales

Home Ambulance Service.

In its report for the quarter ended June 30th, 1930, the Home Service Ambulance Committee of the Order of St John and the British Red Cross Society (12, Grosvenor Crescent S W 1) directs attention particularly to that branch of its work which is concerned with the care and transport of the sick The extension of institutional treatment which has followed the improvement of hospital facilities and their adaptation to the requirements of those who can afford to pay for the service they render, has emphasized the need for unremitting effort in maintaining the efficiency of this department As the committee remarks, a hospital or well-equipped nursing home is a doctor's workshop, where repairs can be most effectively carried out, but much of the success of institutional treatment in serious cases of illness must depend upon the skilful conveyance of patients from their homes During the quarter the number of patients carried in ambulances was 28,204, bringing the total number conveyed since the organization of the service up to 901,451 The figures for road casualties dealt with during this summer are not yet available, but over 10,000 patients are reported to have been treated by members of the Order and Society at their roadside first-aid stations last year This estimate refers mainly to accidents that happened during week-ends and holidays While continuing to urge the provision of first-aid facilities in every town and village in the country the committee recognizes the good will and devotion demanded of its voluntary roadside workers who spend many tedious hours in waiting for accidents to occur It suggests that with accumulating experience units will be able to adjust their schemes to local conditions so as to provide the most useful service in their power without unnecessary expenditure of energy

Post-graduate Work in Manchester

In 1927 the University of Manchester appointed a medical post-graduate committee with the object of arranging free courses and of co-ordinating the not inconsiderable amount of work already done by the Manchester Hospitals The trial period of three years has now elapsed, and, with this experience of the past to help, courses have now been arranged for the year 1930–31 It has been learnt that while Manchester does not attract visitors from outside there is a definite demand for special work by those in Government and other services in the district and also that practitioners desire isolated lectures in subjects of interest The general trend is for the Royal Infirmary to specialize in student teaching and for the Ancoats Hospital to afford post-graduate clinical work At the latter hospital clinical cases laboratory demonstrations and x-ray examinations will be available each Thursday in term time at 11 a m Clinical assistantships including one in radium therapy are available at some of the special hospitals Part-time courses will be given during the year in ophthalmology, dermatology, minor operations (Salford Royal Hospital), and bacteriology The Royal Infirmary will hold its usual courses of afternoon lectures at 4 15, those on Tuesdays will be given by the honorary staff, those on Fridays will be of a more technical nature,

given by outside practitioners Among these are Dr Lane on lead, Mr W Woods, F R C V S, on the veterinary side of tuberculosis, Dr David Blair of the Prestwich Mental Hospital on mental defect and exhaustion, and Mr Gordon Whitehead on gonorrhœa

On Friday, November 7th, Dr E W Barnes, Bishop of Birmingham, will give the seventh Lloyd Roberts Lecture, on heredity and predestination This will be given in the Physiological Theatre of the University, at 4 15 p m

The London Hospital

In the absence of Lord Knutsford, Sir William Paulin, treasurer of the hospital, presided over the quarterly general court of the London Hospital, which was held on September 3rd According to the statement presented by Mr Elliot, now house governor in succession to Mr E W Morris, the hospital waiting list stood at 1,100, in spite of the fact that there was a slight falling off in the daily number of patients On an average three emergency operations were performed each night The children's out-patient department was nearing completion, and would shortly be ready for occupation The cost of the work—namely, £5,714, had been covered by the sum of £4,386, which had been contributed in response to a special appeal by Lord Knutsford, and a cheque for the balance of £1,328, which had been sent to the hospital by Mrs C C Croft The diagnostic apparatus in the x-ray department was of an obsolete type, and was being replaced by the most efficient apparatus at present available It would now be possible to take radiographs of the chest at a distance of 6 feet, and with a tenth of a second exposure, thereby reducing distortion to a minimum The apparatus for x-ray treatment was also being replaced, and arrangements were being made to accommodate it on a better site Towards the total cost of the new equipment—£6,375—the hospital had £4,694 in hand A new heart department was to be built next to the west wing, the General East End Tradesmen's Association having generously undertaken to cover the cost, which would amount to £6,500 Also under consideration was a project to build a massage and electrical department on a site at the west end of the out-patient department, in order that the two departments, at present some distance from each other, should be in close proximity Reference was made in the report to the investigations by which Drs S P Bedson and G T Western had shown psittacosis to be due to a filterable virus

Correspondence.

A LABORATORY DIAGNOSTIC SERVICE

SIR,—In your issue of September 13th (p 418) Dr W G Willoughby makes a powerful case for the extended provision of laboratory methods of diagnosis, and urges that a service for this purpose should be established in connexion with the public health departments of the country Of the need for the general provision of such a service there are no two opinions, whether it is desirable that it should be developed as a part of the public health service is open to debate

The public health service plays a valuable part in the control of the mass health, its officers have special knowledge in this direction and special means at their disposal to this end The health of the individual is dealt with by a different service, with its own officers (the medical practitioners of the country) and its own institutions, the most important of which are the great voluntary hospitals so widely spread throughout the land The voluntary hospitals focus the medical activities of their own districts and of the country as a whole, and it would appear that it should be through them that such a pathological service should be conducted No doubt in the future the municipal hospitals will also be able to take a part in this work

The need for some general diagnostic service, open to those unable to pay large fees or any fees at all, is mainly felt by those medical practitioners working under the National Health Insurance Acts For those able to pay even moderate fees there is no difficulty in providing all the laboratory facilities necessary It is the patients of the panel doctor who are most often unable or unwilling to pay laboratory fees The national health insurance system covers an immense number of individual patients, and if dependants come to be included the system will cover the bulk of the population, on the face of it it would appear that it is as a part of the national health insurance system that any general service for the provision of laboratory facilities should be developed

Dr Willoughby does not suggest that it is desirable that such a diagnostic service should be run in connexion with laboratories already established by the public health authorities He recognizes that there are "important reasons for the employment of the best pathologists" because "they can frequently assist the clinician in the interpretation of results" This is a point of the utmost importance The work of a public health pathologist and that of a clinical pathologist differ widely both require special knowledge, but that special knowledge covers entirely different fields The avenue of approach in the laboratory investigation of a case and skill in the interpretation of the results of such investigations can only be learned by long experience gained in close contact with individual patients, and such experience can only be satisfactorily acquired in the wards and pathological department of a general hospital

The pathological departments attached to the general hospitals throughout the country would then appear to be the ordained places for the development of such a service Most of the larger voluntary general hospitals already possess well-equipped pathological departments with experienced and efficient staffs Those which so far have been unable to afford the cost of maintaining such departments would speedily establish them could they be assured of a steady flow of paid work which would assist in their maintenance

The pathological department, on account of its diagnostic work, is one of the most important of the special departments of the modern hospital, it is, further, unusual to find a pathological department in which some effort at research is not being made A laboratory diagnostic service working through the pathological departments of the general hospitals would therefore not only in itself be the means of advancing the standard of medical practice throughout the country, but would also serve materially to increase the efficiency of the general hospitals

It is the belief of this association that such a service could be conducted in this way, and that it would be of great benefit to the community All those interested in this very important question must be indebted to Dr Willoughby for having so forcibly drawn attention to a crying need —We are, etc,

J G GREENFIELD, M D, F R C P
Vice-President
S C DYKE, D M, M R C P
Secretary
The Association of Clinical Pathologists

Wolverhampton, Sept 15th

MASSIVE COLLAPSE OF THE LUNG

SIR,—Dr J M Woodburn Morison, in his British Medical Association Lecture delivered to the Dundee Branch on April 29th, and published in the *Journal* of August 16th (p 237), concludes that massive collapse of the lung is due to a spasmodic contraction of the musculoreticulum of the organ, the function of this musculature being deranged by various causes acting upon the vagal and sympathetic innervation directly or reflexly He quotes Rose Bradford, who holds that there is a reflex stimulation of constrictor nerve fibres to the muscles of the bronchioles He also mentions Sante, who believes that such stimulus is derived from a toxic condition, from an interference with the nervous supply of the vagus, and from abdominal or chest injuries or operations He regards the acute dilatation of the stomach which may follow a laparotomy as an analogous condition

In a previous communication (*Journal*, 1927, vol II, p 985) I suggested that such phenomena of violent aberration from the normal on the part of the trophic nerve mechanism are due to reflexes or toxins influencing subjects

who are hypersensitive and exhibit the phenomena of anaphylaxis. Such a hypothesis alone can explain the occurrence of these conditions in some subjects and not in others. The causal factors are repeated in case after case, only some patients develop these phenomena.

Why do some old people with advanced arterio-sclerosis suffer from attacks of acute pulmonary oedema, a condition so fulminating that it could be regarded as an acute and violent outbreak of trophic mania? The inciting cause is probably the exposure to cold during undressing and on getting into bed between cold sheets. Why do some of us sneeze and afterwards develop a coryza on exposure to cold air, the sneezing being due to an abnormal hyperaemia of the nasal mucous membrane as the result of a nerve reflex from the cold? Probably the same reflex starts a pneumonia. The nerve reflex explains the upset of the trophic reflex but why does such an abnormal result threatening and often causing death ever occur? Because the underlying condition of hypersensitiveness is present.

In the *Annals of Surgery of Philadelphia* May, 1930 Drs. Wilmer, Cobe and Lee report the results of an investigation into the incidence of allergy and asthma in a group developing post-operative atelectasis. They prove to their own satisfaction that such incidence undoubtedly occurs. This confirms my contention, which was arrived at on purely theoretical grounds but the truth of which I have proved by continuing to give a desensitizing dose (0·3 gram) of peptone fourteen hours before every laparotomy to the patients operated upon at our War Memorial Hospital. The results have been startling and continue to be so.—I am, etc.,

Welton Mowbray, Sept. 14th. MONTAGUE DIXON.

RADIUM THERAPY

SIR,—My apologies are due to Dr. Stanley Melville (September 13th, p. 448) for the omissions he took exception to in my lecture on the technique of radium therapy to-day. No slight was intended either to the radiologist, to the physician, or to the pathologist. These three must form such an important part of any radiological team that their inclusion was rather taken for granted. The biologist and physicist and other more special laboratory workers do, I fancy, need mention, as though they are just as useful they are perhaps not quite as obvious to the general practitioner, to whom the lecture was delivered. Modesty should have prompted me to omit the surgeon.

In reply to Dr. Howitt Hastings, I would say that almost any form of radium will undoubtedly cure rodent ulcer, and for this treatment, and for this only I fancy the metal plaque survives. As to the use of radon, we really seem to be quite in agreement. For any service, State or otherwise, run in connexion with a radon producing establishment has great advantages.—I am, etc.,

London, W.1, Sept. 22nd. DUNCAN C. L. FITZWILLIAMS.

PERFORATING DUODENAL AND GASTRIC ULCERS

SIR,—To wait for a few hours till shock passes off may be all right under the immediate eye of Mr. Basil Hughes (September 20th, p. 497), but it is dangerous treatment to broadcast, as it might lead to a mistaken policy in other ways—the diagnosis, consultation, removal, etc. For shock give morphine, up to 1/3 grain hypodermically, and operate *at once*. But the shock may be slight, and morphine not required. The shock varies from *nil* to instant death. I thought all that was settled in the nineties. Needless to say morphine is never to be given if the diagnosis and necessity to operate at once are not agreed upon by all concerned, otherwise a dangerous delay may seem justified, so altered by the morphine is the picture (as in other critical states).

Statistics of mortality are not informing unless they embrace the interval of time between perforation and operation. Lundie, early in the nineties, spoke of that interval as "eloquent of the dangers of delay." The mortality is determined, granting the practically equal skill of the modern surgeons who operate on these cases, by (1) the time between perforation and operation, (2) the time since the last meal, (3) the site and size of the perforation, and the second and third factors determine (4) the amount of extravasation. I think these conditions far outweigh in their influence on mortality the difference between habitual ether administration and spinal anaesthesia, with or without local anaesthesia.

I cannot follow Mr. Hughes in his remarks about cigarette smoking. Between thirty-five and twenty-five years ago when I encountered more of these cases than I do to-day in general practice, women were not smokers, and my impression (possibly wrong) is that there are fewer cases in this "tobacco age" than there were formally. It was in 1895 that I saw my first case of perforated stomach, and in the skilful hands of the late Mr. Kennedy Dalziell it became, I believe, the first case recorded in Glasgow of recovery after operation.—I am, etc.,

Glasgow, Sept. 22nd. R. O. ADAMSON, M.D.

CRETINISM WITH GOITRE

SIR,—I have for some time tried to obtain information as to the existence in Great Britain at the present time of cretinism associated with the presence of a goitre. Several kind correspondents from those regions where goitre is endemic have written to me pointing out the rarity of goitrous cretinism in their own districts but I have been unable up to the present to find out whether in fact any cases illustrative of the condition are now to be found. If any of your readers could send me particulars of such a case, preferably with a photograph showing the condition of the neck, I should be most grateful.—I am, etc.,

6, Harley Street, W.1, Sept. 26th. CECIL A. JOLL.

PYREXIA OF UNCERTAIN ORIGIN

SIR,—During the last few weeks there have been occurring in this district cases of illness which appear to me to present some novel features, and I should be interested to hear whether other practitioners have come across similar cases.

The illness begins somewhat suddenly with severe headache, usually frontal, sometimes accompanied by vomiting. There is considerable prostration, and pyrexia of 100–103° F. Often photophobia is present. After a few days' rest in bed the headache lessens and the fever subsides, and the patient is usually convalescent within a week. There is one sign the recognition of which I owe to a colleague, Dr. F. P. Halkyard, that I have found almost always present—namely, pain in the dorsal spine on flexing the head. In most cases there is also definite cervical rigidity. Kernig's sign is doubtful or absent. In some cases I have found the tendon reflexes, especially the knee-jerk, to be somewhat exaggerated.

I write this short note in the hope that some light may be thrown on the nature and cause of the condition. Is it influenzal? If so the absence of cases of the usual catarrhal type at the present time appears remarkable. Some of my cases have had a rather slow pulse, 40–50 during defervescence and some have had "girdle pain" in the upper abdomen. There have been several instances of infection from one case to another, and apparently the incubation period is short—twenty-four to forty-eight hours. There have been no ocular symptoms apart from the photophobia and no local pareses have been observed. In none of the cases seen so far has the illness been sufficiently severe or prolonged for lumbar puncture to be justified.—I am, etc.,

W. HOTSON PALMER, M.B., B.Chir.

South Lowestoft, Sept. 15th. L.R.C.P.

THE CORONER

SIR,—It is useless to waste time over this survival from the early Middle Ages. He and his inquests are equally obsolete. The recent Coroners Act has only made the position of the wretched man worse than ever. The legal coroner knows no pathology, the medical coroner knows no law, and woe betide the amphibious coroner who has been called to the Bar but has never practised in court, with an opponent at his side to trip him up if he makes a slip in the law of evidence, and a judge before him who may retort to his efforts, "Mr. S., I have been forty years in

the law, and if what you say is right I have yet to learn my business" I heard this remark in the High Court Most of the trouble in the coroner's court comes from ignorance or disregard of those elementary rules of evidence which every practising barrister has at his fingers' ends, and which no amount of reading can ever implant in the non-legal mind If the coroner was abolished entirely, and his duties transferred to the police magistrates, who could sit, like county court judges, with medical assessors there would be an end of the conflicting jurisdiction which the recent Act has brought into greater prominence than before It may surprise many coroners to hear that opinion is not evidence except in the case of experts A regional pathologist would be such an expert, and his opinion would be evidence

Cross-examination should be directed to putting one's client's case but in the formless court of the coroner there are no parties no issues, no joinder of issue, no counsel, and only too often no law It is useless to tinker with this hopeless official, who has been the butt of the satirical ever since Shakespeare's grave diggers in *Hamlet* (Act V, sc 1) "Is this law?" to Blackstone there were endless complaints of the incompetence of the coroners —I am, etc,

Lewisham Sept 16th GEORGE JONES

NECROPSIES IN GENERAL PRACTICE

SIR,—There are two schools of thought on this matter the one holds that the performance of post-mortems by general practitioners is undesirable because it leads to inefficient work—that is, that the G P is not competent to perform necropsies—the second holds that practitioners are competent, and that they ought to hold on to this work because, if they do not, the time is not far distant when there will be no work left for which the G P will be held to be competent This discussion is a particular example of the general problem which faces the profession at the present time On the one hand increasing efficiency is required in all medical work, while on the other it is being realized that specialism, if it is accompanied by the elimination of the family practitioner, must seriously impair the efficient care of the health of the people There seem to be two lines along which the profession can strive to develop so that the family or general practitioner may be saved from extinction, while at the same time that increase of efficiency which is essential may also be attained These changes take years and come about almost unnoticed Then general direction ought not, however, to be left to blind chance It should be purposively pursued by those members of the profession who are concerned The first change is towards a modified specialization amongst the general practitioners In each area certain practitioners ought to acquire special experience in one of the special branches—for example, pathology One or more of them should be given the status of a local appointment (as is done for the factory surgeonship) This is already done in pathology in practice to some extent, although it is not formally recognized This pathologist ought to be definitely linked up with the pathology department of the nearest hospital The second and, in my opinion the more important change is for the general practitioners to take more thought of the extension of their sphere of activity, rather than to try to hold back changes in the nature of their work, changes which are inevitable in any case This extension of the sphere of the G P cannot, and should not, be expected to be accomplished in a year or two The chief lines of this extension are concerned with the prevention of disease and the study of it in its early stages I know I am flogging a well-thrashed horse, but the trend of the present discussion convinces me that still more beating is indicated What seems to be most necessary is a slightly changed attitude of mind, on the part of the profession, towards the possibility of making up lost ground which the advance of the science—if not of the art—of healing has made inevitable Having mounted my hobby-horse I could ride after—I am etc,

Pitch Sep 20th HOWARD E COLLIER

SIR,—Most general practitioners will freely admit that they dislike performing post-mortem examinations because the process is carried out in private houses is distasteful and unpleasant, but more because the general practitioners who have not made a special study of morbid anatomy and post-mortem methods know that they do not derive all the information they should from the examination How can they be expected correctly and accurately to interpret post-mortem appearances when the opportunities of making such examinations come their way so fortuitously, so seldom, and in such discouraging circumstances? A necropsy—especially for medico-legal purposes, with its ensuring bacteriological and chemical inquiries—may require as much planning as a surgical operation, and its successful accomplishment calls for a specialist just as much as the latter does The letter of Dr Binns (September 13th, p 449) does not make out a case against a specialist in post-mortem work, but only for the intrinsic interest of post-mortem findings

The opportunity was missed years ago Those responsible for framing the Insurance Act made elaborate preparations for advice (A), visits (V), and certificates (C), and for ladling out gallons of medicine They even went so far as to discourage peppering the patient with pills, but encouraged the keeping of records Had they put aside a few pence per head for a pathological service many of these medical records, which now are often merely the data of unsolved problems, would have received a welcome amount of illumination and have made an immense contribution to knowledge The general practitioner who was genuinely in search of the truth could be present at a post-mortem examination made by an expert, and could learn more in an hour in the mortuary than he could in days spent in a library Any general practitioner so minded could qualify as a specialist pathologist and ask to be put on the panel of pathologists The coroners would be delighted Their troubles would be lightened A non-medical coroner quite recently told me with glee that he had discovered a young medical man with a zest and enthusiasm for post-mortems, and that, for that area at any rate, he knew how to allot the work in future —I am etc,

September 15th URBANUS

A VITAL REACTION IN THE DENTAL ENAMEL

SIR,—I have noticed in your issue of September 13th the remarks on the possibility of a vital reaction in the dental enamel, which were in connexion with the communication made by Mr Evelyn Sprawson before the Royal Society The notes regarding the work of the late Mr Howard Mummery (*British Dental Association Journal*, May 1st, 1926) appear to me to be inaccurate, and anyone who had actually examined the slides which he prepared could not help being convinced that there was every probability of the reaction taking place to damaged enamel, and moreover, I do not think that his assertions have ever been proved to be inaccurate Mr Sprawson has made a distinct gain in our knowledge of the reaction of the enamel to injury, and I consider that he shows that the enamel makes an effort to repair the lesion, which is after all only what one would expect it to do Your communication appears to me to unnecessarily adversely criticize Mr Sprawson's work and that of the late Mr Howard Mummery, both of whom have put forth evidence that enamel has reparative power, and I think everybody who looks carefully at the actual sections would be convinced of that fact —I am, etc,

Birmingham Dental Hospital, Sept 16th C HOWKINS

OCCIPITO-POSTERIOR POSITIONS

SIR,—With regard to occipito-posterior positions among races that habitually squat, my experience is that there are as many cases in proportion among the natives of South Africa and India as among those races that adopt European or Chinese habits—that is, as regards chairs Another popular idea is that the savage woman does not suffer in childbirth, I have found that she does, and also that the death rate in childbirth is very high among the less advanced peoples —I am, etc,

Libode, Pondoland, Aug 21st JOHN EVANS, M D

Obituary

SIR NEVILLE HOWSE, V.C., K.C.B., K.C.M.G.,

Late Director General Australian Army Medical Service

MAJOR GENERAL SIR NEVILLE REGINALD HOWSE, V.C., K.C.B., K.C.M.G., late Australian Army Medical Service, died in a nursing home in London on September 19th, aged 67. He was the second surviving son of the late Alfred Howse, M.R.C.S., of Stogursey, Somerset, was educated at Fulland's School, Taunton, and at the London Hospital, and took the M.R.C.S. in 1886 and the L.R.C.P. Lond. in 1887. Subsequently he took the F.R.C.S. in 1897, and in 1919 received an honorary F.R.C.S.Ed. After qualifying he went to Australia where he practised for some years. In 1899 he went to South Africa with the New South Wales forces, and in July 1900, won the Victoria Cross for going out under a heavy cross-fire and bringing in a wounded man during the action at Vredefort. During the South African war he took part in operations in the Transvaal and Orange River Colony, including the actions at Johannesburg, Pretoria, and Diamond Hill in June, and those at Bethlehem and Wittenberg in July, 1900, and gained the Queen's medal with six clasps and the King's medal with two clasps, as well as the V.C. He left South Africa with the rank of major, and returned to Australia.



When the great war began in 1914 he was promoted to lieutenant-colonel, and accompanied the Australian Expeditionary Force which took over German New Guinea, as principal medical officer. He then went with the First Australian Division to Egypt, being promoted to colonel and appointed A.D.M.S. to the division. In that capacity he made the medical arrangements for Anzac in Gallipoli, and for his services there was mentioned in dispatches in the *London Gazette* of August 5th, 1915, and received the C.B. In November, 1915 he was promoted to surgeon-general and director of the Australian and New Zealand Medical Services, and shortly after was made director-general of the medical services of the Australian Imperial Forces, holding that position to the end of the war. He was created K.C.B. in 1917, and K.C.M.G. in 1919. After the war he continued to hold the post of director-general of the Australian Army Medical Services till 1922, when he retired. In the same year he entered the Commonwealth House of Representatives, and subsequently held office, first as Minister for Defence and Minister for Health, and, later, as Minister for Home and Territories. He was one of the Australian representatives at the Fourth Assembly of the League of Nations.

In April 1919, the British Medical Association held a special clinical and scientific meeting in London the purpose being to set forth the work done during the war and to secure the presence of leaders of medical and scientific work in the forces before they returned to their civilian duties in different parts of the world. Sir Neville Howse, at that time D.M.S. Australian Imperial Forces, was a member of the general committee which organized the meeting, and took part in the proceedings. At the banquet in the Connaught Rooms, on April 10th he responded to the toast of the Oversea Medical Services.

In 1905 he married Evelyn, eldest daughter of Mr. C. de Vial Pilcher of Newstead, Orange, and had two sons and three daughters.

The funeral service was held at *All Souls' Cemetery, Kensal Rise*, on September 23rd. The Bishop of New Guinea officiated and the pall-bearers were the High Commissioner for Australia, Mr. S. M. *Bruce*, Sir Hugh Rigby, Mr. T. P. Dunhill, Mr. T. Trumble, and Dr. Lewis Smith. The Royal College of Surgeons of England was represented by Mr. C. H. Fagge, Vice-President, and the London Hospital Medical College by Professor William Wright.

[The photograph reproduced is by Elliott and Fry, Ltd.]

ROBERT WILLIAM MacKENNA, M.D.,

Consulting Dermatologist, Liverpool Hospital for Cancer and Skin Diseases; Dermatologist to Liverpool Royal Infirmary

DR. R. W. MACKENNA, who died on September 21st, was a son of the Manse, having been born in Dumfries in 1874, the son of the Rev. R. MacKenna, minister of Martyrs Church. The dominating influences in his early years were clearly manifest in his later life and work.

Robert William MacKenna was educated at the Dumfries Academy and later at the Royal High School, Edinburgh, from which he passed to the University in that city where he took the M.A. degree in 1896. Thus early he gave evidence of his wide outlook on medicine, he took part in the various undergraduate activities and held responsible positions in many student organizations. He graduated M.B., Ch.B. in 1893, being one of the most prominent students of his year, and in 1908 proceeded M.D. At the close of his student career he visited the great medical centres on the Continent, and on his return settled in Liverpool. For some time the development of a general practice occupied his time, but he always had an interest in dermatology, and when the appropriate time came the change was made and his work became confined to this specialty.

He was appointed dermatologist to the Royal Northern Hospital and later to the Royal Infirmary, Liverpool, he was lecturer in dermatology at the University of Liverpool and he held also consultant positions in connexion with various other institutions. He never spared *himself* at work, but always gave of his best. He wrote a textbook on dermatology which is widely known. For his students, as for his patients, he could never do too much; he took a personal interest in the welfare of each one. To his *patients it may truly be said that he gave his life*; the conscientious thoroughness in all items of treatment which he meticulously observed particularly in the early days of employment of remedial methods at first incompletely understood cannot but have taken its toll of a worker whose day of leisure were few and far between.

In the war he served abroad with the rank of captain R.A.M.C. (T.F.). During this period he developed a new activity, which was to prove a most engrossing hobby to himself, as well as a source of enjoyment to a very large

circle of admirers Always keenly interested in literature, and a ready speaker with good command of language, experience in the war stimulated him to address a larger audience than could be approached by mouth, and in his books *Adventure of Death* and *Adventure of Life* he put before the public studies which immediately made a strong appeal He followed up these productions with a series of novels dealing with Scottish characters, and the beauty of expression, humour, and clear, brave idealism in them at once commanded success As editor of the *Liverpool Medical Journal* he did yeoman service, and he filled with distinction many important posts in the Liverpool Medical Institution, and only his untimely death deprived him of the very highest of these He was a member of the British Medical Association, secretary of the Section of Dermatology at the Annual Meeting in Liverpool in 1912, and vice-president of this Section at the Annual Meeting in Nottingham in 1926

Always a keen churchman, the Scotch Church in Liverpool owes much to him, an ardent Scot, the St Andrews and Burns Clubs will miss sorely his support and presence He was charitable by nature, supporting many benevolent funds, and helping many acquaintances out of personal difficulties He was a successful doctor, a dermatologist of great repute, a highly esteemed citizen, and a prominent speaker and writer He was in the best sense of the term a doctor of the old school—a physician respected and beloved by patients, students, fellow doctors, and all who knew him

A D F

THE LATE PROFESSOR MacILWAINE

PROFESSOR E B C MAYNS (Belfast) writes

Professor MacIlwaine's tenure of the chair of materia medica and therapeutics at the Queen's University of Belfast corresponded to a time of transition between the older teaching and the new Soon after his appointment he visited a number of well-known universities in England and America, and made a study of their methods of teaching He became convinced that the best foundation for the art of treatment is a thorough training in pharmacology and he recognized the unwisdom of trying to teach advanced therapeutics to students who have as yet little clinical experience Broad-minded far-seeing, and free from personal ambitions, he was well fitted for the task of organizing his department to fulfil modern requirements—a task which in spite of failing health, he carried to a successful issue

EDMUND HENRY HOWLETT, C B E, F R C S, who died on September 8th, was the son of General Sir Arthur Howlett, K C B He received his medical education at King's College Hospital, and was house-surgeon there from 1877 to 1888, the following year being appointed assistant demonstrator of anatomy, London Hospital Medical College He left London to take the post of resident surgical officer at the Manchester Royal Infirmary, after which, in the early eighties, he settled in Hull, where he was then the only F R C S He was appointed honorary assistant surgeon at the Hull Royal Infirmary as soon as a vacancy was made by the death of Dr King, and in 1897 became full surgeon, retaining this position until 1914, when, in accordance with the age limit fixed by Royal Charter, he became consulting surgeon On the discovery of *x* rays he took up their study with enthusiasm, all his spare time for several years being devoted to experimental research, in which he displayed unparalleled perseverance and patience He was appointed radiologist to the Hull Royal Infirmary, and held this post until eight years ago, when he was succeeded by Dr J F Bannon He was a member of the board of management of the Infirmary for twenty-two years, and for a long period was chairman of the standing medical committee For many years he was medical officer to the G P O and to H M Prison at Hull, and at his funeral four of the warders acted as bearers In his younger days he was an enthusiastic football player and athlete, in middle life his only relaxation seemed to be the study of *x* rays, with an occasional day's shooting, but during the past ten or fifteen years he developed his latent artistic talents and produced some excellent work in portraiture and seascape A man of the highest integrity his character may be well summed up by saying that he was "a fine old English gentleman" He leaves a widow and two sons

DR WILLIAM BURTON MARSHALL, who died on August 29th, after an illness of more than a year, was born in 1881 and received his medical education at Cambridge and Liverpool He obtained the diplomas M R C S, L R C P in 1906, and graduated B Ch in 1908 and M B in 1912 After acting as house surgeon in the gynæcological wards of Liverpool Royal Infirmary, and clinical assistant at Hoylake Lodge Asylum, he commenced general practice in Norwich in partnership with Dr Parkinson Bush Soon afterwards he was appointed honorary anæsthetist to the Norfolk and Norwich Eye Infirmary, and for many years he was physician to the Jenny Lind (Children's) Infirmary He took great interest in the working of the national insurance scheme, and was for several years chairman of the Norwich Panel Committee He was a member of the British Medical Association, and served on the Norfolk Branch Council During the war he was at first attached to the 1st Eastern General Hospital Cambridge, he later acted as adjutant in a hospital at Wimereux, and attained the rank of major R A M C T He leaves a widow and two children A colleague writes The death of Dr Burton Marshall will be felt as a great personal loss, not only by his relatives and friends, but also by all his colleagues and patients He had a most lovable disposition, and was a charming companion A well-read man, he was a fluent speaker and a versatile conversationist, full of wit, and quick at repartee

The death took place suddenly at Nairn, on September 8th, of Dr ROBERT MACKENZIE Dr Mackenzie was a native of Edinburgh, where he graduated M B, C M in 1883, proceeding to the M D degree in 1887 He was also a Fellow of the Royal Society of Edinburgh For a few years after graduation he practised in Edinburgh, and afterwards went to Nairn, where, at the time of his death, he had been in practice for some thirty years The death was very sudden, and occurred on the Nairn Golf Course

Medical News.

THE annual dinner of past and present students of University College Hospital will be held on Friday, October 17th, at 7 for 7 30 p m, at the Hotel Victoria, Northumberland Avenue, W C Mr Herbert Tilley will be in the chair Tickets (12s 6d) should be obtained from the dinner secretary, University College Hospital Medical School, Gower Street, W C

THE formal opening of the new session at Charing Cross Hospital Medical School will take place on Saturday, October 4th, in the hospital, at 4 30 p m, Dr J M H MacLeod will present the prizes At 8 p m that day the annual dinner of past and present students will be held at Gatti's Restaurant, with Mr E B Waggett in the chair There will be a special post graduate course on October 4th and 5th, the programme includes clinical lectures on such subjects as minor operations in general practice, disorders of the menopause, common skin diseases, ante natal supervision, and the diagnosis and treatment of glycosuria, renal pain, and gastric disorders

THE presentation of medals and prizes in the University of Birmingham Faculty of Medicine will take place on Monday, October 6th, at 5 p m, in the Medical Lecture Theatre, Edmund Street An address to students will be given by Emeritus Professor Priestley Smith, LL.D, F R C S. Tea at 4 15 in the University Club

AT the London (Royal Free Hospital) School of Medicine for Women on Wednesday, October 1st, at 3 p m, the prizes for the session 1929-30 will be presented, and an address will be delivered by Miss M. M Chadburn, M D, B S

THE introductory address at the University of Durham College of Medicine, Newcastle upon-Tyne, will be given by the Bishop of Durham, visitor of the University, in the examination hall of the college, on Thursday, October 9th, at 4 15 p m The title of the address is "The genesis of the physician's ideal"

THE prize distribution at the Royal Dental Hospital of London School of Dental Surgery will be held on Thursday, October 2nd at 8 p.m., at Leicester Square, W.C.2. Sir John Rose Bradford, P.R.C.P., will preside and give an address to the students and their friends.

DR. I. LANGDALE KELHAM of Roehampton Hospital, will lecture at the London (Royal Free Hospital) School of Medicine for Women on Monday, October 6th, at 5 p.m. on "Artificial limbs." The lecture is open to all graduates and clinical students of the school.

THE inaugural address at Westminster Hospital Medical School will be given in the board room of the hospital by the Rev. Dr. J. Scott Lidgett, Vice-Chancellor of the University of London, on Wednesday, October 1st, at 3 p.m. under the chairmanship of Mr. Walter G. Spencer. The annual dinner of past and present students will be held at Grosvenor House, Park Lane, on the evening of the same day, at 7.30, with Dr. S. Ernest Dore in the chair.

A COURSE of ten lectures on "Contraception and allied questions" will be delivered in the lecture hall of the Royal Institute of Public Health on Tuesdays at 4 p.m., from October 9th to December 11th, inclusive. The lecturers include Dr. C. Killick Millard, Dr. C. P. Blacker, Dr. Maude E. Kerslake, Mr. Harold Chapple, Dr. F. J. McCann, the Rev. Dr. A. Herbert Gray, Dr. Marie C. Stopes and Mr. Alfred Coodman. Admission is free but is restricted to members of the medical profession and to senior medical students. Particulars of the lectures may be obtained from the secretary of the Institute, 37, Russell Square, London, W.C.1.

THE course of nine lectures and demonstrations on tropical hygiene and medicine for prospective settlers arranged by the County of London Branch of the British Red Cross Society will begin on October 1st. Particulars may be obtained from the secretary of that branch, 27, Grosvenor Place, S.W.1.

A COURSE of lectures on the prevention of accidents, disorders and disease will be delivered at the Royal Institute of Public Health (37, Russell Square, W.C.1) on Wednesdays at 4 o'clock, from October 15th to December 17th. The lectures are intended primarily for the fellows and members of the Institute, but others interested in medico-sociological problems are invited to attend.

THE annual general meeting of the Medical Defence Union will be held at the offices (49, Bedford Square, W.C.) on Thursday next, October 2nd, at 4.30 p.m.

THE psychological section of the Medical Women's Federation will hold its annual conference on Saturday, October 18th, at The Lawn, Lincoln.

THE annual general meeting of the Medical Sickness Annuity, and Life Assurance Society will be held at the First Avenue Hotel, High Holborn, W.C.1, on Wednesday, October 8th, at 4.30 p.m.

THE Fellowship of Medicine announces that there will be a special post-graduate course in medicine, surgery and the special departments at the Metropolitan Hospital from September 29th to October 11th, occupying the whole of each day from 10.30 a.m. to 5.30 p.m. There will be daily pathological demonstrations. A course in diseases of the ear, nose, and throat to be held at the Central London Throat, Nose and Ear Hospital, Gray's Inn Road, from October 6th to 31st, will comprise clinical, operative and pathology classes; the clinical part may be taken alone or in conjunction with one or more of the other classes. There will be a course in gynaecology at the Chelsea Hospital for Women, Arthur Street, from October 13th to 24th, consisting of lectures and demonstrations in the operating theatre. An evening course of seventeen lectures suitable for, though not restricted to, candidates for the M.R.C.P. examination will begin on October 7th, and continue on Tuesdays and Fridays at 8.30 p.m., at the Medical Society's lecture room, Chandos Street, Cavendish Square. At the same place a course of evening demonstrations for the F.R.C.S. (final) will be given one day a week for six weeks at 8.30 p.m., including demonstrations in clinical surgery and pathology. Four demonstrators will attend each evening and will provide two cases each. The demonstrations will begin on Wednesday, October 8th. Particulars and syllabuses of all courses may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

THE London School of Hygiene and Tropical Medicine announces a course of special psychological lectures by Dr. Millais Culpin, consultant to the Industrial Health Research Board, on Mondays and Wednesdays at 3 p.m. from September 29th to October 15th, inclusive. The subjects of the lectures are: importance of psychological aspects of illness; the history of medical views on psychology; nomenclature and classification; the incidence of psychological symptoms; the occupational neuroses; and theories of psychopathology. These lectures are free to members of the Public Health Service and others interested in public health work.

A POST-GRADUATE course on diseases of the nervous system will be held at the National Hospital, Queen Square, W.C.1, from October 6th to November 28th. It will consist of thirty-two clinical lectures and demonstrations at 3.30 p.m. each week-day except Wednesday and Saturday; instruction in the out-patient department at 2 p.m. on each week-day except Saturday; and eight pathological lectures and demonstrations on Mondays at 12 noon. The fee for the course will be £6 6s. A course of ten lectures on the anatomy and physiology of the nervous system will be arranged on Wednesdays and Fridays at noon if there are sufficient applicants; fee £2 2s. Twelve clinical demonstrations on methods of examination of the nervous system will be given on Tuesdays and Thursdays at 12 noon; fee £2 2s.

HEALTH WEEK in 1930 will be celebrated from October 5th to 11th, and up to the present 124 towns have undertaken to emphasize self-help in health as being the responsibility of the individual citizen. A leaflet giving particulars of the steps that may be taken to this end is obtainable from the secretary of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1. It deals with the formation of local committees, construction of a programme, suggestions for lectures, and the various sources from which assistance can be obtained.

A CONFERENCE of the National Smoke Abatement Society is being held this week-end in Leicester from September 26th to 28th. The subjects dealt with include atmospheric pollution as affecting visibility, and therefore aviation and fuel research and smoke abatement. Among the speakers are Dr. R. Veitch Clark, medical officer of health for Manchester, and Dr. C. Killick Millard, medical officer of health for Leicester, while the president of the conference is Dr. H. A. Des Voeux.

THE August issue of the *Journal of the Cancer Research Committee of the University of Sydney* contains an account of the first conference of cancer organizations in Australia, which was held at Canberra on March 20th and 21st. Reports were received from different parts of Australia, and resolutions with reference to the establishment and conducting of radium clinics were approved. Dr. E. H. Molesworth read a paper on the relative value of the various methods of treating cancer; this is published in full in the June number received.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are MUSEUM 9351, 9352, 9353 and 9354 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology, Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westcent, London.*

MEDICAL SECRETARY, *Medisecra, Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin); and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh).

QUERIES AND ANSWERS.

NASAL CATARRH AND HARRISON'S SULCUS.

"H. A. T. G." asks for information regarding the title and date of appearance of an article on the subject of the prevalence of rhinitis in the newly born. It was stated that in the experience of the writer half the children born became infected with rhinitis within a very few days of birth. The author of this article also advanced the view that Harrison's sulcus in rachitic children was due to the effect of nasal obstruction tending to create a negative pressure in the thorax and thus to indirect moulding of the ribs over the liver. Our correspondent thinks the article in question appeared not more than six or seven years ago.

IDIOPATHIC HAEMORRHAGE IN THE NEWBORN

DR P O JOLLIE (Middlesbrough) writes The following brief description of a case may interest your correspondents on this subject On August 22nd I delivered a 9 para aged 45 of a fine baby girl who had a brisk haematemesis three hours after birth, this was repeated six times, at intervals of about twelve hours, associated with tarry motions two of which contained fresh blood The amount of blood lost, to use the words of one of your correspondents was truly amazing although I should hesitate to guess the amount Nevertheless at no time did the child seem the worse for the haemorrhage and the exertion of the vomiting except that it lost the raw ham colour peculiar to the newborn No treatment was adopted beyond complete rest for twelve hours and thereafter feeding with warm water flavoured with sugar The child has had no further haemorrhage since August 25th, and is going on normally

TECHNIQUE OF INJECTING VARICOSE VEINS

DR JOHN MCLAREN (Edinburgh) writes Most of the writers in the recent correspondence on the technique of injecting varicose veins urge the importance of taking great care that the injection actually enters the vein, since otherwise sloughing may follow One firm of chemists on the other hand, in their directions how to conduct this treatment give the advice that in certain circumstances injection round the vein is useful Will someone with experience supply a definite decision on this point?

INCOME TAX

Change in Employment

"M O H was, until November 1st 1929 acting as a whole time deputy and chief assistant county M O H and S M O at a salary of £850 per annum Since then he has held a part time post with permission to do other public work, but not general practice His total net earnings for the two years to April 5th 1931 will be £819 and £625 respectively, as compared with £802 net in previous years

*** In our opinion 'M O H' is clearly entitled to treat his employment as having ceased and been restarted as from November 1st, 1929, and therefore to have his earnings for 1929-30 and 1930-31 assessed on the amount of the actual year's earnings The matter is governed by Section 45 of the Finance Act, 1927, and the cessation or commencement relates to 'an office or employment' The inspector's contention that the nature of the employment" is unaltered is irrelevant, as there has undoubtedly been a change in the 'office If, on reconsideration the inspector is not prepared to give way, we suggest that M O H should write to the Secretary, Inland Revenue, Somerset House

Motor Car Expenses Private Use

A CORRESPONDENT has sent us a protest against a recent suggestion made in these columns that the only satisfactory basis of allocating car expenses is the mileage basis He encloses a statement setting out in detail various points on which such a basis would work unfairly against the practitioner, such as the greater ratio of time which professional use involves, the greater consumption of petrol, greater wear and tear on electric starter, brake parts gears etc and greater damage owing to weather We admit that our suggestion should, perhaps have been qualified, it would have been better to have said that the only *simple* basis of allocating car expenses is the mileage basis, but we were writing without reference to a practitioner who had such records of time, approximate number of gear changes, etc, as our present correspondent is apparently able to produce, and in the absence of such information it is difficult to get away from the mileage basis Perhaps we may add that some of the factors would not always work out as our correspondent suggests —for instance a practitioner who uses his car to take his family out for a Sunday might find the time factor against him if it included the hours when *the car was parked*, *private use often* involves as short trips as professional use and during holidays the car may travel over worse or more hilly roads than those where the practice is situated On the whole the mileage basis seems the best starting point, having regard to the importance of effecting agreement with the authorities if possible, but we agree that other factors may well be brought in—where their applicability can be proved—to modify the result of that allocation

LETTERS NOTES ETC

THE FOOT AND THE SHOE

"M B D P H" writes With reference to the letter from the general secretary of the Boot Trade Associations, Ltd, published in the *Journal* of August 2nd (p 200) may I make some suggestions as regards women's shoes My complaint is, first, that it is impossible to purchase a ready made shoe with anything approaching a straight inner line—that is, which will not in some measure deflect the big toe towards the middle line of the foot—and secondly, that one cannot buy a smart, dressy shoe for a wide foot I see no difficulty in the way of producing shoes of smart appearance, with low or with high heels, giving at the same time the very desirable straight inner line and sufficient width for the toes of wider feet Wide fitting shoes are invariably made heavy looking and with heavy ungraceful heels. Why not provide a neat wooden heel as in other styles? Lightness is essential to comfort That the pointed toe is not essential to smartness is shown by the fact that one of the most "dressy" styles of shoe at present on the market that with a high Spanish heel, has a wide round toe We may, I think, leave aside the question of the height of the heel as one which will be decided by *the demand of the wearer rather than by* the producer but improvement in the customary shape of the fore part of women's shoes the elimination of that shape which deflects the big toe is urgent, and at the same time I think, quite practicable The wide round toe is very neat, and is accepted by the dictates of fashion as compatible with a dressy effect With more attention to the ideal of the straight inner line, and perhaps also to the necessity for sufficient length in the round toed style, this shape should give all that can be desired in the matter of room for the toes and should be developed as far as possible for all styles of shoes The more or less pointed shoe which deflects the big toe and is a prolific cause of unsightly deformity should become a relic of the past I write from the difficult experience of procuring shoes for wide footed members of my own family who are not satisfied to wear "frumpy" shoes

PREGNANCY AND CERTIFICATION

"T G writes I am in complete agreement with "H R" (September 20th p 504) that some definite rule should be laid down with regard to certifying pregnancy I am also of the opinion that no housewife should be signed on while she carries on her household duties but only when she is confined to bed or obliged to employ a paid substitute, this last matter can be verified by the health visitors I have found in my practice that the patients have on several occasions been told by insurance agents that they can be "*signed on*" *if they can get a certificate* from the doctor, and, of course the good news soon spreads among a certain class of patients I have refused to sign on several patients and have had to suffer indirectly for my efforts to secure economy

NURSES' FUND FOR NURSES

THE committee of this fund, which was inaugurated by the *Nursing Times* in 1925 is in urgent need of financial support and other assistance in relieving the distress of poor elderly, and disabled nurses and midwives Some of these receive regular grants, chiefly to supplement their old age pensions while others with a bare subsistence, require help in sickness, especially during the winter months At present the list prepared by the committee comprises over 400 names and new applications are made every week The poverty of aged nurses—some of whom continued to work until they were well past 70—is indicated by the fact that those who have 20s a week are disqualified from receiving financial aid except for special reasons In its appeal the committee points out that if the nurses of all hospitals and institutions were to agree to deduct a penny from their monthly salaries the total amount would be sufficient to maintain its work It has been calculated that a gift of £100 will provide 5s a week for an old nurse for about eight years Another object of the committee is to raise funds for the endowment of homes for retired nurses So far accommodation has been found for twelve nurses at the Cow and Gate Home South Side Clapham Common where most of the occupants are over 70 years of age To enable this branch of its work to be carried on without anxiety, the committee estimates that an endowment fund of £2 500 is required Besides financial support help is requested in collecting subscriptions and in visiting and in writing to the lonely With the exception of some clerical assistance, the services involved in distributing the fund which include a thorough investigation into every case, are entirely voluntary Donations and gifts of clothing, parcels, papers, etc., should be addressed to the honorary secretary of the fund, *Nursing Times*, St Martin's Street, W C 2

ALLOTMENTS FOR THE UNEMPLOYED

DR E B HAZLETON (Sheffield) writes In order to counteract the evil consequences of unemployment—namely, wasted muscles, general want of tone and loss of self respect—a scheme for allowing *unemployed* men to work on allotments has been started in Sheffield with splendid results It has been found that when a steel worker or other manual labourer had been out of work for a year or two and then returned to work the wasted muscles were unequal to the task This is a very serious matter, but there is another aspect of the case not often thought of—that is such a man in a case of national emergency, would be useless for war purposes Allotment gardening gives the men a fresh interest in life and they become physically fit

MOTHERCRAFT

IN *Motherhood*, an attractive booklet, of which a third edition has appeared, Messrs Cow and Gate Limited combine sound advice on the hygiene of pregnancy and the care of the young infant with a pardonable advocacy of products of their own manufacture, and a not quite so pardonable attempt to undervalue products manufactured by others—for example vitamin D obtained by irradiating ergosterol Copies may be obtained (post free, 1s) from the Medical and Research Department, Cow and Gate House, Guildford

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42 43, 44, 45 46 47 51, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48 49, and 50

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *151*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

280 Incidence of Tuberculosis

P B NIELSEN (*Ugeskrift for Laeger* June 19th, 1930 p 603) recalls the work of Husted, who a couple of years ago conducted a series of Pirquet tests on probationers in a Danish hospital and who found that the frequency of positive reactions was approximately the same as for non tuberculous patients of the same age admitted to hospital—a positive reaction in about 65 per cent Nielsen's own studies cover the five year period January 1st, 1925 to January 1st 1930, his material consisting of the probationer nurses who joined the Communal Hospital in Copenhagen in this period They were selected lives in so far that they had to fill in a form indicating the existence of any tuberculosis in the nearest members of their families and present a medical certificate in which the existence of or predisposition to tuberculosis on the part of the applicant had to be specifically dealt with by the signatory to this certificate Altogether 341 probationers were appointed, the average duration of their service in hospital being 1 4 years During the five year period under review three cases of pleurisy with effusion, two cases of pulmonary tuberculosis and one case of renal tuberculosis were observed The number of patients suffering from pulmonary tuberculosis and treated in the Communal Hospital annually was about 140 Nielsen concludes that an incidence of 1 26 per cent of tuberculosis per year in these probationers does not differ appreciably from the incidence of this disease in young men of the same age, and he is inclined to be sceptical about the value of B C G vaccination of probationers on the lines laid down by Heimbeck and others in Norway

281 The Nature and Treatment of Sprue

P MANSON BAHR and H WILLOUGHBY (*Quart Journ Med*, July, 1930 p 411) give details from their observations of 200 cases of sprue They find that sprue is a disease *sui generis* attacking Europeans living in tropical and subtropical countries especially India It does not occur in Central Africa and it is rarely found among native races The etiology of sprue is not known but it is probably an infective condition, it has a definite incubation period, and is subject to periods of latency and recrudescence It appears as a specific inflammation ranging throughout the intestinal tract, associated with aphthous states of the mouth and tongue and destruction of the intestinal mucosa, it results in diminished power of absorption, with consequent starvation loss of weight, and severe anaemia The authors suggest that the virus may be ultra microscopic of low grade specificity It is acquired in the Tropics under certain definite conditions and from long contact with native races This virus may lie dormant in the human body for a number of years since the symptoms may only appear many years after the patient has left an endemic zone of the disease, cases are reported of twenty years' and eight years' delayed appearance of the symptoms Sprue is not a fatal disease the mortality in this series of 200 cases was only 3 (1 5 per cent) The treatment is chiefly dietetic aiming at the restoration of the power of absorption it is especially necessary to re establish a healthy blood picture This is readily attained in most cases by the transfusion of 400 to 500 c cm of blood, it is much helped by including liver in the diet which should also contain a liberal amount of fresh fruit There is no evidence that strawberries have any specific value Patients should avoid extremes of heat and cold, and occupations involving fatigue

282. Left Hypogastric Tenderness in Chronic Amoebic Dysentery

A DA SILVA MELLO (*Arch f Schiffs und Tropen Hygiene*, August, 1930 p 411), discussing the diagnosis of chronic amoebic dysentery, emphasizes the importance of left hypogastric tenderness, which he thinks is almost pathognomonic. Amoebiasis is a difficult disease to diagnose the history given by the patient is quite often misleading and employment of the rectal speculum is not always decisive, the examination of the stools may be negative in latent cases several times before a positive result is obtained and when several times before a positive result is obtained and when amoebae and cysts are seen the patient may prove to be only a carrier The author thinks that tenderness in the left iliac fossa along the descending colon and over the sigmoid flexure, almost always coexists with chronic amoebic dysentery, until that condition is cured It may, though rarely, indicate other conditions such as salpingitis or iliac vein thrombosis but far more often it is the sign of masked unrecognized amoebiasis Frequently he has found it the only clue to the cause of the patient's varied complaints which yatren, in sufficient doses abolished He reports the case of a man, aged 48 who had suffered for fifteen years from alternating diarrhoea and constipation and was losing weight on his necessarily much restricted diet He had left hypogastric tenderness but the stool examination was negative large doses of yatren cured him The author cites other cases, and adds that serious significance is always attached to tenderness at McBurney's point, in warm countries left hypogastric tenderness is just as important Tenderness in the right iliac fossa necessitates the exclusion of appendicitis, if there is tenderness in the left iliac fossa, amoebiasis must be definitely excluded or admitted

283 "Illness of Infection" in Measles

P R MYLES and R M GRENTHAL (*Arch of Ped*, June, 1930 p 399) record four cases in children aged from 7 months to 2 years which correspond to the condition described by Goodall in 1925 as the illness of infection in measles (see *Epitome*, March 28th, 1925 para 364), of which examples have since been described by Erlheim and Abercrombie (*ibid* April 27th 1929 para 352) In this condition, which is probably very rare a child a few hours after exposure to measles shows physical signs such as fever coryza conjunctival infection, and even a morbilliform rash, strongly suggestive of an attack of measles All the signs, however, disappear in a day or two but at the end of the incubation period undoubted measles develops The four cases reported by the present authors correspond with those previously described, but they admit that it is difficult to disprove Orel's contention that the so-called illness of infection in measles is due to a mixed bacterial invasion Non specific infection of the upper respiratory tract may cause the same symptoms, and further observations are required to determine whether the condition is an actual clinical entity or a non specific coincidence

Surgery.

284 Lateral Aberrant Thyroid Glands

L VAN DEN WILDENBERG (*Arch Internat de Laryngol, Otol Rhinol et Broncho Oesoph* May 1930 p 527) reviews the collected cases of laterally placed aberrant thyroids In this collection it was found that a single tumour was the rule but masses up to four in number in each side of the neck had been observed A case under the author's care is described in which there was a large colloidal goitre and five laterally placed aberrant masses the patient showed contraction of the pupil and narrowing of the palpebral fissure on the right side The masses were removed by operation and were found to be encapsulated they were of the same structure as the goitre but had no anatomical connexion with it Microscopical sections showed the presence of Hassall's corpuscles, thus demonstrating the developmental connexion between the thyroid and thymus glands Aberrant thyroid glands are more common in the female than in the male sex and are usually first noticed between the second and fourth decades They have a great tendency to undergo cystic degeneration and malignant changes have been observed in many cases These tumours are congenital and must not be confused with a similar but acquired condition where there is an anatomical connexion between the lateral masses and the thyroid gland itself their presence is always associated with goitre It is interesting to note that there are some cases of exophthalmic goitre where the thyroid gland is normal, but the characteristic changes of Graves's disease are found in the laterally placed masses The diagnosis is often difficult and the condition is frequently confused with cervical glands enlarged from any cause aberrant thyroid glands which have undergone malignant change are difficult to diagnose from secondary malignant glands with an obscure primary growth If there is any cyst formation aspiration and examination of the fluid may help the diagnosis and changes in the tumour associated with the menstrual function form a sign of great value if present The treatment is surgical and the author emphasizes two points in the operation The operator must be certain that a thyroid gland is present in the normal site The tissue removed must be at

once examined with all aseptic precautions, if parathyroid tissue is present it is immediately implanted into the muscles of the neck If, however, the lateral masses have undergone malignant change the mass is radically removed

285. Vessel Suture in Infected Areas

F SPATH (*Deut Zeit f Chir*, July, 1930, p 296), discussing the relative values of vessel suture and ligature, records a case showing that suture, if undertaken with the strictest asepsis, can succeed even in heavily infected regions A boy, aged 6, developed osteomyelitis of the lower end of the left femur with a large abscess cavity, which was opened and drained The temperature fell, but rose again four days after the operation A second examination revealed retention of pus in the popliteal space, and a haemorrhage from an opening 1 cm long at the junction of the femoral and popliteal arteries This opening was closed by four sutures, of which one broke loose owing to the fragility of the vessel wall The seam was covered with a piece of fascia lata, a strip of iodoform gauze was laid against it, and the whole was buried in healthy muscle Subsequent recovery was uncomplicated, one year later the peripheral pulses were equal and no circulatory disturbances had developed The only other course would have been ligature, which in large peripheral arteries is so often followed by gangrene Better results were given by suture than by ligature in the treatment of aneurysms, in both war and peace time A great deal depended on the efficiency of the collateral circulation Thrombo angiitis is rare after suture and supervenes later than after ligature The danger of delayed haemorrhage is no greater than after ligature in an infected area, and the healing of vessel injuries is very rapid, provided that the intima is intact Ligature of the corresponding vein, which has been successfully practised in conjunction with arterial ligature, is not recommended with arterial suture, since it may assist the spread of infection As regards technique, artery needles and the finest non paraffined silk were used Strict asepsis, the proper securing of the sutures, and the subsequent imbedding of the artery in healthy muscle tissue are important points The use of fascial strips for covering the seam is not recommended, as the case described the whole strip came away spontaneously from the wound on the eighth day

286 Surgical Treatment of Snake-bite

V POULSEN (*Ugeskrift for Laeger*, July 10th, 1930, p 681) recommends the following procedure which he adopted in June, 1929, in the case of a servant girl aged 21, bitten on the dorsum of the foot and through the stocking by a snake Two and a half hours later the foot was much swollen up to a point above the ankle, where a bandage had been tightly tied, and two punctures of the skin were found fully an inch apart The skin round these punctures, together with the underlying subcutaneous tissue, was anaesthetized by an injection of adrenaline and novocain The skin was incised in such a way that two flaps could be turned up in the centre of each of which the puncture wounds were situated, the flaps were squeezed between the fingers, and a large amount of serous fluid without a trace of blood, was removed The structure in the neighbourhood of the wound were massaged in its direction, and as much fluid as possible was removed The flaps were then replaced, and the wound was dressed No local or general signs of poisoning were observed after this procedure, but the wound took more than a month to heal, probably because of the poison it had contained

287 Metatarsal Injuries

IN a discussion of fractures of the metatarsal bones, A J BUKA (*Amer Journ of Surg*, July, 1930, p 135) recalls the main anatomical details concerned and reviews the mechanism of combined foot movements and progressions as related to the metatarsals These bones with their attachments are an intricate, closely related, and firmly compacted bony group, with muscles and many ligaments conferring support and movement They form collectively the whole of the transverse arch and part of the longitudinal arch, damage of these bones and their ligamentous or muscular attachments relaxes or destroys either or both of these arches, unless treatment is adequate Fracture of a metatarsal bone is caused either by direct or indirect violence, and the most susceptible and most frequent metatarsal to fracture is the fifth The fracture may be with or without displacement, and either simple or compound, the most serious sequel being infection A history of some foot injury is commonly given, the foot becomes very painful, and swelling with difficulty or inability to use it is present The pain is aggravated by motion, but in more severe cases the subjective symptoms are masked, especially if the patient is in a state of shock There is distinct tenderness at a point over the fracture, crepitus may or may not be present, and mobility of the fragments is not always noticeable X rays should always be employed for diagnosis The treatment involves immobilization of the foot in a plaster cast for no less than three weeks The foot is guardedly allowed to bear weight, this beginning at the end of the third week in simple, simple *fractures* and after the fourth week in complicated fractures, but only after immobilization in a cast for four weeks after completing the preliminary treatment of compound fractures When the cast is removed massage and movements with hot baths or bakings of the foot each day are instituted Crushed fractures, though often demanding amputation, may with patient treatment be thus preserved for subsequent reconstruction of the metatarsus

Therapeutics.

288 Treatment of Circulatory Failure in Diphtheria

F I SCHWENTKER and W W NOLL (*Bull Johns Hopkins Hosp*, June 1930, p 358) have previously shown that in diphtheria intoxication there is a profound disturbance of the carbohydrate metabolism, manifested in the early stages by increased glycogenolysis and carbohydrate utilization, so that in severe cases there is marked hypoglycaemia If the toxaemia is of longer duration, there is an increasing difficulty in the assimilation of dextrose from the blood stream, and progressive hyperglycaemia results Consideration of these facts suggested the following method of treatment Carbohydrate was supplied by intravenous injections of dextrose and then made available by the administration of insulin In cases of severe toxaemia and early circulatory failure in diphtheria the patient is given a large dose of antitoxin on admission to hospital Half an hour later, if no reaction has occurred, 10,000 to 20,000 more units of antitoxin and 20 grams of a 50 per cent solution of dextrose are injected intravenously, and 10 to 20 units of insulin intramuscularly Sedatives are administered if the patient is restless Intravenous injections of dextrose are repeated at intervals varying from 12 to 24 hours in each case accompanied by insulin After one or two injections the dextrose may be given in 10 per cent solution The administration of dextrose and insulin is repeated until recovery seems certain Of 14 toxic cases so treated 13 patients recovered.

289 A Possible Substitute for Morphine.

IN a preliminary note on the therapeutic administration of benzene sulphonate of oxydimorphine A LEULIER and B POMMI (*Bull de l'Acad de Méd*, July 22nd 1930, p 105) remark that although oxydimorphine is very different from morphine pharmacologically there is a close resemblance in chemical constitution Kolm Abrest states that it possesses none of the narcotic effects of morphine, but will produce clinical features characteristically absent in morphine addicts—namely, cough, vomiting, excessive intestinal peristalsis and flatulence, blood streaked diarrhoea, a rapid pulse, and vascular dilatation The salt is crystalline and forms a neutral solution in water (solubility 1 in 33), which can be sterilized at 100° C, and is painless on hypodermic injection A dose of 0 1 gram was administered to each of two guinea pigs, the one by the mouth and the other hypodermically, six hours later the slightly somnolent animals were killed, and the alkaloid, which had by then disappeared from the blood, was recovered from the liver A morphine addict, taking 0 05 gram per day, had 0.04 gram of this dose replaced by an equivalent amount of oxydimorphine In a month it was possible to keep him on 0 005 gram of oxydimorphine alone The patient had the same feeling of euphoria as with morphine, but complained of peripheral vaso dilatation and, during the first two or three days, had two or three motions daily instead of his usual one A patient with severe Pott's disease of the cervical vertebrae, causing root pains in the upper limbs, obtained relief from pain for several hours with the injection of 1 c cm of a 1 per cent solution of this drug The authors conclude from these early experiments that oxydimorphine possesses the anaesthetic and euphoric qualities of morphine, at any rate when administered in small doses The euphoric action, indeed, raises the question whether, owing to the risk of a habit being formed, restrictions should not be placed on its sale

290 The Employment of Vaccines and Serums

POINTING out the inestimable value of both vaccines and serums D G CAMPBELL (*Canadian Med Assoc Journ*, July, 1930, p 10) deprecates their indiscriminate and ill judged use Under normal conditions, protection against infection depends upon the hypersensitiveness of the subject to the bacterial protein, and a vaccine may change this hypersensitiveness in one of the following ways It may increase it, or it may desensitize the individual, repeated

injections may result in developing both immunity and hypersensitiveness, in chronic infections it may depress the already partly established immunity, or it may even abolish all cellular and vascular reactions Hence a vaccine is not a simple harmless therapeutic agent The use of vaccines for active treatment lacks a scientific basis but they have a very definite field in preventive medicine particularly in the typhoid group and in cholera Vaccine therapy is a specific therapy in which a correct bacterial diagnosis should be made, and treatment instituted accordingly The value of prophylactic inoculation must be determined by three factors the risk of infection and the consequences if infection occurs, the risk or disability attaching to the treatment, the efficiency and duration of the immunity set up Vaccines are intended for hypodermic injection the results of their oral administration have so far not been convincing No generalization as to whether a stock or autogenous vaccine is to be preferred, nor as to dosage and frequency is practicable, except that it is wiser to give vaccines at long rather than at short intervals In spite of many disadvantages serum therapy has proved the most efficient measure against infections Serum may be administered by five different methods subcutaneously intramuscularly intravenously intraperitoneally and intrathecally Each has advantages and definite indications for its use All serum therapy is more efficient the earlier in the disease it is used, though in some infections its efficacy is lost more rapidly than in others Campbell comments briefly on the serum treatment of diphtheria scarlet fever erysipelas meningitis tetanus poliomyelitis, and measles A few diseases of less interest yield satisfactorily to serum therapy, such as botulism snake bite and bacillary dysentery He believes that in estimating the value of any particular serum the results should closely approximate those obtained in diphtheria which may be considered as a standard and that any serum which must be given several times over a week or more before producing results is a much more doubtful therapeutic agent

Neurology and Psychology.

291 Disorders of Handwriting Associated with Adenoid Enlargement

D J VASILIU (*Arch Internat de Laryngol, Otol Rhinol et Broncho-Oesoph* May, 1930 p 522) reviews the history of the study of handwriting disorders and explains how they may be produced by lesions on the motor or sensory side of the central nervous system, or as a failure of association These disorders are therefore seen in many organic nervous diseases and also in hysterical and hypnotic states but Vasiliu has been particularly interested in those cases which have been found to have some relation to the adenoid state The handwriting of the adenoid child is irregular, the letters are unequal in size and letters and syllables may be omitted the lines wander from the straight The author has observed a large number of school children and all who have shown these abnormalities have been greatly improved by operation The condition is believed to be due to some abnormality in the action of the sympathetic and parasympathetic systems It is claimed that it is well established that a hormone is produced by the adenoid tissue and that the classical symptoms of hypertrophied adenoids are due to an excess of this hormone in the circulation The handwriting disorders may be explained as being attributable either to the deleterious action of an excess of this hormone on the cerebrum, or as due to an anaemia of the brain which is produced by a vaso-constriction, which in its turn is due to overaction of the sympathetic system resulting from an excess of the adenoid hormone

292. Polyneuritis of Dietetic Origin

I S WECHSLER (*Med Journ and Record* May 7th 1930 p 441) has for many years observed cases of polyneuritis without being able to determine their etiology laboratory examinations failed to reveal specifically either a causative or contributing factor In nearly all of the cases there was a history of vomiting or gastro-intestinal disturbance or restriction in diet The question then arose whether these were not cases of food deficiency possibly avitaminoses which were the result of direct privation or of poor digestion and absorption of food Eight cases are reported in each of which there was a history of vomiting or starvation or diet restriction to warrant the assumption of food deficiency Their importance according to the author lies in the recognition of a deficiency factor in cases of polyneuritis in which the etiology was obscure and in the fact that the deficiency may be due alike to privation from within the body as well as without It is not merely a question of lack of food rich in vitamins, but of an inability, owing to vomiting or other cause, relating to digestion and absorption or assimilation The view is beginning to be entertained seriously that food deficiency is at the basis of some of the degenerative diseases of the nervous system Sufficient evidence has been adduced to show that what has previously been regarded as a peripheral nerve inflammation is in reality due to spinal cord involvement This is particularly true of the polyneuritis caused by lead and that occurring in diabetes These dietetic forms of neuritis may be due to food privation, the result of defective or perverted metabolism The same pathological basis may be applicable to alcoholic polyneuritis and it is possible, therefore, that what passes for an inflammatory type of neuritis is not really a primary inflammation but a deficiency neuritis because the patients do not eat or do not absorb their food It is quite possible that, in the neuritis occurring in prolonged exhaustion and cachetic states, actual starvation, which in certain cases results in avitaminosis is the cause of the polyneuritis and not cancer, tuberculosis or other chronic disease

293. Lymphosarcoma Involving the Central Nervous System

THOUGH occasionally the structures about the central nervous system such as the bones of the skull or vertebrae, may show the presence of lymphosarcomatous nodules the brain and spinal cord are rarely the seat of direct invasion by these neoplasms and but few such cases have been recorded C DAVISO and J J MICHAELS (*Arch Int Med* June 1930 p 908) report seven cases presenting neurological signs which occurred in 26 cases of lymphosarcoma admitted to the Mount Sinai Hospital Detroit since 1922. Four of these were verified by post mortem examinations three showed signs of compression of the cord (only one case has been recorded previously) and the remaining one presented involvement of the brain Two of the seven cases showed invasion of the cranial cavity localized chiefly in the middle and posterior fossae four showed involvement of the vertebral column or the spinal meninges, which caused compression of the cord or the posterior roots, resulting in herpes zoster in one case and one case showed involvement of the facial nerve peripherally Of the cases in which the cranial cavity was invaded the cervical lymph nodes were involved early in three, in the remaining case the involvement of the cervical glands did not occur till late in the disease One case with early cervical glandular involvement did not show any evidence of invasion of the brain tissue by the lymphosarcoma as is usually seen in metastasis from other tumours, especially carcinomata the invasion in this case occurred through the lymphatics As the brain proper is not supplied by lymphatics, this readily explains the absence of cerebral invasion by lymphosarcomata or Hodgkin's disease In the cases showing involvement of the cord in the form of compression enlarged cervical lymph glands did not become evident until late in the disease In none of these cases was the spinal cord directly involved All except one of the seven patients responded well at first to treatment by deep x rays and radium there being recession of the lymphosarcomatous masses with early improvement in the symptoms After a few applications the enlargements and symptoms recurred however and finally failed to respond this is characteristic of all lymphosarcomata None the less, the authors conclude that this form of treatment though only palliative, is to be recommended at present

Obstetrics and Gynaecology

294 Primary Ectopic Chorion Epithelioma of the Vagina.

ACCORDING to G HALTER (*Zent f Gynäk* May 24th 1930 p 1282) primary ectopic chorion epithelioma of the vagina —namely the appearance of a chorion epithelioma in the vagina at a time when an intrauterine pregnancy is present— is rare the distinction in diagnosis from metastatic vaginal tumour can only be made when a systematic examination of the uterine contents is possible The tumour results from the retrograde passage of chorion elements through the dilated pelvic veins Primary ectopic chorion epithelioma of the vagina in combination with normal intrauterine pregnancy has only been recorded in one case—that reported by Walthard Distinction is necessary of these cases from those of hydatidiform mole metastases in the vagina which develop as vesicular masses 'organotypically', in contrast with the histiotypical structure of chorion epithelioma. Primary ectopic chorion epithelioma of the vagina in combination with intrauterine hydatidiform mole has been recorded by Schickele Sunde and others and Halter adds a personal case in which a two para, aged 43 was admitted to hospital after insertion of a vaginal tampon for haemorrhage from an ulcerated chorion-epitheliomatous nodule on the

posterior vaginal wall The size of the uterus corresponded with the two and a half months' amenorrhoea which was reported, albuminuria was absent Total hysterectomy was performed, but the patient died on the eighth day from pulmonary infarction No lung tumour was found, the uterus contained a hydatidiform mole, but no sign (even after examination of serial sections of the site of insertion) of chorion epithelioma No chorionic villi had crossed the decidual muscular boundary As regards the treatment of primary ectopic chorion epithelioma, Halter differs from those who before removing the uterus would examine its contents The organism, he points out, has already shown its inability to resist the development of displaced chorionic fragments, and whether the uterus contains a chorion epithelioma, a hydatidiform mole, or a normal ovum, speedy removal (by hysterectomy) of the source of the chorioidal tissue is indicated

295 Extraperitoneal Caesarean Section

K B STELLE (*Amer Journ of Obstet and Gynecol*, June, 1930, p 747) states that although clinical evidence is accumulating of the value of cervical Caesarean section, an appreciable number of cases occur in a large maternity service which call for suprapubic delivery in circumstances in which surgical entry of the peritoneal cavity would be extremely dangerous In these cases distinct advantage is offered by extraperitoneal section, and a record is given of 59 such operations in which the Latzko technique was employed The average age of the patients, half of whom were primiparae, was 28, 8 had normal pelves, 28 had flat, 9 had generally contracted ones, and in 10 the pelvis was of the "male" type The number of maternal deaths was 5 (8 5 per cent), in spite of the apparently unfavourable pre operative circumstances that (1) twelve patients had undergone some previous attempt at operative vaginal delivery, (2) the average duration of labour before operation and the average time since rupture of the membrane were respectively 28 5 and 21 5 hours, and (3) an average of five vaginal examinations had been made, and two thirds of the patients showed some degree of exhaustion before operation Only four presentations were by the breech, and in only five of the vertex cases was the head partially or completely engaged From two fingers' to full dilatation of the cervix was present in five out of six patients Post operative complications were remarkably infrequent, but there were four cases of vesico abdominal, vesico vaginal, and/or vesico uterine fistulae Stillbirths and neo natal deaths together numbered only six The general conclusion is drawn that extraperitoneal Caesarean section causes a minimal risk of peritonitis in infected cases In addition to possessing all the advantages of a low double flap operation it is extra peritoneal and permits drainage

296 H T BURNS (ibid, p 759) describes fully the technique of the Latzko extraperitoneal Caesarean operation, he records nine cases with one accidental opening of the peritoneum and only one post-operative catheterization He finds the chief indications in (1) infected cases in which delivery by the vagina or by intraperitoneal Caesarean section appears to be risky for mother and infant, (2) cervical dystocia with prolonged labour, (3) cases of "borderline" pelvic dimensions in which a trial labour with forceps application has been given, and (4) very prolonged and unsuccessful trial labours Among the good features of the operation, apart from the preservation of an intact peritoneum, are the relatively slight traumatism, and therefore slight shock If the Latzko pro cedure is kept in view in cases of slight or moderate pelvic contraction the incidence of Caesarean sections is lowered, because a trial labour can be granted with impunity

297 Like other recent German writers L NÜRNBERGER (*Archiv für Gynäkologie*, July 2nd, 1930, p 106) believes that extraperitoneal Caesarean section, although latterly fallen into disrepute, has still a sphere of usefulness, especially in certainly or presumably infected cases Concerning the chief disadvantage at the operation—its technical difficulty—he points out that this diminishes with increasing practice, he is able to report a series of sixty extraperitoneal Caesarean sections performed during the past two years, with a duration of thirteen to thirty five minutes and a usual interval between skin incision and delivery of five to fifteen minutes Accidental opening of the peritoneum is sometimes unavoidable, it is of less grave import when it happens before the uterus has been incised than during the extraction of the infant It occurred in these circumstances in eight and five cases respectively of the present series The sixty cases, of which ten were febrile before operation were without maternal mortality from peri tonitis there were only three deaths—two in eclamptics and one from late post partum haemorrhage followed by hyster ectomy and pneumonia The importance is stressed of invariably inserting a gauze drain in the connective tissue, as advised by Küstner

Pathology.

298 The Diagnosis of Plague in Rats

KISTER (*Zentralbl f Bakt*, July 28th, 1930, p 433) records statistics for the last thirty years of the examination of rats and mice from suspected plague infected ships at Hamburg Of 6,466 ships examined, 64 (1 per cent) proved to be infected, of 98,830 animals examined, 669 (0 68 per cent) were infected The number of positive results has diminished greatly of recent years, possibly on account of more adequate pre ventive measures at the ports of origin The number and percentage of infected rats on any one ship were subject to great variation, sometimes only a single animal was found infected, sometimes nearly every rat on the boat was suffer ing from plague The cadavers were examined for fleas 93 8 per cent of the rat fleas were identified as *Xenopsylla cheopis*, in the Hamburg sewers, however, only *Ceratophyllus fasciatus* was found In the earlier years 97 2 per cent of the rats were *Rattus rattus*, but in recent years this proportion has diminished In 1929, for example, of 7,565 rats examined, 69 2 per cent were *R rattus*, 18 5 per cent *R alexandrinus*, and 12 3 per cent *R norvegicus* The author lays great stress on the polar stained barrel forms seen in fresh material examined microscopically, and on the characteristic rings and discs in putrefying material Organisms of the haemorrhagic septicaemia group and *Past pseudotuberculosis* were never encountered For cultural purposes Kister uses gelatin, agar, and Endo plates On agar two colony forms may be met with (1) a rather flat, delicate, greyish white colony with an irregularly crenated edge, and (2) a larger, yellowish, granular more juicy colony, with an effuse peripheral extension On Endo's medium the same two types of colony are found, but they are at first pale, and later reddish in colour For inoculation, rats, mice, and guinea pigs are used In putrefying animals the virulence of the plague bacilli may be lowered, and large quantities of material must be inoculated, and further culture passage performed The definitive diagnosis should rest on pure cultures being obtained, agglutination, and animal inoculation

299 Fixation of Calcium in the Tissues

A SAVICKI (*Paris Méd*, July 26th, 1930, p 89) discusses calcium fixation in physiological processes such as the growth of the skeleton, the union of fractures, the isolation of areas of microbic infection, and the maintenance of acid base equili brium, which permit continuity of life or promote resistance to disease The author discusses the ways in which this function of the body can be aided during pregnancy, infancy, adolescence, and in tuberculosis In all these cases he recommends the administration of suitable foodstuffs—milk and fruit juices for infants, and for the other groups milk, fresh fruit, green vegetables, eggs, cheese, wholemeal bread, and vegetable oils Vitamin D is of the greatest importance in the fixing of calcium in the tissues, and it is very readily administered in irradiated ergosterol, the author considers that the discovery of this preparation has been of great service to calcium therapy For rachitic infants he advocates 0 25 mg daily, increasing to 5 to 6 mg

300 A Method of Demonstrating the Incompatibility of Blood for Transfusion

IN order to avoid the ill effects due to transfusion of unsuit able blood L YMAZ (*Rev Med de Barcelona*, June, 1930, p 546) has devised a procedure which has given good results in his hands The theoretical basis of the method is the effect produced in the plasma of the recipient by a small intravenous injection of incompatible blood, the symptoms being those of a transient vago sympathetic disturbance, demonstrable in the peripheral circulation by leucopenia, modification of the differential leucocyte count, and a slight fall in the diastolic arterial pressure The method is simple A white cell count and a percentage differential leucocyte count are made of the recipient's blood, and the arterial pressure is determined with Pachon's oscillometer, 2 or 3 c cm of the citrated blood of the donor (1 drop of a 25 per cent citrate solution per c cm of blood) are injected into a vein at the bend of the elbow, and three minutes later the above investigations are repeated If the peripheral blood shows a leucopenia and a disturbance in the differential count the blood of the donor is indicated as unsuitable The modifica tions in the arterial pressure are said to be less reliable than the white cell counts This experimental shock effect has been brought about with blood samples of Group IV (universal donors), Group I (universal recipients), and also between donors and recipients of the same group Ymaz claims that the method demonstrates blood incompatibilities without provoking any severe symptoms, it is also simple and safe The proportion of incompatibilities observed was similar to that obtained by other workers using other methods



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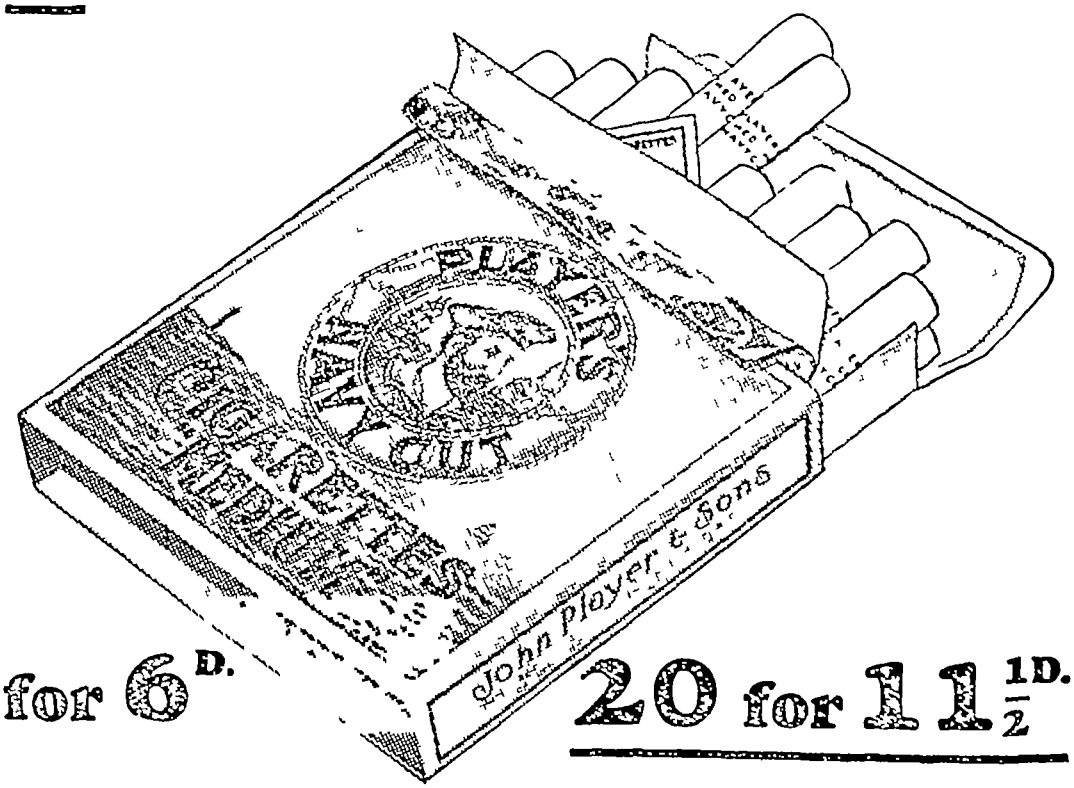
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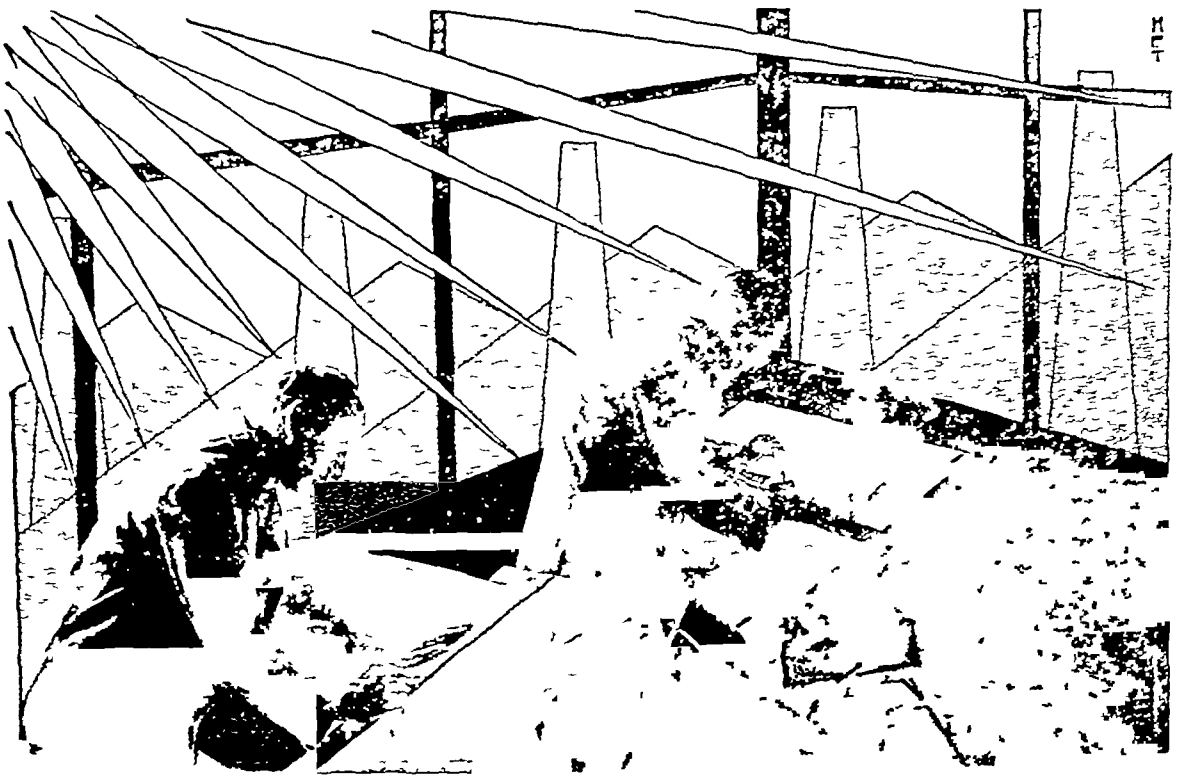


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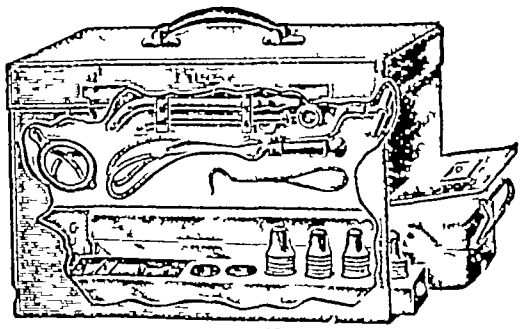
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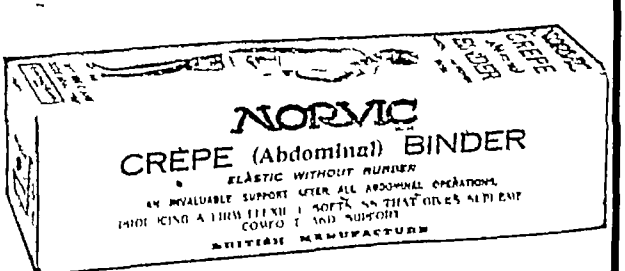
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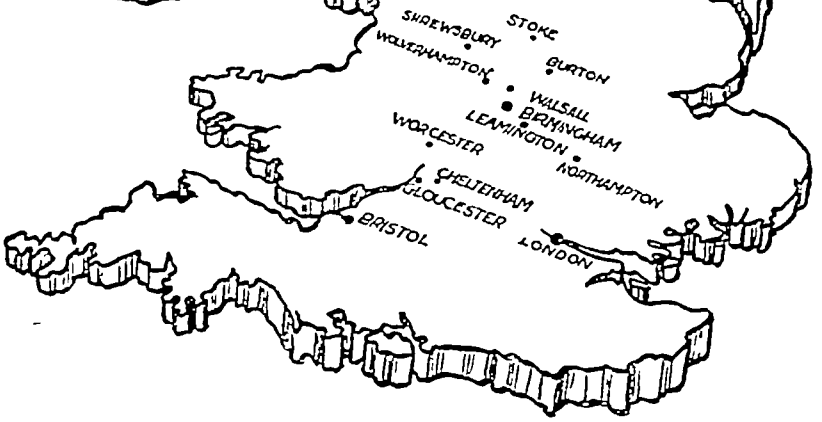
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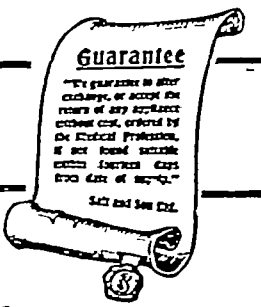
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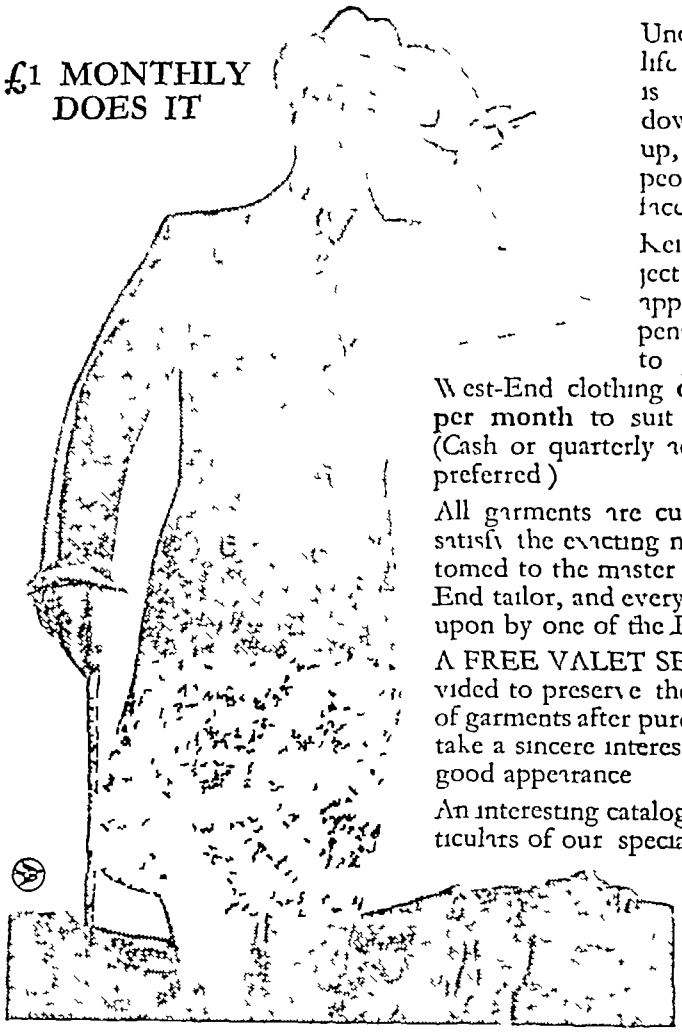
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This registered Hospital for MENTAL DISEASES with its seaside branch Glan-y-Don, Colwyn Bay, is for the treatment and care of PRIVATE PATIENTS of the UPPER and MIDDLE CLASSES. Voluntary Boarders received.

For terms etc., apply to the Medical Superintendent, J. A. C. ROY, M.B., who may also be seen in Manchester by appointment.
Telephone 481 GATLEY.

THE GRANGE,
near ROTHERHAM

A HOUSE Licensed for the reception of a limited number of ladies suffering from Nervous and Mental disorders. Both certified and voluntary patients received. This is a large country house with beautiful grounds and park 5 miles from Sheffield. Station Grange Lane L. & N.E. Railway, Sheffield. Telephone No. 40030 Ecclesfield. Resident Physician GILBERT E. MOULD, L.R.C.P., M.R.C.S.

WYE HOUSE, BUXTON

For the treatment of Ladies and Gentlemen mentally afflicted. Voluntary Boarders received. Situated 1,200 ft. above sea-level facing S. 14 acres of grounds.—For terms apply to the Resident Medical Superintendent, W. W. HORTON, M.D. Nat. Tel. 130.

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(FORMERLY DUFF HOUSE, BANFF)

The first Private Hospital in the United Kingdom to be fully provided with a whole time specially qualified Staff of Doctors Analytical Chemists Bacteriologists Radiologists, Nurses, Dietists, Masseurs and Masseuses, and a full equipment of Laboratories, X rays, Electrocardiographs, Artificial Sunlight, and Medical Baths

The Hospital is equipped for the diagnosis and treatment of any form of ill health, except Mental and Infectious Diseases The fees are inclusive

The climate is mild and the neighbourhood beautiful Apply The Secretary
Telegrams Castle Ruthin Telephone 66 Ruthin Ruthin Castle North Wales

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HATCH END MIDDLESEX

A NURSING HOME for BORDERLINE CASES of BOTH SEXES twelve miles from Marble Arch
Resident Medical Officer male and female staff visiting Pathologist Fees 5 to 12 guineas
Full particulars from the MEDICAL SUPERINTENDENT *Telephone* Hatch End 368

THE OLD MANOR SALISBURY

A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS

Extensive grounds Detached Villas Chapel Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH standing in 12 acres of ornamental grounds with tennis courts etc., which Patients or Boarders may visit by arrangement, for long or short periods.

Illustrated Brochure on application to the Medical Superintendent The Old Manor, Salisbury Telephone 61

NORTHUMBERLAND HOUSE,

GREEN LANES, FINSBURY PARK, N 4

Telegrams SUBSIDIARY LONDON *Telephone* NORTH 0888.

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses
Conveniently situated four miles from Charing Cross Easy of access from all parts
Six acres of ground highly situated facing Finsbury Park
Voluntary Boarders received without certificates Private suites Convalescent Home Kearsney Court, Dover
For further particulars apply to the MEDICAL SUPERINTENDENT

PECKHAM HOUSE, 112, Peckham Road, London, S.E 15.

Telegrams 'Alleviated, London" Telephone Rodney 4741—4742.

The above House which was established in 1826 is an Institution for the care and treatment of persons suffering from mental diseases and nervous disorders Both certified patients and voluntary boarders are received. Separate houses for treatment and accommodation of special cases adjoin the Institution There is a seaside branch Kearsney Court near Dover to which patients may be sent for treatment or on holiday Motor and carriage exercise is provided as required Patients can avail themselves of a course of physical drill. Tennis courts Entertainments dances and indoor amusements held throughout the year
Illustrated prospectus and further particulars can be obtained from the Medical Superintendent

CAMBERWELL HOUSE, 33, Peckham Road, London, S E 5

Telegrams PSYCHOLIA LONDON FOR THE TREATMENT OF MENTAL DISORDERS *Telephone* RODNEY 4731—4732

Also completely detached Villas for mild cases with private suites if desired Voluntary Patients received Twenty acres of grounds Hard and Grass Tennis Courts Bowls Croquet Squash Racquets and all indoor amusements including Wireless and other Concerts Occupational Therapy Physical Drill and Dancing Classes X ray and Actino-therapy Prolonged Immersion Baths Operating Theatre Dental Surgery and Ophthalmic Dept Chapel Senior Physician Dr Hubert James Norman assisted by three Medical Officers also resident and Visiting Pathologist An illustrated Prospectus may be obtained upon application to the Secretary

HOVE VILLA BRIGHTON—CONVALESCENT BRANCH OF THE ABOVE

NORTHWOODS, Winterbourne, Bristol.

Telephone and Telegrams Winterbourne 18

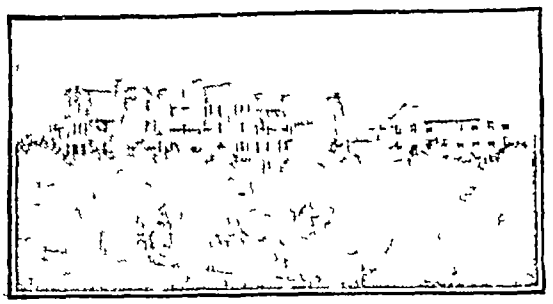
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For further particulars and prospectus apply to JOSEPH CATES M.D

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A PRIVATE HOSPITAL for the care and treatment of persons with mental and nervous disorders.
Voluntary Boarders received in the Villas. Large Mansion on outskirts of Bath, with 20 acres of grounds (see *Medical Directory* page 2137)
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MURTLE DEESIDE ABERDEENSHIRE.



Medical Director David Lawson, M.D., F.R.S.E.

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Physician Superintendent J. M. JOHNSTON, M.B., D.P.H. etc.

Full particulars and Prospectus on application to the Secretary

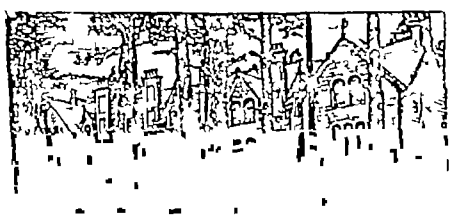
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Apply The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone* 41 WITCOMBE. *Telegrams* HOFFMAN, BIRDLIP.



KINGUSSIE, N.B.

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Unrivalled suites of Baths for Ladies and Gentlemen including Turkish and Russian Baths. Aix and Vichy Douches, Massage and Hombières Treatment in Electric Installation for Baths and other Medical purposes. Dowsing, Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Bath, New Soapless Foam Baths, etc. Special provision for invalids. Mill from our farm of 300 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs, and Attendants.

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F. MACLELLAND, M.D., C.M. (Edin.).

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The most modern equipment for treatment by Electro-Therapy including Diathermy, Ultra Violet Ray, etc. Under medical supervision. Equable climate. Mild and sunny.

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Beautifully situated 600 feet above sea level. Facing south, completely sheltered from north and east. 21 miles from Edinburgh.
All modern Baths, Douches, Massage and Electrical Treatment. Ultra Violet Radiation. Physician in attendance.
IDEAL HEALTH RESORT.
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Prospectus from Secretary. *Tele.* 341
Resident } J. W. JOHNSON SMYTH, M.D.
Physicians } L. T. ROSE HUTCHINSON, M.D.

Tel. & Telegrams: Havnes Brentwood 45
Littleton Hall, Brentwood, Essex
Large grounds 400 ft. above s.a. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Institutions, Brentwood and Shenfield 1 mile. Liverpool St. 25 min.—Apply Dr. HAYNES.

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PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply, MEDICAL SUPERINTENDENT.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a m to 4 p m —Post Graduates may enrol at any time for any period from 1 week to 3 months —Special facilities for "Study Leave," and for those wishing to take a course under the "Grant aided Scheme for Post Graduate Study by Insurance Practitioners "—Anaesthetic Courses —Clinical Assistantships —Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals

Prospectus from the DEAN, West London Hospital, Hammersmith, W 6

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All Higher Medical and Surgical Degrees and Diplomas

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Admision free without ticket.
S J WORSLEY
Academic Registrar

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DAVOS-PLATZ SWITZERLAND (entirely British Sanatorium) Altered and modernized in Summer 1930 Terms from £5 12s. a week. Medical Supt. BERNARD HUDSON M.D (Cantab) M.R.C.P., Swiss Federal Diploma

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PRIVATE HOME for MENTALLY AFFLICTED LADIES Ten only received. Apply Medical Officer or Mrs. PEELE. *Telephone* 2708

Grove House, All Stretton, Church Stretton Shropshire

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing
Medical Superintendent Dr McCLINTOCK

Home for Invalids requiring REST CARE, or SUPERVISION Large house and beautiful garden of nearly 8 acres own produce gravel soil Car etc. Special care to Chronic Patients.— Duncroft Staines, Middlesex.

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D P H (Various) 1906 29 (Completed Exam.)		286
F R C S (Edin), 1918 29		43
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New *Science Buildings* containing seven laboratories two lecture rooms, science library, store rooms etc. opened in September 1925
Prospectus from Head Master

F R C S (Edin)

CLASSES with Museum and Anatomical Demonstrations for next Exam. will commence shortly *Correspondence* work at any time. Particulars from CHAS WHITTAKER, F.R.C.S., Surgeons Hall, Edinburgh.

Doctor has vacancy for five RESIDENT CONVALESCENT PATIENTS Charming house Garden. Nurse in residence Good food Every comfort. No family Burnemouth —Address No 6752 B M.A. House Tavistock Square W C.1

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL

(University of London)
DENMARK HILL S E.5

CENTENARY YEAR, 1930

At the opening of the Winter Session on Wednesday October 1st the Inaugural Address will be given at 2.15 p m by Dr RAYMOND CRAWFURD M D F R C P Consulting Physician to the Hospital and Emeritus Lecturer in the Medical School
Professor G F STILL, M A M D LL.D F R C P Physician for Diseases of Children at the Hospital will preside
All past Students of the Medical School are cordially invited to attend.

THE CENTENARY DINNER

at which Professor Sir ST CLAIR THOMSON M D F R C P F R C S will preside will be held the same evening at seven for 7.30 at the Connaught Rooms Great Queen Street Kingsway W C 2
The Dean and the Dinner Secretaries (Dr ERNEST PLAYFAIR and Dr G DE BEC TURTLE) trust that Past and Present Members of the school will endeavour to be present on this special occasion and they will be glad to be informed if any Member has not received his or her invitation
H R WILLOUGHBY LYLE, M D F R C S
J P., Dean

ST MARY'S HOSPITAL MEDICAL SCHOOL, W.2

(University of London)

The WINTER SESSION will begin on Wednesday October 1st. 1930

The *Medical School* provides courses in Preliminary Intermediate and Final Subjects and Students can join at once after matriculation
SITUATION —Between a large population providing clinical material and one of the best residential districts thus enabling students to live in close proximity to their work.
CLINICAL UNITS IN MEDICINE AND SURGERY — Certain members of the Medical and Surgical staff devote their whole time to teaching and research.
NEARLY 1 000 beds available for teaching additional clinical material being provided by affiliation to an Infirmary and other Institutions
ENTRANCE and RESEARCH SCHOLARSHIPS to the value of £1 400 are awarded annually
APPOINTMENTS varying in value up to £250 per annum open to students after qualification
For further particulars and illustrated prospectus apply to the School Secretary
C M WILSON (*M C*) M.D., F.R.C.P
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MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery and Obstetrical complications. Monthly or Fortnightly Courses.
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COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd. (Candidates for the D T H must possess the D T M. of this University)
For particulars apply to the Hon. Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool.

LONDON HOSPITAL MEDICAL COLLEGE
(University of London)

SCHORSTEIN MEMORIAL LECTURE

The above Lecture will be delivered by H S SOUTTAR Esq, C B E, F R C S, Surgeon to the London Hospital on Friday, October 17th at 4.15 p.m. in the BEARSTED CLINICAL THEATRE. Subject: *Radium in the Service of Surgery*. Members of the Profession are cordially invited to attend.

Professor WILLIAM WRIGHT, M B, D Sc, F R C S, Dean

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The Practice of the Hospital is limited to Medical Practitioners. Particulars from T H O BEVANS, F R C S, Dean

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Diplomas in (a) PUBLIC HEALTH (b) HYGIENE (for foreign graduates) (c) TROPICAL MEDICINE AND HYGIENE. Courses of Instruction in the Subjects of the Examinations commence October 8th 1930. Full particulars to be obtained from Mr J E PURVIS, Public Health Chemical Laboratory, Medical School, Cambridge

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Pre eminent success in the education and treatment of stammering and other speech defects — Times Thoroughly physiological principles — Lancet The method is scientifically correct and perfectly effective — Guy's Hospital Gazette

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Qualified Medical Women are admitted to
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for practical fortnightly Courses in Midwifery These include delivery of normal cases attendances at all abnormal cases operations ward rounds of visiting staff V D clinics and ante natal clinics For further particulars fees, etc apply to EDGAR DIBDEN, the Secretary

F R C S (Edin)

CLASSES or POSTAL TUITION — Full Preparatory Classes with DEMONSTRATIONS will commence shortly CORRESPONDENCE COURSE for Jan and later Exams should begin now — H C ORRIN, F R C S, Surgeons' Hall, Edinburgh

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Special Classes for Pre Medical and Dental Exams Matric and Prelims
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A special fortnight's Course will be held at the ROYAL NATIONAL ORTHOPAEDIC HOSPITAL 234 Ct Portland Street London W 1 from October 27th to November 8th Those taking the Course will have access to operations and the practice of the Hospital Applications should be made to the Secretary of the Hospital or to the Secretary of the Fellowship of Medicine at 1 Wimpole Street W 1

Westminster Hospital,
Broad Sanctuary, S W 1

THE WANDER SCHOLARSHIP IN DISEASES OF CHILDREN

Applications are invited for the office of WANDER SCHOLAR AND REGISTRAR to the Children's Department Salary £250 per annum

Candidates must be registered Medical Practitioners who have held a resident hospital post or posts, one of them preferably in diseases of children

The office is a whole time one and is tenable for one year

Applications, together with six copies of three recent testimonials should be submitted to the undersigned from whom further details regarding the duties of the office can be obtained, not later than Wednesday, October 8th

By Order of the House Committee
CHARLES M POWER, Secretary

Manchester Royal Infirmary

POST GRADUATE LECTURES will be given by Members of the Honorary Staff and others who have kindly promised to help on Medical Surgical, and Special Subjects each week on Tuesdays and Fridays, from Tuesday October 7th, to Tuesday December 16th The Friday Lectures will be specially devoted to the explanation of recent scientific work and to other problems of interest All Lectures to begin at 4.15 p.m, and are free Details may be obtained from the Secretary for the Post Graduate Lectures

Monmouthshire County Council

ASSISTANT MALE MEDICAL OFFICER

The Council invite applications from duly qualified Medical Men, holding a Diploma in Public Health and State Medicine for the appointment of Assistant Medical Officer to undertake mainly the Medical Inspection and Treatment of School Children and in addition, Maternity and Child Welfare work, and the investigation of sanitary conditions generally

Experience in the administration of anæsthetics and the correction of errors of refraction will be considered an additional qualification

Salary £500 per annum rising by annual increments of £25 to £750 with third class rail fares and reasonable subsistence allowance

The successful candidate will be required to act under the direction and supervision of the County Medical Officer to devote whole time to the service of the County Council, and to reside in such place as the Council may determine

The post will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922

A schedule of the duties to be performed, together with conditions of appointment and a form of application can be obtained from the undersigned to whom applications with age of candidate and accompanied by copies of not more than three recent testimonials, are to be sent by October 8th

The County Hall, D ROCYN JONES,
Newport Mon County Medical Officer
Sept. 11th 1930

County Council of the West Riding of Yorkshire

MIDDLETON IN WHARFEDALE SANATORIUM

The County Council of the West Riding of Yorkshire invite applications for the appointment of JUNIOR RESIDENT MEDICAL OFFICER at the Middleton in Wharfedale Sanatorium, near Ilkley (300 beds) The appointment will be for one year Salary at the rate of £250 per annum, with board, residence, and laundry

Hospital experience is an advantage

Applications, together with copies of recent testimonials, should be sent to the County Medical Officer County Hall Wakefield, not later than October 6th

County Hall, J CHARLES McGRATH,
Wakefield Clerk of the County Council

East Ham Memorial Hospital
(100 Beds) Shrewsbury Road, London E 7

Applications are invited for the post of HOUSE PHYSICIAN for six months commencing immediately Salary at the rate of £150 per annum with board residence and laundry

Applications stating age experience and particulars together with copies of testimonials should be forwarded to the undersigned

REGINALD PERRY, Secretary

Refraction and the Ordering of Classes

Taught by Practising Ophthalmic Surgeon in London £8 8s for 10 lessons — Address No 123 B M A House Tavistock Square W C 1

Shanghai Municipal Council.

PUBLIC HEALTH DEPARTMENT

SECOND ASSISTANT COMMISSIONER OF PUBLIC HEALTH (HOSPITALS)

A Second Assistant Commissioner of Public Health (Hospitals) is required in the Public Health Department of the Shanghai Municipal Council

Candidates preferably unmarried should not be more than 30 years of age and must hold qualifications in Medicine and Surgery of Unitversity standard a D P H, though not essential, is desirable Candidates must have held resident Hospital appointments and must have medical and surgical and practical experience of Isolation Hospital T B and T B services is desirable

Salary Taels 650 per mensem or Taels 700 per mensem if holding a D T H, during three years agreement

The agreement is renewable in the event of satisfactory services at a triennial increase of Taels 100 per mensem up to Taels 1 000 or Taels 1,050 per mensem if holding a D P H

A fall at the present rate of exchange equals about 17d Exchange is however subject to fluctuation

A temporary bonus of Taels 75 per mensem is issued at the present time to compensate for the increased cost of living, and under certain limitations a guarantee of one third of pay and bonus will be paid at the equivalent of 2/6 to the Tael, to offset the adverse fluctuations in the rate of exchange

The Assistant Commissioner of Public Health (Hospitals) provided he holds the D T H is eligible for the higher appointments of Deputy Commissioner of Public Health and Commissioner of Public Health the present maximum pay for which is Taels 1,350 and Taels 2,000 per mensem respectively

First class passage is given with half pay during voyage

Eight months leave is given on full pay with first class passage after every period of five years service in Shanghai

Free medical attendance is provided and there is participation in the benefits of a Superannuation Fund

Particulars of the appointment, and full details as to the benefits enjoyed by Municipal employees under their Terms of Service may be obtained from the Council's Agents

Applications in candidates own handwriting, with full information as to their qualifications, experience etc accompanied by at least three recent testimonials and endorsed "Second Assistant Commissioner (Hospitals)" on the cover, should be forwarded to Messrs JOHN POOK & Co, Agents for the Municipal Council of Shanghai 68, Fenchurch Street, London, E C 3

September 1930

Borough of Bromley

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the post of Assistant Medical Officer of Health and Assistant School Medical Officer at a salary at the rate of £550, rising by annual increments of £20 to £750 per annum in accordance with the Council's Salaries and Grading Scheme

Applicants, whose age must not exceed 40 years must possess the Diploma of Public Health, and should have had experience in Diseases of Children Ante natal and Maternity work Refraction work and Infectious Diseases

The appointment will be a whole time one (any private practice being prohibited) and subject to one month's notice on either side, and will also be subject to the Local Government and Other Officers Superannuation Act 1922, and the successful candidate will be required to pass a medical examination

Forms of application may be obtained from the Medical Officer of Health Health Department, Municipal Offices Bromley, Kent to whom applications, accompanied by copies of not more than three recent testimonials should be delivered not later than 1 rida, October 10th

Canvassing directly or indirectly, will be a disqualification

S CRITCHLEY AUTY,
Municipal Offices Town Clerk
Bromley, Kent. Sept 19th, 1930

Cornelia and East Dorset Hospital Poole, Dorset
(105 Beds)

HOUSE SURGEON

Applications are invited for the post of House Surgeon (male) Salary £150 p a with usual emoluments Duties to commence 1st next for six months

Applications stating age experience and qualifications, and accompanied by three recent testimonials, must reach the undersigned at the Hospital as early as possible

E S IOTT, Secretary

City of Manchester

MONSALL HOSPITAL FOR INFECTIOUS DISEASES (600 BEDS)

APPOINTMENT OF JUNIOR MEDICAL OFFICER

The Public Health Committee invites applications from qualified Medical Men for the position of Junior Medical Officer at Monsall Hospital.

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants who have had Clinical Surgical and Medical training in a General Hospital.

The candidate appointed will be required to reside in the Nurses' Home at the Hospital.

Salary £250 per annum with board residence and laundry in addition. No fee.

The appointment will be made in the first instance for a period of three months, renewable at the end of that period.

Every application stating fully the training, qualifications and experience of the candidate, and his age, with copies of three recent testimonials and endorsed on the envelope "Assistant Medical Officer," must be addressed to the Medical Officer of Health, Civic Building, 1 Mount Street, Manchester, and must be received by him not later than Wednesday, October 8th.

The candidate appointed will be required to commence duty as soon as possible after appointment to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, directly or indirectly, is prohibited.

TOWN HALL, F. E. V. ARBRECK HOWELL,
MANCHESTER. Town Clerk.
September 22nd, 1930.

City of Manchester

PUBLIC HEALTH DEPARTMENT

WITHINGTON HOSPITAL.

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER.

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Withington Hospital (1,200 beds) and Infirmation (1,100 beds), Nell Lane, West Didsbury.

The successful candidate will be required to have the care of the wards, part of which are for cases from Pulmonary Tuberculosis (100 beds).

Every applicant must be a registered Medical Practitioner and unmarried.

Preference will be given to applicants with previous hospital experience.

The Hospitals are recognized training schools for Nurses and is equipped with all modern requirements.

Salary £350 per annum with board, residence and laundry in addition. No fees.

The appointment will be made in the first instance for a period of six months, renewable until expiration of that period.

Every application stating fully the training, qualifications and experience of the candidate, and his age, with copies of three recent testimonials and endorsed on the envelope "Assistant Medical Officer," must be addressed to the Medical Officer of Health, Civic Building, 1 Mount Street, Manchester, and must be received by him not later than Wednesday, October 8th.

The candidate appointed will be required to commence duty as soon as possible after appointment to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, directly or indirectly, is prohibited.

TOWN HALL, F. E. V. ARBRECK HOWELL,
MANCHESTER. Town Clerk.
September 22nd, 1930.

The Radium Institute,

Riding House Street, London, W.1.

Applications are invited from duly qualified Medical Practitioners for the post of CLINICAL ASSISTANT (non-resident) at the Radium Institute.

The salary will be at the rate of £300 per annum, and the appointment will be for six months. The successful candidate will be required to take up his duties as early as possible.

Applications, stating age, qualifications and experience, with copies of three recent testimonials, must be received at the *Institute* not later than October 10th next.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

City of Liverpool

PUBLIC ASSISTANCE COMMITTEE

MALE RESIDENT ASSISTANT MEDICAL OFFICERS

Applications are invited for the appointments of Male Resident Assistant Medical Officer at the Central Hospital, for a period of one year, at a salary after the rate of £200 per annum, together with the usual residential emoluments.

Candidates must be single, fully qualified, and registered.

WALTON HOSPITAL (1,600 Beds.)
MILL ROAD INFIRMARY (600 Beds.)
SPRINGWOOD ROAD INSTITUTION (1,000 Beds.)

Central Hospital work is carried out in close connection with the Central Medical Unit, Central Surgical Unit, Medical and Pathological Research Laboratories, and Sunlight Department. Candidates are attached to the Hospital for three months, during which time they will have charge of the Male Surgical Wards, and will be required periodically to act as House Surgeon.

Walton Hospital is a Training School for Nurses, and Candidates are attached to the Central Training School for Sick Children's Nurses.

Appointments will be made in accordance with the Standing Orders of the City Council.

Applications, stating age, qualifications, etc., with names of three referees, must be received by the undersigned not later than October 4th.

Canvassing, either directly or indirectly, will be a disqualification.

Public Assistance Offices, WALTER MOON,
Brunswick Terrace, Town Clerk.
Liverpool, 20th, 1930.

County Borough of Walsall

MANOR HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified gentlemen for the appointment of First Assistant Medical Officer.

The salary will be at the rate of £200 per annum, together with the usual residential emoluments. The appointment will be tenable for a period of twelve months.

The person appointed will be required to act under the general direction of the Medical Officer, from whom particulars of the appointment may be obtained.

Applications, stating age, professional qualifications and experience, accompanied by not more than three copies of recent testimonials, should be sent to the undersigned not later than August 25th, 1930.

C. S. FOTHERGILL,
29, Leicester Street, Public Assistance Officer.
Walsall.
August 25th, 1930.

Corporation of Paisley

PUBLIC HEALTH DEPARTMENT

Applications are invited for the post of ASSISTANT MEDICAL OFFICER (male).

Applicants must have the D.P.H. qualification, and special experience in Tuberculosis, Venereal Diseases and Infectious Diseases is essential.

Salary £500 per annum, rising by annual increments of £20 to £600 per annum.

Application, giving full details of experience, together with copies of three recent testimonials, should be lodged not later than October 3rd with the Medical Officer of Health, 14 Gilmour Street, Paisley, from whom copies of the conditions of the appointment may be obtained.

Public Health Department,
Paisley, Sept. 19th, 1930.

Corporation of Paisley

PUBLIC HEALTH DEPARTMENT

Applications are invited for the post of ASSISTANT MEDICAL OFFICER (female).

Applicants must have the D.P.H. qualification and special experience in Midwifery and Diseases of Children is essential.

Salary £350 per annum, rising by annual increments of £20 to £550 per annum, together with board, lodging, etc.

Applications, giving age, full details of experience, etc., together with copies of three recent testimonials, should be lodged not later than October 3rd with the Medical Officer of Health, 14 Gilmour Street, Paisley, from whom copies of the conditions of the appointment may be obtained.

Public Health Department,
Paisley, Sept. 19th, 1930.

Appointment of a Registered MEDICAL MAN OR WOMAN AS A RESEARCH WORKER IN MENTAL DEFICIENCY

RE-ADVERTISED AT A INCREASED SALARY.

The MEDICAL RESEARCH COUNCIL, the GOVERNING BODY OF THE DARWIN TRUST, and the COMMITTEE OF THE ROYAL EASTERN COUNTIES INSTITUTION for the MENTALLY DEFECTIVE at COLCHESTER, jointly invite applications from registered Medical Men or Women to undertake research into Mental Deficiency.

The person appointed will be a member of the Medical Staff of the Royal Eastern Counties Institution and will be expected to take some part in the Administrative and Clinical work of the Institution as well; but the major part of the work will be an investigation into the causes of mental deficiency from the clinical, social and genetic aspects. A Social Investigator will be appointed to assist in the work.

Commencing salary at the rate of £450 a year.

Application forms can be obtained from the Superintendent of Research Institution, Colchester, which must be completed and returned before October 4th. Duties to commence January 1, 1931.

City and County of Newcastle-upon-Tyne

CITY HOSPITAL FOR INFECTIOUS DISEASES

RESIDENT MEDICAL ASSISTANT (Male)

Wanted immediately a Resident Medical Assistant (male) who holds a registrable qualification in Medicine and Surgery (and preferably also in Public Health) and possesses a practical knowledge of Bacteriology. The holding of a previous resident appointment and some experience of general practice will be considered a recommendation.

The officer appointed will be attached primarily to the wards for Advanced Tuberculosis.

Salary £350 per annum with board, lodging, etc.

Applications stating age, qualifications and previous experience to be forwarded with copies of not more than three recent testimonials to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.

September 22nd, 1930.

Borough of Stockton-on-Tees

EDUCATION COMMITTEE.

APPOINTMENT OF WHOLE TIME ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from fully qualified Medical Practitioners for the post of Whole-time Assistant School Medical Officer at a salary of £500 per annum, advancing by £25 per annum to £700. The person appointed will be required to take up duties on January 1st, 1931. Applicants must have been qualified three years and must have had experience in making prescriptions of glasses for errors of refraction. Preference will be given to those possessing a Diploma in Public Health. Application, by letter accompanied by copies of not more than three recent testimonials should be forwarded to the undersigned not later than Saturday, October 11th.

JOS. S. PURDEY,
Education Offices, Director and
32, Dovecot Street, Secretary.
Stockton-on-Tees, Sept. 22nd, 1930.

Town Council of Pretoria

VACANCY FOR ASSISTANT MEDICAL OFFICER OF HEALTH.

Applications are invited from fully qualified Medical Practitioners for the above whole-time appointment. The possession of a Diploma in Public Health and a knowledge of the Afrikaans language are essential. Salary £800 per annum, rising by annual increments of £50 to £1,000 per annum, plus £135 locomotion allowance.

The duties will be mainly in connection with Child Welfare, Maternity and Venereal Disease Clinics and the supervision and control of infectious diseases and to carry out any other duties delegated to him by the Medical Officer of Health. In addition the successful applicant will be required to act as Medical Officer of Health during the absence from duty of that official. He shall also be required to contribute to the Town Council's Pension Fund and Sick Fund and should be able to assume duty on January 1st, 1931.

Applications, together with copies of at least three recent testimonials, should reach the undersigned not later than November 6th.

Personal canvassing is prohibited.

Further information may be obtained from the Medical Officer of Health, P.O. Box 254, Pretoria.

JOSHUA REES,
Notice No. 104 of 1930. Deputy Town Clerk.
August 27th, 1930.

Hospital of St Cross, Rugby
(114 Beds)

Applications are invited for the posts of SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS (Males)

Candidates must be registered Medical Practitioners and must be prepared to begin duties on November 1st Salary for the Senior post at the rate of £150 per year Junior at the rate of £100 per year, with board and residence in the Hospital

Candidates are requested to state whether they are prepared to accept the post of Junior if not selected for the Senior office

The appointments are for a period of six months only at the end of that time the Junior will be eligible to apply for the Senior post which then becomes vacant

The Hospital is recognized by the University of London for the purpose of the M D and M S

Applications stating age and qualifications with copies of three recent testimonials, should be sent to me before October 9th

W COCKBURN
Superintendent & Secretary

The Royal Devon and Exeter
HOSPITAL, EXETER (225 Beds)

HOUSE SURGEON TO SPECIAL DEPTS

Applications are invited for the post of House Surg on to the Ear Throat and Nose X ray and Casualty Departments at this Hospital shortly becoming vacant The appointment is for six months and candidates are eligible for re election

Salary at the rate of £150 per annum, with board apartments and washing

Applications giving particulars as to age and qualifications together with copies of recent testimonials should be sent to the undersigned as soon as possible

By Order of the Committee,
S S COLE
Sept 12th 1930 Secretary & Manager

St Mary's Hospital for Women
AND CHILDREN Plaistow, E 13
(71 Beds)

Applications are invited for the posts of RESIDENT and ASSISTANT RESIDENT MEDICAL OFFICERS (vacant November 1st) male or female The appointments are for six months Board and residence provided Salaries at the rate of £175 and £120 per annum respectively and £5 extra allowed for personal laundry

The duties of the Resident Medical Officer are mainly surgical and those of the Assistant Resident Medical Officer mainly medical Personal canvassing not desired Applications with copies of three recent testimonials to be sent to the undersigned not later than Sept 30th.

A ERNEST WILKES Secretary

Tynemouth Victoria Jubilee
INFIRMARY

HOUSE SURGEON (male) required October 1st Applicants must be doubly qualified and registered Salary £100 per annum with board residence and laundry

Applications stating age and other essential particulars and accompanied by copies of recent testimonials to be addressed to the undersigned from whom all particulars may be obtained

The Hospital has two Resident House Surgeons and contains 80 beds and cots an X ray D partment and an Out patient Department where accident cases are received

1, Northumberland Place, T L ROWELL
North Shields Secretary

Ancoats Hospital,
CONVALESCENT HOME
GREAT WARFORD ALDERLEY EDGE

Applications are invited for the post of HONORARY VISITING PHYSICIAN to the above Honorarium £50 per annum Applications stating age qualifications etc to be in by October 1st next accompanied by not more than three recent testimonials and to be forwarded to the undersigned from whom all particulars can be obtained

By Order of the Board
HERBERT J DAFFORNE
Gen Supt & Secretary

Besford Court Catholic Mental
WELFARE HOSPITAL FOR CHILDREN

RESIDENT MEDICAL REGISTRAR wanted at once for a period of six months to a year

Honorarium at the rate of £150 per annum with first class board

The Institution contains 250 high grade mentally defective boys and offers a unique opportunity for experience and research in psychological medicine and endocrinology

Full particulars sent on application to the Administrator Besford Court Hospital Worcestershire

The Prince of Wales's General
HOSPITAL, Tottenham, N 15

The following resident posts will be vacant on November 1st next

SENIOR HOUSE PHYSICIAN, SENIOR HOUSE SURGEON and SPECIAL HOUSE SURGEON Salaries at the rate of £120 per annum

JUNIOR HOUSE PHYSICIAN and TWO JUNIOR HOUSE SURGEONS Salaries at the rate of £90 per annum

Board, residence, and laundry

Appointment held for six months but holders are eligible for re appointment for a further term

Candidates (male) must be fully qualified and registered and applications (on the prescribed form) together with copies of three recent testimonials should be sent to me on or before the first post on Wednesday October 1st next

J C BURDETT
Sept 15th 1930 Director

Dorset County Hospital,
DORCHESTER

APPOINTMENT OF HOUSE SURGEON

The Committee of Management are open to receive applications for the position of House Surgeon to take up his duties on or about October 11th

Every candidate for the office of House Surgeon must be unmarried and possess a registered qualification to practise Medicine and Surgery from some recognized Body in Great Britain or Ireland Salary £160 per annum with board and lodging The appointment is for a period of not less than six months All applications accompanied by three recent copies of testimonials, should be sent to the Secretary, Dorset County Hospital on or before Oct 4th

Candidates must be of British nationality

Bristol Homoeopathic Hospital
(Bruce Melville Wills Memorial)

The Board of Management invite applications for the appointment of RESIDENT MEDICAL OFFICER to commence duties on or about October 1st next at a salary of from £120 to £150 per annum, according to experience with board, laundry and residence The Hospital is new with the latest equipment and a most comfortable suite of rooms are provided in the Hospital

Opportunity for good Surgical and General experience

Applications should be forwarded, with three copies of recent testimonials addressed to the undersigned.

H HUNTER (Lt Colonel)
Secretary

The Middlesex Hospital, W 1

A vacancy is hereby declared for an AURAL SURGEON to the Hospital

A vacancy will also occur for an ASSISTANT AURAL SURGEON to the Hospital, and applications for this latter post accompanied by testimonials, are invited to be sent before noon on Saturday, October 11th, to the undersigned from whom information as to the form of the application may be obtained

Candidates must be Fellows (or have passed the qualifying examination for Fellowship) of the Royal College of Surgeons of England

By Order of the Board
S R C PLIMSOLL
Sept 19th 1930 Secretary Supt

The Middlesex Hospital, W 1

A vacancy is hereby declared for a DENTAL SURGEON to the Hospital

A vacancy will also occur for an ASSISTANT DENTAL SURGEON and applications for this latter post, accompanied by testimonials are invited to be sent before noon on Saturday, October 11th, to the undersigned, from whom information as to the form of the application may be obtained

Candidates must be qualified registered Medical Practitioners and Licentiates in Dental Surgery of the Royal College of Surgeons of England

By Order of the Board
S R C PLIMSOLL
Sept 19th 1930 Secretary Supt

Hospital of St John and
ST ELIZABETH,
60, Grove End Road, N W 8

Applications are invited for the post of ASSISTANT PHYSICIAN at the above Hospital Candidates must be Members of the Royal College of Physicians (London) The duties include the charge of beds There is no Out patient Department Applications, together with copies of three testimonials should be submitted on or before October next to the undersigned from whom further particulars may be obtained

F DUDLEY HOBBS, B A
Secretary

Central London Throat, Nose,
AND EAR HOSPITAL
Gray's Inn Road, W C 1

ASSISTANTS IN THE OUT PATIENT DEPT

There are vacancies for Two Assistants in the Out patient Department

Assistants are graded first, second and third according to experience in the specialty and length of service at the Hospital

The posts are honorary tenable for one year subject to re election Attendance is required at one or two Clinics each week to assist the Surgeons in seeing the patients—vacancies at present on Wednesday, Thursday and Friday, at 2 p m each day

Applications should be sent to the undersigned immediately

JOHN H YOUNG
Secretary Superintendent.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION
GLOUCESTER (153 Beds)

Applications are invited for the post of SECOND HOUSE SURGEON (male) Salary £120 per annum with board residence and laundry (four Resident Medical Officers)

The appointment is for six months which may be extended for similar periods by re election from time to time

Applications stating age, qualifications and nationality with copies of not less than three recent testimonials must be received by the undersigned not later than Wednesday, September 24th The elected candidate will be required to enter upon his duties on Wednesday, October 8th

T J SYMONS
August 21st 1930 Secretary

Royal Buckinghamshire County
HOSPITAL AYLESBURY
(78 Beds)

Applications are invited for the office of HONORARY CONSULTING SURGEON to the Throat Nose and Ear Department from gentlemen who are Fellows of the Royal College of Surgeons of England, Edinburgh, or Ireland

The appointment is now vacant and the selected candidate will be required to attend the Hospital one afternoon weekly or fortnightly for the usual duties of this appointment

Applications should be sent to the Secretary from whom further particulars regarding the appointment may be obtained

By Order of the Board of Management
M W BROWN, Secretary

The Willesden General Hospital
(Incorporated) N W 10

Applications are invited for the following appointments

(a) CLINICAL ASSISTANT to the Ear Nose, and Throat (Out patient) Department

(b) CLINICAL ASSISTANT to the Medical Out patient Department

The Ear, Nose and Throat Department session is held on Wednesday afternoons the Medical Department session on Tuesday afternoons

Applications should be addressed to the Secretary of the Hospital not later than Monday, September 29th

September 15th, 1930

Manchester Babies' Hospital,
Burnage Lane, LLANDUDNO.

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER Appointment is for six months from November 1st Salary at the rate of £50 per annum with laundry

Applications together with copies of testimonials should be sent to the undersigned and marked 'J R M O,' by Monday October 6th

ANGELA LOPEZ Secretary

Oldham Royal Infirmary

Two HOUSE SURGEONS required immediately one for Male Wards and one for Out Patient and Special Departments Appointments tenable until December 31st. Successful applicants will be eligible for re appointment Salary at the rate of £175 per annum with board residence, and laundry Applications to be submitted forthwith together with copies of three recent testimonials, to the undersigned

CHARLES D DRAKE
General Superintendent

Lowestoft and North Suffolk
HOSPITAL LOWESTOFT

JUNIOR HOUSE SURGEON (male) required Salary £120 per annum with board residence and laundry Duties to commence in August

Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent

The Royal Infirmary of EDINBURGH

The Board of Managers invite applications for the post of RADIOLOGIST to the Royal Infirmary.

The appointment is a whole-time one in connection with the University Lectureship in Radiology.

The salary will be at the rate of £1,500 per annum.

Candidates who must be duly qualified Medical Men should hold a Diploma in Radiology and have had experience in the control of a large X-ray Department. Experience in Radium Therapy is also essential.

The successful candidate will be expected to take up duties in January 1931.

Applications which should be received on or before Monday, October 20th, must be accompanied by copies of not more than four testimonials and be addressed to The Chairman, Royal Infirmary of Edinburgh. Thirty copies of the letter of application and testimonials will be required.

Further particulars relating to this appointment will be supplied on application.

By Order of the Board of Managers
HENRY MAW
Sept. 22nd, 1930 Secretary & Treasurer

Evelina Hospital for Children, Southwark, S.E.1

The Committee of Management requires a HOUSE SURGEON (male) for four months from October 12th. Salary £120 per annum with board and residence. Candidates duly registered to send applications giving age, qualifications (with dates) and copies of four testimonials before October 1st to the undersigned at the Hospital. Applicants will be informed if they will be interviewed by the Medical Committee. Selected candidates must attend Committee of Management. Date of meeting will be notified by undersigned from whom rules and other particulars relating to the post must be obtained.

By Order of the Committee of Management
H. C. S. SMITH
September 15th, 1930 Secretary Supt.

The Royal Gwent Hospital, NEWPORT, MON. (160 Beds)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to act as House Surgeon to Out-patients and as House Physician.

Salary £135 with board, lodging and laundry. Resident Medical Staff—five. Eligible for promotion.

Large Out-patient Department.

Applications stating age and qualifications with copies of three recent testimonials to be sent to the undersigned.

Applications from ladies not entertained.

J. E. SHILLWARD
Sept. 22nd, 1930 Secretary Supt.

Staffordshire General Infirmary, STAFFORD

HOUSE SURGEON, male or female, required immediately. Salary at the rate of £200 with board, residence and laundry. Candidates must be duly qualified and registered under the Medical Act. The Hospital has 100 beds. The House Surgeon is the senior of the two Resident. The appointment to be held for at least six months. Applications stating age, accompanied by copies of three recent testimonials should be sent at once to the undersigned.

Stafford. A. E. COLLINS
September 22nd, 1930 Secretary.

South Devon and East Cornwall HOSPITAL, PLYMOUTH (240 Beds.)

HOUSE SURGEON. Salary £100 per annum with board, residence and laundry. Appointment is tenable for six months, and is subject to renewal. Duties to commence at once.

Candidates must be registered under the Medical Acts.

Applications, stating age and qualifications, together with copies of recent testimonials to reach the undersigned by September 30th.

ARTHUR R. CASH
Sept. 13th, 1930 Gen. Supt. & Secretary.

Birmingham and Midland Eye HOSPITAL, Church Street, BIRMINGHAM.

HOUSE SURGEON required at the above Hospital to commence duties December 1st. Salary £110 per annum.

Applications together with copies of not more than three testimonials should be sent to the undersigned not later than Monday, October 13th. Some previous Ophthalmic experience desirable.

C. A. MASON
September 18th, 1930 Gen. Supt.

Woolwich and District War MEMORIAL HOSPITAL Situate in Hill Section S.E.18 GENERAL HOSPITAL (112 Beds)

RESIDENT MEDICAL OFFICER.

The Board of Management invites applications from suitably qualified male candidates with special knowledge of Surgery for the post of Resident Medical Officer. Salary £115 per annum with board, residence and laundry. The appointment will be for one year from November 1st with renewal if appointment for one year at a salary of £200 if approved by the Board of Management.

Applications (accompanied by copies of not more than three recent testimonials) stating age, qualifications, experience and nationality should be addressed to the Secretary's Superintendent's Office, and reach him not later than first post on Tuesday, October 14th.

Salford Royal Hospital (263 Beds)

Applications are invited for the following vacancy which will occur in the Resident Medical Staff (male) on the 30th instant.

HOUSE SURGEON (attached to the Orthopaedic Department).

Salary at the rate of £125 per annum.

The appointment is for a period of six months with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognised for the English Fellowship (Final).

Forms of application which may be obtained from the undersigned must be delivered at once.

By Order of the Board
Salford Royal Hospital GEORGE RUDDLE
Sept. 22nd, 1930 Clerk Supt. & Secy.

Seamen's Hospital Society

KING GEORGE'S SANATORIUM FOR SAILORS LIPHOOK, HANTS, for the Treatment of Pulmonary and Non-Pulmonary Tuberculosis.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER. Commencing salary at the rate of £200 per annum with quarters and board. The appointment is for six months in the first instance. There is no accommodation for a married man.

Application with copies of three recent testimonials to be sent in by October 9th to the undersigned.

Greenwich. R. E. V. DAX
September 17th, 1930 Secretary.

Stockton and Thornaby Hospital, STOCKTON-ON-TEES. (140 Beds)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence on or about October 15th.

Salary £150 with board, residence and laundry. Candidates must be duly qualified, and unmarried.

Applications stating age, nationality and experience, together with copies of three recent testimonials to be sent to the undersigned.

J. WILKINSON, Secretary.

Royal Berkshire Hospital (243 Beds)

Wanted a CASUALTY OFFICER. Candidates must be fully qualified and registered. The appointment is for six months and the salary is at the rate of £150 per annum, with board, residence, and laundry.

Applications with copies of testimonials should be addressed to the undersigned.

F. V. LAWS
Reading, Secretary.
Sept. 22nd, 1930

Royal Liverpool Babies' HOSPITAL, WOLTON

Required immediately RESIDENT MEDICAL OFFICER for the above Hospital. The appointment to be for a period of six months. Salary at the rate of £90 per annum.

Applications with copies of testimonials to be sent to the Chairman of the Hospital, c/o The Child Welfare Association, 9 Copperas Hill, Liverpool, at or before 12 noon on October 2nd.

Swansea Hospital (316 Beds.)

HOUSE SURGEON wanted gentleman, single. Salary £150 per annum with board, residence and laundry.

Applications stating age, nationality, qualifications and experience together with copies of three recent testimonials to be forwarded to the undersigned.

O. C. HOWELLS, Secretary.

West Riding Mental Hospital, WAKEFIELD

Vacancy for JUNIOR ASSISTANT MEDICAL OFFICER (male). Graduate Medical or Surgical experience essential. Experience of Mental work extensive. Junior Officer who will be desirous to specialise in Mental Diseases, and complete training for the Diploma in Psychological Medicine of the University of Leeds, and on gaining this are eligible for promotion to senior rank (with married man's privileges). Salary £400 rising by £25 per annum to £500 (and on promotion to £800), with or without apartments, board, washing, and attendances, valued for superannuation purposes at £120. Applications to be sent immediately to the Medical Director.

Paddington Green Children's HOSPITAL (Incorporated) London, W.2.

HOUSE PHYSICIAN
HOUSE SURGEON

These appointments will become vacant on November 1st. Gentlemen (unmarried) are invited to send in their applications with copies of three testimonials to the undersigned not later than the first post on Friday, October 10th. Salary of each at the rate of £150 per annum with board and residence. Candidates who have held a resident medical appointment are preferred. The appointments are for a period of six months.

JAMES A. HAMLIN, Secretary.

The Belgrave Hospital for CHILDREN (Incorporated) 1 Clapham Road, S.W.9

The Committee of Management invite applications for the post of TWO HOUSE PHYSICIANS and ONE HOUSE SURGEON which will become vacant on October 31st next.

Applicants (men) must be fully qualified and registered. The appointments are for six months with board, residence and washing provided. Salary at the rate of £100 per annum in each case.

Application with copies of testimonials stating age, should be forwarded on or before Thursday, October 16th.

By Order
THOMAS CLAPHAM, Secretary.

City of London Hospital for DISEASES OF THE HEART AND LUNGS Victoria Park, E.2.

(Bus, Tram and Rail: Cambridge Heath L. & N.E. Railway.)

A vacancy for a HOUSE PHYSICIAN (male) will occur on November 1st. Six months appointment. Salary at the rate of £100 per annum. Board, residence and laundry provided.

Applications with copies of (three) testimonials should be sent to the undersigned on or before Friday, October 17th.

GEORGE WATTS, Secretary.

East Suffolk & Ipswich Hospital IPSWICH. (265 Beds—7 Residents.)

Applications are invited for the post of CASUALTY OFFICER. Salary £150 per annum. Board, residence and laundry. Previous experience essential.

Applications from British (male) candidates, stating age, qualifications and experience, and accompanied by three recent testimonials to be sent to the undersigned.

The Hospital, ARTHUR GRIFFITHS,
Ipswich. Secretary.
August 12th, 1930.

Providence Free Hospital, ST. HELEN'S, LANCS.

HOUSE SURGEON, male, required. Experience in Anaesthetics essential. Appointment is for six months and successful candidate will be eligible for re-appointment for a further period of six months.

Salary £240 per annum, plus £110 allowed for board, residence and laundry.

Applications, stating age, nationality and experience, together with three recent testimonials to be forwarded to the Superintendent by October 6th.

The Hospital for Sick Children, NEWCASTLE-UPON-TYNE.

The Committee of Management have declared a vacancy for an HONORARY OPHTHALMIC SURGEON. Applications stating age and qualifications are invited for the appointment and should be sent to the Secretary, Mr. NEIL BROOM, 18, City Road, Newcastle-upon-Tyne, accompanied with copies of three recent testimonials on or before October 15th. Canvassing a disqualification.

Ministry of Health

APPOINTMENT OF DEPUTY REGIONAL MEDICAL OFFICERS

The Minister of Health invites applications from registered Medical Practitioners for appointment as Deputy Regional Medical Officer on the staff of the Ministry in various parts of England and Wales for the discharge of combined clinical and administrative duties in connection with the National Health Insurance Medical Service.

The rate of remuneration will be £800 per annum rising by annual increments of £30 to a maximum of £1 100. No cost of living bonus is payable in addition thereto.

Successful candidates under the age of 50 years will be appointed to this scale and will be established Civil Servants with the usual pension rights. Those who are considered to possess exceptional or special qualifications may be allowed to enter the above scale at a commencing salary of £850 per annum.

Successful candidates of the age of 50 years and upwards (at the time of appointment) will be remunerated on the above scale and will receive unestablished non-pensionable appointments. In special circumstances where a candidate in this category has special qualifications and experience the commencing salary may be advanced to a point in the scale not exceeding £1 000 per annum inclusive.

Above the grade of Deputy Regional Medical Officer there are at present 35 posts of Regional Medical Officer (32 in England and 3 in Wales) rising to a maximum of £1 400 per annum inclusive and 4 posts of Divisional Medical Officer rising to a maximum of £1 600 a year inclusive. The above numbers are however subject to revision from time to time as the exigencies of the Service may determine. When vacancies are to be filled among the Regional Medical Officers preference will be given to those who have served as Deputy Regional Medical Officers.

Candidates must be Medical Practitioners of not less than ten years standing and not exceeding the age of 55 years with a wide experience of general practice especially amongst the industrial population; preference will be given to candidates who served in His Majesty's Forces during the war.

Deputy Regional Medical Officers are required to devote their whole time to the Public Service and to perform such duties as may be assigned to them by the Minister from time to time. These include acting as Deputy to the Regional Medical Officer in the work carried out by the latter

(a) as Medical Referee in cases of insured persons referred for a second medical opinion on questions of incapacity for work or of restoration of working capacity;

(b) in assisting in the administration of the Insurance Medical Service.

Deputy Regional Medical Officers must be prepared to reside in the area from time to time assigned to them.

Canvassing. Members of Parliament or Officers of the Ministry will render a candidate liable to disqualification.

Forms of application with further particulars of the appointment may be obtained from the Director of Establishments, Ministry of Health, Whitehall, S.W. or for Wales, The Welsh Board of Health, City Hall, Cardiff.

No application can be considered unless received on the prescribed form not later than October 27th, 1930.

Eastbourne Princess Alice Memorial Hospital (96 Beds)

Applications are invited for the post of HOUSE SURGEON (male). Salary at the rate of £150 per annum with board, lodging and laundry. The appointment is for six months. Duty is to commence immediately. Candidates must be unmarried, fully qualified and registered. Applications stating age, qualifications etc., accompanied by copies of not more than three recent testimonials (one of which must be from Medical School) should be sent to the Secretary.

Victoria Hospital, Burnley (120 Beds)

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment is for six months in the first instance and carries a salary of £150 per annum with board, etc.

The Hospital is approved by the London University for the purposes of the M.B. and B.S. examinations.

Applications with testimonials should be delivered to the undersigned forthwith.

C. D. W. COOLING,
Secretary Supt.

Sept. 23rd, 1930.

Rowley Regis Urban District Council

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER (Temporary, Half-time).

Applications are invited for the above post, the duration of which will not exceed one year. The salary will be at the rate of £300 per annum with travelling expenses within the Urban District. The duties will be carried out under the supervision of the Council's Medical Officer of Health (who is also School Medical Officer) and in his absence of the Deputy Medical Officer. Candidates should have had three years' experience since qualification and special experience in diseases of children will be a recommendation. The appointment will be subject to approval by the Ministry of Health and Board of Education. The candidate will be required every afternoon, except Saturday, from 2 to 5, and one morning in alternate weeks.

Applications, with particulars of qualifications, to be addressed to The Clerk Council House, Old Hill, Staffordshire, not later than October 2nd.

County Borough of Barnsley

SENIOR DENTAL SURGEON

Applications are invited from Licentiates in Dental Surgery for the position of a Whole-time Dental Surgeon to the above Authority at a commencing salary of £600 per annum.

The officer appointed will be responsible for the work of the Dental Department, and will work under the direction of the Medical Officer of Health. His duties will consist chiefly in the dental inspection and treatment of children attending the Elementary Schools but he will also treat cases sent from Maternity and Child Welfare Clinics and under the Tuberculosis Scheme of the Borough.

Applications, with full details of experience and copies of three recent testimonials (which will not be returned) should be sent to the undersigned on or before October 3rd.

A. D. MASON,
Town Clerk.

Town Clerk's Office, Barnsley.
September 12th, 1930.

County of London

The LONDON COUNTY COUNCIL invites applications for appointment as EIGHTH ASSISTANT MEDICAL OFFICER (man) in the Mental Hospital Service. Candidates must be under 35 years of age and be registered to practise both in Medicine and Surgery in England. Salary £445 a year, rising by annual increments of £25 to £570 a year. No emoluments. Charges for board, lodging etc. (at present £2 9s. a week) if required to be resident. Candidates appointed will be pensionable under the Asylums Officers Superannuation Act 1909. Form of application giving full particulars can be obtained from the Chief Officer, Mental Hospitals Department, The County Hall, Westminster Bridge, S.E.1. Applications must be received by Thursday, October 2nd. Canvassing disqualifies.

MONTAGU HIGGINS,
Clerk of the London County Council.

The County Hall, S.E.1.

Southampton Children's Hospital and Dispensary for Women (45 Beds)

The Board of Management invite applications for the post of MEDICAL OFFICER (lady). Appointment for six months. To commence duties on October 1st. Salary at the rate of £100 per annum with board residence and laundry. Applications stating age and accompanied by copies of testimonials to be sent to the undersigned, from whom further particulars may be obtained.

ELLA K. MATTHEWS, Secretary.

Tiverton Hospital, Devon

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum, with board residence and laundry. Six months' engagement commencing as early in October as possible.

Applications with testimonials to be sent to the undersigned.

C. H. DEEKS,
Hon. Secretary.

The Weir Hospital, Grove Road, Balham, S.W.12

SENIOR RESIDENT MEDICAL OFFICER required (male unmarried) at the end of October. Candidates must be fully qualified and duly registered. Salary £200 per annum with board residence and laundry. Applications with copies of testimonials to be sent to the Secretary, from whom further information may be obtained.

Hospital for Consumption and Diseases of the Chest, Brompton, S.W.3

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are three vacancies). The duties include work in the Out-patient Department as well as in the Ward, and on one of the selected candidates will also be appointed Assistant to the Tuberculosis Officer for the local Tuberculosis Dispensary at the Hospital. Applications with copies of testimonials must reach the undersigned not later than Saturday, October 11th.

The appointment is for six months' commencing on November 1st, with an honorarium of £50.

FREDERICK WOOD,
Secretary.

Brompton,
September 1930.

Hospital for Consumption and Diseases of the Chest, Brompton, S.W.3

The Committee of Management invite applications from duly qualified Medical Men for the post of JUNIOR HOUSE PHYSICIAN at the SANATORIUM at Frimley. The appointment is for six months dating from November 1st. In the event of a vacancy the Junior House Physician at the expiration of his term of office will be expected to apply for and if appointed to hold the post of Senior House Physician.

The honorarium is at the rate of £100 per annum with full board and lodging. Applications with copies of testimonials must reach the undersigned not later than Wednesday, October 15th.

FREDERICK WOOD,
Secretary.

Brompton,
September 1930.

Rochdale Infirmary and Dispensary (110 Beds)

The Board of Management invite applications for the appointment of SENIOR HOUSE SURGEON. The salary attached is at the rate of £250 p.a. together with board residence and laundry. Applications stating age, nationality, etc., together with copies of recent testimonials to be sent to the Secretary endorsed House Surgeon.

Conditions of the appointment may be had on application to the Secretary.

W. WYNNE,
Secretary.

Infirmary Office, Rochdale.

Lord Mayor Treloar Cripples' Hospital and College, Alton, Hants (400 Beds)

Applications are invited for the post of THIRD MALE ASSISTANT RESIDENT MEDICAL OFFICER. The appointment is for one year and may be renewed. Preference will be given to applicants who have held a resident appointment at a general hospital. Special pathological or orthopaedic experience is desirable but not essential. Please state essential particulars and apply to Medical Superintendent, Treloar Cripples' Hospital, Alton, Hants.

Northampton General Hospital (230 Beds)

There will be vacancies on October 1st for TWO SENIOR MEDICAL STUDENTS to act as resident Dressers for three or six months.

Board, residence and laundry will be given and an honorarium of £10 for six months' satisfactory service.

Applications stating age and sex to reach the undersigned not later than first post on Wednesday, October 1st.

H. ST. JOHN WOOD,
Secretary Supt.

Sept. 17th, 1930.

County Mental Hospital, Lancaster

An ASSISTANT MEDICAL OFFICER (male) unmarried required. Salary £350 rising by £25 to £450 per annum with further increases on promotion together with emoluments valued at £150 subject to a deduction of 3 per cent. under the Asylum Officers Superannuation Act.

Age should not exceed 35 years.

Applications with testimonials (copies only) and full particulars, to be sent to the Medical Superintendent.

Grimsby and District Hospital

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Salary £200 per annum with board residence and laundry. Applicants must be registered and hold a Medical and Surgical qualification. Previous Hospital appointment experience desirable. Duties to commence on October 25th.

Applications stating age, qualifications and enclosing copies of not more than three recent testimonials to be forwarded to the Secretary, Superintendent.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary, 7 Drumsheugh Gardens, Edinburgh).

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON. *(Workmen's Medical Society.)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme.)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female.)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme.)*	BATH AND DISTRICT. *(Medical Aid Association.)*	MIDDLESBROUGH COUNTY BOROUGH. HOLGATE HOSPITAL. *(Assistant Medical Officer.)*
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN. *(Workmen's Medical Scheme.)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association.)*	STIRLING ROYAL BURGH. *(Medical Officer of Health.)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme.)*	OGMORE VALLEY, GLAMORGAN. *(Wyndham Colliery Medical Aid Society.) (Workmen's Medical Scheme.)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer.)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector.)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch, Savings Bank Building, 21 Elizabeth St., Sydney, N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments.)*	Secretary, South Australian Branch, 207 North Terrace, Adelaide.	WELLINGTON, NEW ZEALAND *(Contract Practice All Appointments.)*	Dr. G. F. V. ASO (Hon. Sec., New Zealand Branch British Medical Association), P.O. Box 156, Wellington, New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute.)*	The Hon. Sec. Queensland Branch) British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries.)*	Dr. FRANK DAVIES (Hon. Sec. Victorian Branch) British Medical Association, Medical Society Hall, Melbourne, Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec. Western Australian Branch British Medical Association, No. 6 Bank of S.W. Chambers, St. George's Terr., Perth, Western Australia.

September 24th, 1930. By Order of the Council. ALFRED COX, Medical Secretary.

West London Hospital,
Hammersmith, W.6. (234 Beds.)

Applications are invited for the post of HONORARY OPHTHALMIC SURGEON, for which the present Honorary Assistant Ophthalmic Surgeon is a candidate. In the event of his election there will be a vacancy for an Honorary Assistant Ophthalmic Surgeon, for which applications are also invited.

Candidates must be Fellows of one of the Royal Colleges of Surgeons of England, Edinburgh or Ireland. The successful candidate will be required, in addition to his other duties, to undertake such teaching for the Post-Graduate College as the Board may approve.

Application, with copies only of testimonials, must reach me not later than Thursday, October 23rd. Candidates must attend the Meeting of the Medical Council on Friday, October 24th, at 4.30 p.m. and prior to that date call upon and send copies of application and testimonials to each member thereof. They must not canvass members of the Board of Management, but nevertheless must send copies of their application and testimonials to each member thereof; and if so notified, be in attendance at a Meeting of the Board at 5 p.m. on Tuesday, October 28th, when the election will be made.

H. V. HADGE, Secretary.

Western Ophthalmic Hospital,
Marlebone Road, London, N.W.1.

SENIOR HOUSE SURGEON (Resident) required November 1st.

JUNIOR HOUSE SURGEON (Non-resident) required November 1st.

Applications are invited for the above posts. The salaries are at the rate of £150 and £100 per annum respectively, and the appointments are for six months. Previous Ophthalmic Experience is required. Application, accompanied by copies of three testimonials, should reach me by first post on October 1st.

Candidates should be prepared to attend before the Medical Committee on Friday, October 3rd, at 5 p.m.

Applicants for the Senior post should state if they are prepared to accept the Junior one.

H. W. BURLEIGH,
Honorary Secretary.

Mater Misericordiae Hospital,
DUBLIN.

(Founded 1852 and conducted by the Sisters of Mercy.)

The following positions are now vacant:

VISITING SURGEON.

Applications, stating qualifications and academic distinctions, accompanied by three duplicate copies and by three duplicate copies of not more than three recent testimonials must reach the Secretary of the Medical Board on or before October 4th. The Medical Board will arrange in order of merit the names of those candidates who they deem suitable and whose appointment they could advise, and will submit the list to the authorities of the Hospital with whom the final act of appointment rests.

TWO ASSISTANT SURGEONS.

Applications are also invited for the position of Two Assistant Surgeons on or before October 4th. Each candidate is required to forward at the same time three duplicate copies of his application and also three duplicate copies of no more than three recent testimonials. The Medical Board will arrange in order of merit the names of the candidates whom they deem suitable and whose appointment they could advise, and will submit the list to the authorities of the hospital with whom the final act of appointment rests. The successful candidates will hold office for three years at the expiration of which term they will be eligible for re-election.

Canvassing for any of the above positions will render a candidate liable to disqualification. Candidates who desire further information are required to communicate with the Secretary of the Medical Board.

The Hospital for Epilepsy and Paralysis,
Maida Vale, W.9.

DENTAL SURGEON REQUIRED.

Applications are invited for the post of Honorary Dental Surgeon. Application, with copies of not more than three recent testimonials, should reach me by October 4th.

H. W. BURLEIGH,
Secretary & Gen. Supt.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on October 14th.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, October 6th, with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried and possess a medical qualification to practise.

A candidate must be in attendance to appear before the Joint Committee, if required, at their Meeting on Wednesday, October 8th, at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary.

By Order of the Board of Management,
JAMES McKAY,
September 1930. Secretary.

Durham County and Sunderland EYE INFIRMARY

Wanted TWO OPHTHALMIC SURGEONS for the above Institution to attend during the forenoon on three alternate days per week and one afternoon clinic per week. Commencing salary £350 per annum. Applications, with copies of recent testimonials, to be sent to JOHN BUTTERFIELD, Secretary, Eye Infirmary, Stockton Road, Sunderland.

Western General Dispensary,
Marylebone Road, London, N.W.1.

There is a vacancy in the post of HONORARY OPHTHALMIC SURGEON to the Dispensary. Applications must be sent to the Secretary of the Royal College of Surgeons, England, to whom all testimonials must be sent, and should reach him on or before Thursday, October 2nd.

(Appointments continued on p. 50.)

ASSISTANCIES

Wanted — Experienced Indoor or Outdoor married ASSISTANT with view to eventual partnership for mixed Practice in Cornwall, with own car if possible £100 per annum car allowance Excellent house available £300 - £350 indoor £100 extra outdoor —Address No 6677 B M A House Tavistock Square W C 1

Wanted — Assistantship with early view, by Scotch M B Ch B, 1927, married, R M O, R S O 18 months resident hospital appointments, and 18 months general practice experience Surgical scope preferred Interview desired —Address No 6665 B M A House Tavistock Square, W C 1

Wanted — Assistant (English-man) in good class Practice near Manchester Small panel Good prospects for suitable man Salary £300 all found Car provided To commence duties middle or late Oct —Address (with photograph height, etc) No 6541 B M A House Tavistock Square, W C 1

Wanted — Outdoor Assistant, in a Colliery and Panel Practice in South Wales Salary to commence at £350 per annum with furnished rooms attendance, etc —Address giving age reference etc No 6679 B M A House Tavistock Square W C 1

Wanted — Assistantship with view Practice or Partnership Share about £700 Liverpool Birkenhead or Bromborough districts or North Wales Coast on I M S Chester to Llandudno — Address No 6668 B M A House Tavistock Square W C 1

Wanted in London, indoor R C ASSISTANT General Practice Usual duties Work light Long term Time for reading Sign bond State essential particulars — Address No 6678 B M A House Tavistock Square W C 1

Wanted —Assistant with capital, with view to Partnership Married age about 30 West Riding of Yorkshire Panel 2 200 Midwifery Salary £400—£500 —Apply, REYNOLDS & BRANSON, LTD Medical Transfer Agents 13 Briggate Leeds

Wanted — Assistant, male, in-door in sound private Practice preferably with experience in Eye work Usual bond £350 per annum State experience age and height Photo (returnable) —Address No 6766 B M A House Tavistock Square W C 1

Wanted —Young Assistant, able to do Midwifery and Minor Surgery for a pleasant private and panel Practice in Tenbrokeshire View to partnership Salary £400 Outdoor Commencing November 1st — S A B c/o FERRIS & Co Bristol

Wanted —Assistant (married), with view to early Partnership to start Branch Practice in working class district House over surgery Capital not necessary Salary £6 per week Photo and experience —Address, No 6761 B M A House Tavistock Sq W C 1

Wanted — Assistant, male, outdoor, near Manchester October Salary £450 Preferably own car Allowance for car G P experience essential Dispenser kept — Address No 6754, B M A House, Tavistock Square W C 1

Wanted immediately, out-door ASSISTANT with view to large Kentish town 30 miles from London Englishman pref with previous hospital exper Possess own car —Add with photo and full partics No 6763 B M A House Tavistock Square W C 1

Wanted — Assistant, outdoor, English either sex, some G P experience for private and panel industrial Practice Greater London Good salary to suitable applicant — Address No 6761 B M A House, Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices with and without view State full particulars — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Wanted —Assistantship anywhere at once by Woman M B B S L M Dublin aged 28 qualified 5 years Experience hospital private panel anæsthetics Keen reference Locums considered —Address No 6758 B M A House Tavistock Square W C 1

Wanted —Assistant, by Indian Doctor in London Work light Suit elderly man or recent graduate Moderate salary —Address No 6760 B M A House Tavistock Square W C 1

Wanted —Indoor male Assistant for general Practice single sober Commencing salary £300 per annum Must provide motor cycle Usual agreement — Address with photo and essential particulars, No 6768 B M A House Tavistock Sq W C 1

Wanted —Indoor Male Assistant for Country Practice in Midlands Car provided Suit man recently qualified State age refs and photo — Address, No 6673, B M A House Tavistock Square W C 1

Wanted —Assistant (indoor) in London Practice Knowledge of dispensing essential No midwifery Salary £250 — Address No 6656 B M A House Tavistock Square W C 1

Wanted —Assistantship with view to partnership by M B Ch B (Glas) 1925 Male Scot single 28 yrs I M S and Hull Lond gyn midwifery 2½ yrs G I Free now — Address No 6757 B M A House Tavistock Square W C 1

Wanted immediately, indoor male or female ASSISTANT for winter months Medium-sized middle class Practice in Midland city —Address with full particulars, No 6771 B M A House Tavistock Sq W C 1

Wanted — Part-time Assistant near London Male or female Salary moderate — Address No 6762, B M A House, Tavistock Square W C 1

Wanted — Woman Assistant for pleasant Country Practice in Gloucestershire Suit newly qualified Car provided State essential particulars Photo —Address No 6767 B M A House Tavistock Sq W C 1

An Assistantship wanted, indoor or outdoor in London or suburbs by Woman M B, Ch B aged 27 Very good experience both Hospital and in general Practice Can drive car — Address No 6670, B M A House Tavistock Square W C 1

Assistantship, London (pref.) or Manchester not essential, wanted by M R C S, L R C P 28, keen, reliable travelled well received Two years experience G I panel and private Free now —Address No 6672 B M A House Tavistock Square W C 1

Assistantship, outdoor, with definite view to Partnership by M B, Ch B Aberd, age 28 single, ex H S (Senior) general practice for last year Scotland preferred Free November 1st Excellent refs — No 6661 B M A House, Tavistock Sq W C 1

Birmingham —Outdoor Assistant in semi rural and industrial Practice on outskirts Cottage Hospital, dispenser Salary £450, with increments Some Hospital and G P experience essential —Address No 6671, B M A House Tavistock Square W C 1

Indoor Lady Assistant (prefer-ably Irish) wanted immediately for private and panel City Practice in England Salary commencing £120 per annum with board and apartments —Address No 6769, B M A House Tavistock Square W C 1

Scottish Graduate (49), married, abstainer wishes ASSISTANTSHIP with view to Partnership or Succession Small commencing salary Country or small town Yorkshire or Midlands preferred —Address No 6663, B M A House Tavistock Square W C 1

MEDICAL POSTS DISPENSERS etc.

Wanted, fully qualified Ophthal-MIC SURGEON for service in the TROPICS Agreement for three years Salary £1 000 £1 100 £1 200 Renewable thereafter by arrangement Free furnished quarters and first-class passage provided Provident Fund Candidates must be unmarried, and under 35 years of age Ladies not eligible — Address with copies of testimonials (not returnable) No 6281 B M A House, Tavistock Square W C 1

Wanted, young Scotch Doctor, good Obstetrician, preferably with medical wife MANAGE large industrial PRACTICE view ultimate succession House available low rent Salary about £1 000 according to experience —Address No 6667, B M A House, Tavistock Square W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write, wire, or phone (Park 0969) Secretary 7 Westbourne Park Road W 2

Branch Managership or Assist-ANTSHIP wanted by Scots M B Ch B, aged 31 five years G I experience Free early in October Good references Give full particulars Interview —Address, No 6482, B M A House Tavistock Square W C 1

Cardiff District —Woman Doctor required for Clinic giving advice on Birth Control One afternoon session weekly Salary as for official welfare centre — Apply stating qualifications Mrs WILLIAMS, 14 Great James Street W C 1

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part-time Bookkeeper Dispensers, Secretary Dispensers Nurse Dispensers and Chauffeuse Dispensers —Write wire or phone Central 3679 THE REGISTRAR BUREAU FOR DISPENSERS 12 Holborn Viaduct E C 1

Dispenser - Bookkeeper wanted for Country Practice —Apply, by letter to Dr CROSSMAN Hambrook near Bristol

Dispenser —Doctor's Daughter (Hall certificate) excellent experience requires POST Moderate salary — L., 39 South Eaton Place S W 1

Doctors requiring qualified Dispensers Nurse-Dispensers Secretary Dispensers or Chauffeuse Dispensers are invited to write wire or phone Temple Bar 5858 THE DISPENSERS BUREAU 15 Lindsay House 171, Shaftesbury Avenue London W C 2

Lady Dispenser - Bookkeeper (Hall certificate) good experience and testimonials, young disengaged requires POST with Doctor permanent home Near London —Address W 16 The Uplands Loughton Essex

Lady Dispenser - Bookkeeper (Hall certificate) aged 22, requires RE-ENGAGEMENT with Doctor in London area 2½ years experience in a General Practice Free now —Address No 6759, B M A House Tavistock Square W C 1

Lady Secretary, shorthand, type-writing 4 years experience with Consulting Surgeon care of instruments etc requires similar POST — Address No 6536 B M A House, Tavistock Square W C 1

M.R.C.S., L.R.C.P., M.A. (Oxon) Woman doing Post Graduate Course wants PARTIAL HOSPITALITY in return for PART TIME SERVICES Interview arranged —Address, No 6652 B M A House, Tavistock Square W C 1

Part-time work required by M B (male act 33) or available at short notice for occasional Surgeries or whole days Own car London area Experienced panel and private Tel Palmers Green 4939 —Address No 6775 B M A House Tavistock Sq, W C 1

Qualified Chemist (B Sc Lond.) requires POST for either routine or research work Holder of certificate in Bacteriology and qualified in Biochemistry as subsidiary subject to Honours Chemistry Knowledge of French and German Four years previous experience mainly in Biochemistry and Cancer Research References available on application A Biochemical post would be pref — No 6777, B M A House, Tavistock Sq W C 1

The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work— Dispensers (capable of undertaking returns clerical work, etc connected with Ministry of Health) Clerks Laboratory Assistants general hospital duties Porters Caretakers etc —Apply Secretary 85 Eccleston Square S W 1

Typewriting --Expert undertakes Theses Testimonials etc Numerous letters of appreciation from Doctors —BEATRICE RADFORD 341 Finchley Road, N W 3 Phone Hampstead 6430 (any hour)

Young Lady requires Post as RECEPTIONIST SECRETARY to Medical or Dental Surgeon Typewriting and bookkeeping Highest references Free now —Miss HOBERS 33 Vincent Sq Westminster S W 1

LOCUMS

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM H GRANT)
WATERGATE HOUSE 15 YORK BUILDINGS ADELPHI, W C 2
Tel { TEMPLE BAR 1054 RIVERSIDE 1254 (*Eight Lines*)
Telegrams REASIDE, TUBERCLE, WESTRAND, LONDON

For Reliable Locums and Assistants
AT SHORT NOTICE, CONSULT
British Medical Bureau
(Northern Branch),
33 CROSS ST., MANCHESTER
Telegrams—LOCUM MANCHESTER."
Telephones—CENTRAL 3925 after office hours 2549 DENSHOLME.

Wanted immediately—Reliable and experienced Practitioners (male and female) for LOCUM ENGAGEMENTS. State full particulars.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Locum Tenens—Experienced Practitioner desires WORK long or short period; reasonable fees.—Address No. 6755 B.M.A. House Tavistock Square W.C.

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER, Ltd
The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals
4 ADAM ST., Strand London W.C.2.
Telegrams Londonian Phone Temple Bar 9011
After Office Hours Epsom 5142.

PARTNERSHIPS

Wanted—Third Partner in rapidly increasing good-class Practice within 15 miles London. Local Hospital and good social position important; some specialty or Hospital preferred. Share for deposit £600. £1,000 Capital essential.—Address No. 6745 B.M.A. House Tavistock Square W.C.

Birmingham — Wanted immediately PARTNER to run an established residential Nursing and New Branch Practice with great scope. Indian Egyptian or any nationality. Excellent opportunity for single, energetic man. Premium for fixtures and drugs nominal.—No. 6652 B.M.A. House Tavistock Sq. W.C.1

East Midlands — 1/3 share of PRACTICE in large Midland town for Sale. Receipts about £2,500. Panel 2,400. Also house and garage in growing residential district. If required. Premium about 2 years purchase.—Address No. 6659 B.M.A. House Tavistock Square W.C.1

Experienced Practitioner, M.D., B.S. M.R.C.S. etc. aged 34, 6 years G.P., desires join Senior Practitioner as PARTNER in first-class non panel non-dispensing Practice in good residential town, preferably S. or E. Coast. Would secure good house in fresh part with view expansion.—Address No. 6654 B.M.A. House Tavistock Sq. W.C.1

For Sale—A three-tenths share equal to £900 in an industrial Practice in West Midlands at 1½ years purchase two other partners. Terms half down and balance in 4 half yearly instalments. House £2,000 to be sold £1,000 down and balance in 4 half yearly instalments.
Address No. 6535 B.M.A. House Tavistock Square W.C.1

Lancs Town — Partnership in old-estab. Practice. Cash receipts 1929 £2,524. Panel 1930. Good house 3 reception 5 bedrooms. Garage and garden. Premium—1/2 share—£1,500 (including book debts).—BRITISH MEDICAL BUREAU 33 Cross Street Manchester.

London Graduate with own good-class Practice requires PARTNERSHIP with view to Succession or would purchase Panel PRACTICE of 1,000 upwards within 3 miles Paddington. Capital available. Principals only please. Reply in confidence.—Address No. 6653 B.M.A. House Tavistock Square, W.C.1.

Partnership in Country Town
Practice in beautiful part of West Midlands. Average receipts £2,800 including £1,100 from panel and appointments. Cottage Hospital. Half share at 2 years purchase. Most attractive house and garden price £3,500. Full particulars and photos on request.—Address No. 6254 B.M.A. House Tavistock Sq. W.C.1

Partnership for Sale—2/3 share worth £1,400 p.a. in large private and panel Practice in Derbyshire unopposed. Close to two University towns. Ideal position. Further details to bona fide purchaser. Premium 1½ years purchase.—Address No. 6651 B.M.A. House Tavistock Square W.C.1

Partnership—2/5th share of £1,700 offered. Definite opening for increase. Excellent country with 40 miles of London. Important Clinical and Consulting practice. Full particulars.—Address No. 6670 B.M.A. House Tavistock Square W.C.1

Shropshire—Partnership in good and old-established Practice with receipts £1,300 yearly. Excellent house, large garden, tennis lawn. Price for half share 2 years purchase and house £1,500 part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

York—Partnership in old-established PRACTICE. Receipts over £3,000. Good house, garden, garage £50 yearly. Panel 2,050. Life assurance (commuted) 2½ years purchase (guaranteed first 2½ years).—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown St.

PRACTICES

Wanted by Medical Man, with ample capital and experienced in Hospital and private practice a mixed general PRACTICE with small panel in the West of South England. Cottage Hospital with resident surgery. Income £1,500—£1,800. Present Death Vacancy would be considered.—Apply THE MEDICAL AGENCY, Watergate House, York Building, Adelphi, London, W.C.

Wanted—Practice in country district or small country town S. of England. Income £1,000 up. Sand or gravel soil. Really good hunting and land. Hunting.—Address No. 6674 B.M.A. House, Tavistock Square, W.C.1.

Wanted—Practice or Partnership by M.B., Ch.B. (Glas.) Scot aged 34, very exper. G.P. Energetic. Excellent testimonial. House with garden pref. to rent. Capital available. Income not to exceed £2,000.—No. 6665 B.M.A. House Tavistock Sq. W.C.1.

Wanted—Practice, private and panel about £1,500 outer London suburb. South or County or Coast. Modernized house—in about 6 months time.—Address No. 6744 B.M.A. House Tavistock Sq. W.C.1.

Wanted—Practice with panel. Hustler not. Midland preferred. Initial £300 down, rest by arrangement. Full details in confidence.—Address No. 6758 B.M.A. House, Tavistock Square, W.C.1.

Wanted by Doctor's son, private and panel PRACTICE in London or suburbs. Income about £1,000. House to rent pref. Details in confidence.—Address No. 6654 B.M.A. House, Tavistock Square, W.C.1.

A small well-established good-class PRACTICE for Sale in Seaside South Western town. Good-class light work. No slums. Cash receipts average £750 per annum (including £300 from easily worked panel). Good house well repaired for purchase or on short lease. Healthy situation. Educational facilities, golf, yachting, swimming, etc. Premium cash. 1½ years purchase. No agents.—Address No. 6655 B.M.A. House, Tavistock square, W.C.1.

Branch Practice for Sale in large Kentish town 30 miles from London. Receipts about £1,200 p.a. panel 1,000 steadily increase. Working agreement with Panel Doctor in one mile from Branches retiring. Private two years purchase. Modern house for sale or long lease.—No. 6764 B.M.A. House, Tavistock Square, W.C.1.

Cheshire Town near Manchester
—Average cash receipts £800. Panel 450. Considerable scope. Excellent modern house. 2 reception 4 bedrooms. Garage and garden. Rent £75 p.a. Premium 1½ years' purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester.

Cotswolds—Country Practice
Opening for Lady Doctor probably view to succession. Some private means needed. Self contained personality, tact, experience, management and social attainments. Age & salary required.—No. 6760 B.M.A. House Tavistock Sq. W.C.

Death Vacancy, near Chester—Country PRACTICE. Average cash receipts £900 p.a. Panel 424. Scope. Modern house 2 reception 3 bedrooms. Garage and garden. Rent £75 p.a. Premium by offer.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester.

Death Vacancy—Lancs Town—Old-estab. PRACTICE. Average cash receipts £1,715 p.a. Panel 1,794. Good house. 2 reception 4 bedrooms. Garage. Rent £66 p.a. on long lease. Premium, best offer.—BRITISH MEDICAL BUREAU 33 Cross Street, Manchester.

Dorset Border — Country PRACTICE about £1,000 mixed and residential district. All sports available. Small panel. House—reception 5 bedrooms, bath etc. (or flat) in one, separate entrance, garage, big garden with tennis lawn. Vendor's freehold.—Address No. 6753 B.M.A. House Tavistock Square W.C.1.

For Disposal — Small Practice established 4 years ago in a very charming E. Sussex Village, 55 miles from town. Panel 130 increasing. Freehold commodious house in a delightful old world garden. Electric light, central heating, perfect water supply, gravity fed to all rms. Would suit a man of means requiring an easy time. An energetic man would have considerable possibilities. Opposition (nearest 3 miles) no strong. Inspection any time.—Address No. 6383 B.M.A. House, Tavistock Square, W.C.1.

For Disposal—A good Practice is not always to be had directly but Mr. PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised. Information free on application.—4 Adam St. W.C.2.

For Sale—Private Practice in Edinburgh (Death Vacancy). Not a panel and very little night work.—For further particulars apply to ALEX. MORTON & CO., W.S., 33 Queen Street, Edinburgh.

Lancs Town — Excellent non-panel PRACTICE. Receipts £1,200. Great scope for surgery. Nice house £60 or would sell. Price £800 for quick sale part disposed.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Lincolnshire—Country Practice
Cash receipts 1929 £990. Panel —. Excellent detached house 2 reception 5 bedroom. Garage and large garden. Rent £50 p.a. Premium—Practice—£1,600.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester.

London, NW., Main Road — NUCLEUS doing £300 p.a. panel 100 increasing. Suitable either sex. Living accommodation above surgery. Good reason for disposal. £350 cash includes drugs and fittings.—No. 6772 B.M.A. House Tavistock Sq. W.C.1.

London, S.E. — *Old-established* non panel PRACTICE in pleasant suburb. Receipts about £1,000. Holder retiring from age would give any reasonable introduction. Most suitable for a university graduate with some experience.—No. 6286 B.M.A. House Tavistock Sq. W.C.1.

Manchester — Nice residential Suburb.—PRACTICE, capable of increase. Average cash receipts £906. Panel 650. Excellent house in main road 2 reception 5 bedrooms. Garage and garden. Price—Practice and house—£2,250.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester.

Manchester—Industrial Practice
Average cash receipts £978. Panel 21. Plenty of scope. Good house, 2 reception 6 bedrooms. Rent £50 p.a. Premium 1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street, Manchester.

Near Leeds — Industrial Town PRACTICE. Average cash receipts £1,220. Panel 1,350. Hospital appointments £80. Good house 2 reception 3 bedrooms. Price £1,100. Premium—Practice—1½ yrs. purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester.

North-West Coast — Good middle-class PRACTICE. Average cash receipts £1,700. Excellent modern house for sale. Garage and garden.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester.

Old Kent Road — Required PRACTICE within 10 minutes walk of. Easy Street.—Address, No. 5812 B.M.A. House Tavistock Square W.C.1.

Practice, old-established, cash receipts averaging over £1,000 p.a. Panel and appointments over £400 p.a. Partnership country near two Hospitals. Modern conveniences and electric light. Premium and part deferred by arrangement.—Address No. 6315 B.M.A. House Tavistock Square, W.C.1.

Scottish Borders — Country PRACTICE, old established. Receipts £550—£650. Panel 320. Easily worked. Little midwifery. Beautiful country. Scope. Good house, garden. Premium £800.—Address, No. 6669 B.M.A. House Tavistock Sq., W.C.1.

Shropshire — Pretty Country town PRACTICE Cash receipts £1 100 p a Panel 600 Scope for surgery Good house 2 reception, 4 bedrooms Garage and tennis court Premium—Practice and house—£2 500 —BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

South Coast — Cash offer — Wanted PRACTICE panel 6/800 income £1 000 Sussex preferred town 30 000 or over Essential good house. Cash for house and Practice Replies confidential No agents—Address No 6451 B M A House Tavistock Sq, W C 1

South Coast —Seaside Resort — Average cash receipts £745 Panel 700 Excellent House for sale, 3 reception, 5 bed rooms Premium—Practice—2 years purchase —BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

To Purchasers — Do not buy without expert assistance With 40 yrs experience Mr PERCIVAL TURNER can advise in all cases Terms free on application to 4, Adam St, Strand W C 2 Telephone Temple Bar 9011 Telegrams Epsomian, London

Yorkshire (N R) — Unopposed Country PRACTICE in pretty district Average cash receipts £750 p a Panel 450 Excellent modern house 12 rooms Garage and large garden with tennis court Rent £42 p a Premium 14 years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Woman Doctor's Nucleus, N W London for Sale or Partnership Cash and panel 190 Lock up or 2 living rooms available Last years takings £265 —Address No 6773 B M A House Tavistock Sq, W C 1

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Bournemouth —Doctor's widow wishes to dispose of her attractive HOUSE early next year and one Resident Patient Suit retired Medical Man —Address No 6765 B M A House Tavistock Square W C 1

Consulting Rooms to be Let — Harley Street and district —Whole and part time Lists sent on application —FIGOOD & CO 10 Henrietta Street, Cavendish Square, W 1 Langham 2601

Flat to Let —Just vacated by Doctor and fitted as surgery telephone etc Facing main road to new housing estate —Apply 117 Castlenau Barnes Telephone Riverside 1754

For Sale — Within 50 miles of London (Beds) commodious HOUSE, standing in 35 acres chiefly park land containing 20 beds 5 recep, 4 bathrooms usual offices central heating own electric light garages good out buildings prolific kitchen garden orchards well laid out pleasure grounds Easily adaptable and most suitable for NURSING HOME

Price £7 750 or near offer

Apply Mrs ANDERSON c/o ROSE JOHNSON, HICKS 9 Suffolk Street Pall Mall.

Ground floor Consulting Room to Let in best part of Wimpole Street with use of well furnished waiting room at a rental of £175 p a including services of experienced maid servant —Write Box 7893 SAMSON CLARK & CO LTD 57 Mortimer Street W 1

Ground floor Flat of Mansions in good class Westminster district Prominent and central position Doctor's flat for many years Nine years lease available Nominal premium — Address No 6657 B M A House Tavistock Square W C 1

Harewood Chambers, 74 to 80, Gower Street W C near Marylebone, Euston St Pancras and King's Cross Quiet comfortable rooms h and c Bedroom bath table d'hote breakfast 7/6 dinner 4/ From 2 gns p w —Phone Museum 3941—2

Harley Street —Large Consult- ING ROOM to Let part time Plate telephone and private attendance —Address No 6 B M A House Tavistock Square W C 1

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DOCTORS A SELECTED OPPORTUNITY

Liverpool —For Sale —A fine, freehold, CORNER HOUSE at Broadgreen Splendid situation for professional man Close to new arterial road and in developing locality Three entertaining rooms 5 bedrooms garage garden Price only £1 400 —Apply JOSEPH BELL & SON 9 & 35 South John Street, Liverpool Tel Bank 4555

Queen Anne Street — For Sale, long LEASE of modernized RESIDENCE fitted with every convenience Lettings produce £720 per annum Whole of 2nd 3rd and 4th floors available for purchaser together with use of Consulting Room on ground floor Price £6 000 of which £3 500 can remain on mortg —No 6389 B M A House Tavistock Sq, W C 1

FOR SALE

To Doctors and Dentists — A prominent detached CORNER HOUSE near Tube station Hall 2 reception rooms and 4 bedrooms Very light rooms Freehold £1 850 Cash £250 balance on mortgage — Apply Quality House Gloucester Gardens Estate Golders Green Road, N W 11 Speedwell 4895

To Let — Well-furnished Con- SULTING ROOM with attendance in principal street, close to Cavendish Square two afternoons a week —Address No 6776 B M A House Tavistock Square, W C 1

CONSULTING ROOMS IN PORTLAND PLACE

Two or Three ground floor Rooms to Let with workroom below if required Very suitable for Dentist Moderate rent —Apply to Sole Agents SAMUEL B CLARK & SON, 16b, New Cavendish Street, Portland Place W 1 Tel Langham 2667

Wimpole St — Large well- furnished CONSULTING ROOM to Let First floor Full time Plate telephone attendance Also Bedroom with breakfast if required —Address No 6660, B M A House Tavistock Square, W C 1

Wolverhampton, near — Desir- able DETACHED RESIDENCE in district with about 3 000 houses without surgery Remarkable opportunity to establish successful Practice Price £1 250, easy terms —CENTRAL ESTATES AGENCY 57, Victoria St Wolverhampton

MISCELLANEOUS SALES etc

For Sale in a well-known Medical and Surgical Centre —Well equipped registered NURSING HOME in Leeds capable of taking 11 patients and with accommodation for staff The sale includes excellent furniture beds and all necessary fittings of a most up to date character Inclusive price, including freehold with immediate possession, £2 250 —For further details and appointment to view, apply—

HOLLIS & WEBB,
Auctioneers Valuers and Surveyors,
3, Park Place, Leeds

Safety First — Ernest Grimaldi, Ltd have successfully advised many hundreds of Medical Practitioners concerning their Automobile requirements This valuable experience is at your disposal Your present car accepted in part exchange. All used cars sold carry 12 months written guarantee. Special deferred terms for Doctors financed by ourselves to ensure strictest privacy List of cars available for immediate delivery posted on request Extensive list of testimonials available for inspection Personal attention guaranteed. —ERNEST GRIMALDI Ltd, 148/150 Gt Portland Street W 1 Museum 3031 & 7236

U V R Apparatus —2 Hanovia Standard Lamps, quartz burners for 200—220 volts A C Also 2 Hanovia Solux Standard Lamps complete All slightly used and greatly reduced price—P J WILLIAMS, 39, Shaftesbury Avenue, W 1

X-Ray Plant, by X-Rays Ltd, for sale suitable for 200 240 volt D C, comprising 16in coil, complete with mercury gas break, and mechanical rectifier and alternator for Coolidge tube operation, on balanced screening stand The plant gives a steady screen and is suitable for light Radiography —Apply Medical Supt Cheshire Joint Sanatorium Market Drayton Salop

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Can secure Perfect Fitting and Distinctive Clothes of Exceptional value FINEST QUALITY MATERIALS *BEST WORKMANSHIP ONLY*

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JACKET & VEST (in black or grey) £5 5s.
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THE Ideal Suit for Professional or Business wear

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DINNER SUITS fr £8 8s DRESS SUITS fr £10 10s
PLUS FOUR SUITS Coat with Pivot Sleeves fr £6 6s
THE IDEAL Suit for ALL Sporting Purposes
GOLD MEDAL RIDING BREECHES from £2 2s.
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I strongly advise all medical men who wish to have satisfaction to patronize Harry Hall Ltd. as all the clothes I have had from them during 30 years have been perfect in Fit Cut and Finish (Signed) S J A M A M B F R C P S

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Supply Instruments etc. Essell Inhaling Apparatus price £12 10s (can be hired particulars on application) Write for price list of Tablets and Government surplus articles.
Showroom 97 Swinderby Road Wembley

APPOINTMENTS.—Contd

Essex County Hospital,
COLCHESTER (160 Beds)

Wanted at once ASSISTANT HOUSE SURGEON AND REGISTRAR (male) Salary £120 with board washing and residence Medical and Surgical qualifications required

Applications with three recent testimonials, to be sent by Thursday October 2nd, to—
ALFRED G BUCK, Secretary

Bootle General Hospital

APPOINTMENT OF HONORARY OPHTHALMIC SURGEON

Applications are invited for the above vacancy Candidates are requested to send particulars of their qualifications and experience accompanied by testimonials, addressed to the Secretary Superintendent Bootle General Hospital Derby Road Bootle not later than Friday Oct 3rd

Newcastle General Hospital,
NEWCASTLE UPON TYNE

A SENIOR HOUSE PHYSICIAN (male or female) required Salary £300 rising by £50 per annum to £500 per annum with board and residence Applications with copies of three recent testimonials, to be addressed to the Medical Officer of Health Town Hall Newcastle-upon Tyne

St Paul's Eye Hospital,
Old Hall Street, LIVERPOOL

HOUSE SURGEON required immediately six months appointment Salary £120 per annum Board, residence, etc.

Applications, with copies of testimonials should be sent to the Secretary at the Hospital on or before October 11th

Department of Health for SCOTLAND

APPOINTMENT OF REGIONAL MEDICAL OFFICER

The Department of Health for Scotland are prepared to receive application from registered Medical Practitioners for appointment as Regional Medical Officer to be employed on combined clinical and administrative duties in connection with the National Health Insurance Medical Service and other work.

DUTIES

The successful candidate will be required to perform such duties as may be assigned to him/her from time to time by the Department including

(a) Clinical work arising out of questions of incapacity for work or diagnosis and treatment, among insured persons
(b) Administrative work in connection with the Insurance Medical Service.

RESIDENCE

The Regional Medical Officer will be required to reside in such part of Scotland as the Department may determine

REMUNERATION

The rate of remuneration will be £1 000 by annual increments of £50 to £1 200 per annum No cost of living bonus will be payable in addition thereto.

Applicants must be Medical Practitioners of standing in the profession and with experience in hospital and general practice They must be not more than 45 years of age on October 31 1930 Consideration will be given to extra diplomas in special branches of medicine.

Further particulars and forms of application may be had from the Secretary Department of Health for Scotland 125 George Street Edinburgh Letters applying for forms of application should have the words Regional Medical Officer boldly written in the top left hand corner of the envelope No applications can be considered if received after October 31st 1930

South London Hospital for WOMEN

South Side Clapham Common S W 4

The Board of Management invite applications from fully qualified Medical Women for the undermentioned appointments

HOUSE PHYSICIAN
HOUSE SURGEON

each for a period of six months from November 1st. Salary at the rate of £50 per annum with board residence and laundry Candidates are *expected to call upon Members of the Honorary* Medical Staff Particulars to be obtained from the Secretary before Monday, October 6th by which date applications and copies of testimonials must reach the Secretary at the Hospital

Chesterfield and North Derbyshire Royal Hospital.

(190 Surgical and Medical Beds.)

HOUSE SURGEON

Applications are invited from fully qualified men for the above post.

The appointment is for six months

Salary is from £100 to £175 per annum according to experience with board apartments and laundry

Applications stating age together with copies of three recent testimonials should be sent to the undersigned.

G SUNNUCK
August 20th 1930 Supt & Secretary

Belgrave Hospital (North Brixton) INFANT WELFARE CENTRE

212 Camberwell New Road S.E.5

The Committee invite applications from fully qualified and registered Medical Women for the post of MEDICAL OFFICER to the Centre The officer appointed will be required to attend the Infant Welfare Clinic on Wednesday afternoons at 2 p.m Remuneration 1½ guineas per session

Applications stating age and qualifications together with copies of three recent testimonials should be sent not later than Friday October 3rd to the Secretary Belgrave Hospital for Children 1 Clapham Road, S W 9

Royal Infirmary, Blackburn

(240 Beds.)

FOURTH HOUSE SURGEON (male) required at a salary of £150 per annum with board residence laundry etc. To commence duties as early as possible

Applications with copies of testimonials stating age, nationality experience etc. to be sent at once to the undersigned.

Royal Infirmary NATHAN A. SMITH
Blackburn Gen. Supt & Secretary

This Institution is recognized for the Surgical Practice required for the F.R.C.S Final Examination.

Metropolitan Borough of Saint PANCRAS.

ASSISTANT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the appointment of an Assistant Medical Officer in the Public Health Department

The appointment is a whole-time one and the officer will be required to carry out under the supervision of the Medical Officer of Health duties connected with the Council's Maternity and Child Welfare Scheme Tuberculosis Scheme and such other duties as may be required by the Council. Applicants must possess the D.P.H qualification and have had adequate experience in the duties mentioned

The inclusive salary will be £500 per annum rising by annual increments of £25 to £700 per annum

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and the successful applicant will be required to pass a medical examination

Applications endorsed Assistant Medical Officer stating age qualifications and previous experience and accompanied by copies of three recent testimonials should be forwarded to the undersigned no later than Saturday October 11th

Canvassing either directly or indirectly any member or officer of the Council will disqualify

Town Hall A POWELL COKE
Pancras Road N W 1 Town Clerk

The Royal Hospital, WOLVERHAMPTON

(Incorporated under Charter)

HOUSE SURGEON (male) required

The Hospital contains 240 beds including the usual special departments and is recognized by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice.

Candidates must be registered under the Medical Acts and unmarried

The appointment is for six months. Salary at the rate of £150 per annum Board furnished rooms and laundry provided.

Applications with copies of testimonials to be forwarded to the undersigned

Wolverhampton W H HARPER
Sept. 23rd 1930 Hous Gov & Sec.

Royal Free Hospital, Gray's Inn Road W C 1

Applications are invited from duly qualified Medical Women for the post of RESIDENT CASUALTY OFFICER. Previous experience as Hospital Resident essential Salary £150 per annum Intending candidates should submit applications stating age and accompanied by copies of three recent testimonials to the undersigned forthwith or not later than October 6th The appointment is tenable for six months from November 1st.

REGINALD R. GARRATT
Secretary

The Middlesex Hospital, W 1

Applications are invited for the post of ASSISTANT RADIOLOGIST (Diagnostic) Duties three mornings a week. Salary £150 per annum Applicants should be registered Medical Practitioners with experience in X-ray Diagnostic work.

Applications should be forwarded before 12 noon on Saturday October 11th.

S R C LLOYSOLL,
Sept 22nd 1930 Secretary Supt

Hospital of St John and ST ELIZABETH

60 Grove End Road N W 8

Applications are invited for the post of RESIDENT *HOUSE* SURGEON (male). The appointment will be for six months from November 1st. Salary at the rate of £75 per annum with full board.

Applications together with three testimonials should reach the undersigned on or before October 6th.

F DUDLEY HOBBS B.A
Secretary

St John's Hospital, Lewisham

Vacancies will occur in the appointments of HOUSE PHYSICIAN HOUSE SURGEON and CASUALTY OFFICER on November 1st next These appointments are resident and are tenable for six months at a salary of £100 p.a.

Applications from duly registered Practitioners should reach the undersigned not later than the morning of October 16th. The Selection Committee will sit on October 21st.

J C GILBERT
Secretary Superintendent.

The Borough of Richmond (SURREY) AND THE HESTON & ISLEWORTH URBAN DISTRICT JOINT ISOLATION HOSPITAL COMMITTEE.

RESIDENT MEDICAL OFFICER.

The Committee requires the services of a Resident Medical Officer at its Hospital at Mogden

Applicants must have had previous experience as a resident in a Fever Hospital

Salary £350 per annum rising by annual increments of £25 to £450

At present no suitable living accommodation is available at the Hospital but will be provided in due course Until it is provided the person appointed will be required to live within easy distance of the Hospital. The place of residence must be approved by the Committee. When the accommodation is ready the person appointed will be required to take up residence in the Hospital Until then there will be an allowance at the rate of £130 per annum in lieu of emoluments

The Committee has no superannuation scheme at the moment.

Applications accompanied by copies of three recent testimonials to reach me by Oct. 17th.

S C T LITTLEWOOD
14 Church St Clerk to the
Kingston-on-Thames Committee
September 23rd 1930

Macclesfield General Infirmary

(100 Beds.)

HOUSE SURGEON required immediately Salary at the rate of £180 with board and residence. Candidates must be duly qualified and registered under the Medical Acts

The appointment to be held for six months

Applications stating age accompanied by copies of three recent testimonials should be sent to the undersigned

A. E. HAYBAHAN *Secretary*

Great Yarmouth General HOSPITAL

(72 Beds)

Required to commence duties immediately a JUNIOR HOUSE SURGEON

Salary at the rate of £140 per annum together with board residence and laundry

Applications together with copies of three recent testimonials to be submitted to the undersigned.

FRANK JENNINGS Secretary

Darlington General Hospital

(120 Beds.)

JUNIOR HOUSE SURGEON required, male fully qualified, British. Salary £150 per annum with board residence., and laundry

Applications stating age qualifications and experience accompanied by copies of two recent testimonials to be addressed to the undersigned forthwith.

W RIDDLE Secretary

Connaught Hospital, Orford Road E.17

(100 Beds)

RESIDENT HOUSE SURGEON (male) required. Salary £100 per annum Appointment for six months with board quarters and laundry Applications stating age, nationality qualifications and experience, accompanied by copies of not more than three recent testimonials should be sent immediately to the Secretary

Kent County Ophthalmic and AURAL HOSPITAL, MAIDSTONE.

(105 Beds.)

The Board of Management invite applications for this post of HONORARY OPHTHALMIC SURGEON Full particulars may be had upon request to the undersigned to whom applications should be sent not later than Friday October 17th.

JOHN W STRICKLAND Secretary

West Suffolk General Hospital, BURY ST EDMUNDS.

(108 Beds.)

LOCUM TENENS HOUSE SURGEON wanted for September 30th. Applicants must be fully qualified and registered.

Applications, giving particulars of experience, to be sent to the undersigned

E. E. HARDWICKE.
Sept. 22nd 1930 Secretary

The Royal Infirmary, SUNDERLAND

(290 Beds)

Wanted One HOUSE PHYSICIAN (male). Salary £140 per annum with board residence, and laundry State age and qualifications and submit copies of three recent testimonials to—

S. C. FYFFES
House Governor & Secretary

Addenbrooke's Hospital, CAMBRIDGE

Applications are invited for the post of HOUSE SURGEON The appointment will be for six months but is terminable at an earlier date by one month's written notice on either side Salary at the rate of £130 per annum, with board residence, and laundry Candidates (male) who must be unmarried and duly registered are requested to forward their applications stating age qualifications etc, together with copies of not more than four testimonials to the undersigned as soon as possible

W H HEAD
Secretary Superintendent

Addenbrooke's Hospital, CAMBRIDGE.

Applications are invited for the post of RESIDENT ANAESTHETIST and EMERGENCY OFFICER (male) The appointment will be for six month from October 17th and may be renewed for a further period of six months but is terminable at any time by one month's written notice on either side Salary at the rate of £130 per annum with board, residence and laundry Candidates who must be unmarried and duly registered are requested to forward their applications stating age, qualifications etc together with copies of not more than four recent testimonials to the undersigned on or before Wednesday October 8th

W H HEAD
Secretary Superintendent

The Royal United Hospital, BATH

HOUSE SURGEON (male) British nationality required Salary £200 per annum with board residence and laundry The appointment is for a minimum period of six months

Applications stating age qualifications experience together with three recent testimonials, to be forwarded at once to the undersigned

J LAWRENCE MEARS
Sept 16th 1930 Secretary Supt

The Sheffield Royal Hospital

Required OPHTHALMIC HOUSE SURGEON for October 1st and a HOUSE SURGEON for November 1st (males) Salary for the first six months at the rate of £80 per annum after which £100 per annum with board residence and laundry There are twelve Resident Medical Officers

Applications should be forwarded at once to—

W H BOOTH
Superintendent and Secretary

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES AND GALLOWAY ROYAL INFIRMARY The Institution which contains over 100 beds is one of the premier Provincial Hospitals in Scotland and offers exceptional opportunities of gaining experience in all branches of the profession Salary at the rate of £100 per annum rising to £150 per annum

Applications with testimonials to be forwarded to the Treasurer Dumfries and Galloway Royal Infirmary 84 Irish Street Dumfries at once

Croydon General Hospital

Applications are invited from qualified and registered Medical Men for the post of HOUSE SURGEON Salary £125 per annum with board residence and laundry Duties to commence on November 1st next

Application stating age qualifications etc accompanied by copies (which will not be returned) of three testimonials to reach the undersigned not later than the first post Monday October 6th

GEORGE H DAVIS
Sept 17th 1930 Secretary

King George Hospital, Ilford
(8 miles from London) (80 Beds)

Applications are invited for the appointment of RESIDENT MEDICAL OFFICER Salary £250 per annum with board residence etc Term two months with eligibility for further period Previous Hospital experience essential Preference given to candidates who are Fellows of a Royal College of Surgeons

Applications should be sent to the Secretary immediately

King George Hospital, Ilford
(8 miles from London) (80 Beds)

Applications are invited for the appointment of HOUSE OFFICER Salary £130 per annum with board residence etc

Applications should be sent at once to the Secretary

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H TRUSSON Secretary

Huntingdon County Hospital

MALE HOUSE SURGEON required at once Salary £125 with board residence, and laundry—Apply W R GROVE M D

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London, S W—£630 p a increasing Panel 400 Visits 5/6 Mid with 5 gns up Small house on main road—No 8735

Riverside Suburb—£1,450 p a Panel 800 Fees 3/6 up Mid 5 gns up House 4 bed etc and fair garden Good chnl—No 8729

Devon—Dispensing Practice in Town will average £940 p a Fees 5/ to 2 gns Surgery 2 5 to 7/6 Large house with an acre and coach for £3 000 of which £2 500 could remain or for sale without house—No 8727

S W County near Coast—Dispensing PRACTICE over £2 000 p a, chiefly agricultural Visits 5/ up Surgery 2/6 up 1 100 panel—No 8728

N E Wales, near Border—Three-tenth share producing over £700 p a Fees £5/ up Panel 2 600 Large house and garden at £78 p a £1 300 or £1 000 and £350 spread—No 8725

West of England Town—Half of £1 700 p a Panel over 2 100 Fees 3/6 to 5/ House, 6 bed etc Partnership property easy payments—No 8723

North Kent—Over £1 000 p a Panel £250 Appts £200 Fees 5/6 to 1/6 Choice of houses to buy or rent—No 8719

Kent Country, near Coast—Over £1 100 p a Panel £293 Appt £55 Fees 5/ to 21/ Very convenient house 3 recep, 6 bed etc—No 8718

South Coast — Town—About £1 800 p a Panel 1 400 Half share succession in few years Fees 3/6 to 7/6 Choice of houses Midsummer refused scope—No 8716

Surrey — Country Town—£400 and great scope Appts over £100 p a Panel 85 Fees 5/ to £1/ House, 4 bed, 3 recep, on lease—No 8715

Kent Suburb — Residential—Share worth over £500, exceptional scope Fees 5/ to 21/ Young single man preferred Choice of houses—No 8712

London, S E—About £1,100—Ophthalmic PRACTICE Death Vacancy carried on by relative House £120 p a, or principal rooms to let Abt £1,500—No 8709

South Coast—About £1,300 PARTNERSHIP with succession Small panel Fees 3/6 mostly and up to 10/6 7 roomed house to rent or buy—No 8706

Lincs—Unopposed—Nearly £1 000 p a Old-established Panel 540 Appts and clubs about £165 Fees 5/6 to 5/ Med extra Good detached house and garden, to rent—No 8705

Lancs Town—About £1,100 p a Panel 560 Club £50 Prem one year's purchase Fees 3/6 to 5/ Good house and nice garden Rent or sell—No 8704

North Wales—Old-established—About £900 p a Panel £292 Agricl Cottage Hosp Scope surgery Good house Garage and garden—No 8692

Eastern County—Woman Doctor's industrial dispensing PRACTICE average over £500 p a Fees 3/6 to 7/6 House 4 bed etc at £78 p a long introduction—No 8691

Hants—Semi-rural—Nearly £1 000 p a Small panel Fees 3/6 to 15/ House 2—3 recep 5—6 bed large garden—No 8653

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MIDDLESEX (W.).—*Middle and working-class PRACTICE in rapidly growing district.* Splendid scope. Medium-sized house. Receipts £700. Panel 300. Fees 3/6 up. Hospital. Premium £1,100.

LIVERPOOL (*near*).—Well-established mixed C.P. Modern house available with Branch Surgery. *Receipts £2,600.* Panel 2,600. Fees 2/6 up. Scope for surgery is desired. Premium 1½ years purchase.

SOMERSET.—PARTNERSHIP in well-established Country Practice on Devon Borders with excellent scope. Highly suitable for experienced man fond of country life. Sport of all kinds. Guaranteed share worth £750 at 2 years purchase.

N. WALES.—DEATH VACANCY.—*Good-class PRACTICE* situated in Seaside Health Resort. Large house for sale or to rent at £85 p.a. Receipts approx. £1,200 p.a. Small panel. Premium 2 years purchase.

MIDDLESEX (WEST).—RIVERSIDE SUBURB.—Well-established G.P. Suitable house available. Branch. Surgery. Receipts average £1,450. Panel 850. Fees 3/6 up. Premium £2,250. Excellent scope.

GLOS.—Mixed PRACTICE situated in large City. Suitable house available. Receipts over £1,700 p.a. Panel 2,146. Fees 2/6 up. Premium £3,640.

MIDDLESEX (WEST).—NUCLEUS middle and working-class Practice (mostly cash) situated in growing locality within 10 miles of London. Receipts for 9 months £240. Panel 130. Fees 2/6 up. *Premium £450 or near offer to include fixtures, fittings, etc. Excellent scope.*

LONDON (WEST).—Near Hammersmith.—NUCLEUS G.P. with suitable living accommodation for bachelor. Receipts approximately £486 p.a. Panel 270. Premium £500.

MIDDLESEX.—PARTNERSHIP in well-established Practice. Receipts £1,500 p.a. Panel 900, approved medical aid. Scheme £600 p.a. Small house available. Premium for one-third share £700. Suitable to Scots or North Country Practitioner.

WEST OF ENGLAND.—PARTNERSHIP in well-established City Practice. Receipts £1,712. Panel 2,146. Commodious house on main thoroughfare and garage. Premium for 1/2 share £1,595.

EAST MIDLANDS (Near Sea).—SURGICAL PARTNERSHIP in busy growing mixed Practice. Receipts nearly £2,000. Panel 830. Suitable house available. Hospital. Good school. Premium for 1/3 share with view to larger share £1,300.

LONDON, E.13.—NUCLEUS working-class PRACTICE in thickly populated locality. House to rent £60 p.a. (part sub-let at £26 p.a. Receipts £500. Panel 400. Fees 1/6 up. Midwife 2 to 3 gns. Premium £600 or near offer.

LONDON, S.W.—Well-established G.P. with branch surgery situated within short distance of West End. Receipts approx. £1,500. Panel 1,200. House to rent on lease. Premium £3,000 for Practice and lease or offer.

LONDON, N.—NUCLEUS G.P. situated in residential locality. Excellent scope. Receipts £500. Panel over 100. House for sale or rental. Premium £700.

LONDON, S.E.—PARTNERSHIP in growing middle and working-class G.P. Suitable house available for rent. Earnings approximately £4,600. Panel 3,400. One-third share is offered at 2 years purchase.

KENT.—PARTNERSHIP (or whole might be sold).—Old-established Country G.P. Receipts over £2,200. Panel 1,200. Suitable for experienced man aged 35—45. Half share at 2 years purchase.

LONDON, S.E.—Middle and working-class G.P. in residential locality. House to rent. Receipts approx. £1,100. Panel 600. Premium £1,600 cash.

SOUTH-WEST COAST.—PARTNERSHIP in old-established mixed Practice. Suitable house available. Receipts nearly £6,000. Panel 4,000. 1/3 share at 2 years purchase part down.

YORKS.—PARTNERSHIP in middle and working-class Town Practice. Premium for 1/4 share 2 years purchase. Receipts approx. £3,000 p.a. Panel over 2,000. House to rent. Premium for 1/4 share 2 years purchase.

LANCS.—Good-class non-panel G.P. situated in residential district. Receipts over £1,500 (average £1,179). Suitable house available to rent or for sale. Scope for surgery, especially Eye and E.N. and T. work. Suitable for a F.R.C.S. Premium £1,250 cash.

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5. RIVERSIDE SUBURB (10 miles from Waterloo). — Well-established private and panel PRACTICE. Receipts average £1,450 a year, panel 860. Good residence, nice residential part, to be sold. Premium for Practice £2,250.

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7. GLOS.—Nice Town.—Half share of an old-estab. PRACTICE. Receipts nearly £2,000 a year including large panel. Good house available for incoming partner. Premium for half share 2 years purchase.

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7. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house. Garage and all conv.
8. YORKSHIRE. — Large County Borough.— Well-estab. working and middle-class PRACTICE. Receipts over £1,500 p.a. and steadily increasing. Panel about 1,700. Good house to rent.

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1 LONDON, E — Cash Practice £2,050 p.a. Panel 1,860. House (4 bedrooms, professional rooms, etc.) Rent £100 p.a. Premium 1½ years purchase.

2 N. YORKSHIRE — Partnership in old-established Practice under 5 miles from the Coast. Population about 15,000. Receipts £2,800 p.a. House (3 reception rooms, surgery, waiting room, 4/5 bedrooms, etc.) Electric light. Garage. Tennis lawn, paddock and orchard. Rent £61 p.a. Premium one half share £2,000, part by instalments.

3 LONDON, W — Old-established Practice over £850 p.a. in outlying residential suburb. Visits mainly 5s., some 7s. 6d. and 10s. 6d. Practically no midwifery. Nice compact house (2 reception rooms, consulting and waiting room, 4-5 bedrooms, etc.) Rent £85 p.a. Premium £1,100.

4 W. MIDLANDS — Practice over £1,500 p.a. Market Town. Attractive agricultural district. Panel 500. Good house (7 bedrooms, etc.) Electric light and gas. Scope for increase. Premium £2,100.

5 LONDON, N. — Partnership in Practice of £2,300 p.a. Growing residential district. Panel 1,100. Scope for increase. Hospital. Premium one-third share 2 years purchase.

6 HOME COUNTIES — Assistantship, view to Partnership. Receipts last year £4,100. Hospital (60 beds). Applicants must have some surgical experience. One third share at first.

7 WITHIN 20 MILES OF LONDON — PARTNER required in old established Practice in attractive country town. Small Cottage Hospital. House available. Share worth about £1,000 p.a. Two years purchase.

8 DEATH VACANCY — N. LONDON — PRACTICE £670 p.a. Good suburban district. Panel 530. House (4 bedrooms, etc.) Rent £60.

9 S. DEVON — Partnership in non-dispensing Practice about £2,400 p.a. in favourite watering place. Panel 950. Good hospital. One third share at 2 years purchase. Preliminary Assistantship.

10 FAVOURITE INLAND HEALTH RESORT — Non dispensing PRACTICE of over £1,550 p.a. Panel 700. Nice house (7 bedrooms) garage and garden for sale. Scope. Premium 2 years purchase.

11 WEST MIDLANDS — Practice of £2,400 p.a. in small residential country town. Panel about 1,000. Excellent non basement house (6 bedrooms) in about 3 acres of grounds for sale. Very good sport. Premium 1½ years purchase.

12 MIDDLESEX — Practice averaging £1,450 p.a. in pleasant up river suburb. Panel 860. House, with 4 bedrooms in residential area for sale. Premium £2,250.

13 LONDON, N — Increasing Practice of over £500 in pleasant residential district. Panel over 100. Well situated house (4 bedrooms) for sale or rent. Ample scope. Premium 1½ years purchase.

Full particulars sent free

14 S.W. OF ENGLAND — Practice over £2,000 p.a. in small country town near coast. Panel 1,086. House (5 bedrooms) with electric light for sale. Premium 1½ years purchase.

15 S. WALES — Non-dispensing Practice of £760 p.a. in one of the Principal Towns. Panel 620. Corner house in residential part for sale. Good scope. Premium £750.

16 LONDON, E — Cash and Panel Practice (held by Medical Woman) in densely populated area. Receipts £360 p.a. Panel 290. Small house. Rent £50. Premium £450.

17 S. WALES — Mixed Private and Industrial PRACTICE of £1,300 p.a. in town of 12,000. Panel 1,500. Well built house (6 bedrooms) in own grounds, good garden and garage to rent. Premium £1,700.

18 SURREY — Partnership in Practice averaging £4,380 p.a. in pleasant growing residential district about 10 miles from London. Panel 1,900. One-third share at 2 years purchase. Cottage Hospital.

19 MIDLANDS — Fourth Partner required in good middle-class non dispensing Practice about £8,400 p.a. in prosperous Town. Very small panel. Small house to rent. One-sixth share at 2 years purchase.

20 SOUTH-WEST OF ENGLAND — Practice averaging £1,666 p.a. in seaport town. Panel over 2,000. House with 5 or more bedrooms for sale. Premium £2,500.

21 SOUTH OF ENGLAND — Practice of £960 p.a. in Market Town under 100 miles from London. Panel 287. House (5/6 bedrooms) garage and good garden for sale or rent. Cottage Hospital. Premium 1½ years purchase.

22 MIDLANDS — Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment to one holding F.R.C.S. One half share at 2 years purchase with ultimate succession.

23 ITALY — Season Practice (March to October) in famous City. Receipts from £200/£700 p.a., according to Season. Up-to-date Hospital. Premium £250.

24 MIDLANDS — Practice over £800 p.a. in first rate Town. Panel 500. Suitable house to rent. Premium 1½ years purchase.

25 S. DEVON — Practice averaging nearly £1,850 p.a. in beautifully situated Market Town, easy distance of coast. Panel 480. House (5 bedrooms), garage, and garden, electric light to rent. Premium £2,800.

26 YORKSHIRE (N.R.) — Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms), garage, garden, etc., for sale or rent. Very good trout fishing. Premium £1,250.

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Practices and Partnerships for Disposal (continued)

27 SOUTH COAST — Practice averaging £1 350 p.a. in residential town and watering place. Panel 500. Large house on sea front. Also Surgery returning £565 p.a. Premium 1½ years purchase. Great scope.

28 YORKSHIRE — Partnership in Practice £2 300 p.a. in seaside town. Panel over 900. Excellent house (8 bedroom) for sale or rent. Premium two-fifths or one-half share 1½ years purchase. Preliminary Assistantship.

29 MIDDLESEX —Rapidly increasing Practice in new developing district about 12 miles from London. Earnings past year £[illegible]07. Panel 200. Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Premium 1½ years purchase.

30 SOUTH AFRICA —Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre. Purchaser should be able to do Surgery. Prem. £2 200 part by instalments.

31 SOUTH-WEST OF ENGLAND —Partnership in increasing middle-class Practice of about £2,500 in seaport town. Panel 870. One-fourth or one third share at 2 years purchase. Preliminary Assistantship.

32 SURREY — Partnership in good mixed-class Practice about £3 000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third share 2 years purchase.

33 LONDON, S.E. —Practice about £3,000 p.a., carried on by two Medical Men in outlying suburban district. Panel 1,350. Two houses available. Premium 1½ years purchase. Or one-half share would be sold with early succession.

34 DEVONSHIRE —Partnership in Practice of £3 400 p.a. in first rate country town. Panel 2 000. Charming old house with good garden to rent. Well-equipped Hospital with chance of appointment on staff to one keen on medicine. Premium one-third share 2 years purchase.

35 SOUTH-WEST OF ENGLAND —Partnership in increasing non-dispensing Practice about £1 600 in first rate town. Small select panel. Share worth £800 p.a. at 2 years purchase. Partner holding F.R.C.S. will probably be elected to staff of Hospital.

36 ITALY —Non-dispensing Season Practice. Receipts about £200 p.a. Suitable flat to rent. Premium £250.

37 ESSEX —Partnership in increasing Practice about £1 800 p.a. in rapidly developing neighbourhood. Panel about 500. Choice of two houses. One-half share at 1½ years purchase.

38 KENT and SUSSEX BORDER —Practice averaging £1,100 p.a. (including over £300 from panel) in beautiful country district. Very convenient house (6 bedrooms) for sale. Sport. Premium 1½ years purchase.

39 S. DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage in acre of garden for sale. All kinds of sport. Premium £1 500.

40 KENT — Partnership in Practice about £4 400 p.a. in outlying suburban district. Panel 2 400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs. purchase.

41 WEST MIDLANDS — Partnership in Practice of about £2,650 p.a. in country town. Panel 1 700. Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre. Premium one-half share 2 years purchase.

42 W. OF ENGLAND — Partnership in old-established Practice in pleasant Country Town. House to rent or purchase. Share worth about £1,000 p.a. at 2 years' purchase.

43 LONDON, S.E. — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2 000. House (5 bedrooms etc.) Garden. To let. Premium one-fifth share 2 years purchase.

44 S.W. OF ENGLAND —Unopposed Practice, about £1 150 p.a., in delightful country district. Very fine house with beautiful gardens, tennis lawn etc., for sale. Premium 1½ years purchase.

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46 SOUTH AFRICA —Old-established Practice of over £1 800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5 000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1 200 or offer.

47 LONDON, S.W. —Partnership in Practice about £2,500 p.a. in first rate suburb. Panel 1 250. Double-fronted house (7 bedroom) garage and lovely garden for sale. Share about £1 000 p.a. at 2 years purchase. Partner must be well qualified preferably M.D. or F.R.C.S.

48 SHROPSHIRE —Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1 100. Very nice house garage and large garden for sale. Sport. Premium one half share 2 years purchase.

49 YORKSHIRE (W.R.) — Compact easily worked PRACTICE averaging £1 600 p.a. in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

50 LONDON, E. — Practice £990 p.a. in populous area. Panel 1 240. Shop-fronted premises to rent. Plenty of scope. Premium 1½ years purchase.

51 ISLE OF MAN —Non-dispensing Practice in small Seaside Town. Receipts average £940 (including £350 from panel). Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2 000.

52 MIDLANDS —Practice, over £1,700 p.a., in important City. Panel 1,570. Centrally situated house (7 bed and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2 250.

53 LONDON, S.E. —Partnership in Practice £6 600 p.a. in outlying Suburban District. Panel 2 000. Premium one-sixth share 2 years purchase.

54 PARTNERSHIP in non-dispensing Practice in Country District on outskirts of a first rate town within 100 miles of London. Good house (6 bedrooms) to let. Share worth about £1 400 p.a. for disposal at 2 years purchase.

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56 MIDLANDS —Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years purchase.

57 LONDON, S.W. —Practice about £630 in suburban district within half an hour Charing Cross. Panel about 400. House to rent on lease. Very good scope. Premium £900.

58 MIDDLESEX — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1 150. Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

59 CHESHIRE —Partner required in increasing better-class non panel Parctice in first rate residential district. Cash receipts past year over £4 500. A University Graduate who must have held resident Hospital appointments preferred. One-fourth share at 2 years purchase.

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1 SOUTH WEST OF ENGLAND—COUNTRY PRACTICE within 10 miles of the Coast Good mixed class rapidly increasing Practice offering further scope and situated in very pleasant agricultural district Average gross cash receipts £1 841 (last year £2 300) Panel produces about £420 p a Fees 3/6 to 21/ Suitable house with 2 reception 5 bedrooms etc Electric light Garden Garage Rent on lease £50 p a Good sport and schools within reach Premium £2 500

2 MANCHESTER DISTRICT—Old established middle and working class PRACTICE worth last year about £700 p a including panel of 614 and capable of increase Expenses small Well situated house with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted

3 HOME COUNTIES—PARTNERSHIP—A third share producing about £1,000 p a is offered in a well established good mixed class Practice within 20 miles of London Suitable house can be bought Premium 2 years purchase

4 Near HARROGATE—Country PRACTICE—Well established and rapidly increasing chiefly middle and working class Practice in delightful district producing for last 12 months nearly £1,450 Panel of 537 Fees 3/6 to 12/6 Mid 2 to 5 gns (about 40 cases yearly) Suitable house with 2 recep, 3 bedrooms etc, and professional rooms Rent £30 p a Very good sport Prem £1,800, part by instals

5 LINCOLNSHIRE COAST—Well established mixed class PRACTICE averaging £2 749 p a (last year £2 868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly) Newly built modern house with special professional accommodation central heating etc Garden Garage Price freehold £2 300 part on mortgage Good sport and schools within reach Premium 1½ years purchase

6 DEATH VACANCY—SOUTH CORNWALL—Old established unopposed PRACTICE situated in small but growing seaside town (much augmented by good-class visitors in the summer) in a very delightful district worth between £800 and £900 p a, including panel producing over £100 Nearest opponent 6 miles Very good house (2 reception 4 bedrooms bathroom) with 1/2 acre of garden Can be rented or purchased Efficient locum in charge

7 WEST MIDLANDS—Very old established mixed class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2,367 p a, with panel over 1 000 Opposition not strong Very fine house (3 reception 6 bedrooms bathroom etc) standing in nearly 3 acres of ground Beautiful garden tennis lawn, and productive orchard Price freehold £2 000 Premium 1½ years purchase

8 LONDON S E—Pleasant residential suburb—Very old established non panel (but scope for this) PRACTICE, held over 30 years by Vendor, who is retiring Receipts last year over £900 Patients mixed, but mostly good class Large house (part could be let off for flat) Rent £98 p a Premium 1½ years purchase

9 PARTNERSHIP—WITHIN 100 MILES NORTH OF LONDON—A one sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better class Practice in a large town at present worked by three partners who now require further assistance Gross cash receipts average about £8 000 p a Selected panel of 700—800 Fees 5/ to 21/ average 7/ Suitable small house, with sitting room 3 bedrooms etc Rent £90 p a. Premium 2 years' purchase

10 WEST OF ENGLAND—COUNTY TOWN—PARTNERSHIP—A share representing about £800 p a with further increase later is offered in a very old established good middle-class Practice, rapidly increasing and with large scope Selected panel of 300 Fees 3/6 to 21/ About 30 cases of midwifery at from 5 to 10 gns Choice of houses Premium 2 years purchase Six months preliminary assistantship Purchaser should hold London degree or F R C S Eng

11 YORKS—HOSPITAL TOWN—Well-established good middle and working class PRACTICE, with beautiful surrounding country Average income over £3 000 including an appointment worth nearly £1,300 and panel of 1 648 Fee from 2/6 Midwifery from 2 gns About 35 cases Good detached house in excellent repair with 2 reception 5 bedrooms etc large garden Price for freehold £2 200 Good sport and schools Premium £4 500 Very good surgical scope

12 SOUTH WEST OF ENGLAND—PARTNERSHIP—In a large thriving seaport town the third share (with increase to half later) of old established rapidly increasing middle-class Practice Receipts average £2 272 p a (last year £2 549) including panel of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase Scope for surgery

13 MIDDLESEX—Rapidly developing district within 20 miles—PARTNERSHIP—A one half share in an old estab good middle class Practice averaging for the past two years over £3 500 p a Panel of 1 100 and appts bring in £100 p a Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms etc Garden Price for freehold £2 100 Premium 2 years purchase

14 BORDERS OF NORFOLK AND SUFFOLK—PARTNERSHIP—A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village near two good towns. Income for last 12 months £1 992 including panel of 1 000, and appts worth about £150 Fees 2/6 to 10/6 House contains 3 reception 6 bedrooms etc Sport of all kinds Premium 2 years purchase

15 HANTS—Country PRACTICE in very pleasant district Income for last 12 months £730 including panel of 450 Fees from 4/ Very good house with 2 reception 7 bedrooms etc Three acres of garden etc Price freehold £1 950 part on mortgage Premium £1 050

16 PARTNERSHIP—Within 40 miles of London—Pleasant Town (pop over 6,000 with large surrounding district)—A two fifths share (to commence) is offered in an old established steadily increasing Practice Income last year about £1 750 including panel and appts about £380 Small house available (rent £60) or larger house by purchase (price freehold £1,300) Premium only 1½ years purchase Excellent future prospects

17 KENT—Country PRACTICE near Coast—Old established mixed class Practice averaging about £1 100 p a Panel of nearly 400 Fees 3/6 upwards Convenient house with 3 reception 6 bedrooms etc Good garden Price for freehold £1 800 £400 on mortgage Good sport and schools within reach Premium 1½ years purchase

18 LANCS—Large Town within easy reach of Manchester—PARTNERSHIP—A one-third or one half share (with succession later) in an old established good mixed class Practice offering large scope Gross cash receipts for last 12 months £2 645 Panel of over 2 400. Fees 2/6 up Suitable house available on rental Prem 2 years purchase

19 CHESHIRE—Coast Town within reach of Liverpool—Well established PRACTICE averaging over £1 200 p a, including panel of 780 Fees from 3/6 Mid 2 to 5 gns Double fronted house with 3 reception 4 bedrooms etc Price freehold £1 400 £800 on mortgage Premium 1½ years purchase £1 100 down

20 NORTH OF ENGLAND—In a small pleasant town old established sound PRACTICE averaging over £1 200 p.a. including nearly £500 from panel and appts Good house (3 reception 5 bedrooms bathroom etc electric light and every convenience garage garden) Price freehold £1 300 Mortgage for full amount can be arranged Premium £1 450

21 CROYDON AREA—PARTNERSHIP—A two fifth or one third share is offered in a well established and increasing middle-class Practice averaging £2,600 p a (last year £2 740) Panel of 935 Fees 3/6 to 21/ Midwifery 4 to 15 guineas Choice of houses Premium 2 years purchase part by arrangement

22 DEVON—VILLAGE PRACTICE situated in very attractive district, within 5 miles of a Hospital town Receipts for past 12 months £942 including panel producing about £230 p a Fees 2/6 to 10/6 Very good ten roomed house, with professional rooms garage for two cars cottage, etc Large garden Price for freehold £3 000 £2 000 on mortgage Premium £1 500

23 MANCHESTER—Chiefly working class PRACTICE Average income £1 000 including panel of 1 000 Moderate expenses Corner house with 3 reception 8 bedrooms etc. Garage Rent on lease £65 p.a. Premium £1 500 or near offer

24 NEAR HUDDERSFIELD—PARTNERSHIP—A half share in an old established mixed class Practice Income for immediate past year over £4 250 Panel of 3 500 Fees 3/6 to 7/6 Very good house with 4 reception 6 bedrooms etc 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

25 EASTERN COUNTIES—Old established unopposed and rapidly increasing Country PRACTICE, in very pleasant sporting and agricultural district averaging nearly £1 200 p a (last year over £1 400) Panel of 500 Very good house (3 sitting 6 bedrooms bathroom etc) Garden with tennis lawn Garage Electric light Price freehold £2 000 £700 on mortgage Premium 1½ yrs pur

26 BORDERS OF BERKS AND HANTS—In a delightful district, an old established mixed class PRACTICE averaging for the past three years £904 p a (last year £973) including panel of 400 Visits 5/ to 12/6 medicine extra (3/6) One opponent House contains ample accommodation (2 sitting rooms 7 bedrooms bathroom, etc) Large garden and garage Rent £50 p a Prem £1 400 Excellent sport

27 YORKSHIRE—GOOD TOWN—PARTNERSHIP—A one-half share (guaranteed to produce £2,000 p a. in first year) is offered in a good middle-class PRACTICE. Income for the immediate past twelve months approximately £4 000 Small selected panel of 430 One appointment worth nearly £650 p a Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

28 NEAR HEREFORDSHIRE BORDER—HOSPITAL TOWN—Old-established mainly good class non dispensing PRACTICE, averaging about £1 200 p a Panel of 500 600 Fees 5/ to 10/6 Nice house in centre of town Price for freehold £1 200 part on mortgage Premium £1 800, £1 300 down and balance by instalments Up to date Cottage Hospital and good scope for surgery

29 YORKS—PARTNERSHIP—Within a few miles of large residential town the half share of old-established unopposed country PRACTICE owing to retirement of senior partner through age and ill different health Cash receipts for past three years average over £2 500 p a including appointments and panel of 1 200 Very little midwifery Railway station Good house available with large garden Electric light and water laid on Price freehold £1 200 part on mortgage Premium 2 years purchase

30 PARTNERSHIP COUNTRY TOWN within 130 miles North of London—A one fifth share is offered in a very old established good mixed class Practice having good scope. Gross cash receipts for past twelve months nearly £6 000 including panel of 3 400 Fees from 4/ Not much midwifery Suitable house available Prem 2 yrs pur

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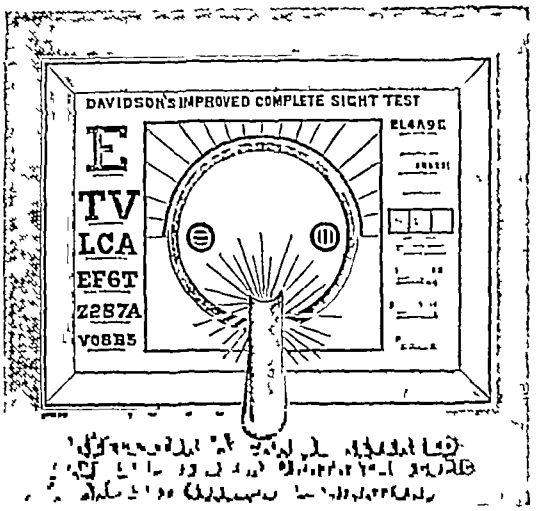
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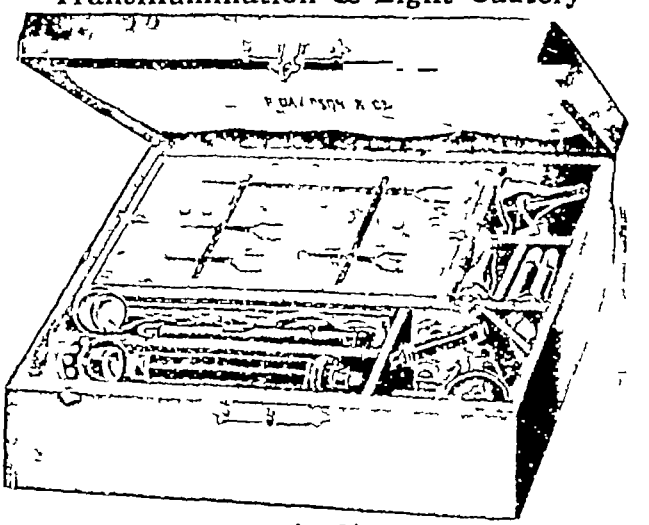


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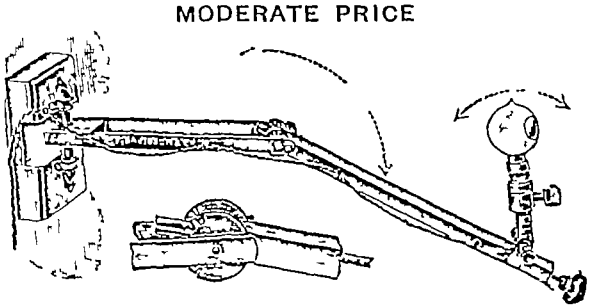
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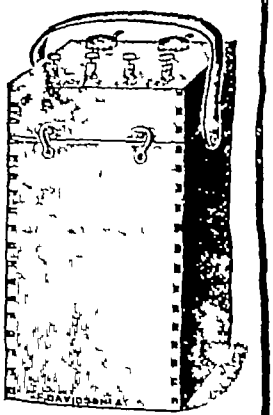
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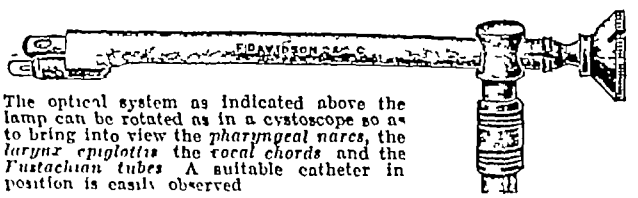
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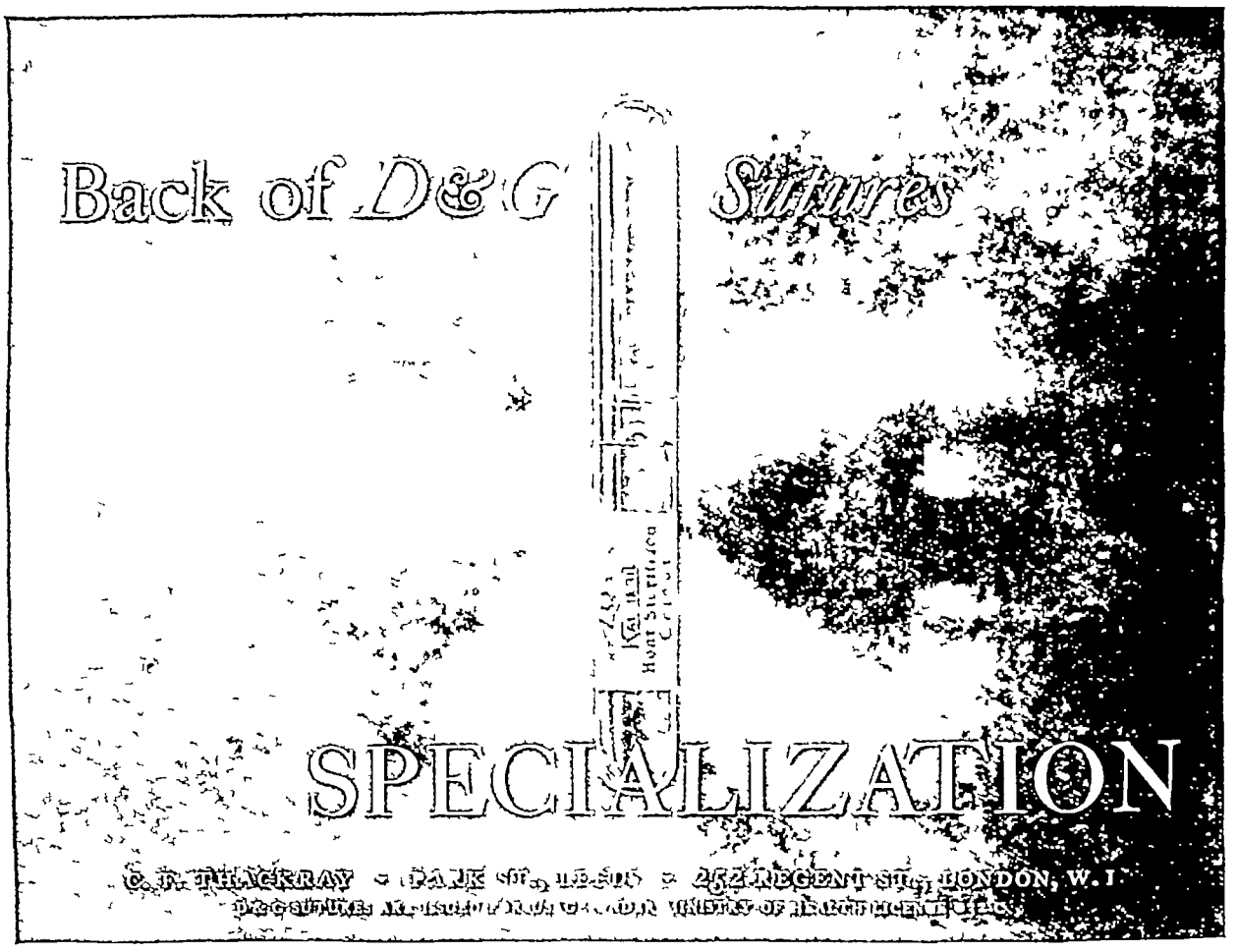
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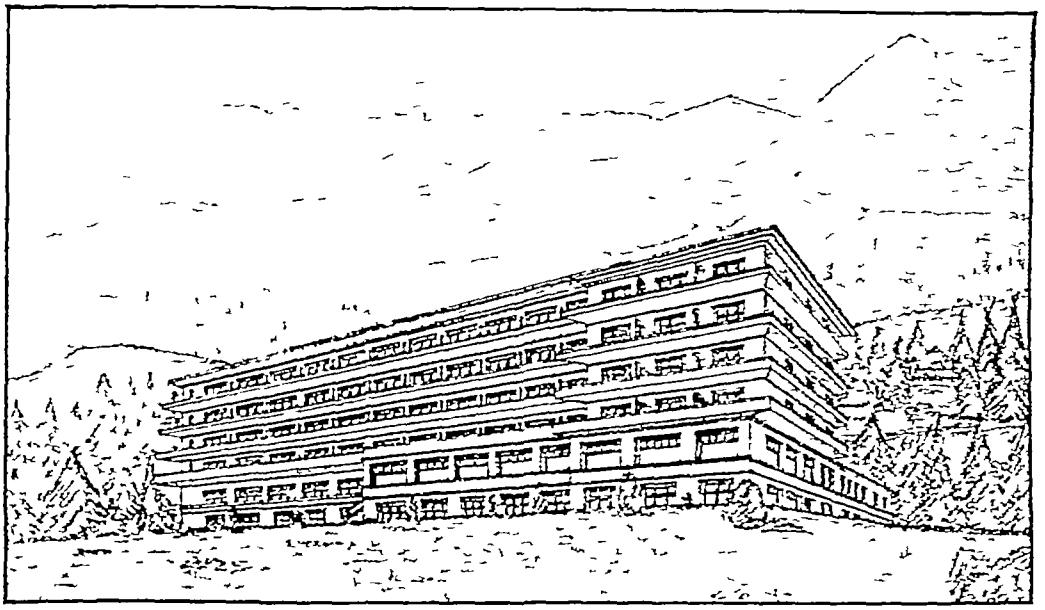
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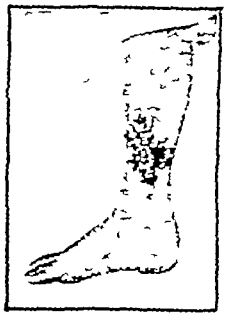
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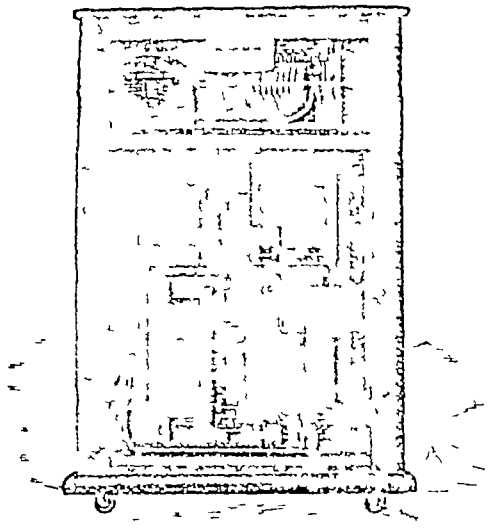
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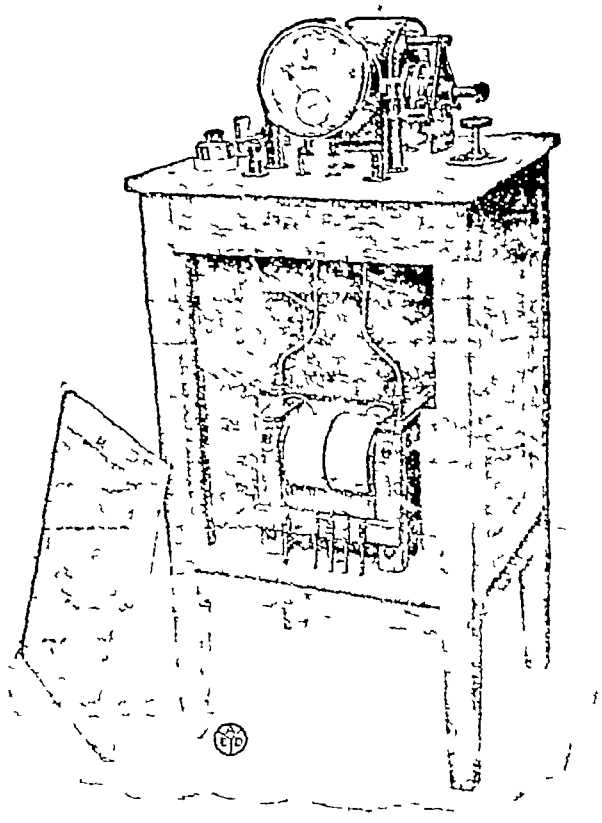
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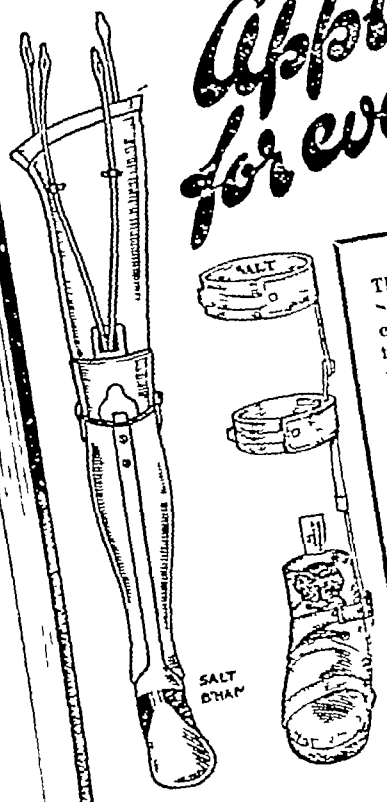


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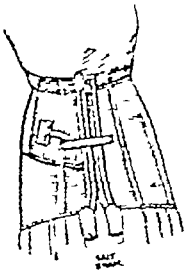


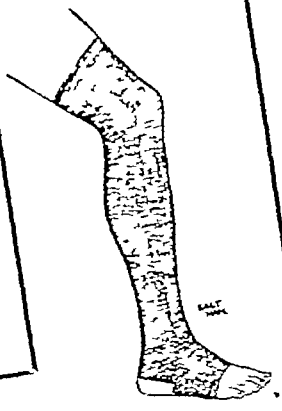
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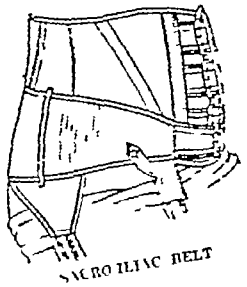
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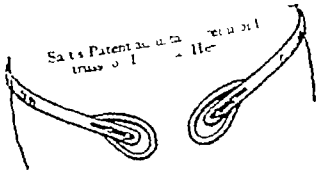
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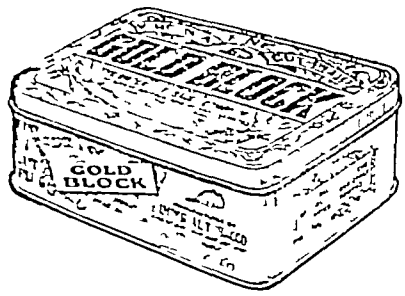
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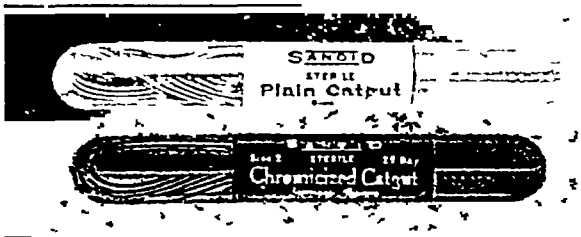


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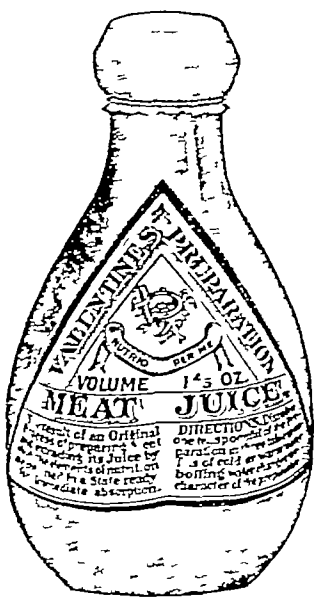
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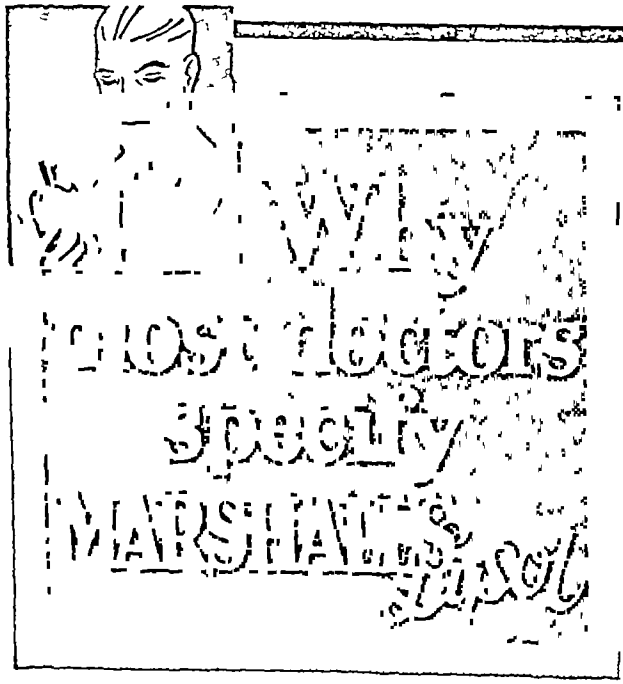
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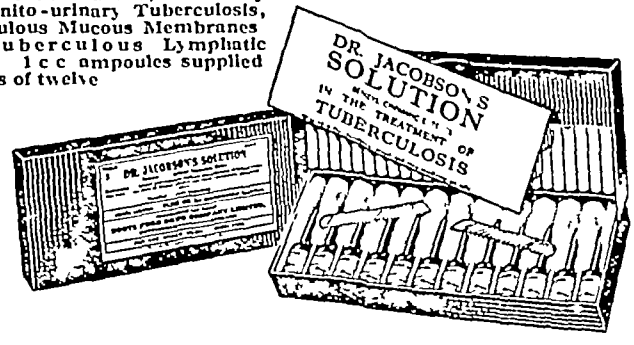
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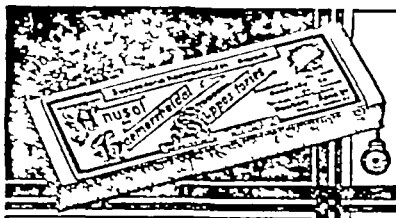
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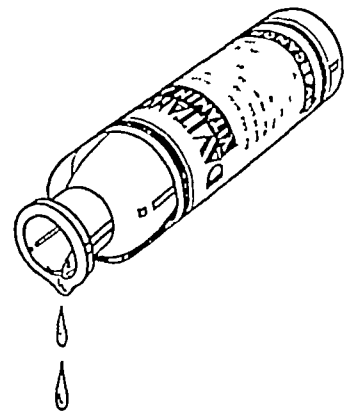
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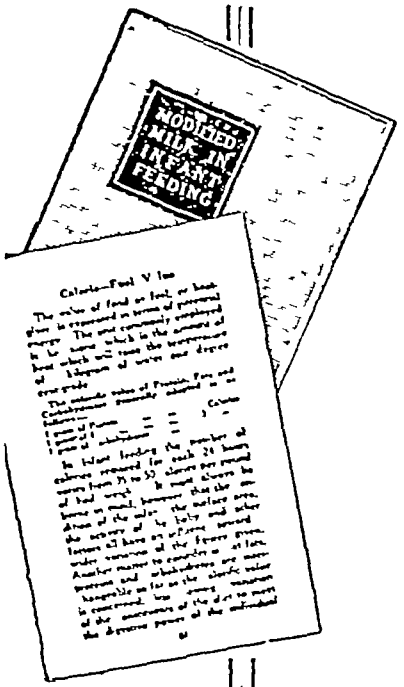
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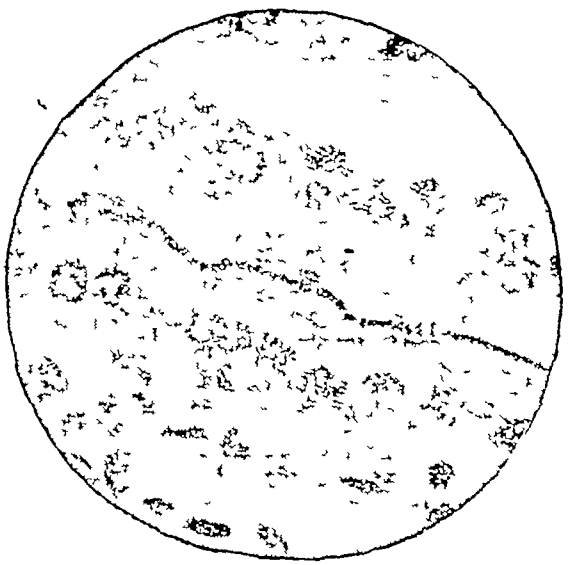
The test animals were fed on a completely deficient vitamin-B diet for a month and then on a partially deficient diet for a further eight weeks To these partially deficient animals and to the Bemax-fed animals were given living cultures of various organisms, pneumococci to some, staphylococci to others, and to the remaining animals streptococci grown from a tooth removed from a patient suffering from rheumatoid arthritis Pure cultures were made of each of these organisms in broth

The animals were given no liquid for twelve hours and were then given the broth containing large cultures mixed with milk, which they drank readily The cultures were made up to ten thousand million organisms to the c.c. of broth one c.c. of this culture was given in oatmeal with fresh milk

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The illustration is a reproduction of a section from the vitamin-B deficient (non-Bemax) animal and shows streptococci within the lacteal They have penetrated through the mucous surface and are lying in the lymph channel

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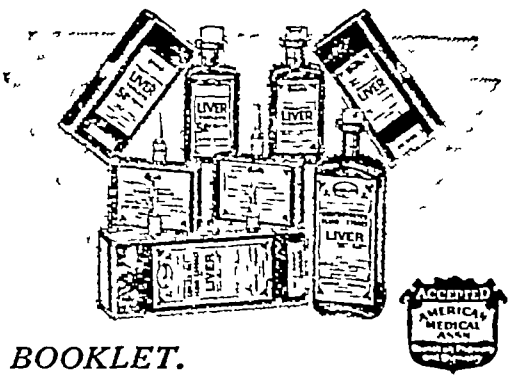
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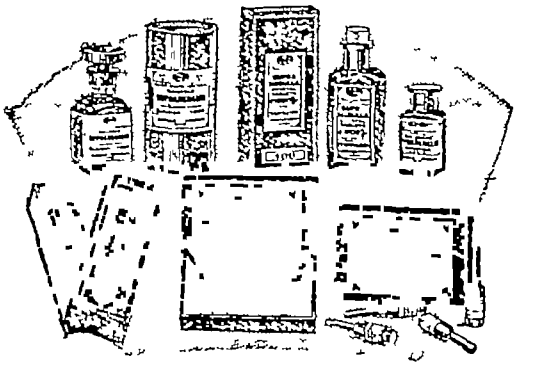


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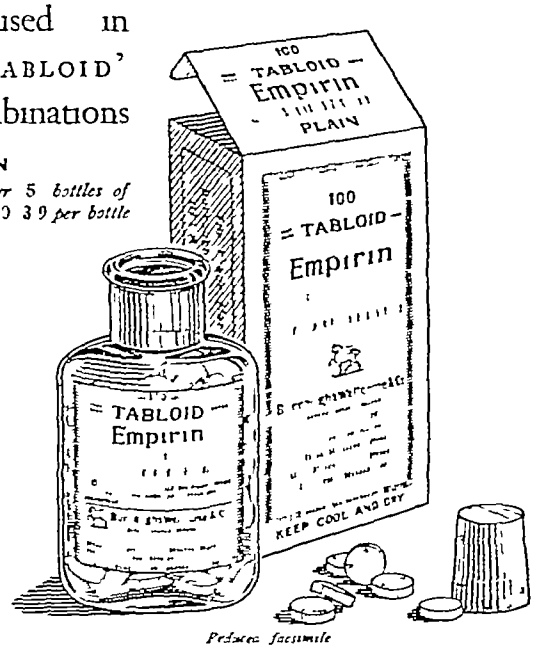
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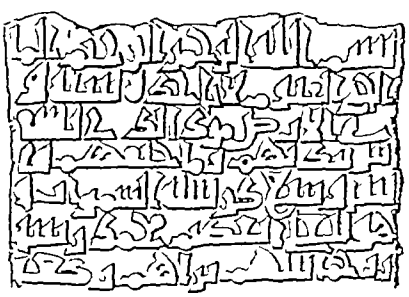
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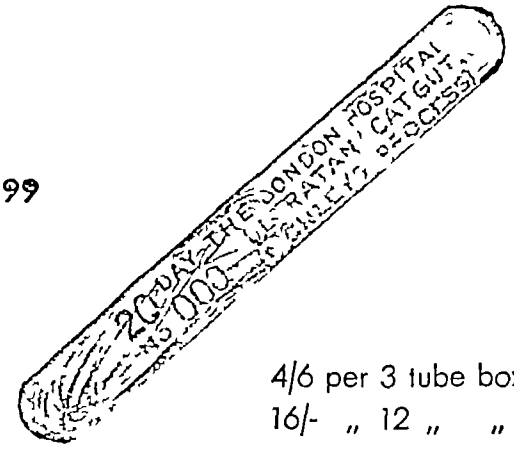
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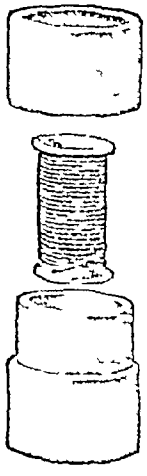
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Observations ON ANALGESIA AND ANAESTHESIA IN CHILDBIRTH

BY

DAME A. LOUISE McILROY, M.D., D.Sc., L.M.,

PROFESSOR OF OBSTETRICS AND GYNAECOLOGY, UNIVERSITY OF LONDON; ROYAL FREE HOSPITAL.

A considerable amount of discussion has been taking place in Britain as to the necessity for the provision of treatment for pain in so-called normal labour. Among medical practitioners the subject is a somewhat controversial one. It is obvious that one of the first principles of treatment in medicine is that when pain is present it should be relieved as soon as possible. Some, however, maintain that the pain of childbirth is an exception, and that any effort towards its relief is against the will of God. Had Sir James Simpson been influenced by the ecclesiastical arguments of his day we might not have had the benefit of chloroform narcosis in obstetrics or in surgery. In obstetrical practice it should be an axiom that pain should be relieved in every case when it does not interfere with the safety of the mother or child.

Anaesthesia in cases of complicated labour is a necessity when operative measures are indicated. This is not a controversial subject. It is in cases where labour, although looked upon as normal, is accompanied by pain and suffering that women now demand relief. How far with safety can we give freedom from pain? A painless labour can never be safe, but a very considerable modification of suffering is within the scope of treatment of every practitioner. In the past little attention has been paid to the subject, but now women refuse to submit to the sufferings borne by their mothers and grandmothers. Not only do they demand relief for themselves, but in London a large and influential group of members of the public is providing resident anaesthetists for various maternity institutions, in order that the patients should be given relief, and that students and nurses should be trained in the advantages of childbirth conducted by humane methods of treatment. The agony of child bearing is almost worse than any other suffering, and there must be some reason why the average practitioner does *so little for its relief*. *In the first place*, so little is known as to the risk of the administration of drugs in labour. Also, if analgesics and anaesthetics are to be given they entail an additional expenditure of time on the part of the medical attendant. They also involve skilled assistance in many cases, and the expense may be almost prohibitive except for hospital patients and those among the well-to-do. But the question must be discussed and some solution found, since the public is insistent in its demand.

Sedatives tend to prolong labour rather than shorten it in many cases, by diminishing the expulsive forces of the *uterine contractions*. This adds to the risks of labour for the mother, but more especially for the child. We must therefore have a thorough knowledge of the action of sedative drug and only employ those which give the maximum of relief with the minimum of danger. The problem is intensified by the fact that childbirth differs from a surgical operation. Much depends on the temperament of the patient, her environment, and her uterine contractions. The process of labour is prolonged in comparison with surgical conditions and two lives have to be considered. Some women have little or no suffering, *others under the same obstetrical conditions* suffer acutely. Each case must be treated individually and experience and caution are necessary.

In the Report of the Government Departmental Committee on the Training and Employment of Midwives, which was issued in 1929, it was urged that some professional body should make a pronouncement as to the advisability and place in labour not only of anaesthetics but also of analgesics and sedative drugs in general. A response was made by the British Medical Association, and a report of a committee was issued in April, 1930. The main expression of opinion was that of caution, and that any further expansion of the uses of anaesthetics and analgesic drugs in non-operative cases would be associated with danger to the mother and child. The question was left very much as it had been. The report may be of value in view of the present public agitation favouring the indiscriminate use of anaesthetics in all midwifery cases, but it does not give much help or encouragement to those of us who are anxious to relieve suffering whenever it is possible in obstetrical practice.

The opinion of this committee will be referred to later with regard to the use of special drugs. It is by frequent discussions between representative members employed in the practice of anaesthetics in obstetrics and in general practice that we shall in time gain useful information as to the most suitable methods to employ, we may eventually find the perfect method which will give complete relief without any risks to the two lives concerned.

The problems for discussion are the management of the *stages of labour*, *the most suitable analgesics and their* dosage for the first stage and those for the second combined or not, with anaesthetics, the differences between institutional and domiciliary practice and the expense involved. We have also to consider the primary question is relief of pain necessary in so-called normal labour? What are the dangers, complications, and the effects upon uterine contractions, retraction, and post-partum haemorrhage?

Although analgesia and anaesthesia may involve risks to the mother and child I am firmly convinced that a considerable amount of our maternal death rate is due to lowered resistance from excessive fatigue, shock, and sepsis, the result of withholding relief during labour. In my clinic, where for the last nine years the use of sedatives, and, when necessary, light anaesthesia for the second stage and during delivery, is almost the routine method of treatment in ordinary labour cases, the patients are remarkably free from fatigue at the end of labour, and in a few hours show very little trace of their experience in the labour room. Mental suffering especially fear, has an effect in lowering the resistance to shock and to sepsis. I am convinced that better results in the management of labour and in the reduction of maternal mortality will be gained by much greater attention to the relief of suffering in labour. Puerperal insanity can to some *extent* be prevented by the abolition of anxiety and suffering.

ANALGESIA IN LABOUR

Analgesic or sedative drugs are administered in the first and second stages of labour, since pain is relieved without the loss of consciousness in most cases. Anaesthetics are employed to abolish consciousness, and they are used intermittently in the later second stage, while deeper anaesthesia is used during delivery. Deep anaesthesia is employed where operative measures are necessary.

In the first stage of labour no sedative, as a rule, is required until labour has become established and the patient is conscious of the discomfort of the uterine contractions. The general condition of the patient has to be considered, and also whether she is suffering from pain or only from anxiety and dread of the ordeal in front of her. Pain is felt in the back and abdomen and she is restless and disturbed. The drugs most usually employed in the first stage are chloral hydrate, potassium bromide, opium and its derivatives, scopolamine and numerous other sedatives, in combination or alone.

Chloral Hydrate

Chloral hydrate in doses of 10, 15, or 20 grains is given by the mouth, or by the rectum in some cases. It is repeated as required. This is the rule for most sedatives in labour, no fixed time can be laid down, since patients and uterine contractions vary so much, but when pain is not present no sedative is necessary. Chloral hydrate is

[3639]

Made in opening a discussion in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association in Winnipeg, 1929.

usually combined with 10 to 30 grains of potassium bromide given in sweetened water There is almost no risk to the mother or foetus, the cervix is softened, and labour progresses although the patient may be asleep The doses can be repeated during the second stage

It is said that free bromine in the stomach may cause undue sickness Plenty of water should be given during labour in all cases Sometimes the effect of these drugs is slow, or of little benefit, and other drugs have to be resorted to

Opium

Opium and its derivatives have been used from time immemorial This drug is an ideal sedative from the patient's point of view, inducing restful sleep, arousing no anxiety or discomfort, and aiding dilatation of the cervix, and therefore exercising a beneficial influence on the progress of labour It is most valuable in the slow dilatation stage in primigravidae It rests a tired uterus, and contractions begin again with renewed energy Opium itself, in the form of the tincture or liquor, is not pleasant to take, and it may cause excitement or sickness Its derivatives, such as morphine sulphate, omnopon or opoidine, panopon, are much more efficacious in their results if given hypodermically in doses of 1/6 to 1/4 grain Dissolved in a 50 per cent solution of magnesium sulphate and injected into the buttock the effect is prolonged The magnesium sulphate can be repeated without the morphine, and the sedative effect is prolonged

With such an ideal sedative, why try any other? It is said that the effect of morphine upon the foetus is fatal in some cases, and its administration is limited to the first stage, or at least not within three hours of delivery I have used omnopon for many years in the first and early half of the second stage of labour, and I have rarely seen any ill effects from its use The foetal heart requires constant auscultation during its administration in the second stage It accelerates labour, and frequently obviates operative intervention It relaxes the pelvic tissues, and prevents the patient inhibiting her muscular activities, but it requires to be given by experienced practitioners Browne, in the examination of 300 foetal post-mortem examinations, found that four deaths could be traced to morphine administration in labour

Scopolamine-Morphine

Scopolamine-morphine—twilight sleep—introduced by Kronig and Gauss in Freiburg in 1907, caused a wave of enthusiasm among obstetricians, but its use was so mixed up with advertising commercial interests outside the profession, and so little was known as to its effects and dangers, that the number of practitioners who still employ this method is somewhat diminished It is not used extensively in Britain America, France, or in Germany The advantages of the combination of these drugs are that pain is relieved, and the patient has no recollection of any suffering There is no marked ill effect upon the patient The uterine contractions persist, progress in descent of the foetus takes place, and there is no additional risk of post-partum haemorrhage The third stage of labour is shortened The scopolamine-morphine must be given early in labour, since it is more difficult to narcotize the patient if she has had experience of severe pain Most obstetricians give only the initial dose of morphine (1/6 or 1/4 grain) and repeat the scopolamine in varying doses—1/150, 1/200, or 1/450 grain—as indications arise The chief indication is obtained by means of testing the patient's memory of various objects given to her to recognize Scopolamine can be repeated up to delivery

The disadvantages of this method are numerous It is essentially a form of treatment for the hospital or nursing home since it requires isolation, complete quietness, and skilled and constant attention There is sometimes considerable excitement on the part of the patient, which may cause anxiety to her relatives if the confinement is conducted in her own home She may suffer from thirst, headache, dizziness, and eye symptoms

The chief objection is that the foetus may become asphyxiated and stillbirth may result, most practitioners put this down to the initial dose of morphine When successful the method seems ideal, but it can never become widespread, since it involves too much expenditure of time on the part of the practitioner, unless he has a special department with an experienced staff

Scopolamine-morphine is not suitable if the labour is prolonged, or if operative delivery is necessary Hyoscine is sometimes substituted for scopolamine, but it tends to prolong labour and to cause post-partum haemorrhage A modified method of giving small doses of scopolamine during labour relieves pain to a great extent without inducing loss of memory, this does not require such constant attendance, and gives good results

Adaline

Adaline is valuable, given in doses of 5 to 10 grains by the mouth I have had considerable experience of its use, and have seen no ill effects It is easy of administration, and relieves pain in both stages of labour

ANAESTHESIA IN LABOUR

Although we look upon anaesthetic drugs as those which are usually administered by means of inhalation, there are other more local methods of obtaining relief from pain in childbirth, just as there are in surgery It is somewhat difficult to classify the various anaesthetic drugs, since they differ according to their methods of administration

The chief inhalation methods are those by means of chloroform, ether, and nitrous oxide gas

Chloroform

The administration of chloroform in surgical and obstetrical practice seems to be more or less geographical In Scotland, the home of Simpson, it is more used than in England, where ether is the anaesthetic of choice Some practitioners prefer ether for surgical operations, but show a partiality for chloroform in obstetrics It is said that a pregnant woman is very tolerant of chloroform inhalation, and that it does not require such a skilled administrator as in the case of surgical conditions This is probably due to the fact that chloroform anaesthesia is, as a rule, light and intermittent during labour—*a la reine* Indeed, during the second stage, chloroform can be given by the patient herself in some cases The usual method is to give a few drops on a mask and let the patient gently inhale it As delivery approaches, the quantity administered is increased according to the degree of anaesthesia required During expulsion, the most painful part of labour, complete anaesthesia may be necessary in some cases In the third stage of labour it is not necessary to give an anaesthetic unless manual removal of the placenta is to be undertaken For the satisfactory repair of lacerations it is, as a rule, necessary to anaesthetize the patient

Chloroform has a soothing effect upon a nervous patient when given only in minute quantities in labour It often causes the pains to become more regular, and it relieves spasmodic contractions of the perineum and other structures due to the fear of pain on the part of the patient The more rapid advance of the presenting part can be observed in cases of light chloroform anaesthesia During delivery more control is obtained, and therefore the risk of lacerations is diminished The effect of an anaesthetic relieves to a great extent the anxiety of the patient's relatives

The disadvantages of deep chloroform anaesthesia are difficult to estimate, since other factors such as operations and complications, are usually involved The uterine contractions may be diminished or abolished with the consequent prolongation of labour and the possibility of post-partum haemorrhage Chloroform is contraindicated in cases of liver involvement, such as acidosis, toxaemia, and hepatic atrophy In eclampsia chloroform is given to allay convulsions, but, if there is any serious liver involvement, its administration is accompanied by risk, and chloroform poisoning may ensue In cardiac conditions chloroform may cause collapse and death, this is more frequent after delivery than during labour The foetus is not much affected by chloroform unless the administration is prolonged or deep It is said that chloroform is partly eliminated by the expulsion of the placenta It should not

be given in a room with a gas fire since decomposition of its elements may occur and death from poisoning result

The committee of the British Medical Association recommends the use of pituitrin to counteract the paralysing effect of chloroform upon the uterine contractions In my own experience this drug is dangerous in any case where there is delay in the second and third stages of labour Its uses are mainly for haemorrhage after delivery of the placenta, and as a means of sensitizing the uterus in order to bring on labour

Ether

Ether is preferred to chloroform by many practitioners as it is said to be safer this applies more to general surgery and deep anaesthesia than to midwifery practice Extensive use is made of it in England, and especially in cases where chloroform is contraindicated, it can be given by the patient herself in small doses Ether is pleasant to take, and often acts as a stimulant to the heart it does not, as a rule, diminish uterine contractions, and is useful in cases of operative intervention such as forceps Caesarean section and for the repair of lacerations It has no bad effects upon the foetus if its administration is not too prolonged or deep The disadvantages are that it is sometimes slow in action, and needs a special apparatus and a skilled administrator The chief drawback is its irritating effect upon the respiratory passages it is therefore unsuitable if pulmonary complications are present or there is oedema of the lungs as in nephritis Some of the risk can be reduced by giving ether in a warmed apparatus, but it causes more sickness than chloroform Ether is inflammable, and care must be taken in domestic practice or in operating rooms where electric appliances, such as the cautery, are in use Sometimes a mixture of alcohol, chloroform, and ether is given, but not so frequently as in surgical work

Cwathmey of New York has advocated the instillation of an emulsion of ether into the rectum during labour in combination with the intramuscular injection of morphine in a solution of magnesium sulphate This method has gained a number of supporters, and in some cases gives excellent results which improve as the technique becomes more perfected it is inexpensive, and is easily carried out in a private house The instillation takes time, and undue excitement on the part of the patient may follow it There is danger of irritation and even of sloughing of the rectum if the ether emulsion is not properly prepared The amount of absorption of ether must vary to some extent, and cannot be regulated in the same way as by the inhalation method

Nitrous Oxide

The administration of nitrous oxide gas and oxygen is undoubtedly the most ideal method of obtaining anaesthesia in midwifery practice, it is safe relieves pain, and does not interfere with the progress of labour It may be employed during uterine contractions, and continuously towards and during delivery It has *no harmful effects* upon the foetus. After birth, before the cord is severed, oxygen alone may be given in a case of asphyxia The after-effects of gas and oxygen are negligible This method is especially useful in short operations, such as induction version, forceps delivery, and repairs It is safe in toxic cardiac, and pulmonary complications It is recommended to begin with gas and oxygen, and to decrease the gas as each labour pain nears completion The disadvantages are that the apparatus is expensive and cumbersome for private practice a skilled anaesthetist is necessary Sometimes the patient becomes excited and difficult to anaesthetize If there is headache after the recovery of consciousness the mixture has contained too much nitrous oxide

Ethylene

A mixture of equal parts of ethylene and oxygen has been advocated lately by some American obstetricians (de Lee Bleyis) There is said to be no excitement at the induction period is short, and it is safe in cardiac cases It has no irritating effect upon the lungs or kidneys It is useful in light intermittent anaesthesia and can be supplemented by ether for delivery It has no ill effects upon the foetus unless prolonged Its chief fault is that it is highly explosive

Local Anaesthesia

Local anaesthesia is advocated by some obstetricians more especially for the relaxation of the tissues of the pelvic outlet Rose, who employs novocain in both stages of labour, gives intradermal infiltration of the abdominal wall in order to abolish the pain of the skin reflexes in the second stage he injects it slowly into the perineal structures He considers that lacerations are usually prevented, and that, if they occur, their repair is easily effected

De Lee employs procaine combined with adrenaline as a local injection in Caesarean section operations Browne uses local anaesthesia entirely for the immediate repair of the perineum injecting 4 to 6 drachms of a 2 per cent solution of novocain with 1 minim of 1 in 1,000 adrenaline solution to each drachm of novocain The infiltration of the perineum and vagina is obtained by a hypodermic needle Perfect relaxation and anaesthesia result without the discomforts which follow inhalation methods

Spinal Anaesthesia

Spinal anaesthesia is employed in surgical practice and also in midwifery to some limited extent it does not lessen uterine contractions or interfere with retraction, and therefore does not cause post-partum haemorrhage It relieves pain by paralysing the pelvic area There are no toxic effects upon the liver or kidneys, and it does not seem to harm the foetus Burns especially advocates its use in Caesarean section, in cardiac cases It has been found to give good results in cases of forceps, version and breech deliveries It requires a skilled administrator, especially in obstetrics, and in some cases its effects are very variable Until it has been more widely employed it is difficult to give an opinion on its merits in midwifery practice, but there is no doubt that it has a place in cases where inhalation methods are contraindicated It is not always sufficiently prolonged in its effects in the case of a primigravida Headache is a symptom but this can be prevented to some extent by using a very fine short needle for injection The drugs most frequently employed are stovaine or novocain, cocaine is considered dangerous by most obstetricians Much of the success of the method depends upon technique and the injection of the drug low down in the cord so as not to interfere with the uterine contractions

Conclusions

Each maternity case must be given individual attention with regard to the most suitable sedative and anaesthetic to be employed The age, parity, temperament general health, and complications if present, must all be carefully considered Obstetrical anaesthesia is not quite comparable with the surgical form The pain is prolonged, and has to be combated with sedatives as well as with anaesthetics the effect of these sedatives must be taken into consideration when an anaesthetic is decided upon

Light anaesthesia is of little use in surgery, while it is generally employed in midwifery practice except in cases where operative intervention is required The action of the uterus must be maintained, and haemorrhage after delivery must be prevented as far as possible The expenditure of time with its consequent financial complications, is a consideration It is desirable that private patients should have the continuous attendance of the practitioner during labour if sedatives or anaesthetics are to be given, just as in hospital practice yet it is impossible to demand this unless adequate financial compensation is made by the patients for the loss of practice elsewhere

In surgical practice only one life is involved In midwifery the interests of the child are of great importance in uncomplicated cases where the only consideration for treatment is the relief of pain to the mother Perhaps the safest sedative is chloral and potassium bromide, and the safest anaesthetic is gas and oxygen from the point of view of the foetus

It is a common mistake to carry out violent methods of artificial respiration if the infant does not breathe immediately after birth We have to remember that it is narcotized to some extent and requires time to recover, warmth, rest and clearance of its respiratory passages are sufficient in most cases of delayed respiration, but CO_2 and oxygen should be given if there is any undue delay

Many an infant loses its life from misguided methods of restoring animation, such as bathing and artificial respiration

In England, where there is so much discussion at present as to the advisability of every woman in labour having relief from suffering, the question is, What is to be done about the patients under the care of midwives? These number about 60 per cent of all the cases of the country Are these patients to be excluded from all methods of relief from painful labour? Are they to be attended by an anaesthetist, and, if so, who is to bear the expense? If midwives are to be permitted to give sedatives, or even anaesthetics, it will involve general training in surgery and medicine and special training in sedative administration This is a real problem, and the opinion of the medical profession is divided

There is room for much reform in the management of labour by medical practitioners, and perhaps that is the first step to be taken The agony suffered by parturient women is one which has called for relief throughout the ages, it should appeal to every humane individual in the medical profession

RADIOGRAPHY DURING OPERATION FOR RENAL CALCULUS

BY

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(With Special Plate)

Is a so-called recurrent renal calculus really a recurrence, or is it a case of a stone, or a fragment of a stone, being left behind at the initial operation? Fortunately it is not common to have a recurrence, but cases do recur Further, what ultimately happens to a kidney which is traumatized during the operation of nephrolithotomy?

For some years, whenever *x*-ray facilities have been available in the operating theatre I have taken the opportunity of *x*-raying an exposed kidney which was either known to contain a calculus or was suspected of containing a calculus which did not show up on an ordinary radiogram My object has been twofold first, to locate accurately the site of the stone so as to damage the kidney as little as possible during its removal, secondly, to be certain by a further radiogram, after removal of the calculus, that no fragment has been left behind Even a small calcareous fragment left behind is sufficient to form the nucleus of a further stone

Where a calculus is concealed in a calyx it may not be possible to palpate it either through the solid tissue or through the pelvis of the unopened kidney I feel certain that when the solid part of the kidney is incised for an adequate search—usually so that the *inside* of the renal pelvis can be palpated—the subsequent suturing up so constricts the blood supply that the incised portion of the kidney becomes functionless

The *x* ray apparatus which I use for this purpose is an ordinary Dean 16 inch coil set It is kept entirely for work necessary during operations, and when out of use it is housed in a large airtight cupboard in the operating theatre It can be mounted and ready for use in three minutes

When operating in a renal case my patient lies on the sound side, with the diseased side uppermost After exposure of the kidney, and when all bleeding points have been secured, so that the field is as dry as possible, the film, in its paper covering, is wrapped in a dry sterile cotton cylinder—that is, an arm sleeve—and placed in position The film is pushed down into the wound in the case of a short renal pedicle, but there is usually no difficulty in persuading the kidney to lie upon the film while the skiagram is being taken An exposure of one second has always sufficed It is emphasized that the operation field must be dry, otherwise the film is ruined by the damp, further that sepsis may permeate through the blood-soaked sterile towel and result in a progenic wound [illegible] A technician stands by and develops the film, which has usually been available in three minutes, never longer than five minutes, after its receipt I have seen the method used of trying to view the exposed kidney through a fluorescent screen The technical difficulties of screening, however, are greater, for the theatre must be darkened, the surgeon's eyes take time to become accustomed to the darkness before he can see adequately, and small calculi are apt to be missed In my opinion, taking a film is preferable, as it is much more certain

When the calculus has been located, and its size and shape noted, it is removed by the smallest possible incision After its removal another radiogram is taken by a similar technique to verify the complete removal of the stone or stones The kidney tissue incision is closed by catgut sutures and the wound area drained by a tube

I have chosen four typical cases

1 A case of renal colic in a very stout female, where ordinary radiography and pyelography failed to disclose a calculus X-ray examination of the exposed kidney revealed a stone and its location After nephrolithotomy a further radiogram showed normal shadows

2 A calculus, previously seen by *x* rays, was accurately located by radiography of the exposed kidney at operation, a further radiogram was taken of the exposed kidney after nephrolithotomy

3 A case of multiple calculi located at operation by *x* rays where, after all the calculi had been thought to be removed, a further radiogram of the exposed kidney disclosed a calculus left behind

4 Eight years previously a small renal calculus had defied the surgeon at a nephrolithotomy until the kidney had been slit up from pole to pole Pyelography showed that this traumatized kidney had become functionless, owing to strangulation of the blood supply by the catgut sutures employed in sewing up the kidney

Particulars of these cases are recorded below

CASE I

On September 6th, 1928, M W, aged 50, a very stout female, was admitted for investigation of acute attacks of left-sided typical renal colic Radiography failed to show any abnormal shadows, despite good radiograms Cystoscopy showed a basal cystitis with ulceration in front of both ureteric orifices, but particularly the left sided one The ureters were catheterized, and subsequent distensions of the left renal pelvis caused the acute pain of which she had complained

Pus cells were obtained in the urine withdrawn from each kidney, the phenolsulphonephthalein excretion from the right kidney was 7½ per cent, compared with only 1½ per cent from the left kidney The blood urea was 60 mg per 100 c cm The phenolsulphonephthalein test failed owing to only a portion of the dye reaching the vein Pyelography showed a normal right pyelogram with a small degree of hydronephrosis of the left side

A diagnosis of uric acid calculus was made, and the left kidney exposed by operation A radiogram (Fig 1) showed a small uric acid stone in the middle of the lower pole of the kidney The calculus was removed through a small incision to the cortex A further radiogram (Fig 2) showed that all the fragments had been removed The renal cortex was sutured with catgut, the patient made an uneventful recovery, no urine ever leaked from the wound

Had the first radiogram of the exposed kidney failed to show a stone, the kidney of course would not have been opened

CASE II

L W B aged 36, was admitted with a history of right sided renal colic, from which he had been suffering for three years It prevented him from carrying on his practice as a dental surgeon *X* rays showed a shadow in the area of the right kidney His blood urea was 60 mg per 100 c cm

Cystoscopy showed a subacute cystitis Urine obtained from each kidney by ureter catheterization was found to be free from pus on microscopic examination Distension of the renal pelves by a measured quantity of fluid revealed that the capacity of the right side was three times greater than the left side The phenolsulphonephthalein excretion of the right kidney was only 7½ per cent, that of the left was 12½ per cent Pyelography disclosed a normal left side, with hydronephrosis on the right side Further, the shadow previously seen on the right side was incorporated in the pyelography shadow

After exposure of the kidney the calculus could not be felt The radiogram showed it to be in an upper calyx (Fig 3) It was removed, along with a small calcareous flake Another radiogram showed absence of any foreign body (see Fig 4)

He made an uneventful recovery, without leakage of urine from the wound

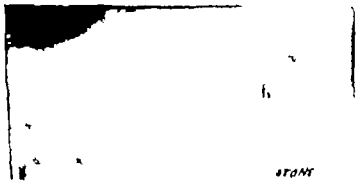


FIG. 1



FIG. 4





FIG. 2

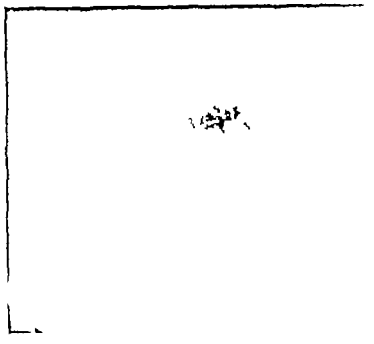


FIG. 5



FIG. 7

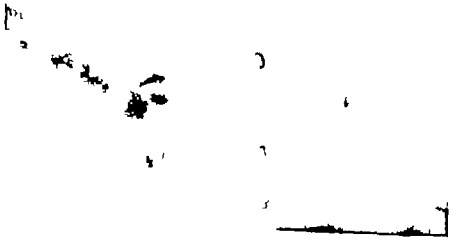


FIG. 3

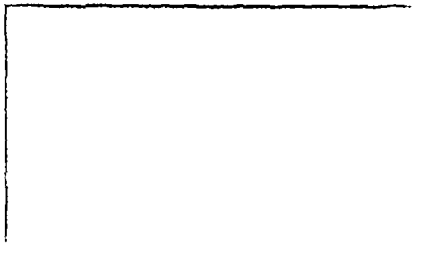
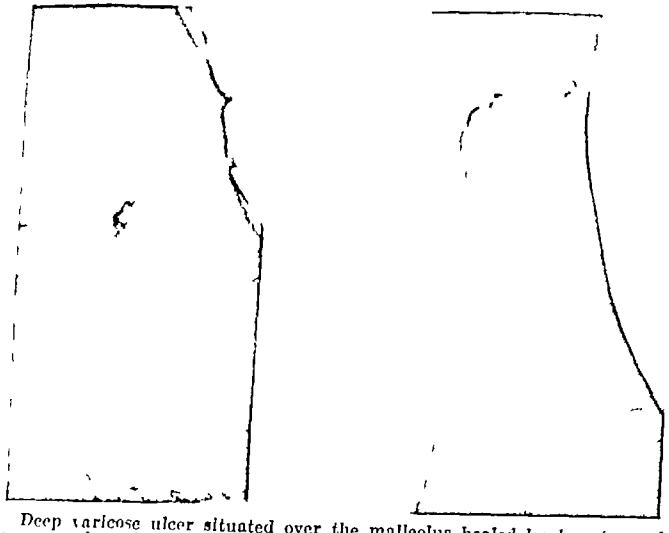


FIG. 6

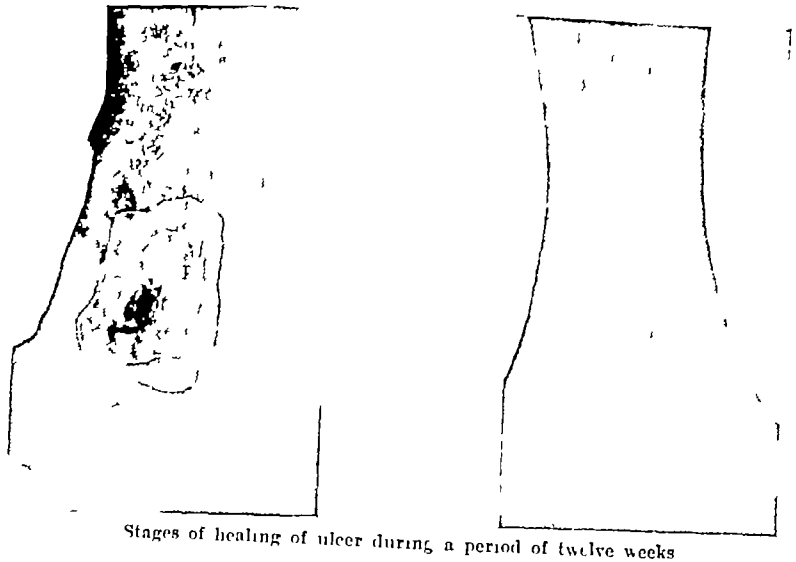
DESCRIPTION OF FIGURES

FIG. 1.—Stone before kidney was opened (Case I).
FIG. 2.—*Radiogram taken after removal of stone (Case I).*
FIG. 3.—Stone before kidney was opened (Case II).
FIG. 4.—Radiogram taken after removal of stone (Case II).
FIG. 5.—*Calculi before kidney was opened (Case III).*
FIG. 6.—One of the stones which had been missed (Case III).
FIG. 7.—Double pyelogram showing destruction of right kidney from previous nephrolithotomy (Case IV).

C. J. CELLAN-JONES AND KATHERINE M. CELLAN-JONES. A NEW PASTE BANDAGE FOR VARICOSE ULCERATION AND PHLEBITIS (See p. 560)



Deep varicose ulcer situated over the malleolus healed by injection of veins and application of bandage, a portion of which is seen in the *second photograph*. This is an example of a true varicose ulcer unaccompanied by phlebitis. Healing process occupied only three months.



Stages of healing of ulcer during a period of twelve weeks.



Large varicose ulcer in a very unusual situation. The second photograph was taken only nine weeks after the commencement of treatment, and shows the ulcer practically healed.

H. MARTIN GRAY. FRACTURE OF THE FRONTAL BONE INVOLVING THE FRONTAL SINUS (See p. 562)

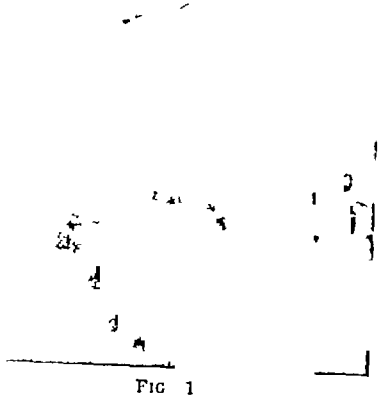


FIG. 1.



FIG. 2.

CASE III

F. C., aged 28, was admitted on October 22nd, 1928. For four years he had been suffering from attacks of acute left-sided renal colic which came on every four or five days. He had intermittent frontal headache of the morning type and had lost a great deal of flesh. The bloodurea index was high and the phenolsulphonephthalein excretion was low. The specific gravity of his urine was 1005 and it contained albumin. X rays showed a number of shadows in both renal areas. Pyelography showed that the shadows filled with the pyelogram shadows, a diagnosis of renal calculus was certain.

A left-sided nephrolithotomy was recommended because of the severe pain, but it was clear that the total amount of renal tissue was so diminished that nephrectomy was contraindicated. An operation was a serious undertaking and had to aim at the least possible damage to the kidney.

The left kidney was exposed and found to be twice its normal size. None of the calculi could be felt through the renal tissue. X rays (Fig. 5) showed multiple stones also their location. The incised part of the kidney showed marked deficiency of the normal renal tissue which was largely replaced by fibrous fat. The stones were extracted and it was thought that all of them had been removed. A further radiogram showed, however, that one rounded stone remained. It was easily located and removed. (Fig. 6—the small shadow near the pelvis was a fault on the film; it does not show on the previous radiogram.) The removed calculi were composed of uric acid.

The patient stood the operation well but died from uraemia eleven days after. A post mortem examination revealed that all calculi had been removed from the left kidney, while the other kidney contained multiple calculi and was in a similarly severely damaged condition. Despite the fact that the operation was performed entirely with as little damage as possible to the kidney, the total renal tissue was insufficient to stand the strain.

CASE IV

H. A. C., aged 52, male, underwent an operation for a right-sided renal calculus in 1920. The surgeon who performed the operation subsequently informed me that a prolonged search had had to be made for the calculi, and the convexity of the kidney was lifted up from pole to pole. The stone, a small one, was ultimately recovered. In 1926 he developed attacks of acute left-sided renal colic with haematuria, and x rays showed a shadow in the left kidney area.

Seen by me in October, 1928, his phenolsulphonephthalein excretion was 55 per cent., while his blood urea was 33 mg. per 100 c.cm.—an indication of a good total renal function. Cystoscopy showed frequent jets of urine coming from the left ureteric orifice. No urine was observed coming from the right ureteric orifice. Ureteric catheterization enabled normal urine to be withdrawn from the left kidney with a 10 per cent. phenolsulphonephthalein excretion in fifteen minutes, an indication of an exceptionally good renal function. No urine was obtained from the right-sided ureter catheter, and a subsequent investigation showed that the catheter lumen was patent. Double pyelography (Fig. 7) showed a normal left-sided pyelogram. On the right side the ureter and a rudimentary pelvis were shown distended with the solution of sodium iodide, but the calyces had vanished.

It is fair to assume therefore that the right kidney was so much damaged at the nephrolithotomy that it had become functionless. It is also fair to assume that had the method of x raying the exposed right kidney at the time of the 1920 operation been available the small stone would have been detected before the organ was opened, resulting in only localized damage instead of the kidney being rendered completely functionless.

The operations in Cases I, II, and III were performed in a private hospital. The pyelogram of Case IV was made in the same establishment, but on a separate, more powerful x ray plant.

CONCLUSIONS

1. Radiography of an exposed kidney is a method which has come to stay. It is helpful in guarding against the recurrence of a stone.

2. Detection of the exact site of a renal calculus by radiography is invaluable in preventing the needless sacrifice of renal tissue.

3. Illustrative cases are given: (1) of a previously known renal calculus; (2) of an occasion when a uric acid stone was suspected but whose presence could not be proved prior to radiography of the exposed kidney; (3) of a man in whom, after supposed removal of all the calculi, a remaining one was detected by radiography and removed; (4) of a sequel to a nephrolithotomy performed eight years before, the result being a functionless kidney owing to the extensive trauma at that operation.

THE TREATMENT OF PARANASAL SUPPURATION PERSISTING AFTER OPERATION

BY

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When I agreed to take part in opening this discussion I did so realizing that I had nothing original to offer and that I could therefore only give the results of my personal experience and perhaps to some extent emphasize what seemed to me to be the fundamental problems to be solved. I find that it is necessary to define the meaning of the subject chosen. We must presume that such operative intervention as has been carried out has been skilfully and adequately performed. The decision as to the adequacy of operation in such cases is in itself a difficult one. In considering this I take it that ventilation and drainage of the affected sinuses are the essentials. In addition in the case of the frontal sinus and possibly also of the antrum whose lining has been removed complete obliteration may be produced. While ventilation and drainage will cure the majority of cases it will not cure all and obliteration has only a limited application. Confining then the scope of our discussion to cases in which further operation is not advised, I suggest a classification into two groups: (*a*) those in which there is some discoverable factor which is perpetuating the suppuration and (*b*) those in which such a factor cannot be identified.

Dealing first with Group (*a*) I feel that this class merits some consideration as I find that it contains an appreciable number of cases seen by myself. The undiagnosed factors of which I have had experience have been the existence of a syphilitic or tuberculous infection, the existence of malignant disease, and the presence of a foreign body or of a bony sequestrum. The presence of an old standing syphilitic infection is not very uncommon and its recognition and treatment may be all that is necessary to clear up a case.

Tuberculosis is in my experience very much less common but its occasional occurrence is exemplified by the following case which has recently come under my observation.

The patient a woman aged 52 had had recurrent intranasal and external operations on the paranasal sinuses of both sides over a period of fifteen years without any relief. In addition to multiple operations her frontal sinuses had been washed out over long periods and the antra for twenty-five years. I found the nasal passages full of pus and crusts. The nasal mucosa presented a granulomatous appearance and on section showed the typical histological picture of tuberculosis. In early life she had had tuberculous glands removed from either side of the neck, and this might have afforded a clue to the nature of the infection.

The occurrence of malignant disease as a sequel to sinus suppuration is not I believe very unusual. This combination tends to delay diagnosis, the previous existence of suppuration distracting the observer's mind from the malignant factor. I can exemplify this by the case of a woman aged 46 who had worn an antro-alveolar plug attached to a dental plate for ten years, syringing pus out of the antrum daily. She consulted me owing to aching and a slight swelling in the cheek on the affected side, when I had treated her for a period as a case of simple chronic suppuration the existence of a squamous-celled carcinoma involving the anterior wall of the antrum became evident.

The type of foreign body most frequently met with is probably a tooth fragment in the antrum. I can best illustrate this occurrence by relating the following case which has already been published[1]:

A man, aged 24, had been complaining for eight years of a right-sided frontal headache and offensive nasal discharge. Examination revealed a chronic suppuration in all the anterior group of sinuses on the right side. Intranasal, and later external operations were performed without relief, but the suppuration cleared up rapidly following the spontaneous expulsion from the right side of the nose of a concretion, with a tooth fragment as a nucleus. This fragment had been present in the antrum since the extraction of a molar tooth at least ten years previously. After expulsion of the concretion, which had evidently passed out of the antrum into the nose through the opening made at operation, a further and more careful

[1] Read in opening a discussion in the Section of Laryngology and Otology at the Annual Meeting of the British Medical Association, Winnipeg, 1920.

examination of the original skiagram demonstrated its presence in the antrum

As to a sequestrum, we are probably familiar with cases, particularly of chronic antral suppuration, in which resolution is delayed after operation until the extraction or spontaneous expulsion of a fragment of dead bone

The treatment of the cases in Group (*b*) is, I understand, the primary object of this discussion We have to consider their treatment from two points of view—namely, local and constitutional Possible methods of local treatment seem to be repeated washing out of the sinus or sinuses, the use of suction to empty them, the application of antiseptic packs to prevent drying and to increase secretion, the use of oily applications for the same purpose, the employment of ionization with the idea of attacking the infection in the mucosa, and perhaps the use of radium

Experience has led me to believe that washing out should be avoided as far as possible in both the immediate and late post operative stages It seems to me to introduce a risk of spreading infection both to previously uninvolved regions of the nose and throat and to the ears without producing any favourable effect on the condition for which it is used I am of the opinion that the secretion should be got rid of by hawking or blowing and that an attempt should be made to keep an oily film over the surface of the mucosa to prevent drying and crusting I have had no encouraging results from the use of antiseptic packs with silver preparations, etc, but my experience with them is not extensive The technical difficulties in employing ionization in the paranasal sinuses are considerable, I have had no personal experience of the method, but, in view of the favourable results which have been obtained by its use in cases of infection of the mucosa of the middle ear, a thorough trial would seem to be worth while I have found that by using a relatively large dose of radium, only lightly screened, for a short time, an improvement is produced in cases of resistant ethmoidal infection with polypi A vigorous reaction occurs, and at the end of two or three months the local condition has been much improved I do not know if it has been employed for purely suppurative cases, if not, I should think a cautious trial would be justifiable

Treatment from the constitutional side is more difficult You have probably been struck by the great variation in the degree of general constitutional disturbance accompanying chronic sinus suppuration While some patients are more or less invalids, with muddy complexions and constant headaches, others, although their noses are constantly producing pus, are rosy-cheeked and never have a headache I have been impressed by the slight degree to which infection and new growth of the nasal sinuses involve the lymphatic system As long as infection remains within the nose, any evidence of involvement of the lymphatic glands is very unusual, while a spread to the skin, naso pharynx, or pharynx at once produces a lymphatic infection, as shown by enlargement of the glands I wonder whether this lack of absorption into the lymphatics may not be one reason why the body does not develop an adequate resistance to the infection If so, one would expect good results with vaccines Personally, I have found them of little if any use in chronic cases Anything which improves the general condition of the patient may be expected to have a favourable influence on the sinus suppuration, although, as I have already said constitutional and local improvement do not by any means always go together

There is one factor which I believe to be of the utmost importance and one which is frequently neglected—namely, time I have lived long enough to have seen cases which I regarded as incurable clear up with the passage of years, and I strongly advise that a very ample margin of time should be allowed to elapse after operation in these cases before judging of the result and particularly before deciding on any further operative treatment Many a patient has become a mental wreck through repeated operations which have not even improved the nasal condition In my opinion, provided reasonable drainage exists from the nasal sinuses, [illegible] if present are due to a general neurasthenia rather than to the secretion of pus in the nose Repeated operations do not relieve such cases but merely make them worse

AVERTIN.*

BY

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THE production of general anaesthesia is almost invariably effected by the inhalation of volatile substances This method has attained popularity for two reasons first, on account of the wide therapeutic margin of the volatile drugs available, and secondly, on account of the facility of administration which permits the anaesthetist to control and regulate accurately the depth and duration of anaesthesia Furthermore, absorption by this method is almost as rapid as by intravenous injection

Non-volatile anaesthetics must be given either by the mouth, the rectum, or intravenously, the choice of method being governed by the properties of the individual anaesthetic There are three groups (1) liquids with too high a boiling point for administration by the lungs, paraldehyde being an example of this group, (2) alkaloids such as morphine and hyoscine, and (3) solid substances, often very insoluble in water, which act by virtue of lipoid solubility This last group includes chloral and its derivatives chloretone, chloralose, and isopral, sulphonal and methyl sulphonal, veronal with its derivatives sodium veronal, luminal, and pernocton, and urethane with its derivative hedonal

All these drugs are excellent hypnotics, but as a general rule they are unsuitable as anaesthetics because the therapeutic margin is insufficient A dose that will produce insensibility and render the patient free from pain does not necessarily produce a corresponding degree of immobility, in some instances the anaesthesia lasts so long that the use of the drug is impracticable Unless a non-volatile anaesthetic can be administered by continuous intravenous infusion it must be given in a single dose, usually per rectum, and this has the disadvantage that when it has been absorbed it is impossible to control its action further In addition, there is always the risk of local irritation upon the rectal mucosa Such non-volatile drugs cannot be excreted rapidly, if at all, by the lungs, they are eliminated comparatively slowly by the urine, sweat, or faeces For these reasons it is impossible to ensure a constant concentration of the anaesthetic in the blood and tissues, a condition easily attained when volatile anaesthetics are employed, with this group, therefore, it is impossible to maintain the patient at a constant level of anaesthesia without the risk of overdosage The quantity to be administered must be calculated in proportion to the body weight of the patient, this method is the best at our disposal, and yet it is unscientific, because it takes no account of his age, temperament, or infirmity Further, if we accept the view that anaesthetics act by virtue of lipoid solubility, the obesity of the patient must be taken into consideration when estimating the correct dose There is no need for accurate dosage with a volatile anaesthetic, because there is a close correlation between the amount administered and the depth of anaesthesia With such difficulties to overcome the introduction of a new non-volatile anaesthetic may appear unnecessary, but it must be remembered that even volatile anaesthetics do not give entire satisfaction If the ideal anaesthetic is considered as one which is absolutely safe for the patient, produces complete insensibility and immobility, and is simple in administration the defects of the volatile type are at once apparent, and therefore the properties of any new anaesthetic should be critically examined

Avertin, or tribromethylalcohol, is one of the latest non-volatile anaesthetics, it was first prepared by Willstatter and Duisberg[25] in 1926 by the reduction of bromal It is an odourless white crystalline powder containing 85 per cent of bromine, and soluble in water to the extent of 3 per cent at 37° C, but the powder dissolves very slowly, taking more than forty-five minutes, though aided by vigorous shaking to produce a clear solution This was a serious disadvantage, but the drug is now issued already dissolved in amylene hydrate in the proportion of 1 grain

* A paper read in the Section of Anaesthesia at the Annual Meeting of the British Medical Association at Winnipeg, 1930.

of avertin in 1 c.cm. of the solvent. This solution is readily soluble in water; moreover it prevents the additional anaesthetic effect of amylene hydrate which also stimulates the respiratory centre and tends to counteract the depressant action of avertin upon respiration. The drug is given in aqueous solution by the rectum; it is peculiarly suited to this form of administration because it is non-irritating to the mucosa and it is absorbed therefrom within a very short time. Further, the therapeutic margin is greater when the drug is given in this manner.[12] Anaesthesia can also be produced by intravenous, subcutaneous or oral administration, but although these methods have been used for animals they are not so convenient for man.

Solutions of avertin must be freshly prepared without the use of heat; heating above 40° C. and exposure to light and air cause decomposition of the drug into dibromacetaldehyde and hydrobromic acid. Both these substances are intensely irritant to the rectal mucosa, and many of the earlier difficulties in the use of avertin by rectal administration were due to their presence. If a solution of avertin is decomposed by heat and injected into a cat's rectum an acute haemorrhagic proctitis results in a very short time. It is therefore important to be quite sure that a stable solution is being used, and before administration it must be tested for its reaction by adding two drops of a 1 in 1,000 solution of Congo-red to 5 c.cm. of avertin solution. If the reaction is less than $pH = 4.5$ (due to the presence of hydrobromic acid) the indicator gives a purplish or blue colour and the solution must not be used; but if the orange-red colour of the Congo-red is unchanged the solution is satisfactory. A 3 per cent. solution of avertin is commonly employed, because the required quantity of the drug can then be given in the smallest possible volume; it is probably better, however, to administer a 2.5 per cent. solution, because in this concentration the drug is more evenly absorbed by the rectal mucosa.[11]

Dosage

Correct dosage is a matter of considerable importance, for avertin is no exception to the general rule that when once an anaesthetic is given by the rectum it is impossible to control its action. No variation in the degree of narcosis can be effected by withdrawing any free avertin from the rectum, for the drug is absorbed completely by the time surgical anaesthesia is reached. When avertin was first introduced doses of 0.15 gram and over per kilogram of body weight were commonly used in the mistaken belief that full surgical anaesthesia could be obtained with safety. It has since been realized that this dose is unsafe for general use, 0.1 gram per kilo is safer and, for general purposes, more satisfactory because, although it produces complete anaesthesia in only 30 per cent. of cases,[5] the other 70 per cent. are in such a state of narcosis that a very little additional volatile anaesthetic serves to produce complete anaesthesia. This dose may now be taken as the standard for healthy patients, but for cachectic and exhausted patients, whose glycogen reserves are diminished and whose powers of detoxicating avertin are impaired, it is sufficient to administer 0.08 gram per kilo.

Although the smaller doses now given may be relied upon to produce deep narcosis they do not always produce full surgical anaesthesia. This may be achieved in one of two different ways: either by supplementing avertin by an inhalation anaesthetic, such as nitrous oxide or ether, or by utilizing Butzengeiger's method of giving small additional doses of the drug per rectum (for example, 0.025 gram per kilo) at fifteen minute intervals.[5] This intermittent method is not generally used probably on account of the trouble and time required and the grave danger of administering an overdose. Avertin should therefore be regarded as a particular form of premedication which will produce deep narcosis upon which full surgical anaesthesia can be superimposed by other methods.

It is generally agreed that 10 grams should be the maximum quantity of avertin administered to each individual irrespective of weight, though in certain cases the usual dose may safely be exceeded. The most important of these is exophthalmic goitre, where doses of 0.2 gram per kilo and even more can be given without ill effect; in tetanus it can be given in still larger doses when it reduces the number and severity of the spasms without unduly depressing the respiration. A case of tetanus has been reported[17] in which a total of 63.8 grams was given during a period of twelve days to a child weighing 20 kilos; this represents an average daily dose of 0.28 gram per kilo.

Many drugs have been employed as adjuvants previous to the administration of avertin in the attempt to produce full surgical anaesthesia. Veronal and its derivatives, morphine, and hyoscine have all been used extensively in this connexion. If morphine is first injected smaller quantities of avertin than would otherwise be necessary are required, but it has the grave disadvantage of accentuating the depressant action of avertin upon the respiratory centre. It is therefore inadvisable to use morphine as a premedicament unless the dose is restricted to 1/8 grain.

THE ANAESTHESIA

The induction of anaesthesia by means of avertin is most pleasant for the patient and easy for the anaesthetist. The pressure of the mask upon the face and the odour of the anaesthetic are abolished while the administration of an appropriate quantity of the warmed solution is associated with no inconvenience to the patient. The solution, which has been prepared and tested by Congo-red, is slowly run by gravity through a rubber catheter into the rectum. No obvious change occurs in the patient for ten or fifteen minutes after the administration is completed, after this interval he begins to feel drowsy, and gradually lapses into unconsciousness. There is usually no preliminary excitement or struggling. The respiration becomes slow and shallow, and a slight degree of cyanosis may be noticed. Anaesthesia deepens, and the operation may commence about half an hour after the administration was started.

At this stage it is necessary to consider whether an additional anaesthetic is required or not. The usual signs of anaesthesia are unreliable for, although the corneal reflex may be absent, a painful stimulus may elicit reflex movement and indicate that anaesthesia is not complete. According to Blomfield and Shipway[4] the best test is to apply a mask well wetted with ether to the face; if the breathing remains quiet the operation can begin, but if there is any holding of the breath full surgical anaesthesia has not been obtained and it is necessary to continue with ether or some other anaesthetic. In any circumstances a much smaller quantity of inhalation anaesthetic will be used than otherwise would be the case.

The blood pressure in man falls 10 to 20 mm. Hg and a comparable fall occurs in both cats and rabbits. Bender states[1] that this is due to loss of vasomotor tone, but my own experiment[18] indicate that it is due to a central cardiac effect and not to dilatation of the peripheral blood vessels. Avertin has a definite action upon the heart; it causes a slight increase, followed immediately by an appreciable diminution in the force of the beat which is accompanied by a slowing of the rate. In the isolated rabbit's heart this effect is marked when it is perfused with a 1 in 2,500 solution. Continuous perfusion with a strength of 1 in 1,250 causes arrest of the heart in systole within five minutes, an effect which is produced by chloroform in a dilution of 1 in 20,000. It appears therefore that so far as its action upon the cardiac musculature is concerned, avertin is about sixteen times safer than chloroform.

Respiration is markedly affected, it is very shallow and the rate may fall to 8 or 10 per minute. After the administration of a normal dose the centre still retains all its reflex effects and its response to drugs; in man the administration of ether by inhalation produces quickening of the respiration, while in animals inhalation of ammonia and the injection of hydrocyanic acid still produce quickening and deepening of respiration while the stimulation of an afferent nerve, such as the vagus or sciatic, elicits the normal response. If, however, the limits of safe dosage have been exceeded the respiration, in animals, shows that type of breathing known as apnoeusis. The animal first takes a normal inspiration which is followed, not by a normal expiration, but by five or six extremely

short expirations and inspirations, a normal expiration then occurs, and the process is repeated Toxic doses of avertin cause death from respiratory failure, and it is important, therefore, to keep respiratory stimulants at hand when administering this drug

The anaesthesia is very satisfactory for the surgeon, because muscular relaxation is complete, and it is comparable with that observed in chloroform anaesthesia The pupil in both man and animals occupies the midway position, but with toxic doses it is contracted A cat dies with pin-point pupils, and this affords a strong contrast with the dilated pupils which result from the administration of toxic doses of other anaesthetics This is due to a central effect, for there is no action upon the pupil when an aqueous solution of avertin is instilled into the conjunctival sac

With a dose of 0·1 gram per kilo anaesthesia is said to persist for about one and a half hours,[21] the patient subsequently passes into a deep sleep, from which he can be roused with difficulty, and which lasts for some hours There are usually no undesirable after-effects, and vomiting or nausea seldom occurs Avertin acts as an analgesic after operation, it is therefore of considerable value in diminishing post-operative pain and in abolishing the use of morphine for this purpose Further, the patient has no recollection of being anaesthetized, because avertin causes amnesia

The Fate of Avertin

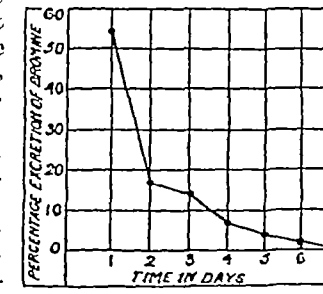
It has been shown by Straub[22] that avertin is absorbed by the rectal mucosa quicker than the water in which it is dissolved, accordingly, anaesthesia is produced with great rapidity The subsequent course of events is uncertain, but it is stated[13] that the drug is detoxicated in the liver by combination with glycuronic acid It has been observed[10] that the duration of narcosis is longer in fasting animals on account of the diminished glycogen reserves, and this explains why a smaller dose of avertin is efficient for cachectic patients The converse, however, is not true, for the administration of glycuronic acid, glycogen, or cane sugar to a patient under avertin has no effect upon the duration of anaesthesia,[20] and consequently these substances are of no value for detoxication

There is no doubt that avertin is excreted by the kidneys, a sufficient quantity of bromine can be recovered from the urine to account for 98 per cent of the ingested avertin [7 18] Traces of bromine, however, can be found in the sweat and breath [23] The drug is not excreted unchanged, or as inorganic bromide for neither of these substances can be demonstrated in the urine The constant presence of glycuronic acid in the urine suggests that avertin is excreted as inobromalic acid—a compound formed by the union of tribromethylalcohol with glycuronic acid—but tests for this substance fail to prove its presence The assumption, therefore, is that the drug is excreted as a complex organic compound of bromine

At one time it was thought that avertin circulated in the blood stream as sodium bromide and was excreted as such [7] The suggestion was therefore made that the rectal administration of a solution of sodium chloride to a subject anæsthetized with avertin would diminish the period of unconsciousness and lead to a more rapid recovery from anaesthesia This depends upon the fact that bromides are excreted in the urine *pari passu* with chlorides, and if the rate of excretion of chloride is raised that of bromide will follow It would be easy, therefore, if the drug circulated as inorganic bromide, to bring an anaesthetized patient to consciousness as required a matter of considerable importance in view of the long period of narcosis following the injection It is now certain that avertin does not circulate as sodium bromide and hence the subsequent administration of sodium chloride has no effect upon either the duration of anaesthesia or the rate of excretion of bromine [18]

The concurrent administration of certain inorganic salts with avertin however has an effect upon the anaesthesia, as has been shown by Magnus and Magnus-Levy [24] when calcium or magnesium salts are given with the drug less is required Again, it has been shown [25] that the withdrawal of calcium and sodium salts from the body has a similar action

It has been suggested that certain other drugs are useful in detoxicating avertin, and both thyroxine[19] and caffeine sodium benzoate[6] have been used for this purpose Probably the former is the more encouraging, because patients suffering from exophthalmic goitre bear avertin anaesthesia extremely well, and can safely take far greater doses of the drug than can be tolerated by the normal individual Carlton suggests that the bromine in avertin saturates the thyroxine [6] Caffeine sodium benzoate, also, has been found to interrupt avertin anaesthesia in animals, and to stimulate respiration when this function is profoundly depressed, but personally I regard this suggestion with some misgiving, because it is now well known that the administration of caffeine in alcoholic and other forms of coma accentuates the toxic effect



Graph showing the rate of excretion of bromine in a rabbit weighing 1.8 kilograms after the subcutaneous administration of 0·4 gram of avertin (=0·346 gram bromine)

Avertin is excreted at a comparatively slow rate, experiments show that between 50 and 70 per cent is excreted in the first twenty-four hours following administration [18] Bromine is found in the urine in progressively diminishing quantities until about the seventh day (see chart), and therefore, since the drug is cumulative, great care should be observed in administering a second dose In spite of this, several instances[11 14 17] have been recorded in which large doses of avertin were given on successive days without ill effects to patients suffering from tetanus

The Present Position of Avertin

All rectal anaesthetics possess definite advantages over inhalation anaesthetics because, as already pointed out, the administration is more agreeable to the patient and simpler for the anaesthetist Avertin is preferable to other rectal anaesthetics because it does not irritate the mucosa, and it is unnecessary to wash out the rectum before administration or after the operation The preparation of solutions of avertin for injection is not difficult if the solution in amylene hydrate is used, but it requires some care Preparation, testing and administration should be carried out by the anaesthetist and not delegated to a nurse

Induction is most pleasant for the patient because there is no excitement or struggling, and the only sensation appreciated is that of falling asleep The anaesthesia is characterized by excellent muscular relaxation, which, for abdominal surgery, is accentuated by slow and shallow respiration The usual undesirable post-anaesthetic effects seldom occur, but, on the other hand, the patient requires constant attention on account of the prolonged coma

Serious drawbacks to the use of avertin as a routine anaesthetic are those concerned with detoxication and elimination From a study of the literature Lundy[15] has calculated that the death rate intrinsic to avertin, after making all allowances for the submission of bad risks to operation, is about 1 in 3,333 Hewitt's figures,[9] published nearly forty years ago, for the intrinsic death rates of chloroform and ether are 1 in 3,162 and 1 in 16,302 respectively Accordingly both avertin and chloroform anaesthesia have a similar risk to life which is much greater than that due to ether, it is evident that avertin is not an anaesthetic for general use when others at our disposal are much safer

Unlike chloroform, avertin has little effect upon the heart, its danger depends upon the fact that it is so slowly destroyed and eliminated It should therefore not be used when there is disease of the liver or kidneys, which hampers these processes As avertin produces marked respiratory depression its use is inadvisable when there is extensive disease of the lungs, nor can it, of course, be given when local disease of the rectum or colon prevents satisfactory administration

There are certain conditions, however, in which avertin has a definite advantage over other anaesthetics, and the

most important of these is exophthalmic goitre In this disease anæsthesia can be produced with the least possible distress and the excess of thyroxine present detoxicates the drug and minimizes the risk of toxic symptoms, the absence of any deleterious effect upon the heart is an additional advantage Avertin is of value in operations about the nose and throat when the use of inhalation anæsthetics is inadmissible, in spite of prolonged coma and depression of respiration it is stated[3] that it can be used in these cases without anxiety Further, it is useful in certain abdominal conditions because of the absence of post-operative sickness

It is possible that some persons are unduly sensitive to avertin, for even when allowances have been made for the unsatisfactory method of calculation, administration of the usual dose of 0 1 gram per kilo does not necessarily produce the same degree of narcosis in different subjects, for example, in some cases unconsciousness is not obtained, while in others death has occurred for no apparent reason[15 16] This is a point which might well be investigated further

My object in this paper is to indicate the relative advantages and disadvantages of oleid as opposed to volatile anæsthetics Avertin is perhaps the best of the solid anæsthetics which have been made available up to the present time, and although it is not so satisfactory for routine use as the volatile inhalation anæsthetics commonly employed, it is of particular service in the conditions which I have mentioned

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CONGENITAL RADIO-ULNAR SYNOSTOSIS

BY

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CONGENITAL radio-ulnar synostosis which consists in ankylosis of the upper end of the radius and ulna, is exceedingly rare The condition is said to be due to a constitutional error—the result of the imperfect separation by the mesenchymatous tissue of the cartilaginous axials of the forearm, which take part in the formation of the bones

The factor which controls the development of a synostosis is unknown and various causes have been invoked to account for the condition Certain records suggest an inherited condition with synostosis as a dominant Mendelian characteristic a second possible factor is related to those which control the chondrification and ossification of the skeleton, many of the affected individuals being subject to exostoses In our case in spite of lengthy cross-examination of the patient and her relatives, we were unable to find a history of a tendency to loss of supination in any other member of the family whereas the patient was of healthy appearance and of normal stature, without any disproportion in the size of the limbs, etc , no exostoses were present

The condition is described as having three types (1) The radius is unaltered in shape but the head is ossified to the region of lesser sigmoid fossa of ulna (2) The upper part of the radius shaft shows no definitely moulded head (the headless type) and the upper end is moulded to the outer aspect of the ulna (3) In the "dislocated head" type the head of the radius is well developed, but it is displaced backwards or forwards This condition is usually unilateral, and associated with syndactilism, supernumerary thumb, or even absence of thumb The case here reported belongs to the third type, and it also presents the unusual occurrence of being bilateral

A girl aged 18 was referred to me on July 23rd 1929 at the out patient department and I reproduce the doctor's letter verbatim The bearer M S suffering from fractured left olecranon It was done seven weeks ago a stellate type of fracture was found The arm after extension was flexed to give her the carry to mouth and she was put on early massage Massage has not yet completely straightened the arm

On examination it was found that the left elbow could not be fully extended whereas flexion was normal The hand was held



FIG A.



FIG B

in semi pronation but no supination was possible Pronation could be carried out to about 90 degrees The olecranon process appeared to be deviated towards the medial side of the elbow whereas the head of the radius was directed towards the posterior aspect of the external condyle of the humerus and was palpable as a distinct projection on the outer side of the elbow No trace of the olecranon fracture of the elbow could be made out On examination of the right elbow it was found that a similar condition was present the arm being held in semi pronation with limitation of extension Flexion at the elbow-joint was normal whereas pronation could be carried out to about 90 degrees

The muscular development was normal and there were no exostoses present There was no disproportion between the upper

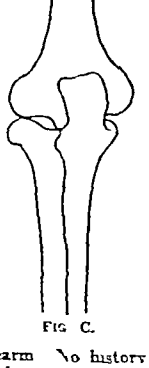


FIG C.



FIG D

arm and forearm No history could be obtained of any familial difficulty or abnormality The patient stated that she could not carry things as other girls could but she had not found any disability in doing her work The blow on the elbow had caused much pain when incurred and it was only after this that the mother thought that the patient could not extend the arm properly

X ray photographs were taken of the elbow joint radius ulna and humerus on both sides and line drawings have been made From these it is seen that the radius of the left side is more curved than normal (Fig A) The head of the radius is somewhat expanded and displaced backwards with relation to the humerus and does not articulate with the humerus A clear definition cannot be seen between the radius and ulna and ossification appears to be present between the radius and the ulnar region of the coronoid process A similar condition is seen in Figs. D and C which were taken of the right elbow region Fig A shows how it was possible in a bad radiogram to diagnose a fracture of the olecranon

The case presents certain interesting features
1 The rarity of the condition, especially of bilateral "dislocated head" type of synostosis With a view to determining whether any cases are accidentally missed 500 radiograms taken at the Royal Infirmary of elbow-joints were examined, I was unable to discover a case of synostosis
2 The importance of recognizing the condition in view of possible "compensation" for the loss of extension and supination, which the anxious parent may only discover for the first time after an accident
3 In spite of the definite deformity, the little inconvenience entailed, in this case the blow in the region of the elbow was the first idea that the girl's parents had of anything unusual The condition therefore does not require any surgical intervention
4 As regards causation, this case does not fall in with the theory of generalized defect of the controlling factor of chondrification and ossification, there were no other defects, such as exostoses
5 No hereditary influence could be ascertained
Since the foregoing was written another case of synostosis has been seen by me, but this case belongs to the first of the three types, and is unilateral

A child aged 4 years was brought to the Royal Infirmary on account of stiffness after knocking the elbow There was no sign of bruising and on examination it was found that extension and flexion at the elbow joint were normal Supination was not possible and pronation was only possible through an angle of 20 degrees There was no evidence of any dislocation and the bony points seemed to be in normal position The extensor ossis metacarpi pollicis and extensor brevis pollicis were somewhat taut The grip was unaffected, but the carrying of objects involved adduction of the elbow An *x* ray photograph was taken, a tracing of which is seen in Fig E There were no exostoses and no family history of a similar condition
The case was first seen in May, 1930, by Mr Chisholm, F R C S, and now (August, 1930), after massage and movement, the muscles referred to seem normal The child is able to carry out normal movements with greater ease than when seen in May

Here again we find certain important factors, which have been already discussed
1 The condition is first noticed after an injury

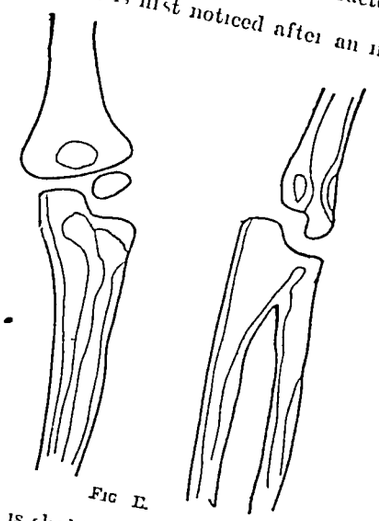


FIG E.

2 Inconvenience is slight
3 No hereditary influence could be ascertained
4 The signs do not accord with the theory of generalized defect of the controlling factors of chondrification and ossification, there was an absence of exostosis, as in the first case

I am indebted to Drs Rayner and Harrison for the use of the *x* ray films, and to Mr Chisholm, resident surgical officer to the Infirmary, for sending me the second case

AN OUTBREAK OF PUERPERAL FEVER IN A NURSING HOME

BY
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THE present interest in maternal mortality affords an excuse for the narration of the following observations and facts in connexion with an outbreak of sore throat, puerperal infection and scarlet fever in a nursing home The house was formerly a private residence standing in its own grounds It is drained to a sewer, and is in every way hygienic There are eleven rooms, seven of which accommodate patients The staff consists of the proprietor who is a fully trained nurse with the C M B, and another fully trained nurse When there are sufficient patients work in a former home conducted by her, where she had upwards of 300 cases without a death and without a trouble to cause anxiety In the present home she had 83 cases without incident until the first trouble arose in January, 1930

CASE I

A primipara aged 21 developed a sore throat and then a rash the day after a normal confinement There was a slight tear which was sutured Only one vaginal examination was made by the matron the doctor in attendance made none The patient was removed to hospital by the matron the doctor in attendance made none and the patient was removed to hospital where she received treatment for scarlet fever was diagnosed and the patient was removed to home in a neighbouring city where she received treatment for scarlet fever antitoxin at the hands of a gynaecologist at the hands of a gynaecologist The convalescence in which albuminuria appeared she

Following there were 8 normal cases, in one of which a sore throat developed but the patient said she had had a sore throat of a similar character This was attributed to the home when B was admitted twenty-two days after A had been removed

CASE II

B a primipara aged 23, had a normal confinement, breech presentation and had had one vaginal examination There was a perineal tear, which was sutured On the third day after the confinement she developed a sore throat temperature 101° F, and had a generalized patchy rash She was removed to hospital, where she died seven days after the confinement

There had been no contact between B and the aforementioned patient with slight sore throat The home was thoroughly disinfected and aired, and no new cases were admitted for a week The matron was advised to use gauze face-masks when in attendance on patients, and she and her assistants carried out this instruction Sixteen normal cases followed, and seventy-two days elapsed before C was admitted

CASE III

C was a primipara aged 30 Labour was instrumental, and there was a perineal tear, which was sutured Two days later this patient developed a temperature and a severe pain in the sacral region, which was attributed to rheumatism This pain was so intense especially on movement that the perineal toilet could not be carried out satisfactorily This pain was presumably secondary to a slowly developing streptococcal infection of the torn perineum The patient was three weeks in the home, and was seen twice by a gynaecologist She returned to her own home and then went to a private nursing home, where it was decided that she had had pelvic infection Recovery took place, but convalescence was prolonged

While this patient was in the home three others were admitted, and these had normal confinements and puerperia

CASE IV

D a primipara aged 23 was admitted on the day C left the home and had a normal confinement two days later Two vaginal examinations were made by the matron The doctor in attendance made none There was no perineal tear Three days later the patient developed a temperature and a severe sloughing vaginitis from streptococcal infection She was removed to hospital, where she died ten days after the confinement

CASE V

F a primipara aged 30 had a normal confinement one day after D's confinement a perineal tear was sutured On the seventh day after the confinement she developed a temperature of

101° F and a rapid pulse She was removed to hospital and recovered after prolonged convalescence

The only patient now in the home was sent to her own home and the place was closed to further admissions for a week and thoroughly disinfected and aired The throats of the matron and assistant nurse were examined but no evident signs of inflammation were present A swab from the throat of the assistant nurse was taken and the bacteriological report stated "Streptococci present—non haemolytic"

Three days after the removal of F the matron developed a sore throat, and three days later the well marked rash of scarlet fever She was removed to the isolation hospital, and the home was again disinfected and the restriction for admission of patients extended for another week

Discussion

How did the infection in these cases arise? None of the infected cases occurred in the same room, all were in different rooms which did not communicate directly with each other One doctor attended B and C but there was an interval of seventy-two days between, and this doctor had attended several cases in the interval without incident The other cases were all attended by different doctors The matron and nurse had attended 18 primiparae and 8 multiparae between A and F, and all had normal puerperia In view of these facts it would be difficult to assert that the antiseptic technique followed in the home was faulty, without discovering the fault in the cases that were infected, and this could not be done

The possibilities of infection from milk were considered, especially when the matron contracted scarlet fever There did not seem any possibility of her being infected from contact with an infected person She had only been out in her private car for two short runs in the fortnight previous to the onset of the disease The milk was supplied from a dairy in bottles, and was said to be pasteurized before delivery In spite of this the possibility of a milk infection in cases of puerperal fever with sore throat was kept in mind and the matron was advised to boil the milk supplied to future patients

While autogenous infection might explain the illness of A and P_2 it would be wholly erroneous to assume such infection in C D and E and in the matron, who was attacked by scarlet fever All these cases occurred within a month and were attacked one after another so must have been related to some common source of infection Did this infection enter the home by a visitor or was there a carrier among the other patients? It is impossible to say

THE BLOOD CALCIUM IN DIABETIC RETINITIS

BY

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In a recent publication Cammidge[1] reports that he has found a low calcium content of the blood in cases of diabetes with retinitis and has suggested that this calcium deficiency might be the cause of the retinitis He states that in 81 per cent of his retinitis cases the blood calcium figures were low enough to be considered distinctly pathological" It is a little difficult to gather what he considers abnormal figures, because few are mentioned in his publication In the one case recorded in any detail 5 mg. per cent is stated to be a 'subnormal value," and 6.5 mg. per cent "the maximum normal figure" Presumably these figures were obtained on whole blood in which the normal content is usually said to range from 5 to 7 mg. per cent It is more usual to estimate the serum calcium which varies from 9 to 11 mg. per cent, though some authors extend this normal variation from 8 to 12 mg. per cent

It seemed important to confirm this new observation on which a therapy might be based and the point has been investigated in known cases of diabetic retinitis attending our diabetic clinic no selection of cases was made but the first ten patients who happened to attend were taken and our results show that we have been unable to detect any abnormality in the serum calcium contents of these patients The tests were performed in duplicate by the Kramer and Tisdall method

Results

The average serum calcium of these ten cases was 9.6 mg. per cent, the lowest figure was 8.6 and the highest 11 mg. per cent Seven cases fell between 9 and 10.5 mg. per cent, and in no case therefore, was an abnormally low or high figure obtained Admittedly the number of cases investigated is small but the uniformly normal results make it clear that the blood calcium has no diagnostic or etiological importance in these cases

A few other facts of etiological importance in retinitis should be mentioned Five of the patients were males and five females The average age was 61 years the youngest being 44 and the oldest 71 Seven cases were severe enough to require insulin The minimum ascertainable duration of the diabetes was two years, the maximum twenty years Three patients showed traces of albuminuria without other evidence of Bright's disease, in them the retinal picture was that of diabetic retinitis alone Gross arterio-sclerosis was not a noticeable feature The mean systolic pressure was 150 mm. Hg the diastolic 90 mm. the highest systolic pressure was 185 mm. the lowest 100 It is clear, therefore, that true Bright's disease and hypertonic arterio-sclerosis were not important etiological factors in these cases, which appear to be really "diabetic" in nature

Summary

We are unable to confirm the observation that retinitis in diabetics is accompanied by a low blood calcium content, which we have found, indeed to be normal

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MARKED HYPERGLYCAEMIA WITHOUT GLYCOSURIA

BY

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SINCE some law down the cast-iron rule that each person has a definite "renal threshold," the occurrence of a case presenting at one time marked hyperglycaemia without glycosuria deserves to be recorded, if not because it is unique at any rate by reason of its rarity

A married woman aged 55 was admitted to the Colonial Hospital Gibraltar on March 26th suffering from a bad septic hand she was very sallow unhealthy and anaemic and there was marked pyorrhoea alveolaris with dental caries The heart was apparently normal the pulse rate varying from 84 to 99 per minute Pyrexia was slight or absent a surprising point in view of the extensive septic lesions in the left hand. The urine was found to be loaded with sugar and the diacetic reaction was positive The total quantity of urine was never excessive—at no time more than three pints—and the patient never suffered from undue thirst For treatment fomentations and eusol bath were given locally an iron and arsenic tonic was administered for the anaemia and a light diet consisting of bread-and-butter two Moorish eggs pudding beef tea and one pint of milk, was ordered temporarily The patient was so unhealthy and her general condition so bad, that it was considered too risky to place her on any strict diet without further examination and consideration

Besides the routine daily analysis of the urine in the ward a specimen was sent to the laboratory on March 28th when 26.3 grams of glucose per litre were recorded There was no reaction to acetone or diacetic acid On the following day the blood sugar and urine sugar estimations were repeated The blood sugar had advanced to 0.366 gram per litre while the urine contained slight amounts of acetone and diacetic acid

On March 30th an injection of 10 units of insulin was given tentatively and repeated the following morning one hour before

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her dinner. The dose was increased on April 1st to 12 units daily, and a course of colloidal manganese (0.5 c.cm.) was commenced on the next day for her septic condition. During this time the index finger of the left hand was incised under local anaesthesia, and the hand and fingers improved markedly, but two further abscesses started forming above the annular ligaments. The urine was being checked daily in the ward, always with a heavy fall of sugar. On April 4th the insulin dose was further increased to 15 units, and, since her general condition was so frail, an ounce of brandy was started on April 6th. An examination on the next day showed that the blood sugar figure was higher—0.427 per cent.—but the urine sugar figure had fallen to 2.1.7 grams per litre, the acetone reaction was marked, but only a small amount of diacetic acid was present. In view of this report it was decided to give her two daily injections of insulin, each of 15 units. Her general condition was most unsatisfactory. She was quiet and inclined to be drowsy, and there was appetexia and anorexia, she practically refused the original diet, and was really only taking milk, eggs, and beef tea. In the evening, as she was so drowsy, it was decided to administer further injections of insulin, 20 units at 9 p.m. and again at 1 a.m. On the morning of April 8th she was semi-comatose and extremely weak, the pulse was up to 100 per minute and the urine was still loaded with glucose. Insulin in 30-unit doses was administered four-hourly throughout the day and night, and sodium bicarbonate was also ordered. The blood sugar improved on the following morning to 0.356 per cent., and the urine contained no acetone or diacetic per litre while the urine contained no acetone or diacetic acid. Owing to the feebleness of the heart and pulse, alternate injections of digitalino and strychnine were given to sustain the circulation.

On the morning of April 9th insulin in doses of 30 units was administered at 10 a.m. and 2 p.m., and later repeated four-hourly throughout the night. The patient became mentally clear and less drowsy. The pulse remained rapid at 120 per minute, in spite of cardiac stimulants. On April 10th the blood sugar figure was highly satisfactory (0.184 per cent.), there were only traces of sugar in the urine, which was entirely free from acetone and diacetic acid. The insulin dosage was reduced to 20 units every four or six hours. Signs of threatening hypo-glycaemia were noted following the insulin injections, and an orange was ordered to ward off these symptoms.

On April 11th the patient's general condition was very grave, owing to the debility and exhaustion. She was mentally clear and not drowsy; the pulse was still rapid (120 per minute) but it was stronger and more regular. The blood sugar figure was estimated twice at 11 a.m. it was 0.48 per cent., but at 1 p.m. it rose to 0.633 per cent. no more than a trace of urine sugar was present. There was nothing to account for this huge sudden increase in the blood sugar. Insulin injections (20 units four-hourly) were resumed, and on the following day the satisfactory blood sugar figure of 0.162 per cent. was recorded, and a trace of glucose only in the urine. The patient's general condition was unsatisfactory, however, and she was obviously dying from exhaustion and debility. On whatever spot of her body she rested a bruise appeared, with or without septic pressure sores, and eventually she died at 6.30 a.m. on April 13th. At no time was acetone noted in her breath.

The point of special interest in her case was the marked hyperglycaemia occurring on April 11th. As will have been noticed the blood sugar content was twice estimated for fear of error, at the first time it was 0.48 per cent., while on the second occasion, at 1 p.m., it had risen to 0.633 per cent., glucose was absent from the urine, or only present as a slight trace. Her "renal threshold," after studying the figures of her case, appeared to be somewhere near 0.18 per cent.

The problem arises, Why did such a marked hyperglycaemia develop twice on April 11th, with, at the most, only a trace of glucose in the urine? Why was there no corresponding increase of glucose in the urine? There was the possibility of error in the laboratory. I investigated this point and discovered that the standard solutions for blood sugar estimations had been used, that they were not diluted that no error of multiplication could arise, and finally that the same solution had been checked on a normal blood sugar case the same day. The ward tests for sugar in the urine confirmed the absence of it, thus excluding the possibility of human error in the laboratory. The extraordinary condition of marked hyperglycaemia occurring temporarily without glycosuria was recorded in a patient who before and after April 11th reacted normally to insulin, and appeared to have a very definite "leaking point" at about 0.18 per cent. The question arises whether such a contradictory state is possible, and, if so, what could have been the cause, unless it was sepsis, with the corresponding toxins.

A NEW PASTE BANDAGE FOR THE TREATMENT OF VARICOSE ULCERATION AND PHLEBITIS

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(With Special Plate.)

It is a reluctant general admission among those who have interested themselves for a sufficient period in the healing of varicose ulceration that the ideal method of treatment in this treacherous and stubborn condition is prolonged rest in bed with elevation of the affected limb. This is the only completely satisfactory way of eliminating circulatory stagnation from a varicose superficial venous system, or of draining a massive oedema which results from profound venous thrombosis. The ulcer so treated gradually becomes analogous to a healthy wound on any other part of the body, and healing is then rapidly accomplished.

So seldom, however, is this Utopian arrangement possible that numerous ambulatory methods of treatment have been evolved, each contributing to the degree of its success by the efficacy of the same basic factor—that of applying a firm mechanical support which is designed to compress the varices and to prevent the accumulation of fluid in the tissues. These methods may be broadly classified under the following headings: (1) crepe bandages, (2) woven elastic hosiery of all varieties, (3) rubber bandages, (4) strips of adhesive plaster applied in numerous ways, (5) cloth or chamois leather gaiters, (6) closely fitting Plaster-of-Paris bandages (still adhered to by some heroic practitioners), and (7) Unna's paste dressings. It is not our intention to offer a general criticism of these various measures, or to discuss their individual efficiency, costliness, or difficulty of application.

Until three years ago we confined our experiments in the treatment of ulcers and phlebitis to the original zinc gelatin paste of Unna, and to the numerous modifications of this formula which have since been introduced. The following tabulated group, in which the figures throughout represent parts by weight, will serve to indicate the diversity of opinion as to the ideal paste:

Varieties of Unna's Paste	Zinc Oxide	Glycerin	Water	Gelatin	Starch	Gum Arabic
The original	10	15	40	20	—	—
Thomas	10	20	20	10	—	—
The soft (Gougerot)	10	17	30	10	—	—
The hard	10	30	30	30	—	—
Saint-Louis ,,	10	30	30	25	—	—
Héis ,,	10	40	40	10	—	0.5
Leroy ,,	10	25	45	12.5	—	—
Segard ,,	10	20	40	40	—	—
Brandon ,,	10	16	22	10	—	—
Gilson (Manchester)	10	12	22	6	—	—
Smith (Glasgow)	10	10	10	10	—	—
Clasen	10	40	30	20	—	—

We are satisfied that the good results following the use of zinc-gelatin dressings are due to the following factors:

1. The medicaments are useful. Glycerin is dehydrating and hence antiphlogistic, it has a definite place in the reduction of oedema. Zinc oxide, again, is both antiseptic and astringent.

2. When applied on light dressing material the paste does not prohibit the evaporation of skin secretions and it allows air-access to the tissues. These advantages are not obtainable with rubber or elastic webbing bandages.

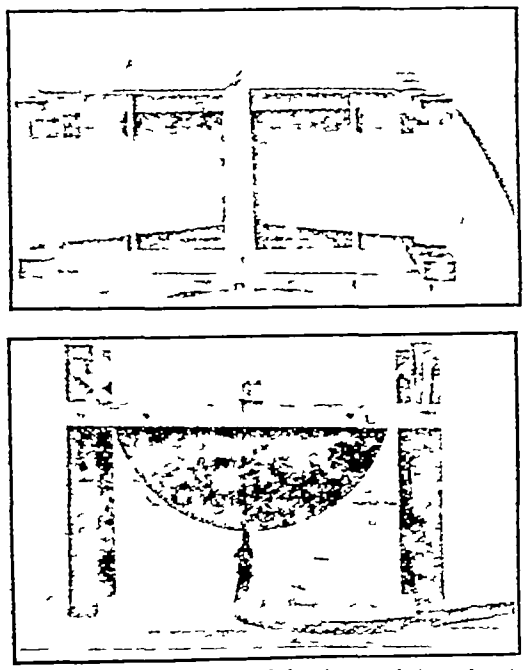
3. When properly applied the zinc-gelatin bandage forms a satisfactory mechanical support.

4 It is an inexpensive method of treatment and in the case of ulcers which are discharging profusely, the dressing can be much more readily discarded than the costly elastic webbing or crepe bandage

In spite of these four valuable features the use of Unna's paste has been cognizant of the definite disadvantages which it possesses as regards speed and tidiness of application Paste made up according to any of the formulae quoted is when cold a solid slab of jelly It has to be melted before use and must then be applied with a brush to the skin and subsequent layers of dressing Thus, when there are large numbers of cases to be treated, a great expenditure of time is required and however expert one becomes the melted paste almost inevitably splashes the patient's garments and everything in the vicinity

After experimenting for nearly two years we eventually compounded a formula which while retaining the useful medicaments of Unna's paste is capable of considerably simplifying the technique of applying supporting bandages This paste contains the following substances in parts by weight zinc oxide, 10 glycerin 10 sterilised refined glue 4 gum acacia 5, and water 30 When cold this is a viscous medium which becomes much more fluid on warming

A sufficient quantity is placed in the double-jacketed basin attached to the apparatus and warmed by hot water, which occupies the space between the jackets A bandage of requisite length and width is now wound on one roller of the machine and carried through the basin under a series of crossbars, to a second roller, where it is rewound after being thoroughly soaked in the warm paste (See illustrations) In this way a bandage which is impregnated with zinc oxide and possesses highly adhesive properties is produced The bandages are wrapped in grease proof paper and are stored ready for use in airtight tins They never solidify in the same way as would the ordinary zinc-gelatin, but remain soft, very sticky, and quite pliable even when kept for months No preparation is required before they are applied in the same fashion as ordinary cotton bandages



Special bandage machine used for the manufacture of paste bandages for the treatment of varicose ulcers Note external water jacket which renders the paste sufficiently fluid for ready use

Bandages of the type supplied to the requirements of the national health insurance authorities will be found unsatisfactory for this purpose They are so closely woven that their suppleness is sacrificed in the cause of strength moreover, it is most difficult to impregnate them completely with the paste In preparing some two hundred bandages weekly to meet the requirements of the Swansea Hospital clinic we use only the cheap three- and four-inch 'hospital" bandages which have not more than twenty-two strands of thread to the inch of bandage length and thirty-five strands to the inch of width

Method of Using the Prepared Bandages

The first measure in commencing the treatment of an ulcer which is discharging offensively is immersion in a hot eusol bath for a period of fifteen minutes The affected limb is now elevated and in this position all encrustations are removed from the edges of the ulcer and from the surrounding skin surface Much of the oedema can simultaneously be reduced by gentle stroking massage in the direction of the trunk Irrigation of the raw surface is carried out with a weak solution of hydrogen peroxide, followed by normal saline solution and the ulcer is then dressed with layers of gauze cut exactly to the size of the excavation and soaked in eusol The thickness of the gauze is just sufficient to reach the level of the surrounding skin and is covered by a thin layer of wool intended to absorb some of the copious discharge which always appears during the early stages of treatment

With the foot at right angles to the leg a strip of four-inch paste bandage is now placed with its centre over the point of the heel and its ends almost meeting in front of the ankle joint A second and a third strip are similarly applied, partly overlapping the first thus completing what might be termed a separate "heel-cap" A strip of bandage is now placed with its centre under the arch of the foot and its extremities at the level of the head of the fibula on the outer side, and at a corresponding point on the inner side This is the "stirrup" which greatly strengthens the entire bandage In cases where oedema is particularly massive longitudinal strips are also placed in front of and behind the leg in order to prevent the bandage from cutting into the leg between the turns Commencing at a spot just proximal to the toes the paste bandage is now completed by carrying a "figure of eight" up to the level of the head of the fibula The best results are obtained when these bandages are applied as tightly as the patient can reasonably endure them To prevent the sticky dressing from adhering to the stockings a roll of tissue paper or, failing this, an ordinary dry bandage, is now applied, it may be removed by the patient as soon as the paste has dried

Within a few hours of application the warmth of the limb dries the moisture from the bandage, the twists of which then become closely adherent to one another and moulded to the leg thus producing a firm though elastic support, which will remain efficient for three weeks to a month if desired The whole procedure must be carried out twice weekly at first, but longer periods are very soon allowable between the dressings, and in most instances only a short time has elapsed before weekly treatment is sufficient Even in the acute stages the secret of success is to change the applied medicament as soon as its healing effect fails to be sustained Ulcers, for example, which do not improve with eusol dressings, will often react very rapidly to a 0 1 per cent solution of acriflavine, or to an emulsion of this drug in paraffin Although ointments are not generally recommended, 'varul," an irradiated ergosterol ointment with added zinc oxide, frequently induces rapid healing in clean, chronic ulcers

The paste bandage interferes in no way with the injection treatment of veins, in fact, it provides relief in those cases where a smart reaction, accompanied by swelling and tenderness follows the injection of the various sclerosing media The only difference we make in these instances is to cover the injection sites with a thick pad of wool to prevent painful pressure

In phlebitis the treatment is particularly successful both in reducing oedema and in dispelling the tense inflammatory condition The entire hot and dusky area is well covered with pure ichthyol dressed with a thin layer of gauze and wool, and finally paste-bandaged in the ordinary way These cases need only be dressed once a week In the dry and irritating forms of varicose eczema we have found that the best results follow when the bandage is applied over strips of lint spread with an ointment containing 2 parts of crude coal tar, 4 parts of zinc oxide, and 16 parts of vaseline.

Comment

The paste bandage has now been in use for a period of three years, during which time it has successfully healed some hundreds of ulcers of a chronicity ranging from three months to fifteen years One of us has had the opportunity of gauging its efficiency in a large hospital clinic and in consulting practice, the other has tested it thoroughly in a charitable dispensary where assistance is distinctly restricted, and where patients during treatment are bound by circumstances to carry on their full daily work in a variety of laborious occupations

From the patient's point of view the paste bandage appears to be a very satisfactory application, the remark which most of them make after the initial dressing is that they have had their first night of sound sleep for some months, or that they already feel fit to recommence their employment While we have found that the paste bandage constitutes a definite improvement upon the methods so far available, both in convenience of application and in the results obtained, we do not pretend that it is a panacea for all varicose ulcers In some cases, for example, where the ulceration has existed for many years and is accompanied by massive oedema and deeply seated phlebitis, the ultimate prognosis remains somewhat gloomy The primary cause of the trouble cannot be eradicated, and even when healing occurs, unless the bandages are permanently worn, recurrences are more than likely to present themselves

The self-explanatory illustrations shown in the Plate are chosen from a series of photographs of ulcers before and after treatment

The thanks of the authors are due in a great measure to Miss R E Jones, chief pharmacist to the Swansea General Hospital for her assistance in compounding the formula for the paste bandage, and to Sister Golden of the Shooters Hill Hospital, London, for her invaluable help in elaborating the technique of ulcer treatment

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HENOCH'S PURPURA IN AN ADULT

In the *British Medical Journal* of August 16th (p 249) Mr F W Widgery reports a case of Henoch's purpura in a man aged 23, and states that at first the diagnosis was doubtful on account of the patient's age It may be interesting, therefore, to place on record another case of what I believe was Henoch's purpura in an adult

On September 17th, 1929 I saw a grocer's assistant, aged 36, who complained of headache aching pains in his limbs, and general malaise He had a slight cough his temperature was 99° F and his pulse 80 There were no other physical signs Next day he had pain round the umbilicus, there was some tenderness in that region and in the right iliac fossa The stools were normal On September 20th there appeared a profuse petechial rash scattered over the trunk and limbs, it was purplo in colour the spots ranging in size from that of a pin's head to a split pea The abdominal pain was severe and the tenderness greater On September 21st the stools were frequent, loose, and black but there was no vomiting the abdomen was swollen and tympanitic On the next day the stools were still dark, but becoming lighter there were many more purpuric spots During all this period the temperature ranged from 99° to 100 5° F On September 22nd the stools were normal in colour, soft, but severe the diarrhoea had ceased There was still a good deal of abdominal pain and tenderness though it was less was fading there were no more fresh spots On October 9th the patient had improved generally but was still very weak and looked emaciated The temperature was 99°, and the pulse 80 He was slightly constipated the abdomen was distended, and he still complained of slight pain and tenderness in the umbilical and right iliac regions The spleen was not palpable The apex beat was in the fifth interspace the cardiac dullness had not increased, and there were no adventitious sounds The urine contained a slight haze of albumin An examination for *B typhosus* was negative

On October 11th a blood examination resulted as follows Red blood cells 4 900 000 per c mm white cells 14,000 per c mm, haemoglobin 100 per cent A differential count showed poly morphonuclears 88 per cent, large mononuclears 4 per cent, and lymphocytes 8 per cent On October 24th the faeces were reported negative for *B typhosus* Three days later he complained of pain in his right leg and thigh, and there was some oedema The urine was negative to *B typhosus* On October 29th the white corpuscles numbered 20,000 per c mm, the polymorphs 84 per cent, large mononuclears 12 per cent, and the lymphocytes 4 per cent From then onwards convalescence proceeded steadily but very slowly The oedema of the right leg persisted, and on August 5th, 1930 when he resumed work, was still in evidence in the evening of each day.

H W Poolfr, M B
Alfreton

FRACTURE OF THE FRONTAL BONE INVOLVING THE FRONTAL SINUS, WITH FORMATION OF AN INTRACRANIAL PNEUMOCELE

(With Special Plate.)

The following account of a case, accompanied by radiographs, may be of some interest

The patient, a man between the ages of 20 and 30 met with a motor-cycle accident on April 25th, 1929, he was removed to a local hospital, and remained unconscious for four or five days On recovering consciousness he suffered considerably and intermittently from headaches In June 1929 he was discharged from the hospital, and on July 26th he was admitted to the Hospital for Epilepsy and Paralysis, Maida Vale suffering from headaches, intermittent weakness of left arm and left leg, and blurring of the vision of the right eye

A few days after admission x-ray photographs were taken of the patient's skull, and a comminuted fracture of the right half of the frontal bone, leading into the frontal sinus, with the formation of a large intracranial pneumocele, was discovered Following this an operation was performed under local anaesthesia, a small piece of the right half of the frontal bone was removed, a small tear in the dura mater found and sutured, and the channel which led into the frontal sinus plugged with wax At the finish of the operation, almost at once did the patient volunteer the statement that the headaches were better He was again x-rayed about four days later, and it will be noticed that the intracranial pneumocele has disappeared

Fig 1 is a lateral view taken with the head lying on the occiput This shows how the pneumocele has risen to the top, also the fracture leading into the frontal sinus A radiograph was taken with the head in the reverse position but the alteration to the pneumocele was not very marked owing to absence of any large quantity of cerebro spinal fluid Fig 2 was taken in the same position as Fig 1 It shows the appearances after operation

I desire to thank Dr D McAlpine for permission to use the clinical notes

H Martin Grey, M R C S, L R C P,
Radiologist, Hertford County Hospital late
Radiologist, Maida Vale Hospital for
Epilepsy and Paralysis

SECONDARY ABDOMINAL PREGNANCY

The following case presented interesting points in diagnosis and treatment

A married woman, aged 32 with three children, the youngest of whom is 5 years old, had been under prolonged treatment for pelvic inflammatory trouble, which originated with a vaginal discharge and painful micturition Her condition had gradually become worse, and pain in the right iliac fossa caused her to seek admission to hospital

On examination the signs and symptoms suggested pelvic cellulitis Vaginal examination revealed a tender mass occupying the pouch of Douglas, micturition and defaecation were painful On palpation the lower right rectus muscle was guarded, and deep pressure caused much pain Abscess formation was suspected General and local treatment was instituted, and two days later a brownish mucous discharge appeared from the vagina On close questioning it was found that this had also occurred on one or two previous occasions, otherwise the menstrual history was uninterrupted The pain continued, and shreds of decidual membrane were passed, the probability of ectopic gestation was considered, and a laparotomy was decided on

The abdomen was opened in the middle line, and a secondary gestation sac was found, which consisted of a mass of adhesions of the parietal peritoneum omentum, and intestine On separation of these a foetus of about four months' gestation was found and delivered The cord was traced downwards, and the placenta separated from its attachments in the pelvis The haemorrhage was profuse, but soon ceased on pressure with hot towels The large sac was drained, and for several days clots and fragments of membrane were discharged from the tube, and, later, purulent matter escaped from the wound, the convalescence was otherwise satisfactory and uneventful

I wish to thank Dr Livingston for his co-operation in the management of this case

Herbert F Blackliff, M B, F R F P S,
Honorary Assistant Surgeon North Lonsdale
Hospital, Barrow in Furness.

Reviews

RADIOLOGY OF THE CHEST

IN *The Chest*[1] the latest addition to the *Annals of Roentgenology*, Dr L. R. SANTE has produced an interesting, instructive, and comprehensive yet compact volume, containing information of the utmost value to the physician who needs in the course of his work a knowledge of the interpretation of chest films. The work is well arranged, being divided into three parts. The first deals with the methods used in making x-ray examinations of the chest, the anatomy and physiology of the chest from a radiologist's point of view, and the principles which lie behind the correct interpretation of the findings. In this part the section on the mechanics of respiration is noteworthy for its simplicity. The second part deals with the radiological evidences of disease, and the third with the various diseases of the respiratory organs, their radiological characteristics and differential diagnosis. The text is illustrated by nearly 400 excellent radiograms and by many line drawings, which clearly show the author's meaning. The clinical material in the third part is particularly good, each description having the clarity and conciseness of a thumbnail sketch. The special radiological study of the heart is excluded from this volume. Special interest attaches to the section on the pneumonias, for the radiological examination of patients suffering from pneumonia is not regularly practised in this country, though the author has undoubtedly made out a clear case for its value. He has made the study of radiology in these diseases peculiarly his own, and in consequence much of the information he gives is new. His views on pulmonary syphilis will not meet with general acceptance, for he holds that the lungs are relatively, if not entirely, immune to syphilis. He states that he has not observed an authentic case or met with any proved cases recorded in the literature. Of outstanding interest is his section on pneumonoconiosis, a disease of very great industrial importance. Radiological examination of the lungs affords the only way by which the full extent of the disease can be determined, and this method of examination is more reliable than any other in detecting progress or regression of the condition. The differential diagnosis of pneumonoconiosis is particularly well described and illustrated. Most of the other pulmonary disorders the author deals with clearly and concisely, but he appears to make no reference either to hydatid or to dermoid cysts, both of which should surely find a place in such a volume. By a curious convention practically all the radiograms and diagrams are so arranged that the heart is seen on the right side of the chest, and the lateral views—for example, in Figs. 199 and 200—give an image which is the reverse of that normally seen; points which should be borne in mind by those who are not thoroughly familiar with the interpretation of radiograms. The work may be regarded as an important contribution to the literature both of radiology and of diseases of the respiratory system, and Dr. Sante is to be congratulated on producing a volume which embodies so much personal observation and contains such sound views. His work deserves a place in every medical library, but its price is 20 dollars.

DE ABREU's book on radiological studies of the lungs and mediastinum[2] is a volume of original views, the result of the author's researches in an important branch of radiology. It is divided into four sections, each representing an address given by him during the last few years. In the first section the author details the methods by which he is able to calculate the relative volume of healthy and diseased lung, a point which he claims to be of importance in assessing the prognosis. These methods are applied in the second section to a study of the discrete forms of pulmonary tuberculosis. The third and fourth describe in great technical detail the "radiogeometry" of the mediastinum with special reference to the heart and great vessels of the chest. The author contends that there is a normal measurement for the different vascular shadows, and that it is possible to determine comparatively early arterial disease by careful study of their widths and densities. When the technical difficulties in obtaining a standard radiogram of the chest are considered the question arises whether this degree of precision is feasible, on the other hand, such precise methods have often led to the discovery of important facts. The volume is illustrated by many excellent radiograms and clear line drawings, it is well printed and has a good bibliography. Its interest lies in the originality of its views and in the meticulous care with which the author has studied his subject.

[1] *Annals of Roentgenology*. Vol. xi. *The Chest*. By L. R. Sante, M.D. (Cantab.), F.A.C.P. New York: P. B. Hoeber, Inc. 1930. (6 × 10; pp. xxvi + 561; illustrated; 20 dollars net.)

[2] *Radiologiques sur le Poumon et le Médiastin*. Par M. de Abreu. Paris: Masson et Cie. 1930. (6½ × 10; pp. 200; 52 plates; 79 figures; 50 fr.)

CLINICAL ASPECTS OF THE BACTERIOPHAGE

HOWEVER well supported by evidence, a case that is overstated meets with a somewhat prejudiced reception from those who might otherwise be favourably inclined. Broadly speaking, the phenomenon of the bacteriophage is open to two interpretations: either the bacteriophage is a living infra-microscopic parasite of bacteria, or it is a non-living agent with properties approaching those of enzymes.

D'HERELLE, as is well known, is convinced of the correctness of the former hypothesis, and in a small volume entitled *The Bacteriophage and its Clinical Applications* he has resumed the arguments in favour of this concept. It must be admitted that there is a great deal to be said for his point of view. Life, as he points out, is characterized by certain features: ability to multiply, to adapt to altered environment, and to assimilate without loss of identity; and since the bacteriophage can be shown to possess these characters he argues that it must be living. No doubt it is very galling to d'Herelle, who holds this view so strongly, to find that all are not prepared to accept his interpretation of the phenomenon, but he would do well to remember that his opponents are neither fools nor knaves, and certainly nothing would be lost by treating other people's views with a little more consideration. The chapter on bacterial mutation, in which the author sketches the part played by the bacteriophage in this direction, is interesting and worthy of careful consideration. The views expressed on recovery from and immunity to infectious disease are original and therefore stimulating, though many bacteriologists will disagree profoundly with them. Here, too, overstatements and rash generalizations are to be found which can only detract from the arguments put forward. It is foolish to say that bacteriologists, rather than study the natural disease, persist in inoculating laboratory animals with viruses to which they are "completely resistant" and then observing the result! And to state that in all epidemic bacterial diseases the natural disease is contagious and the experimental disease is not, is simply to ignore facts.

D'Herelle has little use for the orthodox views on immunity. To his way of thinking the bacteriophage is the important factor governing recovery from an infection, though he does allow that the dissolution of the bacteria by the phage liberates antigen the absorption of which gives rise to immunity. Presumably the phenomenon of inflammation is merely a trick played by nature to deceive the unwary student of disease. The chapter on the use of the bacteriophage is of considerable interest, and it must be admitted that the results obtained in the treatment of dysentery and cholera are quite striking. In other diseases such as colitis, sprue, infantile diarrhœa, and coryza the evidence is much less convincing, and the author frankly admits that typhoid fever does not respond to bacteriophage therapy. We cannot help recalling that equally glowing accounts have been given of the therapeutic use of bacterial filtrates, no doubt Bedika would place much of the success obtained with the bacteriophage to the credit of antivirus. However, those who wish to acquaint themselves with d'Herelle's work will find this book of service. It is clearly written and presents a point of view which is refreshingly unorthodox.

[1] *The Bacteriophage and its Clinical Applications*. By F. d'Herelle. Translated by George H. Smith. London: Baillière, Tindall and Cox. 1930. (5 × 8; pp. viii + 251; 15 s. net.)

DESCRIPTIVE ANATOMY

It would be of interest to enumerate all the textbooks of systematic human anatomy that have been written for the benefit of medical students, and to determine why it is that some achieve a world-wide popularity while others retire into obscurity almost as soon as they are published Probably fashion and tradition have their say in the matter to a considerable degree We have our Quain, Cunningham, and Gray in this country, and it is nice to see foreign textbooks in use by our students, except those which depend for their distinction upon the excellence of their illustrations This is a point deserving of attention The fourth volume of Professor Julius Tandler's Textbook of Systematic Anatomy,[1] which deals with the nervous system, sense organs, and endocrine glands, is remarkable for its sumptuous illustrations, a large proportion of which are reproduced in several colours It is obvious that no effort has been spared to illustrate this textbook in the finest and most attractive style, and the author is to be congratulated on having at his disposal such a superb artist as Hajek

An anatomical textbook of this kind advertises itself by the quality of its illustrations But unhappily this does not seem to be sufficiently realized in England either by authors or publishers, for it would be possible to name at least half a dozen anatomical textbooks which have recently appeared in this country in which the excellence of the text has been more than counterbalanced by the poverty of the illustrations If this is not quickly realized, then translations of the richly illustrated Continental textbooks will be serious competitors with our own publications Certainly this is quite likely to be the case if Tandler's book is translated into English We should be sorry if it were to turn out so, for we do not think the text of this book reaches the high level of our own classics This is not to say that the text is not perfectly adequate for the needs of the average medical student, for the description is detailed and clear Especially noteworthy is the section entitled "Die nervosen Leitungssysteme," in which a connected account is given of the various conduction paths which subserve the functional activities of the nervous system But we miss the "refinements" which might make the book less of a catalogue of data to which little perspective is given In other words, the descriptive part is of the orthodox, cut-and-dried anatomy Debatable points are set down as established facts, and practically no references to literature are given Little time and attention is paid to important variations of normal structure and arrangement which have a very direct application to clinical problems It is for such points as these that the student is most likely to turn to his textbook of anatomy when he reaches the stage of clinical study But these criticisms are not inconsistent with our opinion that this volume of Tandler's *Anatomy* is a very fine production, and that it ranks with those classics of descriptive anatomy which should form an essential part of the library of every medical student and practitioner

MEDICAL TREATMENT IN GENERAL PRACTICE

Compared with the time set apart for the teaching of diagnosis that devoted to inculcating the principles and details of treatment is in most medical schools regrettably small With the object of redressing the balance Professor Harry Beckman has produced a portly volume with the title *Treatment in General Practice*.[2] In it each of the chief diseases of man, exclusive of those that by prescriptive right belong to the legitimate specialties, has had its own peculiar therapy described, as that therapy has been evolved out of the experience of physicians all over the world In every section authorities are quoted freely, and when opposing views are held each side is given sufficient of an innings to make its main contention clear The author looks upon himself as an editor, summing up the main points in a judicial manner and indicating clearly where the claims made by particular workers in any given field have failed when submitted to the test by other observers This method is highly successful, as not only does it offer guidance, but it stimulates thought where a bare recital of formulæ or nursing details merely stifles initiative

Dr Beckman has supported his text with an excellent bibliography In those diseases such as arterio sclerosis and the chronic forms of nephritis, in which the treatment is almost purely that of symptoms, he does not hesitate to point out that the better course is to secure as far as possible the comfort of the patient rather than to make his life a burden by insisting on measures which are irksome and of very doubtful practical value The general plan of the book follows the lines of the ordinary textbooks, in that diseases are classified according to the systems affected —nervous, circulatory, and so on There are also chapters on acute poisoning, burns, and the treatment of certain obstetrical conditions The final chapter embraces a miscellany, such as the treatment of sea-sickness and delirium tremens, methods of sterilizing the skin, and the technique for the administration of glucose No mention is made anywhere of the treatment of the definitely surgical conditions such as appendicitis For this reason a more accurate title would have been "Medical Treatment in General Practice" One or two rather blatant misprints have escaped the eye of the proof-reader, but otherwise the book, both in style and in get-up, deserves nothing but praise, and Dr Beckman has refrained from employing those transatlantic forms of expression which so often jar upon the island-born reader, if they do not completely mystify him

THE CASE FOR CREMATION

In a small book entitled *Cremation*[3] Miss Florence Fidler recalls the primitive methods of surrendering the dead to earth, air, and fire, she asserts that Christianity did not definitely quarrel with the idea of incinerating the dead until the notion of a material resurrection became a dogma, when cremation gradually ceased to be practised in Europe In 1873 Sir Henry Thompson studied the question in Italy, and, realizing the value of cremation as a sanitary reform, urged its immediate adoption in this country Opposition was strong at first, but his vigorous campaign resulted in the formation of a society of sixteen members, including Millais, Tennel, and Trollope, and this body was the nucleus of the Cremation Society An acre of freehold ground, acquired near Woking in 1878, was devoted to public cremation only after the propaganda work of some enthusiasts had extorted a legal judgement in their favour Express parliamentary sanction was obtained in 1902 Miss Fidler surveys the rapid subsequent growth of cremation, especially since the end of the war, noting the peculiar conditions that have affected its history in Germany and France She then gives a succinct account of the process by which the body is reduced to a fine dust, and indicates the various destinies that await the ashes, whether scattered in the garden of rest, inurned in a columbarium, or carried away to distant chosen places

Some attention is naturally devoted to the stock argument that cremation may hinder the detection of crime This objection is adequately dealt with, and others are carefully considered in a separate chapter The author finds that cremation is of moderate cost to the individual, and may even be a source of financial relief to the community In discussing the ethics of the subject she points out that the early advocacy of cremation coincided with the exposition of Darwinism, and of a science that seemed in complete conflict with religion Although the crudity of that time, there still remains the psychological paradox by which a genuine reverence can commit the dead body to the slow process of disintegration, ignoring the considerations that the rights of the dead include safety from violation and from the disturbance that finally overtakes most cemeteries Fire is described as no more "pagan" than earthly burial, merely cleansing and accelerating the processes of nature

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[1] *Lehrbuch der systematischen Anatomie* Band 4 Nervensystem Sinnesorgane Innere Sekretion Leipzig F C W Vogel 1929 (Roy 8vo pp xiii + 669 500 figures M 65)

[2] *Treatment in General Practice* By Harry Beckman M D Philadelphia and London W B Saunders Company 1930 (Roy 8vo pp 1015 21s net)

[3] *Cremation* By Florence G Fidler London Williams and Norgate Ltd 1930 (Cr 8vo pp 80 Paper cover, 1s net bound 2s 6d net)

NOTES ON BOOKS

We have received the second edition of *Psychopathology: Its Development and its Place in Medicine* by Dr BERNARD HART. In the present edition no material alteration has been made in the body of the book but a new chapter on the conception of dissociation has been added which serves to amplify the writer's position with regard to the respective contributions to psychopathology of Janet and of Freud. We reviewed the first edition of this book at some length (May 7th 1927, p. 839) and the present issue does not therefore require extended comment. It is satisfactory to know that a new edition has been called for, as the monograph is one with which every serious student of psychopathology should make himself acquainted.

There are cynics who doubt whether the newly qualified practitioner of to-day is given to reading the books on conduct in practice which from time to time are written for his moral guidance. It should be otherwise with *General Practice*[1] the latest production of the pen of that genial cynic Dr. ERNEST WARD. Notwithstanding his statement that his book is not intended for those of mature experience there is much in it that should enlighten and entertain the older practitioner no less than the younger. Dr. Ward describes with a pretty wit and many anecdotes how he has met or circumvented difficulties incidental to general practice. If he hazards an opinion on correct conduct he enforces it with a story. He thinks marriage an advantage to doctors and then proceeds to emphasize the necessity for a good wife by describing the varying fortunes of doctors who chose (or were chosen by) tea shop girls and café manageresses. He believes that general practitioners should undertake only minor operations and illustrates the degeneration which often overtakes the practitioner-surgeon with the tragedy of an operator who expected to find an ovarian cyst, became flustered at the appearance merely of ascitic fluid, suggested the existence of a new growth and, finally removed for microscopical examination—a ring-like segment of a very fat pelvic colon! As an incentive to reputable practice Dr. Ward offers a classification of undesirable types into the collector-practitioner who in visiting a house discovers that little James is looking rather pale or that Mary is stooping as if her back was not quite straight, the brigand who treats many grateful patients for nothing in the hope of discovering a well-to-do victim to fleece and the stunt practitioner who administers prolonged and expensive courses of polyglandular therapy to all and sundry. Dr. Ward cheerfully admits that at one time or other he has made most of the mistakes which a medical man may make. He has found that consultants are often opinionated and conceited because they are conventionally speaking *ex cathedra* and do not usually hear of their mistakes. At the same time he impresses on his readers that with few exceptions colleagues are to be considered just as honourable and wise as ourselves and to be treated exactly as we should like them to treat us. Whether there are doctors young or old who require the advice that it looks bad or at least unbusinesslike, to enter a bedroom with a cigarette in the mouth we do not know but we hope they are at least a negligible minority.

The third quarterly instalment of the *Guy's Hospital Reports*[2] opens with an important paper by Dr. L. J. WITTS, who by collecting and critically analysing fifty cases of simple achlorhydric anaemia, establishes the existence of this form of anaemia in a way which the previously recorded cases had not effected. It is common especially in middle-aged women and the achlorhydria, which may be hereditary or acquired precedes the chlorotic microcytic, and secondary anaemia and persists after the anaemia is cured. The proper treatment is by transfusion or iron in twice the maximum pharmacopoeial dose and must be continuous to prevent relapse. The administration of liver preparations and hydrochloric acid has no effect on the anaemia. Great interest attaches to its relation to Addison's anaemia. It is probable that they both depend on achlorhydria which in males more commonly induces a megalocytic anaemia and in females a microcytic anaemia. In both forms the bone-marrow is hyperplastic with in one predominance of megaloblasts in the other of normoblasts. Glossitis and splenomegaly occur in both subacute combined degeneration usually associated with Addisonian anaemia, may also occur in simple achlorhydric anaemia. Dr. H. G. CLOSE contributes a very interesting article on the hospital incidence of certain diseases showing by comparison of the two five-year periods 1910-14 and 1921-25 inclusive those diseases which have become more frequent less frequent and have remained stationary. Lobar pneumonia rheumatic fever chorea and therapeutic anthrax have like typhoid fever and chilblains generally recognized become less common while tuberculous adhesions anaemia Hodgkin's disease and talipes dorsalis have not shown any change. Dr. V. F. HURST and Mr. J. GARMER JONES describe megalo-ureter due to achalasia of the ureterovesical sphincter and Mr. Ralph THOMPSON reports the cases of vesical calculi during the period 1910-29 inclusive. Dr. J. T. IRVING writes on the permeability of the renal cell to glucose and Mr. CLIBBORD in his report of the maternity department considers the low incidence of eclampsia to be in part at least due to a fortunate local rarity. Cases of duodenal retroperitoneal hernia are reported by Dr. VENABLES and by Mr. P. TURNER and Mr. SCHOLEFIELD. Mr. BROMLEY reports cases of obstruction of the small intestine due to foreign bodies such as gall-stones, to inflammation in or around the intestinal wall, and to new growths.

The first number of the *Collected Publications from the Robert Dawson Evans Memorial for Clinical Research and Preventative Medicine*[10] (Boston Mass.) is devoted to endocrine studies reprinted from *Endocrinology* and is dedicated to the living memory of Maria Antoinette Evans the Founder. The work began in 1912 and during these seventeen years between four and five thousand persons have been investigated clinically and by laboratory methods. The first paper, describing a general method for the differential diagnosis of abnormal endocrine function is by Dr. A. W. ROWE and contains an analysis of a thousand cases thus investigated subsequent examination of more than two thousand cases confirmed the conclusions in this paper which was published in 1922. The last paper also on the differential diagnosis of endocrine disorders, and published in August 1929 is by Dr. ROWE. The other seven papers are contributed by Dr. ROWE in collaboration with Dr. C. H. LAWRENCE, and deal with disorders of the pituitary thyroid, gonads and adrenals with pluriglandular disease, and five hundred cases simulating endocrine disorders. The collection is a monument of laborious investigation, and is strikingly illustrated.

A booklet entitled *The Problems of Rinderpest in India*,[11] by the late director of the Imperial Institute of Veterinary Research Mukteswar, India describes what is the most formidable cattle scourge in India and discusses the methods of control of the disease. The disease is essentially one of cattle and the author describes how the virus has been attenuated by passage through goats, and how this attenuated virus may be used for the vaccination and protection of cattle.

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[1] *Psychopathology: Its Development and its Place in Medicine.* By Bernard Hart. M.D. Lond., F.R.C.P. Lond. London: Cambridge University Press. (Demy 8vo, pp. viii + 178. 8s. 6d. net.)

[2] *General Practice.* By Ernest Ward, M.D. Camb., F.R.C.S. Eng. London: J. Bale, Sons and Danielsson, Ltd. 1930. (Cr. 8vo, pp. 196. 3s. 6d. net.)

[3] *Guy's Hospital Reports*, vol. 80 (vol. 10, Fourth Series) No. 3, July 1930. Edited by Arthur F. Hurst, M.D. London: The Lancet, Ltd. (Med. 8vo, pp. 253-378. 18 figures. Annual subscription £2 2s. net; single numbers 12s. 6d. net.)

[10] *Collected Publications from the Robert Dawson Evans Memorial for Clinical Research and Preventative Medicine.* No. 1. *Endocrine Studies.* Boston: E. J. Barnard and Co., Inc. 1929.

[11] *The Problem of Rinderpest in India.* By J. T. Edwards, D.Sc., M.R.C.V.S. Bull. tin No. 199. Imperial Institute of Agricultural Research, Pusa. Calcutta: Government of India, Central Publication Branch. 1930. (7½×9½, pp. 16, 12 plates, 9 charts. Rs.1.4 or 2s. 3d.)

PREPARATIONS AND APPLIANCES

A RECTAL SUPPORT FOR ANAL PROLAPSE.

DR. E. J. LLOYD (Bangor) writes: In the course of more than fifty years as a general practitioner I have had several cases of prolapsus ani especially in old people where an operation would not be advisable. I could never obtain a satisfactory support in these cases, so I had to devise one myself.

First I found I must have a well-made padded leather belt buckling in front. This was supplied by Messrs. Ellis Son and Paramore, Sheffield, and the appliance was completed as follows on my instructions. A thick rubber piece is folded on itself in the middle part but leaves a loop at the top and one at the bottom. This rubber piece is about 8 or 9 inches long and about 3 inches wide. One end of the belt is passed through the upper loop and on to the middle of the belt. The under strap is made of a round rubber piece with leather bands attached to each end; there are holes in it for fastening it to studs one on each side of the front of the belt. The under strap is passed through the lower loop of the rubber central piece as far as its middle. A rubber plug is unnecessary and uncomfortable to wear.

After every act of defaecation the prolapsed portion of the rectum must be carefully returned by pressure upwards with the fingers of the right hand. It is then bathed with a pad of cotton wool dipped in a weak solution of an antiseptic such as liquor carbonis detergens (no. lysol) and subsequently dried with a piece of cotton wool. It is advisable to place a piece of cotton wool of about 4 by 3 inches to cover the anus and to bring the rubber piece over the wool. The rubber piece should be washed frequently.

ABORTION AS A CAUSE OF MATERNAL MORTALITY

REPORT OF THE HEALTH SECTION OF THE LEAGUE OF NATIONS

THE interim report of the Ministry of Health's departmental committee on maternal mortality and morbidity[1] treated of abortion only briefly, in the monthly epidemiological report of the Health Section of the League of Nations for July[2] the question has received considerable attention, and a striking analysis of the available statistics is included. The significance of abortion as a cause of maternal deaths has only gradually been appreciated, as a reference to the international list of causes of death shows. Thus, in 1920 abortion was included under the general heading of "The puerperal state," and under the subheading "Accidents of pregnancy," but in 1929 it is given much more prominence, and classified as "abortion with septic conditions" and "abortion without mention of septic conditions, but including haemorrhage." The change represents not only an alteration in medical opinion but the appreciation of an important social factor, introduced by the increase in the number of abortions. Indeed, the report states categorically that the maternal death rate is more affected by abortion than by delivery at term.

Prevalence of Abortion

The legalization of abortion in Soviet Russia has already brought some interesting points to light, and will provide an opportunity for a thorough investigation of the problem as the public mind becomes more accustomed to the experiment. In the report of the Aberdeen Commission for the past ten years, the death rate among unmarried mothers was recorded as being almost double that of married mothers, while the puerperal death rate among them was three times that among married women. It is true that many unmarried mothers experience their confinements under less favourable conditions than the average married woman, and consequently stand a greater chance of developing puerperal infection, but it is also usually accepted that abortion, which is one of the primary causes of maternal mortality, is more frequent among unmarried women. In Russia the statistics for 1925 and 1926 show that the number of abortions, and hence the number of deaths, was higher among women whose marriage had not been registered, they also indicate that abortion is more frequent at the second pregnancy than the first. In countries other than Russia, of course, the difficulties of obtaining reliable statistics are insuperable.

Two factors enter into a study of abortion—the real or probable number of abortions in a country, and the proportion which lead to disease or death—and in neither case is it possible to make an accurate estimate. In Germany, according to certain investigators, abortions have risen from 240,000 in 1911 to more than a million in 1927, taken in conjunction with the birth rate these figures work out at 1 abortion to 8 confinements in 1911 and nearly 1 abortion to every confinement in 1927. But it is improbable that these estimates do more than guess at the truth, as the conflicting opinions of different authorities show; Walthard, in 1929, estimated the number of women who succumb to the operation at 15,000, while in 1926 Lippmann calculated this number at 35,000. The difference in economic conditions between the two years in question may have a bearing.

A certain amount of information can be gleaned from hospital records, and Professor Whitehouse has analysed the figures for abortions among 1,000 parturient women at the Birmingham General Hospital from 1924 to 1928, 3,228 children were born, and abortion occurred in 597 cases. In a similar inquiry made between the years 1911 and 1913 the proportion of women who had at least one abortion was 35·3 per cent. An estimate made by Professor Grzywo-Dabrowski at Warsaw is quoted which puts the rate at 1 abortion to 4·15 confinements, but these figures only relate to serious cases treated in hospital, and consequently merely give some indication of the morbidity due to abortion.

According to a report submitted to the National Association for the Prevention of Infant Mortality in 1929 by Dame Louise McIlroy, abortion since the late war is more frequent among married than unmarried women, unemployment and economic difficulties are mentioned as the chief causes of this transposition, and the opinion of Professor McIlroy is borne out by the experience of three observers in America, who found that among 672 deaths due to abortion 610 occurred among married, and only 60 among unmarried women.

Abortion in U S S R

Some of the most interesting figures quoted relate to Russia, where 80 to 85 per cent. of abortions are believed to be registered owing to its legalization. Here the average in the towns is said to be 25 abortions to 100 confinements, and higher in the large cities, reaching 70 per 100 confinements in Moscow. The proportion of abortions is said to be from 8 to 10 times greater in large cities than in country districts and small towns—possibly, suggests the report, owing to the fact that prejudice dies hard in rural districts, and hence secret abortion is more common and registration is less complete. Legal abortions are carried out in the hospitals, generally during the second month of pregnancy, while secret abortion is frequently practised at a late stage of pregnancy, adding considerably to the maternal danger. This may be compared with the state of affairs in Germany, where Lippmann estimates that some 35,000 women die yearly from complications of abortion, unhygienic conditions and the late stage of pregnancy at which secret abortion is carried out accounts for the high mortality rate.

Further Russian statistics show that abortion is most frequent between the ages of 20 and 39. A series of statistics of the age groups in cases of puerperal fever following abortion obtained in Prussia show that the greatest number of abortions occur between the ages of 30 and 40—that is to say, among women who have probably previously borne children. Another point emerging from Russian experience is that the number of abortions does not necessarily increase as a result of legalization, while the decline in secret abortions during the last few years and the performance of the operations in hospital have been accompanied by a corresponding decrease in maternal mortality. The death rate for legal abortions performed in hospital is very low, and in Moscow during 1926 artificial abortion was practised on 29,306 women without a single death, while among women admitted to hospital following secret abortion the death rate reached 1·2 per cent. Whatever arguments may be urged on moral or other grounds against the legalization of abortion in U S S R it appears to have been effective in preventing the shocking waste of maternal life. Whether in the long run the waste of infant life will more than counterbalance this gain remains to be seen.

Analysis of Abortion Statistics

Roesle is quoted as urging the compulsory notification of abortion in every country, but, as the authors of the report point out, it will never be possible to induce people to notify an operation which is punishable by law. Members of the medical profession are not prepared to register a fact which may be injurious to their patients, regarding it as a breach of professional confidence. Holmes, Mussey, and Adair, who analysed statistics of accidents of pregnancy occurring before the seventh month in the United States of America, found that among 672 registered abortions 189 were classified as spontaneous, 69 as therapeutic, 328 as induced, and in 89 the cause was not specified. Experience has shown that in the large towns many cases of abortion are induced, but are classified as therapeutic so

[1] *British Medical Journal*, August 9th, p. 223.
[2] Monthly Epidemiological Report of the Health Section of the Secretariat. Ninth Year, No. 7. Geneva, July 15th, 1930. 1s. 6d.

as to avoid the attention of the judicial authorities, abortion therefore probably plays a large part in the maternal mortality of the United States and if the unregistered were added to the registered cases the number of deaths would be at least equal to those caused by accidents of pregnancy and labour The same observers found that deaths due to abortion were less common in the series among white women than among negresses probably owing to the difference in economic conditions between the two races They estimate that puerperal sepsis is responsible for death in 90 per cent of deaths following induced abortions and in 60 per cent of so-called spontaneous abortions Swiss statistics show that during the last thirty years maternal mortality following puerperal fever has been reduced by half but that deaths due to abortion remain at a high level and exceed 20 per 1,000

Causes of Increased Abortion Rate

Mme Lebedeva, head of the Maternal and Infant Welfare Section at the Soviet Commissariat of Public Health considers one of the causes of the increase in abortion to be the enormous increase of women workers which has occurred in every country the housing shortage and the decline in economic prosperity have played a part and the decrease in infant mortality which has been considerable in most countries during the last twenty years, has doubtless thrown an additional burden on the poorer class of parent which has made the avoidance of further responsibility seem all the more urgent

THE INTERNATIONAL SILICOSIS CONFERENCE AT JOHANNESBURG

[From our Pretoria Correspondent]

The conference on silicosis convened by the International Labour Office of Geneva was held in Johannesburg at the offices of the Transvaal Chamber of Mines during the fortnight August 13th to 27th At the opening meeting the chair was taken by Mr J J Phelan, chief of the diplomatic division who explained that the International Labour Office was the executive secretariat of the International Labour Organization, a society comprising fifty six States which had entered into a contract that they would collaborate in improving the conditions of labour In the constitution of the organization industrial disease was specifically referred to, and one of the sections of the Labour Office was devoted to the study of this subject Owing to the distance of South Africa from Geneva a conference though approved by the International Labour Office, would probably never have been held but for the generosity of the Transvaal Chamber of Mines

All the Governments whose minds have been exercised by the incidence of silicosis were represented at the conference Australia by three members Canada by one Germany by two, Great Britain by four, Italy by one the Netherlands by one, the Union of South Africa by ten, and the United States by two members The International Labour Office was represented by three members of the diplomatic division, and by two members of the Industrial Health Service, including Dr L Carozzi the technical adviser At the first business session Dr L G Irvine, chairman of the Miners Phthisis Medical Bureau, Johannesburg, was elected chairman of the conference Sir Spencer Lister, director of the South African Institute for Medical Research, and Dr A L Russell of the United States Public Health Service, were elected vice-chairmen In accordance with the usual Geneva procedure a resolutions committee and "reporters" on the three sections into which the subject was divided were also elected Their reports, after amendment by the full conference, will eventually be published in a volume, which will include the various papers submitted beforehand and an account of the proceedings

Preventive Measures

The reporters elected for this part of the discussion were Professor Lorigo, chief medical inspector of factories Italy, Dr Badham, medical officer of industrial hygiene of the New South Wales Department of Public Health and Mr Roberts technical adviser to the Transvaal Chamber of Mines All the papers submitted under this and other sections which had been printed in General and previously circulated were not read at the meetings but their substance was discussed on broad lines, members freely expressing the results of their own experience

The discussion indicated that silicosis becomes noticeable after widely differing periods of exposure, it is contracted through inhaling for a sufficiently long period dust containing percentages of silica as low as or even lower than 30, the greatest amount of harm is done by the smallest particles those less than about 3 microns in size Some evidence was adduced in favour of the value of other particles, such as coal or shale dust, inhaled simultaneously with silica dust but experience, particularly in Germany, was definitely against the prophylactic value of alternate employment in silica and coal mines The alleged immunity from silicosis in some districts where quartz in company with non siliceous rock was being mined was unfounded the incidence of silicosis had been obscured by the migratory nature of the population and by the inadequacy of medical examination where not required by laws relating to compensation It was generally agreed that the power of resistance of the individual was an important feature Evidence was also forthcoming that alternative employment and periods free from exposure to silica dust delayed the formation of silicosis some members, however, maintained that it was only the total periods of exposure which mattered, whether such periods had been continuous or not It was strongly urged that for the critical and scientific study of dust particles a standard method of assessing the dust content of air, both by counting and gravimetrically, was required Only if assessed by such standard means would the findings be available for international comparison The conference recommended that as soon as such standard methods had been perfected a complete survey of the dust concentration in dusty industries throughout the world should be made

For the prevention of dust in the Witwatersrand Mines greatest reliance has always been placed on the use of water Water is sprayed into the air all surfaces of the rock where work is being done are kept wet with the object of securing a fly paper effect in retaining dust which might settle on them, water is applied to the point of percussion—for example by means of an axial water feed in drills Only the third of these methods was considered to be of any real value in the prevention of silicosis The very small particles of silica which are responsible for silicosis are not likely to settle on roofs and walls and like micro-organisms of the same size will not be caught by a spray Unnecessary humidifying of the air is to be avoided particularly in the deep mines, where it interferes greatly with the cooling mechanism of the body by preventing evaporation of sweat, a humid atmosphere and the presence of droplets have been shown experimentally to increase the risk of various infections considerably

Other methods of dust prevention investigated were the application of exhaust draughts at or near the point of origin of the dust, dust traps, masks, and ventilation Some years ago experiments were conducted on the Witwatersrand to maintain the surface of underground walls and roofs in a condition to cause dust particles to adhere to them They were sprayed with solutions containing molasses calcium chloride and other hygroscopic substances but in the humid atmospheres produced underground these substances were found to absorb moisture so readily that they soon trickled down into the gutters

Medical Aspects of Silicosis

The reporters in charge of this portion of the discussion were Dr L V Gardner of the Trudeau Sanatorium Dr A J Orenstein the superintendent of

sanitation of the Rand Mines, Ltd , Dr E L Middleton, medical inspector of factories, Great Britain, and Dr W Steuart, radiologist to the Miners' Phthisis Bureau, Johannesburg

Silicosis was defined as a pathological condition of the lungs due to inhalation of silicon dioxide, which could also be produced experimentally in animals To produce the condition the silica particles must reach the lungs in sufficient amount, over a sufficiently long period of time, they must be less than 10 microns in size, and must be chemically uncombined The minimum time and concentration have not yet been determined they appear to be to some extent reciprocally variable Experimental evidence indicates that the solubility of silica in the tissues is the essential factor in the causation of silicosis The progress of the silicotic condition is unfavourably influenced by infection of the lung with pathogenic organisms, tuberculous infection being especially bad Other dusts, harmless in themselves, are capable of producing serious pneumonoconiosis in a lung in which the silicotic process has been established Opinion varied as to whether intermittency of employment retarded the onset of silicosis The local evidence regarding native labourers, who work for periods of about nine months at a time separated by varying periods at their kraals, tends to indicate that intermittent employment is less harmful than continuous employment of the same total length

Pathologically five stages of the disease are recognized First, there is a fine bronchiolitis characterized by an accumulation of dust-filled phagocytes in the terminal bronchioles, then an accumulation of dust containing phagocytes about and in the intra-pulmonary lymphoid tissue and then transportation through the lymphatics into the tracheo-bronchial lymph nodes It is not until the next stage is reached that the condition constitutes silicosis in the legal sense Thus stage is characterized by the gradual development of fibrous tissue within the mass of phagocytes and the formation of a characteristic nodule in these foci Finally, the hyaline nodules increase in size by extension at their periphery, coalescence of adjacent nodules takes place and brings about involvement of extensive areas of the lung

Clinically three stages can readily be recognized In the first stage respiratory symptoms may be slight or absent, working capacity may be slightly impaired, there is a departure from normal of physical signs, and the radiogram shows dense linear and nodular shadows In the second stage all the physical signs are increased, the nodular shadows are increased in number and size, and there is some degree of definite impairment of physical capacity In the third stage all signs and symptoms are greatly exaggerated, and there is total loss of working capacity Pulmonary tuberculosis may be present in any of the stages, altering the symptoms, physical signs, and the degree of incapacity The reporters recommended the establishment of an international classification of silicosis an internationally comparable radiographic technique and terminology, and the institution of further studies in the correlation of radiographic appearances and morbid anatomy of silicosis and silicosis complicated with tuberculosis

Diagnosis Compensation and After-care

The reporters for this section were Dr G Cunningham, director of the Division of Industrial Hygiene of the Colman Health Department Professor A J Hall of Sheffield University (Chairman of the Medical Research Council Committee to investigate pulmonary diseases from silica and other dusts) and Professor Koelsch, State medical officer Munich Germany

It was considered that silicosis whether complicated or not involve constituted an occupational disease reduction of working capacity In a medical examination to ensure a certain standard of physique should be generally adopted in industries in which the risk of exposure to silica dust is great Periodic examination of such workers is also essential Whether it is in the worker's interest to leave the industry in the early stage of the disease was not clearly established South African experience suggests that downward progress is not generally arrested on leaving the industry It is probable that reduced economic conditions of life consequent upon leaving a highly paid industry and the associated mental worries are largely responsible for this On the other hand, continuation in underground employment appears definitely to aggravate the progress of the disease except in certain selected mining occupations

The conference recommended that in assessing the amount of disability account should be taken of the clinical and functional condition as a whole The determination of disability should be entrusted to an independent medical expert, or body of experts, possessed of the requisite clinical and technical knowledge and provided with suitable apparatus It was suggested that removal from all industrial occupations involving exposure to noxious dust should be enforced in all cases of open tuberculosis Where legislation provides for the compulsory removal from occupations involving exposure to silica dust of workers affected by silicosis, it was suggested that such compulsory removal should not necessarily be applied to workers who have been in the same industry for a period of not less than fifteen years and have reached the age of 45 years

Regarding after-care, the conference recommended that sanatorium treatment should be provided for suitable cases Rehabilitation schemes, such as farm settlements, have in most cases proved unsuccessful in the past Further investigation into this problem was strongly urged

ROYAL MEDICAL BENEVOLENT FUND

AT a recent meeting of the committee thirty six grants were made, amounting to £655 10s 6d The following are particulars of a few cases helped

M B B Ch aged 36, married with three children aged 5, 3, and 1 A medical man writing in support of the case says The applicant is a general practitioner in this town who put up his plate some twelve or eighteen months ago and who unfortunately two months ago developed rheumatic fever He is now in hospital He is a married man with three children He has no reserves and is therefore falling into debt having his wife and family to maintain and to pay a locum tenent at the same time Voted £20 and further help is being sought from another charity Case will be reconsidered in three months time

Daughter, aged 46 of M B B S Father died at the age of 80 this year A medical man, writing in support of the case says I was intimately associated with her late father one of Nature's gentlemen who worked hard in a poor-class practice for over fifty years often—too often, alas!—without any remuneration whatsoever For about four or five years before his death he was an invalid and for over a year was bed ridden During all this time he was nursed by the applicant, whose devotion to him was exemplary Voted £20 It is hoped that the applicant will soon be able to find employment for which she is trained

Daughter aged 65, of M D At the death of her father in 1894 the applicant was left quite unprovided for and untrained in any way to earn her own living consequently she had to go out into the world to do what she could She became a housekeeper at a girls school Present income £52 a year Voted £26

Widow aged 62 of M R C S, I R C P The husband was in receipt of an annuity from this Fund as he had broken down in health, he also had a pension of £51 a year On his death in 1930 both the annuity and pension ceased The widow's sole support is her daughter, who is earning 52s a week Voted £26 help will be sought from other charities

Widow, aged 70 of M B Since the death of her husband in 1897 the applicant has worked as a nurse companion A medical man writing in support of the case, says She worked for nearly thirty years as a nurse-companion and now lives with two sisters daughters of a medical man also in very reduced circumstances They club together and just rub along somehow The applicant is getting on in life and is not fit to do much now except look after herself I resent income £55 Voted £26

Subscriptions and donations are very urgently needed in order that the activities of the Fund may be continued and applicants given the help they need Cheques should be forwarded to the Honorary Treasurer, Royal Medical Benevolent Fund, 11, Chandos Street, Cavendish Square, W 1

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys The Guild appeals for second hand clothes and household articles The gifts should be sent to the Secretary of the Guild, Tavistock House (North), Tavistock Square, W C 1

British Medical Journal.

SATURDAY OCTOBER 4TH, 1930

NASOPHARYNGEAL INFECTIONS

THE climate of this island during the winter months, coupled with the conditions that prevail in our great industrial cities, is responsible for an enormous amount of respiratory disease and yet we know remarkably little about the causation of these infections. In stating this reference is not being made, of course, to the pneumonias of pneumococcal and streptococcal origin—though in the case of the latter organism it is not clear how far it can act alone in this role—but to that multitude of infections of the respiratory tract which occupy so large a place in our national bill of health and lead to a considerable loss in efficiency and working time. It has become the habit to attribute these infections to the pneumococcus, the streptococcus, the haemophilic bacilli, or to Gram-negative cocci such as *Micrococcus catarrhalis* (*N. catarrhalis*) for the obvious but not very good reason that these bacteria are all that can be found by a microscopic and cultural examination. But at the back of the minds of many has been the thought that these organisms are merely secondary invaders, and that the prime cause for the time eludes us. Direct experiment in this field has been hampered by the lack of a suitable experimental animal. Apart from man the higher apes alone would appear suitable, and their use is limited for obvious reasons. That they are of service, however, has been demonstrated by the recent work of Dochez and his colleagues[1] in the United States by the use of the chimpanzee; these workers have obtained evidence which strongly suggests that the common cold is caused by a filterable virus.

Another mode of approach to this question would be to observe over a considerable time the flora of the respiratory tract of a representative sample of a community, and to compare the findings with the incidence of respiratory diseases, noting correlative fluctuations. Such an experiment has been conducted in Manchester by R. H. Blackburn, R. B. Boston, E. St. G. Gilmore, R. Lovell, S. P. Wilson, and Mrs. M. M. Smith, and their findings are embodied in a report to the Ministry of Health.[2] This investigation extended from July 1925 to September 1927, and during this period the nasopharyngeal flora of one hundred volunteers, drawn from different environmental conditions, was examined at monthly intervals. In addition to this, between November 1925 and August 1926 one hundred volunteers who were examined once only, were drawn each month from a variety of sources. The bacterial species envisaged were the pneumococcus, the influenza bacillus, the haemolytic streptococci, and the Gram-negative diplococci. Briefly stated the results were as follows. Both in the winter and spring of 1925–26 and 1926–27 there was a considerable increase of respiratory disease in Manchester, but whereas in the former period there was little or no influenza, the latter period was marked by an epidemic wave of influenza of moderate severity, which reached a peak in March 1927 and thereafter rapidly declined. During the period of survey the carrier rate of Gram-negative diplococci in the sample community remained at a uniformly high rate, the only finding of interest being the comparative rarity of *Micrococcus catarrhalis*. Although the carrier rate of both the pneumococcus and haemolytic streptococci showed fluctuations, these bore no significant correlation with the incidence of respiratory disease. In the case of the influenza bacillus, however, the findings were more significant. Taken as a group the carrier rate curve of haemophilic bacilli closely followed the curve of incidence and mortality from respiratory disease, but not the curve of influenza mortality, for as has been already mentioned the winter and spring of 1925–26 were marked by an almost complete absence of influenza.

Nevertheless, as the authors of the report point out, the group of haemophilic bacilli would not appear to be a homogeneous one. The only biological character affording a sharp line of demarcation within the group is the ability to form indol, and when the incidence of indol-forming haemophilic bacilli was plotted separately it was found to bear a significant relationship to the incidence of influenza. The carrier rate of these indol-producing strains began to rise some two months before the onset of the influenza epidemic, and then fell away fairly rapidly. It must be admitted that this observation is of considerable interest. Naturally it does not prove that influenza is caused by the indol-producing strains of the influenza bacillus, but it is a valuable piece of circumstantial evidence. It should be remembered also that had Fleming's method of isolating the influenza bacillus been adopted a totally different carrier rate would have been obtained. Fleming[3] has shown that with suitable technique these organisms can be demonstrated in practically every nasopharynx, so that an increased carrier rate in this investigation in reality means an increase in the number of these haemophilic bacilli in the flora of the individual nasopharynx. Whether this would apply also to the indol-producing strains it is impossible to say, but the findings in this report are sufficiently interesting for us to hope that similar investigations with modifications such as the use of Fleming's method of isolating the influenza bacillus will be undertaken. Information of considerable value in forecasting influenza epidemics might be forthcoming.

[1] Dochez, Shibley, and Mills, *Proc. Soc. Exp. Biol. and Med.* 1929, 26, 562.

[2] Blackburn, R. H., Boston, R. B., Gilmore, E. St. G., Lovell, R., Wilson, S. P., and Smith, M. M. R. Reports on Public Health and Medical Subjects, No. 57, 1930. London: H.M. Stationery Office.

ANNUAL REPORT OF THE MINISTRY OF HEALTH

THE annual reports of the Ministry of Health are not, it must be confessed, inspiring documents. The Chief Medical Officer of the Ministry, in his own reports (which are published separately) makes an annual survey of the health of the nation, he describes the scope and achievements of the public health services, discusses the principles and ideals of preventive medicine, and sets out the problems, medical and social, upon whose solution the attainment of these ideals depends. His reports serve both as records of progress and as signposts to the future. Less obviously, yet surely, the statistical analyses issued by the Registrar General—above all, his analyses of occupational mortality, fertility, and infant mortality—indicate the triumphs as well as the tasks of preventive medicine by their quantitative demonstration of the influence of environmental factors on individual and social

[3] Fleming, A., *Brit. J. exp. Path.*, 1929, 10, 226.

health they point plainly to causes of sickness and death which the health services of the nation must ultimately bring under control Set the difficult problem of not overlapping with these documents, the Ministry of Health can do little except record the more important business it has transacted during the year, presenting bald administrative detail in connexion with international health work, general health questions, sanitary administration, inspection and supervision of food, infectious diseases, maternity and child welfare, welfare of the blind, housing of the nation, town planning, local government and local finance, administration of the Poor Law, national health insurance, and many kindred matters, and offering if not a very exciting, at any rate a useful report from which the careful reader may gather some idea of the range of services with which this comparatively young Ministry now has to deal

Under the heading "Inspection and Supervision of Food" the Ministry describes in the report for the period 1929-30[1] the new procedure that has been adopted in connexion with the tuberculin testing of cattle The Tuberculin Committee having issued a report in 1929, in which it stated the conclusion that the modified double intradermal test was simpler to apply and gave better results under ordinary farm conditions than the subcutaneous test, and that the ophthalmic test was unreliable, the Ministry, in January, 1929, informed graded-milk producers that the ophthalmic test was no longer needed, and that the question of requiring the modified double intradermal test to the exclusion of the subcutaneous test would be considered at the end of the year After further consideration it was decided to make the new test compulsory, and at the close of last year licencees were informed that all tuberculin testing of licensed herds must be made by this method During the twelve months under review 133,584 samples were analysed under the Food and Drugs (Adulteration) Act, 1928, and of these 7,260, being 5 4 per cent of the whole, were found to be adulterated or not up to standard In the same period 511 contraventions of the Food Preservatives Regulations were reported, a reduction of 264 on the figures for 1928 A few samples of graded milks, though complying with the conditions of the Milk (Special Designations) Order, 1923 as to bacterial purity, were reported to contain less than 3 per cent of fat, and one analyst has expressed the opinion that fat deficiencies in graded milk occur frequently, and seem to be due to the methods employed in bottling In the section dealing with infectious diseases attention is drawn to the fact that the number of notifications of encephalitis lethargica and the number of deaths from that disease were practically equal, any fatality rate calculated on these figures would, the report states, be "merely artificial, and not representative of the true rate" Although mild small-pox continues to prevail there has been a further decline in the number of cases notified A slight increase is recorded in notifications of diphtheria, and a considerable increase in notifications of scarlet fever and pneumonia, the fatality rates for diphtheria and scarlet fever have, however, remained low, though the decline recorded in previous reports has not been maintained

In connexion with tuberculosis, the announcement is made that Dr Camac Wilkinson's method of administering tuberculin treatment is about to be investigated under the supervision of representatives of the Medical Research Council, the London County Council, and the Ministry itself Attention is again drawn to the fact that in certain areas a large proportion of cases of tuberculosis do not come to the knowledge of medical officers of health until death has taken place, and the Ministry suggests that in such areas the local authority should take every opportunity of reminding medical practitioners of the facilities available under the tuberculosis schemes for the diagnosis of doubtful cases, through consultation with the tuberculosis officer, examination of sputum, *x*-ray examination, and so forth At the venereal diseases treatment centres the outstanding features of the year's work have been the continued increase in the total attendances at out patient clinics, the increase in the number of cases of gonorrhoea, and the decrease in the number of cases of syphilis The figures bear out the view that a larger proportion than formerly of gonorrhoea patients now attend the centres, though the proportion still falls short of the estimated relative incidence of the two diseases

During the year under review 14,600 doctors were engaged in practice under the National Health Insurance Acts, and the number of insured persons entitled to benefit was over fourteen million Medical benefit cost £8,666,000, of which sum medical practitioners received £6,256,000 in respect of their duties in connexion with attending and treating insured persons, the balance covering pharmacists' fees, and the cost of effecting adjustments of the main finances of medical benefit to various special conditions arising under the Acts or in the circumstances of insurance practice It is pleasant to read that with the co-operation of the Insurance Acts Committee of the British Medical Association 113 doctors practising in sparsely populated country districts have received financial help enabling them to attend courses of post graduate study, as compared with the previous year's figure of 89 When the British Post Graduate Hospital and Medical School comes into existence we may hope for a large increase in the number of practitioners, rural and urban, attending "refresher courses"

These miscellaneous facts have been taken almost at random from the report, and serve, not as an epitome of its contents, but merely as a very rough indication of their nature The report covers so great a variety of topics that it is impossible to extract from it an essence for easy administration in a column or two of print It is to be commended, not as embodying material to be studied systematically, but as a work of reference For the latter purpose it is invaluable

[1] Eleventh Annual Report of the Ministry of Health, 1929-30 London H M Stationery Office Cmd 3667 4s 6d net

PREVENTION AND TREATMENT OF CRIME

Among a number of interesting papers in the current issue of the *Howard Journal* is a thoughtful contribution by Dr R D Gillespie, on the service of psychiatry in the prevention and treatment of crime The psychiatrist, as such, is professionally in a position which requires him to take a strictly objective view of crime and criminals His functions are to study the factors, both those residing in the psychic peculiarities of the delinquent himself, and those conditioned by his environment, which appear to have exerted an influence in the determination of his anti-social behaviour, and also to suggest methods of dealing with the "patient" which may be instrumental in bringing about a "healthy" social reaction Dr Gillespie observes that the psychological contention of crime is that, like mental illness, it is a symptom—a symptom of indi-

vidual maladaptation to the social environment Crime is not as a rule the outcome of mental illness in the ordinary sense, although there is a small percentage which definitely is so but a cognate manifestation of social maladjustment Crime, in many of its instances, and mental disorder, are on this view on a parity for investigations of the life history of criminals and offenders, after the manner in which the mentally sick are investigated, have shown that similar factors are often at work There are, for instance, *the more crude and obvious causes, such as defective home* environment and training and also the more personal and less conscious factors, which involve repression and perversion of instinctive trends Psychiatry has already contributed much to the problem of crime by recognizing that it appears more easily in certain types of individual than in the average person submitted to the same temptations and opportunities Dr Gillespie points out that the recognition of several types of antisocial persons should enable us to forestall the appearance of criminal acts in individual examples of such types A number of delinquents are obviously mental defectives Estimates of the proportion of these vary a good deal, but some of these are distinctly high Thus, of the inmates of reformatories, training schools, workhouses, and penitentiaries in the United States, where fairly complete surveys have been made, 31 per cent , Dr Gillespie states have been found to be mentally defective It is the so-called borderline defective, with sufficient intellect to pass muster on ordinary inspection, but with deficient foresight and emotional control, who is difficult to detect, or, if detected, to handle effectively Here the preventive diagnostic service of clinical psychology has to be reinforced, when practicable, by additional legal protection It too often happens at present that no treatment can be enforced, because the patient is not sufficiently defective to be certifiable, or because there is no available accommodation Then there is another group, proportionately larger in prison populations than that of the intellectually defective, which is also capable of diagnostic prediction They comprise according to some statistics, as many as 45 per cent of the prison population These are the so-called "psychopathic personalities" It is obvious that, apart from the general social conditions which nourish crime, preventive measures are indicated, especially with the psychopathic types and with the mentally defective Early diagnosis before antisocial acts appear is not only desirable but possible Still better is it, as Dr Gillespie suggests, to prevent the creation of psychopathic personalities, for since many of these begin to be created in childhood, it is clear that, so far as psychological measures are concerned, prevention must begin then At the present time it may certainly be said that the facts referred to above are being increasingly appreciated In all directions active measures are being taken to prevent the development of delinquent traits in children, and to treat them along psychological lines when they first make their appearance Thus child guidance clinics, special schools and classes for the backward, voluntary associations which supplement the work of statutory committees, advisory psychiatrists in connexion with the children's and juvenile courts, and the education of teachers in regard to the significance of abnormal traits in their pupils—all such developments and organizations are calculated to do something to diminish the incidence of delinquency in the community In addition to the paper on which we have commented *the Howard Journal* contains a number of other interesting contributions A condensed account of the evidence given before the Select Committee on Capital Punishment, in which the attitude taken by each witness is broadly outlined, will be found very helpful to those who are interested in this important social problem

CALCUTTA SCHOOL OF TROPICAL MEDICINE.

The formal teaching of tropical medicine is so commonly associated with the schools in London, Edinburgh, and Liverpool that it is too often forgotten that the British Empire possesses another active and flourishing school in Calcutta The annual report for 1929[1] shows how extensive and many sided are its interests, both in teaching and in research The school is under the directorship of Lieut.-Colonel Acton, and is organized both as a school of tropical medicine and an institute of hygiene It is now common knowledge that the Government of India has accepted the munificent offer of the Rockefeller Foundation to build and equip an All India Institute of Hygiene in Calcutta, which would carry out teaching work in close co-operation with the School of Tropical Medicine Lieut.-Colonel A D Stewart has been appointed to act as director-designate, and a site is now in the process of being acquired and provisional plans have been made When this institute is ready opportunities for research and instruction in the problems of public health will be available for students and workers in India, with special reference to Indian conditions With the development of public health policy all over India on more concrete and definite lines the need for well-trained workers will become more and more necessary, and it is hoped that the new institute will supply the needs of India in this respect In addition to the teaching at the Tropical School, the work of the Pasteur Institute, and the Carmichael Hospital for Tropical Diseases, there is a special staff working in the Leonard Rogers Laboratories on leprosy, kala azar, hookworm disease, bowel diseases, diabetes, filariasis, and many other subjects of importance to medicine and hygiene in India That the work carried out in Calcutta is active and comprehensive is shown by the fact that over eighty papers were published last year by the combined staffs While most of the subjects studied are concerned with *tropical problems, there is much to interest medical men* in other parts of the world The medical profession cannot afford to neglect the many important contributions to its knowledge which are being made in India

THE CANCER ORGANIZATIONS OF AUSTRALIA.

The system adopted in Australia of confining the use of radium as far as possible to practitioners who have gained adequate experience under direction has been found to have justified itself in the opinion of the first Conference of the Cancer Organizations recently held at Canberra At each centre where radium is in use the cases receive the attention of a consultative group, which includes those physicians surgeons and other workers who are likely to be associated with the patient Changes in technique, moreover are not made without safeguards to ensure correct recording and accurate consideration of methods and results In a discussion of the possible avenues of research some of the aspects of lead therapy were mentioned by Dr W J Penfold, it is necessary, he considers to study the action of lead on normal tissues and to discover whether there are many individuals in whom there is less toxic action of lead on the general tissues than on the local growth In a large number of patients this is not the case, and lead therapy has been abandoned in Queensland, in spite of one case of ovarian cancer which is doing well two years after treatment with lead At the Commonwealth Serum Laboratories Melbourne, researches are being made into the metabolism of the Twort alveolar carcinoma of the mouse which indicate that it falls into line with the mouse, rat, chicken, and

[1] Annual Report of the Calcutta School of Tropical Medicine Institute of Hygiene and the Carmichael Hospital for Tropical Diseases 1929. Calcutta Bengal Government Press. 1930.

human malignant tumours investigated by Warburg Dr H G Chapman referred to attempts which are being made by the Cancer Research Committee of Sydney University to immunize persons against tumours—notably against melanotic sarcomata It is not expected that a biological immunity can be produced against the proteins of the growth, but it does not seem impossible that a chemical immunization may be obtained The method used is to grind up the tumour cells, immediately upon removal, with sand and salt solution the mixture is then centrifuged and the extract returned to the patient by intramuscular injection No results of this treatment appear to have been quoted at the conference In discussing the value of various forms of treatment, Dr E H Molesworth of Sydney insisted strongly on the importance of the pathological study of all tumours that are to be treated with radium, and on the determination of their finer structure, the special characteristics of their cells, and their infiltrating activity Upon these findings should depend the line of treatment adopted and the extent of the area treated It would then become possible to group tumours according to their radio-sensitiveness—a characteristic almost always the reverse of their suitability for operation He is strongly of the opinion that shorter wave-lengths exercise no selective action on tumour cells, the intense effect of embedded radium is localized, owing to the rapidity with which the intensity of its radiation fades as it leaves its source of origin To take an example, although it would be possible to obtain the same dosage with deep x rays to the uterus as with embedded radium, the effects would be more widely distributed, and would involve the bladder and bowels, so that the value of radium lies not in the penetrating powers of its rays, but on their rapid absorption as they leave the source If the theory of selective action of the shorter wave-lengths is abandoned, the matter has an economic importance, since it is cheaper to use the deep x-ray tube than a radium bomb at a distance of 20 or even 10 cm from the skin, in addition, the danger to operators is considerably lessened by the use of the x-ray tube The remarkable prevalence of pre-cancerous and cancerous lesions in the skin in Queensland is to be the subject of an investigation by Dr J V Duhig director of the Brisbane and South Coast Hospitals Laboratory It is hoped that his research will determine what effect if any, sunlight has on the genesis of cancer of the skin especially in white persons living in tropical or subtropical climates The histological range of variation in hyperplasia of the skin with a malignant tendency is very wide and clinical diagnosis is not reliable

INTERNATIONAL LEAGUE AGAINST RHEUMATISM

The second congress of the International League Against Rheumatism was held from September 18th to 22nd in Belgium and Holland, under the joint chairmanship of the President, Dr R Fortescue Fox, with Dr N M Josephus Jitta, President of the Dutch Society, Professor Labbe (Paris), and Professor Graeff (Hamburg), following the Fifth International Congress on Physical Treatment at Liege Both congresses were largely attended by representatives of fourteen countries, including many from Great Britain At a joint sitting resolutions were unanimously passed calling upon the medical faculties in all countries to press for the inclusion of a course of instruction in physical treatment (theoretical and practical) in the curriculum of medical studies The chief topic discussed was "Disorders of the circulation in the skin in chronic rheumatic diseases" In an introductory paper Professor Iunedei (Florence) described a method of recording skin temperatures and of examining the circulation in the skin—vasomotility, permeability, etc Professor B Prusik (Prague) read a paper on cutaneous capillaroscopy and the Congestion Test Dr J van Breemen (Amsterdam) contributed a short report on micro-capillary appearances and low skin temperatures in rheumatic cases, and Dr Foged (Copenhagen) dealt with the general study of skin temperatures and circulation Other papers, out of a total of sixty communications, related to the pathogeny of rheumatism (Professor Kontchalovski of Moscow), the analysis of the gaseous constituents of venous and arterial blood in rheumatism (Dr Pap Lagos of Budapest), muscular rheumatism (Professor Barany of Upsala), osteoarthritis and vasomotor disturbances (Dr Kahlmeter of Stockholm), protemotherapy (Dr Brabant of Brussels and Dr Besse of Geneva) calcaemia (Dr M P Weil of Paris), and the social and philanthropic work of the league In Brussels Dr Gunzburg professor of physical treatment in the university, gave a demonstration of cases in the physical department of the Brugman Hospital, differing diagnoses and nomenclature being especially studied Another series of demonstrations and discussions followed at the Clinic for Physical Treatment in Amsterdam, directed by Dr J van Breemen Both at the Brugman Hospital and in Amsterdam it is understood that plans are being prepared for erecting a larger clinic for rheumatic diseases, with beds and facilities for study and teaching At the meeting of the council and national representatives held in Amsterdam it was agreed to divide the work of the league into three sections (1) pathological, including etiology and clinical study, (2) therapeutic, and (3) social The connexion between rheumatism and housing was discussed at a public meeting in the Colonial Institute, Dr Fox expressing gratification that England and Holland had been associated in the initiation of a movement of healing which in the course of years might perhaps, like Van Tromp's broom, sweep the seas of rheumatism

CONTROL OF DANGEROUS DRUGS

The hydra-headed traffic in opium and other narcotics (writes our Geneva correspondent) has again been the subject of protracted discussions at the meetings of the Fifth Committee, the committee which deals with social questions The outcome is a request to the Assembly—which will be considered by the Assembly before it rises in the early days of October—to call a conference for the limitation of the manufacture of dangerous drugs This conference will, if the Assembly agrees, be held in Geneva in May next, and all States, whether members or non-members of the League, will be invited to attend Mrs Mary Hamilton, M P, gave some information concerning the procedure suggested by the British Government for the preparatory work This includes first of all, a conference of manufacturing countries (France, Germany, Switzerland, Netherlands, India, Japan, United States, Italy, Russia, and Turkey), at which the problem of distribution of supplies to be manufactured for the legitimate trade would be settled, in January the Advisory Committee on opium, on the basis of this preliminary conference, would prepare a draft convention, and the general conference in May, consisting of representatives of manufacturing countries, consuming countries, and countries growing raw materials, would draw up the final convention on the limitation of manufacture As stated, the Fifth Committee has decided to ask for the large general conference in May next, but it is not clear yet whether the preparatory programme suggested by the British Government is acceptable to the other delegates Some interesting information was given to the committee by the representatives of opium-producing countries Sir Ali Khan, a member of the Indian Legislative Assembly, said that since 1925 special efforts had been made in India to reduce

the cultivation of opium The exports of raw opium had been annually reduced by 10 per cent, and from 1935 no opium would be exported from India, except for medical and scientific purposes India would shortly create a central information office for the purpose of combating more effectively the abuse of narcotics in that country The Indian delegate urged that the League should make an appeal to the Turkish Government for efficient co-operation in the suppression of illicit traffic According to his statement, factories in Turkey for the production of narcotic drugs have recently been developed, and it is feared that the output of these factories may be used for illicit purposes Dr Chao-Chu Wu, the Chinese Minister at Washington, declared that the general picture given of the opium evil in China was too dark Stringent measures, he said, had been passed during the last twelve months by the National Government of China China, however, he added, was prevented from centralizing its police control, owing to the situation created by extra-territorial rights In illustrating the great danger for his people from the illicit use of narcotics—a greater danger, to his mind, than that arising out of the opium problem—the Chinese delegate said that the situation reminded him of the story of the man who fought the tiger at his front door while the wolf entered at the back He took a different view from the Indian delegate with regard to the situation in Turkey Although new factories had been established on Turkish soil, the capital for such enterprises came from outside Turkey Hussein Khan Ala, the Persian Minister in Paris, referred to the efforts made by his Government to complete its monopoly of the production of opium so as to be in a position to ratify the opium convention in the near future He said that the great economic importance for Persia of her opium production made it impossible for her to reduce it very suddenly With regard to illicit traffic in Persian opium, he declared that the vessels smuggling opium in the Persian Gulf flew foreign flags, and were not under the jurisdiction of his Government He hoped that Persia would be able to make arrangements with foreign Governments to find a lawful market for Persian opium, which would greatly help to put an end to the illicit traffic M Papadatos, an Under Secretary of State for Greece, said that while, five years ago, 80 per cent of the opium coming from Yugoslavia passed through the port of Salonica, in 1930 this export had been entirely stopped, thanks to the severe control exercised by the Greek authorities, and the rigorous system of issuing export certificates The production of opium in Greece, which had been 2,000 kilos in 1925, had fallen to little more than one-tenth that amount and a recent decree had established a State monopoly for narcotics, with severe penalties for infringement Mrs Hamilton, again putting forward the British point of view, suggested that the rapporteur in his final report to the Assembly, should not draw too dark a picture of the present situation In her view there was no reason for pessimism so far as the League's work was concerned The League had designed useful machinery in the fight against opium and the drug evil and if the desired results were not obtained it was due to the non-use by Governments of the machinery of the League In a similar strain spoke Mlle Hélène Vacaresco the remarkable Rumanian woman, out of an experience of ten years on the Social Questions Committee It was not any backwardness on the part of the League she said it was the great difficulty of overcoming the indifference of public opinion which accounted for the present position Mrs Hamilton added that when the West had done its duty with regard to narcotics it would be time to make a strong appeal to the supplying countries to join in the general effort to do away with the shameful abuse of opium and other dangerous drugs

INTERNATIONAL HOSPITAL CONGRESS

The first International Hospital Congress was held at Atlantic City, New Jersey, in June 1929, and a printed account of the proceedings has now been issued from the executive committee's office (2, Avenue Velasquez Paris) in a book of 390 pages The meeting opened under the best auspices, with messages of good will from President Hoover, and from the Prince of Wales (as Patron of the British Hospitals Association), the King of the Belgians, and the French Minister of Health Great Britain and Canada were well represented, and Australia, New Zealand, and South Africa each sent a delegate All the arrangements were in the hands of a special committee of the American Hospital Association, whose annual convention followed the congress, the two events being welded together so as to form a continuous week of study and social intercourse The introductory papers and debates are fully reported in the volume of proceedings Among the subjects discussed were the economic aspects of hospital planning and administration, the respective fields of public and private hospital work, accommodation for persons suffering from mental and chronic diseases, the development of hospital care and treatment for patients with mental disease, and the setting up of a central organization for the hospitals of all countries to assist in development of service to the sick on an international basis The main outcome of the congress, apart from the exchange of views and experiences, was the setting up of a provisional international hospital committee, whose members undertook to do their utmost to bring about the formation of regional and national hospital associations and their affiliation with the proposed central body It was resolved that the next congress should be held in Vienna from June 8th to 13th, 1931, preceded by visits to British, Danish, and German hospitals, and followed by a visit to Budapest The membership fee, for attendance and receipt of publications, is £1, which should be sent to Professor Tandler, Chief of the Welfare and Health Service of the city, 9, Rathausstrasse, Vienna

ROYAL SOCIETY OF MEDICINE

The officers of the Royal Society of Medicine have decided to continue the holding of special discussions during the session 1930–31 The following subjects have been chosen for joint discussions between two or more Sections the dates to be settled later and announced on the Society's diary card (1) vascular tumours of the brain and spinal cord (2) mental symptoms associated with cerebral tumours (3) medical indications for premature termination of pregnancy, (4) adaptation of European women and children to tropical climates, (5) scabies and ringworm as transmissible between animals and man, (6) indications for and value of the intravenous use of germicides The annual dinner of the Society will be held at the May Fair Hotel on Thursday, November 20th, at 7.30 p.m., with the president, Dr T Watts Eden, in the chair

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The Long Fox Memorial Lecture will be delivered by Professor J A Nixon, M.D. in the Physiological Lecture Theatre of the University of Bristol on Tuesday October 28th, at 5.15 p.m. the subject will be the influence of food on the production and prevention of disease

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The Semon Lecture entitled Some Observations on Semon's Law' (derived from evidence of comparative anatomy and physiology) will be delivered by Mr V E Negus, F.R.C.S., in the Barnes Hall of the Royal Society of Medicine, 1, Wimpole Street, on Thursday, November 6th, at 5 p.m.

Opening of the Winter Session.

WESTMINSTER HOSPITAL

ADDRESS BY DR SCOTT LIDGETT

At Westminster Hospital Medical School the inaugural address of the new winter session was given on October 1st by the Rev J Scott Lidgett, D D, Vice-Chancellor of the University of London The chair was taken by Mr Walter G Spencer, vice-president of the hospital and consulting surgeon

Dr Scott Lidgett said that it was not for him to discuss the history, the progress, or the present position of the art of medicine, or to advise medical students as to the prosecution of their studies He had the honour, however, as its Vice-Chancellor, to represent the University of London, with which the Westminster Hospital Medical School was so closely associated He had had a good deal to do with public affairs for many years, and had worked in close co-operation with medical men in the University, on a very important Royal Commission, in various branches of local administration, and in numerous activities of voluntary philanthropy He might perhaps, therefore, speak without presumption on the subject of the medical school, the university, and the State In his judgement each of these three must respect the autonomy of the others Each must respect the province of the others and not attempt to encroach upon their self-government and initiative Yet the efficiency of each would be protected by ever closer co-operation between all three, and this co-operation was required if the welfare of the community as a whole was to be maintained The need of such co-operation must constantly bring all three into common counsel, not only in regard to the co-ordination of practical arrangements, but also in regard to the ever-growing financial needs and the common requirements of medical training, local education, and public service Financial needs were bringing the three great interests ever closer together at a time when the standard of efficiency was being raised, when immense fields of research demanded exploration, and when greatly increased practical calls were made upon medical skill and scientific knowledge The medical school naturally turned to the university for financial assistance in maintaining its activities and developing its plans, while the university looked not only to the generosity of enlightened citizens, but to the State and to public authorities for the means of discharging its growing responsibilities In return for this financial assistance it was the duty both of the medical school and of the university so to repay the State by the quantity and quality of their services as to make the generous consideration of their needs amply worth while, and to promote in the long run even economy in the State by the lightening of burdens which were in large part due to ignorance and neglect The establishment of such common counsel was leading to a great measure of interpenetration The Senate of the University had been enriched in knowledge and in wisdom by the eminent representatives of the medical profession who had served, and were serving, upon it, carrying back, it might be hoped, to the schools of medicine fuller understanding both of the policy of the University and of its profound sympathy with all the interests of medical education The State from time to time called distinguished professors and doctors of medicine to its counsels, and the great influence of medicine was shown by the fact that the old Local Government Board had now become the Ministry of Health The latest product of this co-operation and interpenetration was the scheme for the establishment of a post-graduate school of medicine, in the development and management of which the Government, the London County Council, the medical profession, and the Senate of the University were united It was hoped that by this co-operation practical steps might shortly be taken which, while respecting all that was at present being done in this direction, would co-ordinate the scattered agencies that already existed and, in partnership with them, bring about a consummation that would make London, with its unequalled field of observation and its potential means of research, the centre to which the medical profession throughout the country and throughout the Empire would turn with ever-increasing confidence and hope

Dr Scott Lidgett then passed to the underlying considerations which made this co-operation essential

"Medicine is an art It is primarily remedial It is concerned with healing and with healing with a view to realizing the ideal of individual and collective health It deals with what is from the standpoint of human life, efficiency, and happiness—the abnormal Its ever surer diagnosis and its ever extending research lead it to seek out not merely the symptoms, but the causes of what it regards as abnormal for the very reason that it is injurious Its practical treatment seeks in like manner not merely to remedy or alleviate the symptoms, but to ascertain and if possible, to eliminate their causes

"The University has as its very name suggests, universal science as its province It deals with all the realities of actual and factual existence From the standpoint of science, whatever is—that is to say, exists—must be treated in the first instance at least as normal All the phenomena of our cosmic existence are *there* and are organically related in the system and development of the world For example, the most deadly bacteria which are treated by medicine as the enemy, have their laws of nature in common with all the more pleasant and desirable phenomena of the universe They must therefore be studied thoroughly and dispassionately by biological science Adequate description, measurements, classification, and proximate explanation of the whole realm of existence lie within the realm of science, and therefore become a problem of the University

"The State stands for authority, for the government, to use Lincoln's historic phrase, 'of the people, by the people, for the people' In England at least, and until recent times, it was sought to limit the functions of the State to the interests of defence—external and internal The State was responsible for securing the safety and the freedom, within limits of its subjects It had to safeguard their continued being Yet, as experience has growingly shown, the being of the citizens of the State can only be maintained by ever increasing and more comprehensive endeavours to promote their well being Even the Englishman has become convinced, however reluctantly, of this necessity Hence the State, which began for the most part by being remedial, has become increasingly preventive and constructive in its constantly multiplying tasks It is therefore constrained to call to its aid all the available resources of science and art of knowledge, and of practical skill For the furtherance of its work it must turn ever more constantly to the outstanding representatives and centres of Science and Medicine."

Hence the interdependence of the medical school representing the art of Medicine, of the university representing Science, and of the State representing the authoritative and constructive government of the well-being of the people Medicine as an art was dependent upon the whole range of the sciences Primarily, of course, it must needs have regard to the sciences of physiology and biology Yet the study of these led back to that of chemistry and, more remotely, that of physics Nor could psychology be ignored, for in practice they were constrained to recognize the apparent influence of the mind, the emotions, and the will upon the bodily organs All these were of primary importance, but, in the relations of medicine to public life and to the State, medical jurisprudence and even other subjects of science and political science were being brought within the orbit of medical education Moreover, in the background the comprehensive subject of logic as training the students' reason to adopt truly scientific methods both of induction and of deduction On the outskirts lurked philosophy ready, if need be, to be called in Hence, it might be affirmed that, within practical limits, the wider and more thorough the scientific knowledge of the medical student became, the stronger background and the more effective instrument he would have for carrying on his remedial art Both Medicine and Science in this close interrelation were indispensable to the State in its efforts to establish the conditions of being, and therefore of well-being The State was becoming more and more constructive, and, in the true sense of the word, reforming It had to secure the co-operation of all people of good will in the great enterprise of a continuous

refashioning of our collective life in order to realize the possibilities and to correct the incidental drawbacks attendant upon human evolution As the State became constructive it cast the light of its great ideal over Medicine and Science Medicine became increasingly not merely remedial but preventive It treated the establishment of the conditions of health as the best prophylactic against disease Science placed the entire range of its knowledge at the disposal both of Medicine and of the State for this great positive and constructive endeavour On the other hand, the State was ever increasingly compelled to call in the assistance of Medicine and Science in national and local administration in order to take account of and deal with the whole range of human environment A transforming partnership of Medicine, Science, and the State was being brought about by their hitherto somewhat haphazard co-operation

What practical bearing, it may be asked, has all this upon the course and equipment of a medical student? The answer is simple though the attainment is arduous The medical practitioner must not only equip himself with adequate knowledge but must train and discipline himself to certain mental habitudes which have underlying moral conditions Human sympathy it need hardly be said is the foremost requirement that is involved A spirit of close patient and comprehensive observation must be cultivated The ever growing treasures of past experience handed down by tradition through teachers must be gathered up by the medical student verified, and used in his practice and eventually enlarged by his personal reaction to it Promptitude resourcefulness and dexterity are essential Constant vigilance and thoroughness are indispensable If these are the qualities that are called out and exercised by strictly medical training adequate scientific knowledge and a scientific outlook will bring breadth and a comprehensive vision accompanied by grasp of the conditions that are involved and command over the resources that are available

The sense of obligation to the State will develop a truly social aim a spirit of confident, though cautious, venture, and a disposition to seek organized co-operation in the service of public health All this involves intense and patient human sympathy and the highest consecration which subordinates the desire of individual advancement, however legitimate, to the great social end of the well being of the community that must become increasingly the ideal and inspiration of the medical man

ST GEORGE'S HOSPITAL.

ADDRESS BY LORD RIDDELL

AT the prize distribution to students of St George's Hospital Medical School on October 1st, Lord RIDDELL gave an address entitled "Some things that matter for doctors from a layman's point of view"

Lord Riddell first touched on the relationship between medical profession and public He said that the intelligent layman viewed with amazement and anxiety existing conditions regarding panel practice and the medical services generally The panel doctor was a sort of medical slave, employed, or at any rate paid, by commercial or semi-commercial institutions He must prescribe in accordance with certain rules If these rules were transgressed he was subject to serious fines and other penalties He was also subject to penalties if he were too free in granting certificates entitling patients to disablement allowances On the other hand, the less he did for his patients the easier time he had Except in cases of gross negligence there was no penalty for under prescribing or inattention Most of the insurance doctor's serious cases and a good many that were not serious, were passed on to or drafted into the out-patient departments of the voluntary hospitals The twelve London teaching hospitals alone treated every day about 12 000 out-patients a large proportion of whom were on the panel So great had the strain become upon some of these institutions that they had been compelled to require payment of a registration fee by out-patients It would be interesting to discover how many of the fourteen million panel patients were treated largely at the expense of the charitable public, and for what diseases Perhaps they would then find out what the panel patient got or what it was possible for him to get, for the 9s per annum paid to his doctor, plus the £10 16s 8d per annum per 100 patients allowed for drugs It was certain that, but for the voluntary hospitals, the panel system would very soon break down

Turning to the relation between doctor and patient Lord Riddell said that the public judged by results Unfriendly critics of popular medical favourites might allege that their successes were due to luck, not to skill This was futile criticism mankind had always had confidence in lucky people When the Romans had to choose between two generals, the senators said, "So-and-so is the better strategist But So-and-so is loved by the gods, therefore we shall appoint him" Nevertheless it was dangerous to trust to a lucky star Success depended on knowledge and the art of applying it, a reputation for skill was a valuable and enduring asset With some diffidence he proposed to say a few words about medical education from a layman's point of view First, he would suggest that notwithstanding the wonderful facilities for diagnosis provided by pathologists, biochemists, radiologists and cardiographers, the searching medical eye was still the most important weapon in the doctor's armoury Therefore every student should cultivate his powers of observation Secondly, the intelligent laity viewed with some apprehension the tendency to treat the human body as a departmental store Most organs had their own band of specialists It seemed to the thoughtful layman that the medical student at any rate should regard the human body as an entity, "many members but one body" Thirdly, a clear, concise method of expression should be cultivated for written communications President Wilson was a master of this sort of style, his father insisted, when he was a boy, on his deleting every redundant word from what he wrote It was amusing to practise this art, and astounding to see how much could be excised Fourthly, sooner or later most doctors found themselves in the witness box, therefore it was desirable for the student to pay some attention to the giving of evidence There were a few maxims that might well be remembered The witness should be prepared with his facts and technical information When possible he should answer "Yes" or "No" He should not fence with the judge or counsel, but give his answers in a clear, direct fashion He should keep his temper, and be genial and courteous under cross-examination He should avoid using technical words when he could substitute language readily understandable by judge and jury Fifthly, continuity was a great asset The man who day in and day out did his work to the best of his ability, never turning aside because he was weary, bored, or unsuccessful, was certain to make an ultimate success Furthermore, it was surprising how constant application would make the dullest subject interesting A knowledge of statistics, charts, and graphs was important A doctor should know how to construct these modern signposts But the critical spirit should be well developed, together with adequate analytical methods Statistics put forward by fanatics and enthusiasts should always be carefully scrutinized As an instance of the need for caution Lord Riddell mentioned the maternal mortality statistics that so frequently figured in the press

We are told by a well meaning, but ill informed group of ladies that our maternal death rate is much worse than the rates in certain foreign countries The truth is that the statistics cannot possibly be compared as each country adopts an entirely different method of making them up Even our own figure, 4 3 per thousand, demands a good deal of investigation This average is due in a great measure to the high death rate in a few districts, such as Wales where the rate is 6 1 per thousand and to the high rate in emergency cases at certain institutions where the figure is sometimes 8 per thousand, due to the fact that the patients have been interfered with by abortioners, who have thus rendered them liable to puerperal diseases In the City of Bradford (1921-23) for example, out of 125 deaths no fewer than 37 were associated with miscarriage or abortion Furthermore the death rate among unmarried mothers is very high due to maltention etc. On the other hand at the East End Maternity Hospital, London 17,525 cases were attended (1921-23) with only 12 deaths or 0 68 per 1 000 I am not suggesting that our midwifery arrangements do not require improvement I only mention these facts to show that general percentages are often misleading If abnormal cases were excluded from our maternity statistics they would present a very different appearance '

Another important thing was the doctor's manner—important both as a therapeutic agent and as a means of securing practice One thing was certain, superciliousness was fatal Some people had natural charm, or the gift of inspiring confidence, but manner was largely also a matter of training The cultivation of simple courtesy was a most important part of medical training Another thing that mattered was the disclosure by the doctor to the patient of medical information From time immemorial doctors had been in the habit of shrouding themselves with a sort of halo of mystery In an irreverent and inquiring age, when even the most sacred haloes had been snatched off, the medical halo had not escaped public attention The educated man or woman wanted to know what ailed him or her, more or less what the medical adviser proposed to do, and what course the disease was likely to take In short, the patient wanted particulars of the diagnosis, treatment, and prognosis In these days unwillingness on the part of the doctor to disclose these particulars was often regarded as evidence of ignorance Needless to say, however, much discretion was necessary in the patient's interest It might be better to be thought ignorant than to damp a patient's spirits by the communication of unpleasant facts In no professional calling was tact more necessary But an elaborate tactician who prided himself on his tactfulness was usually a dismal failure Real tact, like good manners, was unobtrusive This characteristic depended on the art of organizing the day properly A good organizer could make the most of himself and his time, whereas the muddler was always late and always driven Finally, optimism, geniality, and a sense of humour were invaluable assets to a doctor

Nova et Vetera.

DOCTORS BILLS

Under this somewhat crude title a letter recently appeared in the *Times*, the writer of which complained of the lack of details in medical accounts rendered He, or she (for the signature consists of initials only), thinks that every patient is doubtful whether he has been fairly dealt with It was not ever thus In the eighteenth century the accounts of surgeons and apothecaries were full of details, and a long bill" was a physical fact and not a mere manner of speaking As long as advice was not charged for and the only items of cost were for drugs supplied, the custom of retail trade prevailed, but when the apothecary became by Act of Parliament a medical practitioner (if not, like the attorney, a gentleman), he seems to have felt the ways of the shop degrading, and he went one better than the lawyer and sent in his claim for a lump sum for "attendance," and only gave dates and other details when they were asked for An example of the old custom will be found in "A Doctor's Bill of 1824," published in this *Journal* on June 28th, 1930 (p 1190) In this bill of Mr William Burgess of Lostwithiel, very full particulars of drugs supplied and attendance rendered, with the dates, are given

Through the kindness of Dr Cyril Helm of Great Horkesley, Essex, we have now before us a much earlier bill, rendered by Mr William Fairclough "to the Parish of Little Horkesley," for attendance on, and drugs supplied to, Mary Hardy at West Bergholt There is no address on the bill, which is dated 1771, but a reference to the "Medical Register" for the years 1779, 1780, and 1783 (the only years for which that early directory is extant) shows that a Mr William Fairclough practised at Nayland, just over the border in Suffolk West Bergholt, Nayland, and the Horkesleys, Great and Little, are all within a circle of about two or three miles diameter on the Essex-Suffolk border What the population of Nayland was in those days we do not know, in 1906 it was about 1,500, but in 1779 it supported three medical men, Messrs Fairclough, Tomkins, and Leak whose practices no doubt covered a large radius Dr Helm justly remarks that the charges seem high for the period, and, we would add, for a parish patient The attendance extended from June 11th to August 2nd, and the total is £3 16s 6d Fifteen of the twenty-eight items are for journeys, and the remainder are mostly for decoction of bark, so that it seems possible that the case was one of ague A journey was charged at 2s 6d, and a "Decoction of the Bark, containing a Quart, 3s 6d" This quantity only lasted the patient from three to six days, so that a fair amount of cinchona must have been absorbed

It would seem that there was no salaried medical attendant under contract to attend the poor of Little Horkesley at that time, or else we should not have had this bill It is, however, well known that long before 1771 various parish overseers made contracts with surgeons and apothecaries for attendance on the sick poor In that delightful and learned work the *History of Hitchin*, by Mr Reginald Hine, there are records of several such contracts in that old royal town of Hertfordshire "In 1711 Joseph Thompson agrees with the townsmen of Hitchin, for a consideration of £3, 'to use his utmost endeavour in curing broken bones, dislocations, strains tumors, swellings, fistula, gout ulcers, chancres, and all other wounds or thinges whatsoever that belong to a surgeon', while at a price just double that of the surgeon, the apothecary, Thomas Ward, covenants to 'take care of all the poor and use his best skill in cureing all fevers, smallpoxes, and all other distempers that belong to a physician' On one of the later contracts, as if to justify the need of them, this couplet is endorsed

'Because that word and faithe with no degree will stande "
Therefor the Lawyer saithe, take writing of their hande "

There is much else in Mr Hine's chapter on the poor, in his first volume, of interest to the medical reader He concludes thus

"Looking back over these merciful interventions, one feels that the parish doctors were in act and deed the friends of the poor, for if by mischance they killed off a few of the King's sick subjects by their medicines they saved many lives by foresight and sympathy in times of famine"

To turn again to Mr Fairclough and his bill There is no indication of its having been paid, so that perhaps his charges were above the usual rate and he may have been beaten down by the overseers of the parish of Little Horkesley, and did not, after all, receive the sum of £3 16s 6d

Ireland.

Campaign Against Tuberculosis

The Village Settlement in connexion with Peamount Sanatorium, County Dublin, was recently opened by Mr James McNeil, Governor-General of the Irish Free State, and the Women's National Health Association is to be congratulated on the successful conclusion of its endeavours in this respect In 1906 the association commenced its efforts to combat the ravages of tuberculosis in Ireland, the death rate was then 2·6 per 1,000 of the people, nearly twice as high as that in England and Wales, but by means of propaganda and the establishment of sanatoriums in various parts of the country the association succeeded in limiting the extent of the disease The death rate decreased consistently until 1914, when war conditions interrupted the fall, the rate again dropped during 1918, 1919, and 1920 Even so, no fewer than 50,000 persons in the Free State died from the disease during the period 1918–27

The late Sir William Thompson, Registrar-General for Ireland for twenty years, was from the first a strong supporter of the association In the course of his investigations into the disease he visited the Papworth Settlement at Cambridge, and there saw the results achieved by Dr Varrier-Jones He brought the system under the notice of the Peamount committee, who were already anxious as to the fate of patients who, after a course of sanatorium treatment, were compelled to return to unsuitable conditions Having considered the matter, the committee felt that the establishment at Peamount of a village settlement on the lines of Papworth was the best solution

of the problems presented in the eradication of tuberculosis in the Free State—the procuring of employment which would enable the patients to enjoy plenty of fresh air, the kind of work for which they were suited the rest periods needed and the food which their impaired constitutions required Since 1918 Papworth's industries have sold more than £735 000 worth of goods manufactured by tuberculous employees and have paid £135,000 in wages The turnover in 1918 was £400 in 1929 it was £65,000 The village settlement at Peamount is a memorial to the late Sir William Thompson, dependent for the whole of its capital upon public donations, its rate of development will be governed by the orders it receives for the goods it produces which include all kinds of portable wooden buildings garages, bungalows, and poultry houses The Governor General explained how the settlement had been founded on the Papworth institution and added that it was now in a position to train tuberculous patients with a view to settlement The Peamount institution has not however merely adopted the Papworth general policy and methods though it had been built up under the personal supervision of Dr Varrier-Jones, confidence existed that the settlement which is already on its feet will with his further help stride out soon on its own account The advantages of settlement treatment to the working man and his family are now recognized The tuberculous patient is given the work he can do under proper conditions and at a proper wage His family and friends are saved from infection and the risk of infecting the community is lessened It was well known what poor men or women had to suffer, and how their whole outlook on life was darkened when protracted illness with incapacity to do regular work came upon them The settlement would hasten the cure of tuberculous patients, and hold out to them a continuing hope From being broken and hopeless they could be made healthy and self supporting

Sir Conway Dwyer, I R C S I, proposing a vote of thanks to the Governor General, said that the essential object of the industrial settlement was to render permanent as far as possible the results of sanatorium treatment As everyone knew the disquieting factor in this treatment was the tendency to relapse after returning to the conditions and environment in which the disease had been contracted It was to eliminate that result that what he might call shortly the Papworth system had been organized The patients at the conclusion of the sanatorium treatment did not go home They were provided with a new home under ideal conditions, and resumed their occupations or were taught a new trade, their families resided in the settlement with them, and could earn enough, or nearly enough, to maintain themselves Dr Varrier-Jones emphasized the importance of the scheme of treatment in that it took away from the disabled that feeling of inferiority, and gave them an opportunity of looking after themselves in a suitable environment The new workshop at Peamount was ten times as large as the first one in Papworth, which was erected ten years ago Without such institutions there would be an ever increasing number of men and women who would be a drag on the State and on private charity, but, thanks to such settlements the disabled people would become self-supporting The only thing they could not do was to pay dividends on the capital required for the workshops, for that the help of the charitably disposed was needed, and when the capital had been supplied the disabled men would be able to earn their own living The goods produced by the settlement were sold on merit at the correct price and they gave value for money The more of these goods that were sold the more people could be treated, and the general community be saved from infection Lady Aberdeen asking the Governor-General to start the machinery in the workshop said that ever since Peamount Sanatorium had been opened in 1912 the Women's National Health Association had cherished a dream of being able to devise some plan whereby patients who improved in health should be put in a position to earn their own living instead of returning to conditions which would almost certainly revive the trouble, and make them again dependent on State assistance They would see to-day this dream beginning to be realized She hoped that the starting up of the machinery of that little workshop would bring in a new era in the treatment of tuberculous patients in Ireland and would lead to the same success as that which had been achieved under Dr Varrier-Jones at Papworth

Proposed Sweepstake in Aid of Cork Hospitals

A deputation of the governors of Cork hospitals waited recently on the Minister for Justice to obtain his sanction for the starting of a sweepstake in favour of some of the Cork hospitals The Minister for Justice replied that while he did not altogether favour the project, he had a perfectly open mind on the subject Before he could give his sanction under the Hospitals Sweepstakes Act to any sweep takes outside that already being promoted in aid of the Dublin hospitals, a very strong case would have to be presented It seemed to him that the Cork hospitals would stand to gain more by taking part in the Dublin sweepstakes than by forming a separate one Generally he was not in favour of having rival sweepstakes organized If a good case were submitted he would consider it, but a strong case would be necessary to ensure the obtaining of a licence He had not given any decision to the deputation from Cork, since the matter had only been discussed generally

Scotland

Scottish Board of Control

THE General Board of Control for Scotland, at the outset of its recently published sixteenth annual report,[1] records its high appreciation of the way in which the local authorities, now no longer in existence, have discharged their onerous duties, of the progressive and enlightened manner in which successive reforms and new methods or treatment have been adopted, and of the human sympathy which their members, collectively and individually, have always shown to the unfortunate patients under their charge A considerable part of the report is devoted to occupational therapy It is recalled that the Royal Commission of 1857 suggested that there are few better curative agents in the treatment of insanity than agricultural labour when combined with an adequate diet" In accordance with these opinions the Board has encouraged the acquisition by institutions of farm and garden ground, and has generally recommended a minimum of one acre for each male patient No special cognizance has hitherto been taken of the fact that there is scope for the employment of women patients in farm and garden work, provided that suitable instructresses are engaged to teach and supervise them Such outdoor occupation would include light garden work, tending poultry, and milking and would provide healthy exercise of much therapeutic value In encouraging the acquisition of land by asylum authorities the Board has had mainly in view the object of providing therapeutic occupation and recreation for patients It has never been intended that asylum farms and gardens should be run primarily as profit making concerns but most asylum farms not only pay rents, which cover the interest of money expended on their purchase but usually have a considerable balance of net profit to apply towards the reduction of the cost of the maintenance of their patients It may also be claimed that the farms and gardens furnish a more varied dietary and a better quality of food than would be obtained by purchase in the market There is another aspect of the matter to which the Board directs attention—namely the possibility of depositing on behalf of those patients in whom there is a prospect of early recovery some small remuneration based on their work in the hospital This policy would give new interest and life to their work, and would also ensure for them a certain security on their discharge Another part of the report deals with carriers" of infections such as enteric fever and dysentery A special department for housing the enteric fever carriers," which number thirteen, at the Govan District Asylum, is now in occupation Peference is also made to the special work done in one of the Glasgow

[1] Edinburgh H.M. Stationery Office. 1930. Cmd. 365. 2s. net.

asylums, where undulant fever was discovered, particularly among patients who had been doing farm work The Board has had under consideration the hours and general conditions of service of the nursing staff in Scottish asylums In commenting on the practice that prevails in France, where a definite eight-hour working day is laid down by law, it deprecates a too rigid application of this principle in a profession such as nursing, and points out that nurses in general and mental hospitals have not been included within the scope of the draft Convention of the International Labour Congress dealing with the question of a general eight-hour day for all workers At the beginning of the present year, exclusive of insane persons maintained at home by their natural guardians, there were 19,059 insane persons in Scotland of whom the Board had official cognizance This figure includes the inmates of training schools for imbecile children who have not been certified under the Mental Deficiency Act and of the criminal lunatic department of Perth prison The total number of patients admitted to establishments (excluding transfers) during 1929 was 3,173, which is 136 fewer than in the previous year The Board of Control has sent to the new authorities instructions relating to the working of the Mental Treatment Act, 1930 "Mental hospital" is to be substituted for "asylum", this is now a statutory requirement "Voluntary patient" is to be used instead of "voluntary boarder" The word "pauper" is forbidden in relation to any person of unsound mind, and is to be replaced by "rate-aided person" The word "lunatic" is eliminated except in relation to criminal lunatics and persons detained as lunatics outside Great Britain

Pinel Memorial in Edinburgh.

A bust of Philippe Pinel was unveiled on September 26th at the Jordanburn Hospital, Morningside Park, Edinburgh, by M de Fleuriau, the French Ambassador The Jordanburn Hospital was recently established for the treatment of early mental uncertified cases by the managers of the Royal Edinburgh Hospital for Mental and Nervous Diseases The preliminary meeting, before the unveiling of the bust, was held in the lecture hall of the hospital under the presidency of the Earl of Stair Mr T M. Gardiner, chairman of the board of managers of the Royal Hospital for Mental Diseases, in welcoming M de Fleuriau, pointed out that the foundation of the Royal Edinburgh Mental Hospital by Dr Andrew Duncan towards the end of the eighteenth century took place while Pinel was agitating in Paris for the more humane treatment of the insane Professor G M Robertson, physician superintendent of the hospital, said that after the termination of the Napoleonic wars young medical men from Edinburgh were attracted to Paris by the fame of its school Two of the most famous among them were Sir Robert Christison and Dr Andrew Combe, the physiologist and phrenologist These men attended the lectures on mental diseases delivered at the Salpêtrière by Esquirol, the friend and pupil of Pinel, and they met Pinel and heard all about his great reforms Twenty years later they were managers of the Edinburgh Asylum, about the time when it was decided to enlarge the institution The West House was then built, and a bust of Pinel was placed over the entrance archway This was the first memorial erected to the memory of Pinel and his work, for even in his native country a statue was not erected until 1885 The managers had now decided to commemorate the centenary of Pinel's death by placing a new bust in a prominent position It was sometimes difficult to fix the exact time for the starting-point of any great philanthropic movement, but there was no difficulty in dating the introduction of the humane treatment of the insane It was generally agreed that the movement began definitely in the year 1793, when Philippe Pinel struck off the chains of fifty-three insane patients at the Bicêtre Hospital in Paris This was the year during which Paris was passing through the tragic experiences of the September massacres and the execution of the king and queen Pinel's humane action had received sanction from Couthon, one of the most bloodthirsty ringleaders of the Reign of Terror The reforms of Pinel also included all possible measures for improving the condition of the insane, such as the provision for better housing, warm clothing, good food, and the comforts of life He also introduced more careful medical examination, and one of the first results was the discovery by his pupil Esquirol of the symptoms of the disease known as general paralysis of the insane, which might be regarded as the greatest discovery in mental medicine Three years after Pinel began his reforms the Quakers of York independently established "The Retreat" in that city, also managed on the most humane principles When the Edinburgh Asylum, proposed by Dr Andrew Duncan in 1780, was opened for the reception of patients in 1813, it was conducted on the lines laid down by William Tuke at York and by Pinel in Paris Since then progress had been continuous In the course of his address, M de Fleuriau said that this gathering was a recognition of the common work of French and Scottish physicians and nurses united in the treatment of the terrible disease of insanity Philippe Pinel's work must be considered in the light of the eighteenth century He was born in 1745, and had been educated at Toulouse and Montpellier, leaving the university with the reputation of a very learned and able man with great personal charm Coming to Paris, he met many of the men who were playing a part in the movement out of which came the French Revolution This was a movement for the betterment of humanity and conditions of life in France, and questions of teaching, education, hospitals, and treatment of the insane were all under discussion When the Revolution broke out in 1789 many solutions of these questions had already been prepared, and the French revolutionary assemblies helped to initiate many reforms The fault of the revolutionaries had been that they sometimes went too fast in their desire to obtain immediate results Pinel had a long life, and in his later years he was one of the most celebrated professors of the Faculty of Medicine in Paris M de Fleuriau said he was very glad to have had the opportunity of expressing his respect for the memory of Pinel The company then adjourned to the courtyard of West House, where M de Fleuriau unveiled the bronze bust of Pinel, which had been draped with the French and Scottish flags The bust is a replica of one in the Academy of Medicine in Paris A wreath was placed on the memorial by the nation of the hospital, and Dr Hamilton Marr proposed a vote of thanks to M de Fleuriau, and Professor Patrick Geddes recited some verses that he had composed in honour of Pinel

Glasgow Health Exhibition

A housing and health exhibition was opened in Glasgow on September 24th by Mr Thomas Johnston, M P, Under Secretary of State for Scotland Lord Provost Kelly, who presided, said that the interest which the public took in such exhibitions was manifest from the success of those that had previously been held A special feature on the present occasion was the contrast in housing conditions shown by models of old and new houses In declaring the exhibition open Mr Johnston said that people were living healthier and happier lives now than their ancestors Although there were still epidemics, there were no such conditions as when James Melville in the sixteenth century rode through the streets of Edinburgh and found only three persons abroad, or when James VI ran zigzag about the country to escape the pest Many diseases had disappeared completely, such as typhus, malaria, and small-pox, while the diphtheria death rate had fallen in this century by one-half, and enteric fever was down to one-tenth of what it was thirty years ago Summer diarrhœa, too, was gone, owing perhaps to the coming of the motor car and the disappearance of the horse from the city The mortality rate of tuberculosis was one-half of what it was ten years ago The Scottish death rate from all causes had fallen between 1881 and 1921 from 19 30 to 13 56 Some diseases, however, such as cancer, rheumatism, whooping-cough, and the common cold, had not yet been eliminated, in regard to rheumatism we were no further advanced than in the days of Hippocrates, though we did recognize that every death from disease to-day was an unnatural and avoidable death There were many battle fronts in fighting disease, such as intemperance, venereal disease, smoke pollution, pestilential slums,

and adulterated food, but progress was being made. This exhibition marked an advance in the struggle against slums and against disease. He thought it was a disgrace that while £70,000 a year was being spent in Scotland on agricultural research and £20,000 on fishery research only £8,000 a year was being spent on research into diseases which afflicted the human being. In his opinion existing knowledge was not properly utilized for there had been an absence of combined work in hospitals. He trusted that the regional committees recently set up would mean that certain hospitals would be set apart for providing specialized service in particular diseases so that the latest fruits of research would be made generally available.

Glasgow Chair of Medical Paediatrics

The Board of Curators of Glasgow University, on September 25th, appointed Geoffrey Balmanno Fleming, M.D., F.R.F.P.S., to the Samson Gemmell chair of medical paediatrics in Glasgow University in succession to Dr. Leonard Findlay who recently resigned the professorship. Dr. Fleming is 48 years of age and after graduating B.A. at Cambridge in 1908 and M.B. in 1910 he took the degree of M.D. in 1914 and became a Fellow of the Royal Faculty of Physicians and Surgeons, Glasgow, in 1926. After holding various resident posts he studied in Vienna and later took up practice in Glasgow. He served throughout the war, retiring from the Territorial Service in 1920 with the rank of lieutenant-colonel. Since 1919 he has devoted his attention to paediatrics in the Sick Children's Hospital at Glasgow, where he was appointed assistant to Professor Findlay and later, Gow lecturer in the medical diseases of children at Glasgow University. Two years ago he became physician to the Sick Children's Hospital. He has made numerous contributions to current medicine.

Conference of Insurance Committees at Inverness

A two days' conference of the Scottish Association of Insurance Committees opened in the Town Hall, Inverness, on September 26th where about two hundred delegates from all parts of Scotland were welcomed by the provost and magistrates. Mr. A. A. Dick of Lanark county who presided, said that the question of extending and developing the medical service under the national insurance system was at present being discussed with great intensity and was nearing a climax. The British Medical Association had prepared a very carefully drafted scheme for a general medical service for the nation and this was so opportune that it was bound to play an important part in determining the future official attitude. The question now was whether the people of this country should be medically treated by whole-time medical officers appointed either by local authorities or by the State, or alternatively whether the present scheme of medical service under the Insurance Acts should be widened so as to bring everyone within its scope, thus retaining the right of free choice of doctor, which was the essential feature of the national insurance scheme. He was inclined to subscribe to the principle that the family doctor was the foundation of any complete and efficient medical service, and that as there was no real distinction between the preventive and curative branches of professional work every general practitioner should be associated with all health services. The passing of the old parish councils raised afresh and in an acute form, the question of the future provision of medical service for the poor. He submitted that if the national insurance system was to be extended local authorities through their public assistance committees might confer with local insurance committees and devise a method of contracting under the insurance system whereby domiciliary medical attendance might be provided for those for whom local authorities were responsible. This would do away with the present segregation of the poor as such, and would preserve for them the valued right of free choice of doctor. Under such an arrangement payment would be made by the local authority into the pool from which the local committee drew its funds. He was convinced that the whole arrangement could easily be brought into operation if both sides were agreed, and he was sure that permission would not be withheld by the Department of Health. Even if legislative authority were necessary, this would be of a simple character. Mr. Dick also pointed out that institutional treatment was an essential part of a complete medical service. In this connexion increased facilities, greater efficiency, and proper co-ordination of existing institutions were necessary and urgent. Many insured persons as well as others demanded, and were able and willing to pay, a reasonable charge for accommodation. The private hospital or nursing home did not meet this need to-day, for charges were often excessive and even extortionate. In any case there was room here for an improved nursing service which should be met in any scheme for general hospital accommodation. Private nursing institutions should also be subject to some kind of inspection and control as a safeguard against the exploitation of patients. They were told that the hospitals, both voluntary and council, were being used to an increasing extent by persons who would not and should not ask for charity, in the building of more hospitals provision should be made for patients who could pay and were willing to pay. A motion by Sir Henry Keith was carried to remit to the executive committee the consideration of the extension of domiciliary medical service with the object of making such service as comprehensive as possible. An address on the medical service in the Highlands and Islands was delivered by Dr. Shearer of the Department of Health for Scotland. He said that the improved conditions of medical practice in the Highlands and Islands had been of enormous benefit to the people. The provision of motor transport had made it possible to do in one day what had previously taken three or four days. Through the Highlands and Islands Medical Service Fund the poorer classes could get prompt and adequate medical attention and the nursing services were now better. The medical services in these districts had been transformed, and a nursing service, which was an incalculable boon, was being steadily improved and extended. He referred also to the establishment of specialist service and to the modernizing of the Northern Infirmary at Inverness. He expressed the opinion that if the problems of the Highland medical services had been treated sectionally progress would have come to an end but now all over the world in Kentucky, in Newfoundland, and in South Africa the ideas which had been worked out and tested in the Highlands of Scotland were being adopted and applied to cognate problems.

England and Wales.

After-care of Defectives in Birmingham.

THE report for the year 1929 of the Special Schools After Care Committee for the City of Birmingham contains an account of some of the defective persons who have become either partially or completely self supporting since going out into the world. Efforts have been made during the last three years to obtain information on the occupations commonly followed by defectives in the industrial life of the city and it has been found that the numbers doing remunerative work are the highest since the committee was established. As many as 1,295 males and 716 females are now in work, the wages of the men range from 2s. to £5 per week, and of the women from 2s. to £2. In several cases defectives have remained in the same employment since leaving school, one having held a post as a domestic servant for the last ten years, the committee's visitor reports that others are much improved and one is now attending an evening school. Occupations include engineering both skilled and automatic unskilled factory work, electro-plating, outdoor work, domestic service and the sewing trades. Bootmaking and carpentry are two of the trades taught in the special schools and it is of interest to note that fourteen are engaged in the boot trade and nineteen in different branches of carpentry. A number of children—namely 222 males and 177 females—have been excluded from special schools during the past five years by reason of mental or physical disability, these are children who, after a varying period in the schools failed to make any progress in education. Most of them remain

at home subsequently, but some of them attend occupation centres, others are eventually placed in institutions, and a few are able to find employment, though it is seldom long retained The percentage of defectives doing remunerative work has steadily increased since the inception of the committee, and now amounts to 47 per cent—a not unsatisfactory figure when the amount of general unemployment is considered A special investigation has been made into the family histories of former pupils of the Birmingham special schools who were known to have married or to have had children, 376 children are noted as born of fathers who had been certified as mentally defective, and 270 of mentally defective mothers Of 276 of these over the age of 5 years, fourteen are reported to be mentally or physically defective, and of the 370 below that age fourteen are said to be mentally subnormal or not in good health In the younger group it is still too early to make an accurate diagnosis in the greater number of cases, but most of the older children are attending ordinary elementary schools Delinquency among defectives is usually of a minor order, and in the records of the committee very few cases have been found which have been the subject of police court proceedings, the usual forms of delinquency noted are minor thefts, a tendency to wander, and, among the females, a liability to be victimized sexually More than seventy children attend the four occupation centres, where useful training is given to low-grade defectives who cannot profit by the instruction at the special schools

London Hospital Post-graduate Course

The annual post-graduate course for former students of the London Hospital will be held this year on the four days October 15th to 18th For each day, except the last, a full programme of lectures and demonstrations has been arranged On October 15th Dr Donald Hunter will lecture on vitamins Dr W J O'Donovan on the major skin infections of childhood, Mr Hugh Lett on the enlarged prostate, and Mr Hugh Cairns on the treatment of trigeminal neuralgia There will be demonstrations of cases treated by radium, surgical operations, and ward demonstrations during the afternoons, and Dr George Riddoch will discuss the diagnosis and treatment of Parkinsonism and will show cases On the second day Dr Maitland-Jones will lecture on some nutritional disorders in infants, Mr C B Goulden on injuries to the eye Mr Eardley Holland on some common obstetrical problems, Dr Russell Brain on some causes of pain in the leg and Dr O Leyton on diabetes Mr Victor Luck will hold an ante-natal clinic in the afternoon, and the annual dinner of the London Hospital will be held that evening, as already announced in these columns Lectures on the third day will be given by Dr T Lumsden on immunity in relation to malignant disease, Mr Alan Perry on infections of the hand, and Mr G E Nelgan on cystitis Mr Norman Patterson will demonstrate cases and specimens, Dr A E Clark-Kennedy will give a ward demonstration on dyspepsia, and Mr H S Souttar will deliver the Schorstein Memorial Lecture on radium in the service of surgery It is proposed that a demonstration by Dr Daly on methods of anaesthesia shall be held in the evening The course will conclude on Saturday morning with lectures by Dr G Vilvandre on some pitfalls in x-ray diagnosis, and Mr A J Walton on the present state of thyroid surgery Mr Russell Howard will conduct a ward demonstration In addition to the course here outlined, there will be operations in the theatres each afternoon from 1 30 onwards and demonstrations in the wards

Children's Sanatorium, Harpenden

The Children's Sanatorium at Harpenden, Herts, which was built in 1910 as a special branch of the National Children's Home and Orphanage, provides facilities for medical treatment along with the amenities of home and school life About seventy tuberculous children between the ages of 5 and 14 including those whose health has been seriously impaired by early privation and neglect, can be received in the present building, but larger accommodation is expected to be available at an early date in anticipation of fuller co-operation with local authorities The sanatorium is recognized by the Ministry of Health, the Ministry of Pensions, and the Board of Education, and possesses equipment for study and recreation all the year round Among its facilities are an open-air school, fitted with sliding panels and movable partitions, playgrounds, playing fields, and play-sheds for use in bad weather A number of revolving outdoor chalets have been erected in part of the surrounding gardens, where plots of land are cultivated by the children themselves Wide, open verandahs run round the whole of the frontage of the main building, which consists of two floors of wards, day rooms, a central dining-room, a consulting-room, and a surgery This building has been named Wakefield House, in recognition of the sympathy and generosity of Lord Wakefield of Hythe Particular attention is given to dietary, exercise, and to matters of personal hygiene The records of the sanatorium, to which Dr T N Kelynack is visiting physician, suggest that these natural methods of treatment result in a high percentage of success when they are applied systematically and at the right time

Correspondence.

INTERNATIONAL CO-OPERATION IN HEALTH
THE RHEUMATIC DISEASES

Sir,—Your welcome editorial on the health work of the League of Nations in the *Journal* of September 27th (p 536) clearly shows how much strength our medical art may derive from international co-operation, and also how great a contribution it is now in a position to make to the economic and social problems of the world Least of all the great vocations can the Medicine of the future be exclusive, insular or national May I add my small tribute to this newly acquired value, from a personal experience of ten years in rather active work in the field of physical medicine? I refer to the serious study of physical remedies in all civilized countries, which are in the first place especially the remedies of the health resort, and which, of course, find their ruling indications in the treatment of incipient and chronic disease

During the past five years a large number of workers in chronic rheumatic diseases have been organized as a small international league for combating these diseases Their first object, in the words of Miss Lawrence—speaking of the League of Nations organization—is "the study and collection of information" But in the case of rheumatism investigation must go hand in hand with a careful study of treatment, partly because the sick man cannot wait and partly because it has been shown that the close observation of large numbers of cases *under treatment* throws much light on the morbid process and quickly establishes a therapeutic differentiation

The health activities directed from Geneva have often, as you point out, led to rapid and most beneficial results In the case of rheumatism also, we believe that a wisely directed co-ordinated effort will be much more fruitful than any isolated efforts The constant international interchange that has been established between workers on rheumatism has already effected a much-needed understanding between sections of the medical profession The young cardiologist or bacteriologist, keen on his "scientific" work, has been brought into contact with other categories of fact, the contribution perhaps of much older students and clinicians *Pace* Mr Wilfred Trotter, they have learned that scientist and clinician are not mutually exclusive terms Both schools have during the past week studied together the disturbances of circulation and bodily heat which characterize the development of many rheumatic illnesses and which call aloud for investigation

It fell to me at the second rheumatism congress, just concluded, to lay before my colleagues at Liege the call to co-operation "How essentially similar are the problems which confront us all" In dealing with these sometimes baffling medical problems, with their serious economic and social aspects, co-operation is necessary all along the line, first between sections of the medical profession, then between ourselves and other organizations

concerned with social and economic welfare and lastly between nation with their own individual genius, experience and energy.—I am, etc.,

London, W.1, Sept. 23rd. R. LONTE CUT FOX

X-RAY AND DIATHERMY TREATMENT OF TONSILS

SIR,—There have been several letters in the *Journal* recently about the x-ray treatment of tonsils. As I had been using this method for some few years and probably treated over a thousand cases, my results may be of some use to readers. At the Rockefeller Institute for Medical Research in 1919 Drs. Witherbee, Murphy, Craig, Hussey and Stern treated forty-six patients from 31 to 45 years of age by x-rays. The result of the work showed that within one month of starting treatment no colonies of haemolytic streptococci or staphylococci could be found in tonsils in which before they had been present. My own results were not so good, so I supplemented the x-rays by one-minute exposure to the ultra-violet lamp, application of the high frequency electrode, and the use of a vaccine prepared from the organisms present in the tonsils.

With two treatments a week over two to three months I was able to get very good results. The tonsils shrank and became pale, and no secretion could be expressed from them. In about 90 per cent. of cases results were very satisfactory. A few resisted all treatment, and during the next four or five years a few returned with a recurrent infection. Patients who have had their tonsils treated, and find them years later, as bad as they were originally, feel very badly used. I therefore scrapped the method, and during the last three years have employed diathermy, using a unipolar method off a Schall machine. I mention this machine as I have not heard of any other by which this method can be applied. With a needle protruding a good quarter of an inch from a glass rod a tonsil can be dissected out, as with a knife, except that the operation is bloodless, or the needle can be entered to its full depth and moved slowly backwards and forwards across the tonsil, *cutting its way through and destroying all in contact with it*. Least reaction and discomfort is produced by doing half a tonsil at a sitting. The operation does not prevent the patient carrying on with his daily work, it can be applied to elderly folk with weak hearts as long as they are able to come to one's rooms. One can do as much or as little as one wishes, and there is no uncertainty as to how deep one is burning. Full current is used and only one electrode employed. Where x-ray treatment is used alone, even if good results are obtained the tonsils are bound to be reinfected in the presence of dental or naso-pharyngeal infection.

The fact that the tonsils of about 90 per cent. of people are infected does not mean that the condition is normal, and we do well to eliminate all sources of the streptococcal infection at present much harm is being done by removing tonsils and leaving nasal infections.—I am, etc.,

Melbourne, Victoria, Aug. 11th. SYDNEY PERN

SUCTION IN TONSILLECTOMY

SIR,—In your report of the proceedings in the Section of Anaesthesia of the British Medical Association Annual Meeting (*Journal*, September 27th, 1930) I have read with interest the reference made to the prevention of respiratory complications after tonsillectomy. It is surprising that no single anaesthetist has mentioned the value in this connexion of suction to prevent accumulation of mucus and blood in the air passages.

A very simple apparatus of low cost can be erected in any operating theatre whereby a *constant suction* can be maintained during operation. This consists of a modified Bunsen water pump attached through a suction bottle to a Yankauer tube. The tube can be manipulated by the anaesthetist and can most effectively be made to remove the blood from the site of operation. It can be kept free from clotted blood by dipping occasionally into a sterile solution of sodium citrate. Operation, particularly dissection in adults, are rendered comparatively simple as anaesthesia can be pushed with safety to full relaxation without fear of the inhalation of blood. Efficiency is greatly increased, as a full view of each step in the operation is obtained. Constant recourse to sponging is obviated, and bleeding points can, if necessary, be clamped with ease. The patient is allowed to regain his cough reflex before leaving the table.

I think it will be found that the dangers and complications of the operation are reduced to a minimum and the ease of operating increased a hundredfold.—I am, etc.,

Bedford, Sept. 23rd. C. A. METCALFE, M.A., M.B., B.Ch.

RADIUM TREATMENT OF RODENT ULCER

SIR,—During the last year I have treated a considerable number of rodent ulcers and have seen the resultant after-effects, which, in the majority of cases are in the form of a smooth scar. If unscreened applications were used, containing either radium element or radon, treatment for a few hours sufficed but it was found necessary to screen the surrounding healthy skin with lead, otherwise a burn developed. It however, tubes screened with 0·6 mm. of platinum were used, then treatment needed to be prolonged for six days and no protection of the surrounding skin was necessary.

The introduction of a platinum screen, with consequent filtration of the beta radiation necessitating a much longer exposure, is, I think, proof that the beta radiation is the effective agent in the treatment of rodent ulcers with unscreened tubes, while the necessity for protecting the surrounding skin with this type of treatment shows that these radiations possess no selective action on malignant tissue.—I am, etc.,

Manchester and District Radium Institute, Sept. 22nd. SYLVIA B. WIGODER, Assistant Radiologist.

PERSONNEL OF A RADIUM CLINIC

SIR,—It would be churlish on my part not to acknowledge the extreme courtesy of *Mr. Duncan Fitzwilliams's* reply to my letter. That he deliberately omitted to include the radiologist from his team would hardly have crossed my mind, knowing as I do that there are quite a number of people in London and in the provinces whose expert knowledge of dosage and of the biology of radium is invaluable. That the radiologist was to be excluded from taking his proper place in the future administration of radium was all too evident until Scotland showed us the way. I will not dwell upon this other than to remark that there was some just reason for my previous comments.—I am, etc.,

London, W.1, Sept. 25th. STANLEY MELVILLE.

TECHNIQUE OF INJECTING VARICOSE VEINS

SIR,—Dr. Charles McCash, in his letter on this subject (*Journal*, September 20th, p. 493), states that in using sodium morrhuate "its oily nature renders thorough cleansing of the syringe between injections more difficult." In my experience it is extremely easy to clean a syringe after using this solution as its very nature tends to act as a cleansing agent in removing all traces of blood, etc., from its interior. The reason is that sodium morrhuate is chemically a soap being the sodium salt of an unsaturated fatty acid. As used in solution form for injecting veins it is an aqueous solution of sodium morrhuate that is generally utilized, not an oily solution. The sodium morrhuate is also generally a "neutral soap" and contains no uncombined free fatty acid and no uncombined oil.

The soapy nature of the solution can be proved easily by the fact that if one puts a little of it in the hand and adds water one can wash the hands with the resultant lather. In my letter to the *Journal* of August 23rd (p. 303), I referred to the "oily" nature of sodium morrhuate acting as a lubricant, whereas the term "soapy" would have been more correct, chemically speaking.

Dr McCash states that he uses short or bevel pointed needles and finds them of great use Personally I gave up using them some time ago, as I found that, owing to their more blunt nature, they tended to push some veins aside rather than enter them directly, unless the vein was firmly fixed—I am, etc,

Leicester Sept 27th F A E SILCOCK M D, D P H

PYREXIA OF UNCERTAIN ORIGIN

SIR,—Regarding Dr W H Palmer's letter in your issue of September 27th (p 543), I had a case a fortnight ago which was very similar to his series The patient was a boy, aged 10, and presented all the signs and symptoms mentioned by Dr Palmer In addition, he had oedema of the upper eyelids and some phlyctennules on his conjunctivae There was a trace of albumin in the urine, and a blood count showed a deficiency of polymorphs, being otherwise normal Recovery was uneventful—I am, etc,

Llansamlet, Swansea Sept 29th T J EVANS

SIR,—The symptoms described by Dr Palmer in your current issue would suggest that these cases may be mild septicaemic cerebro-spinal meningitis, such as I have recently seen here and am publishing records of Most of these cases are exceptionally difficult to confirm unless a relapse occurs, or meningitic signs set in, or a definite case is recognized in the vicinity—I am, etc,

Borough Sanatorium Sunderland, Sept. 30th EUSTACE THORP, M B, L R C S, D P H

NECROPSIES BY GENERAL PRACTITIONERS

SIR,—I am interested in this subject, having been a practitioner covering extensively the whole field of medicine, midwifery, and gynaecology, as well as surgery in all its specialties This, I presume, would entitle me to the term "a general practitioner" To this, among other things, was added the performance of roughly from 100 to 150 medico-legal post-mortem examinations yearly, and the giving of evidence in court on these cases When I commenced I was no better nor worse qualified for the job than the average general practitioner As it was a very important part of my work I had to undertake an intensive study of the subject, so that, on the one hand, I might be an efficient witness in the interests of justice, and that, on the other hand, I should not look a fool when confronted with judicial advocates who knew the subject well In my first few cases I did not feel comfortable in the witness box, and I learnt there what courts required—a thing not taught in any undergraduate school I would have been much more comfortable if I had had a special post-graduate course of instruction in necropsies *and* evidence I do not wonder that general practitioners do not like this work when so very little of it comes their way Reading the reports of such cases, it seems to me that it would be in the interests of justice (as matters stand) that some one or two of the medical members attached to the county councils should do this work, having previously attended a special course of instruction in the subject one of the teachers being an experienced judicial advocate—I am, etc,

Sidcup Sept 23rd HENRY SMITH, C I E, Lieut Colonel I M S (ret.)

SIR,—May I deal with the more relevant protests which my letters on this subject have evoked?

The first and most telling objection is that valuable professional experience would be lost to the general practitioner if he ceased to perform post-mortem examinations The answer to that is that he would gain rather than lose in pathological knowledge by watching them performed by others more skilled than himself We do not complain of losing valuable surgical experience because we send our operation cases to hospital And almost certainly the co-operation of the general practitioner would be required, for surely no necropsy can be complete unless the pathological findings are correlated with the symptoms exhibited during life

The second and less valid objection is a general protest against the invasion of the practitioner's domain by anything that savours of specialism This is where the acid test of efficiency is applied, and no argument of the possessive or sentimental order can stand against it Would the work be done better by a change in organization? If it would, then the change is bound to come, and we should be doing a public disservice by opposing it

The third objection, if indeed I read Dr Gibson correctly (September 20th, p 499), is that we have, or ought to have, sufficient pathological knowledge to perform necropsies efficiently ourselves I agree with Dr Gibson that we leave hospital with perhaps as much pathological as medical or surgical experience, but there the resemblance ends The practice of medicine and surgery is our daily round, we make mistakes, and strive not to make the same mistake twice When we encounter a puzzling case we can ponder it at our leisure, discuss it with colleagues, or consult works of reference But with an isolated post-mortem examination I contend that we have no such opportunity, nor can we have, however keen and interested we may be At a single examination we must come to a definite conclusion from unfamiliar material We must make a pronouncement on oath, and perhaps withstand a searching cross-examination Does Dr Gibson seriously believe that one necropsy a year (a fair average for a country doctor) is sufficient to maintain a satisfactory knowledge of pathological anatomy and post-mortem appearances? Surely not Although, unlike most of us, he appears perfectly satisfied with his own ability in post-mortem examinations, he will no doubt agree that if he had twenty times as many to perform he would become even more skilful That is the whole of my argument Where twenty men will do one examination each and do it badly, one man will do the whole twenty and do them much better

I certainly do not envisage the total exclusion of the ordinary doctor from all post-mortem experience My conception is that some practitioners would undertake these examinations just as some do a certain amount of ophthalmic work, or any other specialty, and by some such system of centralization all the doctors of a district would have the same freedom of access to their local mortuary as they now have to the operating theatre of their local hospital They would thus have a far better opportunity of learning pathology than they have with their present annual necropsy

That there is any objection to the removal of bodies to a mortuary is contrary to existing experience This is the usual course in many large cities, and gives no offence that I have heard of If the body is in a rural district twenty miles from a mortuary, it merely means an extra two hours' absence on the journey—I am, etc,

September 22nd. RUSTICUS

DESICCATED HOG'S STOMACH IN PERNICIOUS ANAEMIA

SIR,—The following case is, I think, worth recording The patient is a man, 67 years of age, who was put on liver treatment on receipt of the following report of the blood

October 11th, 1929—Haemoglobin 38 per cent, colour index 1 2, red corpuscles 1 576 000 per c mm, white corpuscles 3 200 per c mm, polymorphs 59 per cent, lymphocytes 34 per cent, large mononuclears 4 per cent, eosinophils 3 per cent Nucleated reds present (megaloblasts 5 per cent normoblasts 2 per cent) Poly chromasia present Marked variation in size and shape of red cells

January 6th, 1930—Haemoglobin 72 per cent colour index 1 3, red corpuscles 2 832,000 per c mm, white corpuscles 3 200 per c mm

March 3rd, 1930—Haemoglobin 84 per cent, colour index 1 4, red corpuscles 2,984,000 per c mm, white corpuscles 4 200 per c mm

The patient had now been four months under treatment, and, as things seemed rather at a standstill, he was put on ventriculin, as suggested by Dr Renshaw in your issue of February 22nd, beginning with 10 grams and gradually increasing the quantity given, until in a week he was taking 30 grams daily

April 28th, 1930—Haemoglobin 92 per cent colour index just above 1 red corpuscles 4,316,000 per c mm, white corpuscles 4 400 per c mm

June 6th ... 9)—Haemoglobin 86 per cent ... colour index 1 ... red corpuscles 4,981,000 per c.mm ... white corpuscles 5,800 per c.mm.

After this report the amount of ventriculin was reduced to 20 grams a day.

On July 18th 1930 the laboratory report was:

Haemoglobin 82 per cent ... colour index 1 ... red corpuscles 5,010,000 per c.mm ... white corpuscles 6,400 ... Differential count: Polymorphs 70 per cent ... lymphocytes 20 per cent ... large mononuclears 7 per cent ... eosinophils 1 per cent. Practically no variation in size or shape of red cells. No nucleated red cells seen.

He was then advised to reduce his ventriculin to 10 grams a day. He seems quite well and has resumed his usual occupation. There is no doubt that the change from liver treatment to ventriculin was a great factor in hastening his recovery.—I am, etc.,

Exeter, Sept. 22nd. C. F. STORRS.

HARVEY'S DE MOTU

SIR,—In the issue of the *British Medical Journal* for September 20th there is an article (p. 491) entitled "Dr. William Harvey" which deals with the catalogue of Old Medical, Botanical, Chemical, and Alchemical Books" lately issued by the International Antiquarian at Amsterdam. In the article we are asked "Why did he [Harvey] send the manuscript of the *De Motu* to be printed at Leipzig?" But Harvey sent it to Frankfort (on the Main) for we read on the title-page of the first edition—Francofurti, Sumptibus Guilielmi Fitzeri, Anno M.DC.XXVIII."—I am, etc.,

London, Sept. 27th. D. FRASER HARRIS.

*** The learned Harveian who contributed the article writes: When the Rev. Dr. Burgon asked advice of Dr. Routh the old, old, very old President of Magdalen College, Oxford, as to the best course for him to pursue in literature, the venerable President—no doubt with a twinkle in his eye, for Burgon's slapdash method were well known in the University—replied, "Sir, verify your references." Dr. Fraser-Harris does well to point out that I omitted to do so, but the mistake is so glaring that it is clearly a mere slip of the pen. No Harveian would attribute the Fitzers to Leipzig, but the question still awaits an answer.

Obituary

PHOEBE MILDRED BIGLAND, M.D., M.R.C.P.,

Consulting Physician, Liverpool Dispensary for Women.

THE all too early death of Dr. Phoebe Bigland on September 24th, at Rodney Street, Liverpool, removes from medical circles in that city one whose place will be hard to fill.

Obtaining the M.D. degree of the University of Liverpool at a comparatively early age, she became M.R.C.P. Lond. in 1919, and her record includes appointments in both cities. She had been house-surgeon at the Royal Free Hospital, London, and she held a similar appointment in the Stanley Hospital, Liverpool, where during the war she became acting physician. She was successively medical tutor and registrar and temporary honorary assistant physician at Liverpool Royal Infirmary and honorary assistant physician at the Liverpool Chest Hospital. On the academic side she held successively the appointments of John W. Garrett Fellow in Pathology, demonstrator in pathology, and assistant lecturer in the same subject. Turning to another field she became assistant school medical officer. The appointments she held at the time of her death reflect her special interest in the diseases of women and children, including as they did honorary physician, Crofton Convalescent Hospital, honorary consulting physician, Liverpool Dispensary for Women and Children, medical officer Infant Welfare Clinics, assistant Venereal Diseases Department Royal Infirmary, and medical officer in charge Mothers' Welfare Clinic.

Her contributions to medical literature began in association with the late Dr. O. T. Williams in 1912. The subject in which she specially interested herself in later years is shown by her contribution in 1922 to the ninth annual report of the Board of Control (with Watson and Bigland) on the influence of syphilis in mental cases, followed by an article in the *Lancet* in 1923 with the same collaborators on the relation between general paralysis and somatic syphilis, the effect of treatment on the Wassermann reaction of syphilitic patients, contributed to the Medical Research Council Report of 1926 (with Dr. Glenn), and studies connected with the same subject which appeared in the *British Journal for Venereal Diseases* in April 1927. Her sympathy with students and her insight into their special difficulties will be gratefully remembered by numbers of ex-students of Liverpool University. Her fellow practitioners marked their appreciation of her loyalty to the interests of medical women and her strenuous work on their behalf by making her president of the Liverpool Association of the Federation of Medical Women, and her ready wit and quick grasp of essentials will be remembered by the council of the Federation of Medical Women, of which she was for many years a member.

She married Dr. Douglas Bigland in 1917 and her charming hospitality and the happiness of her home life will be a grateful memory to a very wide circle of friends. Those among whom he worked will appreciate her loss most acutely. For the husband and two children whom she leaves behind her premature death is a tragedy.

DR. ARTHUR HOLT of Chingford died on September 16th at St. Leonards-on-Sea, at the age of 67. His medical education was obtained in the University of Glasgow, where he graduated M.B., C.M. in 1895. He then practised for some time in Horwood, where he took a special interest in puerperal septicaemia and strongly supported a movement among medical practitioners for the instruction of midwives in the use of antiseptics. He was also largely concerned in introducing bimanual compression for postpartum haemorrhage. Failure in health then necessitated his taking a sea voyage after which he undertook general practice in London. During the war Dr. Holt's house in Lewisham was struck by a bomb; the whole family escaped but the shock to him was so severe that he never fully recovered. He retired from practice four years ago but subsequently resumed at Chingford. A colleague writes: Dr. Holt endeared himself to his patients by his conscientiousness and by the deep interest he took in the nature of their illnesses. As a friend he was sincere and faithful. In company he was genial and full of humour; no one could tell a story better, and no one could do it the same way. He was buried at Cheshunt on September 22nd where his wife had been laid two years earlier. He leaves one daughter and two sons.

MR. WALTER EDMUNDS of Putney, who died at Worthing on September 23rd at the age of 80, received his medical education at Cambridge and St. Thomas's Hospital. He graduated M.B. Camb. in 1875, and proceeded M.Ch. in 1877; in this year also he received the diploma F.R.C.S. Eng. by examination. He took part in the Turko-Russian war of 1877–78 as surgeon, and was later appointed surgeon to the Prince of Wales's General Hospital, Tottenham, being subsequently elected consulting surgeon. He had been a member of the British Medical Association and of the Ophthalmological Society. In 1901 he delivered the Erasmus Wilson Lecture to the Royal College of Surgeons. He took a special interest in diseases of the thyroid gland and published many contributions on this subject.

The following well-known foreign medical men have recently died: Professor DEODATO DE CARLI, professor of oto-rhino-laryngology at Naples, aged 55. Professor HJALMAR FORSSNER, a Swedish gynaecologist, aged 57. Dr. KARL BAYER, professor of surgery at the German University at Prague, aged 76. Dr. V. JANSKO, professor of internal medicine at Szeged, aged 61. Dr. PAUL PEYER, extraordinary professor of pathology and morbid anatomy at Bonn, aged 48. And Professor JOHANN FABRY, a dermatologist of Dortmund, aged 69.

The Services

DEATHS IN THE SERVICES

Surgeon Captain Douglas Duke Turner, R N (ret), died in the Royal Naval Hospital Haslar on August 4th, aged 53. He was educated at St Thomas's, took the M R C S and L R C P Lond in 1900, and after filling the posts of house surgeon and house physician of the Victoria Hospital for Children, Chelsea, and of assistant medical officer of Paddington Infirmary, entered the navy as surgeon on May 23rd, 1904. He was promoted to staff surgeon after eight years' service and to surgeon commander in June 1917, and retired with an honorary step of rank as surgeon captain in March, 1927. During the war he served as medical officer of the cruisers *Sappho* and *Devonshire*, and after the war in the cruiser *Concord*, in the battleship *Resolution*, and in H M S *Defiance*, torpedo school ship at Devonport.

Colonel George James Hamilton Bell, C I E, Bengal Medical Service (ret.), died in Edinburgh on July 9th, aged 61. He was born on February 28th, 1861, the son of Robert Bell, Sheriff Substitute of Stirling, Dumbarton, and Clackmannan, and was educated at Edinburgh Academy and at the University in that city, where he graduated as M B and C M in 1882. Entering the I M S as surgeon on April 1st 1886, he became colonel on June 16th, 1915, and retired on August 20th, 1920. He served in the Burmese war in 1887–89, receiving the Frontier medal with a clasp, and in the Lushai expedition on the Eastern Frontier in 1889 (clasp). He then got civil employment in Bengal, but before long was transferred to Burma for service in the Jail Department there, of which he became inspector-general. In June, 1915, he was appointed Inspector General of Civil Hospitals in Burma, but towards the close of that year was transferred to the same post in Bihar and Orissa on the death of Colonel F J Dimn. He received the C I E on June 2nd, 1914. In 1890 he married Violet Helen Mary, daughter of Lestock Reid Forbes, Esq., and had a son and two daughters.

Captain Edward Chandler, R A M C (ret.) died at Aberstoke on June 14th, aged 88. He was born at Alston Cumberland, on October 14th 1841, was educated at Charing Cross Hospital, and took the L R C P Lond in 1862 and the M R C S in 1863. He entered the A M D as surgeon on April 14th 1863, became surgeon major on April 1st, 1873, and retired on half pay on February 4th, 1875, his designation being changed to surgeon captain in 1893 and captain in 1898. In the old regimental days he served in the Royal Artillery and after retirement was employed for some years as medical officer of the military prison at Gosport. He served in the New Zealand war of 1864–66 receiving the medal. He must have been one of the oldest retired medical officers, if not actually the oldest.

Universities and Colleges

UNIVERSITY OF LONDON

The Geoffrey F Duveen Travelling Studentship in Oto-rhino-laryngology of the value of £450 will be awarded annually. The tenure of the studentship shall be, in the first instance, for one year, part of which will be spent in study abroad, in accordance with a scheme to be approved by the Board. The tenure may be extended for one or two years and during such extended period the student may be allowed to undertake research at the Royal Ear Hospital or some other laboratory approved for the purpose. Grants for promotion of research in oto-rhino-laryngology or in any part thereof may also be made from the trust fund of the benefaction. No person shall be qualified for election to the studentship or to receive grants from the fund until he or she has obtained the degree of M B and B S in the University. Applications should be made on the prescribed form obtainable from the Academic Registrar of the University, London S W 7, to whom they should be sent by December 21st 1930 together with a statement of the nature of the research proposed and a scheme of study.

A Paul Reitlinger Prize of £30 for the best essay embodying the result of some research work on a medical subject carried out by the candidate will be awarded on December 3rd 1930 provided there be a candidate of sufficient merit. Candidates must be matriculated students who on June 1st preceding the award, were studying in one of the schools of the University in the Faculty of Medicine or graduates of the University who on the same date, were of not more than five years standing from the date of taking their first degree and who are or were students in such school. Regulations of the award of the prize may be obtained on application to the Academic Registrar.

The next award of the Rogers Prize of £100 will be made in 1931. The subject selected is Filterable viruses as a cause of disease in man. The prize is open for competition to all persons whose names appear on the *Medical Register* of the United Kingdom. Copies of the regulations including information regarding the date in April by which entries must be received and any further information, may be obtained on application to the Academic Registrar.

KING'S COLLEGE

Four lectures on metabolism of the carbohydrates and fats will be given by Dr J A Hewitt on Thursdays October 16th, 23rd, 30th, and November 6th, at 5 p m. Admission is free without ticket.

UNIVERSITY COLLEGE

The session 1930-31 opens at University College on Monday, October 6th. First year students of the Faculty of Medical Sciences will be received between 10 a m and 1 p m, those of later years between 2 15 p m and 4 p m.

Mr J C R Hindemarch, M B, Ch B, and Mr C P Bryan, M B, B Ch, have been appointed demonstrators in the department of anatomy and embryology.

Among the public lectures arranged for the first term are the following: 'Introduction to the theory and practice of experimental embryology' (two lectures), by Professor H Spemann of the University of Freiburg; "The reticulo-endothelial system" (four lectures), by Dr H P Gilding; The respiratory functions of the blood (four lectures), by Dr L L Bayliss. The complete programme, giving particulars of these and other lectures open to the public without fee or ticket, may be had on application to the secretary of the College. A stamped addressed envelope should be enclosed.

WESTMINSTER HOSPITAL MEDICAL SCHOOL

The following prizes have been awarded:

Chadwick Prize for Clinical Surgery J G Stewart and Miss F T Davies equal; Class Prize in Surgery D H H Thomas; Chadwick Prize G J Griffiths; Abrahams Prize W P Jonson; Sturges Prize I S Lee; Frederick Bird Medal and Prize G J Griffiths; Hanbury Prize F S Lee; Class Prize in Midwifery D G Cowor; Class Prize in Medicine Miss I Curphey; Class Prize in Forensic Medicine and Toxicology W Dran; Class Prize in Public Health Miss I Curphey; Class Prize in Bacteriology (Dr Hicks's Prize) Miss G I Matthews.

UNIVERSITY OF LEEDS

The following candidates have been approved at the examinations indicated:

M D—I Berenblum Elsie G M Ford Bessie Goodson D Perk
Ch M—D W Currie
FINAL M B, Ch B—*Part I* B W A Fleming L Glick F C Leach N W Roberts K I Tunbridge Lillian I Walker; *Part II and Part III (New Regulations)* G M Holliday I J Keidan *J Shernovitch S Silman; *Part II (Old Regulations)* M Goodman J N Hill G Hirst G J Marks B S Platt
D P M—I J Graham G C Morris
D P H—Rosie B Becker I J S Bonnett A R Doyle J L M Wood, Hester E de C Woodcock

* Awarded second class honours.

The West Riding Panel Practitioners Prize for proficiency in medicine was awarded to J Shernovitch.

Medical News.

The annual reunion dinner of the London (Royal Free Hospital) School of Medicine for Women will be held at the Savoy Hotel on Thursday, December 4th, at 7 for 7 30 p m. The honorary secretary of the dinner committee is Miss Sibyl F Widdows.

The annual dinner of the staff and past and present students of the Royal Dental Hospital of London will be held at 7 p m on Saturday, November 22nd, at the Trocadero, with Dr Harvey Hilliard, C B E, in the chair. The Medical Committee will be "at home" to all past and present students of the hospital on the same day from 9 30 a m to 5 p m. In the morning demonstrations will be given by members of the staff and lecturers. In the afternoon orthodontic and other cases of special interest from the clinic of the hospital will be shown, the various departments of the hospital and school will be open for inspection. All medical practitioners are cordially invited.

The twenty-sixth annual dinner of the Birmingham and District Edinburgh University Club will be held at the Queen's Hotel, Birmingham, on Thursday October 23rd at 7 p m. The chair will be taken by Professor J C Brash, and Professor John Fraser of Edinburgh has consented to be the guest of the club. Membership of the club is open to all male graduates of the university, and any who would like to attend the dinner and have not received details of it are requested to write to the honorary secretary, Dr Ernest Bulmer, 87, Cornwall Street, Birmingham.

The Annual Dinner of the Chelsea Clinical Society will be held on Tuesday, October 28th, at 7 30 p m, at the Rembrandt Hotel.

The opening meeting of the Torquay and District Medical Society for the session 1930–31 will be held at the Torbay Hospital on October 16th when a paper will be read by Dr W Langdon Brown on the present position of endocrinology.

A meeting of the Biochemical Society will be held in the Biochemical Laboratory, Cambridge, to-day (Saturday, October 4th), at 3 p m, when papers will be read and demonstrations given.

AT the opening meeting of the St Pancras Division to be held in the British Medical Association's House Tavistock Square on Tuesday October 14th at 9 p m, Sir Harold Gillies will give a lantern demonstration of methods and results in plastic surgery

THE Crenfell Association of Great Britain and Ireland has arranged a meeting to be held at the Mansion House on Thursday October 16th at 3 p m under the chairmanship of the Lord Mayor of London Sir Wilfred Crenfell K C M G M D will give an account of his work in Labrador, and Field Marshal Viscount Allenby will also address the meeting

A MEETING of the Illuminating Engineering Society will be held at 15 Savoy Street Strand W C 1, at 6 30 p m on Wednesday October 8th when a report on progress in illuminating engineering prepared by the Technical Committee, will be presented and exhibits illustrating recent developments will be displayed

THE French Society of Orthopaedics will hold its annual meeting in Paris on October 10th when the following subjects will be discussed coxa vara of adolescents introduced by Dr Huc of Paris and obstetrical paralysis of the upper limb, introduced by Dr Andre Rendu of Lyons

THE Fellowship of Medicine announces that there is still one week of the intensive course in medicine surgery and the special departments at the Metropolitan Hospital From October 6th to 25th there will be a special course in ear nose and throat diseases at the Central London Throat Nose and Ear Hospital consisting of a clinical course an operative class (limited) and a pathology class At the Chelsea Hospital a course in gynaecology will continue from October 13th to 24th The Fellowship of Medicine has arranged an evening course of seventeen lectures suitable for (though not confined to) candidates for the M R C P examination The first lecture will be delivered on Tuesday, October 7th by Dr L J Witts, who will describe recent work on the liver the second lecture also given by Dr Witts on October 10th will deal with blood diseases The lectures will be given at the Medical Society, 11, Chandos Street, Cavendish Square, W 1 at 8 30 p m At the same place a course of evening demonstrations for the F R C S (final) will be given one day a week for six weeks at 8 30 p m beginning on October 8th, and consisting of demonstrations in clinical surgery and pathology Four demonstrators will attend each evening and will provide two cases each The fee for the course is £5 5s and contrary to the statement made on the syllabus itself, it must be paid in advance tickets cannot be issued at the lecture hall Particulars and syllabuses of all courses may be obtained from the secretary of the Fellowship 1, Wimpole Street W 1

A POST GRADUATE course has been arranged at the Royal National Orthopaedic Hospital under the auspices of the Fellowship of Medicine and will be held from October 27th to November 8th Daily lecture demonstrations will be given by the staff at 11 30 a m, except on the two Saturdays when visits will be paid to the Brockley Hill Country Hospital Those taking part in the course are specially invited to attend the operative and out patient practice of the hospital each day The fee for the course is 3 guineas and applications should be sent to the secretary of the hospital 234 Great Portland Street, W 1 or to the secretary of the Fellowship of Medicine, 1 Wimpole Street W 1, in either case by October 20th The minimum entry is ten

A COURSE on diseases of the heart and vessels will be held at the Hôpital Broussais Paris under the direction of Dr Laubry from October 13th to 25th The fee is 150 francs, which should be sent to Dr Mevel Hopital Broussais, Rue Didot 96, Paris XIV

A COURSE of ten lectures on the prevention of accidents, disorders and disease will be delivered in the lecture hall of the Royal Institute of Public Health Russell Square W C 1 on Wednesday afternoons at 4 o clock from October 15th to December 17th In the first lecture Dr E Graham Little will discuss the prevention of accidents disorders and disease in members of the medical and nursing professions Professor Lazarus Barlow will deal with the prevention of precancerous states and the arrest of cancer in the second lecture, Lieutenant Colonel J A A Pickard will give the third lecture on the prevention of street accidents and will illustrate the subjects with lantern slides The remaining lectures in the series will relate to the preventive aspects of tuberculosis, venereal disease accidents in workshops tropical disorders mental illness and industrial diseases The lectures are free to medical practitioners The Harben Lectures will be delivered at the Institute on October 6th 7th and 8th, at 4 p m, by Professor W H Park director of the Bureau of Laboratories New York City his subject will be pneumonia The annual congress of the Institute in 1931 will be held in Frankfort during Whitsuntide Further particulars may be obtained from the honorary secretary of the Institute 37, Russell Square W C 1

A COURSE of twenty four lectures for general practitioners on psychological types and mechanisms opened on October 1st at the Tavistock Square Clinic for Functional Nervous Diseases 51 Tavistock Square W C 1 The remaining lectures of the course will be given by Dr Crich on Miller and Dr Graham Howe on Wednesdays at 3 and 4 30 p m from October 8th to December 17th inclusive The fee for either series is £1 11s 6d and for both £2 2s

THE seventeeth annual French Congress of Hygiene will be held at the Institut Pasteur Paris from October 20th to 23rd under the presidency of Professor Delépine member of the Académie de Medecine The following subjects will be discussed successive changes in French pharmacopoeias introduced by Professor Delepine, comparative statistics of infantile mortality introduced by Dr Lesage study of the reports of health offices, by MM Aublant and Prunet and M.I Brocquin Lacombe and Bonnet and hygiene and reconstruction in the inundated districts in the South of France Lectures will be given on psittacosis by Professor Sacquepée and on Lavoisier as hygienist by Dr Dujarric de la Rivière Further information about the congress can be obtained from Dr Dufaure, Institut Pasteur, 28 Rue Dutot, Paris XV

THE thirty seventh Congress of the Italian Society of Surgery will be held in Rome from October 13th to 16th, when the following subjects will be discussed treatment of cranio cerebral trauma apart from gunshot wounds introduced by Egidi and Giacobbe of Rome and Alberti of Brescia and the diagnosis and treatment of haematuria, introduced by Lasio of Milan and Ferrata of Padua

MR K J ACTON DAVIS consulting orthopaedic surgeon to the London County Council, gave a lecture on the treatment of the modern cripple child at a meeting of the cripple superintendents and helpers of the Shaftesbury Society which was held at the Central Hall, Westminster, on September 24th He warmly commended the action of this society in establishing residential homes and schools for cripple children between the ages of 2 and 16 and as a result of his own experience was satisfied that such treatment enabled patients to return benefited to their homes and then to continue to improve The voluntary workers of the society had proved particularly useful in ensuring the co-operation of the parents, and instructing them how the best results could be obtained Emphasis was laid by the superintendent of the society's cripple department on the importance of discovering early cases of crippling defect so that children could receive surgical attention before the disability had progressed too far

THE Save the Children International Union, Geneva, has decided to form a section for preventive paediatrics This will be composed entirely of physicians and will deal with the scientific study of the prophylaxis of children's diseases and related questions of organization and instruction Its headquarters will serve as an information and liaison centre for physicians and others who are interested in child hygiene and who may wish to make interstaff exchanges or undertake studies in other countries The lines upon which this new section is to be conducted have been fixed by a number of well known paediatrists, including Professors Lereboullet (Paris) Parsons (Birmingham), Valagussa (Rome) Schlossmann (Düsseldorf), Hamburger (Vienna), and G Scheltema (Groningen Holland) Professor Scheltema has undertaken the work of organizing the section and is temporarily in charge of its secretariat further information may be obtained from him

DR. F FELIX JONES on his retirement after fifty years of practice at Llanfyllin Montgomeryshire has been presented by the inhabitants of the borough of Llanfyllin with a silver tray suitably inscribed by the Llanfyllin Board of Guardians with a framed illuminated address and album of subscribers names by the indoor staff of the Llanfyllin Poor Law Institution with a silver cigarette case and by the inmates with a silver flask.

DR. J R LORD C B E F R C P Ed medical superintendent of Horton Mental Hospital Epsom and lecturer in clinical psychiatry London (Royal Free Hospital) School of Medicine for Women has been appointed by the Minister of Health a member of the General Nursing Council for England and Wales

WE have received the first issue dated Sep ember 1930 of *Kinderärztliche Praxis* a quarterly journal edited by Professor St Engel of Dortmund and Dr F Nassau of Berlin and published by Georg Thieme of Leipzig, at the price of 7 marks Its aim is to provide the general practitioner, paediatrist and hygienist with information as to recent progress in all branches of paediatrics

THE Minister of Health the R Hon Arthur Greenwood, M P has appointed Miss E M R Russell Smith to be his assistant private secretary and the Parliamentary Secretary to the Ministry Miss Susan Lawrence M.P has appointed Mr S F S Hearder to be her private secretary

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

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All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

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The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

? CHEIROPOMPHOLYX

"SYMINGTON" asks if any of his professional brethren can assist him in tracing the cause of a dermatitis that occurs in his hand now and then It starts with a benumbed feeling about and between his fingers followed by intolerable itching, papules, and small vesicles which become pustules, then lymphangitis and enlarged glands in the axilla and seems to defy all remedies It has been called gout, rheumatism, neuritis, etc, by specialists He understands it has affected other medical men

PYLORIC CANCER REMISSION OF SYMPTOMS

MR A P BERTWISTLE (London, W 1) writes In reply to 'Wicklow's inquiry in the *Journal* of September 13th (p 455), two possibilities occur to me as regards the case recorded, only an operation could clinch the diagnosis In the first place the case may be one of benign gastric neoplasm, the Mayo Clinic states that as many as 2 per cent of gastric tumours are benign A polypus in the pyloric canal would cause spasmodic pain in the stomach, gaseous eructations, loss of weight by starving, possibly haematemesis and melaena, and a 'filling defect' on radiographic examination identical with that of cancer In the second place, is the case one of gastric syphilis? Since these cases do not often come to necropsy, little is known of them, though there is considerable literature on them in France, and Carman mentions them in his work on radiology

ANHYDROSIS AND ABSCESS

DR R H THOMSON (Uphall, West Lothian) writes In reply to Dr Johnston McNab's inquiry on September 13th (p 456), I have had three cases similar to those reported by Dr A Kendrew on September 20th (p 504), as the result of using a well known and much advertised proprietary depilatory One patient was especially ill, being confined to bed for fully three weeks High temperature and rapid pulse continued, even after the abscesses had been incised and drained I feared that a general septicaemia might ensue, however, the patient made a slow but good recovery

INCOME TAX

Valuation of Property

"G L B points out that the forms now being issued require taxpayers to state whether their houses are occupied solely as private residences or partly for business or professional purposes, Will that fact affect the valuation to be made for income tax, Schedule A?

*** No doubt the authorities desire to have as full particulars of the premises as possible, but the basis of valuation is the letting value in open market, and the purpose for which the premises are used seems immaterial, unless it indicates some special site value

Payment of Capital by Instalments

T S has purchased a share in a partnership on terms which allow him to discharge the capital sum by instalments consisting partly of principal and partly of interest on the principal outstanding Can he deduct the amounts of interest for income tax purposes?

The interest should be specifically shown as deductions in the statement of total income from all sources in the space provided for "charges on income" But 'T S" will have to pay tax at the standard rate on that interest On the other hand, when he pays the interest, he should deduct tax from it at the standard rate, so that in the end the tax will have been suffered by the recipient of the interest and not by himself—as, of course, is the proper result

LETTERS NOTES ETC

PASTEURIZATION AND MILK BORNE EPIDEMICS

MR P B TUSTIN, technical adviser to United Dairies Ltd, and formerly chief of Food and Dairy Division, City of Winnipeg, writes I note in your issue of August 16th (p 255) an article on the pasteurization of milk in Canada, referring to the annual report of Dr A J Douglas medical officer of health for Winnipeg You say "Experts in Great Britain will prefer to think that where adequate precautions have been taken pasteurization is needless There have been three recent milk borne epidemics in Great Britain The paratyphoid outbreak in Kensington was due to raw cream, the outbreak of sickness among Leeds school children was traced to raw milk, and the outbreak of septic sore throat at Brighton was due to raw milk Dr D Forbes, the medical officer of health for Brighton points out in his annual report for 1929 that in his view pasteurized milk is the only designated milk which gives protection to consumers I know of no milk borne epidemic in this country that has been traced to properly pasteurized milk or cream The figures in the official report of the United States Health Service for 1926-27-28 on milk borne epidemics, including outbreaks of typhoid, paratyphoid septic sore throat, scarlet fever diphtheria, gastro-enteritis and Malta fever, are as follows —1926 68 epidemics, 3 363 cases, 95 deaths, all reported as caused by raw milk, 1 of septic sore throat at Hamden, Conn, due to certified milk 1927 36 epidemics 952 cases, 41 deaths 1928 43 epidemics, 2,129 cases, 94 deaths, all reported as caused by raw milk, none to pasteurized milk

PREGNANCY AND CERTIFICATION

DR D C MURRAY PAGE (Pittenweem, Fifeshire) writes In connexion with the note from "H R" on Pregnancy and Certification (*Journal*, September 20th, p 504) may I relate my sole experience regarding this matter In July a married panel patient asked to be signed on the panel, since she was seven months pregnant and her insurance agent told her that she was entitled to benefit She was quite fit, and working away in the house and baiting fish lines every day I told her that I did not think she was entitled to benefit, but that I would write to the Scottish Board of Health for advice In his reply the Secretary to the Department of Health for Scotland said that no woman was entitled, on the occasion of her confinement, to receive sickness or disablement benefit as a matter of right prior to confinement These benefits could only be paid if there was incapacity for work, and that condition must be satisfied in every case The society's agent had misinformed the insured person, and I understand that he was properly dealt with by his superiors

UNOFFICIAL AUNTS

MRS E W HARDY (7, Dailey Avenue, W Didsbury, Manchester) writes The Voluntary Unofficial Aunts will be pleased to help in the following and similar ways (1) To stay in the house in charge of children to enable the parents to go out together for an hour or two (2) To take children out, or to the doctor dentist, hospital, etc (3) To visit old or feeble people read to them or play a game with them, and so occasionally to give relief to the one in charge (4) To sew or mend garments sent to those "aunts" unable to do outside work The "V U A" are purely voluntary workers, anxious to help but not qualified in any way They accept no responsibility, but will do their best to be of service although of course, they are not prepared to replace ordinary domestic labour or trained nursing Anyone desiring to help, or to be helped, should apply to me

CORRIGENDA

The Mechanism of Swallowing

WE regret that the concluding remarks by Mr John F O'Malley in the discussion on this subject before the Section of Radiology at Winnipeg were erroneously recorded in the *Journal* of September 20th (p 486) The sentence should have read as follows "He had pointed out some four years ago that in the human foetus at five months the epiglottis was in the nasopharynx, which was the position in the adult whale and alligator, and such animals had no difficulty in swallowing without any falling over of the epiglottis"

In our report of the discussion on functional disorders of the colon (September 20th, p 474) Dr Hugh Barber of Derby was incorrectly described as coming from London

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52 53, 54, 55 56 57 61 and 62 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 58 59, and 60

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 159

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

301 The Psychotoxic Heart

M D SILFERBERG (*New Zealand Med Journ*, April, 1930 p 62) considers that functional disorder of the heart is the cause of symptoms in more than 10 per cent of all patients with complaints referable to the cardiovascular system Although the exposure and infections incidental to war conditions have been responsible for large numbers of cases, this disorder is not uncommon in civilian communities both among the constitutionally weak and the robust Factors responsible for this functional state are faults in education and upbringing and disturbances of endocrine balance Toxic factors play an important part as is evidenced by the easy fatigability of the patients the alimentary disturbance, lack of concentration and the sallow, muddy complexion In view of the usual combination of psychical and toxic elements in this disorder the author claims that the term psychotoxic heart is the best name for it The chief complaints are undue breathlessness palpitation and tachycardia following minor degrees of physical and emotional stress fine tremor and sweating may also be observed Fear reactions are very common and may give rise at first to vague anxiety later this is found to concern certain particular functions as in sexual neurasthenia or certain diseases such as syphilis or cancer Three illustrative cases are described showing the etiological importance of infective states endocrine disturbances and anxiety The prognosis as regards a return to heavy occupations is bad complications are uncommon and the psychotoxic heart is not a cause of death Treatment should first be directed toward the removal of past or present infections early cases are frequently benefited in this way From the psychological aspect an attempt should be made to determine the nature of the underlying anxiety or fear, to adjust social or economic difficulties and to inspire a more philosophical outlook Graduated exercise and physiotherapy are indicated in milder cases

302. Paratyphoid A Fever in Australia.

F L APPERLY and A J BRENNAN (*Med Journ of Australia* April 19th 1930 p 525) state that before the war paratyphoid A fever though fairly common in India was rare elsewhere, but during the war it appeared in Gallipoli and France The authors now record the first case which has been published in Australia The patient was a medical practitioner aged 35, who had never been out of Australia A week before the onset of his illness he had been attending a girl with typical typhoid fever who died of meningitis Attempts to trace her infection were fruitless His disease was first diagnosed as chronic appendicitis and then influenza but the correct diagnosis was established by isolating *J paratyphosus* A from the blood and agglutinating it with *B paratyphosus* A serum in a 1 in 10 400 dilution with *B typhosus* and *B paratyphosus* B serums, each diluted 1 in 40 Recovery was uncomplicated after thirteen weeks illness

303 Coughing as a Manifestation of Hypersensitiveness

A COLMES and F M RACKEMANN (*Journ Amer Med Assoc* July 19th, 1930, p 192) point out that the coughing which often accompanies vasomotor rhinitis and bronchospasm and which is generally regarded as secondary to those conditions may be an independent symptom of allergy In a previously reported case a cough unaccompanied by either vasomotor rhinitis or wheezing was shown to be a manifestation of human hypersensitiveness to orris powder and notes of three typical similar examples are given In these a definite history of allergy led to the discovery of positive skin tests with the relief of symptoms when the corresponding allergens were eliminated It is pointed out that an existing hypersensitiveness often manifests itself only in the course of an acute infection which lowers the threshold so that a slight exposure suffices to cause trouble this is observable for example when contact with a dog during a cold results in asthma The authors believe that such allergic cough without the presence of wheezing or rales is a new possibility which has hitherto been unrecognized They point out that when such hypersensitiveness forms the background in pulmonary or nasal disease the elimination of the offending allergen may result in marked amelioration of the disease, even in its advanced stages

304 Allergic Migraine

SOME writers have noted a similarity between asthma hay fever and migraine and Vaughan reported a series of cases from which it appears that migraine of all ages is often associated with a specific sensitization to one or more food proteins R M BALYEAT and FANNIE L BRITTAIN (*Amer Journ Med Sci* August 1930 p 212) conclude from a study of 55 patients that practically all cases of true migraine have as an exciting factor a sensitization to foreign protein their treatment, based on the allergic findings has given results as good as or better than those obtained in any other chronic disease The ages of the patients 23 of whom were males and 32 females) ranged from 6 to 62 years and a family history of allergy was elicited in 85 4 per cent The hereditary factor in migraine appears to be interchangeable in linkage with asthma and hay fever, which is evidence that these syndromes have a common etiology—namely specific sensitization Predisposing factors are physical and mental fatigue and depressed states thyroid dysfunction genital causes toxic states, and disturbances of the special senses Migraine patients are usually above the average both mentally and physically and the syndrome occurs more commonly in those whose sympathetic system is highly developed and who are very active mentally The onset of symptoms occurred in nearly one third of the cases during the first decade, the persistence of symptoms until and through the sixth decade is not uncommon In diagnosis the scratch method of testing should first be used although doubtful reactions being checked by the intradermal method Multiple sensitivity is the rule all patients except one in the series were found sensitive to more than one protein The authors add that migraine must be differentiated from functional headaches trifacial neuralgia, myalgia ordinary intoxication and infections, and from headaches due to pituitary dysfunction As regards life and death, and also complications the prognosis is good Treatment should consist of thorough elimination of the foods and dusts to which the patient is found specifically sensitive Five illustrative cases are briefly described

305 Nervous Complications of Varicella.

V BOPPA (*Ric di Clin Med*, April 1930 p 273) reviews the literature and records two personal cases The first was that of a boy aged 4 years who developed acute cerebellar ataxia on the fourth day of disease recovery ensued in about a month's time The second case was that of a girl aged 8 years who after an attack of varicella accompanied by high fever of several days duration, developed encephalitis manifested by left external strabismus and dilatation of the left pupil The child also suffered from loss of memory and became emotional Improvement began in a few weeks

Surgery.

298 Spinal Cord Tumours.

J B AYER (*New England Journ of Med* August 14th 1930 p 295) describes the symptoms and signs of tumours involving the spinal cord, as revealed by a retrospective study of 64 cases 61 of which were found at operation and 3 after death The cases fall into four pathological groups intramedullary tumours probably all gliomata meningiomas (neurofibroma and arachnoid fibroma) extradural haemangiomas and sarcoma and chondromas The age and sex of the patients proved to be of no diagnostic value While 5 years was the age of the youngest patient and 72 that of the oldest, the majority were in the prime of life Though the sexes as a whole were equally divided males preponderated in the glioma group and females in the meningiomas The dorsal cord was the tumour site in 35 cases and the cervical in 26 while in 2 cases the growth was diffuse Ayer remarks that an intraspinal tumour may be as large as a robin's egg before signs or symptoms are noted but usually two sets of symptoms arise before this size is attained sensory and motor disturbances develop in parts of the body innervated from below the site of the growth Sensory symptoms are soon observed and early pain is usual So called root pain is undoubtedly caused by direct stimulation of one or more sensory nerve roots and is an early, persistent and localizing symptom in tumours growing from the sheath of a sensory nerve Spinal pain often severe, is of no localizing value Areas of paraesthesia

may indicate nerve root irritation Numbness is frequent below a tumour, and the level at which the numbness ceases and normal sensation begins should be defined Motor symptoms are constant and often early, they usually consist of spasticity of the extremities due to cord compression Spastic paraplegia suggests a dorsal tumour, quadriplegia a cervical one Spasms, cramps, and attacks of trembling are frequent and troublesome Paralysis with atrophy of arm muscles is of great localizing value Constipation is almost universal, and bladder dysfunction is often early Signs of irritation or paralysis of the cervical sympathetic should always be looked for In suspicious cases the spinal fluid should be examined, since there may thus be revealed an interruption of the fluid pathway in the subarachnoid space, and an increase in fluid protein Spinal tumours must be differentiated from other tumours, tuberculosis, and osteomyelitis, and from degenerative diseases of the cord, particularly multiple sclerosis, haematomyelia, and myelitis The duration of symptoms preceding operation was as follows in gliomas, 6 weeks to 6 years, average 26 months, in fibromas, 5 weeks to 7 years, average 24 months, in extradural tumours 7 weeks to 1 year, average 8 months, and in chondromas, 3 months to 7 years, average 30 months

307 Surgical Treatment in Diabetes

A T BAZIN (*Canadian Med Assoc Journ*, August, 1930, p 146) considers that with the discovery of insulin the operative treatment of a properly controlled diabetic patient is associated with no higher mortality than that in the case of a non diabetic To demonstrate this, tables are given of 221 cases of diabetes admitted to the Montreal General Hospital during 1929 The surgical cases numbered 87, and 73 operations were performed, with only 2 deaths (2 74 per cent), during the same period the total post operative mortality was 2 41 per cent Routine blood sugar and urine analyses are imperative, especially the former Certain surgical problems presented by this disease are discussed, the first one dealt with being what is termed the "acute diabetic abdomen" Two cases are recorded to illustrate this point The differential diagnosis between this condition and that of acute abdominal lesions is as follows With an acute abdominal lesion there may or may not be fever, pain, vomiting, and leucocytosis are present, and the pain precedes the vomiting In the diabetic acute abdomen there may be fever, pain, vomiting, and a high leucocytosis are usually present, but the vomiting precedes the pain Moreover, there is an indefinite diffuseness in the abdominal symptoms, and the general disturbance is out of proportion to the abdominal findings Bazin thinks it safer to operate in such cases The second problem considered is the influence of diabetes on healing and the resistance to infection Many patients are discovered whose faulty healing or development of a low grade skin infection depends on a disturbed carbohydrate metabolism Small doses of insulin are useful in such conditions, and an illustrative case is cited Thirdly, diabetic gangrene of the foot is discussed, and two varieties are defined In one group the active etiological factor is infection, treatment comprising both the diabetes and the infection In the second this factor is circulatory (capillary blocking), here insulin is indicated, and Buerger's teachings are important Indications as to the correct site of amputation are given Finally, Bazin discusses the influence of surgery on the development and evolution of diabetes He maintains that in all cases of suspected biliary infection search should be made for pancreatic dysfunction, that such cases require not only cholecystectomy, but also routine drainage of the common duct When this is performed the blood cholesterol falls rapidly to normal It is admitted that a rise in blood cholesterol indicates obstructed biliary drainage, or, in the absence of obstruction, is an index of the progress of the diabetes

308 Acute Pancreatitis

E L ELIASON and J P NORTH (*Surg, Gynecol and Obstet*, August, 1930, p 183) consider that acute pancreatitis is not a rare condition, and that its increasing frequency, high mortality of at least 50 per cent, unknown etiology, and high index of incorrect diagnosis, with the doubt about its proper treatment, render it important in the differential diagnosis of abdominal affections Reported cases show slight preponderance in the female sex, with an almost uniform age distribution throughout the third to the sixth decade Associated biliary disease was noted in two thirds of the cases The authors remark that although acute pancreatitis may arise without any warning symptoms the great majority of cases must be regarded as extensions of pre existing biliary tract infections such as chronic cholecystitis In not more than one third of the reported cases was a correct diagnosis made before operation, the protean manifestations simulating acute cholecystitis intestinal obstruction, perforated ulcer, and acute appendicitis, the true condition was only revealed at operation by the peritoneal exudate mixed with blood, and the fat necrosis Vomiting is a constant symptom, and is marked in the fulminating hyperacute cases In about 40 per cent there is a pathognomonic slate grey cyanosis of grave prognostic significance, it is limited to the upper portion of the body An immediate laparotomy is considered to be the proper procedure by most American and European surgeons, though some Danish surgeons favour expectant treatment From their experience the present authors advocate deferring the operation until after the acute phase, unless indications arise necessitating immediate intervention, the risk of early operation is increased by the incidental complications, but accuracy in diagnosis is essential to the adoption of expectant treatment

Therapeutics.

309 Hot Baths in the Treatment of Multiple Sclerosis

MEHRTENS and Pouppirt have reported the results of employing hyperpyrexia in various nervous diseases, and concluded that neurosyphilis offers the most favourable field for such treatment, the benefit being as good as that obtained by malaria therapy Kahn and Steiner found a spirochaete in some cases of multiple sclerosis, and more recently Chevasut has described the detection of an extremely small organism, which is easily killed by heat, in the spinal fluid of patients with that malady From these facts F G LINDEMULDER (*Journ Nerv and Mental Dis*, August, 1930, p 154) deemed it reasonable to try recurrent elevations of temperature in multiple sclerosis, and he reports the effects of giving high temperature baths in twelve cases The patients were all placed on high calorie diets and were weighed daily Fowler's solution (5 minims three times a day) and elixir of iron, quinine, and strychnine (1 drachm three times a day) were administered during the series of baths A bath was given every second day, and in some cases daily, up to a total of eleven, the patients being immersed up to the neck in a continuous bath at 104° F for ten minutes The temperature was then raised to 110° F, and kept at this temperature for thirty minutes, after which a fall to 104° F was permitted, the bath was kept at this temperature for twenty minutes, the patient spending altogether one hour in the bath The patient was then removed and wrapped in woollen blankets, remaining thus for two or three hours or until the mouth temperature was normal The effects produced on the pulse respiration, peripheral blood, and weight are described Herpes simplex, which lasted five days, occurred in three cases, and was the most serious complication of the treatment, in female patients metrorrhagia was a common complaint Four patients showed decided improvement following the treatment, all becoming less ataxic, nystagmus disappeared in one, and a positive Babinski reaction in another Two patients seemed to be considerably worse, while the remainder showed no special change in symptoms Lindemulder draws no definite conclusions, however, as to the therapeutic value of hot baths in multiple sclerosis

310 Therapeutic Results in Essential Hypertension

BLING impressed by the numerous successes reported following the use of many different drugs and methods in the treatment of essential hypertension, D AYMAN (*Journ Amer Med Assoc*, July 26th, 1930, p 246) has made an analysis of thirty five articles dealing with the treatment of this condition On the basis of these reports he concluded that the symptoms are easily relieved, a more easy achievement than lowering the blood pressures, and that this symptomatic relief may be obtained by any of numerous drugs and methods It is not probable that each of these drugs has a specific action, and it is more reasonable to believe that there is a common and specific factor associated with their administration This common element Ayman conceives to be the enthusiastic giving or doing of something to the patient—that is, it is the treatment, regardless of its nature To test this theory 40 hypertensive patients with active symptoms were treated as follows A complete history of the existing symptoms was recorded and a physical examination was made, even though most of the patients had been in the clinic for months or years Thus the patients were at once impressed with the new interest manifested in them Then, seriously and enthusiastically, 10 drops of dilute hydrochloric acid were prescribed to be taken in half a glass of water fifteen minutes before meals three times a day This drug was selected because in drop dosage it certainly could not act with any specific power in the treatment of hypertension, and yet in such dosage it possesses an impressive taste Finally, the patients, all of whom were able to get about,

were told to return at weekly intervals Definite improvement was obtained in 33 (82 per cent) of the cases Two cases are recorded which illustrate the usual effect of 'treatment Ayman believes that the symptoms of essential hypertension may frequently be relieved by the suggestion inherent in any seriously and enthusiastically prescribed drug or method and that this is the probable explanation of many successes reported in the past

311 Collargol in Enteric Fever

NAGEOTTE WILBOUCHEWITZ (*Bull Soc de Péd de Paris* April, 1930 p 154) records fifteen cases of typhoid and paratyphoid fevers in patients aged from 7 to 50 and treated by the administration of collargol with beneficial results The symptoms were attenuated in each instance immediately after the treatment was started Headache disappeared in a few days there was no diarrhoea and the general condition was much improved The drug was given partly in a watery solution of 1 in 100 by the mouth in doses of 1 or 2 drachms four or five times a day and partly by injection of ten to twenty minutes duration with an ointment containing 15 per cent of collargol silver

Laryngology and Otology

312. Otitis Media in Infancy

G RIZZI (*Arch Ital di Otol Rhinol e Laringol* June, 1930 p 262) in the course of a year found 50 cases of purulent otitis media on one or both sides among 192 necropsies on children who had died within the first two years of life the suppuration in almost every case not being discovered until after death In 35 cases there was a mixed bacterial flora but in 8 there was present only a single organism which in 5 cases was the pneumococcus while in 5 the pus was sterile Of the children, 30 were suffering from acute respiratory affections 7 from diseases of nutrition or the blood 6 from meningitis (other than the tuberculous form), 6 from tuberculosis and 1 from septicaemia Rizzi maintains that suppurative otitis media is a very important factor in broncho-pneumonia and meningitis, in which the primary infection of the ear may be the true cause of death As regards diseases of nutrition, while it is impossible to be certain that infection of the ear is the chief cause of the child's loss of weight it is justifiable to suppose that a latent infection of the middle ear predisposes to a disorder of nutrition or aggravates one already present In tuberculous disease on the other hand the suppuration in the ear may be regarded as a secondary process

313. Indications for Complete Tonsillectomy

G POPTMANN and J LAPOUGE (*Rev de Laryngol, d Otol et de Rhinol*, July 18th 1930 p 445) regard the operation of complete tonsillectomy as being only within the province of specialists but summarize indications for the operation for the guidance of general practitioners who appear to favour the incomplete 'morcellement' operation The indications detailed are as follows (1) Recurrent attacks of acute tonsillitis in children especially when associated with enlargement of the cervical chain of glands and progressive impairment of health and also recurrent attacks in adults notwithstanding that the tonsils may be small or only consist of fragments left after 'morcellement' (2) Intratonsillar abscess, bursting into the crypts or through the surface This condition is often not recognized till the actual bursting of the abscess and gives rise to less pain than peritonsillar phlegmon (3) Peritonsillar phlegmon, which is always likely to recur unless tonsillectomy is performed The authors do not agree with the procedure of tonsillectomy in the acute stage as advocated by Barnes Basavilbaso and Bilancioni and emphasize the danger of a spreading streptococcal cellulitis A condition of pseudo-peritonsillar phlegmon sometimes leads to diagnostic error This originates from abscess formation between the anterior pillar and the ascending ramus of the mandible it is of dental origin, and most usually due to an infected wisdom tooth (4) Chronic tonsillitis, associated with infected crypts and either sclerosis or hypertrophy of the tonsil The main symptoms are fetor of the breath otalgia and tonsillar cough ' With regard to the last named it is stated that the usual cough reflex area is situated below the glottis but when a source of chronic irritation in the form of a septic tonsil exists in the very sensitive neighbourhood of the faucial pillars a new reflex area is established above the glottis The type of cough varies in infants and adolescents and in adults in the first two it is dry paroxysmal sometimes barking and often nocturnal in the second it is isolated and often alternating with rasping clearances of the throat Moreover, it tends to be less troublesome by night than in the daytime (5) Cervical adenitis where the 'tonsillar gland' and the cervical chain are chronically enlarged The authors would classify the febrile attacks occurring in subjects of cervical adenitis under the heading of "*glandular fever*" (6) Tonsillar mycosis clinically recognized by the presence of strongly adherent white patches originating from the crypts, and always recurring after local removal or cauterization (7) Diphtheria carriers should be treated by complete tonsillectomy when prolonged medical treatment has failed to eradicate the Klebs Loffler bacillus from the fauces The authors review briefly also the general indications for total tonsillectomy Among the conditions associated with tonsillar sepsis and sometimes improved or kept stationary by tonsillectomy are articular rheumatism acute and chronic endocarditis certain forms of anorexia and dyspepsia, and appendicitis the association of which with tonsillitis has been frequently noted in individual cases Nephritis is commonly a sequel of streptococcal involvement of the tonsil and where *B coli* infection of the uro-genital tract exists it is frequently secondary to damage by streptococcal toxins of faucial origin The authors hold that there is some evidence that tonsillar sepsis is a factor in the causation of goitre If sepsis exists tonsillectomy should be performed before the more radical operation of thyroidectomy is undertaken Encouraging results from tonsillectomy in cases of chorea have also been reported

314 Chronic Suppuration in Malignant Disease of the Accessory Sinuses

A J WRIGHT (*Journ of Laryngol and Otol*, August 1930 p 545) draws attention to the almost invariable association of chronic suppuration with malignant disease of the accessory nasal sinuses This may be regarded as secondary to the growth though it is possible that pre existing chronic suppuration is a causative factor in the production of the *malignant change* Wright is convinced that this is the case, and points out that a large number of cases of carcinoma of the ear follow an old standing chronic suppurative otitis He describes seven personally observed cases where the sequence of chronic suppuration followed by malignant changes is definitely established In the first case a mass of middle turbinate was removed from a nose which had been the site of extensive suppuration for many years This specimen was reported on by the pathologist as "pre carcinomatous The remaining six patients had long histories of chronic suppuration which had persisted in spite of many operations and was later discovered to be malignant Old standing suppuration as is shown in these cases tends to mask the diagnosis of malignant change before operation Wright thinks that his experience emphasizes the importance of making every effort to cure accessory sinus *suppuration*

Obstetrics and Gynaecology

315. Treatment of Post-operative and Puerperal Thrombophlebitis.

E LEIBHOLZ (*Münch med Woch* June 13th, 1930 p 1017) reports good results from the ambulatory treatment of phlebitis by plaster bandages His method is as follows The affected parts if still inflamed are painted with 26 per cent zinc oxide in olive oil or with ichthyol If the inflammation has subsided They are then covered with mull muslin, and next with a thin padding of cellulose bandage from the ball of the great toe as far up as necessary The most important part is the plaster bandage, this is impregnated with zinc and glue and is applied under slight traction so that it compresses lightly the padding and reaches from the ball of the great toe to the border of the calf For the knee and thigh a tubular tricot bandage is used and attached to the skin of the thigh with leucoplast The outside layer is always mull muslin, this prevents stretching and provides resistance to changes in size which is an important factor in healing This treatment may be begun after fomentations and rest in bed or immediately on the onset of an acute inflammation or when the condition is not improving under fomentation treatment It is specially indicated in the case of patients who are otherwise ready to get up The author states that he has treated 185 cases of phlebitis of the saphenous veins very successfully There was no case of embolism pain had ceased not later than the third day and acute inflammation by the fifth A few patients were kept in bed for as long as a week but many went back to work at this time He then turned to surgical phlebitis (post operative puerperal, or caused by tumour growth), and treated 50 cases one of these was associated with a small pulmonary embolism, but a good recovery ensued In 33 cases the saphenous vein was affected six of these patients had complications such as mastitis which kept them longer in bed,

the remainder got up as a rule on the sixth or seventh day, and were discharged from hospital on the eleventh or twelfth One case of phlegmasia alba dolens was treated with success, and 12 cases of phlebitis of the femoral vein, but not quite so favourably, the pain being more obstinate and there being more tendency to oedema, so that the average duration of treatment was 29 4 days The average duration of treatment for all surgical cases was 7 days raised limb and fomentations, 3 5 days of bed with plaster bandage on, and 6 days up in hospital, altogether 16 5 days Comparing these figures with those treated by the classical method, Leibholz claims for his method a saving of 60 per cent days as regards hospital beds

316 Trichomonas vaginalis as a Cause of Vaginitis

ALTHOUGH only scant mention has been made of *Trichomonas vaginalis* as a pathogenic organism until recent years, H D FURNISS (*Amer Journ Obstet and Gynecol*, July, 1930, p 93) believes that, with the exception of gonorrhoea, most leucorrhoeas are due to this organism, especially where the discharge is the result of inflammation of the vagina Only rarely has this parasite been found in the cervix, since the alkaline secretion is inimical to it Although his report deals only with thirty five cases, Furniss states that he has seen many more Age appears to be of no significance, the ages of the patients ranging from 12 to 60 The history indicated that six started during pregnancy Of the patients, 24 were married and 11 single, of whom 3 were undoubtedly virgins Three patients were known to have had gonorrhoea, and one had the double infection at the time of the first examination The duration of the disease was from one week to eleven years, the majority being of a few months' duration The onset was usually acute Some had only slight discharge and moderate irritation, while in others there was profuse discharge with vulval inflammation, at times there was superficial ulceration in the vagina Three patients had marked dyspareunia The best treatment was found to be a simple 1 in 4,000 bichloride of mercury douche, given twice a day for the first week, and later once daily The douching should be continued during menstruation, at a temperature of 100° F Only occasionally was a weaker solution necessary, and in no instance was there any evidence of mercurial poisoning Furniss states that the relief of symptoms is prompt, the organisms disappear quickly in from three to five days, reinfection is rare, and, should it occur, relief can be again brought about

317 Symptomless Rupture of the Pregnant Uterus

W R PAYNE (*Med Journ and Record*, July 16th, 1930, p 57) reports a case of symptomless rupture of the pregnant uterus in a woman, aged 25, who had had Caesarean section performed a year previously through a supra umbilical incision, the uterus having been incised posteriorly through the fundus The pregnancy now reported was carefully watched, and within two weeks of term a low midline incision was made under spinal anaesthesia and the child delivered through a lower segment two flap transverse type of section After closure the uterus was rotated forward and the fundus examined, when a perforation admitting the index finger was found at the uppermost angle of the old scar This appeared to be an old tear, since a sacculation the size of a small egg had formed over the opening as if the membranes had protruded through As there was no sign of infection the old scar was excised, and the patient made an uneventful recovery There had been no complaint of pain at any time before the operation, but on close questioning afterwards the patient described a slight intermittent twinging pain over the fundus for some days, it was at no time severe enough to cause her to seek advice The author concludes that the case shows the necessity for careful observation in dealing with a pregnant woman who has had a Caesarean section, since perforation of an old scar may be slow and practically symptomless

318 Intussusception of the Fallopian Tube

A PISTUDDI (*Ann di Ostet e Ginecol*, May, 1930, p 510) describes one personal case and refers to another one of intussusception affecting the Fallopian tube In his case subtotal hysterectomy was performed for uterine myoma in a woman aged 45, who had had painful menstruation since a febrile abortion fifteen years previously and menorrhagia for three years One centimetre of the left Fallopian tube exhibited an invagination, the distal portion of the ampullary extremity being infolded in the proximal portion The intussusception was chronically fixed, and microscopically there were distinct signs of old standing inflammation In the other case described by GOGOBERIDSE (*Zentralbl f Gynäk*, 1929 No 35), an intussusception was observed in a tube which was the site of a freshly ruptured tubal pregnancy

Pathology.

319 A Special Medium for Isolating Streptococcus epidemicus

I PILOT, B HALLMAN, and D J DAVIS (*Journ Amer Med Assoc*, July 26th, 1930, p 264) describe a culture medium which strikingly brings out characteristic colonies of the *Streptococcus epidemicus* of septic throat To a 2 per cent meat infusion agar (pH 7 2) defibrinated human blood and ascitic fluid are added in proportions of 0 5 c cm of blood and 2 c cm of ascitic fluid to 10 c cm of agar This mixture is inoculated with the material under investigation and poured into Petri dishes The best results are obtained when one or two dilutions are made, the colonies appear discrete, and not too crowded Ascitic fluid with a specific gravity of 1 01 to 1 016 from five different patients gave uniform results, horse serum may be used, but is said to be less satisfactory Defibrinated blood of the sheep or horse may be substituted for human blood The minimum proportion of ascitic fluid that will bring out the large colonies is 1 c cm of fluid to 10 c cm of agar On this medium in poured plates, *Streptococcus epidemicus* forms in the deeper parts as elliptical or thin lens shaped colonies surrounded by a clear zone of haemolysis On the surface the colonies become very large, at first they are moist, transparent, and biconvex, but later they flatten out, grow more opaque and grey, and become wrinkled and dry in the centre On the bottom of the plate the colonies spread out to form a large grey colony, which is homogeneous except for a small opaque nucleus In deep tubes similar elliptical colonies appear in the interior of the medium, on the sides of the tube the colonies spread out to form large, thin grey patches On the same medium the ordinary haemolytic streptococci and those of scarlet fever and erysipelas form small biconvex colonies that may become flat From the plates containing *Streptococcus epidemicus* moist preparations of the colonies in indian ink reveal distinctly encapsulated streptococci, an additional distinction between these and other haemolytic streptococci This medium has led to the ready recognition of human carriers and of inter-epidemic or sporadic infections by this organism

320. The Blood Picture in Scarlet Fever

J CHALIER, G PALLOT, and ROMAN MONNIER (*Journ de Med de Lyon*, June 5th, 1930, p 353) examined the blood of forty scarlet fever patients During the first four or five days the examination was made daily, in the following week three times, and twice in the week after that, so that 12 to 16 examinations were made on each case They conclude that leucocytosis is constant throughout the disease, ranging usually from 12,000 to 22,000 per c mm Neutrophil leucocytosis is an early manifestation which is transient and keeps within moderate limits The initial diminution of the mononuclears affects the lymphocytes only, the moderate sized mononuclears being normal in number or in excess There is a definite eosinophilia of 6 to 10 per cent, which, as a rule, is more marked during the period of invasion and eruption, but does not disappear at once, and the present authors have known it persist for at least twenty five days The characters of the eosinophilia may help in the diagnosis of scarlet fever from scarlatiniform eruptions in diphtheria patients due to serum, in them the eosinophilia is inconstant, less marked, and very transient

321 Etiology of Mexican Typhus Fever

M R CASTANEDA (*Journ Exper Med*, August 1st, 1930, p 195) discusses the etiological significance of the small Rickettsia like bodies described in the scrotal swellings by Mooser In a series of experiments on guinea pigs the present author has demonstrated that a scrotal swelling can appear in guinea pigs directly inoculated from a human case of Mexican typhus fever In certain strains obtained from different patients a number of generations of guinea pigs may show absolutely no scrotal swelling, but this may reappear in subsequent animals, suggesting though not absolutely proving, that the scrotal swelling is an integral part of the disease and not due to an incidental accompanying organism If the latter hypothesis was correct moreover, the organisms that caused the scrotal swelling might be expected to disappear during the negative generations An attack of typhus fever sustained by a guinea pig without scrotal swelling protects against the swelling upon subsequent inoculation, even when a strain is employed which produces this swelling with considerable regularity Louse passage increases the capacity of a strain to originate the scrotal lesion, probably because of the considerable accumulation of Rickettsia in the louse Castaneda believes that his experiments tend to prove that the swelling is a part of the disease and that the Rickettsia like organisms have etiological significance

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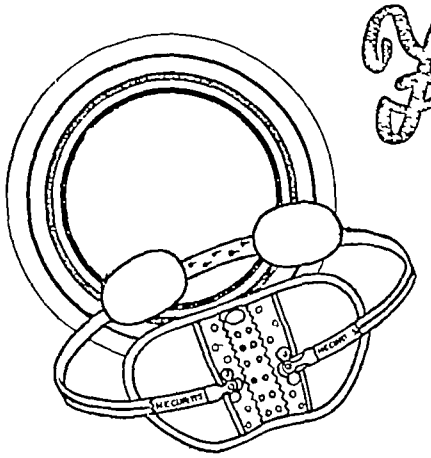
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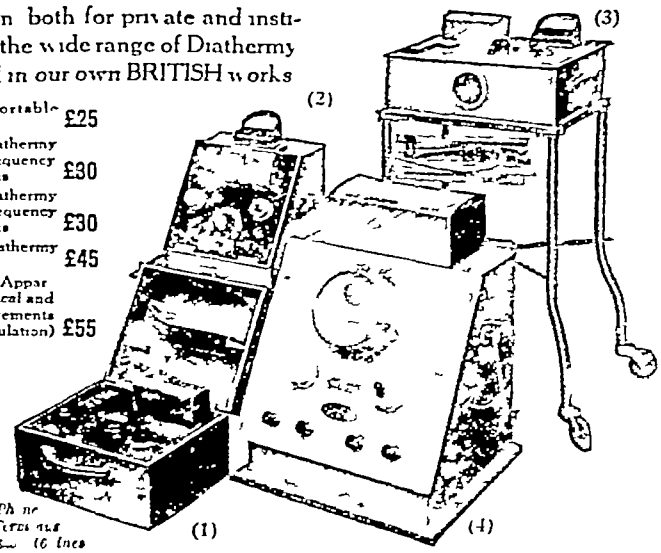
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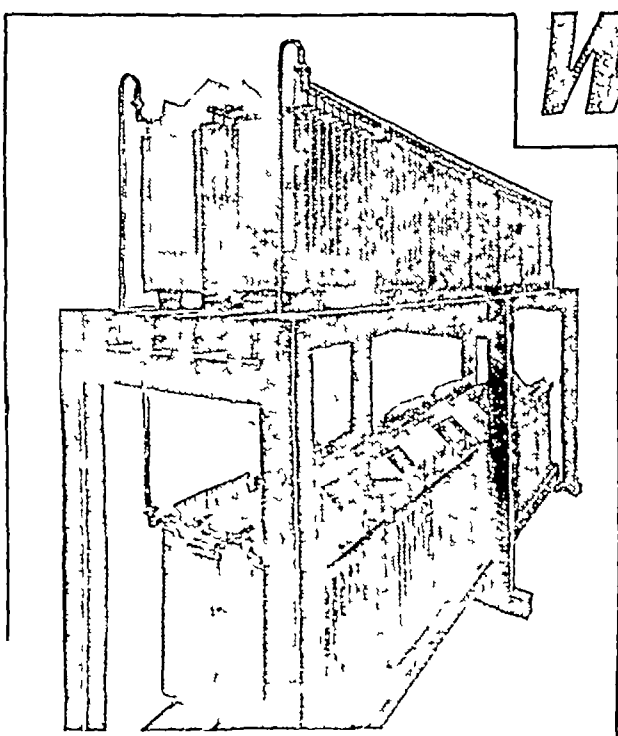
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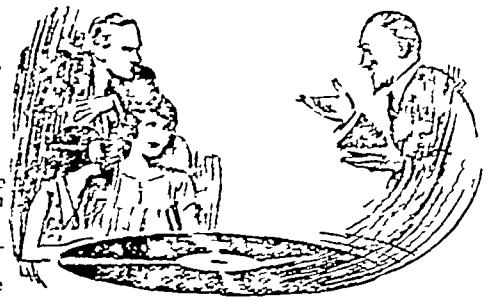
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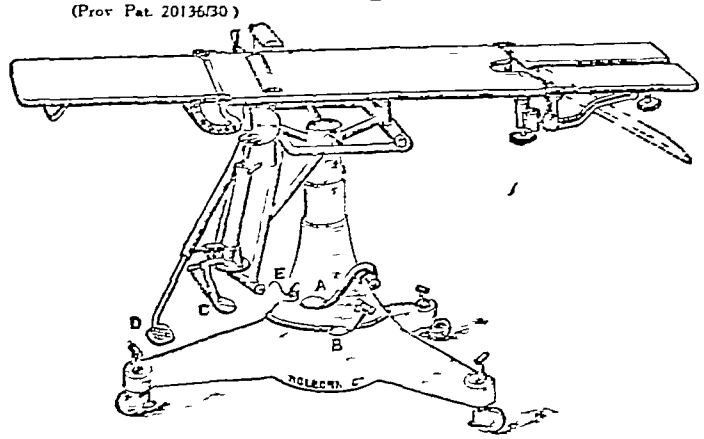
A is the foot lever for raising the table from the base

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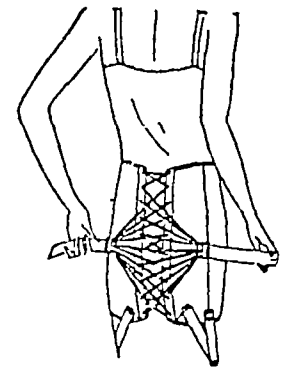
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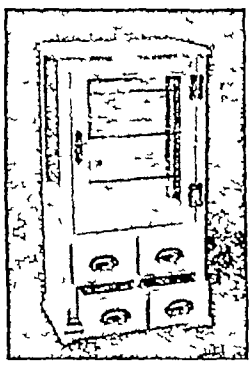
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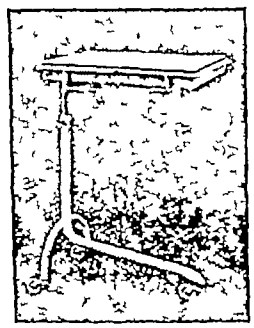


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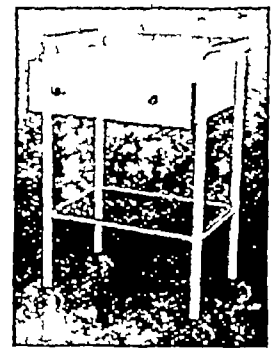


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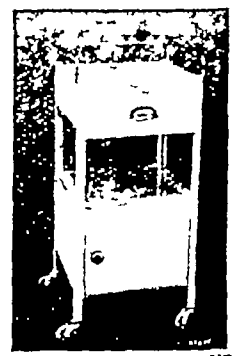
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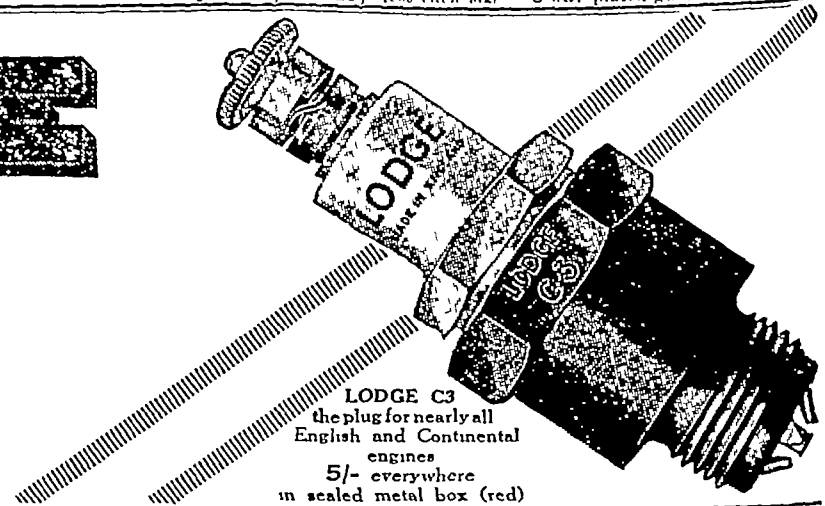
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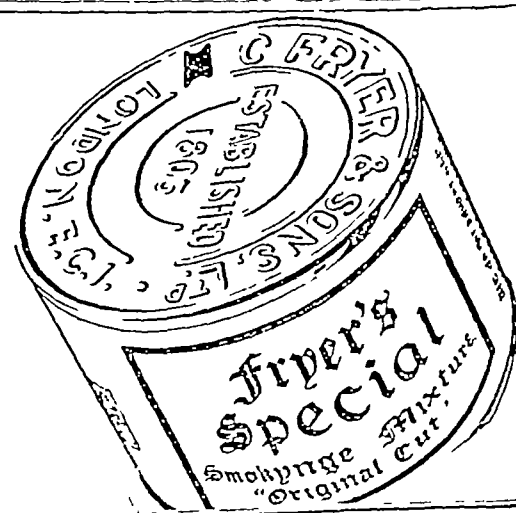
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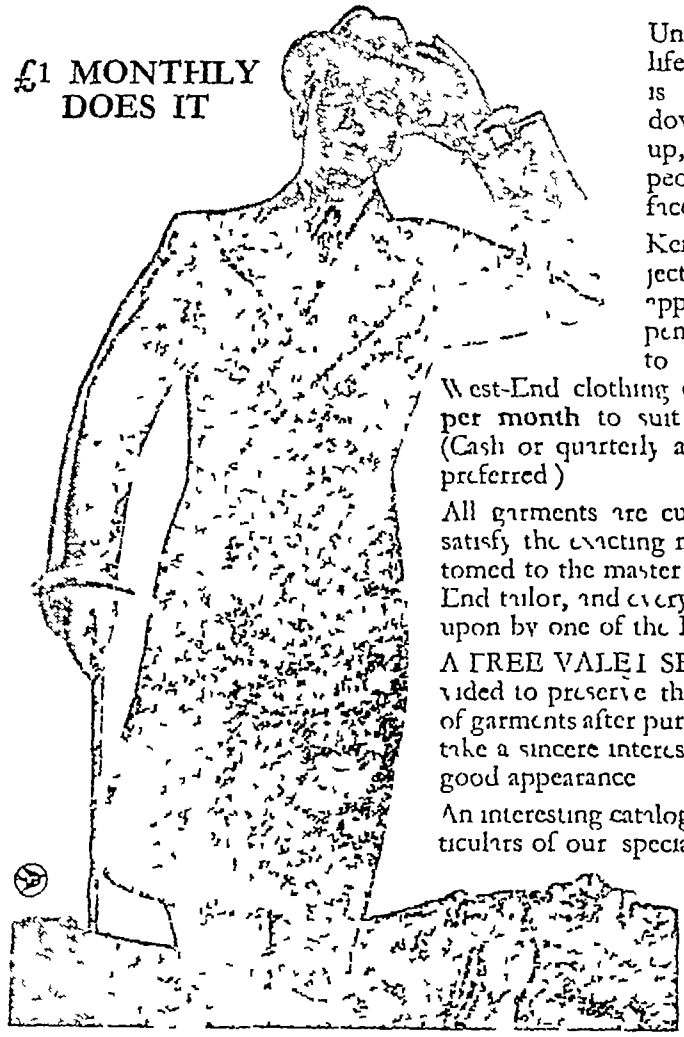
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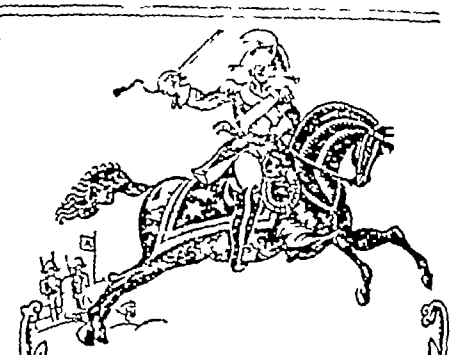
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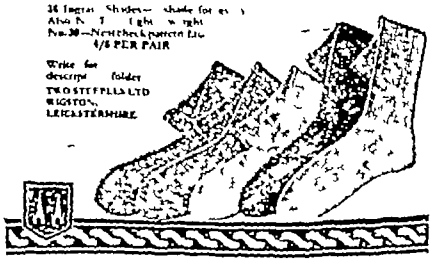
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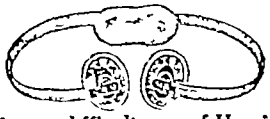
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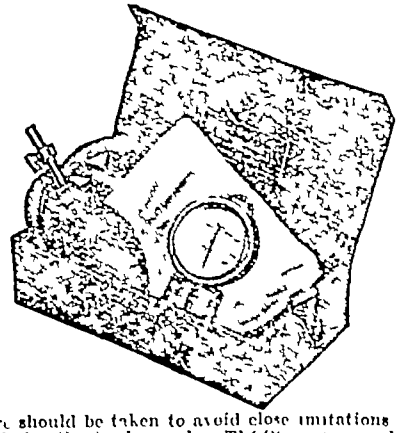
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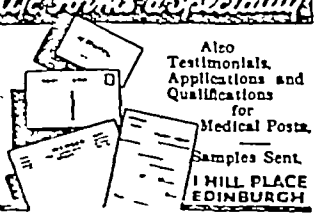
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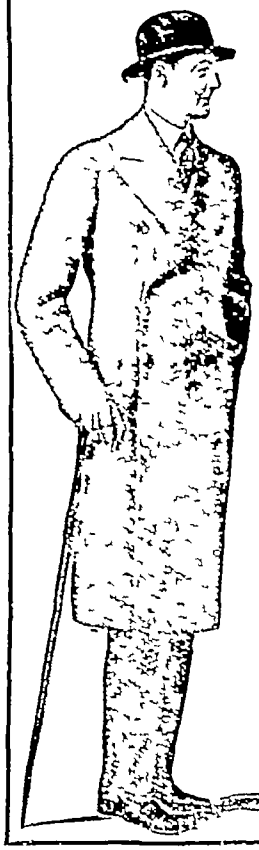
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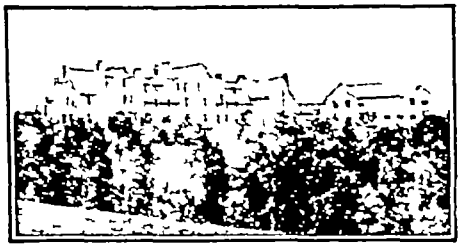
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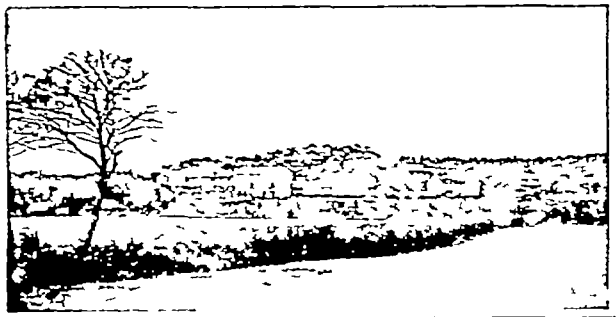
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Professor WILLIAM WRIGHT
M B, D Sc, F R C S Dean

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Prospectus from the DEAN, West London Hospital, Hammersmith, W 6

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COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th, and for the Diploma in Tropical Hygiene on January 13th and April 23rd (Candidates for the D T H must possess the D T M. of this University)

For particulars apply to the Hon Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool

F R C S (Edin.)

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The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September and December For Regulations apply to the Secretary College of Preceptors Bloomsbury Square London W C 1.

LONDON SCHOOL OF DERMATOLOGY

St John's Hospital for Diseases of the Skin,

Leicester Square W C 2.

Conducted by the Honorary Staff of the Hospital together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstration every Tuesday and Thursday at 5 p m from October to March and four times weekly during May Clinics daily at 2 p m and 6 p m. Saturdays 2 p m. only Pathological Laboratory for Instruction or Research work.

For further particulars fees etc. apply to J E W WIGLEY LB Dean

Westminster Hospital,

Broad Sanctuary S W 1

THE WANDER SCHOLARSHIP IN DISEASES OF CHILDREN

Applications are invited for the office of WANDER SCHOLAR AND REGISTRAR to the Children's Department. Salary £250 per annum

Candidates must be registered Medical Practitioners who have held a resident hospital post or posts one of them preferably in diseases of children

The office is a whole time one and is tenable for one year

Applications together with six copies of three recent testimonials should be submitted to the undersigned from whom further details regarding the duties of the office can be obtained, not later than Wednesday October 8th.

By Order of the House Committee

CHARLES M. POWER, Secretary

University of London

A Course of Four Lectures on *The Reticulo-Endothelial System* " will be given by Dr H P GILDING at UNIVERSITY COLLEGE LONDON (Gower Street W C 1) on MONDAYS OCTOBER 13th 20th 27th and NOVEMBER 3rd at 5 p m

A Course of Four Lectures on *Metabolism of the Carbohydrates and Fats* will be given by Dr J A HEWITT Ph.D D.Sc. at KING'S COLLEGE LONDON (Strand W C 2) on THURSDAYS OCTOBER 16th 23rd, 30th and NOVEMBER 6th at 5 p.m.

Admission free without ticket.

S J WORSLEY

Academic Registrar

University of London

A Course of Four Lectures on *Blood Plasma and Platelets* will be given by Dr J W PICKERING at KING'S COLLEGE LONDON (Strand W C 2) TUESDAYS OCTOBER 7th 14th 21st and 28th, at 5 p.m.

Admission free without ticket.

S J WORSLEY

Academic Registrar

The University of Manchester

PILKINGTON FELLOWSHIP IN CANCER RESEARCH.

The above Fellowship of the value of £300 tenable for one year is offered for competition. Applications must be received by the Registrar not later than November 15th, 1930 and the election to the Fellowship will be made to take effect as from the beginning of January 1931.

Further particulars may be obtained from the REGISTRAR.

University of Leeds

POST GRADUATE COURSES IN OBSTETRICS AND ANTENATAL WORK AT THE LEEDS MATERNITY HOSPITAL.

(108 Beds)

Registered Medical Practitioners are admitted to the Hospital Practice comprising Ante natal Labour and Isolation Departments for periods of 2—4 weeks

For particulars as to vacancies at the University Obstetrics Students Hostel adjoining the Hospital apply to the DEAN School of Medicine Leeds

June 21st 1930

Long Fox Memorial Lecture

The LONG FOX MEMORIAL LECTURE will be delivered by Professor J A MOT C.M.G., M D F R C P at 5.15 p.m. on Tuesday October 28th 1930 in the Physiological Lecture Theatre of the University of Bristol.

Subject *The Influence of Food on the Production and Prevention of Disease*

Metropolitan Borough of Saint PANCRAS

ASSISTANT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the appointment of an Assistant Medical Officer in the Public Health Department.

The appointment is a whole time one, and the officer will be required to carry out, under the supervision of the Medical Officer of Health, duties connected with the Council's Maternity and Child Welfare Scheme, Tuberculosis Scheme and such other duties as may be required by the Council. Applicants must possess the D P H qualification and have had adequate experience in the duties mentioned

The inclusive salary will be £500 per annum rising by annual increments of £25 to £700 per annum.

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and the successful applicant will be required to pass a medical examination

Applications endorsed Assistant Medical Officer" stating age, qualifications and previous experience, and accompanied by copies of three recent testimonials should be forwarded to the undersigned no later than Saturday October 11th.

Canvassing either directly or indirectly any member or officer of the Council will disqualify

Town Hall A. POWELL COKE.

Pancras Road N W.1 Town Clerk

PUBLIC NOTICE.

The Urban District Council of

PADSTOW CORNWALL. require a Certificated SANITARY INSPECTOR at a salary of £100 per annum and also a SANITARY SURVEYOR and ROAD OFFICER at a salary of £50 per annum both part time appointments. The Sanitary Inspectorship is subject to approval by the Minister of Health. Sympathetic consideration will be given to applications from duly qualified men who have served with H.M. Forces For further particulars apply to the undersigned by whom applications marked Sanitary Inspector" must be received no later than Saturday Oct 11th.

FRED A. WILLIAMS

Dated Council's Office Clerk to

Padstow Sept 23rd 1930 the Council.

The Radium Institute,

Riding House Street London W 1

Applications are invited from duly qualified Medical Practitioner for the post of Whole time CLINICAL ASSISTANT (non resident) at the Radium Institute.

The salary will be at the rate of £3 3 0 per annum and the appointment will be for six months The successful candidate will be required to take up his duties as early as possible.

Applications stating age qualifications and experience, with copies of three recent testimonials must be received at the Institute not later than October 10th next.

Canvassing either directly or indirectly is not permitted.

THOS. A. GARNER, Secretary

Ministry of Health

APPOINTMENT OF DEPUTY REGIONAL MEDICAL OFFICERS

The Minister of Health invites applications from registered Medical Practitioners for appointment as Deputy Regional Medical Officer on the staff of the Ministry in various parts of England and Wales, for the discharge of combined clinical and administrative duties in connection with the National Health Insurance Medical Service

The rate of remuneration will be £800 per annum rising by annual increments of £30 to a maximum of £1 100 No cost of living bonus is payable in addition thereto

Successful candidates under the age of 50 years will be appointed to this scale and will be established Civil Servants with the usual pension rights Those who are considered to possess exceptional or special qualifications may be allowed to enter the above scale at a commencing salary of £850 per annum

Successful candidates of the age of 50 years and upwards (at the time of appointment) will be remunerated on the above scale and will receive unestablished non pensionable appointments In special circumstances where a candidate in this category has special qualifications and experience the commencing salary may be advanced to a point in the scale not exceeding £1,000 per annum inclusive.

Above the grade of Deputy Regional Medical Officer there are at present 35 posts of Regional Medical Officer (32 in England and 3 in Wales) rising to a maximum of £1,400 per annum inclusive and 4 posts of Divisional Medical Officer rising to a maximum of £1,600 a year inclusive The above numbers are however, subject to revision from time to time as the exigencies of the Service may determine When vacancies are to be filled among the Regional Medical Officers, preference will be given to those who have served as Deputy Regional Medical Officers

Candidates must be Medical Practitioners of not less than ten years standing and not exceeding the age of 55 years, with a wide experience of general practice, especially amongst the industrial population preference will be given to candidates who served in His Majesty s Forces during the war

Deputy Regional Medical Officers are required to devote their whole time to the Public Service and to perform such duties as may be assigned to them by the Minister from time to time These include acting as Deputy to the Regional Medical Officer in the work carried out by the latter

(a) as Medical Referee in cases of insured persons referred for a second medical opinion on questions of incapacity for work or of restoration of working capacity

(b) in assisting in the administration of the Insurance Medical Service.

Deputy Regional Medical Officers must be prepared to reside in the area from time to time assigned to them

Canvassing Members of Parliament or Officers of the Ministry will render a candidate liable to disqualification

Forms of application with further particulars of the appointment may be obtained from the Director of Establishments
Ministry of Health
Whitehall S W
or for Wales
The Welsh Board of Health,
City Hall
Cardiff

No application can be considered unless received on the prescribed form not later than October 27th 1930

County Borough of Rochdale

ASSISTANT MEDICAL OFFICER OF HEALTH AND CLINICAL TUBERCULOSIS OFFICER

The Health Committee invite applications for the appointment of Assistant Medical Officer of Health and Clinical Tuberculosis Officer at a salary of £700 per annum

Candidates must be registered Medical Practitioners and must be qualified to hold an appointment as Tuberculosis Officer and Venereal Diseases Officer in accordance with the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations 1930 and must also possess the Diploma of Public Health

The successful candidate will be required to devote the whole of his time to the duties of the office which include attendance at the Tuberculosis and Venereal Diseases Clinics also Bacteriological Laboratory work or any other public health duties assigned by the Medical Officer of Health under whose direction and supervision such officer will act.

Form of application may be obtained from the undersigned to whom all applications should be forwarded endorsed Assistant Medical Officer of Health so as to be delivered not later than Saturday October 11th

Town Hall WM HENRY HICKSON
Rochdale Town Clerk
September 27th 1930

City of Manchester

PUBLIC HEALTH DEPARTMENT

WITHINGTON HOSPITAL

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Withington Hospital (1,200 beds) and Institution (1,150 beds), Nell Lane, West Didsbury, Manchester

The successful candidate will be required to have the care of the wards for patients suffering from Pulmonary Tuberculosis (150 beds)

Every applicant must be a registered Medical Practitioner and unmarried

Preference will be given to applicants with previous hospital experience

The Hospital is a recognized training school for Nurses and is equipped with all modern requirements

Salary £350 per annum, with board, residence, and laundry in addition No bonus

The appointment will be made, in the first instance for a period of six months, renewable at the expiration of that period

Every application, stating fully the training, qualifications, and experience of the candidate, and his age with copies of three recent testimonials, and endorsed on the envelope Assistant Medical Officer, Withington Hospital, must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Wednesday October 8th.

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of his time to the duties of the position to pass a medical examination to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service.

Canvassing in any form, oral or written, direct or indirect is prohibited

Town Hall, F E WARBRECK HOWELL,
Manchester Town Clerk.
September 22nd 1930

Rhondda Urban District Council

DENTAL SURGEON

The above Council invite applications from persons of either sex, registrable as Dental Surgeons, to fill a vacancy for one Whole time Dentist required for the examination and dental treatment of children attending the schools controlled by the Rhondda Education Authority, for giving instruction in hygiene of the teeth for the dental treatment required in connection with the Council s Welfare Scheme, and for the performance of incidental duties

The officer appointed will be subject to two calendar months notice on either side, and will be required to reside within the district, to abstain from private practice, and to act under the direction supervision, and control of the Council s Medical Officer

The selected candidate may be required to pass a medical examination, and should the position become a designated post under the Local Government and Other Officers Superannuation Act 1922 during the tenure of the successful applicant the necessary deductions will be made from the salary

The salary offered is £500 a year, expenses by rail or tram necessarily incurred in the performance of the duties being allowed

Applications are to be made on forms obtainable from the Medical Officer of Health Tydfil House, Llewelyn Street, Pentre Rhondda by whom they must be received, endorsed Dental Surgeon' and accompanied by copies of three recent testimonials, not later than Wednesday, October 15th

The Council Offices, D J JONES,
Pentre Rhondda Clerk of the
September 24th 1930 Council

Borough of Stockton-on-Tees

EDUCATION COMMITTEE

APPOINTMENT OF WHOLE TIME ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from fully qualified Medical Practitioners for the post of Whole time Assistant School Medical Officer at a salary of £500 per annum advancing by £25 per annum to £700 The person appointed will be required to take up duties on January 1st, 1931 Applicants must have been qualified three years and must have had experience in making prescriptions of glasses for errors of refraction Preference will be given to those possessing a Diploma in Public Health. Application by letter, accompanied by copies of not more than three recent testimonials should be forwarded to the undersigned not later than Saturday October 11th

JOS S PURDEY
Education Offices Director and
32 Dovecot Street, Secretary
Stockton on Tees Sept 22nd, 1930

City of Manchester

MONSALL HOSPITAL FOR INFECTIOUS DISEASES (600 Beds.)

APPOINTMENT OF JUNIOR MEDICAL OFFICER

The Public Health Committee invites applications from qualified Medical Men for the position of Junior Medical Officer at Monsall Hospital

Every applicant must be a registered Medical Practitioner and unmarried

Preference will be given to applicants who have held Resident Surgical and Medical posts in a General Hospital.

The candidate appointed will be required to assist in the teaching of the nursing staff and to reside at the Hospital

Salary £350 per annum with board residence, and laundry in addition No bonus.

The appointment will be made in the first instance for a period of twelve months, renewable at the end of that period

Every application, stating fully the training qualifications and experience of the candidate, and his age with copies of three recent testimonials and endorsed on the envelope Junior Medical Officer, Monsall Hospital,' must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council and must be received by him not later than Thursday, October 9th

The candidate appointed will be required to devote the whole of his time to the duties of the position, to pass a medical examination, to contribute to the Corporation Superannuation Fund and to execute the Deed of Service.

Canvassing in any form oral or written, direct or indirect is prohibited

F E WARBRECK HOWELL,
Town Hall Town Clerk.
Manchester Sept 16th, 1930

Monmouthshire County Council

ASSISTANT MALE MEDICAL OFFICER

The Council invite applications from duly qualified Medical Men, holding a Diploma in Public Health and State Medicine, for the appointment of Assistant Medical Officer, to undertake mainly the Medical Inspection and Treatment of School Children, and, in addition, Maternity and Child Welfare work and the investigation of sanitary conditions generally

Experience in the administration of anæsthetics and the correction of errors of refraction will be considered an additional qualification

Salary £500 per annum rising by annual increments of £25 to £750 with third-class rail fares and reasonable subsistence allowance

The successful candidate will be required to act under the direction and supervision of the County Medical Officer, to devote whole time to the service of the County Council and to reside in such place as the Council may determine

The post will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922

A schedule of the duties to be performed, together with conditions of appointment and a form of application can be obtained from the undersigned, to whom applications, with age of candidate, and accompanied by copies of not more than three recent testimonials, are to be sent by October 8th

The County Hall, D ROGYN JONES,
Newport Mon County Medical
Sept. 11th 1930 Officer

Borough of Bromley

ASSISTANT MEDICAL OFFICER OF HEALTH AND ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified Medical Practitioners for the post of Assistant Medical Officer of Health and Assistant School Medical Officer at a salary at the rate of £550 rising by annual increments of £20 to £750 per annum in accordance with the Council s Salaries and Grading Scheme

Applicants whose age must not exceed 40 years must possess the Diploma of Public Health and should have had experience in Diseases of Children Ante-natal and Maternity work, Refraction work and Infectious Diseases

The appointment will be a whole time one (any private practice being prohibited) and subject to one month s notice on either side, and will also be subject to the Local Government and Other Officers Superannuation Act 1922 and the successful candidate will be required to pass a medical examination

Forms of application may be obtained from the Medical Officer of Health Health Department Municipal Offices Bromley Kent to whom applications accompanied by copies of not more than three recent testimonials should be delivered not later than Friday October 10th

Canvassing directly or indirectly, will be a disqualification

S CRITCHLEY AUTY
Municipal Offices, Town Clerk.
Bromley Kent Sept 19th, 1930

Dudley Road Hospital

JUNIOR ASSISTANT MEDICAL OFFICERS (Male).

Applications are invited from fully qualified Medical Practitioners for appointment as Junior Assistant Medical Officers (male) at the Dudley Road Hospital Birmingham.

The Hospital accommodation is fixed at 926 beds, divided into Medical, Surgical Children's Infectious Isolation Casualty Maternity and Gynæcological Sections. There are complete X-ray equipment Pathological and Biochemical Laboratories Deep Therapy X-ray Electrical Massage Sunlight and Dental Departments. Approximately 6,000 operations are performed annually.

The appointment will be for a period of six months in the first instance but may be extended at the end of that time for a further period not exceeding six months.

The persons appointed will be required to assist at operations to administer anæsthetics and undertake such work and such other duties as may be assigned to them by the Medical Superintendent.

The salaries attached to the appointments will be at the rate of £200 per annum, together with full residential emoluments (rations apartments laundry and attendance).

The officer appointed will be required to pay to the Council all fees allowances and emoluments (other than the foregoing) received by him.

Further particulars of the appointment may be obtained from the Medical Superintendent F. W. Ellis Esq. M.D., F.R.C.S. Dudley Road Hospital to whom application stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded not later than Thursday October 16th.

F. H. C. WHITSHIRE,
Town Clerk.

The Council House,
Birmingham.

Birmingham and Midland Eye Hospital

Church Street, BIRMINGHAM.

The Committee of Management are about to appoint an ASSISTANT SURGEON to this Hospital and now invite applications for the post.

Election will be for three years from January 1st, 1931 but the applicant appointed will be eligible for re-election.

Candidates must be of the following qualifications: F.R.C.S. of England or Edinburgh or Membership of the Royal College of Physicians London or Graduate in Medicine of a British University and a Diploma in Ophthalmology.

Applications together with testimonials certificate of registration and of age should be addressed to the General Superintendent on or before Thursday November 13th.

A copy of the rules and regulations will be forwarded on application to the undersigned.

C. A. J. MASON,
Gen. Supt. & Sec.

Sept. 16th 1930.

Birmingham and Midland Eye Hospital

Church Street, BIRMINGHAM.

HOUSE SURGEON required at the above Hospital, to commence duties December 1st. Salary £110 per annum.

Application together with copies of not more than three testimonials should be sent to the undersigned not later than Monday October 13th. Some previous Ophthalmic experience desirable.

C. A. MASON,
Gen. Supt.

September 18th 1930.

Hospital of St John and St Elizabeth

60 Grove End Road, N.W.8.

Applications are invited for the post of ASSISTANT PHYSICIAN at the above Hospital. Candidates must be Members of the Royal College of Physicians (London). The duties include the charge of a bed. There is no Out-Patient Department. Applications together with copies of three testimonials should be submitted on or before October 6th next to the undersigned from whom further particulars may be obtained.

F. DUDLEY HOBBS, B.A.,
Secretary.

Hospital of St John and St Elizabeth

60 Grove End Road, N.W.8.

Applications are invited for the post of RESIDENT HOUSE SURGEON (male). The appointment will be for six months from November 1st. Salary at the rate of £65 per annum with full board.

Applications together with three testimonials should reach the undersigned on or before October 6th.

F. DUDLEY HOBBS, B.A.,
Secretary.

Woolwich and District War Memorial Hospital

Shooters Hill London S.E.18.
GENERAL HOSPITAL (112 Beds).

RESIDENT MEDICAL OFFICER.

The Board of Management invites application from suitably qualified male candidates with special knowledge of Surgery for the post of Resident Medical Officer. Salary £150 per annum with board residence and laundry. The appointment will be for one year from November 1st with renewal of appointment for one year at a salary of £200 if approved by the Board of Management.

Applications (accompanied by copies of not more than three recent testimonials) stating age qualifications experience, and nationality should be addressed to the Secretary Superintendent to reach him not later than first post on Tuesday October 14th.

Manchester Royal Infirmary

HAINES CONVALESCENT HOSPITAL,
CHEADLE, CHESHIRE.

RESIDENT MEDICAL OFFICER.

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment which is tenable for twelve months subject to the provision of the By-laws as to notice.

Remuneration is at the rate of £250 per annum with board and residence.

Applicants must state age and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Thursday October 16th.

By Order,
FRANK C. HAZELL,
Gen. Supt. & Secretary.

Sept 9th 1930.

Manchester Royal Infirmary

SURGICAL OFFICER TO OUT-PATIENTS.

The Board of Management invite applications from registered Medical Practitioners for the above appointment.

The duties are to assist in the treatment of Surgical Out-patients on two mornings per week. The appointment (non-resident) is for a period of one year but the holder of the office is eligible for re-election on two subsequent occasions for a similar period. Salary £35 per annum.

Candidates must state age and send twelve copies of their application and testimonials to the undersigned on or before 9 a.m. on Thursday October 16th.

By Order,
FRANK C. HAZELL,
Gen. Supt. & Secretary.

Sept. 23rd 1930.

London Hospital, E.1

Applications are invited for the post of MEDICAL FIRST ASSISTANT AND REGISTRAR. The appointment is for one year but is renewable annually on application for two further periods of one year at £300 per annum payable by Hospital and Medical College jointly.

Candidates must be fully qualified medically.

Applications should arrive at the Hospital not later than by the first post on Saturday October 18th.

Further particulars may be obtained from the House Governor.

A. G. ELLIOTT, House Governor.

London Hospital, E.1

Applications are invited for the post of SURGICAL FIRST ASSISTANT AND REGISTRAR. Candidates must be Fellows of the Royal College of Surgeons. The salary is £300 per annum which is paid by the Hospital and per annum which is paid by the Hospital and Medical College jointly. The appointment is for one year but is renewable annually on application for two further periods of one year.

Applications should arrive at the Hospital not later than by the first post on Saturday October 18th.

Further particulars may be obtained from the House Governor.

A. G. ELLIOTT, House Governor.

Bolingbroke Hospital,

Wandsworth Common, S.W.11.
(121 Beds.)

HOUSE SURGEON (male) required. The appointment is for six months commencing November 1st next. Salary £120 per annum with board, residence, and laundry.

Candidates must be fully qualified and registered.

Applications stating age qualifications and experience with copies of not more than three testimonials should be sent to the undersigned as soon as possible.

W. S. RANDOLPH BISS,
Secretary Superintendent.

Bath, Clutton, Midsomer Norton and Radstock Joint Hospital Committee.

PAULTON HOSPITAL.

TEMPORARY MEDICAL SUPERINTENDENT.

Applications are invited for the temporary part-time appointment of Medical Superintendent of the Paulton Isolation Hospital the appointment to be terminable by three months' notice.

Remuneration £2 for each of the first 50 patients in each year and £1 for every additional patient with a minimum of £50 per annum.

Application together with not more than three copies of testimonials must be received at my office on or before the 13th proximo.

J. SUMNER DURY,
Clerk of the Committee.

September 19th 1930.

The Gloucestershire Royal Infirmary and Eye Institution, Gloucester. (155 Beds.)

Applications are invited for the post of SECOND HOUSE SURGEON (male). Salary £120 per annum with board residence and laundry. (Four Resident Medical Officers.)

The appointment is for six months which may be extended for similar periods by re-election from time to time.

Applications stating age qualifications and nationality with copies of not less than three recent testimonials must be received by the undersigned not later than Wednesday September 24th. The elected candidate will be required to enter upon his duties on Wednesday October 8th.

F. J. SYMONS,
Secretary.

August 21st 1930.

Victoria Hospital, Burnley. (120 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment is for six months in the first instance and carries a salary of £150 per annum with board etc.

This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Application with testimonials should be addressed to the undersigned forthwith.

GEO. W. COOLING,
Secretary Supt.

Sept 26th 1930.

The Salvation Army, The Mothers' Hospital,

Lower Clapton Road, Clapton, E.5.

Applications are invited from Medical Women for the post of RESIDENT ANÆSTHETIST (with some pathological duties) vacant November 1st. Salary £80 per annum with board residence and laundry. Candidates should have had previous experience in anæsthetics and pathology. She would be expected to refer to members of the Honorary Staff a list of whom can be obtained on application to the Secretary. Applications with testimonials must be sent to the Secretary on or before October 15th.

EDGAR DIBDEN, Secretary.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution which contains over 200 Beds is one of the Premier Provincial Hospitals in Scotland and offers exceptional opportunities of gaining experience in all branches of the profession. Salary at the rate of £100 per annum rising to £150 per annum.

Applications with testimonials, to be forwarded to the Treasurer Dumfries & Galloway Royal Infirmary 64 Irish Street Dumfries at once.

The Sheffield Royal Hospital

Required, OPHTHALMIC HOUSE SURGEON for October 1st and a HOUSE SURGEON for November 1st (males). Salary for the first six months at the rate of £50 per annum after which £100 per annum with board residence and laundry. There are three Resident Medical Officers.

Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent and Secretary.

Durham County and Sunderland Eye Infirmary

Wanted, TWO OPHTHALMIC SURGEONS for the above Institution to attend during the forenoon on three alternate days per week and one afternoon clinic per week. Commencing salary £350 per annum. Applications with copies of recent testimonials to be sent to JOHN BUTTERFIELD, Secretary Eye Infirmary, Stockton Road, Sunderland.

London Homoeopathic Hospital
(Incorporated by Royal Charter)
Great Ormond Street and Queen Square, Bloomsbury, W C 1 (172 Beds)

The Board of Management are prepared to receive applications for the post of ANAESTHETIST (one of three) Honorarium £50 per annum The appointment is made for one year, then eligible for re election

Candidates must possess a registrable qualification, and produce evidence of recent training in the administration of Anaesthetics

Candidates will be required to attend a meeting of the Medical Committee

Applications, stating age, with 35 copies of application and 35 copies of each testimonial should be addressed to the Secretary of the Hospital, of whom further particulars may be obtained.

EDWARD A. ATTWOOD, Secretary

Derbyshire Royal Infirmary,
DERBY
(General Hospital—346 Beds)

Applications are invited for the post of HOUSE PHYSICIAN

Candidates must be qualified and registered *under the Medical Acts.*

The appointment is for 12 months

Salary will be £160 per annum, with apartments, board etc

Applications, with copies of testimonials to be sent to the undersigned not later than October 13th

Duties will commence on November 1st

WALTER BANKS
Oct 3rd, 1930 Supt & Secretary

Merthyr General Hospital,
MERTHYR TYDFIL

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months Salary at the rate of £150 per annum, with board, rooms and laundry

Applicants must have had experience in administration of anaesthetics

Applications, stating age and qualifications and enclosing copies (only) of not more than three testimonials should be addressed Hon Secretary Hon Medical Staff, Merthyr General Hospital

Lord Mayor Treloar Cripples'
HOSPITAL AND COLLEGE ALTON, HANTS (400 Beds)

Applications are invited for the post of THIRD MALE ASSISTANT RESIDENT MEDICAL OFFICER. The appointment is for one year and may be renewed Salary for first six months £150 per annum, second six months £200 per annum Preference will be given to applicants who have held a resident appointment at a general hospital Special pathological or orthopaedic experience is desirable but not essential Please state essential particulars and apply to Medical Superintendent, Treloar Cripples Hospital Alton Hants

East London Hospital for
CHILDREN AND DISPENSARY FOR WOMEN, Shadwell E 1

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) vacant on November 1st.

Applicants must be duly qualified Practitioners in Medicine and Surgery Salary £200 per annum with board residence and laundry The appointment is for one year and is renewable Applications with testimonials must reach the undersigned on or before Saturday, October 18th

W M WILCOX Secretary

East London Hospital for
CHILDREN AND DISPENSARY FOR WOMEN, Shadwell E.1

Applications are invited for the post of HOUSE SURGEON (male) The appointment is for six months from November 1st Board residence and laundry are provided Salary at the rate of £125 per annum Applications with testimonials should reach the undersigned on or before Saturday October 18th

W M WILCOX Secretary

The East London Hospital for
CHILDREN Shadwell E.1

There will be a DEMONSTRATION OF CLINICAL CASES on Wednesday October 8th at 4 30 p m to which you are cordially invited at 4 p m

Huntingdon County Hospital

HOUSE SURGEON required at once Salary £125 with board residence and laundry Time for training —Apply Dr Gro E.

Walsall General Hospital

The Committee invite applications from men for the posts of HOUSE SURGEON and CASUALTY HOUSE SURGEON Salaries £150 and £120 per annum respectively

Candidates, who must be registered under the Medical Acts, must produce three recent testimonials

The appointments will be for six months

The Hospital contains 100 beds and is equipped in all Special Departments

Applications, stating age, qualifications and nationality, must be received by the undersigned immediately

WALTER FRANCOMBE,
September 29th, 1930 Secretary

Bury Infirmary, Lancashire
(A General Hospital of 170 Beds)

Applications are invited for the post of THIRD HOUSE SURGEON, who must have both Medical and Surgical qualifications and have had some experience in the administration of Anaesthetics. The appointment is for six months, at a salary at the rate of £150 per annum, with board residence and laundry

Applications stating age, qualifications, and nationality, with copies of three recent testimonials to be sent to the undersigned not later than October 8th, endorsed Third House Surgeon

ALEX W MAITLAND,
Honorary Secretary

Hampstead General and North-
WEST LONDON HOSPITAL,
Haverstock Hill N W 3

APPOINTMENT OF A HOUSE SURGEON

Applications are invited from unmarried registered Medical Men for an appointment of House Surgeon vacant on November 1st next The salary will be at the rate of £100 per annum, together with board residence, etc, and the term will be for six months

Applications, to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials should reach the Secretary not later than noon on October 18th

Resident Medical Officer —The
Committee of Management of the HOSPITAL FOR CONSUMPTON AND DISEASES OF THE CHEST, Brompton, S W 3 invite applications for the post of Resident Medical Officer Salary £350 per annum, with board and residence Candidates must be registered Practitioners and qualified in Medicine and Surgery single and not under 25 years of age Applications, with copies of testimonials, must reach the undersigned not later than Wednesday October 15th

Brompton, S W 3 FREDERICK WOOD,
September 1930 Secretary

Manchester and Salford Hospital
FOR SKIN DISEASES

HOUSE SURGEON

Applications are invited for the post of House Surgeon Must be registered. The appointment is for six months Salary at the rate of £100 per annum, with board and residence

Applications, with copies of three testimonials to be sent to the undersigned, Quay Street Manchester, on or before Wednesday Oct 15th.

JOHN NALL, Secretary

The Guest Hospital, Dudley
(General Hospital—104 Beds)

Applications are invited for the post of ASSISTANT HOUSE SURGEON (man or woman) To commence duties immediately Salary £160 per annum, with furnished apartments board and laundry Candidates must be fully qualified and registered Applications stating age qualifications and experience and accompanied by copies of testimonials, to be sent to the undersigned

H RAYMOND HURST
The Guest Hospital Secretary
Dudley Sept 20th 1930

The Royal Portsmouth Hospital,
PORTSMOUTH
(Five Resident Medical Officers)

THIRD HOUSE SURGEON male (qualified) required to commence as soon as possible Salary at the rate of £130 per annum with board etc Six months appointment. Eligible on completion of term for appointment to other resident posts

Application stating age nationality etc and copies of three recent testimonials to be sent to the undersigned from whom all particulars can be obtained

B WAGSTAFF Secretary

Royal Victoria and West Hants
HOSPITAL, BOURNEMOUTH
(Boscombe Branch—170 Beds—3 Residents)

A HOUSE SURGEON (male, British nationality) required.

Salary £150 per annum, with board lodging and washing The appointment is tenable for six months and candidates must be registered according to the provisions of the Medical Acts.

Applications, stating place of birth, with copies of three testimonials, to be sent immediately to the undersigned.

Women and married men are ineligible

GORDON M. SAUL
September 29th 1930 Secretary

New Sussex Hospital for Women
AND CHILDREN, BRIGHTON
(Incorporated) (50 Beds)

The Council of Management invites applications from fully qualified Medical Women for the following posts

1 HOUSE PHYSICIAN, to take up duty on November 1st.
2 HOUSE SURGEON, to take up duty on December 15th

Honorarium for each, £50 per annum, with board residence, and allowance for laundry Applications, with copies of three recent testimonials, to reach the undersigned on or before October 25th

M C LANDER,
September 29th 1930 Secretary

Rochdale Infirmary and
DISPENSARY (110 Beds)

The Board of Management invite applications for the appointment of SENIOR HOUSE SURGEON The salary attached is at the rate of £250 p a together with board residence and laundry Applications stating age nationality etc together with copies of recent testimonials to be sent to the Secretary endorsed House Surgeon

Conditions of the appointment may be had on application to the Secretary

Infirmary Office W WYNNE
Rochdale Secretary

West Bromwich and District
GENERAL HOSPITAL. (130 Beds)

Applications are invited for the post of HOUSE PHYSICIAN (male) Candidates must be doubly qualified and unmarried. Salary at the rate of £200 per annum with board residence and laundry The appointment is from date of appointment to March 31st 1931

Applications stating age and qualifications with copies of three recent testimonials should be sent as soon as possible to the undersigned

By Order
Edward St FRANK I HANCOCK
West Bromwich Secretary & Supt

Oldham Royal Infirmary

Two HOUSE SURGEONS required immediately, one for Male Wards and one for Out Patient and Special Departments Appointments tenable until December 31st Successful applicants will be eligible for re-appointment. Salary at the rate of £175 per annum with board residence, and laundry Applications to be submitted forthwith together with copies of three recent testimonials, to the undersigned

CHARLES D DRAKE
General Superintendent

Great Yarmouth General
HOSPITAL (72 Beds)

Required to commence duties immediately a JUNIOR HOUSE SURGEON

Salary at the rate of £140 per annum, together with board residence and laundry

Applications together with copies of three recent testimonials to be submitted to the undersigned

FRANK JENNINGS Secretary

Kent County Ophthalmic and
AURAL HOSPITAL MAIDSTONE
(105 Beds.)

The Board of Management invite applications for the post of HONORARY OPHTHALMIC SURGEON Full particulars may be had upon request to the undersigned to whom applications should be sent not later than Friday October 17th

JOHN W STRICKLAND, Secretary

Lowestoft and North Suffolk
HOSPITAL LOWESTOFT

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board residence and laundry Duties to commence in August Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

Metropolitan Hospital,
Kingsland Road, E.8

The Committee of Management are prepared to receive applications for the appointment of

(a) VISITING PHYSICIAN. Candidates must be Members of the Royal College of Physicians of London or Universities recognized by the Medical Council and not engaged in general practice.

(b) VISITING SURGEON. Candidates must be Fellows of the Royal College of Surgeons of England and not engaged in general practice.

Candidates will be required to call upon Members of the Staff.

Twenty applications complete with copies of recent testimonials must reach the undersigned (from whom further particulars may be obtained) not later than first post on Monday October 20th.

HERBERT F. PUTHERFORD
Secretary and House Governor

Metropolitan Hospital,
Kingsland Road, E.8.

There are vacancies for the following:

(a) SENIOR HOUSE PHYSICIAN
(b) SENIOR HOUSE SURGEON
(c) JUNIOR HOUSE PHYSICIAN
(d) JUNIOR HOUSE SURGEON
(e) TWO CASUALTY OFFICERS

Salary £150 per annum. Appointment in the first place will be for a period of six months, dating from November 1st.

Candidates must possess a registerable Medical and Surgical qualification of the United Kingdom.

Applications with copies of three recent testimonials and a certificate of ability to administer anæsthetics should be sent to the undermentioned not later than the first post on Monday October 20th.

Two members of the resident staff are candidates for the two Senior appointments.

HERBERT F. PUTHERFORD
Secretary and House Governor

Addenbrooke's Hospital,
CAMBRIDGE.

Applications are invited for the post of RESIDENT ANÆSTHETIST and EMERGENCY OFFICER (male). The appointment will be for six months from October 17th and may be renewed for a further period of six months but is terminable at any time by one months written notice on either side. Salary at the rate of £130 per annum with board residence and laundry. Candidates (male) who must be unmarried and duly registered are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four recent testimonials to the undersigned on or before Wednesday October 8th.

W. H. HEAD
Secretary-Superintendent.

Addenbrooke's Hospital,
CAMBRIDGE.

Applications are invited for the post of HOUSE SURGEON. The appointment will be for six months but is terminable at an earlier date by one months written notice on either side. Salary at the rate of £130 per annum with board residence and laundry. Candidates (male) who must be unmarried and duly registered are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials to the undersigned as soon as possible.

W. H. HEAD
Secretary-Superintendent.

Royal Free Hospital,
Gray's Inn Road, W.C.1.

Applications are invited from duly qualified Medical Women for the post of RESIDENT CASUALTY OFFICER. Previous experience as Hospital Resident essential. Salary £150 per annum. Intending candidates should submit applications stating age and accompanied by copies of three recent testimonials to the undersigned forthwith or not later than October 6th. The appointment is tenable for six months from November 1st.

REGINALD R. GARRATT,
Secretary.

Royal Berkshire Hospital
(243 Beds.)

Wanted immediately a CASUALTY OFFICER. Candidates must be fully qualified and registered. The appointment is for six months and the salary is at the rate of £150 per annum with board residence and laundry.

Applications, with copies of testimonials should be addressed to the undersigned.

F. A. LYON,
Secretary.

Reading,
October 4th, 1930.

Seamen's Hospital Society

The Committee of Management invite applications for the appointment of ASSISTANT RADIOLOGIST at the DREADNOUGHT HOSPITAL, Greenwich.

The elected candidate will be appointed for twelve months but will eligible for re-election. Candidates must be fully qualified Medical Practitioners, and both DIPLOMATE. In view of the future re-arrangement and extension of this Department the elected officer will be required to attend not less than two half days a week.

There is an honorarium of fifty guineas at each visit to the post.

Application with copies of three recent testimonials to be sent in on or before October 27th to the undersigned from whom further particulars can be obtained.

By Order,
Greenwich. L. E. V. BAX.
September 29th, 1930. Secretary.

Seamen's Hospital Society

The Committee of Management invite applications for the appointment of PHYSICIAN with charge of Out-patient at the DREADNOUGHT HOSPITAL, Greenwich. The elected candidate will have beds allotted to him and will be appointed for twelve month but will be eligible for re-election.

Candidates must be Doctors of Medicine of a University in the United Kingdom and Fellows or Members of the Royal College of Physicians of London.

Applications to be sent in on or before October 27th to the undersigned from whom further particulars can be obtained.

By Order,
Greenwich. L. E. V. BAX.
September 29th, 1930. Secretary.

Seamen's Hospital Society

KING GEORGE'S SANATORIUM FOR SAILORS, LIPHOOK, HANTS for the Treatment of Pulmonary and Non-Pulmonary Tuberculosis.

Applications are invited for the post of ASSISTANT MEDICAL OFFICER. Commencing salary at the rate of £200 per annum with quarters and board. The appointment is for six months in the first instance. There is no accommodation for a married man.

Applications, with copies of three recent testimonials to be sent in by October 9th to the undersigned.

Greenwich. L. E. V. BAX.
September 17th, 1930. Secretary.

Salford Royal Hospital
(265 Beds.)

Applications are invited for the following vacancies in the Resident Medical Staff (male):

HOUSE SURGEON (attached to the Orthopaedic Department).

Salary at the rate of £125 per annum.

The appointment is for a period of six months with board and residence.

Candidates must be registered under the Medical Acts.

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognized for the English Fellowship (Final).

Forms of application which may be obtained from the undersigned must be delivered at once.

By Order of the Board,
Salford Royal Hospital. GEORGE RUDDLE,
Sept. 29th, 1930. Gen. Supt. & Sec.

Royal South Hants and
SOUTHAMPTON HOSPITAL,
SOUTHAMPTON.

The Committee of Management invite applications from duly qualified Medical Men for the post of HONORARY DERMATOLOGIST. The successful candidate will be required to attend at the Hospital on one day in each week, and must not be engaged in general practice.

Candidates are requested to send their applications which may be accompanied by not more than five testimonials, to the Secretary not later than October 31st. Canvassing by or on behalf of any candidate is strictly forbidden, and shall be a disqualification.

HY. TRUSSON, Secretary.
September 29th, 1930.

Royal South Hants and
SOUTHAMPTON HOSPITAL,
SOUTHAMPTON.

ASSISTANT HOUSE SURGEON required to commence duties at once. Six months engagement. Salary £150 per annum with room, board and laundry. Application stating age to be sent to the undersigned together with copies of testimonial (limited to five) as soon as possible.

HY. TRUSSON, Secretary.

The Royal Devon and Exeter
HOSPITAL, EXETER. (220 Beds.)

HOUSE SURGEON TO SPECIAL DEPTS.

Applications are invited for the post of House Surgeon to the Ear Throat, and the X-ray and Casualty Departments at the Hospital shortly becoming vacant. The appointment is for six months and candidates are eligible for re-election.

Salary at the rate of £150 per annum with board, apartments and washing.

Application giving particulars as to age and qualifications together with copies of recent testimonials should be sent to the undersigned as soon as possible.

By Order of the Committee,
S. S. COLE,
Sept. 12th, 1930. Secretary & Manager.

Bristol Homoeopathic Hospital
(Bruce Melville Wills Memorial.)

The Board of Management invite applications for the appointment of RESIDENT MEDICAL OFFICER to commence duties on or about October 1st next at a salary of from £120 to £150 per annum according to experience with board, laundry and residence. The Hospital is now with the latest equipment and a most comfortable suite of rooms are provided in the Hospital.

Opportunity for good Surgical and General experience.

Applications should be forwarded with three copies of recent testimonials addressed to the undersigned.

H. HUNTER (Lt.-Colonel),
Secretary.

St. Paul's Hospital for Diseases
(INCLUDING CANCER) OF THE
GENITO-URINARY ORGANS AND SKIN,
Endell Street, Holborn, W.C.2.

HOUSE SURGEON (emergency vacancy). Candidates must be fully qualified and registered. Salary at the rate of £150 per annum with board and residence. The appointment is for a period of six months on the termination of which the holder is eligible for the position of Resident Medical Officer. Preference will be given to those candidates who have previous experience in Venereal Diseases. Applications with copies of recent testimonials to be sent forthwith to the Chairman of the Medical Committee.

Victoria Hospital for Children,
Tite Street, Chelsea, S.W.3.
(128 Beds.)

The Committee invite applications for the post of SENIOR RESIDENT MEDICAL OFFICER (male), vacant November 1st. The appointment is for one year. Salary £250 per annum, with board, lodging and washing.

Candidates must have previously held a Hospital appointment.

Application with copies of three recent testimonials should be sent to the Secretary not later than first post on Friday, October 10th.

By Order,
D. ST. JOHN BAMFORD,
Secretary.

Victoria Hospital for Children,
Tite Street, Chelsea, S.W.3.
(128 Beds.)

The Committee invite applications for the post of HONORARY MEDICAL REGISTRAR. The appointment is for one year, renewable for a second year. Candidates are expected to call on the Medical members of the staff.

Applications, with copies of three recent testimonials should be sent to the Secretary not later than Monday October 13th.

By Order,
D. ST. JOHN BAMFORD,
Secretary.

Macclesfield General Infirmary
(100 Beds.)

HOUSE SURGEON required immediately. Salary at the rate of £120 with board and residence. Candidates must be duly qualified and registered under the Medical Acts.

The appointment to be held for six months.

Applications stating age, accompanied by copies of three recent testimonials to be sent to the undersigned.

A. E. HANRAHA, Secretary.

Hertford County Hospital

Applications are invited for the post of HONORARY ANÆSTHETIST to the above Hospital.

Applications together with copies of testimonial should be made by Monday October 20th to the undersigned.

PERCY G. BROOKS, Secretary.

City of Stoke-on-Trent

TUBERCULOSIS OFFICER

The Corporation invite applications for the post of Tuberculosis Officer at a commencing salary of £750 per annum

The age of the candidate is not to exceed 40 years Candidates should either have held a previous appointment as Tuberculosis Officer with the approval of the Ministry of Health, or should since qualification—

(1) have had at least three years experience in the practice of their profession
(2) have spent in general clinical work a period of not less than eighteen months, of which not less than six months have been spent in a hospital as resident officer in charge of beds occupied by general medical or surgical cases and
(3) have received special training for a period of not less than six months in the diagnosis and treatment of Tuberculosis

The successful applicant will be required to act as Assistant to the Medical Officer of Health as occasion arises and will work under the administrative control of the Medical Officer of Health

Applications with copies of recent testimonials endorsed Tuberculosis Officer, must be received by me at the Town Hall Stoke-on Trent not later than October 17th

Town Hall, Stoke on Trent. E B SHARPLEY, Town Clerk

The Borough of Richmond

(SURREY) AND
THE HESTON & ISLEWORTH URBAN DISTRICT JOINT ISOLATION HOSPITAL COMMITTEE

RESIDENT MEDICAL OFFICER

The Committee requires the services of a Resident Medical Officer at its Hospital at Mogden

Applicants must have had previous experience as a resident in a Fever Hospital

Salary £350 per annum rising by annual increments of £25 to £450

At present no suitable living accommodation is available at the Hospital, but will be provided in due course Until it is provided the person appointed will be required to live within easy distance of the Hospital The place of residence must be approved by the Committee When the accommodation is ready the person appointed will be required to take up residence in the Hospital Until then there will be an allowance at the rate of £130 per annum in lieu of emoluments

The Committee has no superannuation scheme at the moment

Applications accompanied by copies of three recent testimonials to reach me by Oct 17th

S C T LITTLEWOOD, Clerk to the Committee
14 Church St Kingston on Thames
Septmber 23rd 1930

South Devon and East Cornwall

HOSPITAL PLYMOUTH
(240 Beds)

HOUSE SURGEON Salary £100 per annum with board residence and laundry Appointment is tenable for six months and is subject to renewal Duties to commence at once

Candidates must be registered under the Medical Acts

Applications stating age and qualifications together with copies of recent testimonials, to reach the undersigned by October 18th

ARTHUR R CASH
Sept 30th 1930 Gen Supt & Secretary

South Devon and East Cornwall

HOSPITAL PLYMOUTH
(240 Beds)

Applicants are invited for the post of MEDICAL REGISTRAR

Candidates for this post must be duly qualified Medical Practitioners and registered under the Medical Act

Applicants must send twelve copies of their application and testimonials to the undersigned without delay

ARTHUR R CASH
Sept 30th 1930 Gen Supt & Secretary

The Italian Hospital,

Queen Square W C1

The Committee of Management invites applications for the post of HONORARY ASSISTANT GYNÆCOLOGIST Candidates must be Fellows of the Royal College of Surgeons of England or have the equivalent qualification in Italy and shall have their names on the Register of the General Medical Council

Applications with copies of testimonials should be sent to the undersigned not later than Monday October 20th

E R HANCHET Secretary

Southern Rhodesia Medical SERVICE

TWO ASSISTANT AND RELIEVING GOVERNMENT MEDICAL OFFICERS are required for the Southern Rhodesia Medical Service Salary £500 per annum rising by £25 per annum to £650 per annum, with private practice

Preference will be given to holders of Public Health or Tropical Medicine certificates

Applications with full particulars of qualifications age past appointments held, etc, with copies of references, should be addressed to the Official Secretary Office of the High Commissioner for Southern Rhodesia, Crown House Aldwych London, W C 2 from whom copies of conditions of appointment to the Southern Rhodesia Medical Service can be obtained

Canvassing will disqualify the applicant

Applications to be submitted by October 22nd

West London Hospital,

Hammersmith, W 6 (234 Beds)

Applications are invited for the post of HONORARY OPHTHALMIC SURGEON for which the present Honorary Assistant Ophthalmic Surgeon is a candidate In the event of his election, there will be a vacancy for an Honorary Assistant Ophthalmic Surgeon, for which applications are also invited

Candidates must be Fellows of one of the Royal Colleges of Surgeons of England, Edinburgh, or Ireland The successful candidate will be required, in addition to his other duties, to undertake such teaching for the Post Graduate College as the Board may approve

Applications, with copies only of testimonials, must reach me not later than Thursday, October 23 d Candidates must attend the Meeting of the Medical Council on Friday, October 24th, at 4 30 p m and prior to that date call upon, and send copies of application and testimonials to each member thereof They must not canvass members of the Board of Management, but nevertheless must send copies of their application and testimonials to each member thereof, and if so notified, be in attendance at a Meeting of the Board at 5 p m on Tuesday, October 28th when the election will be made

H A MADGE, Secretary

West London Hospital,

Hammersmith Road, W 6 (234 Beds)

Applications are invited for the post of RESIDENT ASSISTANT SURGEON The present holder of the post is a candidate for re-election Salary at the rate of £200 per annum, with board lodgings, and laundry allowance The appointment is for one year, terminable by one month's notice on either side and subject to annual re-election may be extended to not more than 3 years Candidates must be duly qualified Medical Practitioners and it is desirable that they should hold the F R C S (England) Diploma

Applications accompanied by copies of testimonials must reach me not later than first post on Friday October 17th Candidates must attend a Meeting of the Medical Council on Friday October 24th at 4 30 p m and prior to that date call upon and send copies of application and testimonials to each member thereof They must not canvass members of the Board but if so notified must attend a Meeting of the Board at 5 p m on Tuesday, October 28th, when the election will be made

H A MADGE Secretary

Surrey County Council

COUNTY SANATORIUM MILFORD SURREY
(300 Beds)

Applications are invited from qualified and registered Medical Practitioners for the post of SECOND ASSISTANT MEDICAL OFFICER at this Sanatorium

Candidates should be under 35 years of age and have had previous institutional experience Sanatorium experience is not essential

The appointment is subject to the Standing Orders of the County Council the Local Government and Other Officers Superannuation Act 1922 and one month's notice on either side

A physical examination is necessary for superannuation purposes

The salary is £400 per annum together with board lodging and laundry These emoluments are valued at £100 per annum for purposes of superannuation

The successful candidate will be required to devote his whole time to the services of the County Council

Forms of application may be obtained from the County Medical Officer of Health County Hall Kingston on Thames to whom completed application forms must be returned together with copies of three recent testimonials not later than Saturday October 18th

DUDLEY AUKLAND
Clerk to the
Sept 29th 1930 Surrey County Council

Workmen's Compensation Act, 1925

MEDICAL BOARD FOR SILICOSIS

Under an arrangement between the Home Office and the Industries concerned the periodic and other medical examinations required under the Refractories Industries (Silicosis) Scheme, 1925, and the Sandstone Industry (Silicosis) Scheme, 1929, are carried out by a Joint Medical Board consisting of whole-time officers the members of which are allotted to certain centres and which has its central office at Sheffield The Home Secretary announces an immediate vacancy for a WHOLE TIME APPOINTMENT AS MEMBER OF THE MEDICAL BOARD The scale of salary is £750 per annum, rising by annual increments of £25 to £900

It is contemplated that in pursuance of the Workmen's Compensation (Silicosis and Asbestosis) Act, 1930, the present medical organisation will be extended shortly to certain other industries and processes, and that probably at least two additional appointments will then be necessary and applications for the post now vacant will, if the applicants so desire, be considered also in connexion with these further appointments

Further information and forms of application can be obtained from the Industrial Division, Home Office, Whitehall, London, S W 1 Applications should reach the Home Office not later than October 25th 1930 Recommendations or testimonials will only be considered if given by persons having personal knowledge of the candidate

Home Office Whitehall
September 29th 1930

County Borough of Preston

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER

The Council invite applications from registered Medical Practitioners (male) for the position of Assistant School Medical Officer, at a salary of £600 per annum

Candidates must have not less than three years post graduate experience, including Resident Hospital appointments and must be experienced Refractionists Special experience in the diseases of children and Actinotherapy will be an advantage. The holding of a diploma in Public Health is essential

The person appointed will be required to pass a medical examination, and to contribute to the Council's Superannuation Scheme

Applications on forms to be obtained from the undersigned, and endorsed School Medical Officer must be delivered on or before October 18th

Town Hall, Preston ALFRED HOWARTH Town Clerk
September 29th 1930

City of Birmingham

SELLY OAK HOSPITAL

RADIOLOGIST

Applications are invited from fully qualified Medical Practitioners for the post of Part time Radiologist to the above acute General Hospital

Further particulars of the post may be obtained from the Medical Superintendent R P S KERMAN Esq M B, F R C S (Eng & Edin) to whom applications stating age, experience, and qualifications, accompanied by copies of recent testimonials should be forwarded not later than Wednesday Oct 22nd

F H C WILTSHIRE Town Clerk
The Council House, Birmingham

Liverpool Hahnemann Hospital,

Hope Street

Applications are invited for the post of HOUSE SURGEON to the above Hospital which falls vacant on October 15th next

Appointment is for six months renewable Salary at the rate of £100 per annum knowledge but not essential occasional duties at operations Applicants must state age and experience and enclosing copies of recent testimonials to the Registrar

General Hospital, Nottingham

RESIDENT CASUALTY OFFICER (male) required at once The appointment is for six months Salary at the rate of £150 a year with board residence and laundry Applications stating age qualifications and experience with copies of testimonials to be delivered to the undersigned

PETER M MACCOLL
House Governor & Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** (contd.)	**PUBLIC HEALTH**
EBBW VALE, NEWPORT (*Workmen's Medical Society*)	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE (*Workmen's Medical Scheme*)	COR WALL EDUCATION COMMITTEE. (*Assistant School Medical Officer—Female*)
GILFACH GOCH GLAMORGAN (*Workmen's Medical Scheme*)	NEATH AND DISTRICT (*Medical Aid Association*)	MIDDLESEX COUNTY BOROUGH. HOLGATE HOSPITAL. (*Assistant Medical Officer*)
LLWYNYPIA CLYDACH VALE PENYCRAIG GLAMORGAN (*Workmen's Medical Scheme*)	OAKDALE MON (*Medical Officer for Medical Aid Association*)	PAISLEY CORPORATION (*Assistant Medical Officer—Female*)
MARDY GLAMORGAN (*Workmen's Medical Scheme*)	OGMORE VALLEY GLAMORGAN (*Ogmore Valley Medical Aid Society*) (*Workmen's Medical Scheme*)	STIRLING ROYAL BURGH (*Medical Officer of Health*)
		YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. (*Assistant School Medical Officer*)
		YORKSHIRE WEST RIDING COUNTY COUNCIL. (*School Medical Inspector*)

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch.
NEW SOUTH WALES (*All Friendly Society Appointments*)	Dr. R. H. TODD (Hon. Sec. New South Wales Branch), Savings Bank Building, 21, Elizabeth St., Sydney, N.S.W.	**SOUTH AUSTRALIA** (*Lodge Appointments*)	Secretary, South Australian Branch, B.M.A., House, 25, North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND** (*Contract Practice Appointments*)	Dr. G. F. V. ANSON (Hon. Sec. New Zealand Branch, British Medical Association), P.O. Box 156, Wellington, New Zealand.
QUEENSLAND (*Brisbane Associated Friendly Societies Institute*)	The Hon. Sec., Queensland Branch), British Medical Association, B.M.A. Building, Adelaide St., Brisbane.	**VICTORIA.** (*All Institute or Medical Dispensaries.*)	Dr. J. P. Major (Hon. Sec. Victorian Branch) British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** (*Contract and Lodge Practices*)	Hon. Sec. Western Australian Branch, British Medical Association, No. 6 Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

October 1st 1930 By Order of the Council ALFRED COX, Medical Secretary

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Middlesex County Council

NORTH MIDDLESEX HOSPITAL, Edmonton, London, N.18

Male RESIDENT ASSISTANT MEDICAL OFFICER required at the above Hospital.

Candidates must be well qualified and previous experience in a House appointment essential, and preference will be given to one knowing the routine of Hospital work.

The present hospital accommodation is 1,000 beds, divided into Medical, Surgical, Gynæcological, Obstetrical, and Children's Diseases sections. Other departments include fully equipped Pathological and Biochemical Laboratories, X-ray, Ultra-violet ray, Electro-therapeutic, Massage, Ear, Nose and Throat Treatment, Dental, Light-therapy, and Radium depts. Over 4,000 operations annually.

Salary £200 per annum, with residential emoluments, subject to conditions on application form to be obtained from the Medical Superintendent and Surgical Director at the above address.

Applications in writing only, and no personal interviews at present.

County Borough of Walsall

MANOR HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER.

Applications are invited from duly qualified gentlemen for the appointment of First Assistant Resident Medical Officer.

The salary will be at the rate of £200 per annum, together with the usual residential emoluments. The appointment will be tenable for a period of twelve months.

The person appointed will be required to act under the general direction of the Medical Officer from whom particulars of the appointment may be obtained.

Applications stating age, professional qualifications and experience, accompanied by not more than three copies of recent testimonials, should be sent to the undersigned at once.

C. S. FOTHERGILL,
Public Assistance Officer.

29, Leicester Street, Walsall.
August 25th, 1930.

The Belgrave Hospital for Children.

(Incorporated),
1, Clapham Road, S.W.9.

The Committee of Management invite application for the post of TWO HOUSE PHYSICIANS and ONE HOUSE SURGEON which will become vacant on October 31st next.

Applicants (men) must be fully qualified and registered. The appointments are for six months with board, residence and washing provided. Salary at the rate of £100 per annum in each case.

Applications with copies of testimonials, stating age, should be forwarded on or before Thursday, October 16th.

By Order,
THOMAS CLAPHAM, Secretary.

Paddington Green Children's Hospital

(Incorporated),
London, W.2.

HOUSE PHYSICIAN.
HOUSE SURGEON.

These appointments will become vacant on November 1st. Gentlemen (unmarried) are invited to send in their applications, with copies of three testimonials, to the undersigned not later than the first post on Friday, October 10th. Salary of each at the rate of £150 per annum, with board and residence. Candidates who have held a resident Hospital appointment are preferred. The appointments are for a period of six months.

LYLES A. HAMLIN, Secretary.

Bristol Royal Infirmary

Applications are invited for the post of Whole-time ASSISTANT to the Pathological Laboratory of the Cancer Research Department. Commencing salary £400 per annum or according to previous experience of the candidate. Candidates must possess a medical qualification and send in their application, stating age and experience, together with copies of not more than three testimonials to the undersigned.

ELLIS C. SMITH, F.C.I.S.,
Secretary & House Governor.

Darlington General Hospital

(120 Beds.)

JUNIOR HOUSE SURGEON required, male, fully qualified British. Salary £150 per annum with board, residence and laundry.

Applications stating age, qualifications and experience, accompanied by copies of two recent testimonials, to be addressed to the undersigned forthwith.

V. RIDDLE, Secretary.

Tiverton Hospital, Devon.

Applications are invited for the post of HOUSE SURGEON. Salary £100 per annum with board, residence and laundry. Six months' engagement commencing as early in October as possible.

Applicants with testimonials to be sent to the undersigned.

C. H. DEERS,
Hon. Secretary.

The Royal United Hospital, BATH.

HOUSE SURGEON (male). British nationality required. Salary £200 per annum with board, residence and laundry. The appointment is for a minimum period of six months.

Application, stating age, qualifications, experience, together with three recent testimonials, to be forwarded at once to the undersigned.

J. LAWRENCE MEARS,
Secretary.

Sept. 16th, 1930.

The Royal Infirmary, SUNDERLAND (290 Beds.)

Wanted One HOUSE PHYSICIAN (male). Salary £140 per annum, with board, residence and laundry. State age and qualifications and submit copies of three recent testimonials to—

S. C. FFYERS,
Hon. Governor & Secretary.

(Appointments continued on p. 61.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,
TAVISTOCK SQ LONDON W C.1
T/A Articulate Westcent, London
Tel Museum 9861 (4 lines)

SMALL ADVERTISEMENT RATES

Up to Six Lines (32 Words) 9s
Each Additional Line, 1s 6d
(a line averages 5 words)
Address must be paid for

All advertisements should reach the above address by not later than first post TUESDAY preceding publication

ASSISTANCIES

Wanted — Assistantship with early view, by Scotch M B, Ch B 1927, married R M O, R S O 18 months resident hospital appointments, and 18 months general practice experience Surgical scope preferred interview desired —Address, No 6665, B M A House Tavistock Square, W C 1

Wanted —Assistant, male, indoor, with Hospital and general experience Refractions a recommendation Usual bond £360 p a, payable weekly or monthly State age height, and send photo —Address No 6870 B M A House Tavistock Sq W C 1

Wanted — Assistant, married, age about 30, English or Scotch, to live at Branch (unfurnished), London suburb Salary £350 com on mids c l and gas Send photo — Address, No 6854 B M A. House, Tavistock Square, W C 1

Wanted — Experienced Male ASSISTANT, indoor Scotland Town and Country Practice. Salary £300 With or without view Send testimonials and photo —Address No 6857 B M A House, Tavistock Square W C 1

Wanted — Indoor Assistant in Country Practice North of England Suit man recently qualified Commence duties at once Salary £250—£300 State age, refs, and photo —Address No 6962 B M A House, Tavistock Square W C 1

Wanted —Indoor Male Assistant good-class Country Practice in Midlands Cottage Hospital Car provided Suit newly qualified Age photo refs etc— Address No 6865 B M A House Tavistock Square, W C 1

Wanted —Young Assistant, able to do Midwifery and Minor Surgery for a plea ant private and panel Practice in P m brokeshire View to partner hip Sa ary £400 Outdoor Commencing N vember st— S V L c/o Ferris & Co Bristol

Wanted —Assistant (married), with view to early Partnership to start Branch Practice in London working class district House over surgery Capital not nece sary Salary £6 p r week Photo and experience— No 6751, B M A House Tavistock, Sq, W C 1

Wanted immediately, indoor ASSISTANT for clean Lancashire town Work light Salary £300 per annum —Addr ss No 6868 B M A Hous Tavistock Sq, W C 1

Wanted — Woman Assistant for mixed panel Practice in Midlands Should drive car or cycle Outdoor Salary £400 — Addre s No 6876 B M A House Tavistock Square W C 1

Wanted, an indoor Assistant, November male Engli h or Scotch panel and private Bradford £250—£300, according to experience Usual agreement Full particulars and copies of testimonials— No 6956 B M A House, Tavistock Sq, W C 1

Wanted —Lady Medical Assistant (indoor) willing to dispense £200 p a Light work Experience in general practice and refractions State age and height Send photograph (returnable) — Address No 6960 B M A House, Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view State full particulars— British Medical Bureau, 33 Cross Street, Manchester

Wanted — Part-time Assistant to run Branch Surgery, S W London (male, young English or Scot) Duties very light mornings and evenings Suit man recently qualified —Address, with full particulars, No 6963, B M A. House, Tavistock Sq, W C 1

Wanted — Outdoor Assistantship preferably with view to Partnership by B Sc, M B, Ch B, L R C P Ed, aged 29 Post-grad study Rotunda (Dublin), Vienna, and U S A G P exp Some capital Free now— No 6957, B M A House, Tavistock Sq, W C 1

Wanted —Assistant, Liverpool mostly panel no midwifery Live at Surgery, fire light attendance free Salary £300 p.a.—Address No 6874 B M A. House Tavistock Square W C 1

Wanted — Assistant, male, indoor for private and panel industrial Practice in Lancashire Usual bond Salary £275 State experience and age —Address No 6878 B M A House, Tavistock Square, W C 1

Wanted — Assistant, male or female, newly qualified Good experience to be gained Moderate salary Indoor Work light. — Address, No 6885, B M A House, Tavistock Square W C 1

Wanted —Indoor male Assistant for general Practice, single, sober Commencing salary £320 per annum Must provide motor cycle Usual agreement —Address No 6965, B M A House, Tavistock Square, W C 1

Wanted — Indoor Male or Female ASSISTANT for panel and general Practice in Yorkshire City Salary £250 —Apply Altha, c/o Reynolds & Branson, Ltd 13 Briggate Leeds.

Wanted — Male Assistant to live at Surgery Panel Practice Give full particulars and references Salary £300 —Address No 6873, B M A House, Tavistock Square W C 1

Assistantship wanted with view to Partnership or Succession panel and industrial, by M B, Ch B Edin, 1926 4 years experience G P hospital, and midwifery Own car single 26 years, temperate, keen, energetic, reliable Free now —Address No 6863, B M A House Tavistock Square, W C 1

Assistant, outdoor, lady or gent, for private and panel Practice in Midlands Protestant Principal does all midwifery Little night work Usual bond State essential particulars —Address, No 6964, B M A. House, Tavistock Square, W C 1

Assistantship wanted, part-time or whole by woman M B B Ch, D P H qualified 1924 Good experience panel and private Excellent testimonials Disengaged, in London Interview desired —Address No 6880 B M A House, Tavistock Square, W C 1

Assistant wanted immediately in Practice in West Riding City Some experience desirable Able to drive car Outdoor post £300 plus allowance Applications, with testimonials and if possible photograph —No 6960 B M A House Tavistock Sq W C 1

Assistantship, outdoor, with definite view to Partnership by M B, Ch B Aberd, age 28, single, ex H S (Senior), general practice for last year Scotland preferred Free November 1st Excellent refs— No 6661 B M A House Tavistock Sq W C 1

Indoor Lady Assistant (preferably Irish) wanted immediately for private and panel City Practice in England Salary commencing £120 per annum with board and apartments —Address No 6769, B M A House, Tavistock Square, W C 1

Jewish Doctor, M B, Ch B, M R C S L R C P, desires ASSISTANTSHIP with view to Partnership or Succession Hospital and G P exp, 16 months Capital available Own car Large town preferred —Add, No 6887, B M A House, Tavistock Sq, W C 1

Jewish Doctor, M R C S, L R C P recently qualified age 30 wants ASSISTANTSHIP for 3 6 months —Address No 6882 B M A House, Tavistock Square W C 1

London, S E, near King's College Hospital — ASSISTANT, male wanted with or without view for private and panel Practice Dispenser kept Salary £300 in Protestant State age, height exper and refs— No 6866, B M A House, Tavistock Sq, W C 1

M.B requires Assistantship with view or succession in or near London Three years Hospital also expatriate G P Full particulars —Address No 6888 B M A. House Tavistock Square W C 1

LOCUMS

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(William H Grant)
Watergate House, 15 York Buildings, Adelphi W C 2 *Tel* { Temple Bar 1054. Riverside 1254 (*Night Calls*).
Telegrams
Reaside Tubercle, Westrand, London

Doctor, experienced in panel and general Practice disengaged LOCUM TENENS or DAILY WORK *London* preferred but country considered — Address, No 6867, B M A House, Tavistock Sq, W C 1

Locums or Evening Surgeries desired by an experienced (middle-aged) Doctor Locums 5 gns p w 3 evg surg p w 37/6 for period If country locum where car and driver available Good refs— Medicus c/o Vignos 44 Elgin Crescent Notting Hill W 11

Woman Doctor, L R C P S, L M D P H desir s LOCUM or OUTDOOR ASSISTANTSHIP free Oct 15th Interview arr Accustomed sole charge and disp Good p rsonality Special exper in mid and diseases of children— No 6955 B M A House Tavistock Square W C 1

FOR LOCUM TENENS APPLY TO
Mr PERCIVAL TURNER, Ltd
The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals
4, ADAM ST, Strand, London, W C 2
Teleg Epsomian Lond After Office Hours
Phone Temple Bar 9011 Epsom 9142

PARTNERSHIPS

Wanted —Third Partner in rapidly increasing good class Practice within 15 miles London Local Hospital and good schools Protestant well qualified some specialty or ex H S or H P preferred Share for disposal £900—£1 000 *Capital essential* —Address No 6875 B M A House Tavistock Square W C 1

Wanted — Third Partner in rapidly increasing good class Practice within 15 miles London Local Hospital and good schools Protestant well qualified some specialty or ex H S or H P preferred Share for disposal £900—£1 000 Capital essential — No 5972 B M A House Tavistock Sq W C 1

Wanted — In Lancashire or Yorkshire town (Hospital) SHARE worth £1 000 or more Scope for surgery and radiology Experienced in hospital and private practice —Address No 6957 B M A House Tavistock Square W C 1

Glos —Nice town —Half Share of an old established PRACTICE Receipts nearly £2 000 a year including large panel Good house available for incoming partner Premium for half share two years purchase —Apply LEACOCK & HADLEY Ltd. 19 Craven Street Strand W C 2

SOUTH DEVON

Half Share in old-established Country PRACTICE of £1,500 including appointments and panel of 940 Seven miles Would suit man with some private means desiring moderate work in pleasant district with country sport — Address No 6871 B M A House Tavistock Square, W C 1

London Graduate with own good-class Practice requires PARTNERSHIP with view to Succession or would purchase Panel PRACTICE of 1 000 upward within 3 miles Paddington Capital available Principals only please Reply in confidence —Address No 6880 B M A House Tavistock Square W C 1

Medical Man, 40, single, desires PARTNERSHIP with or without ultimate succession non-dispensing Share £1 000 —£1,500 Capital available cash Good-class Practice Strictest confidence —Address No 6864 B M A House Tavistock Square W C 1

Partner wanted in middle and better working-class Practice Busy town Midland Work of high standard done including major surgery Panel 1 100 Practice worked with help of Assistant could be doubled by energetic partner Fine house available at rental On a third share equal to about £1 100 for 1st year State full particulars age height applicant available and enclose photo Preliminary assistants' post considered—Address No 6889 B M A House Tavistock Square W C 1

Partnership in Country Town Practice in beautiful part of West Midlands Average receipts £2 800 including £1 100 from panel and appointment Cottage Hospital Half share at 2 years purchase Most attractive house and garden price £3 500 Full particulars and photos on request —Address No 6254 B M A House Tavistock Sq W C 1

Partnership requires young Post as Assistant Busy country town Good experience Car provided or own car used if preferred Good salary for suitable man —Address No 6875 B M A House Tavistock Square W C 1

MEDICAL POSTS DISPENSERS etc.

Wanted, fully qualified Ophthalmic SURGEON for service in the TROPICS Agreement for three years Salary £1 000 £1 100 £1 200 Renewable thereafter by arrangement Free furnished quarters and first-class passage provided Provident Fund Candidates must be unmarried and under 35 years of age Ladies not eligible.—Address with copies of testimonials (not returnable) No 6231 B M A House Tavistock Square W C 1

Wanted — Junior Lady DISPENSER for large general Practice near London In the first instance as six months Locum but with possible permanency Salary £150 per annum —Apply Dr J E HAWORTH St Winifred Carshalton Road Sutton

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write wire or phone (Park 0959) Secretary 7 Westbourne Park Road, W 2.

Doctors requiring qualified Dispensers Nurse-Dispensers Secretary Dispensers or Chauffeuse-Dispensers are invited to write wire, or phone Temple Bar 5858 THE DISPENSERS BUREAU 15 Lindsay House 177 Shaftesbury Avenue London W C 2.

Lady Dispenser - Bookkeeper Secretary wishes POST one or two Doctors country Thorough knowledge panel and private work dressings care of instrument Tactful cheerful excellent references 3½ years present post Prefer live out Personal interview Free end Oct —Address Miss Fox c/o Dr Holman The Surgery Aylsham Norfolk

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Lay manageress and part time Bookkeeper Dispensers Secretary Dispensers Nurse Dispensers and Chauffeuse-Dispensers.—Write wire or phone Central 3579 THE RELIANCE BUREAU FOR DISPENSERS 12 Holborn Viaduct E C 1

Expert Physician desires OPENING ABROAD High qualification Large experience hospital consulting and general medical practice Active engaged and agreeable Excellent testimonials and references Interview and full particulars —Address No 6877 B M A House Tavistock Square W C 1

Lady Dispenser - Bookkeeper (Hall certif) good experience and testimonials young disengaged requires POST with Doctor permanent or locum Near London —Address W 16 The Uplands Loughton Essex.

Lady Secretary, shorthand, typewriting 4 years experience with Consulting Surgeon care of instrument etc requires similar POST — Address No 6536 B M A House Tavistock Square W C 1

Lady requires post as Receptionist SECRETARY Experienced typist and bookkeeper Can drive car Previous experience in business and with Doctor Aged 25 —Address No 6968 B M A House Tavistock Square W C 1

Physician required to travel with HYPERPIESIC PATIENT to South Africa from October 24th for about six months Suit one reading for higher qualifications Remuneration reasonable —Address No 6883 B M A House Tavistock Square W C 1

Part-time Work wanted in London area by experienced young Graduate — Address No 6862 B M A House Tavistock Square W C 1

Qualified Chemist (B Sc Lond) requires POST for either routine or research work Holder of certificate in Bacteriology and qualified in Biochemistry as subsidiary subject to Honours Chemistry Knowledge of French and German Four years previous experience mainly in Biochemistry and Cancer Research References available on application A Biochemical post would be preferred —No 6 B M A House Tavistock Sq W C 1

Qualified Radiographer (M S R) seeks POST in private practice Two years experience in a London Hospital Excellent testimonial Would prefer photographic or theatre work —Address Mr CHL HOLT Lynthorpe New Road Breaburn Herts

Reg Nurse, C M B cert Masseuse experienced Housekeeper can drive light car excellent last position 2 years desires POST Nurse Housekeeper Companion (anywhere) or Daily Nursing Secretary to Lond. Dr— No. 6969 B M A House Tavistock Sq W C 1

The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work—Dispensers (capable of undertaking returns clerical work, etc. connected with Ministry of Health) Clerks Laboratory Assistants general hospital duties Porters Caretakers etc—Apply Secretary 85 Eccleston Square S W 1.

To Medical Men —Advertiser having successfully managed Doctors house for ten years desires RE-APPOINTMENT Highest testimonial —Address No 6958 B M A House Tavistock Square W C 1

Typewriting —Expert undertakes Theses Testimonials etc. Numerous letters of appreciation from Doctors —BEATRICE PADFORD 341 Finchley Road N W 3 Phone Hampstead 6430 (any hour)

PRACTICES

Wanted by Medical Man, with ample capital and experience in Hospital and private practice a mixed general PRACTICE with small panel in the West or South W of England Cottage Hospital with scope for surgery In ome £1 500—£1 800 Recent Bath Vacancy would be considered—Apply THE MEDICAL AGENCY Watergate House York Buildings Adelphi London W C 2.

Wanted, by M B, M R C S, act 27 married PRACTICE or PARTNERSHIP in small market town with Surgical scope ex H S Surgical Registrar R S O 3½ years surgical experience Income £1 000—£1,500 House with garden to rent. — Address No 6861 B M A House Tavistock Square W C 1.

Wanted —South of England — PRACTICE with panel On or near Coast House to rent Income about £1 000 Capital available Particulars in strict confidence. No agent —Address No 6858 B M A House Tavistock Square W C 1

Wanted — South Coast —Good Town PRACTICE, with panel Surgery preferred but not essential Good house Ample capital available. No agent. Confidential.—Address No 6860 B M A House Tavistock Square W C 1

Wanted — Practice in country district or small country town S of England Income £1 000 up Sand or gravel soil Really good house and land Hunting —Address No 6 4 B M A House Tavistock Square W C 1

Wanted — Practice or Partnership by M B Ch.B.(Glas) Scot aged 34 4 yrs exper G P Energetic. Excellent testimonial House with garden preferred to rent. Capital available Income not to exceed £2 000 —No 6465 B M A House Tavistock Sq W C 1

Wanted —Practice with panel North of Ireland In or near Belfast preferred but not essential Good house and garden. Cash available. Replies in confidence. —Address No 6859 B M A House Tavistock Square W C 1

Wanted —Practice with panel House to rent Midlands for choice not essential £3 0 down rest by arrangement Full details in confidence —Address No 6756 B M A House Tavistock Square W C 1

Wanted —Practice or Partnership Succession in London Income about £2 000 or over including substantial panel Ample capital available —Address No 6970 B M A House Tavistock Square W C 1.

Bucks —Nice residential Town — Mixed-class PRACTICE. Receipts last year about £420 including 350 panel. Has done much more. Beautiful house and grounds on lease. Suit anyone wanting an easily worked Practice with scope Premium £700—Apply LEACOCK & HADLEY Ltd. 19 Craven Street, Strand W C 2.

Cheshire — Pleasant district Nice house large garden garage Receipts £700 Panel 630 Excellent scope. Appts £60 House and Practice £2,200 or near offer part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown St.

Death Vacancy, near Chester — Country PRACTICE Average cash receipts £500 p.a. Panel 420 Scope Modern house 2 reception 3 bedroom Garage and garden Rent £75 p.a. Premium best offer — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

For Disposal — Small Practice established 4 years ago in a very charming E. Sussex Village 55 miles from town. Panel 130 increasing Freehold commodious house in a d highhold gard n Electric light central heating perfect water supply gravity fed to cisterns. Would suit a man of means requiring an easy time An exceptional man would have considerable possibilities. Opposition (nearest 3 miles) no strong In first year time —Address No 6323 B.M.A. House Tavistock Square W.C.1.

For Disposal—A good Practice is not always to be had directly, but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised. Inform free on applic.—4 Adam St. W.C.2.

For Immediate Sale — Near Ilford.—Old established PRACTICE, worked half time, averaging £880 p.a. past 4 years. Excellent corner house, with garage to rent. Premium 1½ years purchase. — Address No. 6881, B.M.A. House, Tavistock Square, W.C.1.

For Sale—Old-established PRACTICE in rapidly growing South Western Moorland. Health Resort near large city. Receipts £931 yearly. Premium £1,500. Hunting, shooting, fishing, golf. Freehold ten roomed house in 1 acre grounds. Garage for three cars. Gardener's cottage. £3,000.—Address, No. 6951, B.M.A. House, Tavistock Sq., W.C.1.

For Sale, unopposed country PRACTICE in beautiful part of Yorkshire. Cash receipts average £967. Panel 440. Good house, 3 reception, 5 bedrooms, garage, stable etc., good garden, to rent. Modern Cottage Hospital. Price 1½ years purchase.—Address No. 6953, B.M.A. House, Tavistock Square, W.C.1.

For Sale.—Private Practice in Edinburgh (Death Vacancy). No panel and very little night work.—For further particulars apply to ALEX. MORISON & Co., W.S., 33 Queen Street, Edinburgh.

For Sale—Old-established PRACTICE in Ulster market town. Panel and private. Freehold house with garage.—Address, No. 6852, B.M.A. House, Tavistock Sq., W.C.1.

Isle of Man—Seaside Town.—Old estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house, 3 reception, 4 bedrooms. Garden. Good schools. Premium—Practice and house—£2,000 part by arrangement.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Liverpool (near) — Residential Coast Town — Middle and upper class PRACTICE. Average cash receipts £1,249 p.a. Scope. Excellent house, 2 reception, 6 bedrooms. Garage and garden. Premium 1½ yrs. purchase. Vendor retiring.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

London, N.16—Cash and Panel PRACTICE for Sale. Receipts £700. Panel 735. Premium £900. Small freehold house for sale.—Address No. 6872, B.M.A. House, Tavistock Square, W.C.1.

London, S.E.—Residential part.—Old-established non-panel PRACTICE. Held 36 years by Vendor now retiring. Receipts average £1,000 p.a. Good-sized house, rent £110. Scope for panel if required. Premium moderate.—Apply PEACOCK & HADLEY, Ltd., 19 Craven Street, Strand, W.C.2.

Manchester—Industrial Practice. Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years purchase. — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Manchester — Nice residential Suburb.—PRACTICE capable of increase. Average cash receipts £906. Panel 650. Excellent house in main road, 2 reception, 5 bedrooms. Garage and garden. Price—Practice and house—£2,250.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Manchester — Old-established.—Nice house, gardens, £50. Receipts (including panel £135) over £600. Great scope. Price £1,000 or near offer (to include fittings, drugs, linoleum, coverings and good debts £600) part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC., 6, Brown St.

Near Leeds — Industrial Town PRACTICE. Average cash receipts £1,280. Panel 1,350. Hospital appointments £80. Good house, 2 reception, 3 bedrooms. Price £1,100. Premium—Practice—1½ yrs. purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

North of England—Practice or PARTNERSHIP wanted. Panel and private. Minimum income £1,700 p.a. Should be 40% from panel. Town or country.—Address No. 6884, M.A. House, Tavistock Square, W.C.1.

Near Manchester — Well-established PRACTICE. Receipts last year £570, panel 280. Good house, garden, etc., rent £50 p.a. Premium £750. District growing rapidly. Part of purchase price can be paid by arrangement. — Apply PEACOCK & HADLEY, Ltd., 19 Craven Street, Strand, W.C.2.

North Wales. — £75 deposit secures PRACTICE worth £750 p.a. including panel £300. Balance over 5 years. House to rent. Scope. Desiderata, age under 45, first class health and references.—Address, No. 6961, B.M.A. House, Tavistock Sq., W.C.1.

North-West Coast — Old-established mixed PRACTICE. Cash receipts 1929 £1,129. Panel 580. Good scope. Easily worked. Good house, 3 reception, 5 bedrooms. Garage and garden. Premium—Practice—1 years purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Very old-estab. easily worked PRACTICE for Sale in West Midlands. Cash receipts £1,250 p.a. (£750 from panel). Good house, elec. light, all modern conveniences, garage, garden. Beautiful neighbourhood. Easy terms to suitable man. Premium £1,850.—No. 6971, B.M.A. House, Tavistock Sq., W.C.1.

North-West Coast — Good middle-class PRACTICE. Average cash receipts £1,700. Excellent modern house for sale. Garage and garden.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

Notts—Old-established Practice in growing Country Town. Income £1,100, panel 1,150; various appointments including election to Hon. Staff of Hospital (100 beds) as Physician, Surgeon, or Bacteriologist. Mids. average 12 yearly. little night work. Vendor, aged 55, taking up appointment. Golf, hunting, etc. House to rent £40. Premium £2,000. — Address, No. 6856, B.M.A. House, Tavistock Square, W.C.1.

Old Kent Road. — Required, PRACTICE within 10 minutes walk of East Street.—Address No. 6812, B.M.A. House, Tavistock Square, W.C.1.

Practice, old-established, cash receipts average over £1,000 p.a. Panel and appointments over £400 p.a. Agricultural, country, near two Hosp. towns. Modern house, conveniences and electric light. Premium and part deferred by arrangement. — Address, No. 5815, B.M.A. House, Tavistock Square, W.C.1.

Practice or Partnership, with early succession, about £1,000, wanted immediately by Doctor (married with family). Good house essential. Seaside district. South of England preferred.—Apply, BOX M822, LEE & NIGHTINGALE, Liverpool.

Required—A good Family and Panel PRACTICE in Scarborough, Whitby, or Bridlington. Please state particulars and when vacant.—Address No. 6853, B.M.A. House, Tavistock Square, W.C.1.

Scotland, North-East—Country PRACTICE, 12 miles from University Town. Receipts £950 p.a., scope. Panel 650. Suitable house for sale. Fishing and golf near.—Address in confidence, No. 6869, B.M.A. House, Tavistock Square, W.C.1.

Shropshire — Pretty Country PRACTICE. Cash receipts £1,100 p.a. Panel 600. Scope for surgery. Good house, 2 reception, 4 bedrooms. Garage and tennis court. Premium—Practice and house—£2,500.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester.

To Purchasers — Do not buy without expert assistance. With 40 yrs.' experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4, Adam St., Strand, W.C.2. Telephone, Temple Bar 9011. Telegrams, Epsomian, London.

Yorkshire (N.R.) — Unopposed Country PRACTICE in pretty district. Average cash receipts £750 p.a. Panel 450. Excellent modern house, 12 rooms. Garage and large garden with tennis court. Rent, [illegible] premium 1½ years purchase.—BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester. [illegible] House, Tavistock Sq., W.C.1.

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Wanted by Surgeon, Harley Street (North end) CONSULTING ROOM, part time, ground floor, door plate and attendance.—Address, No. 6959, B.M.A. House, Tavistock Square, W.C.1.

Bournemouth.—Doctor's FREEHOLD RESIDENCE for sale with surgery, consulting room and garage. Excellent opportunity for Doctor or Dentist.—Apply LACEY & SON, Solicitors, 17 Avenue Road, Bournemouth.

Consulting Rooms to be Let—Harley Street and district.—Whole and part time. Lists sent on application.—ELWOOD & Co., 10 Henrietta Street, Cavendish Square, W.1. Langham 2601.

Corner Residence, adjoining large residential estate. Five bedrooms, two reception. Garage for two cars.—Apply HILL & CLARK, Solicitors, 6 Chery Street, Birmingham.

For Sale — Within 50 miles of London (Beds), commodious HOUSE, standing in 33 acres; chiefly parkland, containing 20 beds, 5 recep., 4 bathrooms, usual offices, central heating, own electric light, garages, good out-buildings, prolific kitchen garden, orchards, well laid out pleasure grounds. Easily adaptable and most suitable for NURSING HOME.

Price £7,750 or *near offer*.

Apply MRS. ANDERSON, c/o ROSE, JOHNSON, HICKS, 9, *Suffolk Street, Pall Mall*.

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Harewood Chambers, 74 to 80, Gower Street, W.C., near Marylebone, Euston St. Pancras and King's Cross. Quiet comfortable rooms, h. and c. Bedroom, bath, table d'hote breakfast 7/6, dinner 4/. From 2 gns. p.w.—Phone Museum 3941—2.

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Harley Street — Lease of very desirable HOUSE for disposal.—Address, No. 6851, B.M.A. House, Tavistock Sq., W.C.1.

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Welbeck Street, W.1—Bedrooms to Let or BEDROOM and SITTING ROOM. Part time use of consulting room if desired. Doctor's house, newly decorated.—Address No. 6954, B.M.A. House, Tavistock Square, W.C.1.

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APPOINTMENTS—Contd.

Royal Hampshire County HOSPITAL, WINCHESTER.

Applications are invited for the post of HONORARY CLINICAL ASSISTANT in the Ophthalmic Out-Patient Department Days of attendance Wednesdays and Fridays Applicants must have done at least three months' post graduate work in an Ophthalmic Hospital or in the Ophthalmic Department of a General Hospital

Further particulars apply to the undersigned

HERBERT MASLEN Secretary

West Norfolk and King's Lynn CENTRAL HOSPITAL.

The Board of Management invite applications for the post of SENIOR HOUSE SURGEON (male or female) Duty to commence as soon as possible Salary £200 per annum Residential quarters etc.

The post is one of considerable surgical responsibility Candidates should have previous experience Appointment is for six months in first instance

Applications stating experience and full particulars to be addressed to—

JOSEPH E. SEARJEANT
House Governor & Secretary

Taunton and Somerset Hospital TAUNTON (104 Beds)

SENIOR HOUSE SURGEON required Applicants must have held a Hospital Resident appointment for at least six months

Salary at the rate of £150 p.a. with board residence and laundry

Three Residents altogether

Applications with testimonials to—

F. J. J. STACEY Secretary

East Suffolk & Ipswich Hospital, IPSWICH
(265 Beds—7 Residents)

Applications are invited for the post of CASUALTY OFFICER. Salary £150 per annum Board residence and laundry Previous experience essential

Applications from British (male) candidates stating age qualifications and experience and accompanied by three recent testimonials to be sent to the undersigned

The Hospital ARTHUR GRIFFITHS
Ipswich. Secretary
August 18th 1930

The Lady Chichester Hospital FOR EARLY NERVOUS BREAKDOWNS (50 Beds.)

Medical Woman required as HOUSE PHYSICIAN for six months Salary at the rate of £100 per annum with board lodging and laundry To enter on her duties the end of December

Also JUNIOR HOUSE PHYSICIAN required with board lodging and laundry Honorarium at the rate of £50 per annum. To enter on her duties on November 11th.

Applications must be made in writing and be accompanied with testimonials and sent to the Secretary A. F. GRAVES 117 North Street Brighton not later than October 13th

September 23rd 1930

Worthing Hospital

Applications are invited for the post of HOUSE SURGEON either sex, now vacant The appointment is for six month renewable Salary at the rate of £150 per annum with board, lodging and laundry Applications stating age qualifications and experience with copies of testimonials should be sent to the Secretary at once.

The Princess Louise Kensington HOSPITAL FOR CHILDREN
St Quintin Avenue, North Kensington W.10
(50 Beds.)

HOUSE PHYSICIAN (woman) required for eight months from November 1st Salary for the first 2 months at the rate of £75 a year after which should she be appointed Senior Resident (of two) the salary would be at the rate of £100 a year Board residence and laundry in each case Applications with copies of three testimonials must be submitted on a form to be obtained from the Secretary Princess Louise Kensington Hospital for Children Applications must reach the Secretary not later than Wednesday October 22nd.

Hospital of St Cross, Rugby (114 Beds)

Applications are invited for the post of SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS (Male)

Candidates must be registered Medical Practitioners and must have passed the Conjoint Examination in November 1930 Salary for the Senior post at the rate of £150 per year Junior at the rate of £100 per year with board and residence in the Hospital

Candidates are requested to state whether they are prepared to accept the post of Junior if not selected for the Senior office

The appointments are for a period of six months only at the end of that time the Junior will be eligible to apply for the Senior post which then becomes vacant

The Hospital is recognized by the University of London for the purpose of the M.D. and M.S.

Applications stating age and qualifications with copies of three recent testimonials should be sent to me before October 9th.

V. COCKBURN
Superintendent & Secretary

Hospital for Consumption and DISEASES OF THE CHEST
Brompton S.W.3

The Committee of Management invite applications for the post of HOUSE PHYSICIAN (for which there are three vacancies) The duties *include* work in the Out-patient Department as well as in the Wards and one of the selected candidates will also be appointed Assistant to the Tuberculosis Officer for the local Tuberculosis Dispensary at the Hospital Applications with copies of testimonials must reach the undersigned not later than Saturday October 11th

The appointment is for six months commencing on November 1st with an honorarium of £50

By order. FREDERICK WOOD
September 1930 Secretary

Hospital for Consumption and DISEASES OF THE CHEST
Brompton S.W.3

The Committee of Management invite applications from duly qualified Medical Men for the post of JUNIOR HOUSE PHYSICIAN at the SANATORIUM at Frimley The appointment is for six months dating from November 1st. In the event of a vacancy the Junior House Physician at the expiration of his term of office will be expected to apply for and if appointed to hold the post of Senior House Physician

The honorarium is at the rate of £100 per annum with full board and lodging Applications with copies of testimonials must reach the undersigned not later than Wednesday October 15th.

Brompton FREDERICK WOOD
September 1930 Secretary

Newcastle General Hospital, NEWCASTLE UPON TYNE.

A SENIOR HOUSE PHYSICIAN (male or female) required. Salary £300 rising by £50 per annum to £500 per annum with board and residence. Applications with copies of three recent testimonials to be addressed to the Medical Officer of Health, Town Hall Newcastle-upon-Tyne.

St John's Hospital, Lewisham

Vacancies will occur in the appointments of HOUSE PHYSICIAN HOUSE SURGEON and CASUALTY OFFICER on November 1st next. These appointments are resident and are tenable for six months at a salary of £100 p.a.

Applications from duly registered Practitioners should reach the undersigned not later than the morning of October 18th. The Selection Committee will sit on October 21st.

J. C. GILBERT
Secretary Superintendent.

The Royal Liverpool Children's HOSPITAL.

The Committee invite applications from Graduates with previous Hospital experience, for the post of SECOND RESIDENT MEDICAL OFFICER at the Heswall Branch of the Institution. Salary at the rate of £120 per annum. The appointment will be for a period of six months

Applications, with copies of recent testimonials to be sent to the Secretary Royal Liverpool Children's Hospital Myrtle Street, Liverpool.

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WEST RIDING PRACTICE —Average receipts for the past three years £1 250 Panel 1 100 Rent of house £56 p a Premium 1 years purchase —Apply 2510

OLD ESTABLISHED PRACTICE for sale in West Riding Town —Average receipts for the last three years over £1 000 Panel 400 Purchase price of freehold £1 060 Premium £1 500 —Apply 2527

PARTNERSHIP WEST RIDING.—Quarter share for sale In mixed class Practice Average receipts for past three years £4 000 Large panel House to rent £52 p a Premium for quick sale only £1,200 —Apply 2534

OLD ESTABLISHED NOTTINGHAMSHIRE Town PRACTICE —Small panel Average receipts £2 687 Good house may be rented Premium £3 500 cash —Apply 2536

PARTNERSHIP in West Riding Town — One half share Average receipts for past three years £4 045 Panel 3 500 Purchase price of freehold £3 000 Premium 1½ years purchase —Apply 2550

THIRD PARTNER required in West Riding City Equal shares Receipts over £5 000 p a Large panel Particulars and premium on application —No 2558

Lancashire County Council

APPOINTMENT OF TEMPORARY ASSISTANT TUBERCULOSIS MEDICAL OFFICER FOR HIGH CARLEY SANATORIUM, near ULVERSTON

The Lancashire County Council invite applications for the temporary post of male Assistant Tuberculosis Medical Officer (unmarried) for the High Carley Sanatorium (112 beds) Salary £450 together with the following emoluments board furnished apartments, fuel light and laundry

The appointment will be for a period of approximately twelve months

Applicants must be registered Medical Practitioners and the person appointed must devote the whole of his time to the duties as defined by the Council Candidates must have held House appointments for at least six months in a General Hospital and should have had special experience in the diagnosis and treatment of tuberculosis

The possession of a diploma in Public Health and practical experience in X ray work will be deemed additional qualifications for the post

Forms of application from the undersigned Closing date October 13th All letters must be marked on the outside Assistant Tuberculosis M O

GEORGE ETHERTON
County Offices Clerk of the County
Preston Council

Royal Salop Infirmary, SHREWSBURY (150 Beds)

APPOINTMENT OF RESIDENT HOUSE PHYSICIAN

Applications are invited from fully qualified men for the appointment of Resident House Physician Salary £160 per annum with board residence etc The appointment is for six months in the first instance subject to reappointment for a further period of six months The resident staff comprises Resident Surgical Officer House Physician and House Surgeon

Applications stating age qualifications experience nationality and accompanied by copies of three recent testimonials to be sent to the undersigned forthwith

T W NOBLE,
Sept 25th 1930 Secretary pro tem

County Borough of Derby

Applications are invited for the post of ASSISTANT SCHOOL MEDICAL OFFICER (male or female) Salary according to the agreed scale

Form of application may be obtained from the Secretary Education Committee Becket Street Derby

The Hartlepools Hospital (100 Beds)

HOUSE SURGEON (male) required at once Must be duly qualified Salary £150 with board residence and laundry

Applications (accompanied by copies of not more than three recent testimonials) should be sent to the undersigned not later than October 20th

J NEVILLE HART Secretary

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St Marys Hospitals, MANCHESTER

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R RATCLIFFE Secretary

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Ulster — Seaside Town, about £750, great scope Panel 500, increasing Fees 2/6 to 7/6 and up House 5 bed, etc —No 8758

Kent — Share worth £800 p a, after preliminary assn Mixed Practice Panel 1 400 Appts £250 p a Fees 3/6 to 21/ Good house to rent —No 8737

S. Wales — Average £3,360 1/2 share for sale Panel 3,000 Visits 5/6 Good but small house Premium only £1 500 —No 8736

London — West End —Nearly £2,000 p a Small select panel Fees from 7/- up Mids fees from 25 gns House, 6 bed etc.—No 8735

S. Cornwall.—Death Vacancy — About £900 Small panel Fees 3/6 to 10/6 Good house, 4 bedrooms and 1/2 acre —No 8734

London, S W — £630 p a increasing Panel 400. Visits 3/6 Midwifery 3 gns up Small house on main road —No 8730

Riverside Suburb —£1,450 p a Panel 860 Fees 3/6 up Mids 5 gns up House 4 beds etc, and fair garden Good schools —No 8729

Devon —Dispensing Practice in large village averaging £940 p a. Fees 5/- to 2 gns. Surgery 2/6 to 7/6 Large house with an acre and cottage for £3,000, of which £2,500 could remain, or for sale without house —No 8727

S. W County near Coast —Dispensing PRACTICE over £2 000 p a, chiefly agricultural Visits 5/ up Surgery 2/6 up 1,100 panel —No 8728

N E Wales, near Border — Three-tenths share, producing over £700 p a Fees £5/ up Panel 2,600 Large house and garden at £78 p a £1,300 or £1 000 and £350 spread —No 8725

West of England Town —Half of £1,700 p a Panel over 2100 Fees 5/6 to 5/- House 6 bed etc Partnership property easy payments —No 8723

North Kent — Unoppd — Over £1 000 p a Panel £250 Appts. £200 Fees 5/6 to 12/6 Choice of houses to buy or rent —No 8719

Kent Country, near Coast —Over £1 100 p a. Panel £290 Appt. £55 Fees 5/ to 21/ Very conv house, 3 recep, 6 bed etc —No 8718

Surrey — Country Town —£460 and great scope Appts. over £100 p a. Panel 85 Fees 5/ to 21/ House 4 bed, 3 recep on lease —No 8715

Kent Suburb — Residential — Share worth over £500, exceptional scope Fees 5/ to 21/ Young single man preferred Choice of houses.—No 8712

South Coast — About £1,300 PARTNERSHIP with succession Small panel Fees 5/6 mostly and up to 10/6 7-roomed house to rent or buy —No 8706

Lincs — Unopposed — Nearly £1 000 p a Old-established Panel 540 Appts and clubs about £165 Fees 5/6 to 5/ Med extra. Good detached house and garden to rent —No 8705

North Wales —Old-established —About £900 p a Panel £292 Agricl Cottage Hosp Scope surgery Good house Garage and garden —No 8692

Eastern County — Woman Doctor's industrial dispensing PRACTICE average over £500 p a Fees 3/6 to 7/6 House 4 bed etc., at £78 p a., long introduction —No 8691

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WEST OF ENGLAND.—Old established non panel G.P. Suitable house to rent or for sale. Receipts over £2,000 p.a. Hospital. Suit either Surgeon or Physician. Premium 1½ years purchase £2,000 down.

LONDON E.13. — NUCLEUS working-class PRACTICE (mostly cash) situated in thickly populated locality. House to rent at £60 p.a. (Part suitable at £25 p.a.) Receipts £500. Panel 400. Fees 1/6 up. Mid. 2 to 3 gns. Premium £550 cash.

LONDON N.—Working-class PRACTICE in thickly populated locality. Receipts nearly £1,400. Panel over 2,000. Very little if any midwifery. Well located house to rent at £80 p.a. on lease. Premium £2,800 cash or near offer.

SOMERSET N.—Seaside Resort.—Well established NUCLEUS PRACTICE. House to rent or for sale (5 bedroom) large garden and garage. Receipts £500. Panel 800 (increasing). Premium £750 or near offer.

SURREY.—Within easy distance of London. Middle class PRACTICE. Excellent house for sale or rental. Receipts £670. Panel over 200. Premium £900.

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BERKS.—Town PRACTICE within 60 miles of London. Middle and working class. Receipts nearly £900. Panel 550. Fees 2/6 up. No midwifery (except). Suitable house available. Prem. 1½ years purchase.

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MIDDLESEX (W.).—Middle and working-class PRACTICE in rapidly growing district. Splendid scope. Medium-sized house. Receipts £770. Panel 300. Fees 3/6 up. Hospital. Premium £1,100.

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MIDDLESEX (WEST).—RIVERSIDE SUBURB.—Well established G.P. Suitable house available. Branch Surgery. Receipts average £1,450. Panel 850. Fees 3/6 up. Premium £2,250. Excellent practice.

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LONDON (WEST).—Near Hammersmith.—NUCLEUS G.P. with suitable living accommodation for bachelor. Receipts approximately £436 p.a. Panel 270. Premium £500.

MIDDLESEX.—PARTNERSHIP in well-established Practice. Receipts £1,500 p.a. Panel 900, approved medical aid. Some £600 p.a. Small house available. Premium for one third share £700. Suitable to Scot or North Country Practitioner.

WEST OF ENGLAND.—PARTNERSHIP in well-established City Practice. Receipts £1,712. Panel 2,146. Corner house on main thoroughfare, garden, garage. Premium for 1/2 share £1,595.

EAST MIDLANDS (Near Sea).—SURGICAL PARTNERSHIP in busy growing mixed Practice. Receipts nearly £2,000. Panel 850. Suitable house available. Hospital. Good schools. Premium for 1/3 share with view to larger share £1,500.

LONDON S.W.—Well-established G.P. with branch surgery situated within short distance of West End. Receipts approx. £1,500. Panel 1,200. House to rent on lease. Premium £3,000 for Practice and lease or offer.

LONDON N.—NUCLEUS G.P. situated in residential locality. Excellent scope. Receipts £500. Panel over 100. House for sale or rental. Premium £700.

LONDON S.E.—PARTNERSHIP in growing middle and working-class G.P. Suitable house available for rent. Earnings approximately £4,600. Panel 3,400. One third share is offered at 2 years' purchase.

KENT.—PARTNERSHIP (or whole might be sold).—Old-established Country G.P. Receipts over £2,200. Panel 1,200. Suitable for experienced man aged 35—45. Half share at 2 years' purchase.

YORKS.—PARTNERSHIP in middle and working-class Town Practice. Receipts approx. £3,000 p.a. Panel over 2,000. House to rent. Premium for 1/4 share 2 years purchase.

LANCS.—Good-class non panel G.P. situated in residential district. Receipts over £1,500 (average £1,700). Suitable house available to rent or for sale. Scope for surgery especially Eyes and Ear and Throat work. Suitable for a F.R.C.S. Premium £1,200 cash.

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5. PRACTICE of £960 a year in a pretty country town within easy run of fashionable S. Coast resort. Cost. Hosp. Excellent residence with acre of garden, garage, etc., rent on lease £110. Price 1½ years' purch.
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8. IN A CHARMING Country Town within 50 miles, old-established PRACTICE, returning last year £800 incl. panel of 500. Held over 30 years. Good society. Suitable residence available. Scope for young man of ability.
9. MANCHESTER.—Mixed PRACTICE of £1,100 a year for prompt sale. Panel 1,020. Convenient spacious premises and garage on lease. To effect quick sale, premium only £1,250.

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British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)

(Founded 1880)

12, Stratford Place,

Oxford Street, W.1.

Tele Address Triform, Wesdo—London. Telephone: Mayfair 1782 1783

The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr. A. V. STOREY, the General Manager, in all transactions requiring the services of a Medical Agent.

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The business undertaken by the British Medical Bureau is divided under the following heads —

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau. Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers. All information is treated in strictest confidence. Full and trustworthy information regarding Practices, Partnerships, etc., for disposal, supplied gratis to Purchasers.

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Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau. A large number of Patients are placed yearly through this medium.

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The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i.e., Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc.

Practices and Partnerships for Disposal. **Full particulars sent free.**

1 DEATH VACANCY — CORNWALL — Compact Country PRACTICE. Receipts last year £900. Panel 250. House (4 bedrooms) with 1/2 acre garden for sale or rent.

2 SURREY —Partnership in Practice about £3,500 p.a. in desirable residential town. Small select panel. House (6 bedrooms) to rent. Premium—one third share—2 years purchase.

3 NORTH OF ENGLAND — Middle and working class PRACTICE of nearly £2,000 p.a. in Cathedral City. Panel about 1,950. House (4 bedrooms) garage and garden for sale. Scope for increase. Premium 1½ years purchase.

4 KENT — Partnership (after preliminary Assistantship) in Country Practice in beautiful district. Panel 1,400. House (5 bedrooms) garage and acre ground to rent. Share of £800 p.a. at 2 years purchase.

5 LINCOLNSHIRE — Country Practice of over £200 p.a. within 10 miles of the Coast. Panel 104. Weak opposition. House (5 bedrooms). Garage and 1/4 acre garden. Good scope. Premium—Practice and house—£950.

6 ESSEX —Assistantship (with view to Partnership and Succession) in Country Practice of £1,500 p.a. Panel 1,200.

7 EAST COAST —Practice averaging £2,670 p.a. in popular watering place. Panel about 600. House in excellent position for sale. Great scope. Premium 1½ yrs. purchase.

8 LONDON, E. — Cash Practice £2,050 p.a. Panel 1,860. House (4 bedrooms, professional rooms, etc.) Rent £100 p.a. Premium 1½ years purchase.

9 N. YORKSHIRE — Partnership in old-established Practice under 3 miles from the Coast. Population about 15,000. Receipts £2,800 p.a. House (3 reception rooms, surgery, waiting room, 4/5 bedrooms, etc.). Electric light. Garage. Tennis lawn, paddock and orchard. Rent £64 p.a. Premium one half share £2,000 part by instalments.

10 LONDON, W. — Old-established Practice over £850 p.a. in outlying residential suburb. Visits mainly 5s., 7s. 6d. and 10s. 6d. Practically no midwifery. Nice compact house (2 reception rooms, consulting and waiting room, 4 bedrooms, etc.). Rent £85 p.a. Premium £1,100.

11 W. MIDLANDS — Practice over £1,500 p.a. Market Town. Attractive agricultural district. Panel 500. Good house (7 bedrooms, etc.). Electric light and gas. Scope for increase. Premium £2,100.

12 LONDON, N. —Partnership in Practice of £2,300 p.a. Growing residential district. Panel 1,100. Scope for increase. Hospital. Premium one third share 2 years' purchase.

13 HOME COUNTIES — Assistantship, view to Partnership. Receipts last year £4,100. Hospital (60 beds). Applicants must have some surgical experience. One-third share at first.

14 DEATH VACANCY. — N. LONDON — PRACTICE £670 p.a. Good suburban district. Panel 530. House (4 bedrooms, etc.). Rent £60.

15 S. DEVON —Partnership in non-dispensing Practice about £2,400 p.a. in favourite watering-place. Panel 950. Good hospital. One third share at 2 years purchase. Preliminary Assistantship.

16 FAVOURITE INLAND HEALTH RESORT.—Non-dispensing PRACTICE of over £1,550 p.a. Panel 700. Nice house (7 bedrooms), garage and garden, for sale. Scope. Premium 2 years purchase.

17 WEST MIDLANDS —Practice of £2,400 p.a. in small residential country town. Panel about 1,000. Excellent non basement house (6 bedrooms) in about 3 acres of grounds for sale. Very good sport. Premium 1½ years purchase.

18 MIDDLESEX —Practice averaging £1,450 p.a. in pleasant up river suburb. Panel 860. House with 4 bedrooms in residential area for sale. Premium £2,250.

19 LONDON, N —Increasing Practice of over £500 in pleasant residential district. Panel over 300. Well situated house (4 bedrooms) for sale or rent. Ample scope. Premium 1½ years' purchase.

20 S.W. OF ENGLAND. — Practice over £2,000 p.a. in small country town near coast. Panel 1,086. House (5 bedrooms), with electric light, for sale. Premium 1½ years purchase.

21 S. WALES —Non-dispensing Practice of £760 p.a. in one of the Principal Towns. Panel 620. Corner house in residential part for sale. Good scope. Premium £750.

22 S. WALES —Mixed Private and Industrial PRACTICE of £1,300 p.a. in town of 12,000. Panel 1,300. Well-built house (6 bedrooms) in own grounds, good garden and garage, to rent. Premium £1,700.

23 SOUTH-WEST OF ENGLAND —Practice averaging £1,565 p.a. in seaport town. Panel over 2,000. House with 5 or more bedrooms for sale. Premium £2,500.

British Medical Bureau

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Practices and Partnerships for Disposal (continued)

24 SOUTH OF ENGLAND —Practice of £960 p.a. in Market Town under 100 miles from London. Panel 28. House (5/6 bedrooms) garage and good garden for sale or rent. Cottage Hospital. Premium 1½ years purchase.

25 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town. Panel 1 100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment to one holding F.R.C.S. One-half share at 2 years purchase with ultimate succession.

26 ITALY — Season Practice (March to October) in famous City. Receipts from £200/£700 p.a. according to Season. Up-to-date Hospital. Premium £250.

27 MIDLANDS — Practice over £800 p.a. in first rate Town. Panel 500. Suitable house to rent. Premium 1½ years purchase.

28 S. DEVON — Practice averaging nearly £1 850 p.a. in beautifully situated Market Town, easy distance of coast. Panel 480. House (5 bedrooms) garage and garden, electric light, to rent. Premium £2 800.

29 YORKSHIRE (N.R.) —Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms) garage, garden, etc. for sale or rent. Very good trout fishing. Premium £1 250.

30 SOUTH COAST — Practice averaging £1,370 p.a. in residential town and watering place. Panel 500. Large house on sea front. Also Surgery returning £565 p.a. Premium 1½ years purchase. Great scope.

31 MIDDLESEX —*Rapidly increasing* PRACTICE in new developing district about 12 miles from London. Earnings past year £767. Panel 200. Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Premium 1½ years' purchase.

32 SOUTH AFRICA —Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre. Purchaser should be able to do Surgery. Prem. £2 200 part by instalments.

33 SOUTH-WEST OF ENGLAND —PARTNERSHIP in increasing middle-class Practice of about £2,500 in seaport town. Panel 870. One-fourth or one-third share at 2 years purchase. Preliminary Assistantship.

34 SURREY — Partnership in good mixed-class Practice about £3 000 p.a. in Town within 10 miles South of London. Small panel. Suitable hous obtainable. Excellent scope. Premium one-third share 2 years purchase.

35 LONDON, S.E. —Practice about £3,000 p.a., carried on by two Medical Men in outlying suburban district. Panel 1,350. Two houses available. Premium 1½ years purchase. Or one-half share would be sold with early succession.

36 DEVONSHIRE —Partnership in Practice of £3 400 p.a. in first rate country town. Panel 2 000. Charming old house with good garden to rent. Well-equipped Hospital with chance of appointment on staff to one keen on medicine. Premium one-third share 2 years purchase.

37 SOUTH-WEST OF ENGLAND —PARTNERSHIP in increasing non-dispensing Practice about £1 600 in first rate town. Small select panel. Share worth £800 p.a. at 2 years purchase. Partner holding F.R.C.S. will probably be elected to staff of Hospital.

38 ESSEX —Partnership in increasing Practice about £1 800 p.a. in rapidly developing neighbourhood. Panel about 500. Choice of two houses. One-half share at 1½ years purchase.

39 KENT and SUSSEX BORDER —Practice averaging £1 100 p.a. (including over £300 from panel) in beautiful country district. Very convenient hous (6 bedrooms) for sale. Sport. Premium 1½ years purchase.

40 S. DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage in acre of garden for sale. All kinds of sport. Premium £1 500.

41 KENT — Partnership in Practice about £4 400 p.a. in outlying suburban district. Panel 2 400. Good hous (4 bedrooms) to rent. Premium one-fourth share 2 yrs. pur.

42 WEST MIDLANDS — Partnership in Practice of about £2 850 p.a. in country town. Panel 1 700. Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre. Premium one half share 2 years purchase.

43 W. OF ENGLAND — Partnership in old-established Practice in pleasant Country Town. House to rent or purchase. Share worth about £1 000 p.a. at 2 years purchase.

44 LONDON, S.E. — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2 000. Hous (5 bedrooms etc.) Garden. To let. Premium one fifth share 2 years purchase.

45 YORKSHIRE (N.R.) — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450. Visits 3/6 to 10/6. Modern house, 12 rooms. Garage and good garden. Rent £42 p.a. Premium 1½ years purchase.

46 SOUTH AFRICA —Old-established PRACTICE of over £1 800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5 000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1 200 or offer.

47 LONDON, S.W. —Partnership in Practice about £2,500 p.a. in first rate suburb. Panel 1,250. Double-fronted house (7 bedrooms) garage and lovely garden, for sale. Share about £1 000 p.a. at 2 years purchase. Partner must be *well qualified preferably M.D. or F.R.C.S.*

48 SHROPSHIRE —Partnership in Practice about £2 200 p.a. in attractive residential country district. Panel 1 100. Very nice house garage, and large garden for sale. Sport. Premium one-half share 2 years purchase.

49 YORKSHIRE (W.R.) — Compact easily worked PRACTICE averaging £1 600 p.a. in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

50 LONDON, E. — Practice £990 p.a. in populous area. Panel 1 240. Shop-fronted premises to rent. Plenty of scope. Premium 1½ years purchase.

51 ISLE OF MAN —Non-dispensing Practice in small Seaside Town. Receipts average £940 (including £350 from panel). Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2,000.

52 MIDLANDS —Practice, over £1,700 p.a., in important City. Panel 1,500. Centrally situated house (7 bed and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2,250.

53 LONDON, S.E. —Partnership in Practice £5 600 p.a. in outlying Suburban District. Panel 2 000. Premium one-sixth share, 2 years' purchase.

54 MIDLANDS — Partnership in Practice over £4 100 p.a. in flourishing town. Panel nearly 3 000. House (3 bedrooms) to rent. One-fifth share, 2 years purchase. Preliminary assistantship. Applicant must be married or about to be.

55 MIDLANDS —Partnership in Practice in Market Town. Young unmarried man preferred. Share worth about £800 p.a. at 2 years purchase.

56 LONDON, S.W. —Practice about £630 in suburban district within half an hour Charing Cross. Panel about 400. House to rent on lease. Very good scope. Premium £900.

57 MIDDLESEX — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town and r 20 miles from London. Panel about 1,150. Semi-detached c ner resid ce (6 bedrooms) garage and garden, for sale. Premium one-half share 2 years purchase.

58 CHESHIRE —Partner required in increasing best-class *non panel Practice* in first rate residential district. Cash receipts past year over £4 500. A University Graduate who must have held resident Hospital appointments preferred. One-fourth share at 2 years' purchase.

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1 OXON —UNDER 35 MILES FROM LONDON —Old established practically unopposed Country PRACTICE, within 4 miles of the River Average income £1,180, including panel of over 1,000 Fees 2/ to 10/ Good house, with two reception, 4 bedrooms, bathroom etc Electric light One acre of garden Garage for 2 cars Price for freehold £1,600 £1,000 on mortgage Premium £1,750

2 PARTNERSHIP —HOME COUNTY —Within 40 miles —In very pleasant district (with large surrounding population) the third share (with increase later) of old estab mixed-class Practice offering large scope Present income £5,000 p a , with panel producing over £1 200 p a and appt worth £160 Visits 3/6 to 2 gns Good house at moderate rental Good society and sport Ingoing partner should be about 30 prof married, and English or Scotch

3 NORTH MIDLANDS —COUNTY TOWN —Old estab middle and working class PRACTICE averaging over £1,900 p a (last year £2 094), including panel of about 1 950 Fees from 3/6 Suitable small house with one reception 4 bedrooms etc , and professional rooms Electric light Small garden Garage Price for freehold £850, £500 on mortgage Sport of all kinds and excellent schools Premium 1½ years purchase part by instalments

4 SOUTH WEST OF ENGLAND —COUNTRY PRACTICE, within 10 miles of the Coast Good mixed class rapidly increasing Practice offering further scope and situated in very pleasant agricultural district Average gross cash receipts £1,841 (last year £2,500) Panel produces about £420 p a Fees 5/6 to 21/ Suitable house, with 2 reception 5 bedrooms etc Electric light Garden Garage Rent on lease £50 p a. Good sport and schools within reach Premium £2 500

5 MANCHESTER DISTRICT —Old established middle and working class PRACTICE, worth last year about £700 p a , including panel of 614 and capable of increase Expenses small Well situated house with six rooms In addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted

6 HOME COUNTIES —PARTNERSHIP —A third share, producing about £1,000 p a is offered in a well-established good mixed class Practice within 20 miles of London Suitable house can be bought Premium 2 years purchase

7 Near HARROGATE —Country PRACTICE —Well established and rapidly increasing chiefly middle and working-class Practice in delightful district producing for last 12 months nearly £1,450 Panel of 537 Fees 5/6 to 12/6 Mid 2 to 5 gns. (about 40 cases yearly) Suitable house with 2 recep 3 bedrooms etc and professional rooms Rent £30 p a Very good sport Prem £1 800 part by instals

8 LINCOLNSHIRE COAST —Well-established mixed class PRACTICE averaging £2 749 p a. (last year £2 868) including panel of over 1 700 Fees 5/6 to 21/ Mid from 2 gns (about 70 cases yearly) Newly built modern house, with special professional accommodation, central heating etc Garden Garage Price freehold £2 500 part on mortgage Good sport and schools within reach Premium 1½ years purchase [illegible] Medical Corp

9 DEATH VACANCY —SOUTH CORNWALL —Old-established and garden for PRACTICE situated in small but growing seaside village mented by good class visitors in the summer) in preliminary district worth between £800 and £900 p a ducing over £100 Nearest opponent 6 miles iful district Panel reception 4 bedrooms bathroom) with 1/2 acre ground to rent rented or purchased Efficient locum in charge

10 WEST MIDLANDS —Very old established mixed cla PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2,567 p a., with panel over 1 000 Opposition not strong Very fine house (5 reception, 6 bedrooms bathroom etc) standing in nearly 5 acres of ground Beautiful garden tennis lawn and productive orchard Price free hold £2 000 Premium 1½ years purchase

11 LONDON S E —Pleasant residential suburb —Very old established non panel (but scope for this) PRACTICE, held over 30 years by Vendor, who is retiring Receipts last year over £900 Patients mixed but mostly good class Large house (part could be let off for flat) Rent £98 p a Premium 1½ years purchase

12 PARTNERSHIP —WITHIN 100 MILES NORTH OF LONDON —A one sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better class Practice in a large town, at present worked by three partners who now require further assistance Gross cash receipts average about £8 000 p a Selected panel of 700—800 Fees 5/ to 21/ average 7/ Suitable small house, with sitting room 3 bedrooms etc Rent £90 p a Premium 2 years purchase

13 WEST OF ENGLAND —COUNTY TOWN —PARTNERSHIP —A share, representing about £800 p a with further increase later is offered in a very old established good middle class Practice rapidly increasing and with large scope Selected panel of 300 Fees 5/6 to 21/ About 30 cases of midwifery at from 5 to 10 gns Choice of houses Premium 2 years purchase Six months preliminary assistantship Purchaser should hold London degree or M R C S Eng

14 YORKS —HOSPITAL TOWN —Well established good middle and working class PRACTICE, with beautiful surrounding country Average income over £3 000 including an appointment worth nearly £1 300 and panel of 1 648 Fees from 2/6 Midwifery from 2 gns About 55 cases Good detached house, in excellent repair, with 2 reception 5 bedrooms, etc large garden Price for freehold £2 200 Good sport and schools Premium £4 500 Very good surgical scope

15 SOUTH WEST OF ENGLAND —PARTNERSHIP —In a large thriving seaport town the third share (with increase to half later) of old established rapidly increasing middle class Practice. Receipts average £2 272 p a (last year £2,549) including panel of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase Scope for surgery

16 MIDDLESEX —Rapidly developing district, within 20 miles —PARTNERSHIP —A one half share in an old estab good middle-class Practice averaging for the past two years over £3 500 p a Panel of 1 700 and appts bring in £100 p a Fees 5/6 to 21/ Good corner house with 3 reception 6 bedrooms etc Garden Price for freehold £2 100 Premium 2 years purchase

17 BORDERS OF NORFOLK AND SUFFOLK —PARTNERSHIP —A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village, near two good towns Income for last 12 months £1 992 including panel of 1 000, and appts worth about £150 Fees 2/6 to 10/6 House contains 3 reception, 6 bedrooms etc Sport of all kinds Premium 2 years purchase

18. PARTNERSHIP —Within 40 miles of London —Pleasant Town (pop. over 6 000 with large surrounding district) —A two fifths share (to commence) is offered in an old established steadily increasing Practice Income last year about £1 750 including panel and appts about £380 Small house available (rent £60) or larger house by purchase (price freehold £1 500) Premium only 1½ years purchase. Excellent future prospects

19 KENT —Country PRACTICE near Coast —Old established mixed-class Practice averaging about £1,100 p.a Panel of nearly 400 Fees 5/6 upwards Convenient house with 3 reception, 6 bedrooms, etc Good garden Price for freehold £1,800, £400 on mortgage. Good sport and schools within reach Premium 1½ years purchase

20 LANCS —Large Town, within easy reach of Manchester —PARTNERSHIP —A one third or one half share (with succession later) in an old established good mixed class Practice, offering large scope. Gross cash receipts for past 12 months £2 645 Panel of over 2 400 Fees 2/6 up Suitable house available, on rental Prem 2 years purchase

21. CHESHIRE —Coast Town, within reach of Liverpool —Well-established PRACTICE averaging over £1,200 p a , including panel of 780, Fees from 5/6 Mid 2 to 5 gns Double-fronted house with 3 reception 4 bedrooms etc. Price, freehold, £1,400 £800 on mortgage Premium 1½ years purchase, £1 100 down

22 NORTH OF ENGLAND —In a small pleasant town, old established sound PRACTICE averaging over £1,200 p a , including nearly £500 from panel and appts Good house (3 reception, 5 bedrooms, bathroom, etc electric light and every convenience, garage, garden) Price freehold £1,500 Mortgage for full amount can be arranged Premium £1,450

23 CROYDON AREA —PARTNERSHIP —A two fifths or one third share is offered in a well established and increasing middle-class Practice, (averaging £2,600 p a (last year £2 740) Panel of 935 Fees 5/6 to 21/ Midwifery 4 to 15 guineas. Choice of houses. Premium 2 years purchase, part by arrangement

23 MANCHESTER —Chiefly working class PRACTICE Average income 950,000 including panel of 1 000 Moderate expenses Corner house with 3 reception 8 bedrooms etc. Garage. Rent on lease £65 p.a. Premium £1 500 or near offer

25 NEAR HUDDERSFIELD —PARTNERSHIP —A half share in an old established mixed class Practice Income for immediate past year over £4 250 Panel of 5 500 Fees 5/6 to 7/6 Very good house, with 4 reception, 6 bedrooms etc 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

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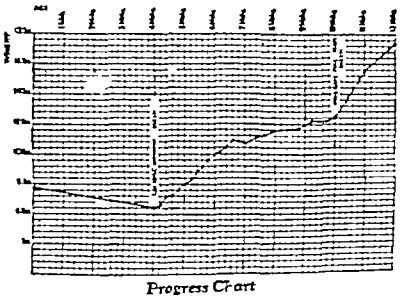
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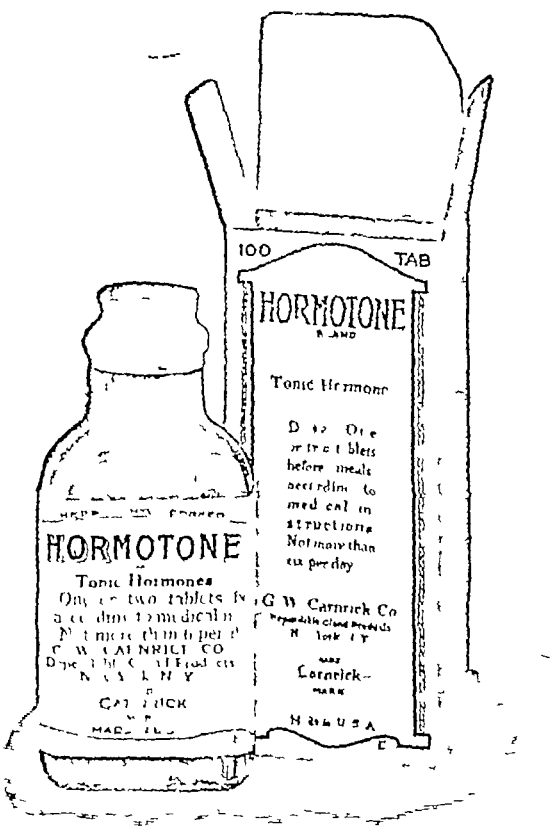
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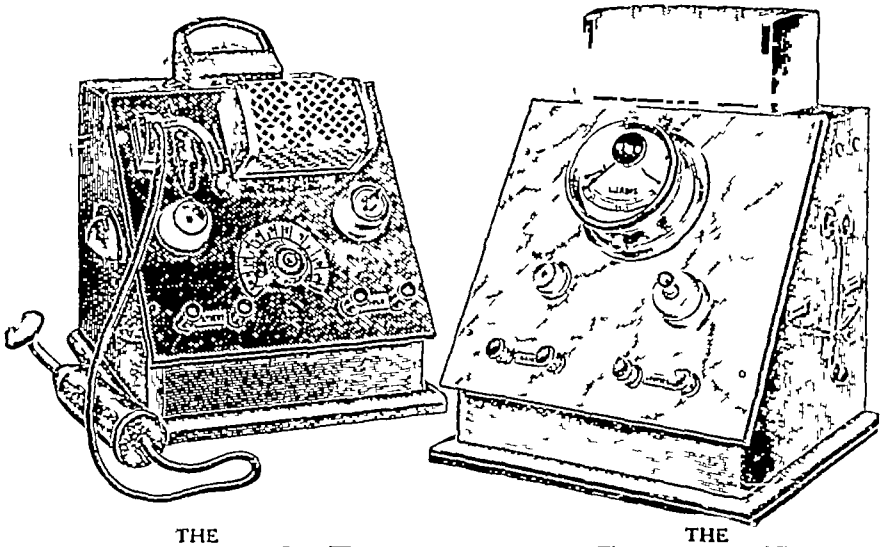
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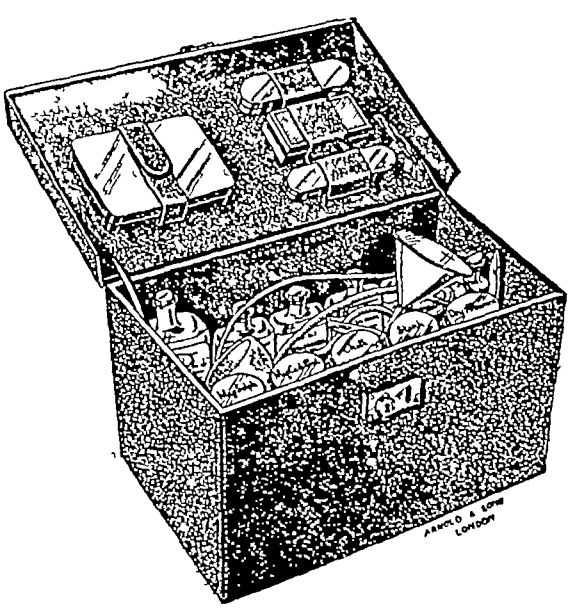
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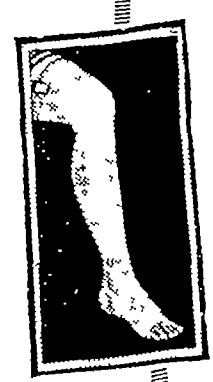
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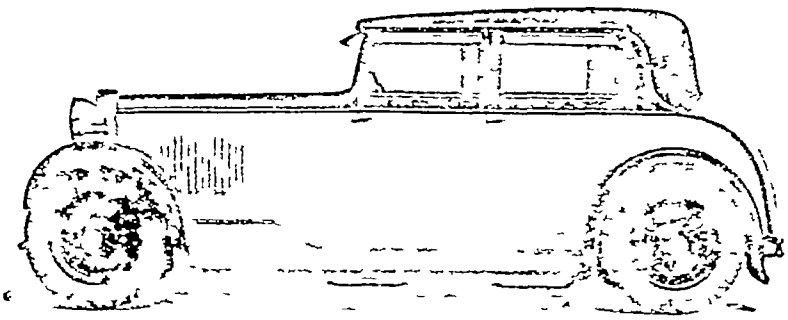
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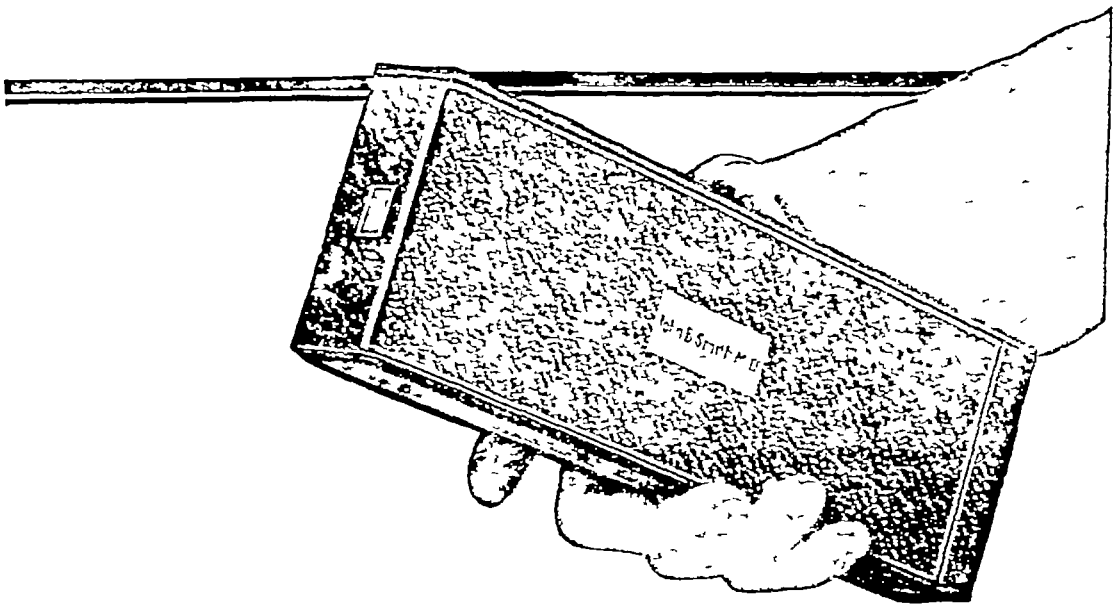
(2) Average increase in weight 9 72 ozs more than (1)
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Full particulars appeared in an article in the LANCET, January 18, 1930, p 127, et seq, a reprint of which will be sent post free on request

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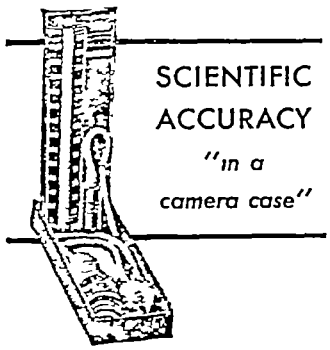
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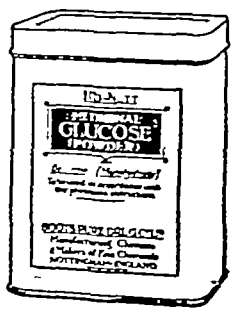
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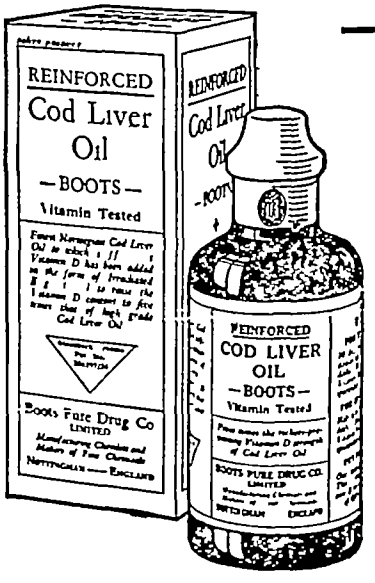
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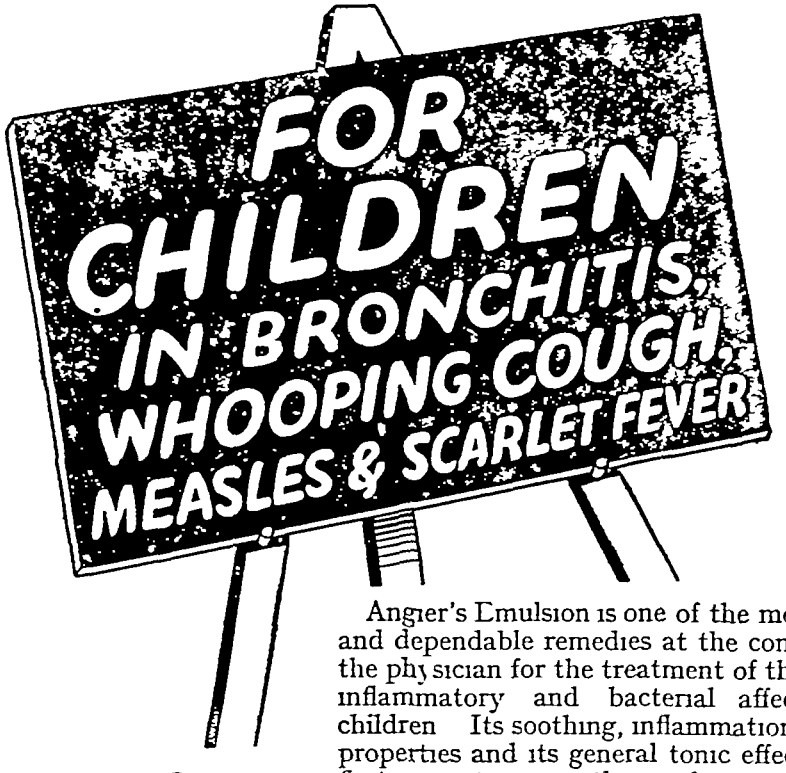
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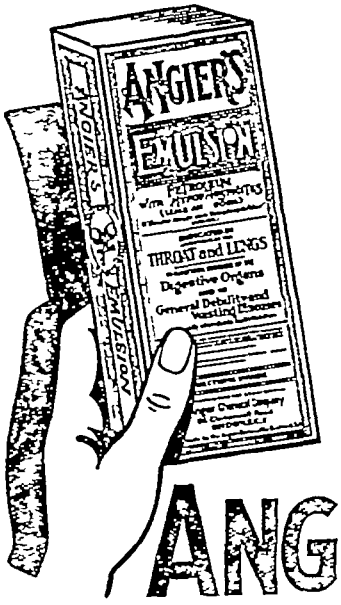


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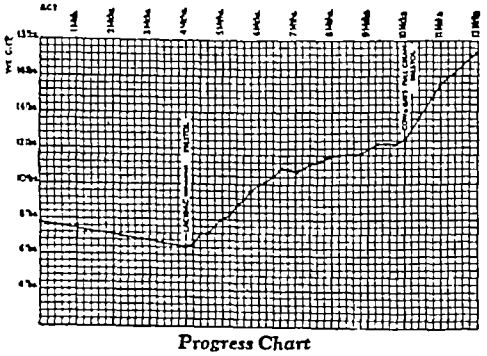
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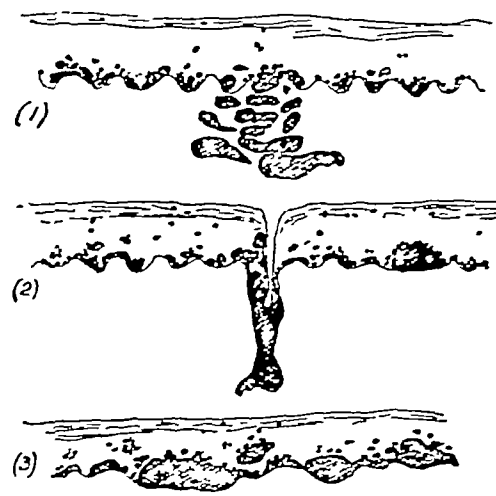
Remarks on THE INTRA-EPITHELIAL GROWTH OF CARCINOMA

BY

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Carcinoma is usually regarded as an infiltration of tissue spaces and lymphatics by epithelial cells which have acquired the malignant neoplastic property. The essential neoplastic change, however, occurs first in epithelium which still has normal relationships to connective tissue, and the break through of basement membranes or other normal boundaries follows on the acquisition of malignant properties by the cells. This is well illustrated by the experiments of Murray and Woglom (1921), who showed that autoplastic transplantation of skin lesions produced by tar might be followed by growth of the transplant and infiltration before local infiltration could be recognized at the primary lesion. The amount of neoplastic proliferation which occurs before actual infiltration of the tissues varies much in different cases and the factors determining it can in great part be only conjectured, but in the case of the mamma what can be justifiably described as cancerous proliferation within the ducts may be of an extensive nature before invasion of the surrounding connective tissue occurs. Theoretically a skin epithelioma for example, might extend and destroy the epidermis without infiltrating the subjacent tissue but this is rarely seen: the break through into the tissue spaces occurs comparatively early. In other words, the connective tissue route of growth is preferred, we may say as offering least resistance. In certain conditions, however, free growth of cancer cells occurs within the substance of the epidermis and other epithelia, and this is the subject of the present communication. In discussing the conditions of occurrence, I cannot claim to bring forward anything new but I think that it may be useful to discuss the phenomenon in its various aspects especially as it has been little recognized by writers. I shall speak chiefly of the growth and extension of cancer cells in the epidermis, which may occur under three conditions.



1. The cancer cells may reach the normal epidermis by direct spread from an underlying growth, thereafter extending within the epidermis.
2. The cancer cells may reach the epidermis by continuous growth from the duct of a gland opening on the surface. The outstanding example of this is Paget's disease of the nipple occurring secondarily to intraduct carcinoma.
3. The cancer may start in the epidermis itself and spread within it, instead of infiltrating the subjacent tissue as is usually the case. In some apparent instances of this condition the point of origin may be in the skin appendages. I have illustrated these three possibilities by the diagrammatic sketches, the cancer is shown in black.

1 *Spread from Underlying Growth*

I have put first direct invasion of the epidermis by an underlying growth because it can be so definitely followed in this way we get a picture of how the cancer cells spread and what appearances may result. The occurrence in question is relatively uncommon, and has been described chiefly in connexion with the nipple. In most instances, when a cancer of the substance of the nipple reaches the epidermis, the latter merely becomes destroyed and ulceration follows, but sometimes the cancer cells penetrate the basal layer and gain a foothold in the epidermis, within which they behave like parasites. They flourish especially in the lower part of the rete malpighii, and may extend widely in a lateral direction from the point of entrance. Dilated cells may be detached and carried upwards to the surface by the growing epithelium: they undergo degeneration as they pass upwards, and ultimately only degenerated remains are seen, these being enclosed in capsule-like spaces in the horny layer. The histological changes thus resulting may correspond with those seen in Paget's disease, and cases of the kind we have described are sometimes included under this term. This, however, is unjustifiable, as in the condition of the nipple described by Paget there was no infiltrating cancer in the substance of the nipple, though a cancer often appeared later at some distance in the substance of the breast. The process of intra-epidermal growth of cancer has been described by Jacobaeus (1904) and others, including myself, but the most striking demonstration of its occurrence is that recently brought forward by Shaw Dunn (1930). In his case the growth was a mucin-forming (colloid) carcinoma involving the anal orifice and in sections stained by muci-carmine the cells wandering in the epidermis are brought out in a striking fashion owing to their content of mucin. The distribution of the cells in the epidermis and their extension over a wide area are clearly shown in the illustration given by him. Familiarity with the appearances thus brought about by what we may call infection of the epidermis is essential to the interpretation of similar changes which may be produced in other ways. The study of cases where the epidermis is directly invaded by an underlying carcinoma demonstrates what may result when the intra-epidermal type of growth becomes established. In cases of skin melanoma one may sometimes see isolated pigmented cells in the epidermis and this appears to me to be another example of malignant cells wandering in the substance of the epidermis (see also Jacobaeus, op. cit.).

2 *Spread from Duct Epithelium*

The invasion of the epidermis by cancer cells which have reached it by intra-epithelial spread from intraduct carcinoma of the upper ends of the mammary ducts, has already been fully described and discussed by me (1927), and I have little to add. The various stages of hyperplasia of duct epithelium ultimately culminating in malignant neoplasia, have been described by Cheatle (1926) and Charteris (1930), and with their accounts I agree in all essential particulars. One point which I consider of great importance is that in the early stages of the malignant change in the ducts the growth can be seen to be of the intra-epithelial type. The invading cancer cells spread in the epithelium of the ducts often leading to a layer of new growth of considerable thickness (this is fully illustrated in my paper referred to). Later the cells break through the surface layer and there results the more common appearance of masses of cancer cells filling the ducts. Intra-epithelial growth can also be observed in the acini and in a recent case I have found this occurring on an extensive scale. The intra-epithelial growth within the ducts and the acini is often seen to be widespread, and one must recognize that the disease may start in multiple foci of origin as well as spread directly. But I am of opinion that most of the characteristic features are due to the

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latter factor Given, then, the fact that intra-epithelial growth of cancer is spreading within the ducts of the nipple, the question naturally arises what course the cancer cells will take when they spread upwards and reach the epidermis, with which the duct epithelium is continuous, and of which it is merely a modification The answer given by a study of Paget's disease is that the cancer cells continue to spread in the epidermis, and that they may do so over a wide area, there being an extensive lateral growth in the deeper parts of the epidermis The epidermis, however, offers more resistance to the growth of the cells, they multiply only in the deeper parts of the rete malpighii, and there apparently only with difficulty Nevertheless, the remarkable fact is that they may remain in the epithelium and show no tendency to pass again to the subjacent connective tissue The cells wander in the epidermis and many become degenerated, especially in the more superficial layers Hence the characteristic features of Paget's disease of the nipple result Such, in my opinion, is the sequence of events in the majority of cases I am interested to note that in a recent paper on Paget's disease, Simard, working in Masson's laboratory, has arrived at views similar to those which I have expressed As already stated, a corresponding histological picture arises when a carcinoma in the connective tissue invades the epidermis directly and spreads in it I also admit the possibility of the occurrence of an intra-epidermal growth from the cells of the epidermis itself, such as is met with in "Paget's disease" in other parts of the body (see below), but I have not met with a case of this

I may add that since my paper (1927) was written I have had the opportunity of examining seven additional cases of Paget's disease of classical type, there being no carcinoma infiltrating the connective tissue of the nipple in any of them In all of these cases the characteristic changes are present in the ducts, and in five of them direct spread of the disease from the upper parts of the ducts to the epidermis can be followed In four of the cases infiltrating carcinoma of ordinary type was present, deep in the substance of the breast In two other cases there were both intraduct carcinoma and also infiltrating carcinoma in the connective tissue of the nipple In these two cases it was not possible to state definitely by which of the two routes the cancer cells had reached the epidermis

In the illustration of one of my cases previously published, the Paget cells in the deepest part of the rete malpighii have assumed a somewhat columnar type, and this is more strikingly seen in one of my recent cases Not only can the spread of the disease be traced from the ducts to the epidermis, but, at places in the latter, a distinct line of columnar cells is seen resting on the cutis, while on their free surface there is a small collection of fluid which has raised up the epidermal cells These columnar cells may, in fact be said to represent a small metastasis from the intraduct carcinoma comparable to what occurs in a lymphatic gland only, in this case the metastasis has been produced by the wandering of the cancer cells by the intra-epithelial route

3 *Origin in Epidermis*

With regard to the intra-epidermal spread of new growth arising from the skin or its appendages I have comparatively little experience, but there is ample evidence of its occurrence There is first of all the Paget lesion occurring in extra mammary sites This is rare, but a considerable number of cases have been recorded (Susman) I am indebted to Dr Whitfield for a section from his case of Paget's disease of the vulva (1929), and in it I find a reproduction of the essential features of Paget's disease of the nipple so far as the mode of growth is concerned The cells are growing in clusters, especially in the deeper part of the epidermis, while isolated cells are scattered through the latter There is also a striking intra-epithelial invasion of the sweat glands The cells vary in shape, they are angular or stellate and are loosely arranged as if bathed in an intercellular fluid Some show a tendency to assume a columnar type It is not possible to state definitely the site of origin, but the characters of the cells suggest to me a glandular structure in the vulva rather than in the epidermis itself In other cases of similar nature the cells are of more indefinite character, and suggest the possibility of origin from the basal-cell layer If this were so, such a growth would represent a rodent ulcer (basal-cell epithelioma) spreading intra-epidermally A corresponding spread of prickle-cell epithelioma is of rare occurrence, but it has been described by Borst (1904), and an account is given also by Borrmann in the case of both epithelioma and rodent ulcer (1904)

Bowen's disease is another lesion which comes up for discussion in this relationship I have not myself had an opportunity of examining a case, but from the accounts given and from the illustrations it has seemed to me possible that it represents a carcinoma spreading laterally in the epidermis without infiltrating the tissues underneath I am interested to find that this view has been adopted by several recent writers—for example, Fraser (1928), Wise (1929), Eller and Anderson (1930) The lesion usually remains indefinitely in the epidermis, but occasionally an infiltrating carcinoma develops However, I do not wish nor, in fact, am I qualified to discuss in detail the nature of such skin lesions I wish rather to emphasize the general principle—namely, that malignant growths arising from the epidermis or its appendages may spread in a lateral direction within the epidermis instead of passing into and infiltrating the subjacent connective tissue Such intra-epidermal growth, meeting with resistance as it does, is usually of very slow progress, and the disease clinically is of a very chronic nature In the case of the epidermis, just as has been stated above with regard to the ducts of the mamma, the possibility of multiple foci of origin must be recognized as well as extension from a particular focus

Conclusions

When we consider the features of intra-epithelial growth of carcinoma and its results in the three conditions which have been discussed, we find that they present various points in common In the first place, as has been stated, the growth of the cancer cells in the epidermis apparently meets with considerable difficulty, and is accordingly relatively slow, in fact, it would appear that it is only in the deeper parts of the epidermis that active proliferation can occur at all The malignant cells are carried up in the process of normal growth of the epidermis and soon show signs of degeneration Further, even in the deeper part of the epidermis the growth is not always continuous, and it is not uncommon to find the cells scattered in the rete malpighii and sometimes spreading widely into the sebaceous or sweat glands The appearances, in my opinion, can only be explained by the view that the malignant cells wander in the epidermis, and this holds in all three conditions discussed above I convinced myself of the occurrence of the wandering of the cells several years ago from the study of Paget's disease of the nipple of the ordinary type, and it is still more convincingly demonstrated in cases of secondary invasion of the epidermis by an underlying carcinoma, as in Shaw Dunn's case When, as sometimes happens, resistance to growth is great, the cancer cells may be found only singly or in small clumps, and nearly all in a more or less degenerated condition Such cases are unsuitable for histological study and interpretation, and this fact is partly responsible for the great variety of opinions which have been expressed with regard to Paget's disease of the nipple In certain cases, however, all intermediate stages can be found between such degenerated cells and masses of cells which present the features of cancer cells and are undergoing active mitotic division

I have already indicated that the cells in the epidermis always appear to be growing in somewhat unfavourable surroundings, and another striking fact is that they are restrained in some way from breaking through the limits of the epidermis and infiltrating the cutis I have never, in fact, seen a clear example of re-passage from the epidermis to the connective tissue, although, of course, the possibility of its occurrence cannot be excluded But we can at least say that once the intra-epidermal extension of the growth has been established, the cells tend to be restricted to the epidermis

The presence of cancer cells growing in the epidermis leads to a definite reaction in the cutis There occurs new formation of capillaries, and this is accompanied by extensive infiltration of leucocytes and plasma cells, I have also met with eosinophils in large numbers When the growth within the epidermis is discontinuous, a definite relationship between the affection of the epidermis and the underlying cellular reaction can often be recognized Owing to the new formation of blood vessels and their congested state, and to a certain amount of exudate which soaks through the epidermis, the characteristic features of such lesions are produced Of course, at a later stage the affected epidermis may become destroyed, and then there is a red surface formed by granulation tissue

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EFFECTS OF HYPERTONIC SALINE IN THE TOXAEMIAS OF LATER PREGNANCY *

BY

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AND

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FOUR years ago the authors, in a paper entitled "Diet in the treatment of pre-eclampsia," advocated the use of salt-free diet [1] Such diets contained about 3 grams of chloride reckoned as sodium chloride, and are more usually nowadays, and more legitimately, called salt poor At the time the authors were particularly concerned in making clear that diets high in protein or in fat were quite innocuous to pre-eclamptics As a practical corollary it followed that ordinary mixed diets of protein, carbohydrate, and fat could be utilized, provided they were salt-free or salt-poor Not only were such diets innocuous to the pathological condition, but the patients showed marked clinical improvement In view of the number of factors concerned, however, we did not consider it legitimate to ascribe the improvement to the protein or fat in the diet Rest in bed and general attention to hygiene are such powerful factors in general clinical improvement that it required much stronger evidence than we possessed to conclude that high protein feeding or high fat feeding was beneficial

We were also interested in the effect of our observations upon theories of etiology Protein *per se*—if our observations were correct—could not play a part in the production of eclampsia Those authors who had ascribed the reduction in the incidence of eclampsia in Germany [2] during the war as due to a reduction of dietary protein could not in our opinion, have been correct That a dietary factor exists appears certain That the dietary factor is protein or even fat, is uncertain despite the popularity of the former supposition We may state in further support of our contention that since our previous publication we have given high protein diets, not to pre-eclamptics, in whom there might be a doubt that actual convulsions would occur, but to eclamptics, who, having responded to treatment with sedatives, were admitted to the ward for further observations We noticed no aggravation of symptoms, indeed, as previously, we found an improvement

The use of salt-free or salt-poor diets in the treatment of nephritis of the parenchymatous type is well known The influence of sodium chloride or sodium bicarbonate in definitely aggravating the symptoms of albuminuria and oedema in that condition is a matter of well-known clinical and laboratory demonstration The observations of our previous paper may have been open to the criticism that we were dealing with patients in whom the kidney lesions were of the parenchymatous type De Wesselow [3] has emphasized the occurrence of this type in the toxaemias of pregnancy

Since then, however, we have been able to reinforce our conclusions on the part played by sodium chloride by a series of further observations—namely, by the use of sodium chloride intravenously The use of hypertonic saline solutions has become very general in some centres for the treatment of post-operative paralytic ileus, either actual or threatened It is also a powerful dehydrating agent and diuretic In the treatment of eclampsia or threatened eclampsia one notices, too a tendency towards the use of intravenously administered dehydrating agents Lazard [4] has enthusiastically advocated the use of intravenous magnesium sulphate Titus [5] uses 50 per cent glucose solution though with a confessedly different object Mussey [6] recommends ammonium chloride by the mouth. A brief review of many of the older methods of treatment shows that some of the therapeutic agents removed water—for example, purging venesection, hot packs These were used frequently and often with success Their object was to remove toxin, but at the same time they removed body fluid Thus the use of hypertonic saline solutions might prove beneficial True it might produce or aggravate oedema in a case complicated by parenchymatous nephritis, but the symptom of subcutaneous oedema has never been considered as *the* dangerous one in an eclamptic or pre-eclamptic patient To relieve the symptoms of convulsions and high blood pressure with its attendant dangers of haemorrhage, would be well worth the cost of a little oedema

These latter arguments, valid as they may sound, are fallacious The use of hypertonic saline solutions in toxaemias of later pregnancy is harmful We present four cases one normal acting as a control, the other three being varying degrees of toxaemias though we feel some doubt as to the diagnosis in Case II

CASE I.—*Normal Pregnancy 0 Para 8 Months Pregnant Aged 19*

Date	Blood Pressure mm.)	Urine Albumin (mg. per 100 c.cm.)	Notes.
1929 June 6	123.64	0	Full diet.
" 7			"
" 8	120/58	0	"
9			
" 10	124 68	0	3.0 c cm. of 10% saline intravenous.
" 11	124 58	0	" "
12	114/50	0	Full diet.

The patient had been observed carefully in the clinic, and was normal. The intravenous saline was given on June 10th at 2 p.m. after the noon meal. She complained of thirst and was given chipped ice she took an ordinary supper On June 11th the intravenous saline was given at 11 a.m. and the patient fed on orange juice the remainder of the day Later in the day two fluid bowel movements occurred but otherwise no effects were observed.

* A paper read in opening a discussion in the Section of Obstetrics at the Annual Meeting of the British Medical Association, Winnipeg 1930.

CASE II.—*Possibly Mild Toxaemia 4-Para 8½ Months Pregnant Aged 22*

Date	Blood Pressure (mm.)	Urine Albumin (mg. per 100 c.cm.)	Notes
1929 March 15	155/92	50	Few pus cells in urine. Full diet. Pot. cit. 30 grains. Sod. bicarb. 30 grains. Two-hourly.
" 16	138/98	20	
17	128/90	20	
18	134/90	30	3·0 c.cm. 10% saline intravenous.
19	11 /90	10	Complains of nausea. Milk diet.
20	118/84	10	Headache. Milk diet.
21	118/84	20	Well. Milk diet.

The patient was admitted from the outdoor clinic as suffering from mild toxaemia. She had slight puffiness in the ankles and face, and a blood pressure of 150 mm. A trace of albumin was found. She improved at once with rest in bed. The intravenous saline given at 2 p.m., caused excessive thirst, and the patient complained of weakness. Chipped ice was given to allay the thirst. Nausea and headache were complained of on the two following days. There was no oedema. A successful medical induction was carried out the following week.

CASE III.—*Mild Toxaemia 1 Para 8½ Months Pregnant Aged 21*

Date	Blood Pressure (mm.)	Urine Albumin (mg. per 100 c.cm.)	Notes
1929 Feb. 26	140/90	200	Full diet
27	120/96	190	30.0 c.cm. 10% saline intravenous 2 p.m. Milk diet. Vomiting.
28	134/90	250	Backache.
March 1	150/110	450	Backache. Vomiting.
2	138/80	—	Labour.

The patient was admitted from the pre-natal clinic on account of irregular gain in weight, slight increases in blood pressure, and sudden albuminuria. A stillborn birth had followed a previous pregnancy. The patient felt perfectly well, there were no headaches nor oedema. When the intravenous saline had been given the increase in albuminuria was marked. The blood pressure, both systolic and diastolic, on March 1st was the highest recorded over a long series of observations. Labour was prolonged, lasting three days. The baby was normal. On March 6th the blood pressure was 130/90, and the albuminuria was 100 mg. per 100 c.cm.

CASE IV.—*0-Para 8 Months Pregnant Aged 17*

Date	Blood Pressure (mm.)	Urine Albumin (mg. per 100 c.cm.)	Notes
1929 Nov. 16	190/130	—	Admitted. One convulsion. No oedema. Stroganoff treatment.
17		900	Improved. Milk diet.
18	140/112		Salt-free mixed diet.
19	130/100	6·0	Feeling well.
" 20	150/ 10		
21	148 1.4		
22	134/104	500	
23	122/90	400	
24	120/98	350	
25	115/84	200	
26 a.m.	128/100	250	300 c.cm. 6% saline intravenous 9 a.m.
p.m.	135/115	375	
27 a.m.	130/115		3·0 c.cm. 10% saline intravenous 10 a.m.
noon	178/158		Headache. Epigastric pain. Vomited.
3 p.m.	160/120		Vomited. Face congested. No oedema.
6 p.m.	180/118		Seems a little improved.
9 p.m.	200/140		Convulsions. Stroganoff treatment. Strong uterine contractions. Labour 11 p.m.
28	130/93	800	Water only.
29	140/100		Milk diet.
30	130/93		
Dec. 1	130/100	200	Feeling well.

The effect of the intravenous saline solution on the blood pressure, albuminuria and general symptoms was very clear. A colonic irrigation preceding the labour was followed by a veritable deluge of fluid. The labour was very precipitate. The foetus was small and ill developed.

Two well-defined criteria for estimating the extent of a toxaemia of later pregnancy are blood pressure and albuminuria. Judged by these standards our observations divide themselves into two groups. The first, consisting of Cases I and III—where Case I is normal and Case II is a doubtful toxaemia—show no effect at all. Both patients had thirst, as would be expected in any normal individual. In Case I there were two fluid bowel movements, and the patient in Case II complained of nausea and headache on the two days following the injection. The elimination of salt and water by the bowel was in all probability the reason for the two fluid stools in Case I. The nausea and slight retching in Case II may be a variation of the same method of elimination which failed to relieve itself by the emptying of the bowels. The headache followed the intravenous saline and lasted two days. Judged by the major criteria of albuminuria and blood pressure, however, both cases showed no effect—indeed, Case II showed an obvious drop in pressure, despite the disturbance caused by the nausea and the headache.

Judged by the same two criteria Cases III and IV form another group. In both the albuminuria increased. In Case III the concentration of 450 mg. per 100 c.cm. urine was the highest noted throughout the whole period of observation. One of us had made fortnightly weighings and blood pressure and urinary examinations of this patient for a previous three months. Albuminuria and a slight elevation of blood pressure had been observed a fortnight previous and on their continuation the patient was brought into hospital. Just as a peak in the albuminuria was noticed after the intravenous saline has been given, so a peak in the blood pressure level was observed, both systolic and diastolic. It is to be noticed that vomiting was present in this case also, and persisted for two days. It is hard to escape the conclusion that the hypertonic saline had aggravated the toxaemia. In Case IV the conclusion is irresistible. The changes follow one another with such dramatic suddenness that we have no difficulty in distinguishing cause and effect. On admission she had high blood pressure, marked albuminuria, and one convulsion. These, together with the absence of any history of nephritis, her age, and primiparity, make a clear diagnosis of eclampsia. The convulsive stage was easily checked by sedatives. Rest in bed and a salt-free mixed diet rapidly reduced the albuminuria and blood pressure. The effect of 48 grams of sodium chloride given in two doses on the mornings of November 25th and 27th immediately changed the whole picture. The changes were possibly evident on the evening of the first day when the blood pressure and albuminuria increased over those of the three previous days. The changes at the end of the second day represented a return to the symptoms of eclampsia. The blood pressure reached 200/140. Headache, epigastric pain, and vomiting were present. There was a typical appearance in the facies of congestion and coarseness, but no definite puffiness or pitting on pressure was observable in any part of the body. By 9.30 p.m. three convulsions had occurred. Sedatives were administered at once, but the patient went into precipitate labour, and delivered a living child within an hour. The albuminuria also had more than doubled in intensity.

From the standpoint of practical therapy the results are wellnigh disastrous. We have, at present, no wish to continue our observation in this direction. In our very incomplete state of knowledge it appears fraught with too much danger to the patient, though the very acuteness of the disturbance brought about by an external agency possibly offers safeguards of its own, of which we are only dimly aware. We refer to the onset of labour. In both of the latter cases labour supervened shortly after the disturbance initiated by the saline solution. In both cases a living child was obtained. With birth, as is often the case in rapidly developing eclampsia, there was a rapid subsidence of symptoms and a return to a normal condition. There is, however, a definite negative value to our observations—namely, the contraindication of hypertonic saline solutions in post-operative work in pregnancy where there is any indication of toxaemia, unless the pregnancy is to be terminated simultaneously.

The observations recorded in this paper extend and reinforce those of our previous work on this subject. The

commonly occurring dietetic factor which can enter into the production of eclampsia or pre-eclampsia is sodium chloride. Other observers have emphasized the value of restriction of salt in the treatment of such toxaemias from the standpoint of kidney insufficiency. Eckelt in Germany, de Wesselow and Wyatt[4] in England, Bland and Bernstein[5] in America have advocated salt restriction from this standpoint. Stander[16] in his recent monograph recommends a salt-free diet if there is marked oedema. In our previous paper we were inclined to think that salt could play a part in the more fundamental changes connected with the toxaemia and suggested a possible value in salt restriction from the standpoint of pre-natal care. The observations recorded in this paper lead us to the conclusion that a high intake of salt taken at the right moment in a developing toxaemia will produce an albuminuria, an increased blood pressure and convulsions, in a short period of time. Such a picture represents a fulminating eclampsia. One hears often of cases in which a patient under good pre-natal care and with a normal blood pressure and urine develops convulsions within a week or a fortnight, or where a patient with a mild toxaemia, and under observation develops convulsions within twenty-four or forty-eight hour of an office visit, when no immediate danger was suspected. If such a patient has had in the meantime a generous meal in which meat is prominent the protein is promptly blamed. We would suggest a strict inquiry into the amount of salt taken with the protein and the usual accessories of a generous meal. Salt restriction in our minds, is a necessary part of pre-natal care. Protein is harmless. Bland and Bernstein claimed a diminution in blood pressure when their toxaemia patients were placed on salt-free diet. This followed a three-day period of ordinary hospital diet in which no diminution in blood pressure was observed. Three days after admission to hospital is a short time in which to observe a fall in blood pressure in a case of toxaemia even if it is accompanied by rest in bed. A week or ten days is not too short in many cases. Bland and Bernstein appear to realize the weakness of their position, for they endeavour to make the observations more equable by allowing the patients the liberty of the ward during the salt-free diet period. It is unfortunate that they did not reverse the order of their diets in half their observations.

In our previous paper we noted observations on the effect of sodium bicarbonate in a toxaemia of pregnancy. There was a recurrence of the oedema which had subsided on the salt-free diet, and a distinct rise in blood pressure both systolic and diastolic. At the time we did not wish to associate the rise in blood pressure with the sodium bicarbonate. We were more inclined to ascribe it to the nervousness of the patient herself, who had observed and knew the significance of the return of the oedema. In the light of our new observations the rise in blood pressure, following sodium bicarbonate administration in toxaemia of pregnancy may be as justly ascribed to the retention of the sodium salt as it is after the intravenously administered sodium chloride, though it is to the sodium ion, rather than the chloride or bicarbonate ion, that we attach importance.

Our observations, too, have a bearing on the general question of a relationship between chloride retention and hypertension as claimed by Ambard and his school. On this continent Allen[11] championed the beneficial effect of extreme chloride retention on essential hypertension. His first observations were not substantiated by all later workers,[12] and Allen[13] himself later realized that all classes of hypertension were not benefited by the restriction. The high blood pressure of the toxaemias of pregnancy, where functional rather than morphological changes are involved, would seem a much more promising condition in which to show the effects of a salt restriction.

From the standpoint of etiology we believe our results to be of value. It is impossible in the present state of our knowledge to separate the influence of sodium salts and water from either a physiological or a pathological point of view. Our observations in this and in the previous paper have shown a connexion between sodium chloride and convulsions, albuminuria, high blood pressure, oedema, epigastric pain, and vomiting in the toxaemic subject. All these are, or can be, symptomatic of eclampsia or pre-eclampsia. We cannot but fail to conclude that underlying a variety of symptoms lies a unity of disturbance—a water retention or a change in its distribution in the body. Zangemeister[14] has stressed the importance of observing the gains in weight during pregnancy and of suspecting any abnormally high gain as a sign of impending toxaemia. Englinger[15] judges his toxaemia cases by the Cl retention, the daily weight of the patient, and a measurement of the water intake and output. Holtermann[14] tests for latent oedema in pregnancy by Kaufmann's modification of Frey's diuresis test. Sudrow,[17] using Caleotti's method of measuring insensible perspiration, finds a very low output in toxaemias.

Our conception of the toxaemias of later pregnancy is a disturbance involving fundamentally a change in water distribution. This may be preceded or accompanied by a water retention showing itself in an abnormal gain in weight (Zangemeister). Once initiated, however, the disturbance may show itself in many ways: (*a*) epigastric pain and vomiting—the significance of an attack of "acute indigestion" as symptomatic of a toxaemia when occurring in later pregnancy has often been emphasized, (*b*) albuminuria—with a kidney lesion of the parenchymatous type or mixed, (*c*) hypertension—often present as the sole symptom or accompanied by a slight albuminuria, in pregnancy of middle-aged multiparae, (*d*) oedema—one of the commonest of symptoms, (*e*) convulsions—occurring by themselves these resemble epileptic seizures, and can only be distinguished by the fact of pregnancy and the absence of any previous history of epilepsy, (*f*) perilobular liver degeneration—not always present.[13] One, or many, or any combination of these symptoms may accompany the water disturbance. Herrick[19] has pointed out how the constitution or the make-up (possibly endocrine) of the mother determines the course of the toxaemia as it shows itself in successive pregnancies. In our opinion it is this maternal constitution which determines the appearance of one or any combination of symptoms.

We have referred to changes in water distribution as well as to water retention. An interesting case illustrating a relationship between oedema and high blood pressure has been referred to us by our colleague Dr. W. G. Cosbie who has kindly allowed us to make use of his notes. The patient had been under his care and routine observation from the beginning of her pregnancy and had been perfectly well until February 19th when she complained of a severe headache. The essential symptoms and observations are best given in chart form.

CASE V.—*0-Para. 5 Months Pregnant. Aged 31.*

Date	Blood Pressure (mm.)	Urine Albumin.	Oedema.	Notes
1929 Feb. 14	135	0	0	Well
19	150	0	++	Severe headache. Oedema in face and feet. Bed with salt-free diet.
„ 20	170	+	+	Milk diet only. Oedema less. No headache.
21	190	++	0	Severe occipital and frontal headache. No oedema. One hour after record of B.P. two convulsions. Modified Stroganoff treatment.
22	142	+++	++++	General anasarca.
„ 23	160		++	Oedema disappearing. Hot pack.
24	140	+	+++	Oedema returning.
25	150	++	+	Oedema disappearing.
„ 26	170	+++	+	Oedema very fair.
27	196	++++	0	No oedema. Uterus emptied.

The sudden onset of symptoms was marked by a moderate rise in blood pressure with a moderate oedema. In two days in spite of a salt-poor diet and a milk diet the blood pressure mounted to the convulsive level with a disappearance of the oedema. In twenty-four hours the blood pressure had fallen and given place to a massive general oedema. The treatment on February 21st included magnesium sulphate to ensure brisk elimination by the bowel. It was reasonable to suppose that the water in the oedema had

come from the cells, since little or none had been given by the mouth, and that the water in the cells had been responsible for the high blood pressure An opposite state of affairs would appear to have taken place between February 24th and 27th The oedema subsided and the blood pressure rose Apprehensive of further convulsions, the uterus was emptied on February 27th The increase in the albuminuria during the same period is also significant

Allusions are to be found in the literature to the similarity of the convulsions of eclampsia to those produced in animals by the continuous forced administration of water Rowntree and his co-workers[20] discovered and investigated this latter phenomenon and termed it "water-intoxication" It is characterized by a positive water balance, but this is correlated with an alteration in the sodium or base balance which results in a lowered amount of sodium in the plasma Recovery from "water intoxication" convulsions in animals is very rapid by the use of intravenously or intraperitoneally administered hypertonic sodium chloride solution The observations in this paper show a complete contrast in the action of hypertonic saline on eclampsia compared with "water intoxication" in animals Moreover, Stander, Eastman, Harrison, and Caddan[21] have shown an increased amount of base in the plasma of eclamptics This again is in contrast with the findings in "water intoxication" in animals It would appear that, despite a similarity of the convulsive states in the two conditions, and that changes in the water balance are probably involved in both, a clear distinction must be made McQuarrie,[22] in his recent studies on epilepsy, has drawn attention to its similarity with eclampsia, as well as "water intoxication" According to the author the use of urea among other measures acts as a preventive against the seizures of epilepsy Harding and Harris[23] have recently investigated the influence of urea solutions in "water intoxication" with negative results, and are thus inclined to dissociate it from epilepsy Whether urea will be of value in the treatment of eclampsia and pre-eclampsia remains to be seen

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FRACTURES OF THE PATELLA.*

BY

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MANY years ago a London woman sustained a fracture of the patella, John Hunter records how, after months of treatment, the knee-joint presented the dual problem of extension limited by powerlessness, and flexion limited by stiffness Two hundred years have elapsed, but we are still faced with Hunter's problem, the keynote of the treatment of injury of the extensor apparatus of the knee, whether it be an avulsion of the quadriceps, fracture of the patella, rupture of the ligamentum patellae, or separation of the tibial tubercle, is the restoration of extensor power without impairment of flexion movement

Although fracture of the patella was one of the first bone injuries to come within the scope of operative treatment there are still many differences of opinion Is operation essential? Should the bone be drilled and sutured, or is it sufficient to suture the quadriceps expansion? Which is the best method of bone suture, and the best suture material? Is splintage also necessary? When should movements be commenced? Is manipulation necessary?

Hitherto these questions have been considered purely from the point of view of bony union, but if our objective is not simply union of the fracture, but restoration of the joint to normal, and we also consider the recovery of flexion movement, different indications arise It may be true that immobilization of a normal knee does not cause permanent stiffness, but if a knee-joint is injured, and particularly if an arthritic knee-joint is injured, the inevitable penalty of prolonged immobilization in extension is some degree of permanent limitation of flexion It follows that fractures of the patella demand sufficiently firm operative fixation to render external fixation unnecessary, this is particularly true of the elderly patient Early movement is essential, and a bandage applied firmly enough to prevent haemarthrosis gives all the post-operative fixation required The actual date when movements are instituted must be governed by the success of the operative fixation It is my own practice to test this by flexing the knee before stitching the skin If the fragments are firmly held, assisted movement is commenced the following day If the fracture is comminuted and fixation imperfect, movement is deferred until the fourth week, and is preceded by gentle flexion of the joint under anaesthesia deep enough to ensure perfect relaxation of the quadriceps With a fully relaxed quadriceps manipulation is quite safe during the first four weeks Within that time the adhesions are still light, they offer no resistance, and give way by the mere action of gravity unaided by any pressure on the part of the operator On the other hand, I regard manipulation at any time between the fourth and twelfth weeks as very unsafe The fragments are not yet firmly united, and the adhesions are now so firm and resistant that even the strongest suture material is liable to stretch or snap and allow separation of the fragments Manipulation which is deferred longer than four weeks should be postponed until there is clear evidence of bony union of the fracture

Operative Methods

If the necessity for early movement is accepted it becomes obvious that operation is essential, that the bone must be sutured as well as the lateral expansion, and that the suture material must be strong Catgut and kangaroo tendon are not sufficiently strong, and silver wire is notoriously unsafe and liable to snap (Fig 1) Piano wire, on the other hand, is much less fragile, and its flexibility has the further advantage of allowing a knot to be tied My own preference is for an absorbable material, and thick, braided silk has many advantages It is extraordinarily strong, will withstand a much greater strain than the contraction of the quadriceps, and is sufficiently elastic not to snap, it can be secured in any length, is easy to work with, and can be tied in a knot which, owing to the roughness of the braided surface, will not slip Lange has shown that

* A paper read in opening a discussion on fractures involving the knee-joint in the Section of Orthopaedics at the Annual Meeting of the British Medical Association Winnipeg 1930

within twelve months it is entirely converted into living fibrous tissue

The method of inserting the suture is of considerable importance because the operation must not only prevent vertical separation of the fragment but must also restore a smooth articular surface and prevent tilting of one fragment on the other The patello-femoral joint is non-weight bearing but we know from the analogy of upper-

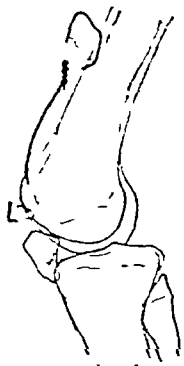


FIG 1

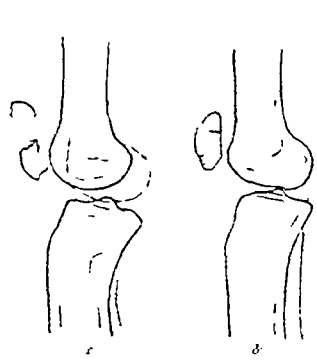


FIG 2.

FIG 1.—Old fracture of patella of rat 1 month after showing the fragility of silver wire The snapping of the wire has allowed wide separation of the fragments, complete loss of extensor power and secondary backward subluxation of the knee-joint

FIG 2.—Fracture of the patella the day before (*a*) and the day after (*b*) operation and fixation by silk suture Knee movement commenced the day after operation and in eight weeks there was full bony union and full flexion movement

limb joints that the constant movement of rough irregular surfaces will produce arthritic change, even in the absence of weight bearing Approximation should therefore be absolutely accurate by fitting the fragments carefully together not only is fixation augmented and union accelerated but osteo-arthritis is avoided For this reason the more quickly operation is performed the better, and the practice of delaying operation for ten or fourteen days to allow the absorption of extravasated blood must be relegated back to the days of unreliable asepsis I usually drill each fragment horizontally and use two pieces of thread passed in opposite directions so that they can be tightened simultaneously on either side of the bone This allows a much more accurate and close approximation than a single suture which is tightened on one side only (Fig 2) Accurate centring of the drill holes will usually prevent tilting of the fragment when the suture is tightened but if it is feared that tilting may occur during the early days of movement a square stitch may be used

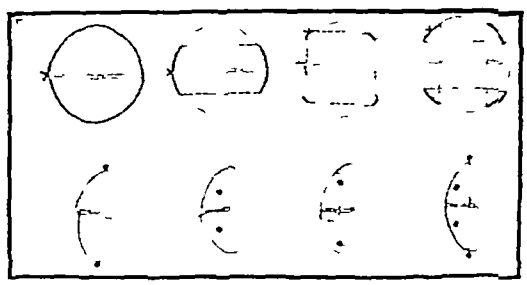


FIG 3.—Methods of suturing fracture of patella *a* and *b* encircling suture which may allow tilting of fragment *c* and *d* by a square stitch which ensures perfect apposition of articular surface

(Fig 3) in which the two horizontal strands prevent vertical separation, and the two vertical strand prevent tilting

After-care

The objective of early movement demand rapid healing of the wound Forty-eight hours skin preparation complete screening of the skin at operation "no touch" technique and careful skin suturing are all essential The ∩ shaped incision should never be used I have seen three cases of sloughing of the apex of the inverted flap and apart from the risk of infection the joint is deplorably stiff has resulted from the scar tissue formation and the enforced immobility

Recovery cannot be regarded as complete until the quadriceps is fully redeveloped For this purpose the most complicated of gymnastic machines and of electric batteries cannot equal the patient's own efforts During half an hour of physiotherapy a masseuse may stimulate a quadriceps muscle fifty or sixty times What is that to compare with the constant contraction of postural tone? The valuable time of the masseuse should not be occupied in gently lulling the patient to sleep with massage but in vigorously goading him into activity, teaching him to regain his own mastery over the inactive muscle and showing him postural and resistance exercises which can be practised not for thirty minutes but for the whole of his ten or fifteen waking hours

AVULSION OF THE LIGAMENTUM PATELLAE

So far no reference has been made to the use of fascia lata and my own feeling is that it is an unsatisfactory suture material for the perfect approximation of two loose fragments not simply because it is difficult material to work with but because it is so elastic that early movement causes "springing" of the fragments, and one loses the perfect fitting together which operative treatment permits On the other hand it has an excellent application in the repair of avulsion of the ligamentum patellae from the lower pole of the patella

In this injury the intact patella is pulled away from the ligament and is displaced up into the thigh by the tonic contraction of the quadriceps It is notoriously difficult to suture the vertical ligamentous fibres to the bared lower pole of the bone which is held up in tension It may be quite impracticable and instead of suturing the patella to the ligament it must be anchored to the tibia in some other way The fascia lata already has a tibial insertion, and it is a very easy matter to take a strand from its thickened anterior margin still attached by one end to the tibia pass the other end through a drill hole in the apex of the patella and pull on it until the bone is down to its normal level The fascia may then be stitched to itself through a tunnel in the tibia (Fig 4) Sufficiently firm anchorage is given to the quadriceps and patella to allow repair of the ligament despite early flexion movement and provided that the patella is at a normal level perfect function results even although there is frequently extension of ossification into the upper part of the ligamentum patellae

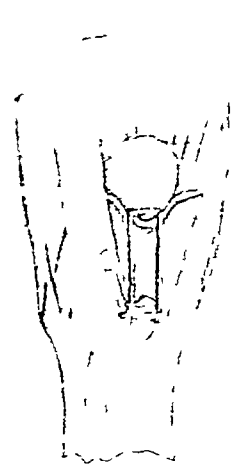


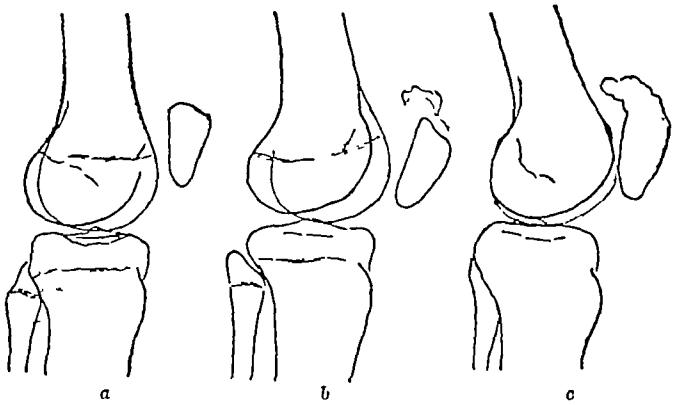
FIG 4.—Operation for repair of avulsion of the ligamentum patellae from the lower pole of the patella A strand of the anterior margin of the fascia lata still attached to the tibia is passed through the lower pole of the patella and tied to itself through a tunnel in the tibia

AVULSION OF THE QUADRICEPS

Exactly the same injury may occur at the upper pole of the patella, and the whole bone may be torn away from the quadriceps insertion The injury is not a common one and my own series includes only five cases of which one was bilateral It is frequently overlooked because at first there is no x-ray change The clinical signs however are exactly those of fracture of the patella and an even more serious disability arises in untreated cases

The injury involves mainly the inferior of the vastus internus and the crureus and the muscles detach the aponeurotic covering of the patella with an underlying layer of bone cell Within a few weeks new bone is

deposited, and, since the muscles retract, ossification may occur above the patella for two or three inches Subsequent *x*-ray examinations show gradual condensation of



a b c

FIG 5—Case of avulsion of the quadriceps treated conservatively by immobilization of the knee on a back splint *a* One day after injury *b*, Four weeks after injury *c* Two years after injury Despite immobilization, the quadriceps has retracted and its lower two inches is ossified. Better results follow immediate operative repair

the new bone and all the changes characteristic of myositis ossificans If the knee is immobilized in extension the new bone may remain attached to the patella (Fig 5), but if without first suturing the aponeurosis forced passive movements are carried out, the bone cells are still further separated from the patella, and large masses of free bone are produced (Fig 6)



FIG 6 — Untreated case of avulsion of the quadriceps with resulting ossification above the patella Note the resemblance to myositis ossificans

The term "myositis ossificans" of the quadriceps is an entire misnomer, the process is purely traumatic and mechanical, and in no sense inflammatory Far from being an inevitable complication of knee injuries, it is entirely avoidable by suturing the quadriceps back to the bone It must be equally true that many of the cases of myositis ossificans of the elbow are simply mechanical in origin, due to avulsion of the brachialis anticus, and preventable by securing reattachment of the muscle to the coronoid process, whether by conservative or by operative treatment

A MODIFICATION IN TRACHEOTOMY.

BY

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My object is to place on record the application of a well-known manœuvre in a manner that does not appear to have been described previously

Progress in anaesthetic practice has made endotracheal catheterization a commonplace The work of Rowbotham and Magill[1] on the passage of the endotracheal catheter via the nasal cavities revealed unsuspected possibilities, and that of Magill[2] on the passage of the endotracheal catheter via the nose *without the assistance of vision* has further widened the application of this useful manœuvre

The introduction of endotracheal catheters via the nose, a proceeding that has proved most helpful in anaesthetizing patients with conditions such as trismus, has hitherto been performed after the induction of general anaesthesia, and it was obviously merely a matter of time before its potential advantages would point the way to the introduction of catheters via the nose under local anaesthesia The occurrence recently of a respiratory emergency in the throat department of St Bartholomew's Hospital provided an opportunity for the testing both of the possibility of the manœuvre and of its usefulness The history of the case is as follows

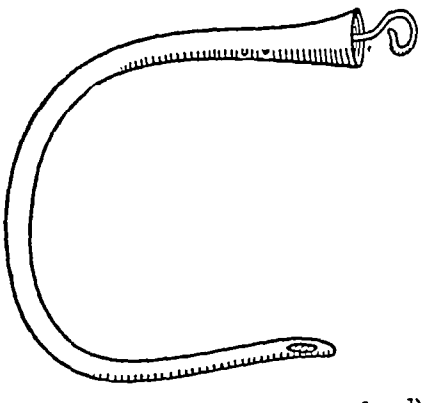
W D, aged 69 a big bully man with a short thick neck, was seen on June 24th suffering from severe dyspnœa with stridor, due to an intrinsic laryngeal carcinoma A satisfactory laryngoscopy was not achieved owing to the intolerance of the patient, and to the fact that alterations in the position of the head increased the dyspnœa to an alarming degree It was decided to perform a tracheotomy at once The shape of the patient's neck and the intensity of the dyspnœa rendered tranquil tracheotomy problematical, and laryngotomy was contemplated as being more practicable, at any rate as a preliminary General anaesthesia appeared to be contraindicated

It was thought worth while to try to intubate the larynx via the nose before actually beginning the incision, and after cocainization of the nose with a spray, the operator attempted the intubation, while the assistant held himself in readiness to perform an immediate laryngotomy if the intubation should fail A No 12 Porgès catheter mounted upon a stylet was successfully passed at the first essay, and after a short bout of coughing the delighted patient, speaking hoarsely round the tube, exclaimed, "This is pure Heaven! I'll remember it all my life"—not an overstatement, in view of his age and the condition from which he was suffering

A low tracheotomy was then performed in a leisurely manner, and with an entire absence of the anxiety which usually assails the patient (and not infrequently the surgeon) during an operation of this type on a cyanosed patient with a short neck The venous bleeding which might otherwise have been expected was noticeably absent It turned out that the tracheal rings happened in this man to be partially calcified, and that removal of the necessary piece was somewhat difficult—a fact which would probably have intensified the difficulties of tracheotomy by the ordinary method The coughing which usually follows upon the first perforation into the tracheal lumen was absent, because of the cocaine previously inhaled

DETAILS OF THE METHOD

It would seem that a great advantage in the nasal route is that while a patient suffering from dyspnœa is intolerant of any approach via the mouth, he does not resent the introduction of an innocent-looking tube into his nostril, and, provided the nasal passage and pharynx have been rendered moderately anaesthetic, he does not appear to be distressed by any groping for the larynx which may be necessary The anaesthesia is achieved quite quickly by spraying via the nasal passages (not the mouth) during inspiration with a solution of 10 per cent cocaine hydrochloride to which a drop of adrenaline 1 in 1,000 has been added, and the patient as a rule derives some immediate relief from the shrinking and numbing of the laryngeal mucosa While it is a fact that a tube passed via the mouth is more likely as a rule to find its way into the œsophagus, this seems not to be the case when the nasal route is employed The tip of the tube is usually tilted slightly forward by the cervical vertebrae, and so tends to arrive anterior to the opening of the œsophagus If the usual bulge forward of the cervical vertebrae is lacking, the catheter point can be bent forward upon the stylet so that it presents at the larynx



The diagram indicates the shape of catheter that was employed, but I gather that anaesthetists prefer to employ a soft rubber tube of large bore for routine use (upon patients already induced), relying upon the natural curve which is always present in such a tube, and upon small-range extensions and flexions of the patient's head to bring the tube opposite the glottis, so it may be that a soft tube might also be coaxed into the trachea even if stridor were present

POSSIBLE APPLICATIONS OF THE METHOD

The value of this procedure was striking in this particular case, and opens up interesting speculations as to the degree of its general utility It should be profitable to explore its possibilities in two distinct directions first, as

a preliminary to tracheotomy, secondly, as a measure in anæsthesia

It is important at the outset to make it clear that the manœuvre *does not call for special skill*. Magill has pointed out that provided the catheter is bent to the correct shape upon its stylet—roughly speaking a capital C—it is merely necessary to lubricate it and push gently, the operator being guided largely by the intensity of the respiratory sounds heard at the proximal end of the catheter. Certainly I have been able to endorse this dictum upon two out of the three occasions on which I have tried the manœuvre. In any case, the passage of a catheter is likely to be easier than the operation of tracheotomy, and in the event of failure the patient's chances with tracheotomy are not jeopardized.

In Respiratory Obstruction

I have not yet attempted intubation of the larynx via the nose in the obstruction of diphtheria, but, such cases for the moment apart, I would make a strong plea for an attempt at the passage of an endotracheal catheter as a regular preliminary to the operation of tracheotomy. If it is successfully passed, what was an emergency becomes a routine, and a step is at once taken towards the elimination of operative risks in tracheotomy. Further, if intubation has been achieved with cocaine, the way is now clear for an easy induction of general anæsthesia, if this should seem preferable to the use of novocain. If it should fail, neither patient nor operator is much worse off. It is possible even that cases of temporary obstruction may arise where this form of intubation may replace tracheotomy, as it sometimes does in diphtheria fever practice. This suggestion was made long ago by Dr. Magill, in a verbal communication.

For Anæsthesia in Throat Operations

The real bugbear of general anæsthesia at the present time is no longer the risk to life, but, to doctor and patient alike, is rather the risk of post-operative vomiting. While many anæsthetists are now accustomed to give gas and oxygen for tonsillectomy, provided the endotracheal catheter can be introduced after a preliminary induction with ether, the introduction of a catheter without the help of an ether induction or of the deep sleep afforded by paraldehyde—that is to say, under the influence of gas only—must be regarded as a great achievement. It is seldom therefore that the prospect of gas and oxygen anæsthesia throughout the operation enables us to promise the patient complete freedom from post-operative vomiting. If, however, the catheter could be introduced as a routine measure under local anæsthesia, throat operations could easily be performed under gas and oxygen anæsthesia only—that is to say, throat operations would be free from any risk of post-operative vomiting.

Before Emergency Tracheotomy

The case above described is one of two in which I have performed endotracheal intubation via the nose under local anæsthesia without the help of vision as a preliminary to tracheotomy, but upon three other occasions I have carried out intubation of the trachea as a preliminary to emergency tracheotomy, once with gas and twice with ether.

The first case was that of a woman whose trachea was obstructed by a large carcinoma of the thyroid gland. The operation of tracheotomy proved difficult even after the intubation, and would certainly have been a terrifying ordeal without it. In the second case intubation via the nose was done as a preliminary to tracheotomy in a case of tracheal obstruction of unexplained origin—possibly a retrosternal goitre—occurring during an operation upon the tonsils. It proved unnecessary to proceed to tracheotomy, normal respiration was restored on the patient's recovery from the anæsthetic when the tube was removed. The third case was that of a child aged 7 in whom the obstruction was caused by subglottic oedema following bronchoscopy for a foreign body. A little gas in this weak child sufficed to permit of intubation.

Conclusion

The purpose of this article is chiefly to put forward a proposal that tracheotomy should be preceded as a routine by an attempt at intubation of the trachea with a view to rendering the operation easier and safer of performance, and that the nasal route should be chosen rather than the buccal, whether local or general anæsthesia be employed. To this end it is urged that the tracheotomy set which should have a place in every operating theatre should comprise a catheter suitably curved upon a stylet with a spray duly charged with cocaine, and that students should be shown the manœuvre of nasal intubation—for example during their period of anæsthetic instruction. The acquisition of familiarity with this simple procedure should render a house physician's first tracheotomy a less alarming affair than it sometimes proves.

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THE ETIOLOGY OF HIGH BLOOD PRESSURE

BY

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A study of the published work on high blood pressure shows that many views have been put forward to account for its incidence. The following is a summary of the various factors which have been held to be implicated in its etiology:

1. Hereditary influence.
2. Infection (past or present)
   - (*a*) Generalized systemic infections
   - (*b*) Focal infections with dissemination of organisms
   - (*c*) Focal infections with dissemination of toxins
3. Intoxications (non-infectious)
   - (a) Exogenous (i) lead, arsenic, (ii) alcohol (doubtful), (iii) diet—excess of meat, general excess, condiment, constipation
   - (*b*) Endogenous
4. Metabolic
   - (*a*) Pregnancy
   - (*b*) Fatigue
   - (*c*) Endocrine disturbance

It is known that high blood pressure is in most cases accompanied by arterial or renal degeneration, it is also recognized that pathological degenerations are preceded by, and are therefore presumably the result of, some form of toxæmia. Hence it is not unreasonable to suppose that high blood pressure is the result of the action of some toxic body or bodies. Since it one of the chief functions of the liver to destroy toxic substances, it was considered that it might prove possible to show that the hepatic detoxicating functions are impaired in cases of hypertension.

On the assumption that high blood pressure is the result of a toxæmia, a considerable amount of work has been done in the past to establish the existence of a causative toxin, without its having proved possible to implicate definitely any one class of toxin and much less any specific toxic body. For the purposes of this present investigation the most promising field in which to search for a causative toxin seemed to be among the products of protein disintegration, since it is toxic bodies of this nature—for example indican—which are chiefly destroyed by the liver. The investigation therefore resolved itself into an examination of the products of protein metabolism and of the ability of the liver to deal with such product.

To this end full blood analyses with reference to nitrogen partition were made, the hepatic detoxicating functions

were judged in terms of the capability of the liver to destroy indican, and to combine drugs of the nature of salicylic acid with glycuronic acid, excreting them as the paired glycuronates The determination of nitrogen partition involved the estimation in the blood of urea, non-protein nitrogen, amino-acids, and purins It was anticipated that the presence of any non-protein nitrogenous toxin would show itself either as a relative increase of non-protein nitrogen over urea, or, if it should be of the nature of a specific amino-acid, it would naturally be found in this fraction of the analysis

In order to determine whether or not the liver was dealing with the metabolism of nitrogenous bodies in an efficient manner, estimations of the relative amount of ammonia nitrogen and urea nitrogen in the urine were carried out It is assumed that a normally functioning liver converts all but about 3 per cent of ammonia, produced as a result of deamination, into urea, so that a normal ammonia nitrogen to urea nitrogen ratio is in the neighbourhood of 1 to 60, and should not in any case exceed 1 to 35

Twenty-five cases of hypertension with systolic blood pressures varying between 185 and 300 millimetres of mercury, and twenty control cases in which hypertension was not present, were investigated The minimum, maximum, and average results in both series of cases are shown in the following tables Full experimental details showing the actual figures obtained in each individual case are available, and will be furnished on application to the author

Cases of Hypertension

	Minimum	Maximum	Average
Age in years	19	80	54
Systolic blood pressure	185	300	210
Urinary urea	0 6%	2.5%	1 6%
Ammonia nitrogen to urea nitrogen ratio	1 to 50	1 to 11	1 to 28
Blood urea mg in 100 c cm	20	590	80 9
Non protein nitrogen mg in 100 c cm	20	700	80 8
Amino-acid nitrogen mg in 100 c cm	4 6	10 9	7 9
Uric acid mg in 100 c cm	3 0	13 3	6 1

"Normal" Control Cases

	Minimum	Maximum	Average
Age in years	9	65	38
Systolic blood pressure	88	142	115
Urinary urea	1 6%	2 5%	2 0%
Ammonia nitrogen to urea nitrogen ratio	1 to 88	1 to 32	1 to 61
Blood urea mg in 100 c cm	26	45	34
Non protein nitrogen mg in 100 c cm	26	44	34
Amino-acid nitrogen mg in 100 c cm	4 8	6 9	5 7
Uric acid mg in 100 c cm	0 9	3 0	2 2

Urea in the urine was estimated by the alkaline sodium hypobromite method, and the ammonia nitrogen content by titration with formalin and standard alkali

In 68 per cent of cases of high blood pressure the urinary urea was less than 2 per cent , in all cases the amount of ammonia was high, so that the ratio of ammonia nitrogen to urea nitrogen was in all but four instances (16 per cent) increased to approximately 1 to 20 Since a condition of acidosis was eliminated by simultaneous determination of the alkali reserve of the patient the conclusion must be drawn that the absolute and relative increase in urinary ammonia is due to an hepatic lesion All the control cases gave normal ammonia nitrogen to urea nitrogen values

The detoxicating functions of the liver were tested by two independent means (1) an estimation of urinary indican by oxidation to indigo with Obermayer's reagent, and (2) the detection of glycuronic acid in the urine by Tollen's naphthoresorcinol test after the ingestion of 10 grains of acetyl-salicylic acid The results did not show that there was any impairment of detoxicating function of the liver as indicated by the glycuronic acid test, since only three of the series gave a definitely negative result Of these three, one was a case of diabetes mellitus with high blood pressure in an elderly patient, such diabetes being frequently of hepatic as well as of pancreatic origin, hence it is not surprising that other liver functions were also found to be inefficient In this case also there was evidence of inefficient protein metabolism, as indicated by a high ammonia nitrogen to urea nitrogen ratio (1 to 19) Two other patients were aged 70 and 80 years respectively, at this age it is not unreasonable to suppose that hepatic functions are deficient, apart from any specific disease

An excess of indican was found in 72 per cent of the cases, it is evident that this must be due either to an excessive production or to a loss of hepatic oxidative power Although indican in itself is not toxic, its presence in excess in these cases is of significance because of its association with the high amino-acid content observed in 17 out of 25 of these cases There was no history of constipation or of intestinal disturbance in any of these patients, so that a long-standing intestinal toxaemia to account for an excess of indican is improbable

Blood urea was determined by means of alkaline sodium hypobromite controlled by the soya bean method, in all cases the results did not differ by more than 2 per cent Non-protein nitrogen was estimated by the micro-Kjeldahl method, and blood amino-acids[2] and blood purins[3] by the method of Folin Blood urea values were in all cases increased beyond the normal of 25 to 40 mg per 100 c cm , results as high as 590 mg per 100 c cm being obtained The figures representing non-protein nitrogen, although raised, were not increased to such an extent as was the blood urea, so that figures less than the blood urea values were frequently obtained

An increased amount of amino-acid nitrogen was found in 68 per cent of this series of cases, figures varying from 5 to 10 9 mg per 100 c cm , instead of the normal 4 to 6 mg per 100 c cm , being obtained, this is in the main associated with a normal or relatively low blood urea content It was also noticeable in those cases in which the blood urea was raised that the amino-acid nitrogen was more or less normal This may be due to the fact that when there is serious impairment of renal function, as shown by an abnormally high blood urea, *there is* at the same time a certain amount of inorganic salt retention, with consequent hydraemia and dilution of blood constituents The relatively low values of amino-acid found in these cases, in conjunction with a high blood urea, are therefore probably more apparent than real It is of interest to note that these findings are at variance with those of Greene, Sandiford, and Ross,[4] who observed no increase in blood amino-acids in a series of 20 cases of hypertension and arterio-sclerosis in which the blood urea was normal

One is left, therefore, to conclude that the increase in the amino-acid content of the blood is due either to an inability of the liver to deaminize these compounds, or to an impairment of renal function interfering with their excretion Since in most cases of both acute and chronic renal disease there is no marked retention of amino-acids, it is probable that the increase observed in this series of cases (in which renal involvement is not particularly evident) is due to some form of liver degeneration The suggestion that liver degeneration is responsible for the increase in amino-acids is supported by the fact that these bodies are very markedly increased in acute yellow atrophy of the liver[4]

That an increase of amino-acids does in point of fact cause a rise in blood pressure is shown by the experiments of Major Stevenson,[5] who demonstrated that injections of guanidine and methylguanidine (both of them amino acids) produced a marked increase in blood pressure In this connexion also it is again of interest to note that Woolley and Newburgh[6] have shown that the long-continued injection of the amino acid indol causes hypertrophy of the

suprarenal medulla Since it is in this tissue that the production of adrenaline takes place it seems not unlikely that hyperadrenalism may be an associated factor in hypertension and that its existence may be reflected in the high amino-acid content This relationship is to be the subject of further investigation

Associated with the increase in amino-acids in this present series of cases, it was noted that there is also a very marked increase in the blood purins (estimated as uric acid) values varying between 4 0 and 13 3 mg per 100 c cm, instead of the normal 1 0 to 3 0 mg per 100 c cm were obtained The significance of this finding is not clear because it is known that uric acid of itself has no influence upon blood pressure in gout for example, there is an increase in blood urea acid without any accompanying increase in blood pressure

There is also to be noted the question of the markedly raised cholesterol content of the blood in hypertension recorded by various observers[6] That cholesterol in itself is not responsible for this pathological condition is at once obvious when the large number of patients suffering from hypercholesterolaemia, following upon biliary obstruction pernicious anaemia, diabetes mellitus, and pregnancy without concomitant affection of the blood pressure is taken into consideration However, it is said that repeated injections of cholesterol into experimental rabbits results in arterio-sclerosis[7]

The source of the increased cholesterol content of the blood is probably referable to an alteration in the cholesterol metabolism taking place in the liver, and it may be said therefore that the hypercholesterolaemia is primarily a liver condition The cholesterol normally excreted by the liver together with the bile pigments, bile salts, and other biliary constituents is derived partially exogenously and partially endogenously, that is to say, partly from sterols ingested as food and partly from the fatty constituents derived from the breakdown of red blood corpuscles, which is said to occur in the Kupffer cells of the liver The sterols are converted by the liver, partly into cholesterol and partly into bile salts[10] and it may well be that owing to the action of some toxic body upon the liver cells the normal course of metabolism is modified in favour of a production of cholesterol at the expense of bile salts Such an altered course of metabolism is known to occur and, indeed is held to be a factor in the causation of gall-stones[11] Hypercholesterolaemia is therefore probably an associated factor in, rather than a cause of high blood pressure But this also is to be the subject of further investigation

That some toxic factor is concerned is strongly suggested by the work of Cheorghian[12] who found that the injection of blood from patients with high blood pressure caused a rise in blood pressure in experimental animals It seems probable that the toxic factor is a normal product of metabolism, since it has been observed by O'Conor[13] that a high blood pressure resultant upon urinary obstruction in cases of enlarged prostate yields to suprapubic drainage Retention of this specific toxic body in renal disease therefore satisfactorily explains hyperpiesis in this condition It is to be inferred that the toxin is present only in small amount from the fact that there is no very marked difference between the blood urea and blood non-protein nitrogen figures, indeed, the non-protein nitrogen values as already pointed out, are remarkably low The series of blood urea determinations in cases other than nephritis suggested that there is some slight impairment of renal function, but not enough in itself to lead to such a degree of retention of this toxic factor as to cause an increase in blood pressure such as may reasonably be supposed to occur with gross damage to the kidney

This toxic body may conceivably be present in excess as a result of overproduction This possibility is suggested by the work of Nuzum, Seegal Carland and O'borne[14] who showed that the blood pressure of a rabbit can be raised and nodular sclerosis produced by feeding on a high protein diet for two years

The conclusion to be drawn tentatively, therefore from this present investigation is that hypertension is due to the presence in excess of a specific amino-acid This excess may be due to retention resulting from renal disease to overproduction, or more probably to some impairment of hepatic function whereby this body is not efficiently destroyed

Finally I wish to record my thanks to the trustees of the John Burford Carlill Endowment for a grant which has enabled me to carry out this work to Dr J A Braxton Hicks director of the John Burford Carlill Laboratories and to Dr F D M Hocking assistant pathologist to Westminster Hospital for their helpful advice to Sir James Purves-Stewart Dr de Souza and Dr Hildred Carlill for permission to make use of cases in their wards at Westminster Hospital

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PREVENTION OF TUBERCULOSIS BY MEANS OF TUBERCULIN

BY

ROBERT CARSWELL, M A, M B, Ch B

There is general agreement that the subcutaneous tuberculin test is a *reliable test of tuberculous infection* Can anyone afford to ignore the warning furnished by such an indication, with knowledge of all the numerous minor manifestations and risks of latent tuberculosis, and of such incidents as the occurrence of tuberculous meningitis, for example in apparently healthy children? Will any thoughtful and informed individual to-day rest completely satisfied with anything short of guaranteed absence of infection in this disease? Were infection not merely frequent and inevitable, as it appears to be, but irremediable, as seems to be generally assumed, less might be said, and it is probable that a feeling of inevitability is the explanation of the calmness with which wholesale tuberculous infection is regarded, or disregarded, both by the medical profession and by the community at large

"We have all got it" they say, quite pleasantly But such was not Koch's view, and such is not the view of those who have proved for themselves or who accept the truth of his assertion that his specific method of diagnosis is almost uniformly reliable, and that, in addition incipient tubercle is can be cured with certainty Even if his specific methods of treatment be regarded as merely ancillary to the ordinary hygienic methods of cure, the contention that *nothing short of* complete eradication is a satisfactory standard would still hold force But some of us regard specific immunization not as ancillary merely, but as a prime factor in curative and preventive treatment, though experience is required to settle the important question of exactly how far we can depend upon its help alone

The above general argument was more or less embodied in a short paper, with three illustrative cases, published by me in the *Journal* four years ago (October 16th 1926 p 682), but since then it has become more clearly envisaged, and the following example was entered upon largely from the theoretical point of view that in the matter of tuberculosis nothing will be completely satisfactory in the medical history of children but definite ascertained freedom from infection indicated by a negative tuberculin test as is the common practice in veterinary work

The two girls A and B who are the subjects of the following report were at the time this record opens 13 and 14 years

of age respectively and in good, ordinary health On being submitted to the tuberculin test, however, the following results were obtained

B was negative to all five test injections (Chart II), and the Koch phenomenon was absent also In A, however (Chart I), the first (reduced) test dose produced a negligible effect, but the second injection, two days later, with twice the amount (0 0007 c cm), produced a distinct, though atypical, reaction,

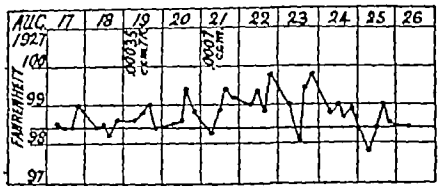


CHART I (A)

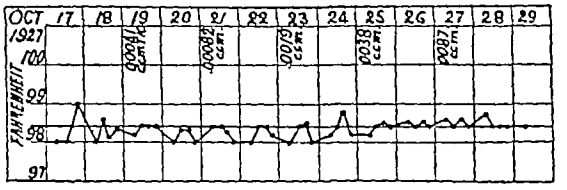


CHART II (B)

and both injection sites showed marked areas of inflammation This result in the case of A might not by itself have been accepted as conclusive, but upon proceeding with a series of immunizing injections numerous slight typical reactions were soon forthcoming, including one or two of a more pronounced character, illustrated in Chart III

There was therefore no doubt as to the positive reactivity of this case

There was no evidence of focal reaction anywhere, a few minute cervical glands, such as are common in children, may have harboured a trace of infection, or this may have existed in bronchial, mediastinal, or mesenteric glands, but there was no evidence Nor was there anything suggestive in the medical history She had had a severe attack of broncho pneumonia when a few weeks old There was a liability to colds in the head, which often went down into the chest, but were apparently of an ordinary type, a tendency to get hot and perspire at night, and a tendency to occasional slight marginal blepharitis

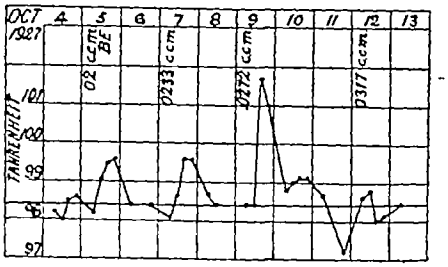


CHART III (A)

Otherwise her general health was very good, though she was considered not quite so hardy as her sister Subsequent *x* ray examination agreed with the stethoscopic findings in being negative

I proceeded at once with an effort to exterminate the infection Following Koch, who still remains the most illuminating authority on method in the employment of his preparations, a course of immunization by bacillary emulsion was carried out Beginning with a dose of 0 0005 c cm B E , and rapidly increasing during the first week, a steady progression of inoculations was carried out at intervals of two, three, or five days, with a proportionate increase of dose of, at first, one fifth, then one sixth, ending in the course of three months with 0 5 c cm. B E (2½ mg bacillary substance) Throughout the course there were frequent mild reactions which, though distinct, caused little or no subjective disturbance On two occasions the temperature rose, following an injection, to 101 7° and 103 2° respectively, but even on those occasions the disturbance did not amount to more than that of a moderate and temporary febrile attack This procedure had as its objective attainment of a progressive immunity to B E , and on reaching the dose of 0 5 c cm it was considered that the child's endurance had been sufficiently tested, and it was decided to leave an interval and note the result The general effect of this course of treatment was actually beneficial, apart from the temporary disturbance following each injection, though what was being aimed at was not so much the immediate establishment of an obvious high standard of health as extinction of infection, to be gauged by a future test

After an interval of six and a half months the test was repeated in both cases, with the results charted below

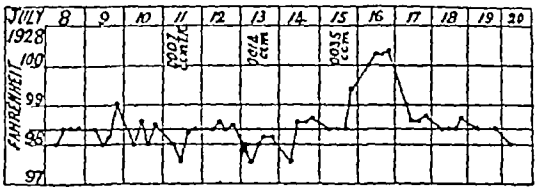


CHART IV (A)

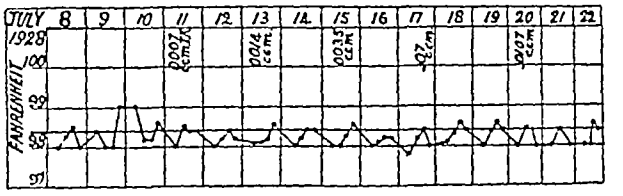


CHART V (B)

The previous non reactor B was again negative (Chart V) The previous reactor A tolerated the former reacting dose of 0 0007 c cm , and also a dose of twice this amount, with only a trace of temperature disturbance and no clinical symptoms, but reacted typically to the third test dose of 0 0035 c cm (Chart IV) On the whole she exhibited some diminution of reactivity, and seemed to be maintaining a more settled type of temperature The injection site reaction was again decidedly positive, contrasting markedly with that of the negative case Focal reaction was not observed

A second series of injections was begun five weeks later with a dose of 0 000005 c cm , and was carried out rapidly The dose was doubled with seven out of the first ten injections, the proportionate increase being then gradually reduced in the course of the next ten days to one and one sixth, which rate of increase—one and one sixth of each preceding dose—was consistently maintained throughout the remainder of the series, with the exception of the final injection of 1 c cm B E

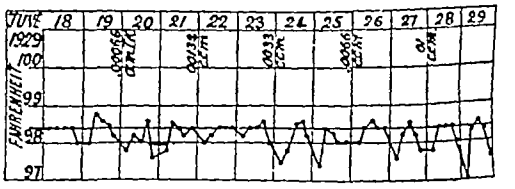


CHART VI (A)

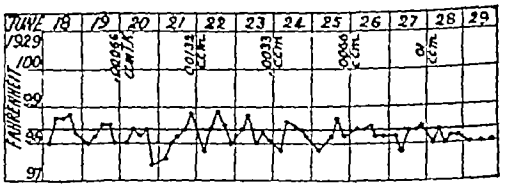


CHART VII (B)

(5 mg solid substance), which was one and one seventh During the first forty nine days forty two injections were given The interval between the next six doses was two days, and between the last three doses, three days The total number of injections was fifty, and the time occupied sixty six days The inoculations were very well borne there was less temperature disturbance than during the previous series, and little or no inconvenience was experienced The general condition was well maintained throughout, and the weight at the end was slightly more than at the beginning

The next tuberculin test, carried out seven and a half months later, was interesting, inasmuch as, in the case of A, contrary to expectation, it turned out to be completely negative The record, together with that of the control case B, also negative as before, is shown above (Charts VI and VII)

With this satisfactory evidence in hand nothing further was done in the way of treatment, there had been no particular

alteration of the general mode of life throughout According to Koch, we were now entitled to assume that no fresh or progressive tuberculosis was present which required specific treatment

After an interval of just over seven months the tests were again repeated, and were again both completely negative

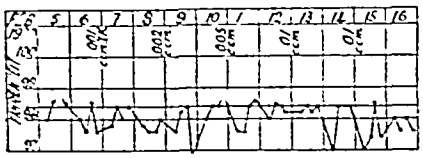


CHART VIII (A)

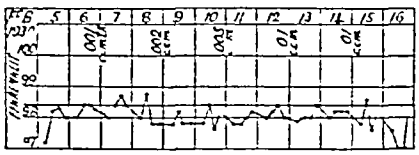


CHART IX (B)

There was no restriction of activity during any of the reported tests, so that the influence of exercise upon these temperature records is not excluded.

A few words may be added concerning the findings at the sites of injection There was in general distinct evidence in the reactor during the reactive period, of the incidence of the Koch phenomenon—increased inflammatory reaction at the injection site—in striking contrast with the entirely negative, or quite trifling, effect in the case of B, but it is of interest to note that even after A's temperature test record had become entirely negative there was still a distinctly greater degree of local sensitiveness in her case than in the case of B This is believed to be due to a corresponding inherited difference in the quality of the tissues, A's skin being soft and fair and easily reddened by the sun, while B's skin is firmer, darker, and less sensitive It should be noted, however, that there was a *relative* diminution in sensitiveness in the case of the reactor, as, during the phase of positive general reactivity, her injection site reactivity was also distinctly greater than it became subsequently, at the time of the two negative general tests

These results are a source of legitimate satisfaction, as both individuals can now be placed in the tuberculin-tested negative group, and guaranteed, so far, free from tuberculosis The details of the testing process have been completely mastered by the patients themselves, and entail no inconvenience and no trouble beyond the taking of the temperature record It is purposed to repeat this test annually in future, at all events for a time

Can this be taken as an example? I believe it can to some extent, for it is the actual accomplishment of a result which was deliberately aimed at beforehand and which, on theoretical grounds, has much to support it The subcutaneous tuberculin reaction is generally accepted as definite proof of infection, and there has now accumulated a large body of evidence in support of the curative efficacy of tuberculin treatment If this be accepted the conclusion is clear We have here a method of elimination worthy of close attention and elaboration In a search for other preparations and other procedures have we not strayed from the path clearly pointed out by Koch so many years ago?

FORTY CASES OF HYDATID DISEASE

BY

CYRIL H CUFF, M B, B S, F R C S Ed,

SURGICAL SPECIALIST CYPRUS

HYDATID disease in Europe is sufficiently uncommon to warrant occasional reports on series of cases, with special reference to treatment and results The etiology of the disease is too well known to require special comment here Suffice it to say that in primitive agricultural countries where sheep and dogs abound and proper slaughter-houses are rare the echinococcus finds its ideal home

Propagation is effected either by direct contact with dogs or by the use of contaminated feeding utensils There appear to be no special symptoms characteristic of hydatid disease, those produced originating from the presence of a tumour causing pressure upon, or destruction of, adjacent structures These secondary symptoms vary considerably, depending upon the site of the cyst and its size, typical examples are jaundice, pruritus, ascites haemoptysis, etc

Rupture is uncommon, though one of my patients (No 35) was admitted as suffering from a perforated gastric ulcer of which he showed many classical signs Laparotomy, however, revealed rupture of a hydatid cyst close to the portal fissure Suppuration occurs occasionally, and may give rise to all the symptoms of an acute cholecystitis (No 40) Gall stones and chronic cholecystitis have been noted in two patients (Nos 16 and 20), both of whom were subjected to cholecystectomy

From Table I it will be seen that in this series the incidence of the disease among males and females is equal, and that the majority of cases have been of the liver The exact figures are cysts of the liver 31, other sites 9 As ascertained up to June 30th 1930 the results of treatment were as follows cured 29 relieved 6 died 5 Considering the poor physique of many of the patients, a number of whom were also suffering from chronic malaria, these results may be regarded as quite satisfactory The period covered by the series is from September 1926 to April, 1930 the cases in Table I which are in chronological order show a remarkable sequence of male and female patients

TABLE I.

No	Sex and Age	Site	Treatment	Result	No	Sex and Age	Site	Treatment	Result
1	F 50	Liver	Excision	C	21	M 30	Liver	Drainage & obliteration	P
2	F 50	Liver	Drainage	C	22	F 50	Liver	Excision	C
3	M 2	Liver	Excision	C	23	M 40	Liver	Drainage	L
4	F 30	Thigh	Drainage	C	24	M 13	Ischio-rectal	Drainage	C
5	M 61	Liver	Excision	C	25	F 8	Omentum	Removal	C
6	M 12	Lung	Resection & drainage	C	26	F 25	Liver	Drainage	P
7	F 64	Liver	Drainage & obliteration	C	27	F 45	Liver	Excision	C
8	F 24	Omentum	Removed	C	28	F 12	Liver	Drainage	D
9	M 40	Liver	Drainage	D	29	M 30	Liver	Drainage	P
10	M 40	Lung	Paracentesis	P	30	F 55	Uterus	Curettage	D
11	F 30	Liver	Drainage	C	31	F 21	Liver	Excision	C
12	M 25	Omentum	Removed	C	32	F 20	Liver	Drainage	C
13	F 45	Liver	Drainage	P	33	F 40	Liver	Drainage	C
14	M 40	Liver	Drainage	D	34	M 6	Liver	Excision	C
15	M 5	Liver	Excision	C	35	M 3	Liver	Excision	C
16	F 34	Liver	Drainage	C	36	M 31	Liver	Drainage	C
17	F 40	Liver	Drainage & obliteration	C	37	M 19	Liver	Drainage	D
18	M 20	Liver	Drainage	B	38	F 50	Liver	Drainage	B
19	F 40	Liver	Drainage	C	39	M 47	Lung	Resection & drainage	C
40	F 70	Liver	Excision	C	40	M 5	Liver	Drainage	C

Notes.—In Case No 5 an operation was recently performed for [illegible] cyst. In 16 and 18 were associated with [illegible] Nos 36 ruptured into peritoneal cavity and No. 40 had acute [illegible] C=cured B=relieved D=died.

OPERATIVE TREATMENT

Cysts of the Liver

The methods adopted in the case of liver cysts are three in number (1) drainage, (2) drainage with partial obliteration of the cavity (3) complete removal In the present series 18 cases were treated by drainage, 3 by partial obliteration, and 20 by complete removal

Drainage consists in exposure of the cyst, evacuation of the contents, removal of the endocyst, and fixation of the tube Where possible in these cases I usually suture the parietal peritoneum around the proposed site of drainage as a protection against leakage, but in large or multiple cysts this is not feasible Preliminary sterilization of the contents by injection of formalin is practised in all methods The duration of post-operative drainage varies with the size and nature of the cyst The wound is generally healed in three weeks, in some cases, however, discharge may continue for many weeks, and is often bile-stained, occasionally a troublesome sinus persists, which may require radical treatment

This is a simple and satisfactory method of dealing with the majority of cysts

Drainage with Partial Obliteration —The essential difference between this method and that of simple drainage is that an attempt is made to diminish the size of the ectocyst by approximating its walls In the three cases thus treated this has been effected by means of superimposed layers of continuous catgut sutures after excision of as much of the membrane as possible The cavity has not been completely closed, a small rubber drain being left in its upper portion for three days For large cysts with soft walls, and where the endocyst has been removed *in toto*, I consider that this is a sound method of treatment

Complete Removal (Exsection) —Cysts of moderate size, especially those near the free border of the liver, may be completely removed by a wedge-shaped exsection which includes a portion of the liver substance Haemorrhage, as a rule, is not serious, and can be controlled by finger pressure, clamps, or gauze The resulting wound in the liver is closed by a series of deep mattress sutures and by a superficial running suture The results of this operation are extremely satisfactory in suitable cases No drainage is required and patients make a rapid and uneventful recovery

Note —The adventitia should be separated from the liver as far as possible by blunt dissection or gauze, thus reducing the actual incision to the smallest possible dimensions

TABLE II

	Cured	Relieved	Died	Total
Drainage	10	4	4	18
Obliteration	2	1	—	3
Exsection	10	—	—	10
Total	22	5	4	31

From a study of the above table the results of treatment may be easily seen All cases treated are included Cases are reported as cured where the wound is soundly healed and where there is no return of symptoms, and relieved where, although the general condition of the patient is good, a sinus persists These latter have all been large calcareous cysts with suppuration of contents Of the four deaths, three occurred some months after operation among patients with enormous cysts involving practically the whole liver, and were due to hepatic insufficiency The fourth died of post-operative shock

Extrahepatic Cyst

These, which numbered 9, were situated as follows rectus femoris 1, ischio-rectal fossa 1, lung 3, omentum 3, uterus 1 The cysts in the rectus and ischio-rectal fossa presented the appearance of chronic abscesses, and were recognized only at operation, which consisted of evacuation, swabbing with formalin (2 per cent), and packing with bipp

The uterine case was sent in with severe haemorrhage This patient was aged 55 and a nullipara On examination, the uterus was found to be enlarged and soft, the os was patulous and admitted two fingers The vagina contained several small cysts and others were expressed from the uterus The condition of the patient was very poor and precluded hysterectomy The uterus was evacuated with a flushing curette, and a number of small hydatids and a large piece of endocyst removed Haemorrhage was free, and the cavity was packed with flavine gauze The patient improved and left hospital, having refused further treatment She died one month later from what was stated to be a severe haemorrhage

Of the three lung cases, one patient refused operation the other two were treated by resection of ribs, suture of pleura, drainage, and removal of endocyst The operations were done under local anaesthesia, and the wounds healed rapidly Two of the omental cysts were lying in the pelvis and bound down by adhesions The third was situated in the epigastrium and was freely movable They were excised intact together with a portion of omentum

TABLE III

Site	Cured	Unchanged	Died	Total
Rectus femoris	1	—	—	1
Ischio-rectal fossa	1	—	—	1
Uterus	—	—	1	1
Omentum	3	—	—	3
Lung	2	1	—	3
Total	7	1	1	9

Diagnosis

In a hydatid country the possibility of a cyst is always in the surgeon's mind, and in the case of the liver there is seldom difficulty in making a correct diagnosis In other sites the difficulties are greater and the symptoms and signs less definite Diagnosis is occasionally rendered easy by the presence of portions of hydatid material in the faeces, urine, or sputum X-ray examinations and laboratory tests are of considerable help in doubtful cases The three lung cases referred to were all well demonstrated by radiography, all gave a positive Weinberg reaction (complement fixation), two a positive cutaneous test (Casson) Eosinophilia occurs in about 50 per cent of cases, but the blood film is not of great value, especially when chronic malaria is a concomitant condition

I have to thank Dr M Gosden bacteriologist for undertaking the laboratory investigations, and Dr E J Blackaby, district medical officer, for permission to include Case No 18

FOREIGN BODIES IN THE UPPER CONJUNCTIVAL FORNIX

BY

THOMAS COLLEY, F R C S Ed,

SURGEON TO THE WEYMOUTH AND DORSET COUNTY ROYAL EYE INFIRMARY

The following two cases were recalled to my mind by a report of a somewhat similar case published in the March number of the *British Journal of Ophthalmology* by Mr Sawhney These cases are of particular interest, since it is quite possible for the presence of such foreign bodies to be overlooked, when abscess formation would undoubtedly follow Once a case of this type has been recognized there should be no difficulty in making a diagnosis or suspecting the condition in subsequent cases

First Case —In November, 1929, a man attended my out patients' clinic with a muco-purulent discharge from the right eye, he stated that while threshing a week previously something had entered this eye The appearance was typical of muco purulent conjunctivitis, the lashes being stuck together with inspissated discharge, the upper lid, however, was somewhat more thickened than one would have expected On separating the lids the bulbar conjunctiva and that of the lower fornix were relatively clear except for slight injection, eversion of the upper lid showed the conjunctiva to be somewhat injected, but not to the extent that the external appearance suggested The discharge appeared to come from the inner end of the upper fornix, but even when this area was prolapsed by pressure on the globe with the upper lid everted, no foreign body could be detected This part of the conjunctiva was intensely injected and somewhat thickened The cornea and the eye itself were normal throughout

Local treatment consisting of frequent lavage with boracic lotion drops of colloidal silver and yellow ointment was prescribed and considerable improvement ensued the oedema of the upper lid gradually disappeared on the outer side but persisted over the inner end The conjunctiva cleared rapidly but considerable discharge was present which still came from the inner end of the upper fornix Further examination of this region now showed the presence of a small granulation

With the conjunctiva anæsthetized by cocaine and the upper lid doubly everted this granulation was gently scraped with a sharp spoon and a yellowish white point was exposed This was seized with a pair of forceps and a piece of macerated straw almost an inch in length was withdrawn from the orbital tissue The condition cleared rapidly in the next three days and a week afterwards the patient was discharged

Second Case—In July 1930 a man presented himself at my hospital clinic for treatment giving a history that while threshing a week previously a piece of barley straw had blown into his right eye The upper lid was inflamed and considerably thickened the man being unable to raise it The site of inflammation appeared to be in the region of the lacrymal gland where a definite welling was present there was a light muco-purulent discharge but no fluctuation of the swelling was obtained by palpation On raising the lid the appearance of the globe was normal there was however slight limitation of movement upwards and outwards The cornea was clear and the conjunctiva mildly injected The lid was so thickened by oedema—especially the outer part—that it was impossible to evert it

A hand retractor was employed and the lid was raised when the discharge was found to come from the outer part of the upper fornix where the conjunctiva was raised in folds by oedema This region was washed out and a bead of pus was noticed coming from between two folds which when separated revealed the end of a piece of barley straw This was removed with forceps it appeared to have been embedded in the palpebral portion of the lacrymal gland The condition resolved satisfactorily in forty-eight hours and the man was discharged in six days

It is quite common especially in rural areas, to see cases where pieces of straw or like material have been retained in the upper fornix for considerable periods The upper fornix is a cul-de-sac, which is formed by the reflection of the conjunctiva from the upper lid on to the globe The sensitiveness of the conjunctiva is relatively low and since the anatomical structure of this area is such that foreign bodies are held well away from the sensitive cornea their presence is often undetected by patients until a local reaction has been set up

Foreign bodies in this position produce a clinical picture which is fairly typical Pain is usually absent, and the discharge at first watery, quickly becomes muco-purulent The upper lid becomes oedematous and the superior palpebral fold puffy The lashes stick together with discharge, but when the lids are separated the conjunctiva appears fairly healthy The upper fornix however, is the site of an intense reaction the intensity being dependent on the length of time during which the foreign body has been retained In some cases ulceration may take place and the foreign body be found embedded in granulation tissue It is also feasible to think that such foreign substances as straw, which are relatively sharp, and which at first lie horizontally along the fornix, may later cause ulceration, and the action of the lids may actually drive them into the tissues of the orbit

In the first case recorded I believe that the straw actually penetrated the conjunctiva of the upper fornix on entry since there was no ulceration and only one *small* granulation locally at the point of entry but in the second case, where there was much local inflammation and reaction the straw might have been thrust into the orbital tissues through a softened and ulcerated conjunctiva In all cases where a muco-purulent discharge is present on one side only, and where lacrymal obstruction and dacryocystitis are absent, the necessity of complete eversion of the upper lid and an exploration of the upper fornix cannot be overemphasized

Had these two cases been seen soon after the entry of the foreign bodies it is more than possible that their presence would have been detected either in the fornix itself or penetrating through a conjunctiva which would at that time have been practically normal Advice was not sought, however until some seven days after the entry, when the clinical picture was much more like that of a lid abscess.

Memoranda

MEDICAL SURGICAL, OBSTETRICAL

NICOTINE POISONING BY ABSORPTION THROUGH THE SKIN

The causal circumstances in the two cases here reported appear to be unusual

A. B aged 19 an undergardener was seen at 10.30 a.m. on December 21st 1929 suffering from prostration abdominal pain, *and violent sporadic vomiting sickness having come on about* 6 o'clock on the previous evening continuing at short intervals all night F. K. aged 34 head gardener was seen in a similar condition at 3.30 p.m. on December 21st vomiting in his case having started at 9 p.m. on the 20th continuing at intervals of about half an hour The vomitus appeared to be chiefly bile In both cases the bowels were confined temperature subnormal pulse thin and accelerated (slightly irregular in the case of A. B.) tongue dry and yellow-coated skin on the extremities pale and cold There was marked muscular relaxation in the lower extremities The slightest attempt at movement appeared to induce further retching and vomiting A. B had cycled home a distance of two miles at 5 p.m. and felt ill immediately on taking a cup of tea F. K. who lived at the gardens had tea at 6 p.m. and first felt sick two and a half hours later

Both men were of robust physique and could offer no explanation of the trouble Questioning elicited the statement that from 2 p.m. till 4.30 p.m. they had been applying a winter wash insecticide to trees in a peach house The solution in a strength of one part to sixteen of water was well worked into trunks and branches using a motor-car spoke-brush an instrument calculated to splash liberally the hands forearms and face. To reach inaccessible parts and small twigs against the wall the brush was dispensed with and the bare fingers used After work they found it difficult to remove the brown stains from the skin. F. K. had had previous experience of this wash and seemed to remember that it had made him feel sick before He usually smoked while at work but had not done so on this occasion.

A tin produced was labelled XL All Liquid Insecticide. Nicotine 3.7 per cent Caution When spraying or dipping for a length of time rubber gloves should be worn Though printed in large type neither caution nor other particulars had been read.

Stimulants were given heat applied to the extremities the bowels opened with calomel and a dessert-spoonful of kavlene administered every fifteen minutes for three hours by which time in each case vomiting ceased F. K. was well in two days A. B who had done much less brush work and more finger-dipping had some abdominal discomfort for a week and was shaky on his legs for ten days

A wide literature centres round nicotine poisoning in relation to tobacco smoking the volatile alkaloid, existing as organic salts being dissociated by heat Toxic effects from smoking, however, are not referable to nicotine alone, as the volatile chemical compounds pyridine picoline, and lutidine (all having a similar physiological action to nicotine) are likewise dissociated while in addition carbon monoxide in high proportion may be inhaled Nicotine and the still more powerful oil nicotianin are both soluble in water and alcohol and are readily absorbed through the skin.

The poison produces a very complex mixture of effects—successive stimulation and paralysis of a variety of central and peripheral structures among these stimulation and paralysis of the receptive mechanism of striped muscle[1] When anæsthetics were rudimentary, relaxing rather than anæsthetizing, tobacco was a favourite among analgesics administered per rectum In recent times a case is recorded of a convict who secreted an ounce of cut Cavendish tobacco in his rectum and successfully conveyed it past the searchers but failing to recover it was four hours later in a state of collapse, with nausea, vomiting and paralysis of both legs He recovered Toxic effects following the external application of the leaf are on record,[2] chopped tobacco leaves being applied under a bandage to a varicose vein which had been accidentally wounded The patient became prostrated and pulseless, with nausea and vomiting but recovered after several days

The nicotine content in the insecticide above mentioned is stated to be 3.7 per cent, so far as can be ascertained, the proportion in proprietary sprays and washes varies from 2 to 38 per cent 'XL All" Fumigator, used for agricultural and horticultural purposes has a nicotine

[1] Sollmann and Hanzlik *Experimental Pharmacology* 1928.
[2] *British Medical Journal* 1871, vol. i. p. 154.
[3] *Lancet* 1872, vol. i. p. 284.

content of 37·3 per cent, a fatal case of poisoning (by the mouth) having been reported with this solution. I have been unable to find references to other cases of poisoning by nicotine-containing insecticides where the skin is the channel of absorption, but it is evident that such solutions, even where the nicotine content is relatively low, have considerable dangers when the cautions as to their use are disregarded.

I acknowledge with thanks assistance received from Messrs Martindale, of New Cavendish Street, in consulting references.

Douglas J. B. Wilson, M.B., Ch.B. Glas.

High Wycombe, Bucks.

NORMAL PUERPERIUM FOLLOWING LABOUR IN A LATRINE

I would wish to record the facts of the following case not only because they are so extraordinary but they have added interest in showing that the grossest neglect and ignorance of pregnancy and parturition do not necessarily lead to grave disaster to the mother.

In December 1929, I was called late at night to see an unmarried primipara from a neighbouring district. This was a girl aged 20, a domestic servant who had been ill for a week with a throat and had been under the care of her panel doctor. As she could not be nursed at her place of service she was taken to the home of her relatives. She had a slight tonsillitis and a temperature of 101° F. for a day but no rash or signs of scarlet fever, and it was feared that she also was developing this infection. She had a slight tonsillitis and a temperature of 101° F. for a day but no rash or signs of scarlet fever, and it was feared that she also was developing this infection. She had rather a profuse loss of blood, which was thought to be menstrual. Palpation of the abdomen revealed a small lump which might have been an enlarged uterus and she was questioned several times as to whether she was or had been pregnant. This she denied. After eight days in bed she recovered sufficiently to be able to go out, and called weekly at the surgery for her certificate for sickness benefit.

Early in January the body of a dead full-time child was found in a box in the backyard of her former place of service, and she was arrested and charged with infanticide. After her trial, at which she was dealt with very leniently, she came to see me, and told the following story.

She knew she was pregnant but made no preparations whatever for the birth of the child. She even stated that she believed that the child emerged from the front of the abdomen near the navel. One night in November she had a pain in the back but went to bed and slept well until about 4 a.m., when she felt the need of going to the closet which was outside in the backyard. She sat on the closet seat and felt something drop from her, she fainted and did not come to until about an hour later, when she discovered that her baby had been born and was lying in the pail. She held it to her cheek and as it felt cold she concluded it was dead. She then searched in the dark among some empty boxes and found a piece of tin by which she cut the cord. She placed the dead child in a box and went into the house, where she carried on with her domestic duties, lighting the fire, preparing breakfast, and cleaning the front door steps. At break-fast she had some tea and then felt the desire to go to the closet again. She went there and felt something drop into the pail. She hid the washing during the day and as she did not feel well she went at night to see her panel doctor who sent her to bed and attended her until she left the house a week later. I did not see her again until she came under my care.

Here then, is a young primipara actually in contact with a scarlet fever case a few days before the birth of her child which occurred under the most appalling circumstances without help from anyone. The birth took place at 4 a.m. and the placenta was returned until 9 a.m., when it came away naturally, yet, in spite of all this she did not develop puerperal fever or even pyrexia, for the temperature of 101° F. lasted less than twenty-four hours. In her case the child was sacrificed to the circumstances of its birth, but even here the child might have survived had the mother been in the recumbent posture and so evaded the syncope which naturally followed the shock of birth in the sitting posture on the closet seat.

When this case is contrasted with others—for example, those I recorded in the *British Medical Journal* (October 4th, 1930) in which puerperal sepsis occurred in spite of every precaution—it seems difficult to avoid the conclusion that there exist varying degrees of natural immunity to streptococcal infection. How can we estimate the amount of that immunity and how can we increase it in those in whom it is deficient? These seem to me among the most important problems connected with puerperal infection.

J. S. Mann, M.D., D.P.H.,
Medical Officer of Health to the Runcorn Rural District.

Lancet 1930, vol. ii, p. 1144.

Reviews.

BRIGHT'S DISEASE

Since the Bright centenary in 1929 there has been a considerable output in all countries of books relating to the many problems still awaiting solution in diseases of the kidneys. *Hypertension and Nephritis*,[1] by A. M. Fishberg of New York, is one of the latest to appear. This is a very complete book, its purpose, as the author states, is to depict our present knowledge of all the heterogeneous group of diseases which may be included under the term Bright's disease. In noticing a book with such wide scope we can only pick out a few points which may interest potential readers. One chapter entitled "Hypertensive Encephalopathy" invites some study to see what exactly is meant by a term not commonly employed in this country. It is found that this term has been applied by the author and Oppenheimer to describe the cerebral symptoms occasionally met with in high blood pressure, which have generally been defined as acute anæmia. Fishberg states that recent observations, especially by Volhard, show that these cerebral symptoms may occur when renal function is intact and without any changes in the blood chemistry. On these grounds, therefore, he believes that a uræmic origin is to be discounted, and that a new descriptive term is essential. The chapters of interest to many readers will be those devoted to the varieties of "nephrosis." Fishberg is evidently a whole-hearted believer in the concept of nephrosis, and the need for such a term in contradistinction to nephritis, and he traces carefully the development of the nephrosis conception since the word was first coined by Friedrich Muller. It is pointed out that the use of the word must now be narrowed so as to exclude renal disease consequent to primary degenerative diseases of the blood vessels, but otherwise "the nephroses may be defined as diseases characterized anatomically by primary degenerative lesions of the renal parenchyma" (p. 245). The conditions included as acute and chronic nephrosis having been described, the reader is then carried on to acute and chronic glomerulo-nephritis. Acute interstitial nephritis is given a short section, but chronic interstitial nephritis does not appear as such in the book at all. It will thus be seen that all the old possibilities for argument on nomenclature and classification are well stirred up by this book. The last 150 pages are given up to a discussion of all the aspects of "essential hypertension" or hyperpiesia, and admirable common sense is written on the question of how to deal with such cases. One very important remark is that in many cases it is best not to attempt to alter the blood pressure at all. This, however, is more true in women than in men. It is in a very remarkable how women may enjoy long life with high blood pressure, while in men the period of survival is, on the whole, so much shorter. References to literature and a good index are provided, and the book is well produced.

A recent addition to the Anglo-French Library of Medical and Biological Science is a translation, by Dr. M. Marcus, of Achard's book on the problems of Bright's disease.[2] French work on this subject has had an almost predominant position in the last decade, the names of Achard, Widal, and Blum occur at once to all students of renal disease. The book is divided into four parts. Part I deals with the pathological anatomy of oedema, the chemical composition of dropsical fluids, and the characters of the blood itself in dropsy. Part II is clinical, and discusses the sites and special localizations of oedema. A special section is devoted to the important but very difficult question of cerebral oedema. Part III, the most important division of the book, gives an admirable critical review of all the theories and facts relating to the pathogenesis of oedema. The well-known experimental and clinical work of Achard himself is incorporated into this section, which is a model of clear exposition. Part IV is short and deals with the

[1] *Hypertension and Nephritis*. By Arthur M. Fishberg, M.D.F. London: Baillière, Tindall and Cox. 1930. (6 × 9½, pp. xvi + 566, 33 figures. 30s. net.)

[2] *The Oedema of Bright's Disease*. By Ch. Achard. Translated by Maurice Marcus, M.B., B.S. Lond. The Anglo-French Library of Medical and Biological Science. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1930. (5½ × 8, pp. x + 231. 9s. net.)

treatment of renal oedema No new methods are advocated, and it is a little odd to English readers to find no mention of Southey's tubes for the mechanical removal of excessive oedema of the lower limbs It is curious how this instrument, which many people would claim to have great advantages, when properly used over scarification, seems to have completely dropped out of knowledge on the Continent and in America There is a very complete bibliography at the end of each part of the book, and the translation into English has been very well done The book is well got up and printed, and the price is moderate

PLAIN WORDS ABOUT OLD AGE

It may reasonably be held that a review should point out to what class of reader a book will appeal—for example, to the general public or the experts, to the young or those well stricken in years—and it may therefore at once be said that Professor A S WARTHIN'S *Old Age The Major Involution, the Physiology and Pathology of the Aging Process*[3] may be unhesitatingly recommended to the general reader who is beginning to realize that he should order his life in accordance with the dictates of wisdom This well written and well illustrated book is an expansion of the Wesley M Carpenter Lecture delivered under the title of "The pathology of the aging process" on October 1st, 1928 at the New York Academy of Medicine, and presents a rational philosophy of old age in order to act as an antidote to fantastic ideas of life extension to extreme limits and of rejuvenation Senescence is a normal involutionary process due primarily to "the gradually weakening energy charge set in action by the moment of fertilization, and is dependent upon the potential fulfilment of function by the organism" When this normal involution has reached such a degree that one of the vital functions can no longer carry on, normal or biological death occurs but in a pathological experience of thirty-eight years Professor Warthin has not seen more than twenty-five necropsies in which this diagnosis of pure intrinsic senile death was justified and he regards myocardial atrophy and inadequacy as the most probable terminal lesion Further, the cause of intrinsic biological death is an inherited character in the cell, and is fixed for the given species Pathological death which is the lot of the vast majority may be either extrinsic or intrinsic extrinsic death is theoretically preventable, and against all environmental factors modern sanitary science is conducting a fight which eventually will raise the average life limit to 55 or 60 years Intrinsic pathological death is inherent in the germ plasm and is seen in inherited disease, as a mutation or as the result of a blastophthoria (toxic degeneration of the germ cells), and its prevention is a genetic problem to be solved only by a breeding-out process Examples of such diseases are arterio-sclerosis and cancer No encouragement is given to the optimistic prophecies that man's age will average 125 years or more, for statistics are quoted to prove that the recent increase in the average American age is due to the saving of life in the earlier decades and indeed that there has been a loss of nearly half a year in the expectation of life in the males of Massachusetts at the age of 72 in 1920 as compared with 1880 Of the effect of Steinach's and Voronoff's operations for rejuvenation Professor Warthin's verdict is stern—namely that the so-called rejuvenation is only a re-erotization and "but a myth of ancient lineage disguised in quasi scientific garments

CANCER AND ERYSIPELAS

Most of the modern theories of the causation of cancer rest on some definite experimental fact such as the presence of a micro-organism or the action of an extract of the growth Professor LÉON BOUVERET in his essay on the Pathogeny of Cancer[4] maintains that insufficient consideration has been given to the general characteristics of cancer as a basis of inference as to its causation He has therefore studied cancer in all its relations as ascertained in the literature available to him, and from this material he has evolved a theory which, if somewhat difficult of acceptance, has at least the merit of originality

The central point of his argument is that certain well-ascertained facts indicate the existence of a close relationship between the streptococcus of erysipelas and the causal agent of cancer As every surgeon knows, an attack of erysipelas in a cancerous patient may be followed by retrogression or disappearance of the growth, Coley's treatment of sarcoma is based on this fact The precise relationship between the two conditions has apparently not received very close investigation, and is, in the author's opinion, too readily ascribed to the associated fever In point of fact the degree of fever and the retrogression do not run on parallel lines, some of the most marked cases of retrogression having occurred with merely slight degrees of fever If fever is excluded as the cause, there remains, in the author's opinion, only the infection itself to which the change can be attributed In regard to this he notes two striking facts that retrogression of the growth is not brought about by other than erysipelatous infections, and that it does not occur unless the defence against the erysipelas itself is effective, cases which end fatally showing no evidence of retrogression in the growth From these facts the author argues that the same antibody which defends against the streptococcus of erysipelas also exercises a specific action against the cancer cells It is in connexion with this identity of action that the author's theory is introduced He concludes that the cancer cell contains some element of streptococcal origin—not the streptococcus itself, but some product of it, which retains a part of its properties. He conceives that a complex microbe cell is formed in which are united the properties of the cell and of the micro-organism, and that the combination is effected by the activity of the cell itself, a cell possessing abnormal and malignant properties being the result

The theory appears to bring many of the features of the process of malignancy under a single point of view, and the author is undoubtedly right in urging that the relationship between erysipelas and cancer deserves closer investigation than it has received hitherto

A SURVEY OF TUBERCULOSIS

THE Results of Tuberculosis Research,[5] the first volume of which is published under the editorship of Professors Assmann, Beitzke Braeuning, and St Engel, was projected under the conviction that the literature of the subject had become too vast to enable any one man to undertake a complete exposition or to obtain more than a partial knowledge of the subject from his own personal reading In these circumstances the only possible course to pursue was to split up the subject placing each subdivision in the hands of those most acquainted with it It does not appear that this course has previously been adopted in the case of tuberculosis and the result is very satisfactory The book is not confined merely to the description of the recent advances made by research, it appears to aim at a complete exposition of our present knowledge Thus in the excellent preliminary article contributed by Professor Klemperer on the early diagnosis of pulmonary tuberculosis a detailed description is given of the physical signs and the proper methods of eliciting them The editors have however so far limited the subject that only matters of actual practical importance are included in the work. The present volume contains articles on the early diagnosis of pulmonary tuberculosis, the early infiltrate healing processes in pulmonary tuberculo is and its recognition by means of x rays immunization against tubercle the present position of the problem of allergy the biological basis of the chief non-specific blood reactions in tuberculosis, methods adopted in combating the disease and the demonstration of the primary focus in the lung by means of x rays It will be seen that the practical aspect has been kept in view in the subdivision of the

[3] *Old Age The Major Involution The Physiology and Pathology of the Aging Process* By Aldred Scott Warthin Ph.D., M.D. LL.D London Constable and Co. Ltd. 1930 (5 × 8 pp xvi—193 29 figures 15s net)

[4] *Essai sur la Pathogénie du Cancer* Par Dr Léon Bouveret Paris J B. Baillière et Fils. 1930. (6 × 9 pp 153)

[5] *Ergebnisse der Gesamten Tuberkuloseforschung* Herausgegeben von H. Assmann, H. Beitzke H. Braeuning St. Engel Band 1. Leipzig G. Thieme. 1930. (Sup. roy 8vo pp 573 110 figures. M.42)

subject, and there can be no doubt that the work will be of value to those who are engaged either in the study or the treatment of tuberculosis A second volume, completing the work, will shortly be published

ATHLETIC EXERCISES

DR ADOLPHE ABRAHAMS is so well known as an authority on athletics that a book by him on exercise[6] is sure of a favourable reception In his preface he states that so far as he is aware no attempt has hitherto been made to consider the subject of exercise in general with the particular indications for the varying requirements of age, sex, and physical capacity He takes a broad view of the subject, and recognizes that there is a psychical as well as a physical side to the matter considered, which is not the least important He dismisses as a bugbear the fear of overstrain in young adolescents and healthy adults

In only ninety-two pages Dr Abrahams discusses under twenty-two chapter headings all sorts of exercises and their suitability for either sex and various ages, and his advice is characterized by strong good sense All these chapters are pleasant to read, and should be profitable to those who need advice as to what exercise they should take and its limitations in various cases Some of his readers may be surprised to see that he thinks that rowing gives little employment to the arms and to the chest, but most to the legs This of course applies to rowing on sliding seats in racing boats The decaying sport of rowing in fixed boats on fixed seats called into use the muscles of the back, chest, and arms to a much greater extent

RADIOGRAPHY OF SPINAL CORD LESIONS

IN an interesting monograph published as a supplement to *Acta Radiologica*, Drs M ODIN, G RUNSTROM, and A LINDBLOM describe their experiences with iodized oils in the diagnosis of lesions of the spinal cord In the course of their work with lipiodol these authors found that such large amounts of this substance were required to show up indefinite lesions of the cord that its use was sometimes followed by dangerous reactions, and they proceeded to examine other substances with a view to discovering one that could be used with safety Good results were obtained with iodized sesame oil, and with its aid they investigated a large number of cases, including cases of tumour and of trauma in which the radiological information proved to be of great value Particularly interesting was their discovery that in certain patients with symptoms of sciatica the iodized oil revealed the presence of adhesions round the lumbar cord To this condition they have given the name "adhesive arachnoiditis," and in the monograph they discuss its diagnosis and treatment In the course of their work they describe fully the procedure for injecting iodized oil into the spinal theca, and give full case records of a number of patients

NOTES ON BOOKS

DRS I I ELIASON and L KRAEFER FERGUSON and MISS ELIZABETH KELLER LEWIS the authors of *Surgical Nursing*[8] having learned from experience that nurses make fewer mistakes and work more efficiently when they understand not only what they have to do, but why have tried to give the reasons as well as the technique of each procedure they describe in their book They have skilfully blended instruction in the basic sciences with their account of the actual detail of nursing practice emphasizing however, that no amount of theoretical instruction can take the place of bedside experience in the making of an efficient nurse Throughout the book whether they are describing general nursing methods anaesthesia, or the pre and post operative care of the surgical patient, their presentation is precise and detailed especially so in the section dealing with the technique of the operating theatre The work is copiously illustrated with photographs and charts It may be recommended to the probationer, both as a textbook for examinations and as a guide to everyday work in the wards

The observations and opinions of various authors upon the relationship of malaria and nephritis have been very varied, and the discrepancies have never been satisfactorily reconciled An attempt to solve the problem is made by Dr GIGLIOLI in a small volume which has recently appeared under the title *Malarial Nephritis*[9] According to the author, the main characteristic of malaria and blackwater fever in the interior of British Guiana is "extreme chronicity intensified by continual reinfection and superinfection leading to a veritable malarial saturation" and he describes careful and extensive observations that were made to determine, on the one hand, the incidence of albuminuria and renal disease in malaria, and, on the other hand, the cause of renal affections as seen among the native population From these observations he concluded that persistent albuminuria and other signs of renal disease are directly proportional to the chronicity and intensity of malarial infections, and that, although *P vivax* infections predominate and are the commonest causes of kidney disease, albuminuria is twice as common in quartan as in tertian infections East Indian natives he found to be more prone to kidney affections than the negroes, and untreated cases than treated cases Case reports referring to twenty-six persons are given in an appendix

The second volume of the fortieth series of *International Clinics*[10] contains, among others, attractive papers on the diagnosis and treatment of yaws illustrated by some striking photographs by Captain C S Butler, commander of the United States Naval Medical School, the physiological basis for mechano therapeutics in heart disease, by Dr Edgar Friar, focal infection and elective localization, by Dr Edward C Rosenow of the Mayo Foundation, the treatment of acidosis, by Professor Victor C Levine of Omaha, cinchona alkaloids and bark in malaria by Professor W T Dawson of Galveston local anaesthesia in general surgery by Dr Leigh F Watson of Los Angeles and historical medical pageants, by Dr Frank K Boland of Georgia The sections entitled "Medical questionaries" and "Medical trends" contain as usual much instructive and pleasantly imparted information

[6] *Exercise: its Functions, Varieties, and Applications* By Adolphe Abrahams M D London W Heinemann (Medical Books) Ltd 1930 (Cr 8vo pp viii + 92 3s 6d net)

[7] *Iodized Oils as an Aid to the Diagnosis of Lesions of the Spinal Cord and a Contribution to the Knowledge of Idiopathic Circumscribed Meningitis* By Martin Odin and Gösta Runström in cooperation with Adolf Lindblom *Acta Radiologica* Supplementum VII Stockholm P A Norstedt and Soner 1929 (11 × 9½ pp 85 34 figures 6 plates Swedish crowns 15 net)

[8] *Surgical Nursing* By I I Eliason M D Sc D F A C S L Kraefer Ferguson M D and Elizabeth Keller Lewis R N Lippincott's Nursing Manuals London J B Lippincott Company 1929 (6 × 8½ pp xv + 561 figures 12 6d net)

[9] *Malarial Nephritis* By George Giglioli, M D Italy, D T M and H Eng London J and A Churchill 1930 (5½ × 8½, pp x + 164, 16 figures, 1 map 8s 6d)

[10] *International Clinics* Edited by Henry W Cattell M D Philadelphia Vol ii fortieth series London J B Lippincott Company 1930 (Med 8vo, pp viii + 304 illustrated 12s 6d net)

PREPARATIONS AND APPLIANCES

GOMENOL

GOMENOL is a disinfectant that was introduced for medical use in France thirty five years ago Arends-Keller (*Neue Arzneimittel und Spezialitäten* seventh edition, p 224) states that gomenol is the ethereal oil of *Melaleuca viridiflora* Tests conducted in French laboratories have shown that it is a very powerful antiseptic with an activity similar to that of thymol, but that its toxicity is only one tenth that of carbolic acid Quotations are given from various authorities which show that the active principles in gomenol differ advantageously from those present in other essential oils in respect of their therapeutic properties This preparation has been used extensively in France for a wide variety of therapeutic purposes, and the agents for this country (Messrs Coates and Cooper, 41, Great Tower Street, E C 3) provide a list of nearly one hundred publications reporting on its therapeutic value

BIOCHOLINE

Biocholine is a synthetic choline hydrochloride, manufactured in Paris Carles and Leuret (*Bull de l'Acad de Méd* February 18th 1930) have reported favourably on its use in thirty two cases of tuberculosis The authors believed that in tuberculosis the cholesterol content of the blood was diminished and injected choline hydrochloride with a view to increasing the blood cholesterol The agents for this country are the Anglo French Drug Co, Ltd, 239A, Gray's Inn Road, W C 1

LACTO DEXTRIN PSYLLA

Lacto dextrin is a combination of the two carbohydrates lactose and dextrin in a form which is agreeable to take The advantage of the preparation is that it provides a palatable food material which will inhibit putrefaction in the large intestine by promoting the growth of *B acidophilus* and *B bifidus*

Psylla is the name for the seeds of *Plantago psyllium* The coats of these seeds contain a large quantity of mucilage and swell into a gelatinous mass in presence of water They are of therapeutic value in providing the necessary bulk and efficient lubrication for the large colon in various forms of colonic dysfunction The preparation is recommended for use in mild cases of constipation in fissure and haemorrhoids, and also in cases of colitis

Both lacto-dextrin and psylla are manufactured by the Battle Creek Food Company of Michigan, and the British agent are Messrs Coates and Cooper (41, Great Tower Street, E C 3)

ON THE TEACHING OF TUBERCULOSIS *

BY

STEPHEN J MAHER, M D ,

CHAIRMAN OF THE CONNECTICUT STATE TUBERCULOSIS COMMISSION

I am not a university professor of tuberculosis, therefore it may be asked by what right I presume to give advice on the teaching of tuberculosis to physicians and medical students My excuse for taking up time to discuss the social question is this for twenty years, as the responsible medical director of five State sanatoriums in Connecticut, I have been employing studying, and teaching tuberculosis physicians produced by the professors of tuberculosis in the universities of America, Europe, and Japan The banker or manufacturer who for twenty years had been employing accountants and stenographers from various business colleges of his own and other countries would probably have interesting and perhaps important opinions as to the weakness or strength of the different systems used by the business colleges to develop reliable bookkeepers and rapid and accurate writers of shorthand For *the same reason have I opinions of the modern teaching* of tuberculosis The question whether they are interesting or important I must leave for you to decide

The first criticism of the university professors' teaching of tuberculosis is that many of them do not teach it, they do not teach it as the live subject that it is to-day What they teach is a cold simulacrum of the modern problem, a plaster cast or death mask of the tuberculosis problem as it looked twenty to fifty years ago They exaggerate the dangers to which those who study tuberculosis are exposed they tell in damning detail the discouraging failures of many of the generals who have heretofore led the fight against tuberculosis they scorn all suggestions from their pupils or other students, and they raise doubts as to the absolute verity of the tuberculosis dogma that they and their textbooks teach

The graduates of such classes naturally face the work of their lives crippled with what an eminent English physician told me was somewhat prevalent tuberculosis philosophy in his country, 'the defeatist philosophy," the *philosophy of despair, the philosophy that possibly* makes good historians and statisticians but makes dangerous doctors and unfit tuberculosis specialists The doctor who has no hope or ambition of improving the present *treatment of disease not only does not study*, does not give his patients the chances for life that they should have, but he blocks medical traffic" and interferes with the scientific progress of his fellow physicians toward the faintly shining goals of success that always beckon forward the leaders of the profession the men whose vision and faith give them power to pierce the mists of "defeatism," timidity and laziness

In too many universities tuberculosis is taught as Latin and Greek or other dead subjects are taught The students are forced to memorize rules and to memorize unproven dogmatic statements Tuberculosis is not a dead subject, it is one of the most live problems of to-day The student to whom tuberculosis has been presented as a dead subject will take no other interest in it than to commit to memory such parts of the dry lectures to which he has been forced to listen as will enable him to pass his examination and to secure his medical degree or licence

Tuberculosis is one of the most fascinating studies that now engage the mind of men Yet of all the thousands of young doctors graduating every year from the medical schools and hospitals of the civilized world to how few of them has this fact been made clear! The young graduate who would announce to his class-mates that he intended to take up tuberculosis as his life work would be considered queer and sadly in need of a guardian by his fellows, who themselves were to be general surgeons internists, public health officers or medical missioners to Cathay Why do these other medical fields attract the young graduates so much more than this? It is true there is not much money to be found in the tuberculosis field but to the ambitious and sanguine thousands of young medical graduates the monetary outlook is seldom the dominating influence in deciding the question of their life's work They want chiefly to do work that will be interesting and of service to humanity It is for these reasons that the young graduate decides to become a general surgeon, or a general practitioner, or a public health official, or a medical missionary The work to be done in these various lines of medical endeavour has been presented to him in such manner as to capture his heart and mind His imagination glows as he pictures himself saving important lives as a great surgeon, or saving a whole people when David like, he kills a Goliath of plague with the pebble of some public health vaccine that he or his companions have discovered But tuberculosis has no appeal for him He has been told that it is a closed chapter that the tubercle bacillus always was, and always will be the tubercle bacillus, that tuberculosis will always kill human beings as it has always killed them and that the only possible way to drive tuberculosis from the earth is to kill all the tubercle bacilli on earth, and all the tuberculous *human beings and all the tuberculous birds and brutes* on earth Then, and then only, will parents know that their children can grow into manhood and womanhood without danger of infection from tuberculosis That, as my English acquaintance said, is the "defeatist" programme that is called teaching tuberculosis in so many medical school And it is on account of that "defeatist" programme that we do not get the brightest of the medical classe to come to us to enlist with us for saving mankind from the tubercle bacillus

In order to secure for our work a fair share of the brightest of the new graduates, teachers in the universities must revise their lectures and perhaps their own conception of tuberculosis Then they must make it clear that very little is yet known of the tubercle bacillus and of its devious ways of killing human beings, they must give the students and young physicians the opportunity to form opinions of their own on the many contentious phases of the tuberculosis problem They must introduce the young men and women to the progeny of the tubercle bacillus and to the various blood relations of the tubercle bacillus to the question of the prebacillary and the filterable viruses of tuberculosis to the problem of a possible relationship between tuberculosis and cancer to the problem of dissociation They must tell the truth about the contagiousness of tuberculosis, and do what they can to kill the phthisiophobia that they have unwittingly done so much to spread throughout the world they must explain enthusiastically to such students as have a special love of surgery the attractiveness of the vista that is now opening before all the men capable of doing lung surgery Concerning this last matter it will not be sufficient to have the young men become able merely to name and describe the various operation now known as lung surgery That kind of teaching will never stir into a flame any smouldering ember of tuberculosis enthusiasm The surgically bent students must not only learn to perform the various operations of pulmonary tuberculosis, but they must be convinced of the tremendous importance of lung surgery and the opportunity for fortune and renown that awaits the man especially the young man, who proves himself a leader in this uncrowded line of endeavour They must make it clear to all their students that what the world needs what it expects, and what every year seems to bring nearer to realization, is a cure or preventive of tuberculosis and furthermore that the race for this great prize is a "free-for-all" which is as likely to be won by the humblest student of tuberculosis as by the conductor of the most richly endowed laboratory or institute for research They must make it clear to their students that the invitation to become *tuberculosis specialists is not confined* to men who themselves are tuberculous or who fear that in some way the dark shadow of tuberculosis has fallen on them or on their families Heretofore such men have done most of the antituberculosis work of the world, and very good

* An address delivered at the International Congress of Tuberculosis Oslo August 1930.

work too, now, however, the work beckons to the ablest and healthiest of the young medical men of the world to come and to come immediately to the assistance of the somewhat tired regiments that up to now have borne the battle's burden

And we ourselves, do not let us pose as weepy martyrs, anxious to tell a world that we have sacrificed opportunity, and health, and gold, for a subordinate place in the anti-tuberculosis army. Even if most of our dreams of personal victories over the tubercle bacillus have failed of realization, even if we must still admit that we know but little of our enemy's plans and resources, even if not one funeral in every dozen funerals is caused by the tubercle bacillus, we ourselves have had more than ordinarily happy and useful lives. We have saved and gladdened the lives of many of our brothers and sisters, and we have received abundantly of the world's love and gratitude. We old fellows owe it to truth and to our young recruits in the anti-tuberculosis army to welcome them with smiles. Our appeal to them should be that of the big boy who goes first into the village swimming pool and who cries out to his young and hesitating mates on the bank: "Come on in! The water is fine!"

MEDICAL DEFENCE UNION

ANNUAL GENERAL MEETING

THE annual general meeting of the Medical Defence Union took place on October 2nd with the president, Sir HERBERT WATERHOUSE, occupying the chair. The report of the council and financial statement were adopted unanimously, and the retiring members of council, Dr. W. T. Lydall, Dr. Henry Robinson, and Dr. Seymour Taylor, were re-elected.

President's Address

In the course of some remarks on the year's work, Sir HERBERT WATERHOUSE said that claims against medical practitioners were increasing in frequency, and with the changing conditions of medical practice they were likely to increase still more in the future. Yet every year the Union was asked for help by practitioners who had failed to join a defence organization or had allowed their membership to lapse. Some of the cases dealt with during the past year had been of exceptional gravity, but in twelve in which proceedings had been threatened against the practitioner the matter was dropped when it was known that the Medical Defence Union would defend its member. In six other cases where it did not seem that a successful defence was possible, the solicitors to the Union had been authorized to effect a settlement on reasonable terms, and in every case that went to the courts the verdict returned was in favour of the member—a striking testimony to the skilful handling of the defence by the solicitors (Messrs. Hempsons) and by the counsel employed. Sir Herbert Waterhouse asked members to bear in mind, however, that successful defence must always depend to a large extent upon the evidence available to rebut the allegations, and therefore it was of the highest importance that members should make a point of preserving a record in all difficult or doubtful cases. In an unusual number of cases this year claims for compensation had been made on account of broken hypodermic needles, and in one such case a writ had been issued and proceedings were pending. One important case in which the claim of a member, supported by the Union, had been successful concerned the fee to be paid for examining, at the instance of the coroner, seven bodies, victims of an aeroplane disaster. The proceedings in the county court and the judgement were set out in the *British Medical Journal* of August 9th (p. 216). Sir Herbert Waterhouse added that the Union now enjoyed a very high reputation, which had been ably maintained and, he believed, enhanced by the work carried out during the past twelve months. He thanked Dr. W. S. A. Griffith, a past president, for attending to the duties of the chair while he himself was laid aside by the results of an accident, and he also thanked Dr. James Neal, the general secretary, and the solicitors (Messrs. Hempsons) for much valuable advice and help.

Annual Report for 1929

The annual report which was adopted at the meeting, bears witness to the progress of the Union by the announcement of a further acceptance of liability in connexion with indemnity insurance. In any case taken up by the council on behalf of a member the whole cost of the member's defence is paid by the Union, but in addition, an unlimited indemnity is provided against damages and taxed or agreed costs incurred by the member in connexion with the case. Since 1926 the council has had an agreement with an insurance company whereby the first charge upon the indemnity insurance is borne by the funds of the Union up to 50 per cent. of the subscription income. Now, in consequence of the steady growth of the reserve fund, the council has undertaken liability up to the total amount of the subscription income, thus enabling the Union to insure against any claims in excess of that amount for a considerably smaller premium than has been paid hitherto.

Particulars of a large number of interesting cases dealt with during the year are given in the report. Many of these were settled by the general secretary without resort to legal aid, but 92 cases had to be referred to the solicitors. Actions for libel and slander comprised only five of this total, and the solicitors state that complaints of this character show a marked decline. Actions involving claims for malpraxis, as usual represent more than half the cases referred. One rather interesting case is, briefly, as follows:

A well-known surgeon in the Midlands had a patient sent to him with symptoms of dyspepsia, with an abdominal tumour. He advised an exploratory operation, which disclosed inoperable cancer of the stomach. Gastro-enterostomy was performed, with marked improvement in the symptoms. The patient's husband, who was very pleased with the improvement, was advised that this could only be temporary. Until then he had been most grateful for what had been done, but on receiving the account his attitude changed and he complained that the operation ought never to have been performed. On the advice of the Union proceedings were instituted for the recovery of the amount, the patient putting in a defence alleging unnecessary operation and repudiating liability. After a short time the Union was approached by the patient's husband, who expressed regret for his criticism of the treatment of the case, but asked the surgeon as an act of grace to reduce the account. This, however, was not acceded to, and the amount of the debt was paid *in* full.

Only one action for alleged wrongful certification of the insane came into court, though one other was threatened. Application was made under Section 330 of the Lunacy Act for the action to be stayed, but owing to the judgement of the Court of Appeal in the Hume Spry case, in which one of the members of the court stated that it was not for them to examine the quality and character of the evidence before them, but that they were bound to accept any material presented by the plaintiff in support of the allegation that there had been lack of reasonable care, both the master and the judge refused to stay the proceedings. Thereupon the Union went to the Court of Appeal, and after a lengthy hearing the appeal was allowed and the proceedings stayed. An account of the proceedings in court will be found in the *British Medical Journal* for December 28th, 1929 (p. 1226). The solicitors state with regard to this result:

Without actually overruling the decision in the Hume Spry case they (the court) made it perfectly clear that in their opinion it was the duty of the court in cases of this sort to examine the quality and character of the evidence produced by the plaintiff in support of a plea of lack of reasonable care. This, in our opinion, is a signal triumph, as after the findings of the court in the Hume Spry case it was felt that it was almost useless to apply for a stay of proceedings under Section 330 of the Lunacy Act unless we were prepared to take the matter to the House of Lords.

A number of cases with which the Union has had to deal during the year have arisen out of national health insurance administration. In the majority of cases the Union has been successful on appeal either in reversing the decision appealed against, or, in cases of surcharge for alleged excessive prescribing, in obtaining a reduction of the proposed penalty.

The members of the Union on December 31st last numbered 15,886, and the annual income was £17,497, an increase of £435 over the previous year.

British Medical Journal.

SATURDAY OCTOBER 11TH, 1930

MENTAL DEFICIENCY

The section on mental deficiency in the Board of Control's report for the year 1929 does not make comfortable reading.[1] It is true that both as regards ascertainment and as regards each of the statutory methods by which mentally defective persons may be cared for, there is a small increase in the numbers; but the main feature of the report is once more the demonstration of the woeful neglect of local authorities to recognize their obligations in these matters or to take any adequate action with regard thereto. In spite of, or perhaps because of, the somewhat hysterical outcry in certain quarters and the exaggerated claims put forward for particular methods of dealing with the problem, neither local education authorities nor local control authorities seem to realize the real nature of mental deficiency, its serious prevalence in, and effects upon, the community, nor their own extensive powers and duties for grappling with the situation. Far too largely the problem is either ignored or minimized, or a pathetic and illogical reliance is placed upon procedures which may or may not some day be adopted, to the neglect of all those remedies which are immediately available.

As regards ascertainment, if the results of Dr. Lewis's investigations and the findings of the Wood Committee are to be accepted, there are some 314 000 mentally defective persons in England and Wales, or eight per thousand of the population. At the end of 1929 the number reported to the local authorities was 71 439, or 1·81 per 1 000 of the estimated population. It may well be that the numbers given by the Wood Committee are in excess of the facts, either because the standard of average normal intelligence was placed too high, or because the sample areas investigated were not actually typical of the whole country; but the disparity between those figures and those of present ascertainment is far too great to allow of any complacency. The striking difference between the activities or standards of the various local authorities is further shown by the fact that their returns vary from 5·82 (Cardigan) to 0·18 (Huntingdon) per thousand of the population. London discovers 2·27 per thousand. The report gives some striking cases illustrative of the harm which arises from the failure to discover and train mentally defective persons. Yet in spite of these dire results, which eventually entail greatly increased expenditure, it is evident that many local authorities deliberately neglect ascertainment because when defectives are ascertained, there is an obligation upon the authority to provide suitable supervision and training for them, or to place them in institutions or under guardianship, and this is often costly.

Hitherto however local authorities have suffered some real handicaps against full ascertainment. One of these has been that those mental defectives who were dealt with under the Poor Law did not fall within their jurisdiction. The passing of the Local Government Act, 1929, and the particular proviso (ii) of Section 30 of the Mental Deficiency Act have removed the most serious of these difficulties, and as the report points out, have for the first time made it possible to secure unity and continuity of treatment and care for the mentally defective. The result ought to be that within the next two or three years at most, local authorities should have made an accurate survey of all defectives within their area, that all such persons should be assisted and cared for *qua* their mental deficiency and not as destitute persons, and that a real advance should have been made towards the provision of colonies or institutions for the accommodation of that considerable proportion of mental defectives who can best be cared for therein. On these grounds there is, perhaps, a case for the exercise of a little further patience with local authorities. One word of warning is given by the Board of Control. The survey to discover the true incidence of mental defect can only be successfully carried out by medical men possessing special knowledge and experience of mental deficiency and familiar with the various types dealt with in institutions and colonies. In these days when the problem of unemployment is so urgent, a special effort should be made to distinguish those who are unemployed by reason of their mental condition from those who are capable of working if the opportunity offered. A further point may be touched on here. The report recognizes with appreciation the educational work done by the Central Association for Mental Welfare in its training courses, but states that "with the increase in the number of mental deficiency colonies it is becoming increasingly difficult to find superintendents with any specialized experience of mental deficiency work. It would be a gain to medical education and certainly to mental deficiency colonies if arrangements could be made for short post graduate courses at one or two colonies within easy reach of a teaching hospital."

The report contains some important and suggestive paragraphs on the marriage of defectives and on sterilization. The Board of Control is of opinion "that an Act prohibiting the marriage of defectives while under statutory care would be a preventive measure of great social utility. 'Not only would it draw public attention to the unwisdom of allowing defectives to marry, but it would place local authorities in a far stronger position by enabling them to insist on proper precautions being taken by the persons to whom defectives are licensed and by their parents and guardians.' On the question of sterilization the Board says: 'Sterilization will not solve the many problems of the prevention of mental defect; indeed, it is doubtful whether it will appreciably reduce its incidence. In any case, it would be absurd to suggest that its adoption would obviate the need for the institutional care and training of those defectives whose social inadaptability makes it impossible to leave them at large. But there are cases in which it might be advantageous.' This exactly states the conclusion arrived at by the Medical Committee of the Central Association for Mental Welfare and the position taken up by this *Journal*. The Central Association and the British Medical Association are alike urging the necessity for an early and authoritative official inquiry into the causation of mental deficiency and measures for its prevention including both segregation and sterilization. The demand for such an inquiry has for the moment been suspended at the request of the Minister of Health, but will probably be resumed almost immediately. It is to be noted that the Board of Control says: "We think that the whole question calls for careful study and investigation, but we recognize that scientific and impartial inquiry is rendered difficult by the atmosphere which sterilization

[1] Sixteenth Annual Report of the Board of Control, for the year 1929. Part I. H.M. Stationery Office. 1s. 6d. net.

excites, and by the exaggerated claims which are put forward by its advocates" Meanwhile, it is stated that the register of defectives which is kept by the Central Association for Mental Welfare and its local associations contains records, in many cases complete for two or three generations, of more than forty thousand cases Here is material for impartial medical and statistical investigation which should prove of inestimable value, awaiting only the financial provision which would make its examination possible The opportunity may provide the philanthropist

THE TREATMENT OF FRACTURED PATELLA

It seems to us well that the discussion at the recent meeting of the Association at Winnipeg on fractures of the patella should have been held in the Orthopaedic Section and have been opened by the lecturer on clinical orthopaedics and in orthopaedic pathology in Liverpool University, for this subject has scarcely been adequately considered in recent authoritative works on orthopaedic surgery in our language In the second edition of *Orthopaedic Surgery*, by Jones and Lovett, published in 1929, only thirteen lines are devoted to it The last edition of the well-known and otherwise excellent book by Royal Whitman of New York ignores it altogether, according to the index and table of contents, while Cochrane of Edinburgh and Willis C Campbell of Memphis (Tennessee) each devote about one page to the subject Indeed, the operative treatment of fractured patella is described and discussed with more detail in works on general surgery than it is in special treatises Yet, if there is an injury which should be treated on orthopaedic principles, this surely is one Orthopaedic surgeons not only aim at the correction of the actual anatomical conditions, and the displacements which have resulted from injury, but, in addition to such mechanical joinery work on the skeleton and soft parts, they profess to have ever in view the ultimate functional result, which in a given case may be excellent, notwithstanding that the anatomical result may be far from ideal An actual surgical operation, such as that of bone-suture, is of course important, from the point of view of the orthopaedic surgeon, but its importance may be no greater, or even less, than that of the post operative treatment

As Mr Watson Jones reminds us in his paper, which appears at page 592, we have still to solve the problem which troubled John Hunter, and to treat injuries of the extensor apparatus of the knee, of whatever nature, in such a manner as to restore extensor power without impairment of the normal range of flexion movement The early onset and obstinate persistence of atrophy of the quadriceps extensor in cases of arthritis or of injury to the knee-joint has been better known than treated for a very long time It is said to have been noticed and recorded by Hippocrates, or by one of the writers whose works have been attributed with more or less certainty to that great authority[1] Wasting of this and of other muscles of the thigh, and consequent weakness and imperfect control over the joint, are some of the most disabling effects of a broken knee-cap, or ruptured ligament or tendon, and they may be of greater importance than the nature or condition of the medium of union between the fragments of bone, or between bone and ligament or aponeurosis Some estimation may be made of the relative importance of the ligamentous and muscular elements of the knee-joint by observation of cases of congenital defect of the patella, in which the tendon of the quadriceps is nevertheless present In some of these, despite the lack of any sesamoid bone in the tendon, but with normally active muscles, although the ligamentous apparatus of the joint may be defective, the knee has been found to be of normal strength, mobility, and usefulness Of the two kinds of restriction of movement in the knee joint from patella injury—namely, reduced range of flexion and loss of power of complete voluntary extension—the latter is far the more serious and disabling In our ordinary daily life it is seldom necessary to bend the knee to within twenty degrees of its normal possibility, but the full normal volitional and postural extension of the joint is being continually called for in the erect position

In the treatment of this, as of other fractures, the indispensable factor for bony union is apposition of the fractured surfaces of bone, without interposition of soft parts Since Lister astonished and even scandalized the surgical world by daring to invade the knee joint in order to suture a broken knee-cap, a number of methods have been followed, and various means of holding the fragments in proper position have been employed Good results *qua* union have been obtained by most of these means, and the operative procedure described and fully illustrated in Mr Watson Jones's paper leaves nothing to be desired in this respect But surgeons bent upon securing a good functional result will agree with him that one must not be content with good union alone, and will demand a technique and choice of material which will from the first permit of movement of the joint without risk of tearing the fragments asunder This security Mr Watson Jones thinks is afforded by the use of braided silk as a suture As he points out, rapidly progressive atrophy of the extensors is only to be checked by use under the control of the patient's nervous system, and the true rôle of physiotherapeusis in these circumstances is not the production of passive or electrically stimulated movement, but education of the patient in the performance of those muscular actions which are inhibited by the injury The importance of postural tone in the physiology of the musculature of the lower extremity has, until recent years, been overlooked by some surgeons, but the need of teaching patients how to recover it is now recognized The principles of treatment applicable to simple linear fracture of the patella from indirect violence are applicable, *mutatis mutandis*, to comminuted fracture from direct injury, and to avulsion of the ligamentum patellae or of the insertion of the quadriceps, all of which injuries are included in the subject of this paper, and it will be obvious that in the case of comminuted fracture movements must be gentler and of smaller range at first than in a case of linear fracture, which can be so securely sutured as to be able to withstand quite vigorous exercise

Anatomy and physiology have been justly called handmaids to surgery, but some of the debt due from the latter to the former has been repaid by what Lord Moynihan has called the "pathology of the living" Until arthroplasty of the knee was made a successful procedure by Murphy and his successors, anatomists and physiologists hardly realized what an important part in the mechanism of a joint was played by the muscles around it The success of this operation has shown that a useful hinge-joint can be substituted for the elaborate array of semilunar cartilages, crucial ligaments, and synovial membrane, provided always that the muscles are strong and active

[1] C L. Allen *Journ Amer Med Assoc*, December 23rd 1911, p 2053.

STUDIES IN VITAMIN B

Important among the experiments in nutrition carried out during the past year at the Lister Institute of Preventive Medicine[1] were a number on the water soluble B vitamins, their isolation, heat stability, distribution and components. Dr Harriette Chick and Miss Copping who have been engaged in attempts to prepare concentrations of vitamin B 2 from egg white, in which it occurs unaccompanied by vitamin B 1 and from mammalian liver, have also taken part with Miss Roscoe in a quantitative study of the heat stability of vitamin B 2 in yeast and yeast extracts and of its sensitivene s in the presence of alkali. In acid solution, with the *p*H maintained at 5, no lo s in potency could be detected after incubating for two hours at 90° to 100° C., but 50 per cent. loss occurred after incubating an acid solution (maintained at a *p*H of 5·0 to 3·0) from four to five hours at a temperature of 123° C. When the reaction was alkaline—namely, with a *p*H of 8 to 10—the loss of potency was 30 per cent. after ten days at room temperature 50 per cent. after two hours at 90° to 100° C., and 75 to 100 per cent. after four hours at 123° C. The same results were obtained whether the assay of residual vitamin B 2 was carried out by studying its growth promoting effect when added to an experimental diet deficient only in this vitamin, or its potency in curing the specific skin lesions developed on such a diet. The conclusion derived from these experiments—namely, that vitamin B 2 is thermo-sensitive in the presence of alkalis—is opposed to that of other workers in this field, who consider that vitamin B 2 is stable in the presence of alkalis at high temperatures, but that yeast contains an additional factor, vitamin B 3, which is thermo- and alkali labile. According to Dr Chick and her co-workers, evidence of the existence of a third, hitherto unrecognized, dietary factor in yeast has been accumulated in the course of their research, but this factor seems to be thermo-stable. Young rats, they have found, do not grow so well on synthetic diets in which vitamin B 1 is provided by Peters's concentrate and vitamin B 2 by egg-white as they do when the B 2 is furnished by autoclaved yeast products. Further, their repeated failure, experienced in common with other workers, to breed from rats reared to maturity on diets containing all the recognized B vitamins and other dietary factors also suggests the existence of at least one unknown factor that is indispensable for correct nutrition. Search for this unknown factor is being made among both purified substances and ordinary foodstuffs. Meanwhile Miss Roscoe has extended the study on distribution of vitamin B 1 and B 2 in natural foodstuffs to green and root vegetables, and has found lettuce, cabbage, and spinach to be valuable sources of B 2, and much richer in this substance than in B 1. Dr Aykroyd and Miss Gaffikin are extending on a large scale previous work on cereals—namely, wheat, rice, maize, millet, and their constituent parts, with the object of throwing further light on the epidemiology of pellagra. Foods rich in vitamin B 2—for example, meat, milk, eggs, and green vegetables—are just those which have been found most effective in the prevention and cure of this disease. Cereals as a class, however, are poor in this vitamin, but as pellagra is confined almost entirely to maize eaters and is hardly known among populations whose staple food is wheat, rice, or millet, the hypothesis that lack of vitamin B 2 is the primary cause of the disease should be easily tested by assays to discover if the vitamin B 2 content of milled maize is or is not appreciably lower than that of the other milled cereals. The cereals mentioned are also being assayed for their vitamin B 1 content in order to test the vitamin B 1 theory of the etiology of beri beri.

[1] Report of the Governing Body 1930.

THE BANTING INSTITUTE.

The University of Toronto, already the possessor of some beautiful and commodious buildings, has lately been doing much to enlarge its accommodation and extend its amenities both for teaching and for research. In these extensions the needs of the great Toronto General Hospital and of the crowded Royal Ontario Museum, are being borne in mind. By a happy combination of circumstances the latest achievement in this direction, the opening of the Banting Institute took place on September 16th last at a time when a large number of members of the British Medical Association, returning from their tour to British Columbia, were in the city. The building has been erected under the joint auspices of the Board of Governors of the University and of the Board of Trustees of the hospital. It stands just across College Street from the hospital, and the two institutions are connected by a spacious underground passage. It is the university's pathological building, and provides, on six floors with basements not only lecture rooms, library, museum, and research laboratories with quarters for animals but also for most of the hospital laboratories, test rooms, and pathological services. It was thought wise to associate the building with the name and work of Dr Banting, whose particular quarters now occupy its fifth floor. The opening ceremony was performed by Lord Moynihan, who gave a brilliant address to a very large and distinguished gathering in the University's Hall of Convocation at Hart House, after a considerable number of representatives of universities and colleges from all over the world had been officially received. Many of these were members of the Association's tour. The ceremony concluded with the unveiling of a portrait of Lord Lister, which, by a piece of excellent management, was found in its proper permanent place over the mantelpiece in the library of the Institute when the company proceeded to inspect that building. Later in the day the honorary degree of LL.D. was conferred on Lord Moynihan, together with three others, and there was a garden party, for which, however, the weather proved unfavourable. At night, in the Great Hall of Hart House, a dinner was given by the Governors of the University. The chairman was the Hon. and Rev. H. J. Cody, the chairman of the Board, and all the male members of the British Medical Association party were among the guests. The toast of "The University of Toronto" was proposed by Lord Moynihan, and responded to by Dr. A. Primrose, a vice-president of the Association and dean of the Faculty of Medicine in the University. Professor Robert Muir, with others, responded to the toast of "Sister Universities," and Professor A. H. Burge who represented the Royal College of Surgeons of England, Sir William Taylor, Dr Robert Hutchison, and Sir Ewen Maclean expressed the thanks of the guests. There seems a tendency in Canada to enjoy a flow of oratory. On this occasion it was abundant but excellent. The University of Toronto is to be congratulated not only on the new building itself, but upon its very brilliant and successful inauguration.

INTERNATIONAL CONGRESS OF THE HISTORY OF MEDICINE.

The eighth International Congress of the History of Medicine was held in Rome from September 22nd to 28th under the presidency of Dr Pietro Capparoni professor of the history of medicine at Pisa. There was an attendance of about 250 members from fourteen different countries. The British delegate was Dr J. D. Rolleston, who also represented the Royal College of Physicians of London and the Royal Society of Medicine. Professor C. E. Gask represented the Royal College of Surgeons of England and the University of London, Dr Vincent

Dickinson the Society of Apothecaries Dr R Whitehead the University of Manchester, and Captain P J Johnston-Saint the Wellcome Historical Medical Museum The meetings were held in the Accademia dei Lincei, where three principal subjects were discussed The first was the protection of Europe against leprosy in the Middle Ages, which was opened by Professor Jeanselme of Paris, followed by Drs Veronica Gomom, Tricot-Royer, Carvalho, Torkomian Pizzini and Hult, who dealt with the incidence of leprosy in Rumania Belgium, Portugal Armenia, Rome and Sweden respectively The second theme was the medical and scientific relations between Italy and other European countries during the Renaissance, which was introduced by Professor Castiglioni, professor of the history of Medicine at Padua, and continued by Professor Sudhoff of Leipzig Dr Unger of Amersfoort, Dr Pomom of Ancona and Dr Carvalho of Lisbon The third subject, which was the question of making the study of the history of medicine compulsory in medical faculties, was introduced by Dr Ladislav Szumowski of Cracow, in which Professor Koch of Frankfort Professor Diepgen of Berlin, and Dr Legrand Laurent of Paris took part The congress came to the conclusion that this subject should be made compulsory and that a notice of this decision should be sent to the various Governments represented at the congress Among the large number of other papers on various subjects may be mentioned those on the relations between the Accademia di Cimento and the Royal Society, by Dr Mosè de Segni Nicolas Steno, by Dr V Meisen, the appearance of chlorosis in the sixteenth century, by Dr Axel Hansen, malaria in contemporary poetry from Virgil to Carducci, by Signora Anna Celli, and Girolomo Cardano and Leonardo da Vinci by Professor Balanzoni The only British contributions were those on madder in the history of medicine by Dr G R Cameron and a rare Jewish medical curiosity of the eighteenth century, by Dr D A H Moses The receptions included an audience and address by the Pope visits to the Bibliotheca Casanatense and Bibliotheca Lancisiana, and excursions to Lake Nemi and Monte Cassino, where a bronze was presented to the monastery in recognition of its services to medical science during the Middle Ages No effort was spared by the authorities to make the foreign doctors and their families feel at home in the Eternal City, and until the last evening, when Jupiter Pluvius became active, the weather remained ideal During the congress Professor Giordano of Venice was elected president of the International Society of the History of Medicine in succession to Dr Tricot-Royer of Antwerp, who has held office since the foundation of the society in 1921 The next congress will be held in Bucarest in 1932

THE DISCOVERY OF TRICHINA SPIRALIS

The recent outbreak of trichinosis in Stuttgart has kindled interest in a disease epidemics of which are uncommon in this country The story of the discovery of the parasite[1] is obscured by priority claims which lack historical perspective Even the new edition of Osler's *Principles and Practice*—a textbook famed for its historical atmosphere—gives a regrettably incomplete account of the history of trichinosis, with no mention of Paget's name The main events in the story may briefly be summarized F Tiedemann in 1822 was the first to describe "white stony concretions" in human muscle (analysed by L Gmelin), though he never suspected their parasitic origin In 1833 John Hilton described minute cysticerci in which microscopically he was unable to detect any organization On February 2nd, 1835, at St Bartholomew's Hospital, James Paget was dissecting the muscles of a subject when his scalpel became quickly and repeatedly blunt Other students had attributed their similar experience to the presence in the muscles of "spicula of bone," and Wormald, the senior demonstrator of anatomy, had seen at least twenty bodies studded with whitish specks Paget, however, was the first to suspect their animal nature, which he confirmed with the aid of Robert Browne's simple microscope—for St Bartholomew's did not even possess a dissecting lens He made careful sketches of the worm, preserved in the library of the Royal College of Surgeons of England, and lectured on his discovery to the Abernethian Society of St Bartholomew's Hospital, on February 6th On Stanley's suggestion he wrote an account of his work for the *London Medical Gazette* This was never published, but the manuscript may be seen at the College of Surgeons A specimen of infected muscle was sent to Richard Owen, who established the nematoid nature of the worm, named it *Trichina spiralis*, and, taking the credit for its discovery earned the applause of his professional brethren Paget's behaviour in this melancholy episode was admirable His original specimen was deposited in St Bartholomew's Hospital museum Fifty years later it was thrown away as time had reduced it to dust and ashes The life-history of the *Trichina* was fully worked out by Herbst Virchow, Zenker, and Kuhne, who completed a discovery made by a medical student of twenty-one years

[1] Fully told in *St Bartholomew's Hospital Journal* 1928 xxxv, 39–42.

MANY INVENTIONS.

Mother Necessity has had a fertile season, to judge from the 500 new inventions which have been on view during the last ten days at the Central Hall, Westminster, under the auspices of the Institute of Patentees Those who are of an inventive turn of mind are fortunate in having this body to assist them in developing their ideas for they themselves can remain anonymous if they wish, while their productions are assessed by the critical eye of the public, including prospective patrons Some of the devices are charmingly ingenious Goldsmith's chest of drawers which contrived a double debt to pay, is wholly outdone by a piece of furniture which can serve ten different uses What occupant of a flat or bungalow is not attracted by having a bath-tub, a cot, a desk, a dinner wagon, a settee, and five other things all in one turn-about piece? Then there are such domestic helps as a thief-proof milk bottle holder, a dripless teapot, a water-cooled food safe, and an effective draught-excluder Men should welcome a collar-stud which refuses to be lost, perhaps also a tobacco pipe designed for wearers of dental plates, and a watch glass which allows notes of appointments to be written against the hour For golfers there is provided a means of producing a perfect sand tee of standard height, and for sunbathers a garment which uncovers sections of the body in turn the rest remaining veiled Only one device, so far as we can see, aims at diminishing the risks of the most dangerous of all pursuits, that of the pedestrian, this is a small mirror which, suspended from the hat brim, enables the wearer to see what fate is overtaking him from behind But the brains of the inventor have been hard at work in the interests of the motorist, for whom there are any number of automatic signalling devices for use at cross roads, antidazzle headlights, a number plate which at night acts also as a rear light, a lavatory attachment for a motor vehicle, various improvements in shock absorbers and sparking plugs, also a thief-proof device which gives an alarm if the car is started up by an unauthorized person One sanitary innovation of interest is known as the "cindor" closet, designed to effect the destruction of refuse by electrical heating It is claimed for this appliance that it eliminates the need for drains or cesspools, there is no sewage or sewage air, and it is

independent of water which is a consideration in the country where water for sanitary purposes may not be abundant With the bringing of electricity to the remote villages some contrivance of this kind may serve a useful purpose in domestic sanitation in country districts

AN INTERNATIONAL CIVIL SERVICE.

THE most protracted debates in the League Assembly continuing to the very end of the session (writes our Geneva correspondent) have concerned what might seem to be a domestic matter A committee of inquiry—known rather ominously as the Committee of Thirteen—has been considering for a year the reorganization of the Secretariat of the League and the International Labour Office It has made certain proposals for reform and a minority of its number has approved more far reaching recommendations Two "school of thought" have revealed themselves as sharply opposed on a point of principle One the majority led by the British delegation has taken the view that those who enter the service of the League of Nation should be in every sense of the word international officials owing no allegiance to any Government or authority external to the Secretariat The other the minority of which Italy has been the most vocal, appears to think that officials should regard themselves as nationals and as representatives of their country During the eleven years history of the League the organization has been of a provisional character but it has been evident that under the able leadership of the Secretary General Sir Eric Drummond, a body of good international officials could be reckoned upon whose loyalty to the League was beyond question It has been felt however that the time has come to set up an international civil service based upon the recruitment of some of the best young men and women from all countries to serve the League of Nations There has also been some jealousy among the smaller nations because hitherto the five officials of the high direction of the League have been nationals of the Great Powers The British delegation has shown its concern to remove any sense of injustice and to throw open even the highest post to the members of the smallest nation As a result of the debates the minority proposals which aimed at vitiating the authority of the Secretary-General have been turned down some of the more radical majority proposals have been deferred for a year, while other interior reforms are going forward When the new scheme is in existence the principal officers of the Secretariat will consist of the Secretary-General, a deputy, eight under secretaries-general, and six directors The work will be distributed among fourteen sections, each under an under secretary-general or director One of these is the Health Section, and another the Traffic in Opium and Dangerous Drugs Section which henceforth is to be separated from the section dealing with social questions There are about 500 permanent posts in the Secretariat, and 400 in the International Labour Office, but besides these there are many temporary posts, especially in the Health Section where highly expert persons often enter the League's service for three or five years to do specialized work required at the moment The minimum age for permanent appointment is to be 23, and the maximum 35 but the Secretary-General is empowered to make exceptions The compulsory retiring age will be 60, and after a long struggle it has been decided to inaugurate a pensions scheme The salary of directors is to be (we translate it roughly into English currency), £1,760 rising by annual increments of £104 to a maximum of £2,200 They will be appointed for seven years, and their appointments will be renewable The salary of members of sections will begin at £500 and proceed by annual increments of £33 to a maximum of £1 150 With regard to temporary members of sections, the Secretary General is free to fix their salaries in the case of engagements for less than five years in the case of engagements for a longer period he is to be guided by the rules laid down for permanent officials A very important consideration is that permanent officials are exempt from income tax whether temporary officials are exempt is a matter of controversy

PIONEERS OF PUBLIC HEALTH

UPON the façade of the new building of the London School of Hygiene and Tropical Medicine are displayed the names of certain of the great who first explored the fields of public health The main facts regarding the lives and work of those distinguished men have now been set forth by Mr M E M Walker in a pleasing book appropriately entitled *Pioneers of Public Health*[1] For the names selected the author is not responsible they were chosen by a committee, and Sir Humphry Rolleston observes in a preface that some might have been inclined to head the list with Hippocrates instead of Sydenham The remaining names are those of Sir John Pringle James Lind J P Frank Edward Jenner, Lemuel Shattuck Sir Edwin Chadwick, William Farr, Sir John Simon, M. von Pettenkofer Edmund Parkes, Louis Pasteur, Lord Lister T R Lewis, Robert Koch, Sir Patrick Manson Alphonse Laveran, Walter Reed, General Gorgas, Hermann Biggs and Sir William Leishman, pioneers in military, naval, and civil hygiene, in bacteriology and parasitology, and in the prevention and treatment of disease in home and foreign fields The book, which is lucid and informative, may be recommended as a concise survey of the endeavours and achievements of these benefactors of the human race

SIR HUMPHRY ROLLESTON, Bt, will deliver a public lecture at 5.30 p.m. on Wednesday, October 15th, at King's College University of London, on "Medicine as a career" All interested are invited to attend

THE eleventh Maudsley Lecture will be delivered before the Royal Medico-Psychological Association by Mr Justice McCardie in the Great Hall of the British Medical Association House Tavistock Square on Thursday November 30th at 3 p.m. The title of the lecture is "Truth"

BY special invitation of the council Dr Chevalier Jackson of Philadelphia will deliver a lecture before the Royal Society of Medicine on Tuesday next, October 14th, at 8.30 p.m. entitled "Suppurative diseases of the lungs" The lecture will be illustrated by cinematograph films, slides and chalk drawings executed during the lecture

THE Schorstein Memorial Lecture will be delivered on Friday, October 17th, at 4.15 p.m., in the Barsted Clinical Theatre of the London Hospital by Mr H S Souttar The subject is "Radium in the service of surgery" Members of the medical profession are cordially invited to attend

WE regret to announce the death on Sunday last of Mr A L Whitehead F.R.C.S. consulting ophthalmic surgeon to the Leeds General Infirmary An obituary notice will appear next week

[1] *Pioneers of Public Health*. By M. E. M. Walker. With a foreword by Sir Humphry Rolleston Bart., G.C.V.O. Edinburgh and London: Oliver and Boyd. 1930. (Illustrated. 12. 6d. net.)

Opening of the Winter Session.

SURGERY IN THE IMMEDIATE FUTURE

Address to the Guy's Hospital Medical School

BY

LORD MOYNIHAN,

PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS

An Irish poet has written,

> 'Each age is a dream that is dying
> Or one that is coming to birth'

In surgery we are approaching the end of one age, and already see the opening of another. The present epoch began on August 12th, 1865 when Lister for the first time applied a carbolic acid dressing to a compound fracture. There is no need to recite once again the changes wrought by Lister in the world of biology and in the world of surgery which he created anew. Lister's work in biology was the necessary and inevitable corollary to Darwin's. The enunciation of Darwin's hypothesis was beyond doubt the most important intellectual event of the nineteenth century, and the most fruitful that had ever occurred in the history of biology. Its inherent ideas, though seeming so revolutionary, were already overdue. The biological sciences, overburdened by unassimilated facts, had fallen into a drowsy torpor of repletion, and were ripe for an enlivening stimulus, for the "flash of lightning in the darkness" as Huxley said. Yet the hypothesis was incomplete, for the environment known to Darwin in respect of the physical and animal worlds was quite inadequate to bring about the effects he attributed to it. To the physical elements man by his long subjection to them and his wide adaptability, based upon stubborn though silent defence, had become inured, and the known animal world was already in subjection. It was the work of Pasteur and Lister which completed the hypothesis by showing that man's most dreaded enemies were invisible, surrounding him on all sides, and that their number, varieties, and infinite versatility in attack, were the most impressive and the most powerful of all agents in his environment. Lister was not only establishing new methods, but was also asserting a new biological principle of the highest significance.

Lister's work for surgery made the old operations safe; it gave us the opportunity to invent a multitude of new and far more extensive operations, it created luminal research, and it enlarged the scope and increased the practice of animal research. It has therefore enabled us in pursuit of operative methods for the cure of visceral disease, especially of disease above and below the diaphragm, to observe the condition of organs during life, to study disease in full career rather than at the end of a long and destructive journey, and little by little to discover and describe the symptoms aroused and the signs produced by such disease in earlier and still earlier stages. So far as animal research is concerned the physiologists with this new weapon have added knowledge of great value in connexion with the function of many organs.

In the progress of modern surgery its practitioners have had to rely chiefly upon themselves. I have made the claim, and I have been criticized for so doing, that surgery, in so far as its craft is concerned, has now almost reached its limit. I am unmoved by my critics, and I venture once again, and quite impenitently, to assert that the statement is true. The full fruit of Lister's work in relation to surgery has now been gathered. Almost every organ in the body has been made accessible to the surgeon; operations upon these organs can hardly be extended in the future; they are to-day performed with a degree of safety which, in the hands of the few great masters, can be little, if at all, surpassed. So long as the stomach, or portions of intestine, must be removed for cancer, the gall-bladder attacked for calculous disease, a lobe of the lung excised for neoplasm or for bronchiectasis, the heart itself opened to remove a foreign body or closed after the infliction of a wound, the brain or spinal cord approached to deal with any of the diseases which attack them, the operations practised can hardly be safer than they already are in the most expert hands to-day. The craft of surgery has in truth nearly reached its limit in respect both of range and of safety. We may find other and safer methods of dealing with disease, we may obtain earlier access to acute or malignant conditions, we may find that the application of radium to organs, accessible but irremovable, may render unnecessary the mutilations of surgery, but we can surely never hope to see the craft of surgery made much more perfect than it is to-day. We are at the end of a chapter.

What has been the main effort or the gross result of the labours of this last sixty-five years in the field of surgery? Speaking generally, surgeons have been concerned with the recognition of structural changes in visceral disease, and in the invention of operative methods for their removal or relief. The operations practised have been mechanical methods of removing, checking, or circumventing mechanical disabilities. The efforts of surgeons have been triumphantly successful. Indeed, in many instances, with which physicians continually remind us that they are familiar, this very success has proved the direct cause of grave disaster. When gastro-enterostomy, for example, became standardized, and fell within the competence of anyone with trained hands, and when its success was so great that perhaps no other operation ever practised could surpass it as saviour of life and giver of health, then, unhappily, the indications for it became extended, both by physicians and by surgeons, to a grossly illegitimate extent. Evil results soon followed, and an operation of the greatest value became discredited. It was not the operation which called for criticism and disparagement, but rather the operator, whose lack of knowledge or discernment dishonoured the cause of surgery. These surgical excesses produced an inevitable reaction. Nothing but a reckless and unjustifiable extension of surgical methods in the treatment of dyspepsia would have allowed, or may condone, the recent recrudescence of medical treatment in cases of chronic inveterate gastric or duodenal ulcer for which it is unsuitable, and dilatory and dangerous. The recent report on the methods revived by MacLean at St. Thomas's Hospital will disappoint all who had based strong hopes upon them. The errors of surgical excess are lamentable enough, but the errors of medical excess are more serious. The deaths from haemorrhage, perforation, or malignancy after the "cure" of peptic ulcer compel us to realize how much more dangerous, how much less trustworthy, are the methods of medicine than are those of surgery. It is the redundance of surgery which belittles its triumphs and encourages the fanciful but untenable claims of medicine.

If then surgery, as a mere mechanical craft, can hardly go further, what is to be its future? In what direction may we expect the new adventures to be launched? Surgery since Lister's day has, as I say, been concerned not only in the rescue or relief of our patients, but in the creation of new knowledge, in the refutation of ancient error long accepted upon high authority, in research into the interrelation of visceral diseases, and into questions concerned with their causation. As a therapeutic weapon and as a research weapon it must still continue. It is not difficult, however, to realize that a change in its objective is already apparent. It has been the power by which structural disorders have been overcome by mechanical means, and its strength has been derived from deep foundations in anatomy. It is becoming, and will increasingly prove to be, the agent by which control is gained over disorders of function, and its strength will derive from physiology.

The progress of physiology in the last century has been formidable and beneficent. It was born again by fission in the days of Sharpey and his pupils. It drifted away from descriptive anatomy, the science of the structure, ancestry,

and variations of man's body It attracted the eager and inquiring minds not only from within our own profession, but in very notable instances it enlisted the help of men who owed no allegiance to medicine Its growth both in respect of rapidity and range was stupendous, almost passing belief But little by little, very insidiously its character was changing and its interest in man becoming more and more remote I have said of it without any desire to be cruel—for a compassionate heart is my life's handicap—that physiology is no longer entitled to the name it bears It has made alliances with physics and chemistry, so close, so interwoven, that its identity is in danger, and may be lost Its true mission which was to elucidate the problem of the normal function of man's organs, is less and less considered Nominal physiology indeed, has awakened or sustained an interest in few physiologists, whether at home or abroad It is true that they have been busy in the practice of animal research, but not seldom their labour has seemed aloof from human problems, and the results incapable of application to the maladies of men If we are to profit by the work of the laboratory in the immediate future physiologists must concern themselves more and more with human afflictions, and especially with those conditions which approximate so closely to the normal that only expert investigation as to normal conditions is competent to discover or appraise them If those who now hold the chairs of physiology in our teaching schools cannot be attracted to the study of man it is time to consider whether we should not now seek to establish chairs in human physiology giving those appointed the right of access not only to hospital beds, but, what would be far more valuable, to the out patient room, where the earlier stages of disease are seen The truth is that we are all far too much concerned with advanced or at least with firmly established, disease There are earlier phases of disturbed function which lead up perhaps very slowly to those gross conditions which afflict the hospital in patient, and, indeed, alone justify his admission The physician or surgeon on the full staff of a hospital is our last line of defence, fighting in the last ditch It the moment this is right and proper indeed inevitable but are we not as a profession capable of something better than this Can we not create an advance guard Can we not fight at the outpost rather than, as we so often must in the very heart of a citadel, the outworks of which have been already captured If so we must create a vast body of new knowledge, and the only true begetters of this will be the men trained in laboratory work together with the clinician medical or surgical What is immediately required is a better knowledge of normal man, and of the 'near normal' abnormal man Physiologists are those best trained to acquire this almost non existent knowledge, and a new science of 'parapathology" needs to be brought to our aid The physiologist must however return from his journeys into a far country, and a warmer greeting than that which awaited the prodigal son shall be his We are grown accustomed to the plaudits which acclaim the work of physiologists in the last half-century I grudge them nothing but I cannot repress a feeling that they might have been much better occupied that if it has not been in riotous living they have nevertheless in some degree at least wasted their substance Our affection for them and our pride in their accomplishments, are however, inexhaustible but we need them at our own, at their own, hearthstone Surgery at least has not done so badly with only meagre help from them, but if, having completed one adventure we are setting out with far more assured competence and with equal enthusiasm, upon another we are confident that no progress commensurate with our opportunity can be made unless they guide us travel with us and inspire us This guidance has been lacking where it should have been insistent After the work of Gaskell and Langley we might at least have expected a hint as to the possibility of helping such conditions as say Hutchinson's disease or Raynaud's disease, by an attack upon the sympathetic nervous system The absence of a close affinity between laboratory worker and clinician has already is clear evidence of a lack of vision on the part of both and it is the sick who suffer from and bear the burden of our default The surgeon indeed must bring the science of structure and the science of function together after their long separation, he must create a union where Sharpey and his pupils made a clear division The work of Rose and Hunter, followed by Wade of Sydney Robertson of Toronto, Adson, and Learmonth have shown how very diverse maladies are capable of relief by a surgical attack upon the sympathetic nervous system Much remains to be done not only in anatomical and physiological research but in its application to various diseases of man along the lines they have laid down What part, we may hopefully ask, does the abdominal sympathetic nervous system play in those remaining functional disorders which, formerly so numerous, have now been so greatly reduced by successive victories of the surgeon? What is the significance in colons removed for dysfunction, of those interesting changes found by Keith in Auerbach's plexus? Why have the adrenal glands so unexampled a relationship with the sympathetic system? And so on In the immediate future surgery will be interested in, and perhaps concern itself with, the sympathetic and parasympathetic nerves in the neck, chest, abdomen, and pelvis with intrathoracic diseases with ductless gland and with questions of immunity Will the physiologists return home in time to help us? Their activities have been those of the gymnasium rather than of daily life, impressive, but of an unrelated to useful purpose

The new outlook of surgery which I have foreshadowed may suggest that, in order that he may be better equipped for his work a change in the training of the student of medicine is desirable I think it is The chief instrument which the student and the practitioner must bring to bear upon the grave problems which will confront them in their professional careers is the mind Is it not worth while to train this in some preliminary way in order to increase its efficiency and adaptability? In the old days an examination in logic and psychology was held at the completion of one's career at the London University Why not at the outset rather than at the end The logical processes of induction and deduction, of observation and experiment, are most necessary elements in everyday work in medicine yet no instruction in their meaning or usage is at any time vouchsafed Any physician or surgeon who has taught students must admit that very few of them have any idea at all as to the way in which their minds should be applied to medical problems The chief business of the student is acquisition Like Mr Gradgrind he is greedy for facts, but he is oppressed by their number and their needless and intolerable complexity He is given information rather than understanding He does not know how to assimilate the multitude of facts so different in kind from other facts which he has acquired at school or university He does not in truth know how his mind works nor what an excellent instrument it may become with proper discipline and training How soon philosophy should be taught I cannot hazard an opinion but it is so surely the very foundation of all things that the earlier some acquaintance with it is made the better for us all The life of the student should be made more interesting and the life of the practitioner more fruitful if the study of anatomy could be regarded as a method of mind training no less than a method of acquiring knowledge of man's body, if physiology were regarded as the earliest and best opportunity of training the mind in the methods of experiment, and if the method were practised and exhibited not in the laboratory only but in wards and operation theatres also In training the student we cannot possibly give him all the knowledge he requires (that is a state to which none of us ever attain) but we can make his task easier and his life of more value if we train him in method, so that he may know what to look for where to seek, and how to appraise so that he may observe discriminate and test

A further and even more important change made necessary by the new outlook is concerned with the creation or strengthening of mechanisms to secure close cooperation between research workers and clinicians The Medical Research Council which might exert so ministerial and so inspiring an influence upon the progress of medicine—the very purpose surely, for which it was founded—seems too

busy with little things, too aloof from the day-to-day practice of medicine, out of touch with the needs and desires of clinicians It is hardly credible that in the last annual report such questions as these could be asked "Is there a science of experimental medicine of which the actual material for study is the human patient? Or is scientific work by the physician or surgeon limited to the application in his art of scientific results worked out elsewhere in the laboratory and delivered to him for use?" What is scientific work in the practice of physician or surgeon? It is surely the making of accurate observations, the testing of those observations by all appropriate methods, discriminating as far as possible between truth and error, the collection and correlation of such observations, until at last from them a general truth may be formulated In experimental medicine these observations are made upon human material," upon patients whose symptoms receive exhaustive inquiry, with infinite patience and with consummate skill the phenomena observed are freed from manifold [illegible] other causes, and the constantly shifting [illegible] both the temperament, the mood, and the [illegible] of the patient mingle with truth Inquiry, however complete and unassailable, must be repeated until error is at last eliminated The physical signs of disease are then studied by every available device, including operation The evidence afforded by ancillary methods of inquiry by bacteriologist, biochemist, radiologist—are first appraised (a very necessary precaution), and when acceptable are ranged with clinical evidences, each separate contribution being given its exact value and placed in right perspective When this full inquisition has been carried out the qualities of the disease and their organic cause may be recognized When this procedure is often repeated it is true to say that new knowledge has been created If this is not "scientific research," then words have no meaning Clinical research of this kind differs from research work in the laboratory only in difficulty in infinite complexity, and in the graver responsibilities which attach to it

The questions I have quoted from the annual report of the Medical Research Council suggest that the work of the physician is a mere synthesis of the work of others It is certainly that, but it is much more What have laboratory workers done to help us in the recognition of such a disease as gastric or duodenal ulcer, infections of the gall-bladder and cholelithiasis, splenic anaemia, haemolytic jaundice, to mention some of the diseases with which I am very familiar? What could they do when such diseases do not exist apart from man, when only the "actual material for study is the human patient"? If the first edition of Fagge's *Textbook of Medicine*, the best of all textbooks of its time is searched, the title "duodenal ulcer" will not be found even in the index The greater part of our new knowledge of visceral disease has been created by clinicians without any help from the laboratory The laboratory has been used, not for the discovery of new knowledge, but for its illustration

The truth is and I grieve to say it, that a grave disservice to medicine is suffered by the exaltation of the work of the laboratory in comparison with that of the wards and theatres Both are necessary the one is the corollary of the other The scientific mind and the scientific method are equally necessary in both In the report of the Medical Research Council it is said that most of this research work is conducted in the laboratories of physiology, biochemistry, bacteriology, pathology, and the like, and a "very small part of it has been done by men engaged in clinical work and studying disease as it actually presents itself in human beings" This sort of opinion is only what we might expect from a Council so imperfectly constituted Of its twelve members, one only, and he the most recent appointment (the very best possible) possesses *any adequate knowledge of scientific clinical surgery*, one only practises medicine, and his very able mind sways rather to the laboratory than to the wards The Council, as a body, is little possessed of any power to understand the nature of clinical problems, and appears to display little interest in them The report says, "It is important here to draw at once a clear distinction between the work of the physician engaged in practice and the work of a man engaged in the task of advancing knowledge" I beg anyone who reads this sentence to reflect upon it for a moment and then to ask himself how much our knowledge of visceral disease has not only been advanced, but both created and advanced, by those engaged in practice, and it is almost true to say, by no one else The suggestion that the physician engaged in practice does not advance or has not advanced knowledge will be read with consternation by all those who have any slightest knowledge of the history of medicine

The attitude of the Medical Research Council condones, if it does not encourage, that estrangement of physiologists from human problems for which, of course, it was not primarily responsible What is now most urgently needed in medicine is a consolidation of the forces attacking the manifold problems of disease The leadership which the Medical Research Council, newly constituted, might give, would be of inestimable advantage But the Council must either have a larger representation of clinical medicine and surgery, or call practitioners to its aid in an advisory capacity With the knowledge and new vision which clinicians would bring research would be attended by more fruitful and more relevant results At present the Council seems to apply not ungeniously the system of the dole, giving here a little grant, and there a little but evidence of a controlling, constructive, and unified policy is lacking I find that many physicians and surgeons engaged in the active practice of our profession read the annual report of the Council not only with dissatisfaction but with regret that so little appears to be known to its compilers as to the position and needs of the practice of medicine in any of its branches In the future medicine must march in closer companionship with its most valued allies, of whom there are many Every individual and collective effort will be needed At present our efforts are too disparate and disjointed It is our plain duty to realize that one principle should guide and sustain us all, that we must take counsel together, each learning what the other is doing, and testing and applying our knowledge, wherever it appears to be relevant

ST BARTHOLOMEW'S HOSPITAL.

OLD STUDENTS' DINNER

As usual, the new session at St Bartholomew's Hospital was inaugurated with the old students' dinner, which was held on October 1st, in the Great Hall of the hospital The chairman on this occasion was Mr L Bathe Rawling, surgeon to the hospital, he was supported by the Lord Mayor and the Sheriffs of London, Lord Stanmore, treasurer of the hospital, and other members of the governing body, Sir John Rose Bradford, P R C P , Sir Holburt Waring, Air Vice-Marshal Sir David Munro, the head master of St Paul's School, the Masters of the Cloth workers', Farriers', Haberdashers,' Mercers,' Salters,' and Skinners' Companies, Surgeon-General P H Benson, I M S (ret), and members of the visiting medical staff

After the Royal toast had been honoured, the chairman described the progress of St Bartholomew's during the thirty-six years of his association with it He paid a special tribute to the late Mr C B Lockwood, who had been a pioneer as regards securing reconstruction of the hospital, and Sir Holburt Waring, who had continued the campaign triumphantly after the war A new era in the history of the hospital had begun with the erection of the nurses' block, followed by the series of improvements, until the present, when the magnificent surgical block and theatres had come into being In commemoration of Sir Holburt Waring's work one of the new surgical wards had been named after him The Lucas block, including the Abernethy and the ophthalmic wards, had now been handed over to the obstetrical and gynaecological departments Theatre A, which had been renamed in memory of Raymond Etherington-Smith, was now devoted to gynaecological and obstetrical operations, and the old ophthalmic theatre had become the Williamson laboratory Further improvements were contemplated, these including a new medical block, residential accommodation for students,

blocks for paying patients and for x-ray work an up-to-date anatomical department and the reconstruction of certain special departments. Paying a tribute to some whose connexion with the hospital had been severed during the preceding twelve months, Mr Rawling commented particularly on the loss sustained by the departure of Dr T. W. Shore, for many years dean of the Medical College. Sir CHARLES GORDON WATSON proposed the health of the Lord Mayor, and this was drunk with musical honours. A short speech was made also by Surgeon-General P. H. BENSON, who was a student at the hospital in the early seventies.

CHARING CROSS HOSPITAL

OPENING OF LOCKYER COLLECTION

THE annual prize distribution and inaugural address at Charing Cross Hospital Medical School on October 4th were preceded by the opening of the Lockyer collection of obstetrical and gynæcological specimens in the museum in Chandos Street, W.C. This collection, numbering nearly 2,000 specimens and suitably housed in a large double-galleried hall, is the generous gift of Dr Cuthbert Lockyer, consulting obstetric physician to the hospital.

Mr GEORGE VERITY, chairman of the hospital, in presiding, said that this was one of the greatest occasions in the history of Charing Cross Hospital during the twenty-five years of his own association with it. Dr Lockyer had performed a great act of munificence by the presentation of this marvellous collection, the result of many years' painstaking effort. In addition to the actual specimens he had provided an equal number of slides illustrating them, which were contained in a special cabinet. He had also written and published at his own expense a detailed catalogue of the exhibits, and had invested with trustees the sum of £500, the interest on which was to be spent on the upkeep and repair of the collection.

Dr CUTHBERT LOCKYER, in response to an enthusiastically accorded vote of thanks, said that he was indebted to his fellow consultant at Charing Cross, Dr William Hunter, thirty years ago for instruction in what was at that time a modern method of preserving specimens, and Dr Hunter had watched and encouraged the growth of this collection year by year.

Dr WILLIAM HUNTER said that the gift was made very appropriately this year, which was the centenary year of the school. It was, in his judgement, the most important collection ever brought together by one person since the days of John Hunter, whose collection was the basis of that of the Royal College of Surgeons.

The wide range covered by the specimens, and their admirable mounting, elicited many expressions of appreciation from the large company present.

INAUGURAL ADDRESS BY DR MACLEOD

An adjournment was then made to the hospital, where in the board room, the annual prize distribution took place. Mr LEIC A. CROOK, the dean, in his report said that the entry during the twelve months was double that of the previous year. Classes had been instituted in applied anatomy and physiology, with the object of linking together these preliminary subjects and actual hospital work. Surgical consultations had been instituted whereby it was possible for members of the surgical staff to consult with their colleagues in difficult and obscure cases. The patient's own family doctor was invited to be present, and the students attended the meeting. The post-graduate courses had been very well attended, the number amounting to 118.

Dr J. M. H. MACLEOD, after distributing the prizes and certificates, congratulated those whose work had been crowned by such awards. He recalled that one of those who were prize-winners in his own years had achieved great distinction in after life, but for the encouragement of those who had not gained prizes he might add that other prize-winners had been out-stripped by those whose student career was much more humdrum, and who were known as "the bloomers."

The study of medicine, Dr MacLeod said, has been compared to a maze in which the student wanders about hither and thither, meeting disappointments and difficulties, but at length emerging. A much better simile, he thought, to compare the study of medicine to a voyage in an ocean-going steamer, for after all the student of medicine is an intrepid adventurer going out to traverse wide oceans and exploring new land. During that voyage he is bound to meet with head winds and adverse tides, but at the end of all the buffetings he eventually gets to port. During the voyage, he has had the inestimable advantage of mixing with his fellows, for certainly learning is not everything in connexion with success in medicine. It is equally important to develop character, which can best be done by exchange of ideas and clash of personality. One hears on every side murmurs that somehow or other in this and other countries certain standards which the older among us have reverenced and thought likely to be permanent have been rather set aside, and some have felt that democracy and bureaucracy in medicine are apt to lead to a levelling down rather than a raising up. Well, you are fortunate in your voyage in having a happy ship, and whatever standards may be depressed we look to you with very confidence to maintain the standard of your school and the tradition of its past.

But the first port in any voyage is only a port of call, a coaling station, a port where you are fully commissioned for the larger voyage of your life's work, and as one of yourselves who has been through the greater part of that voyage I would remind you that success is not a matter of luck nor of genius, it is born of concentration, imperturbability under difficulties, patient thinking, and what old Dr Johnston called setting down to work. In your early days I would advise you to do everything you can to stimulate your imagination, so that you may be enabled somehow or other to estimate your own capacity, to find some individual aptitude, giving you a line of direction along which you may journey. Do not drift into things, for if you do that you may find yourself in the end in an uncongenial environment, a square peg in a round hole. Above all things avoid early rushing into specialism, but make every endeavour to get as wide a knowledge of medicine as a whole as you possibly can. In that way I can guarantee that you will achieve success, and before you reach the end of your voyage will be a credit to your alma mater, your teachers, and your school.

A vote of thanks to Dr MacLeod was voiced by Mr N. C. LAKE and Dr J. E. M. WIGLEY, both of whom expressed regret at Dr MacLeod's recent retirement from the active staff of the hospital. His association with Charing Cross will be maintained, however, as consulting dermatologist. Dr DAVID FORSYTH and Mr L. R. BROSTER spoke to a similar vote of thanks to the chairman, Mr G. VERITY, who in reply drew attention to one recent innovation at Charing Cross which represented a marvellous piece of civil engineering. When it was necessary to enlarge the casualty and out-patient departments it was found impossible to take in space to the right or the left or to go up. The problem was solved by scooping out the earth beneath the result being an ideal casualty and out-patient departments, four or five times the original size.

ST MARY'S HOSPITAL

ANNUAL DINNER

THE annual dinner of past and present students of St Mary's Hospital Medical School was held under the chairmanship of Dr JOHN MATTHEWS at the Trocadero Restaurant on October 3rd, when 130 sat down at the tables.

In proposing the principal toast, Lieut.-Colonel H. E. VEREY, chairman of the hospital board, stated that the contract for the rebuilding of the medical school and inoculation department had lately been signed. The work involved an expenditure of over £200,000, and had been made possible largely through the generosity of Lord Beaverbrook and Lord Rovelstoke. The rebuilding of the inoculation department would proceed concurrently with the rebuilding of the medical school, and he hoped that this, when completed, would form a worthy memorial to the work of Sir Almroth Wright, whose researches in vaccine

therapy had made St Mary's a household word throughout the world In spite of unparalleled industrial depression, the income of the hospital for the past year had exceeded its expenditure by some £3,000 The isolation ward had been reopened, but this had involved the uneconomical procedure of housing out a considerable part of the domestic staff It was proposed to erect on the remainder of the island site in Paddington a home capable of housing the number of nurses and domestic staff required for a hospital of 500 beds These departures were an integral part of the rebuilding of the hospital, for the 500 beds which it was extremely desirable to have in the interests of the school could not be worked without the necessary nursing and domestic staff, who should be able to "live in" The direction and control of the great London teaching hospitals did not become easier The Local Government Act would make great changes There were some who saw in it the prelude to the death of the voluntary system, which would mean an incalculable loss to the community He added a tribute to Sir John Broadbent, whose retirement is impending The hospital never had a more devoted servant, or one with a greater love for the place

Dr C M Wilson, dean of the school, in responding to the toast said that the enlargement of the hospital was the immediate task ahead The enlargement was essential from both the school and the hospital point of view The entry of students this year was exactly twice the entry in 1913 It was plain from the experience of the past few years that as a result of the present policy of St Mary's the entry could be increased to any figure which was desirable, but they were not so much concerned with numbers as with the type of men who entered the school Their policy was to limit the entry so that they were able to reject candidates for admission who, in their opinion, were not equipped for a medical career It was, they believed, better to have an annual entry of about fifty students than a larger number made up of everyone who applied for admission The school buildings and laboratories were being rebuilt at a cost of more than £200,000, and when this was completed in about twenty months, space would be set free for the enlargement of the hospital Their ideal was a medium-sized school for between two and three hundred students, who would be as far as possible picked men He thought this policy would ensure that a capable student would have no difficulty in obtaining a resident appointment on qualifying There was an unusually large proportion of Oxford and Cambridge men in the school, and in athletics the school was second to none St Mary's could claim that it had originated departures which had been widely followed elsewhere, such as post-graduate courses, affiliation with municipal infirmaries, and scholarship schemes

Mr Warren Low, in a happy speech, proposed the health of the chairman, Dr Matthews, one of Wright's earliest disciples who had done yeoman service in maintaining the fame of St Mary's as the Mecca of therapeutic inoculation

ST THOMAS'S HOSPITAL

OLD STUDENTS' DINNER

No formal ceremony was attached to the opening of the new winter session at St Thomas's Hospital, but the old students' dinner was held on October 3rd at St Thomas's House, with Dr R Muzio Williams in the chair He was supported by Sir John Rose Bradford, P R C P, Lord Riddell, Sir Arthur Stanley, Sir Ambrose Boyson, the senior almoner, Mr G Roberts ("Audrey"), two colonels—namely, Dr Ingleby Oddie and Dr A D Cowburn—with members of the hospital lay staff In proposing the health of St Thomas's Hospital Medical School, the chairman gave a series of interesting reminiscences of more than half a century ago, when he entered as a student He made special reference to such events as the introduction of the carbolic spray in surgery, and described how the students lived in those earlier days Sir Arthur Stanley (treasurer of the hospital) and Professor Dudgeon (dean of the Medical School) responded to the toast Sir Arthur Stanley remarked that this last year might indeed be termed a wonderful one as regards the progress of the hospital A new light department had been opened, and before long a new ear, nose, and throat department would be at work, thus relieving the present severe congestion in the out-patient department The Leopold ward would be set free by the coming into existence of the new ante-natal clinic There had been numerous unexpected benefactions during the year, including gifts by Lady Houston and Sir William Morris, but there was still a debt of £120,000 to keep them actively at work in the task of securing new financial assistance Professor Dudgeon said that the school was in a very satisfactory position as regards the number of students on the rolls, and the high standard which was consistently maintained He referred particularly to the loss the Medical School had sustained by the retirement of Dr A E Russell, senior physician to the hospital, and mentioned other vacancies which had occurred owing to appointments elsewhere obtained by members of the staff He commented on the way the difficulty in connexion with the directorate of the surgical unit had been triumphantly overcome, and breathed a spirit of cheery optimism as regards the future The toast of "Our Guests" was proposed by Mr Cyril Nitch, surgeon to the hospital, who enumerated the chief guests with appropriate comments Lord Riddell replied in a characteristically humorous speech, emphasizing how good the present times might be considered, when contrasted with the experiences of the past He warmly commended St Thomas's Hospital for the excellent work it was performing, and introduced a few reference or two to the Royal Free Hospital

MIDDLESEX HOSPITAL.

PRIZE DISTRIBUTION

The ninety-sixth winter session of the Middlesex Hospital Medical School opened on October 1st, when prizes and medals were distributed by the Minister of Health, Mr Arthur Greenwood, in the Queen's Hall, Langham Place Mr Samuel A Courtauld, the new chairman of the school council, presided, and the introductory address was given by Mr Eric L Pearce Gould, M Ch, F R C S

In contrasting the present state of affairs at the Middlesex Hospital with conditions thirty-four years ago, when he first knew it, Mr Pearce Gould recalled the changes that had taken place in the school and its associated buildings The old museum had been replaced by the Bland-Sutton Institute of Pathology, a new department of biology had risen above the reconstructed department of physiology, and across the street stood the Courtauld Institute of Biochemistry The whole of the hospital fabric, except the chapel, had been built since 1896, and with these changes of structure there had been changes of function Not only had the volume of work increased greatly, but there had been a profound alteration in the character of the services available for patients To-day all the special departments were staffed by specialists, with their own beds as well as out-patient facilities, while additional departments for special methods of treatment had been organized The changes that had taken place suggested that the progress of medical science had not been as slow as was supposed by some who looked askance at the ever-increasing expenditure and financial demands of the hospitals Nevertheless, the effort to take full advantage of these advances must strain the resources of even the best-endowed school or the best-supported hospital

Dr T Izod Bennett, dean of the Medical School, in presenting his report for the year, took occasion to remark on some of the defects in the education of the average English schoolboy who was proposing to become a medical student Neither in classics nor in science were public school masters providing an adequate groundwork for the study of medicine Under the present regulations of the University of London the first examination in chemistry, physics, and biology might be taken from school, but, although many students did so, the experience of teachers

at the Middlesex Hospital was that the standard of knowledge of these first year students was inferior to that reached by those who began to study the preliminary sciences in their own medical school

Annual Dinner

The annual dinner of past and present students was held in the evening of the same day at the Savoy Hotel, under the chairmanship of Dr C J Lakin, physician to the hospital In proposing the toast of "Prosperity to the Middlesex Hospital and Medical School," the chairman expressed regret at the absence of Prince Arthur of Connaught who was presiding that evening over the Guildhall banquet to overseas Premiers He said that the reconstruction of the hospital was going forward very well indeed More than two-thirds of the building programme was finished and paid for, two-thirds of the £1 100,000 asked for having already been collected When this great scheme was completed they would have a modern hospital of nearly 700 beds More than a quarter of a million was still needed to pay for the last section, but he did not doubt that it would be forthcoming The toast was responded to by Mr S A Courtauld Dr Ivon Bennett, and Mr P B Ascroft (Senior Broderip Scholar) Mr Courtauld said that this year marked the turning point in the reconstruction of the hospital He paid a warm tribute to the staffs of the hospital and Medical School and to Mr S G Asher his predecessor in the chairmanship of the school council In proposing the health of the guests, Mr W Sampson Handley paid compliments to the distinguished people who were with them that evening, and remarked that the Middlesex with its ideals of friendship, was fortunate in its friends Mr R J Meller, M P, responded on behalf of the guests, and Dr Henry MacCormac proposed the health of the chairman in a speech as witty as it was cordial

WESTMINSTER HOSPITAL

ANNUAL DINNER

The annual dinner of past and present students of Westminster Hospital was held at Grosvenor House Park Lane on October 1st under the presidency of Dr S Ernest Dore In proposing the toast of The School and the Students the chairman remarked that the Medical School which was beginning its ninety seventh year continued to maintain its traditions as an integral part of the hospital Progress had been shown in every department during the year especially in work on radium and disseminated sclerosis Last year twenty-six students entered the hospital A notable event had been the acceptance of the chairmanship of the School of Medicine Committee by Sir Henry Hadow on his retirement from the vice-chancellorship of Sheffield University Among other matters which the dean, Dr A S Woodwark, had referred to at the inaugural meeting earlier in the day, was a gift of £5 000, which had greatly assisted the development of the children's department, so that the hospital now afforded exceptional opportunities for the study of the diseases of children Distinction had also been won in the athletic field, for the record of the Sports Union was superior to any since the war, and included the winning of the junior association hospitals cup The toast was responded to by Dr Cecil Barlow and Mr N Heath the former giving some personal reminiscences of several members of the present staff nine of whom he was gratified to note, were old Westminster students Dr Adolphe Abrahams proposed the toast of "The Visitors," which was replied to by the Rev J Scott Lidgett, D.D, Vice-Chancellor of the University of London, and by Colonel Bulkeley An enjoyable evening concluded with the toast of The Chairman which was submitted by Mr Arthur Evans

An account of Dr Scott Lidgett's inaugural address was given in the *British Medical Journal* of October 4th (p 574)

THE MEAT-PREPARING INDUSTRY IN SOUTH AMERICA

[From a Correspondent]

A recent visit to South America afforded the opportunity for a critical inspection of the "*frigorifico*"—those huge establishments which daily convert thousands of cattle into meat for human consumption Having regard to the fact that nearly half the total amount of beef eaten in the British Isles comes from that remote region the subject is not without medical importance, so far as the purity of supply is concerned

When South America first began to utilize the vast herds of cattle which roved over its prairies it was in the form of jerked (*charqui*) beef This was made by cutting meat from the bone and stacking it in layers of salt. Prepared in this way beef retained its nutritive qualities for a long time, but it was a tough blackened product, and unattractive to ordinary civilized palates Then the canning process appeared, but has been superseded largely, first by frozen and later, by chilled beef The trade in these two last forms of food is of comparatively recent growth and sprang from several factors which arose almost contemporaneously Shipping lines pioneered by the Royal Mail Steam Packet Company installed refrigerating machinery great abattoir companies spread southward, and stock raisers were quick to appreciate the necessity for supplying the best cattle they could produce. Bulls were purchased from England without any stint of price and they soon transmitted their qualities to the South American stock The supply reacted to the demand created by successful transport and the trade is now in such a state that beef can be brought from La Plata 6,232 miles away at an inclusive charge of 9/16d per lb (less than the cost of rail freight from Glasgow to London) in a condition that makes it practically indistinguishable from home-killed produce

Organization of the Industry

Since by far the greater proportion of the meat supply comes from Argentina I will deal principally with that country Its economic heart lies in the Pampean division an area that spreads out like a fan four hundred miles from Buenos Aires and is devoted to cattle raising and cereals Vast though the pampas are covered by virgin pastures of rich nourishing grass here and there improved by intensive culture the country is regarded as fully stocked by cattle A conservative estimate has put the total at over forty million head of chiefly shorthorn Hereford and Aberdeen Angus types In 1925 a shorthorn bull was bought in England for £13,500 and since prices of £4 000 and £5 000 have often been paid for British bulls it will be seen that South American stock raisers are alive to the manner of obtaining the best produce The alfalfa grass which is a herbaceous plant belonging to the clover family is a most important factor as a source of nourishment In Argentina there are 14,000,000 acres devoted exclusively to it and crops can be cut six times a year, the grass being full of highly nutritious small kidney shaped seeds Before its introduction and the promotion of irrigation there were large areas of arid desert, which are now fertile plain Alfalfa pastures have wonderful muscle-producing qualities as compared with maize, which is more of a fattening agent The grass of the pampas and the alfalfa combine to form sturdy firm and well-covered animal which are entirely suitable for the meat market Practically the entire system of rail communication is British-owned and managed The country is well served by lines which extend to remote districts and facilitate the transport of cattle from the *estancias* direct to the *frigorificos* The transport is well managed the cattle come in orderly packed rows twelve to each covered truck There is not room for them to stand about at different angles and so be able to fall out to kick and gore each other On arrival at the *frigorificos* they are allowed to rest for twenty four hours at the end of that time they are herded towards a gangway up which they pass singly in a continuous stream to the knocking pen

The operation of killing is quick and merciful a skilled man wields a hedge-hammer which crushes the skull and renders the animal instantly unconscious It is then shackled on the

hind feet, and hoisted to an overhead rail The rail wheel takes them in front of the "stickers," who with deft, unerring aim drive a long thin knife down the carotid artery to the heart A pause follows, during which the animal is bled for ten minutes About four kilos of dried blood result, this is used for fertilizing purposes, and in some frigorificos for blood sausages If the animal was insufficiently bled coagulation would occur in the carcass The heads are then removed and the animal is skilfully skinned and sawn into four quarters In each frigorifico visited there was a plentiful supply of water, and a remarkably high standard of cleanliness was maintained throughout the whole process In this washed and clean condition the fore and hind quarters pass to the packing houses, where the meat undergoes freezing or chilling, after which each piece is wrapped in stockinette and again in Hessian cloth, and is then ready for shipment

Freezing and Chilling

Though it was by frozen beef that the trade sprang up, a great impetus was given by the introduction of chilled beef By the former process beef arrived in a hard condition and, unless carefully prepared for cooking, much of the albuminous juices drained away in process of thawing It is, however, as wholesome as chilled or fresh beef, and is not subject to rapid deterioration, it is usually sold at a lower price Chilled beef on arrival in England is scarcely distinguishable from the fresh article It is carried in steamers in which a steady temperature of 28° F is maintained in the holds, as against 17° F, which is the degree of coldness required for frozen beef The chilling process needs more prompt and careful subsequent handling than if the meat is frozen, it must be shipped within one week from the time the animal has been dressed, or it will deteriorate Freedom from the inclusion of any diseased meat is ensured by the companies' staff and by Government veterinary surgeons, who inspect the tongue glands of all the meat at an early stage of the proceedings They reject on an average 0 5 per cent of the carcasses, tuberculosis, fever, and anthrax being the chief causes Condemned carcasses are sent forthwith to a crematorium

Canning and Extraction

For canning, only beef with a low fat content (15 to 20 per cent) is used, since any other kind would require considerable skimming of fat The whole process of canning is most interesting, on seeing it one is able to understand how these tins of 'bully beef" maintain their contents in such safe and fresh condition for indefinite periods The meat in them is cooked and pickled, it is then packed into tins which are placed in a vacuum Air is drawn out through a small vent hole in the cap, and this vent hole is immediately sealed and soldered by an electric iron The cans are then stored in an incubating chamber for seven days, by this process unless the tins have been sealed in a perfect vacuum any such defect immediately shows itself Ingenious machinery performs the greater part of the work and the meat is scarcely touched by human hands Only those workers who have passed strict medical examination are employed, each one has to wear clean white overalls and have his hands inspected and manicured, both on entering and leaving the factory

In the preparation of beef extract only first-quality beef is used The meat is cut up, and all tendons are removed, it is then minced, and subjected to boiling After settling, the soup is skimmed to remove the fat It next undergoes filtration, and is evaporated to 25 Beaume scale in open aerating pans, it now contains not more than 16 per cent moisture This is the pure beef extract, and the whole process takes five days To make 10 lb weight of this extract 100 lb of beef are required No chemicals or any other matter are added, the salt taste is nothing but the salt contained in the flesh

Some mention should be made of the by products from the meat supply Glands such as the thyroid, pancreas, and ovaries are extracted, treated, and dried they are then shipped to England in zinc lined cases Gall stones are sent to Japan, where they are used in the preparations of dyes Brains are cleaned and chilled, they are then packed for export for consumption Livers are dealt with in the same way Lungs and spleens are made into meat meal, which is used as animal food and fertilizer, tendons and the male organs are dried and sold for glue stock Hides are pickled in brine, and then piled in layers with a covering of salt Bones are trimmed, defatted, cooked, washed, and dried, they are then exported for use in making buttons, knife handles, etc Intestines are prepared for use as sausage casings

Output of the Frigorificos

More than half the meat sold in Smithfield Market comes from South America, and about one third of all the meat consumed in Great Britain As nearly as can be ascertained South America supplies three quarters of the world's total export The last official returns from Argentina show that 428,798 tons of chilled beef and 63,954 tons of frozen beef were exported during the previous year Including also Uruguay and Brazil, the total output for 1928 was 646,437 tons of beef It has been estimated that there are 68,500,000 head of cattle in these three countries alone, and this does not take into account the millions of sheep which are also raised From these figures the enormous extent of the trade can be judged, and when consideration is paid to the clean and careful methods of production and transport there is every reason for satisfaction with the purity of our imported meat supply In Argentina and Uruguay the Governments are alive to the importance of the trade, and to its maintenance in as perfect a state as possible They therefore supply to each frigorifico a staff of official veterinary inspectors, who are independent of the companies and who closely examine every carcass in its progress through the factories

Sheep and pigs are handled in much the same way The heavy odour of sheep skins is minimized by the rapid transport of the fleeces to large, airy sheds, where they are washed and treated with chemicals to make the wool easily removable The wool is then carded and baled, and the skins are sorted for export The carcasses, after being gutted and washed clean, pass on to the chilling chambers, they are there sewn up in Hessian cloth and pass on an endless chain straight into the cold holds of the steamer drawn up alongside. All this is done with remarkably little handling Steamers carry refrigerating engineer officers, who are specialists in maintaining appropriate temperatures throughout the voyage

Correspondence.

PERFORATING DUODENAL AND GASTRIC ULCERS

SIR,—With your permission I would like to thank your several correspondents for their friendly criticism of my paper on acute perforating duodenal and gastric ulcers, which was published in the *Journal* of August 2nd (p 169) It is obvious that there are many points with regard to the pathology, symptomatology, and treatment in which there are certain differences of opinion among the profession, but most of these, I think, will be capable of a satisfactory adjustment in time

Mr Harold Dodd thinks my idea of the mortality not exceeding 5 per cent is a counsel of perfection, it may be so, but, taking the figures for acute perforative appendicitis, a 5 per cent mortality is not thought anything wonderful by many surgeons, and personally I consider it a more dangerous lesion In my opinion the predominant factors in success will always depend upon early diagnosis, early operation, perfectly planned anæsthesia, and meticulous after-treatment

I wish to offer my sincere apologies to Professor Grey Turner for any disservice I may have done him by quoting figures that did not strictly refer to operations performed, which in his case should be 15 64 I hope, therefore, to publish a more correct table at an early date, with explanatory notes I would also like to congratulate Mr Basil Hughes on his excellent results At the same time I may state here that in an experience of these cases during the last twenty-five years I have never met a single instance of shock in an early case, and I have seen a number within one and two hours after perforation I have always operated as soon as possible, and am in absolute agreement with Dr R O Adamson on this point

Further, I may state that in my table, which was referred to by Professor Grey Turner and Mr Basil Hughes, some of the earlier results given include operated and non-operated cases and perforating malignant ulcers I would

like to emphasize the time element in the earlier figures Taking Sir Percy Sargent's cases in 1904, the average time that had elapsed between perforation and operation in the successful cases was 23 hours, and in the fatal cases 22 6 hours, whereas to-day it is very seldom that I see a case that has been perforated longer than 12 hours, in fact, my own earlier experience was of late cases as a rule, when subphrenic abscesses were far from uncommon The late H L Barnard in 1908 published a series of seventy-six cases of subphrenic abscess, and found that of these twenty-seven were secondary to perforating ulcers of the stomach and duodenum Finally, I want to thank Mr Russell Coombe, and Drs Holden and Adamson, for their interesting additions to the historical side—I am, etc ,

JOHN H WATSON, M B , B S , F R C S

Barnley Sept. 30th.

SIR,—Surely to-day we have a very different conception of shock from what obtained in the nineties Such is one of the really valuable heritages of the late war, which taught us much and gave us a new outlook upon the treatment of perforations of viscera I do not wish to refer to the terrible operative mortality of abdominal injuries earlier in the war, when hypodermic morphine and immediate operation under ether narcosis, as still approved by Dr Adamson, was practised, but I do wish to emphasize the later results in which the mortality was reversed when the value of resuscitative measures primarily, and the extraordinary benefit of gas and oxygen anaesthesia were recognized and put into effect by some of our leading anaesthetists Such a lesson must be a lasting one to those of us who were overseas It is the application of this lesson to civil surgery which has granted in my own cases of perforating gastric and duodenal ulcer a mortality of 12 per cent The choice of spinal anaesthesia over gas and oxygen anaesthesia may be selfish They are both non-toxic, but spinal anaesthesia makes the surgeon's task both easier and quicker The fundamental surgical principles, however, still remain for such cases—namely that in perforations of any abdominal viscera "Don't operate on a falling blood pressure, for this is inviting disaster Employ resuscitative measures first, wait for the rising blood pressure, and then operate"

With reference to Dr Adamson's remarks upon cigarette smoking and its connexion with hyperacidity and ulcer, I would refer him to the very convincing work of Lord Moynihan on this subject—I am, etc ,

BASIL HUGHES, M B , B Sc , F R C S

Bradford Oct 6th.

INDICATIONS FOR PERFORMING WILDE'S INCISION

SIR,—An article by Mr T B Layton under this heading in the current number of the *Journal of Laryngology and Otology* raises a question of such importance that a further expression of opinion by otologists and all those interested in the aural complications of infectious diseases seems called for Mr Layton, whose opinion necessarily carries weight because of his long experience with the Metropolitan Asylums Board, asserts that "in all cases of infectious disease in which retro-auricular swelling arises, it is best to make a Wilde's incision" This is a very sweeping and very surprising statement, the two exceptions quoted—namely, rigidity of the neck and the presence of rigors—do not materially alter the general proposition

I suggest that there are four causes of retro-auricular swelling occurring in the course of infectious disease (1) furunculosis, (2) adenitis (3) pus tracking from the middle ear along the bony meatus without bone disease, and (4) mastoid disease with or without further complications It is surely the aural surgeon's duty to try to see the which condition is present and then to use the appropriate treatment, but not to rely on a stereotyped panacea In (1) and (2) a superficial incision is all that is necessary, in (3) a Wilde's incision is appropriate and is performed by most aural surgeons In my experience however, such cases are rare in children over the age of 5 years, and distinctly less common than true mastoid disease, even in those below this age In (4) a complete mastoid operation is preferable, because one operation is better than two It is admitted by Mr Layton that where the mastoid is diseased Wilde's incision will not be sufficient to effect a cure, and a further operation will be necessary

In the comparatively uncommon cases when the patients are desperately ill, one would be content with a very rapid opening up of the antrum and cells, taking care to make certain that no extra dural collection of pus is missed This can be done very rapidly, and with a properly given anaesthetic entails a minimum of risk In these severe cases it is the exception rather than the rule to find pus under the periosteum a more incision down to the bone would therefore be of little use Such cases in which an incomplete operation is performed, are certainly slower to heal than those in which all diseased bone is removed they may require a second operation, or may heal after extrusion of small sequestra

It is further suggested that Wilde's incision may sometimes be useful in infants "in cases in which the swelling is in front of the ear" If this is to be understood as referring to cases with swelling both over the mastoid and in front of the ear, the foregoing remarks apply If there are cases in which pus tracks along the anterior wall of the meatus alone, without bony involvement it is difficult to see how a Wilde's incision would help

Mr Layton gives as a reason for Wilde's procedure that the condition of patients suffering from diphtheria scarlet fever, and measles contraindicates the administration of a general anaesthetic, so I conclude that he uses either a local anaesthetic, as he does in adults, or operates without anaesthesia Most surgeons have found local anaesthesia quite impracticable in small children, and most will be against operating without an anaesthetic except in very superficial abscesses

After considering the points in detail we must conclude that the only advantage of a routine Wilde's incision is to enable a house-surgeon, untrained in ear work, to deal with all retro-auricular swellings by a routine method This used to be the practice in many fever hospitals, and still continues in some, but it cannot be seriously defended I am not surprised that Mr Layton was "unable to find any textbook to-day which speaks favourably of this operation"—I am, etc ,

E S BURT HAMILTON, M.B. F.R.C.S.Ed., Consulting Aural Surgeon, Manchester Fever Hospital

September 28 th.

PYREXIA OF UNCERTAIN ORIGIN

SIR—Dr Hotson Palmer's letter on this subject in the *Journal* of September 27th (p 543), although but a thumb-nail sketch, is a valuable contribution to the literature of influenzoid conditions Such local pyrexial epidemics presenting unusual features are not uncommon, yet their occurrence is seldom recorded—as I learned to my cost when I searched the *Index Medicus* for some light upon the following sequence of events

At 6 p m on September 28th, 1927, I saw a boy in a public school infirmary who was markedly prostrated, breathing in short, sharp jerks, and complaining of intense pain in the upper part of the abdomen His epigastrium was rigid like a board, his temperature was 101° F , and the chest was clear I anticipated increased surgical activity within a few hours, but before 10 p m had admitted four very similar cases, a coincidence which took my mind off surgical matters Next morning twenty boys were ill, and within a week sixty cases had occurred Pyrexia, a mild nasopharyngitis, and girdle pains were fairly constant The pains picked out two or three spinal segments, and were more commonly unilateral Tenderness, cutaneous hyperaesthesia, and some disturbance of the tache, were frequently noticed along the painful segments, of which the mid-dorsal were most commonly involved, giving rise to rapid and very painful breathing In the lower dorsal and upper lumbar regions there were signs mimicking the "acute abdomen" and I feel certain that had two or three of the cases occurred outside the epidemic, exploratory operation would have been performed—particularly on one boy with marked rectal

tenderness The upper dorsal segments were concerned in comparatively few cases, but pain in the neck on movement was not uncommon, and gave rise to guarding There were, however, three patients in whom the neck rigidity was associated with Kernig's sign My notes on two of them may be of interest, and I suggest that they were similar to the cases seen by Dr Palmer

Case 1

C E, aged 13, on the morning of October 2nd had a temperature of 99° F, his pulse rate being 84 There was shallow and painful respiration, with violent frontal headache, and the right side of the chest was moving badly Pains were felt all over the body on movement, mainly in the right epigastrium, which was tender The right iliac fossa was also tender and guarded In the afternoon the temperature was 100 8°, and the pulse 84 The abdomen was less rigid, but the headache worse

On the morning of October 3rd the temperature was 99° and the pulse 70 There was epistaxis, and an increase in the tache cerebrale on the right side of the trunk Some pain remained in the right epigastrium and chest, the headache was unaltered In the afternoon the temperature was the same, but the pulse had risen to 88 Headache was caused by movement, and the tache was now very bright when the right hypogastrium was stroked

On October 4th the temperature and pulse had become normal and the headache had improved, but the patient now complained of a sore throat In the afternoon the temperature was 99°, and there was tenderness over the third to the sixth costal cartilages on the right side movement was difficult

On October 5th the temperature had returned to normal, the headache was much less, and there was general improvement The next day the patient was fairly well, except for tenderness at the tip of the tenth rib on the right side

In the afternoon of October 7th the temperature had risen to 101 4°, the pulse being 56 Intense vertical headache, increasing, was associated with nausea, pain in the eyes, and tightness of the neck At 7 p m the patient vomited and the neck was very rigid, attempts at flexion producing great pain along the costal margin A definite Kernig's sign was present, but the reflexes were normal The next day he was exhausted but much more supple and rapid recovery ensued

Case 2

T, aged 12, on October 6th complained of abdominal pain during the morning He vomited about 4 p m, before admission The temperature was 99 4°, and the pulse 100 and feeble There was temporal pain on the right side, this had been bilateral earlier in the day

On the morning of October 7th the temperature was 100 6° and the pulse rate 100 The patient had vomited frequently during the night and complained of pain a little above the umbilicus and over the right temple The neck was rigid, and a definite Kernig's sign was obtained Ankle jerks were absent, but the knee jerks were brisk There was an extensor plantar reflex on the left side and nystagmoid movements of the eyes to the right

In the afternoon of October 8th the temperature was 99 6° and the pulse 96 The patient was becoming increasingly restless, twitching and picking movements of the arms and hands being noticeable there was slight epigastric pain but very little headache and diminished neck rigidity Kernig's sign was unaltered Reflexes of the left leg were less brisk than those of the right, and the nystagmoid movements were now to the left

On October 9th there was a slight increase in the stiffness of the neck Kernig's sign was still present, and the reflexes were feeble on the left side The temperature and pulse returned to normal and the boy was up and about in ten days, but at the end of this period his legs were still "guarded" on flexion of the hips

I am satisfied that the signs of meningeal irritation in these cases which looked serious for a few hours, were "faked" by the guarding of painful spinal segments No zoster occurred, but one boy produced dermatographia over his painful region

This epidemic of "intercostal neuralgia" had an influenza-like "steeple" incidence curve the nasopharynx was I take it, the portal of entry of an unknown neurotropic virus Coryzas and mild sore throats without systemic disturbance were increased at the time, but did not resemble clinical "influenza" The "influenza" bacillus and meningococcus were not present in the flora of the community at the time I believe parts of London and the south-east coast were visited by a similar epidemic in October 1927.—I am, etc,

W H Bradley, B M, B Ch Oxon.

Stratton on-the-Fosse near Bath Sept 30th.

Sir,—In reference to Dr Hotson Palmer's letter I would suggest that his cases may be classified as acute benign serous meningitis The summary of cases reported by Andersen and Wulff (*Epitome*, September 13th, para 225) would furnish confirmatory evidence

I am of opinion, particularly in view of a recent personal experience of one case in which after an attack of serous meningitis in August, 1929, typical encephalitis followed in April, 1930, that these cases of his should be carefully observed during the next six to twelve months at least for signs of either chronic encephalitis or—the more probable development—the onset of acute encephalitis (so called "lethargica") If Dr Hotson Palmer so desires I shall be glad to furnish him directly with the details of this case

As to Dr F P Halkyard's sign, while the number of pure meningitis cases I have seen is relatively small, it has been my constant experience during the past five years that this sign is present in all cases of encephalitis, even when definite neck rigidity is not present I have even seen cases in which the pain was referred to the lumbar region on neck flexion I have never found the Brudzinski sign (of which this is, so to speak, the first stage) present in encephalitis Andersen and Wulff report it, however, in their serous meningitis cases Those observers have noted an affinity between serous meningitis and epidemic encephalitis, a point which I believe deserves more attention and research, in view of the constant though not always obvious presence of meningitis in cases of the latter disease.—I am, etc,

Dublin, Sept 30th Morgan D Kavanagh, M B, B Ch

Sir,—May I state that cases resembling those described by Dr Palmer are by no means infrequent here, there have been a considerable number during the past five years, many of which have occurred during the summer or early autumn months The chief symptoms are fever, headache, and neck rigidity, with positive or doubtful Kernig's sign, and there may be transient photophobia, squint, or alteration in the reflexes The illness is of variable duration, lasting from three days up to several weeks, and relapses may occur The symptoms usually disappear with remarkable suddenness The majority of the patients recover completely in the absence of complications

The cerebro-spinal fluid is under increased tension, and in the early stages contains an excess of cells, mainly polymorphonuclear and large mononuclear cells, as recovery takes place the cells disappear from the fluid with striking rapidity, and I have seen a fluid definitely purulent on one day show only a slight increase on the following day, and be without cell increase a couple of days later On careful search of Gram-stained films organisms may be found, frequently in small clusters and only after prolonged search, they are Gram-negative, and are varieties of a pleomorphic organism, occurring in the form of short bacilli, diplobacilli or short filaments On culture we have repeatedly obtained a Gram-negative bacillus, with cultural characteristics resembling those of *B faecalis alkaligenes* and from it, as from some of the cerebro-spinal fluids, we have obtained a stable filamentous variant

Dr Ivy McKenzie whom I have assisted in the investigation of these cases, described them under the name of "leptothricosis" or "leptothrix meningitis" some years ago (*Glasgow Medical Journal*, October, 1926), and some of the characteristics of the organism were described last year (*Supplement*, 1929, vol ii, p 148) in the report of my investigations carried out in connexion with a B M A research scholarship.—I am, etc,

Glasgow, Oct 4th Albert A Fitzgerald Pepi, D M

THE BLOOD CALCIUM IN DIABETIC RETINITIS

Sir,—In my paper on diabetic retinitis (*Proc Roy Soc Med*, 1930, xxiii, 292), which is criticized by Dr R D Lawrence and his fellow workers in your issue of October 4th (p 559), I emphasized the fact that in my opinion the changes interfering with visual perception and the haemorrhagic tendency found in some cases are of independent origin, the former being probably due to local

disturbances induced by the diabetic state, whereas the latter is partly dependent upon a deficiency of calcium in the blood arising from metabolic changes which are not a direct result of the diabetes, and I pointed out that, while the tendency to haemorrhage is quite uninfluenced by insulin and ordinary dietetic treatment, a simple diabetic retinitis quickly responds to such treatment I fail, therefore to understand their statement that I have claimed a calcium deficiency as the cause of diabetic retinitis The fact that they found a "normal" blood calcium in ten unselected cases of diabetic retinitis has no bearing on the main point of my paper, which was to show that where there are retinal haemorrhages a low blood calcium is a characteristic feature, and that the haemorrhages can be prevented by the administration of calcium unless their series included examples of this particular type

If Dr Lawrence and his associates will refer to the original authorities they will find that Kramer and Tisdall (*Journ Biol Chem*, 1921, xlvii, 223, *Bull Johns Hopkins Hosp*, 1921, xxxii, 44) give 5 5 to 6 8 mg per c nt of calcium as the limits for normal whole blood, and 9 5 to 10 5 mg per cent for serum On these figures one, and possibly more, of the cases they quote had actually a serum calcium below the limit regarded as normal by the inventors of the method of estimation they employed In my own work I have found it more convenient to use whole blood, and as I have referred to the "blood" calcium or the "fasting whole blood" calcium throughout my paper it would hardly seem necessary for them to suppose whole blood was "presumably" meant, although the fact that they do so is interesting psychologically — I am, etc,

London W 1, Oct. 6th. P J CAMMIDGE

INTRAMUSCULAR AND INTRAVENOUS QUININE

SIR,—Being a medical practitioner in Uganda, where malaria is very common, I was much interested to read Major Biggam's remarks about intramuscular administration of quinine in the *British Medical Journal* of June 28th (p 1171)

Damage to the sciatic nerve does occur if the injection is given in the gluteal fold, but it can be easily avoided Tetanus is also feared on account of muscle fibre necrosis, but it is very rare I have given hundreds of intramuscular injections of quinine, and my colleagues in Uganda have perhaps given thousands, but no case of tetanus has so far been reported

As regards local pain, my experience is quite different I have given almost painless injections of quinine intramuscularly Pain cannot be produced if the solution is injected in the muscle, as it is generally due to a few drops of the highly concentrated quinine bihydrochloride solution entering the skin and subcutaneous tissues I am always careful to prevent a track of quinine solution forming in the skin and subcutaneous tissues by washing my needle in plain boiled water after sucking the solution from the ampoule I also empty the needle of the solution by sucking air into it before giving the injection (or preferably two needles may be sterilized, and one used for drawing the solution into the syringe and the other used for injecting) Further, after injecting the solution in the outer and upper quadrant, I keep the needle in the muscle, detach the syringe and suck air into one barrel, and inject a few bubbles of air into the needle to empty it completely of the irritating solution The idea is to prevent another track of quinine solution forming in the skin on withdrawing the needle I think if this simple precaution is taken, a painless quinine injection can be given

Despite these points in favour of intramuscular administration of quinine, I personally prefer the intravenous route, particularly in view of the "fixation abscesses" recently reported by Giglioli which I think are a real danger Intravenous injection is painless more rapid in action, and its use is indispensable in cerebral and subtertian cases with persistent vomiting and diarrhoea I hope my colleagues will give this method a more liberal trial in East Africa I personally use one ampoule (0 6 gram) Burroughs Wellcome and Co, diluted with 10 c cm of distilled water, and inject very slowly — I am, etc,

M S NAWAZ AHMADI, M B, B S

Mulindi Uganda, Aug 13th

ACTION OF QUININE ON THE UTERUS

SIR,—Until our obstetric teachers will endeavour to explain their contradictory statements, ordinary practitioners must continue to follow their own opinions (or alternatively, suffer headaches from antagonistic complexes!)

On the one hand I read[1] that quinine is an essential as a stimulant to the uterus in Gwathmey's system of analgesia built on a trial of 20 000 cases 'If the quinine is omitted, the method is a failure" He gives the quinine into the colon and tests the urine to be sure it has been absorbed Turning next to page 89 of the current volume of the *British Medical Journal*, I read that Drs Bourne and Burn find that quinine "has very little effect of a kind calculated to hasten delivery" I note incidentally that they give the quinine into the muscle (a route notoriously to be employed when slow absorption is desired) and made no test apparently to ascertain if the drug had been absorbed at the time the test record was made

Dr Bourne very possibly is right—very probably is so—but if I were on a jury and had to give my verdict after hearing the above two opposing statements, I would say that the American had made out a better case—at least one that prima facie was definitely more convincing to the ordinary medical man who does not care who is telling the truth, just so he is told the truth I contend that to publish such a report of the action of quinine in two cases is most unsatisfactory, it may be true, but it does not begin to *appear* to be true

Of course, in the words of the song, "I'm always wrong, so how can I tell?" Yet how many hundreds of practitioners are anxious to learn, once and for all, what effect the common drugs have on the parturient uterus? Dr Bourne's paper is a most valuable one, and my criticism is directed only to one section of it. That section should be substantiated or demolished as soon as possible for as it stands it is unworthy of the rest of the report —I am, etc,

Hankow Sept. 11th. A H SKINNER

PERSONNEL OF A RADIUM CLINIC

SIR,—Without wishing to prolong a discussion about which some people evidently feel strongly, I should like to reply to Dr Stanley Melville when he says, "That the radiologist was to be excluded from taking his proper place in the future administration of radium was all too evident until Scotland showed us the way"

I cannot think there is or was any conspiracy to exclude such a useful body of investigators, engaged in a science which is comparatively new and therefore experimental but which has added to medical science some of its most brilliant advances during the short time it has been in existence I do not think that there is any responsible radium institute conducting original research, ready to teach all comers and willing to employ investigators—in fact, to do all the things which a modern radium institute must do on such a new subject as radium—which has attempted to eliminate the proper use of radiological investigation The three large centres in Europe—Paris, Brussels, and Stockholm—certainly never have nor have the smaller and less known centres in Germany I exclude institutions where radium was hired to anyone indiscriminately and which were purely money making concerns, but then these institutions are hardly likely to dictate to the position of any respectable body of workers At the Mount Vernon Hospital which we hope will be the main centre of cancer research in this country, the very latest

[1] Gwathmey *Surg., Gynec. and Obst.*, August 1930, p 151.

radiological apparatus is being installed, and the best investigators are being appointed

So far the results of x-ray work in the treatment of cancer have been disappointing to surgeons, considering the way their advent was hailed by even responsible radiologists, nor as yet have the centres I have already mentioned reported any great advance in the way of results, hence the search for higher voltage, more powerful installations The future of x rays in the treatment of cancer is as yet comparatively unknown in spite of the utmost work bestowed upon it But if it should be found that these rays have the effect we hope they have upon deep seated growths on which radium can hardly be expected to be of use, and the two related wavelengths prove to be complementary to each other, a position they do not hold to-day, we shall have a pair of weapons for surpassing the use of the knife Before this can be established an enormous amount of investigation is required, and it is imperative that we have the services of the ablest radiologists available Dr Stanley Melville can rest assured that this is the opinion of every far thinking radium investigator throughout the country I am, etc,

London W 1 Oct 6th DUNCAN C L FITZWILLIAMS

Obituary

C POWELL WHITE, M D, F R C S,

Late Special Lecturer in Pathology, Manchester University

Dr CHARLES POWELL WHITE who died on September 26th, was the fourth son of the Rev L Borrett White, D D, Canon and Prebendary of St Paul's, and Rector of St Mary Aldermary, one of the City churches He was one of a large family, members of which are in the Church or in the teaching profession Incidentally it may be said here that White always retained a great interest in the Established Church and his last publication was a letter to the press in support of the revision of the Prayer Book

He was born in 1867, and was educated at St Paul's School, London, Sidney Sussex College, Cambridge, and St Bartholomew's Hospital He was an unusually able scholar winning many prizes and distinctions in his career At Cambridge he attained a high place in the mathematical tripos before entering on his scientific studies He became qualified in 1894 with the conjoint diploma of the London colleges and in 1896 took his Cambridge M B, B Ch degree and the F R C S In 1900 he proceeded to his M A and M D degrees By these surgical and medical achievements he showed that he had an unusually receptive mind, and one that could take a broad view of a professional subject In 1894–95 he held a research studentship in pathology He was pre-eminently a man of the academic type of scientific mind, with very wide interests, retiring in nature and without the needful push and energy to attain the highest posts, whether in practice or in directing a teaching school These mental characteristics were but a reflection of his physical powers, for even as a boy he could never run 100 yards at speed, and yet in more mature years he could walk all day long, over hill and dale, at his own meditative pace So, after serving as house-surgeon at St Bartholomew's, he threw in his lot with the scientific side of his profession and became assistant pathologist at St Thomas's Hospital About nine years were spent in this and subsequent pathological posts at the General Hospital, Birmingham, at the Yorkshire College, Leeds, and again, in a senior post, at St Thomas's Hospital

In 1906 he was appointed to the Pilkington Research Fellowship, which had recently been created in the University of Manchester through the interest of the late George Arthur Wright, and he also became attached to the Christie Cancer Hospital as unpaid assistant to the honorary pathologist In 1911 a new post of pathologist to the hospital, with special salary, was created for him As a special lecturer in pathology in the University he delivered lectures on cancer, some of which were published in 1908 He subsequently became director of the Helen Swindells Cancer Research Laboratories in the University and histologist to the Manchester Committee on Cancer It was in these Manchester posts that he became so widely known as an authority on pathology, and especially on the cancer question in all its phases He was an active member in the Council of the British Empire Cancer Campaign The papers which he published are too numerous to mention here In 1902 he delivered the Erasmus Wilson Lectures of the Royal College of Surgeons on the general pathology of tumours, which were a forecast of his work in 1913 on the "Pathology of growth" In the preface he claimed to have laid most stress on the physiological and biological aspects of the subject, and he had every reason to justify such a claim, for he had studied cytology with his extensive and sound knowledge of biology, physiology, chemistry, and physics, and a very thorough acquaintance with the philosophy of science as propounded by Huxley, Darwin, and others In 1927 he published *Principles of Pathology* In his preface he said that he had been accused of being too dogmatic in some of his previous statements If he had, it was not with the intention of laying down the law, but to attract notice to certain points, a positive or dogmatic statement arresting attention and provoking criticism, where a hesitating, non committal statement is apt to be passed over as of no account Powell White took an active part in forming within the British Medical Association a committee of pathologists of the kingdom to watch their interests, among other things in the matter of appointments and salaries Among the many posts and scientific honours of his life one which pleased him as much as any was that he was treasurer of the Pathological Society of Great Britain from its foundation, and the respect in which he was held by his fellows was shown by their handsome response to a call for financial help in his permanently incapacitated state He was very widely read in general literature, and his knowledge of natural history and the common objects of the roadside—plants, birds, butterflies, fossils—made him a delightful holiday companion for old and young

These inadequate and somewhat personal notes of a man who had so many friends outside the scientific world may be concluded by a happy memory of holiday walks with him along a certain favourite cliff on sunny days, with blues, small coppers, tortoise-shells, meadow browns, flitting about the banks whereon the wild thyme grew, and whereon lizards—anxious for their tails so easily left behind, and on which he had designs, for he wrote a paper on their regeneration—disported themselves, and on one occasion water-divining experiments with a medical friend and expert on it, in which we were joined by a local celebrity who subsequently proved to be better able to divine the needs of the country in time of stress than he then showed he was in divining water It was after a return from this favourite district two years ago that White was suddenly incapacitated and inflicted with a wearying and often very painful illness, which the sympathy of his many scientific and general friends helped him to bear with much fortitude He married in 1918 Jettice Mary, daughter of Horace Lamb, F R S, one-time professor of mathematics in the Manchester University, who survives him with a son and a daughter E M B

Dr JOHN O'DONNELL of Merrion Square, Dublin, who died on September 24th, was a brother of the late Cardinal O'Donnell, Archbishop of Armagh Born at Glenties, co Donegal, Dr O'Donnell was a distinguished student of the Catholic University Medical School, St Cecilia Street, Dublin, and graduated M B, B Ch, and B A O at the Royal University of Ireland in 1892 Though advised in early life to live abroad, he used to say that he would rather die in Ireland than live in another country Most of his professional life was spent in Dublin One of his first appointments was resident physician to the Mater Misericordiae Hospital, to which he subsequently became senior physician, a position he held till his death For many years he was medical officer to the Civil Service, to the Dublin Metropolitan Police, and to Kilmainham Prison On the foundation of the Tuberculosis Hospital at the Pigeon House he was appointed visiting physician, and acted for a period as consulting physician to the

Crooksling Sanatorium and to St Michael's Hospital Dun Laoghaire As an authority on lung diseases he published several contributions on this subject Dr O'Donnell had a lovable disposition, and his devotion to duty and the attention he gave to his patients won the respect and esteem of all who knew him He leaves a widow and five daughters, one being married to Dr Eugene Kelly, who practises in London

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Dr Andrew Chillingworth, who died at Bedford on September 30th, aged 76, while making his usual morning round, received his medical education at St Bartholomew's Hospital, he obtained the diploma M R C S Eng in 1879, and the L R C P Ed and L M two years later After holding the post of house-surgeon at Salop Infirmary he went to Bedford forty-seven years ago, and entered into partnership with the late Dr J Carter Since January, 1921, his son, Dr A J Chillingworth, has been in partnership with him Dr Andrew Chillingworth was also medical officer to the Bedford Provident Dispensary and the Bishopstone House Asylum He was an ex president of the South Midland Branch of the British Medical Association, and also of the Bedford Medical Association For many years he had been churchwarden at St Peter's Church, Bedford, and took a prominent part in the work of this parish Always keenly interested in open air sport, he had been particularly proficient at cricket and Rugby football, and played golf until two years ago He leaves a widow and two sons, both of whom are in the medical profession

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With the recent death of Dr Hugh Thomas Warnock, Invereske, Donegal, Ireland loses one of her most popular physicians He had been in ill-health for some time, and retired from practice in May of this year On graduation in 1876 he was appointed demonstrator of anatomy in Steevens's Hospital Dublin, having obtained the diploma I R C P I in the previous year Among the posts which he held during his active life were medical officer to the local district and fever hospital, and consulting surgeon to the Shell Hospital, Ballyshannon He became a Fellow of the Royal College of Surgeons in Ireland in 1889 Dr Warnock took a very prominent part in Irish medical politics being in 1928 both president of the Irish Medical Association and chairman of the Irish Committee of the British Medical Association, of which he was one of the oldest and most conscientious members Although his attendance at medical conferences in Dublin meant an absence of three days from his home and practice, he rarely missed a meeting His death is also widely regretted for his public service, especially among the poor, for whom he did much to provide up-to-date medical treatment

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Dr Gertrude Grogan died suddenly on September 20th, while on holiday in Bavaria, and by her own wish she was buried at Tegernsee She was born at her father's rectory in county Wicklow, and attributed her facility in drawing to her father's habit of asking her to sketch from memory anything she had seen on her walks Later on she astonished one of her ambulance classes by drawing a skeleton from the feet upwards She received her medical education in Dublin, graduating M B , B Ch , B A O in 1895 For several years she was assistant medical officer at Mullingar Asylum, and later at Fulbourne Asylum Cambridge She then undertook general practice in North London, combining with this some part-time medical work in connexion with the General Post Office She was one of the pioneers in child welfare work and gave to it many years of voluntary service At the time of her death she was medical officer to infant welfare clinics in Brixton and St Pancras, and to the St Luke's Day Nursery, Holloway An ardent supporter of the St John Ambulance Association, she was divisional surgeon for Finsbury, and for about twenty years lectured at the Northampton Polytechnic Institute on first aid home nursing and hygiene She spared no trouble in preparing for these lectures and was always on the alert to find new illustrations and anything which could add interest to them She was a keen student of Esperanto and spent many holidays in attending congresses A colleague writes Dr Grogan was a most approachable person, with a great gift for setting people at their ease Her Irish wit and ready invention improved every story that came her way and she was physically incapable of being dull, however unpromising the subject She loved life and all its doings however small The mothers at the welfare clinic loved her for she was glad or sorry with them, but never impatient or hurried with them Whenever she had a pleasure her first thought was, "With whom can I share it?" Innumerable were the small kindnesses that she did

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Universities and Colleges

UNIVERSITY OF LONDON

At the September matriculation examination 80 candidates were successful in the first division and 389 in the second division while 26 took the supplementary certificate in Latin

London Hospital Medical College

The following scholarship awards have been made at the London Hospital Medical College

Two entrance scholarships open to students of the Universities of Oxford and Cambridge (1) Price Scholarship in Anatomy and Physiology value £100 Mr K M A Perry (2) Freedom Scholarship in Pathology value £100 Mr J G L Spencer Two open scholarships each of the value of £100 Mr H J Barrie and Mr H B Tipler

UNIVERSITY OF GLASGOW

The following candidates have been approved at the examinations indicated

Final M B., Ch.B—G A H Adam A S Agbaje J W Aird W D Anderson A. L. Barnett J Battersby W Blyth A A Bonar L K. Buchanan A C Cameron J C Cameron Margaret L Campbell B Deighan C D Ferguson J B Forsyth T Gass J J Geoghegan Margaret C Gibson W S W Guthrie P Harvey W M Hunter †A H Imrie W E Inglis B W H Jarvie R S Kay †G Krasner C. Lavery A MacDonald Catherine B M Gregor J MacGregor I MacKay Rosa F M'Laren. A Maclean W D M'Lellan T M. M'Nie A M'Pherson ‡W S Mack Anna T Mason A M Millar A C Miller J S More W Morton A P Muir R Napier J L. Park. R Parker M. Plotnikoff J E. Rankine F C Ritter A S Robertson W M. Robertson T Ros J B Roy A Salamon R. Southward I. H Taylor W W Thomas A L F Thom on L B Thorburn T R Thorburn A H. S Tinubu A. G Walker J Z Walker W Walker W L Walker W Weir A M. Williamson W C. Wilson, A. C Young

* Distinction in surgery † Distinction in medicine
‡ Distinction in midwifery

D.P H—*Part II* R. Corliner Isabella M Currie Jean M Dixon Mary D Lamble Margaret L. R London Eric C Macdonald I S M'Millan J Riddell J A. Roughhead J W Wilson Elizabeth N Young.

MOTOR CARS FOR 1931

THE OLYMPIA SHOW

[From our Motoring Correspondent]

For many years past the annual Motor Show at Olympia has been looked upon as one of the chief functions in London's autumn programme of events, the exhibition attracting visitors not only from every part of the United Kingdom but from all the principal countries of Europe, and even from those further afield The 1930 show, which will open its doors on Thursday next, October 16th, and continue until Saturday, October 25th, is the twenty-fourth of the series organized by the Society of Motor Manufacturers and Traders, and, judging from the advance information we have gleaned, there are every signs of it proving one of the most successful Certainly it will be the largest exhibition of the kind so far held in Great Britain, for the Motor Show of 1930 is not being confined to displays of chassis and cars, and to motor car accessories and components On this occasion two new sections are being added—one in which special devices for the servicing and maintenance of motor vehicles will be grouped together, while another part of the building will be devoted to motor boats

Hitherto the show has occupied what were known as the Main and New Halls and their respective galleries, but since last year the huge additions which have been made to the Olympia buildings have been completed, all of which are being brought into use for the coming exhibition Space only permits us briefly to mention that there will be approximately 74 firms showing cars, 54 separate displays

of vehicles with special bodywork by well-known coachbuilders, 15 different exhibits of tyres, over 300 of accessories, 67 of service garage equipment, and 54 of motor boats and allied goods. So far as the car section is concerned, its international character is indicated by the fact that the latest motor vehicles produced in no fewer than eight countries will be available for inspection. British car builders will be in the lead with thirty-two different makes, but France and American motor manufacturers will again be strongly represented.

The Trend of Design

With a few exceptions, such as a larger number of cars fitted with four-speed, silent third gearboxes, automatic and semi-automatic change-speed gears, the coming show does not promise to reveal any startling departure from what has become almost the standard layout of cars. At the same time manufacturers have all been devoting considerable attention to improving the details of their productions, and to rendering them more attractive to the motor-using public. Although four-cylinder cars by reason of the attractive prices at which they are now being offered and the good service they are rendering in actual work will long remain popular among those to whom the amount of first cost is of importance, the exhibition will reveal a further marked increase in the range of cars with engines having six or more cylinders. From the popular point of view, and also from that of a large proportion of medical men, interest will probably centre very largely in the examples of six-cylinder cars of about 15 h.p. which have been announced by several well-known manufacturers, and which in saloon form are being offered at prices ranging from £199 to £250, while in the £250-£300 category there are several well-known "sixes" which have been adopted with success by many medical motorists during the past year, as well as several interesting newcomers, such as the Vauxhall Cadet, which will undoubtedly repay examination. For those who can afford a little greater initial outlay and who desire the maximum smoothness of running, there is a growing number of eight-cylinder vehicles, some of which are now available at prices for which a few years ago only four-cylinder vehicles could be purchased.

Lower Car Prices

Indeed it may be said that the outstanding feature of the show will be that despite the fact that there is no slackening of endeavour to improve the efficiency and general reliability and comfortable riding qualities of cars, most of the manufacturers have seen their way to offer them at lower prices. In bodywork the saloon type continues far and away the most popular. Indeed, one old motorist was recently heard to remark that it would seem that contrary to the practice in the early days of the motoring movement the covered car has become the vehicle for workaday use, and that in future the open touring car will be reserved for purely pleasure purposes in fine weather. Most manufacturers, however, now include in their standard productions a sunshine saloon that may be used in either open or closed form. This is a type that has been very popular during the past year, and is likely to become more so now that greater attention is being paid to rendering them perfectly waterproof, a requirement that has not in the past been entirely met in all cases.

Hours and Prices of Admission

Finally, it may be mentioned that the show will be open from 10 a.m. to 10 p.m., and that the charge for admission on the opening day, Thursday next, will be 10s., 2s. 6d. on the two Fridays and Saturdays, and 5s. on all the other days. Although the fact that more space is available on this occasion may reduce the congestion of the stands and aisles experienced in past years, those intending to visit Olympia may be reminded that the crowds do not usually arrive until the afternoons and evenings, so that the mornings provide the best opportunity for a close examination of the exhibits.

Next week it is proposed to review the main features of the exhibition, and to deal briefly with some of the new models of cars especially suitable for medical motorists.

C. J. W.

Medical News.

THE nineteenth annual dinner of the Glasgow University Club of Manchester, Liverpool, and District will be held at the Midland Hotel, Manchester, on Thursday, November 13th, at 7 p.m. The chair will be taken by Dr. D. Sage Sutherland, and Professors T. K. Munro and C. H. Browning, along with Dr. G. H. Edington of Glasgow, have consented to be the guests of the club. Membership of the club is open to all graduates (male or female) of the university, and any who would like to attend the dinner and have not received details of it are requested to write to the honorary secretary, Dr. T. B. Riddall, 274, Dickenson Road, Longsight, Manchester.

THE new session of the Hunterian Society of London will commence on October 20th with a dinner meeting at Simpson's Restaurant, Birdcage Walk Court, Cheapside, at 7.15 p.m., when Professor A. W. Sheen will deliver his presidential address entitled "The school of health." At the meeting on November 17th, at 9 p.m., at Cutlers' Hall, Warwick Lane, a discussion on the place of the doctor in industry will be opened by Sir David Milne Watson, Mr. W. A. Appleton, Professor E. L. Collis, and Dr. Strickland Goodall. A dinner meeting will be held on December 15th, at 7.30 p.m., when a discussion on puerperal infection will be opened by Dr. Remington Hobbs and Mr. M. Oldershaw. The Hunterian Lecture, on the problem of rejuvenation, will be delivered by Dr. Arnold Lorand of Carlsbad at Apothecaries' Hall, Water Lane, on January 19th, at 9 p.m. The annual dinner of the society will take place at the May Fair Hotel on February 12th. Mr. A. E. Mortimer Woolf will deliver the Hunterian Oration on the surgical aspects of diverticulitis at Apothecaries' Hall on March 2nd, at 9 p.m. A discussion on the common cold will be opened by Dr. E. P. Poulton and Dr. Oliver Heath, at a dinner meeting, on March 30th, at 7.15 p.m. The annual general meeting of the society will be held at Simpson's Restaurant on April 30th.

THE annual general meeting of the West Kent Medico-Chirurgical Society is being held to-day, Friday, at 8.45 p.m., in the Miller General Hospital, Greenwich, and will be followed by the demonstration of clinical cases. The programme of the society during the coming session is as follows. On November 14th Drs. E. P. Cumberbatch and C. A. Robinson will speak on diathermy in gynaecology. The Purvis Oration will be delivered on December 12th by Mr. A. J. Walton, who has chosen for his subject the nerve-muscular obstructions of the intestinal tract. The first meeting of the new year will take the form of a clinical evening on January 9th. On February 13th Dr. F. M. R. Walshe will deal with the interpretation of some common symptoms of nervous disease, Dr. J. Forest Smith will discuss the treatment of goitre in general practice, on March 13th, and Mr. Edwin A. Lindsay will lecture on April 10th on the subject of common disabilities of the feet. The presidential address will follow on May 8th. The honorary secretary of the society is Dr. C. J. B. Buchan, 267, Baring Road, Grove Park, S.E. 12.

AT a meeting of the Society for the Study of Inebriety, to be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, October 14th, at 4 p.m., Dr. Macdonald Critchley will read a paper on some forms of drug addiction.

THE opening meeting of the new session of the Royal Microscopical Society will be held in the Hastings Hall, B.M.A. House, Tavistock Square, W.C., on *Wednesday, October 15th*, at 5 p.m. The President and Mrs. R. Ruggles Gates will hold an informal reception, Mr. J. E. Barnard, F.R.S., will demonstrate by micro-projection some histological preparations from the society's collection, and Dr. G. M. Findlay will communicate some recent research on malarial parasites. The biological section will meet on Wednesday, November 5th.

A COURSE of fifteen post-graduate lectures and demonstrations on modern methods in the diagnosis and treatment of venereal diseases is being given by Lieut.-Colonel L. Taylor Burke at the V.D. Treatment Centre, Municipal Clinic, 155, Regent Road, Salford, on Thursdays, at 7 p.m. Lectures and demonstrations on congenital syphilis will be given at the clinic on October 16th, 23rd, and 30th, at 4 p.m.

THE first meeting of the British Institute of Radiology for the session 1930-31 will be held in the Reid Knox Memorial Hall of the Institute, 32, Welbeck Street, on October 16th, at 8.30 p.m., when papers will be read by Dr. J. F. Bromley on the use of negative paper, by Captain A. R. Wood on ultra-violet glasses, and by Dr. G. Simon on the use and technique of diathermy in the treatment of pneumonia. The first two papers will be accompanied by demonstrations. Members from the provinces will have an opportunity of visiting the radiological department of St. Mary's Hospital, Paddington, between 2 and 4 o'clock on the afternoon of the following day.

THREE Chadwick public lectures on rheumatism illustrated by lantern slides, epidiascope and films will be given in the Hastings Hall of the British Medical Association's House Tavistock Square W.C., on Thursdays, October 23rd and 30th and November 6th, at 5.15 p.m. The first lecture the significance of rheumatism in youth and middle age, will be by Dr Francis Bach with Sir William Collins in the chair the second on rheumatism in childhood will be by Dr Gerald Slot, with Sir Thomas Barlow, Bt. in the chair, and the third on the treatment of rheumatism will be by Dr Matthew B. Ray. Admission is free, without ticket.

A COURSE of lectures on 'Some newer therapeutic agents their pharmacological identification and tests, with some account of their uses in medicine' will be given by Dr J. H. Burn director Pharmacological Laboratories, Pharmaceutical Society of Great Britain in the lecture theatre, 17 Bloomsbury Square W.C.1, on Monday, October 13th, and succeeding Mondays at 5.30 p.m. Admission to the first lecture without ticket admission to subsequent lectures by ticket only. Tickets for the course may be obtained from the secretary of the society on the following terms: Members and student associates of the society gratis on application, registered apprentices or students 5s. other persons, 10s.

THE Child Study Society, London, has issued its programme of lectures to be delivered at the Royal Sanitary Institute, 90 Buckingham Palace Road, S.W. on Thursdays at 6 p.m. On October 23rd the first Cockburn Memorial Lecture entitled "The whole child" will be given by Dr James Kerr on November 13th Dr Arthur H. Norris chief inspector, Children's Branch Home Office will lecture on the methods of a modern reformatory and on December 4th Dr C. W. Kimmins will lecture on the changes in the child's attitude to life during the school period.

A GENERAL meeting of the Guild of St Luke St Cosmas, and St Damian will be held on Sunday, October 19th in the Cathedral Hall Archbishop's House Westminster S.W.1, immediately after the celebration of High Mass in Westminster Cathedral at 10.30 a.m. The annual report of the council contains a reference to a protest made in his pastoral letter by the Archbishop of Tuam against the advertising of quack remedies. Meetings of the council in London have been held regularly and have been fully attended similar meetings have also been arranged in Bath, Bristol Liverpool, Manchester Wolverhampton, Glasgow and Preston. These meetings have been reported in the *Catholic Medical Guardian*, which is the organ of the Guild. It is announced that a public meeting will be held in the Queen's Hall next February on the subject of Lourdes and modern medicine.

THE Fellowship of Medicine announces that the M.R.C.P. special course lectures for the week at the Medical Society, 11 Chandos Street, Cavendish Square, will be delivered on Monday October 13th, at 5 p.m., by Mr C. L. Gimblett (general medical ophthalmology, illustrated by epidiascope), and on Tuesday October 14th, at 8.30, by Dr L. S. T. Burrell (intrathoracic tumours). The fee for each lecture is 10s. 6d., payable at the lecture hall, and for the course of lectures (16) £6 6s. On Wednesday October 15th at 4.30 p.m. Mr G. G. Penman will give a demonstration entitled 'Fundi of general medical interest" at the Royal Westminster Ophthalmic Hospital this class is strictly limited. A course in diseases of the throat, nose and ear is in progress at the Central London Throat Nose and Ear Hospital, and will continue until October 31st, one in tropical diseases at the Tropical Hospital, will continue until October 24th. Fees are chargeable for these courses. From October 13th to 24th, at the Chelsea Hospital, there will be a special course in gynaecology occupying mornings and/or afternoons. The Fellowship of Medicine has arranged a series of lectures on recent advances in medicine and surgery. Dr G. E. Beaumont will give the opening lecture on Monday, October 13th at 4 p.m. entitled 'Recent advances in the medical treatment of some pulmonary emergencies.' The lecture will be delivered at the Medical Society and is open to the medical profession without fee or ticket. On October 13th at 3.30 p.m. will take place the first clinical demonstration of the winter session, this will be at the Miller Hospital Greenwich when Dr Harold Pritchard will demonstrate cases illustrating modern methods of diagnosis and treatment. On October 14th at 2 p.m. Mr C. P. G. Wakeley will give a clinical demonstration in the out-patient department at King's College Hospital. These demonstrations are free to medical practitioners. Particulars and syllabuses of all courses and tickets of admission may be obtained from the secretary of the Fellowship 1 Wimpole Street W.1.

THE International Red Cross Committee at Geneva announces that the international competition for the discovery of a detective reagent for the detection of mustard gas in the air which was started on July 1st 1929 is to close on December 31st. The prize offered is 10 000 Swiss francs (£400). The competition is the first step in a Red Cross campaign for the protection of civilians in the event of war. It is to be followed if funds permit by other international competitions to discover, among other things the best civilian gas mask and the best means of purifying the air in subterranean places in which civilians may take shelter during air raids. Full particulars of the competition may be obtained on application to the International Red Cross Committee, 1, Promenade du Pin, Geneva.

AT a meeting of the Society of Public Analysts on October 1st a paper by Mr G. W. Baker on scientific evidence relating to firearms, with special reference to a recent murder trial, was read and demonstrated by Mr G. H. Perry. Scientific methods of investigation were used in examining the bullet and cartridge case found on the scene of a murder in Jerusalem in August, 1929. By means of *x* ray photography it was established that a piece of a bullet found in one of the bodies was British ammunition and it was also proved that it had been fired from a rifle of the same calibre and rifling as that of the person accused. Further, it was conclusively shown by means of photomicrographs that the cartridge case found on the scene had been fired from his rifle for there were at least fourteen marks on the pin impression all of which were found on the firing pin of the rifle. The extractor mark was also a very characteristic feature. The court returned a verdict of guilty.

THE Society of German Medical Abstainers held its annual meeting at Dresden on September 2nd, under the presidency of Professor Emil Abderhalden, when it was decided to form a central library and information bureau relating to the alcohol problem.

A MEMORANDUM has been addressed by the Chief Medical Officer of the Ministry of Health to all medical officers in counties, county boroughs, and districts, directing their attention to the information contained in the Annual Statistical Review of the Registrar General for England and Wales, and referring to the reduced price at which sections of this publication will be available in future. The cost of the 'Tables Part I—Medical' will be 7s. 6d., and that of the text 2s. 6d. Synopses of the contents of these volumes with descriptions of regular and special features are appended to the memorandum to illustrate their usefulness for study and reference.

DR. R. M. HUTCHINSON LOW of Kensington has given £1,000 to the committee of the Wrexham and Denbighshire War Memorial Hospital to endow a bed in memory of his father and mother.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR British Medical Journal British Medical Association House, Tavistock Square, W.C.1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager British Medical Association House Tavistock Square W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9561 9562 9563* and *3574* (internal exchange four lines).

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL* *Articulate Westcent London*

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The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin) and of the Scottish Office 7 Drumsheugh Gardens Edinburgh (telegrams *Associate Edinburgh* telephone 24361 Edinburgh).

QUERIES AND ANSWERS.

EPHEDRINE

"M. M. M." has a patient a schoolmaster aged about 45 who has been taking ephedrine for asthma with beneficial results but has had to give it up for the following reason. Within an hour of taking a 1/2 gram tablet he finds a lithemy in passing urine and this continues for about twenty-four hours. Can anyone suggest a cause and a remedy?

ALUMINIUM COOKING VESSELS

"W S M writes A patient complained to me of an alteration in the taste of food cooked in aluminium vessels I always understood that no deleterious effects resulted from the use of aluminium as cooking utensils so long as no sodium bicarbonate was added to the food Is there any authoritative information available?

SACCHARUM

DR A R MCCLURE (Wellington, Salop) writes Every now and then one hears well authenticated tales of patients returning for a repetition of a mixture containing simply burnt sugar and water, because it is the only medicine that does them good This effect is rather hastily attributed purely to suggestion. But the effects of other and more costly elements exhibited in small amounts very finely divided, are due to properties of the substances themselves caramel consists partly of colloid carbon The consumption of saccharum in many practices is measured in gallons, there must exist, therefore, a body of evidence, based upon actual experience which, if available, might throw some light upon the indications if any for its specific employment The representatives of drug houses whom I have consulted personally believe that in many cases more caramel is actually used than would be necessary for colouring purposes

TREATMENT OF PRURITUS ANI

J M writes In the *Journal* of June 7th (p 1080) "Cerons" asks about the treatment of pruritus ani I suffered for many years in exactly the same way as "Cerons" I was quite free from any itching until I grew warm in bed, when it became intolerable Unguentum metallorum gave me almost immediate relief, applying it in the morning for three or four days entirely relieved me for about three weeks For about four years I was entirely free from the complaint, but three months ago it recurred in a very acute form I obtained immediate relief under the same treatment, and am now well I have never noticed this ointment mentioned as a treatment for the complaint I may add that I have treated many patients in the same way quite successfully

CHEIROPOMPHOLYX

DR HUGH WILLOUGHBY (Gravesend) writes In reply to "Symington's" inquiry I would suggest that he tries soaking his hands twice a day in water containing a teaspoonful of formalin to each pint of water, and allowing the hands to dry *without wiping* Alternatively he might try using an ointment composed of equal parts of salicylic and benzoic acids in lanoline (xv grains āā to 1 oz) I am myself a sufferer in hot weather, getting the infection on both my hands and feet, and the first remedy suggested never fails to alleviate the condition I come across many cases of this type of dermatitis in persons home from the Tropics, and suggest both methods of treatment with equal success I have observed that cold weather usually effects a cure without any active treatment, and patients from the Tropics have commented on the fact that recurrence is often noted on their reaching the Red Sea when returning to the East Like "Symington," I label these cases cheiropompholyx"

DR G M WILCOCKSON (Guildford) writes In June last I had a severe attack of this disease between each of the fingers of my right hand, first the irritation, and afterwards the smarting, were so bad that I could not sleep I frequently had to get out of bed and hold my hand in cold water As the condition did not attempt to clear up I went to the Skin Hospital in Fitzroy Square, where I saw Dr Cowen, who prescribed ung hyd. ammon dil gr x ad ʒj The condition was practically well after two weeks' treatment Dr Cowen said that $AgNO_3$ gr ij ad sp aetheris nitrosi ʒj applied to the papules when first they appeared, would often abort the attack I have found that so At present I have a recurrence between the index and middle fingers, a deep raw crack, which is yielding to the ointment

DR LEO SPIRA (London, N W 6) writes As a late sufferer from cheiropompholyx I sympathize with "Symington," and in answer to his query (October 4th, p 586) I refer him to my two articles, "Some skin manifestations and their relation to the disturbance of the gastro intestinal tract," *Irance British Medical Review*, October, 1928, and Chronic poisoning by an irritant contained in cooking utensils and tap water, *ibid* December, 1928 The method therein described effected a complete cure after many other kinds of treatment had been tried without success

INCOME TAX

Depreciation of Assistant's Motor Car

"W W B" uses his own car, but his principal pays tax and insurance, as well as petrol and other running costs Can he claim in respect of depreciation

*** Yes The allowance for "the diminished value by reason of wear and tear" was extended to the assessment of the profits or gains of an employment by Section 16 of the Finance Act 1925 The loss by wear and tear clearly falls on "W W B," and we can find no ground for refusing him the usual percentage deduction

Payment of Interest in Full

"PERPLEXED" is paying for the share of a retired partner in instalments, *plus* 5 per cent interest on the capital amount unpaid The recipient suggests that, as he is not liable to tax, the interest should be paid *without* deduction of tax

*** The legally correct course is for 'Perplexed' to deduct tax and for the retired partner to recover it from the authorities If, however, the latter can be satisfied that the tax is not ultimately due, we think that they will agree to the interest being paid in full and will make an allowance accordingly in assessing "Perplexed" But it is for the retired partner to agree to the necessary arrangement with the authorities

LETTERS NOTES, ETC.

ANHIDROSIS

A CORRESPONDENT writes to point out that the correct spelling of the word which means 'absence of perspiration" is, of course, *anhidrosis* The word "anhydrosis" would mean "absence of water"—from the Greek ἀ, the negative prefix, and ὕδωρ, water Anhidrosis'—or "anidrosis,' as it may be written—on the other hand, signifies "absence of sweat or perspiration" It is derived from the Greek ἀ and ἱδρώς, perspiration Hippocrates used the Greek word ἀνίδρωσις, a sweating, but also the words ἀνίδρως, 'without perspiration" and ἀνιδρωτί, an adverb meaning "sweatlessly Xenophon (in *Cyrus*) uses the word ἀνίδρωτος, "without having sweated"

GENERAL EDUCATION OF THE MEDICAL STUDENT

MR R S ILLINGWORTH (School of Medicine, Leeds) writes I have read with interest Professor Dean's article in the Educational Number of the *Journal* (September 7th) about the general education of the medical student I myself decided on my career at the age of 14, after taking my matriculation, and advisedly continued with classics, instead of changing over to the science side of the school I entered the University fully prepared for a year's really hard work in making up lost ground, but I soon discovered that less work was necessary for the year's chemistry, physics, and biology than for the higher certificate and county major scholarship, and I can say with confidence that the change over from classics to science offers no great difficulty At Leeds, at least the course starts with the very elements of the subjects, and the average student should have no trouble in keeping up with the work Of course, it is a little disconcerting to feel in October that one's knowledge of the required subjects is *nil* and to think that by June one is expected to have reached approximately higher school certificate standard But the novelty of the subjects makes them interesting, and I can truthfully say that I thoroughly enjoyed my first year in medicine My head master always said that classics teach one how to learn I believe him But I doubt whether it could truthfully be said that any other subject teaches one such an extremely important thing, and it is for this reason that classics provide such an excellent foundation for the study of medicine Anyone at the matriculation stage who had medical inclinations, and who was undecided whether to turn over to the science side, I should strongly advise to carry on with classics, to learn something about English literature, about Greek and Latin verse—especially Homer and Virgil, about ancient history and anthropology, about French and German, all of which subjects are taken in the "sixth classical" of a good school No, let no more be said about the handicaps a classical man has to face when he starts medicine, it may act as a deterrent to many

NECROPSIES AND THE GENERAL PRACTITIONER

"A C D" (Devon) writes The arguments of Dr Gibson and others who agree with him, while quite true, are, I think, beside the point The question is—How can the cause of death be most accurately ascertained? Does the average general practitioner in rural districts get sufficient experience in post-mortem examinations to give an opinion of much value except in obvious cases? And, if not, what is the remedy? Coroner's inquests are not held in order to help the doctor keep up his knowledge of pathology But, if he is worth his salt, he will attend the necropsy for that purpose, and to help the expert

SURGICAL THEATRE LIGHTING

A NEW hospital operating table lighting unit is being exhibited at present by Messrs Holophane, Ltd, Elverton Street, Vincent Square, S W 1 It consists of a special reflector, lamp, and lens in a frame, which is suspended from the ceiling, the apparatus is devised to ensure that the maximum beam of light shall strike the centre of the operation area A simply manipulated mechanism permits the position of the light to be varied, so as to suit different surgical conditions

MEDICAL GOLF

THE first meeting of the Sussex Medical (B M A) Golfing Society was held on Sunday, September 28th, on the links of the Brighton and Hove Golf Club This society has been formed to promote friendly games among members of the medical profession resident in Sussex, and for this competition a prize was given by the captain, Colonel P Dee The results were

First J H Twiston Davies 2 down, bracketed second J M Holmes and H G Downer 3 down

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 49, 50 51 52 53 54, 55, 58 and 59 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 56 and 57

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *171*

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

322. Prognosis and Medical Treatment of Ulcerative Colitis

P Bayer (*Journ Med Assoc of South Africa*, July 26th, 1930 p 407) has investigated 20 cases of ulcerative colitis and analysed them from the standpoint of prognosis and treatment No patients suffering from colitis of specific (for example bacillary) origin or secondary to constitutional disease such as chronic nephritis were included A review of the author's cases yielded no indication of any definite etiological factor Most of the cases were of the severe type and there was a mortality of 25 per cent but two-thirds of the patients were either cured or definitely improved These indications of the seriousness of the disease are in accord with statistics obtained by other workers for similar series of cases Twelve of the patients were submitted to appendicostomy, two-thirds of them being either benefited or cured In several instances this operation marked definitely the turning point towards recovery The author considers that medical treatment should be given a thorough trial in every case The patient is kept in bed and septic foci if discovered are treated Vitamins fats and fruit are added to the usual lactofarinaceous diet but raw fruit and green vegetables are not given Pulv ipecac. co in 5-grain doses may be administered after every motion Rectal medication was followed by the best results when albargin tannic acid, and weak flavine or permanganate solutions were used for the lavage which was administered in the knee elbow position It was found that these and various specific measures such as the employment of serums and vaccines were equally ineffective in acute fulminating cases and in chronic cases with repeated acute exacerbations for these patients appendicostomy or occasionally caecostomy was performed When surgical intervention was decided upon an operation was arranged without delay A primary blood transfusion gave good results in some patients

323 Typhoid Fever due to Ice-cream

J Durich (*Pract Med de Barcelona* June, 1930 p 512) records an outbreak of 287 cases of typhoid fever, with 18 deaths which occurred between July 20th and October 30th 1928, at Santa Margarita Balearic Islands, which has a population of about 4,000 inhabitants 149 were females and 138 males The ages ranged from under 1 year to over 75 The source of the outbreak appeared to be the consumption of ice cream which had probably been infected by the water used in its preparation or by a carrier In a large proportion of cases—certainly over 50—the consumption of the ice-cream was immediately followed by manifestations of gastro-enteritis, the enteric symptoms developing later Oral administration of vaccine was tried in 403 persons of whom 51 had consumed the contaminated ice-cream of these 6 contracted typhoid fever Of the remaining 352, 189 had been exposed to infection by close contact with the typhoid patients, and of these 7 (of whom 2 had received insufficient doses) contracted typhoid With a few exceptions the attacks among the inoculated were mild and there were no deaths On the other hand of 261 non inoculated persons who partook of the infected ice cream 170 contracted the disease and 18 died

324 Auscultation of the Arteries of the Neck

A. Landau and J Held (*Arch des Mal du Caur* August 1930 p 497) believe that auscultation of the common carotid and subclavian arteries in certain cases of aortic disease may supply information which is not gained by auscultation at the usual areas The examination is made immediately internal or external to the sternal origin of the sterno-mastoid muscle and just below the junction of the inner and middle thirds of the clavicle In normal individuals by light pressure of the stethoscope a systolic sound is heard followed by one corresponding to closure of the aortic valves The sounds are loudest in the right carotid fainter in the left and weaker still in the subclavian arteries In aortic incompetence a systolic murmur is well heard at these areas but the diastolic sound is very faint when there is stenosis of the aortic orifice the systolic sound is prolonged while the second is imperceptible as at the aortic area Auscultation at the precordium in aortic atheroma and in hypertension may be hampered by poor conduction through the chest wall but at the right carotid may be heard a systolic murmur or a loud and ringing second sound Similar signs are discoverable in syphilitic aortitis generally, but in a certain proportion of these cases they are best heard in the vessels on the left side of the neck, particularly in the left subclavian artery In the latter group palpation of the arteries and comparative blood pressure measurements sometimes show a reduction in force of the pulsations on the left side In these cases there is probably a narrowing of the orifice of the left subclavian artery Occasionally this sign is heard in the left subclavian artery but no disparity in the blood pressure measurements on the two sides is found, in these circumstances there is probably a lesion of the arch of the aorta in the neighbourhood of the orifice of the left subclavian artery

325 Prognosis in Pleurisy with Effusion.

F W Gaarde (*Journ Amer Med Assoc* July 26th, 1930 p 243) considers that the frequency with which pleural adhesions are found at necropsies and accidentally by radiological examinations would indicate that the milder form of pleurisy is common Undoubtedly patients often recover without the diagnosis of pleurisy having been made The etiology is generally considered to be tuberculous and although the condition is termed primary pleurisy it may be metastatic from a tuberculous process which cannot be found or perhaps from an old quiescent lesion A study of 126 cases of idiopathic pleurisy was made for the purpose of ascertaining if possible, the factors which influence prognosis The disease was found to occur more frequently in the second and third decades although the incidence of death was not out of proportion to that in other decades Tables are given of the incidence by decades of the state of health and length of life after onset and of the results of guinea pig inoculations It would seem that if a patient survives the original acute attack of pleurisy with effusion there is a good chance of complete recovery If he survives the first three years and particularly the first five his chances of complete recovery are excellent. Positive results of guinea pig inoculations render the prognosis more grave Gaarde thinks it is clear that idiopathic pleurisy with effusion should be considered as tuberculous and that the patient should have his life rigidly regulated for some months be kept at rest, and be treated by the methods applicable in tuberculosis If this is done and the patient is not permitted to return to work as soon as he has recovered from the acute symptoms, the prognosis will be much more favourable

Surgery

328 Air Embolism during Laminectomy

S P Fedopoff and A S Wischnewsky (*Centralbl f Chir* August 23rd 1930 p 2038) have on three occasions observed air embolism during laminectomies while cutting through the vertebral arch the operation being in each case between the third and fifth dorsal vertebrae They state that a vein is seen to bleed bubbles of air are observed a thrill murmur is heard and cyanosis and dyspnoea follow Two patients died almost immediately, in the third case the vein was plugged at once with muscle and the patient lived The danger zone is said to be on the right side, where the intervertebral veins collecting blood from the anterior vertebral plexus join the intercostal veins and run into the vena azygos In the intervertebral foramina at the base of the vertebral arch there is little tendency for the veins to collapse since they are held by periosteum The negative pressure in the upper part of the vena azygos is especially high and in the region of the third to fifth dorsal vertebrae the path to the superior vena cava is broad and direct The authors suggest that special care should be taken in operations in this area while cutting through the vertebral arch The periosteum and with it the veins should first be stripped from the bone At the earliest sign of venous bleeding a piece of muscle should at once be used to plug the damaged vessel Local anaesthesia is advised, so that the patient may if necessary be instructed to stop breathing until the danger is over.

327 Parathyroid Excess and Deficiency

O Lanz (*Deut Zeit f Chir* July 1930 p 378) describes a moribund case of post operative tetany in which relief followed the ingestion of raw parathyroid glands from horses and sheep cure was obtained by the implantation in the muscles of the abdominal wall of a fresh parathyroid gland removed from another patient by thyroidectomy Lanz also reports a bed ridden case of fibrocystic disease of some years

duration with an ununited spontaneous fracture of the femur, from which, at Professor Snapper's suggestion, he removed a nodule from the thyroid gland, this was found to be an adenoma of the parathyroid The blood calcium percentage, which had been as high as 21 6 mg , fell in the course of twenty four hours to 14 5, after five days to 8 5, and in three weeks to 6 6 mg Though the local symptoms of pain and tenderness rapidly diminished after the operation the patient soon developed marked restlessness and irritability He was treated by subcutaneous injections of parathormone and intravenous injections of a calcium preparation until the blood calcium had been raised to 9 04 mg per cent , and the calcium excreted daily in the urine, which was 400 mg before the operation, had been reduced to one tenth of that amount Six months after the operation the fracture had united and the patient was able to get about on sticks, six months later *x* ray examination showed that the bones had become re calcified, and the case was not only clinically but radiographically definitely cured

328 Tuberculosis of the Tongue

R D'Aunoy and J W Miller (*Journ Amer Med Assoc , July 12th, 1930, p 97*) believe that lingual tuberculosis is rare, only 334 cases having been recorded before March, 1929 The lesion is usually associated with tuberculosis in other organs, generally in the lungs, primary lingual tuberculosis is probably very unusual Diagnosis may be difficult, the appearance may resemble gumma or epithelioma, but these may be excluded by histological examination and by a negative Wassermann reaction The authors report three cases, all the patients being men, aged 54, 36, and 51 years respectively, and having signs of pulmonary tuberculosis In two cases extensive excision of the ulcer resulted in apparent cure of the lingual lesion The prognosis in these cases is said to be bad, although three authors state that even in fairly advanced cases favourable response may follow tuberculin therapy

329 Painful Abdominal Scars

F W Bancroft (*Arch of Surg* , August, 1930, p 289) considers that the post operative pain and soreness in abdominal scars may be due to neuromas rather than to post operative adhesions or neurasthenia Four cases are reported in which the symptoms were due to neuroma or traumatic neuritis of the lower thoracic nerves The diagnosis was based on the following facts in three cases the injection of procaine hydrochloride into the fascia of the right rectus muscle relieved the pain for a time, while in three cases symptoms were relieved by excision of all the scar tissue Post-operative pain in abdominal scars can be compared with the peripheral pain in amputation stumps, which has been shown by microscopical examination to be due to neuroma The author considers that incision through the right rectus muscle should never be made, since a high percentage of hernias, weak wounds, and nerve injuries follow this incision In each of the four cases reported, pain in the scar had followed an operation in which a right rectus incision had been made Kaumeier's incision is advocated, the McBurney and low Pfannenstiel incisions are described as being well planned to avoid nerve trauma Ligaturing a blood vessel with its accompanying nerve, or the mass tying of vessels in the vicinity of nerves, should be avoided.

Therapeutics.

330 Treatment of Sea-sickness

P Vogt Möller (*Ugeskrift for Laeger*, July 17th, 1930, p 700) has studied the problem of sea sickness during twenty four crossings of the Atlantic in 1928 and 1929 He found that more than three quarters of his patients were women, whose sea sickness was more severe and protracted, as a rule, than that of the male patients The best purely mechanical device proved to be keeping them as near to the centre of the ship as possible, since at this point the movements of the ship were less than anywhere else The drugs tested were morphine, veronal and its derivatives, bromine salts, adrenaline, cocaine (used as a local anaesthetic for the stomach), strychnine, camphor caffeine, chloretone, benzyl benzoate, sodium nitrite, and atropine Neither the severity nor the duration of the sea sickness was influenced by any of the drugs in this list when they were swallowed, even atropine by the mouth proved quite ineffective, though it had some effect when given by subcutaneous injection The combination found most successful was a 0 1 per cent solution of atropine sulphate with a 0 1 per cent solution of scopolamine bromide given subcutaneously or in suppositories The dose of the atropine was from 0 5 to 1 25 mg , and that of the scopolamine from 0 25 to 0 5 mg , no ill effects other than slight dryness of the mouth, easily relieved by water, were observed Even when the temperature of the air was tropical there were no discomforts from interference with the secretion of sweat Although the results of this treatment were described as amazingly good, the effects of a single injection or suppository were not necessarily immediate, but after three or four injections, distributed over a couple of days, most of the patients could leave their berths and felt well. In severe cases the average duration of the sea sickness was reduced by three days by this treatment In many cases only one or two injections or suppositories were necessary in order to restore the patients to a complete sense of well being, even though the sea remained rough.

331 Treatment of Essential Hypertension.

R S Palmer (*New England Journ Med* , July 31st, 1930, p 208) reviews the recent literature on the treatment of essential hypertension, and enumerates the various measures that have been recommended in this affection He suggests that the following criteria may be useful in estimating the hypotensive action of any given remedy Each observation shall consist of at least ten successive determinations of the systolic and diastolic pressures at one minute intervals, the same type of instrument being used at each observation with the patient in the same position This investigation should be carried out, when possible, on ambulatory patients, exposed to the usual daily occurrences Two, or preferably more, weekly observations should be made before starting treatment The securing of preliminary rest is optional A fall in the average of the ten readings at successive visits should be demonstrable after a period allowed for the full effect of the treatment, and this effect should be maintained at two or more further observations The patient should remain under treatment for four to six weeks, when it should be stopped and a rise in blood pressure be shown after ample time has been allowed for the effect of the procedure to have abated Finally, a second hypotensive effect of the treatment should again be demonstrable In the absence of specific measures, the guiding principles in the treatment of hypertension are diminution to a minimum of nervous strain and responsibility, reduction of over weight in the obese, and special care in the early recognition of the disease in those with a cardiovascular family history, with an attempt to control its progress Certain patients will respond to a well ordered hygienic regimen of limited responsibility, daily rest periods, and mild exercise This should be instituted in all cases, with the addition of mild sedatives such as potassium sulphocyanate, or the administration of antispasmodic drugs such as the nitrites or theobromine compounds Balneotherapy may be tried in an institution or regular warm baths in the home of the patient

332. Actinotherapy in Whooping-cough

G Barraud (*Journ de Méd de Paris*, July 2nd, 1930, p 577) states that though some foreign observers maintain that ultra violet rays do not produce any satisfactory result in whooping cough, French actinotherapeutists are of the opinion that they may be of value, not by shortening the duration of the disease, but rendering the attack very mild and avoiding complications and sequelae The technique is as follows The irradiation is concentrated on the thorax at a distance of 80 cm , and the treatment should last ten minutes The applications should be made every other day, and the duration should be increased ten minutes each time, an erythema dose being used In 33 cases so treated 27 recovered rapidly, 3 showed some improvement, and 3 no change If recovery does not ensue after the sixth application there is no need to continue the treatment, but in severe cases as many as twelve applications may be employed to improve the general condition, especially if there is a tendency to tuberculosis The conditions for success are, first, that the treatment should be started early, secondly, that the doses should be sufficiently strong , and, thirdly, that the application should be applied at frequent intervals (every two days)

333 Treatment of Tetanus

A. E Paterson (*Med Journ of Australia*, June 28th, 1930, p 832) records his observations on the treatment of 26 children, aged from 4 to 11 years, and suffering from tetanus, 19 recovered and 7 died On admission 100,000 units of serum were injected intravenously under an anaesthetic and 40,000 intramuscularly The intravenous injection was repeated in twelve hours' time, and then at intervals of twenty four hours The intramuscular injections were given every four hours, the amount being gradually lessened As convalescence approached, the interval between each injection was lengthened The total number of units given in the cases which recovered ranged from 120,000 to 1,970,000

Disease in Childhood

334 An Infantile Asthmatic Syndrome.

H JUMON (*Presse Med*, August 23rd, 1930 p 1138) discusses the syndrome of asthma skin eruptions and hepatic deficiency appearing in infancy and childhood up to the age of 6 These signs are first recognizable in the early months of life they frequently though not invariably coexist develop by a series of bouts are generally found in cases of what the author terms a "neuro-arthritic diathesis, and tend to spontaneous cure at the age of 8 to 10 or at puberty Cure may, however, be hastened by treatment Infantile asthma occurring typically in the age period up to 6 years, is a paroxysmal dyspnœa catarrhal in nature There may be attacks of capillary bronchitis with pyrexia the prognosis is good recovery being by crisis or lysis in 24 to 48 hours Mild cases take the form of an apyrexial bronchitis In older children the asthma is generally of the adult type appearing precociously, being spasmodic in character, it has no association with cutaneous or hepatic manifestations and no tendency to a natural cure, being often due to some discoverable cause Pseudo-asthmas are due to local conditions in the nose or mediastinum or to general causes such as disease of the heart or kidney The association with asthma is definite in cases of pruritus with secondary eczema or lichen and of Hebra's prurigo of the French type, it is doubtful in the true prurigo of Hebra and rare in simple prurigo or strophulus —a transitional form between simple prurigo and urticaria. Hepatic manifestations may take the form of cyclic vomiting with acetonæmia More characteristically there is in association with the asthma and the skin lesion slight pyrexia, anorexia nausea coated tongue constipation headaches fatigue weakness, and acetonuria In general these children are thin and pale, with a dry skin

335. Treatment of Constipation in Children

R M SMITH and H E GALLUP (*New England Journ Med*, April 24th, 1930 p 802) discuss constipation in children and its treatment by a residue-free diet They find that the condition may be overcome in a considerable proportion of cases by prescribing foods with high roughage and residue content as for example the cellulose from vegetables and the husks of fruits and cereals, combined with mineral oil and a laxative or agar agar. Many children, however, especially with long standing constipation and pronounced symptoms of pain vomiting faulty posture and malnutrition do not respond to such a line of treatment In these the constipation is due to the disturbed function of the distended colon this condition tends to become worse upon a cellulose residue diet which increases the bulk of material retained as hard masses or adherent to the mucous membrane In such cases the aim is to reduce the faecal residue *to a minimum* and to empty the colon completely by excluding all roughage from the diet Vegetables cereals, and fruit must be strained through a fine sieve and coarse bread avoided By administering mineral oil in half to one teaspoonful doses after each meal three times a day the passage of the faecal mass within the colon is facilitated, and two to four teaspoonfuls of castor oil at bedtime once a week may assist During the first few weeks simple enemata, given cautiously so as not to distend the colon may be necessary Improvement begins in most cases within a few weeks and the enemata should be abandoned as soon as possible, the intervals between the doses of castor oil lengthened, and the amount of mineral oil gradually reduced When the cure is accomplished the condition of the colon should be ascertained by a barium enema followed by another after a full diet has been continued for some time in order to determine whether the improvement is maintained

336. Latent Scurvy in School Children

DEFICIENCY of vitamins in the diet may entail unsuspected dangers, and F HAHN (*Med Welt*, May 10th 1930 p 664) commends Ludolf Brauer for defining the initial symptoms of threatening scurvy (1) easy fatigue and distaste for work, (2) loss of appetite, or, on the other hand the appetite persisting even after meals (3) painful shins or joints (4) bleeding from the gums and the scurvy rash (rare) and (5) petechiæ (often misunderstood and treated with sulphur) and other haemorrhages. Hahn states that pains in the shins and bleeding gums are frequently seen in children's clinics from March to May After examining 300 family food consumption lists from Hamburg he concludes that many families consume an inadequate quantity of antiscorbutic foods in spring unless they have gardens Deficiency of vitamins lowers the power of resisting infection and he attributes to this cause the fact that influenza occurs more frequently in spring than in autumn This vitamin deficiency in spring also explains why the monthly Hamburg death rate highest in the cold weather of December has a second maximum hardly lower, in March while this second maximum is certainly less noticeable in rural districts Some German hospitals and sanatoriums have increased the vitamin content in their dietaries and find that they can now more quickly cure their spring patients who are slow as a class to recover To avoid vitamin deficiency fresh fruit is a desideratum, and children should take cod liver oil daily during the four months of winter He doubts whether all advertised preparations of vitamins are effective and also harmless one such preparation which is extensively advertised in Germany is thought to cause arterio-sclerosis, even if given in quite small doses. If the water soluble vitamin C is deficient scurvy occurs, but if the fat soluble vitamin A is lacking xerophthalmia then appears being shown in the early stage by redness and itching of the conjunctivæ This eye condition is said to be common in the schools about April and is apt to be mistakenly ascribed to ophthalmic strain *consequent on the children preparing for* their examinations

Obstetrics and Gynaecology

337 Low Cervical Caesarean Section.

TRACING the development of low Caesarean section from its inception in 1805 C W SEWALL (*New England Journ Med*, August 21st 1930, p 356) states that the present operation while technically more difficult to perform than the classical one is simple and direct It is relatively much safer, diminishing the maternal risk *approximately* to 1 per cent. as compared with 4 per cent for other methods and because of the lessened risks it possesses a broader field of application than high operations There are many advantages in this method. In contracted pelves it is possible to allow a more thorough trial labour with a subsequent abdominal operation if necessary Vaginal examination is not so fraught with risk as in the case of *intraperitoneal operations* Placenta praevia, uterine rupture pelvic or uterine tumours eclampsia and accidental placental detachment are easily and successfully handled by the low route Local instead of general anæsthesia can be readily employed The operative field is practically in the pelvis and lower abdomen and the uterine wound is extraperitoneal The cervix being relatively non contractile and less vascular than the uterine body healing is more rapid and complete, there is less haemorrhage and less danger of uterine rupture in subsequent pregnancies The only disadvantage of this operation is the apparently greater number of neo-natal intracranial haemorrhages resulting from it These haemorrhages seem to occur more often in cases where there has been no labour and Sewall suggests that a certain amount of labour may be beneficial Some useful points in operative technique are given, and the following suggestions are made When abdominal delivery is contemplated a few hours of carefully observed labour may be beneficial an incision large enough to allow easy passage of the head should be made Using the hand as a chute with compression of the fundus from above brings about delivery of the head quickly and with a minimum of trauma The routine injection into the newly born child of a large dose of maternal whole blood is prophylactic as regards the prevention of haemorrhage

338. Virilism in Ovarian Tumour

G A WAGNER (*Deut med Woch*, July 4th 1930, p 1120) reviews the literature on 32 cases of ovarian tumour associated with virilism including two observed by himself. The patient is most commonly a young woman who until the onset of symptoms has shown normal feminine characteristics, and may have borne children Menstrual abnormalities are the rule, irregularities appear at first and there is often sudden and complete cessation About the same time the hair takes on the masculine distribution there being a well marked beard the skin becomes coarser and darker the subcutaneous fat less and acne of the type often seen in male adolescents may develop temporarily Later the face takes on an ugly masculine appearance the larynx alters and the voice deepens sometimes to the bass compass the figure becomes more thick-set and the muscles stronger and more prominent *The skeleton however is unaltered.* The breasts diminish in size but the external genitals remain of female type except in cases of long duration where there may be hypertrophy of the clitoris The uterus and unaffected ovary are mostly normal The sexual emotion usually remains female in character though changes have been recorded in some cases. After the removal of an ovarian tumour at an operation the return to normal femininity is most striking menstruation usually commences *within four*

to six weeks and remains regular, while the other symptoms of virilism gradually disappear The tumour found in all carefully recorded cases is of very unusual type, and has been named "androblastoma" by Meyer, who believes that it consists primarily of undifferentiated germ cells developing towards the masculine type The appearances of the tumour vary considerably they may be sarcoma like and diffuse, or more highly differentiated, showing tubular areas and epithelium Some almost belong to the group of tubular (testicular) adenomata Different grades of differentiation may be found in the same tumour Though histologically the tumour is obviously malignant, it is remarkable in most cases for its relatively innocent character, only a few cases of cachexia, metastasis or recurrence having been recorded In one case the symptoms of virilism disappeared after the operation, but returned one and a half years later owing to a recurrence of the tumour It is remarkable that virilism is the rule with this type of growth, though it rarely occurs in cases of testicular adenoma The author discusses other causes of virilism, and remarks that such extreme degrees of the opposite condition—feminism in the male—are unknown.

339 Primary Carcinoma of the Fallopian Tubes

R E WATKINS and W M WILSON (*Surg., Gynecol and Obstet*, July, 1930, p 125) report a case of primary carcinoma of the Fallopian tube The disease is rare, only about 200 cases having been reported in the literature A woman, aged 50, seven months before coming under observation complained of a blood stained watery vaginal discharge, it had commenced suddenly and was gradually becoming more profuse, being accompanied by sacral backache and slight soreness in the lower right quadrant of the abdomen Examination disclosed a firm, tender, moderately movable mass posterior to, and to the right of, the uterus No sign of inflammation or free fluid was found at operation, and the uterus and the left adnexa were normal The right tube was enlarged in its distal half to form an oval tumour about 5 by 6 cm in diameter, when this was opened after removal, a haemorrhagic, friable, papillomatous growth was found to occupy the whole lumen No pelvic lymphatic glands were felt, but the entire uterus and left adnexa were removed After a fortnight's normal convalescence she was discharged, returning at regular intervals for deep *x* ray therapy, and five months later she appeared to be well From other reported cases it would appear that the age incidence is that of cancer generally The etiology is unknown, but many authors consider that a commonly associated chronic salpingitis is a predisposing factor With the exception of a watery, occasionally blood stained, vaginal discharge there are no characteristic signs or symptoms, and a correct diagnosis has only once been made prior to operation Although in the case reported the ovary was not involved, and there were no evidences of retroperitoneal lymph gland metastases, the opposite is frequently the case The microscopical appearance is that of a papillary alveolar type of tumour, commencing as a malignant hyperplastic change in the cylindrical epithelium of the tube The case reported demonstrates the value of immediate section of extirpated pelvic tumours

Pathology.

340 Action of Morphine on the Liver

I PAVEL, ST M MILCOU, and I RADVAN (*Paris Méd*, August 9th, 1930, p 125) have been investigating the action of morphine on the biliary secretion, using dogs with a biliary fistula, the common bile duct having been ligatured and divided At the time of experiment the dogs had been fasting for eighteen to twenty hours, they were then given food, and fifteen to thirty minutes later 1 cg (in one case 2 cg) of morphine hydrochloride was injected hypodermically There was noted a definite inhibition of the production of bile, the quantity secreted ranging from two fifths to one eighth of the normal This inhibition, first apparent ten to fifteen minutes after the injection, increased progressively until, often, at the end of two or three hours, secretion stopped The normal rate of bile flow was re established slowly There was a relative increase and an absolute decrease in the amount of bile pigments and, probably, of bile salts The action of morphine on the detoxicating function of the liver was also studied The detoxicating power of the liver was measured by the amount of retention of rose bengal Six dogs which had been kept fasting for twelve to twenty four hours received an injection of 1 to 2 cg of morphine, thirty to ninety minutes later 1 5 mg of rose bengal for each kilo of body weight were injected It was found that 1 cg of morphine caused an increase in the amount retained normally, while 2 cg doubled the amount retained A further investigation related to the action of morphine on urobilinuria, Piersol, Rothman and Hetenyi having expressed the view that urobilinuria afforded the best evidence of hep[illegible] The quantity of urobilin present was [illegible] after morphine administration The present authors submit evidence indicating that morphine acts directly on the liver cell They call attention to two points of clinical importance (1) fifteen minutes after an injection of morphine 33 per cent of the drug may be recovered from the liver, the other organs containing only 1 to 3 per cent, and (2) fatal results have followed the injection of morphine in cases of established hepatic disease

341 Estimation of the Minute-Volume of the Circulation in Man

THE minute volume of the circulation can be determined from a formula based on the calculation of oxygen used and of the CO_2 output per minute, the percentage of oxygen and CO_2 in the arterial blood, and the percentage in the mixed venous blood Up to the present the values for mixed venous blood have had to be calculated indirectly from analysis of the alveolar air O KLEIN (*Munch med Woch*, August 1st, 1930, p 1311) points out that since Forssmann has shown that it is possible in the living subject to pass a long catheter up the median basilic vein into the right auricle of the heart, estimation of the gaseous tension of mixed venous blood can now be carried out directly on samples collected from the heart in this way A No 6 ureteric catheter is used, lubricated with fine sterile oil A small opening in the vein is made, the arm abducted, and the catheter gently inserted with practically no force The position of the catheter is confirmed radiographically In straightforward cases five to seven minutes suffices for the whole procedure In the course of eighteen such experiments no ill effects were observed during or after the passage of the catheter In several cases estimations of the minute volume of the circulation were made, and the results agree closely with those found by other authors In about 40 per cent of cases, however, it is not possible to reach the heart, since the catheter tends to travel up side channels It is claimed that the method can be employed in the case of patients with circulatory disease, in some of whom samples of alveolar air would be impossible to obtain

342 Estimation of Urine Alkalinity in Gastric Ulcer

L ANFANGER (*Deut med Woch*, May 16th, 1930, p 823) has repeated the work of Balint, who stated that after administration of a certain amount of alkali by the mouth the alkalinization of the urine was delayed in cases of definite ulcer of the stomach, this was attributed to the overacidity of the tissues, which Balint regarded as the chief factor in the pathogenicity of ulcer of the stomach and duodenum. Sahm has shown, by estimating the hydrogen ion concentration of the urine, that after the daily administration of 10 to 20 grams of alkali to cases in which there was no ulcer of the stomach, the urine became alkaline on the third to the eighth day, but that this was delayed to the ninth to the sixteenth day in cases where gastric ulcer was present Anfanger has estimated the acidity of the urine in twelve patients with healthy stomachs and obtained alkalinization of the urine on the third to the eighth day In five cases with definite ulceration of the stomach there was a delay to the tenth to the fourteenth day, but in nine other cases with definite ulcer this delay did not occur It is concluded that the estimation of the urine alkalinity after the administration of alkali for gastric disease is not of diagnostic value for ulcer of the stomach

343 Etiology of General Paralysis

S NICOLAU and P GUIRAUD (*C R Soc de biologie*, July 11th, 1930, p 963) have attempted to transmit syphilis to rabbits by inoculating them with brain material from eight fatal cases of general paralysis All these cases were typical, giving a positive colloidal benzoin and Wassermann reaction in the spinal fluid, and a lymphocytosis being present The brain was removed as soon as possible after death, and portions of the parietal or frontal cortex were excised Suspensions in saline solution from five cases were inoculated subdurally into rabbits, two being employed in each instance The animals were *observed for two months and showed* no evidence of disease From the other three cases rabbits were inoculated beneath the skin of the scrotum on both sides, and in another set of rabbits both testicles were so treated About two and a half months later the rabbits were killed, and the popliteal glands were used for the sub-scrotal inoculation of fresh rabbits, these animals were killed after two months and their popliteal glands used for a fresh passage The results obtained were absolutely negative, and agree in this respect with those of previous workers

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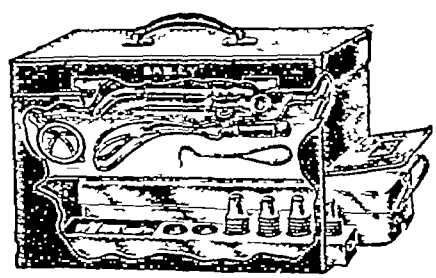
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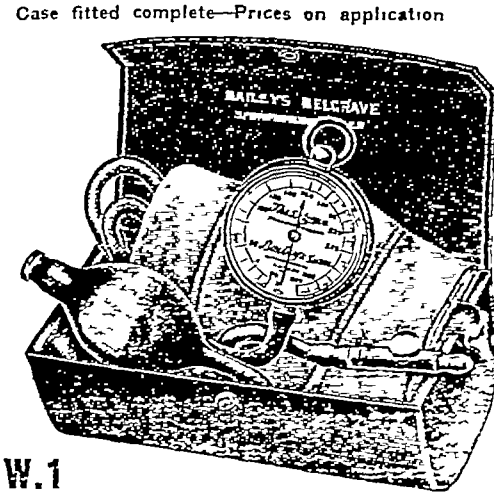
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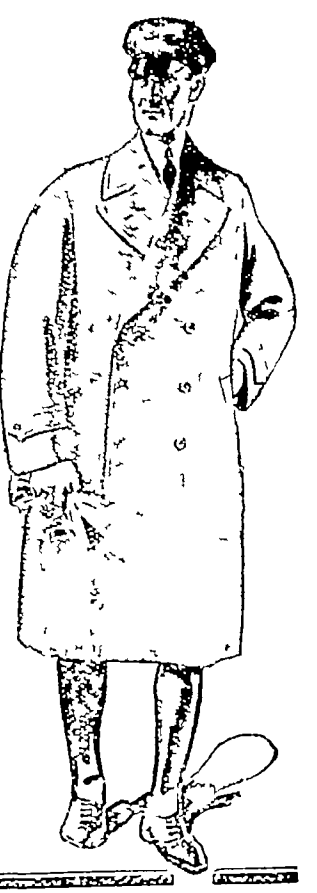
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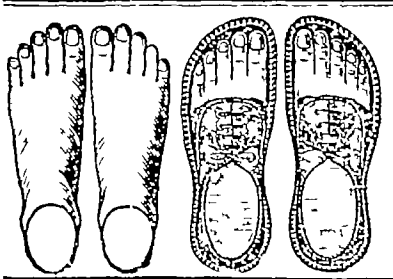
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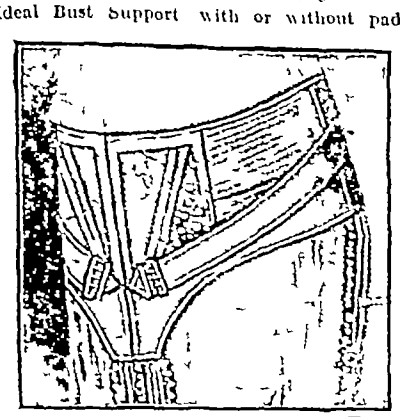
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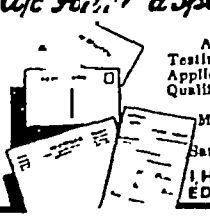
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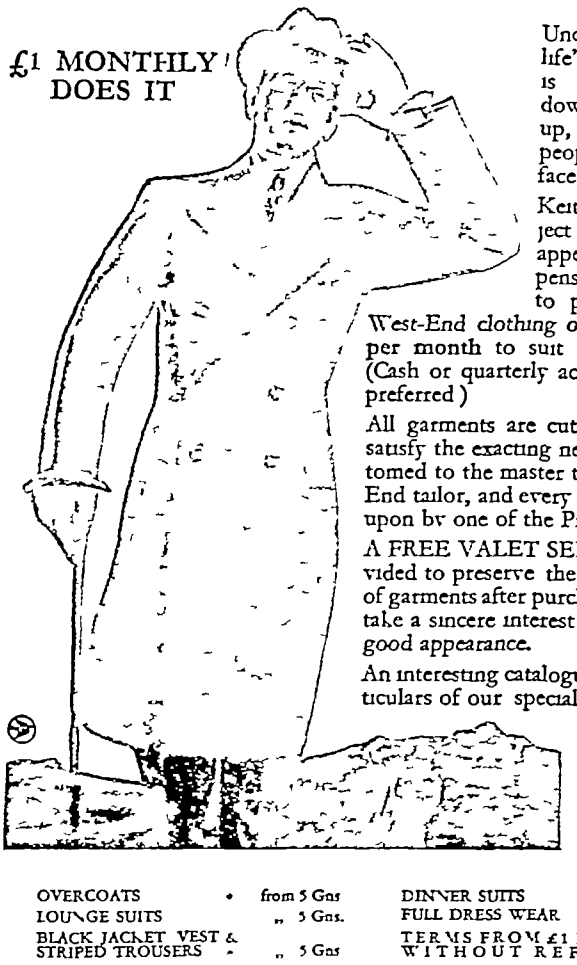
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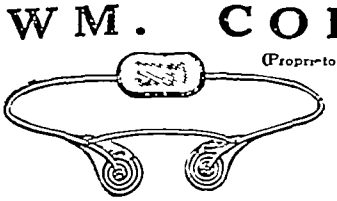
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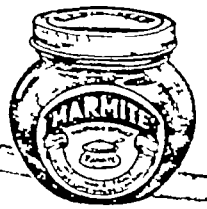
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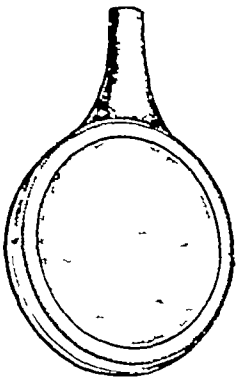
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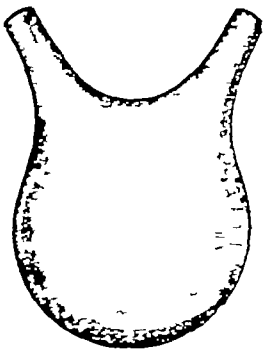
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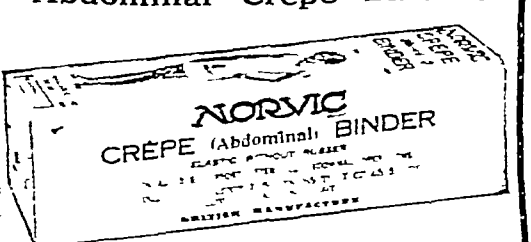
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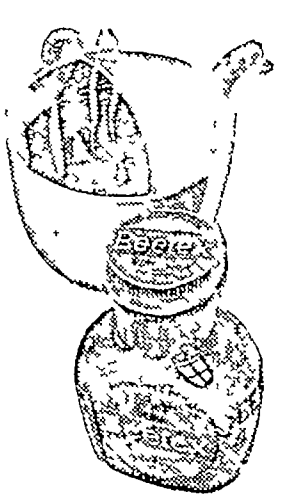
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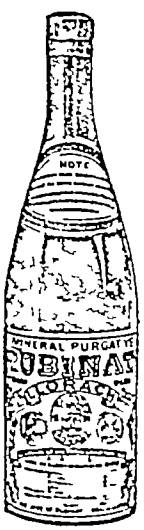
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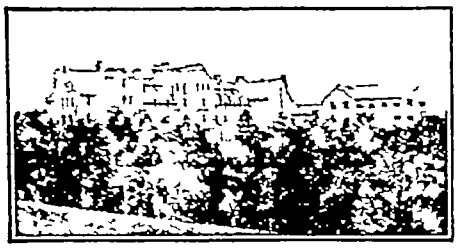
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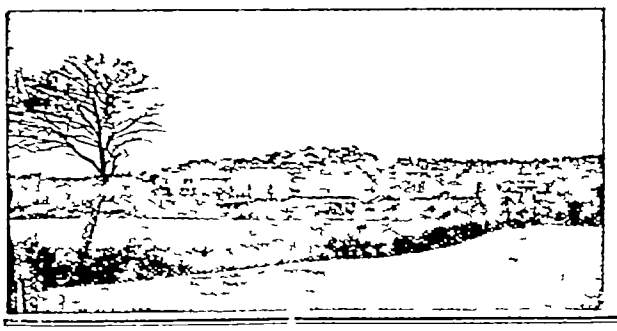
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F R C S (Eng.),	*Primary* (1906-29)	164
	Final	149
M R C.P (Lond.),	1914-29	168
D P H	(Various) 1906-29 (Completed Exam.)	286
F R C S (Edin.),	1918-29	43
M R C.S L.R C P	*Final* 1910-29 (Completed Exam.)	433
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MEDICAL PROSPECTUS (48pp.)

CONTENTS —The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations* Postal Courses, and Oral Classes Suggestions for the higher Medical Examinations Suggestions for the higher Surgical Examinations. *Suggestions* for the Special Diploma Examinations Refresher Course. Openings for Women. Hints for writing theses.

Medical Prospectus gratis along with list of Tutors etc., on application to the Principal Mr E. S WEYMOUTH M.A 17 Red Lion Sq London W.C.1. (Telephone HOLBORN 6315.)

City of Leicester

RESIDENT MEDICAL OFFICER.

The Health Committee of the City of Leicester invite applications for the position of Resident Medical Officer (male) at their City General Hospital for a period of twelve months.

The Hospital is a modern building with 550 beds and Two Resident Medical Officers.

Salary £300 per annum together with full residential emoluments. The gentleman appointed to the post will be required when requested to assist at the Institutions of the Public Assistance Committee.

Further particulars of the appointment may be obtained from the Medical Superintendent, E. C HADLEY M.D B.S Lond. F.R.C.S E. City General Hospital Gwendolen Road, Leicester. Applications stating age, experience qualifications and nationality accompanied by copies of three recent testimonials should be addressed not later than October 17th to—

Health Offices, Grey Friars, Leicester. WILFRID CARR, Secretary, Health Dept.

October 10th 1930

South-Eastern Hospital for

CHILDREN, Sydenham, S.E.26

Applications are invited for the post of ASSISTANT RESIDENT MEDICAL OFFICER (lady). The appointment will be for six months from November 1st. Honorarium £100 per annum with board, residence and laundry. Ample time for reading. Applications by letter only stating age and qualifications with copies of testimonials should be sent to the Hon. Secretary, WALTER MASEY M.B.E. Woodfield" 88 Dacres Road Forest Hill S.E.23, to be received not later than Monday October 20th.

Administrative County of LONDON

HOSPITALS SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to positions at the undermentioned Hospital. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and should occasion arise to assist at any of the other establishments or medical district under the control of the London County Council.

(a) ST OLAVE'S HOSPITAL, Lower Road Rotherhithe S.E.16.—ASSISTANT MEDICAL OFFICER Salary £400 a year with board lodging and laundry. Candidates must have had experience as House Physician in a general hospital. There is no accommodation for a married man.

(b) THE DOWNS HOSPITAL FOR CHILDREN Sutton Surrey.—JUNIOR ASSISTANT MEDICAL OFFICER Salary £500 a year Board lodging and laundry will be provided, for which a charge (at present £130 a year) is made. Candidates must have had *experience in the* administration of anæsthetics and have held a resident *position in a children's* hospital. There is no accommodation for a married man nor for a woman.

(c) THE KING GEORGE V SANATORIUM Coldharbour Surrey.—JUNIOR ASSISTANT MEDICAL OFFICER. Salary £500 a year. Board lodging and laundry will be provided for which a charge (at present £130 a year) is made. Candidates must have held a resident appointment in a general hospital. There is no accommodation for a married man.

The salaries and conditions of appointment in each case are provisional and are subject to review by the Council.

Forms of application may be obtained from the Medical Officer of Health (Staff Division 4a) The County Hall Westminster Bridge, S.E.1 A stamped addressed foolscap envelope should be enclosed and *forms* must be returned by October 17th. Canvassing disqualifies. Candidates desiring to apply for more than one appointment must send in a separate form of application in respect of each hospital. Inquiries for further detail as to the nature and scope of the duties at the individual hospitals should be addressed to the Medical Superintendent of the hospital concerned.

MONTAGUE H COX
Clerk of the London County Council

County Borough of Walsall

MANOR HOSPITAL.

RESIDENT ASSISTANT MEDICAL OFFICER

Applications are invited from duly qualified gentlemen for the appointment of First Assistant Resident Medical Officer.

The salary will be at the rate of £200 per annum together with the usual *residential emoluments* The appointment will be tenable for a period of twelve months.

The person appointed will be required to act under the general direction of the Medical *Officer from* whom particulars of the appointment may be obtained.

Applications stating age professional qualifications and experience accompanied by no more than three copies of recent testimonials should be sent to the undersigned at once.

C. S FOTHERGILL,
Public Assistance Officer.

29 Leicester Street, Walsall
August 25th, 1930

County Borough of Burnley

MEDICAL OFFICER OF HEALTH.

The Corporation of Burnley invite applications for the appointment of *Medical Officer of* Health at a commencing salary of £1,100 per annum. The appointment is to a designated post under the provisions of the Local Government and Other Officers Superannuation Act 1922, and the successful candidate will be required to pass a medical examination.

The age limit for the appointment is not applicable except in the case of an applicant who is already an officer of the Corporation or of any other local authority which has adopted the provisions of the Local Government and Other Officers Superannuation Act 1922.

Conditions of appointment and particulars of duties and a form on which application must be made may be obtained from the undersigned, to whom applications endorsed Medical Officer of Health must be delivered not later than Thursday October 23rd.

Canvassing either directly or indirectly will disqualify.

COLIN CAMPBELL,
Town Clerk.

Town Hall
Burnley
October 1st 1930

County Borough of Croydon

PUBLIC HEALTH DEPARTMENT

ASSISTANT MEDICAL OFFICER.—Maternity and Child Welfare and School Medical Service.

Applications from qualified Medical Women are invited for the position of Assistant Medical Officer for the purposes of Maternity and Child Welfare and School Medical Service.

Applicants must have been qualified for at least three years and have had special experience in the diseases of childhood and recent special experience in ante-natal clinics and obstetric work.

The successful candidate will be required to live within the Borough to produce a recent *satisfactory medical certificate of health* and to devote her whole time to the duties of the office. The appointment is subject to two months' notice of termination on either side.

The salary will be £600 per annum.

Applications, upon forms to be obtained from the Public Health Department Town Hall Croydon to be sent (accompanied by copies of no more than three testimonials of recent date) to the Medical Officer of Health Town Hall Croydon, not later than 11 o'clock in the forenoon of Monday October 27th endorsed "Assistant Medical Officer."

Canvassing in any form is prohibited.

JOHN M NEWNHAM
Town Clerk.

Town Hall
Croydon
October 1st 1930

Irvinestown Union

IRVINESTOWN DISPENSARY DISTRICT

MEDICAL OFFICER WANTED

The Board of Guardians of the Irvinestown Union will, at their meeting to be held at the Board Room Irvinestown on Wednesday October 15th, at 11 o'clock a.m., consider applications for the post of Medical Officer of Irvinestown Dispensary District at a salary of £240 per annum as Medical Officer and £40 per annum as Medical Officer of Health together with the usual Registration and Vaccination Fees.

The appointment will be on a temporary basis but will be subject to confirmation as a permanent appointment should the services of the person appointed prove satisfactory and the conditions of the post remain unaltered by legislation.

The person appointed must reside in the town of *Irvinestown or in the immediate vicinity*.

Applications accompanied by original diplomas and testimonial will be received by me up to 11 o'clock a.m. on above named day.

Personal attendance of candidate *necessary*.

By Order,
S T AIKEN
Clerk of the Union.

Board Room
Irvinestown.
October 1st 1930

County Borough of Newport

MENTAL HOSPITAL, CAERLEON MON.

ASSISTANT MEDICAL OFFICER (Male).

Applications are invited for the above post. Candidates must be unmarried and preferably with previous experience in Mental Disease. Commencing salary £400 per annum with furnished apartment, board, and laundry. Appointment pensionable under Asylum Officers Superannuation Act 1909.

Applications stating age, qualifications and previous experience (if any) accompanied by copies of three recent testimonials must be sent as soon as possible to the Medical Supt.

O TREHARNE MORGAN
Town Clerk.

Town Hall
Newport Mon.
October 6th 1930

The Queen's Hospital for CHILDREN

Hackney Road, London E.2

RESIDENT MEDICAL OFFICER required on March 31st.

The appointment is made for six months and may be extended for further six months but cannot be held for more than two years.

The Resident Medical Staff consists of Resident Medical Officer, Two Casualty Officers Two House Physicians and one House Surgeon.

Salary (inclusive of part fees) £200 per annum with board, residence and washing. Candidates must have had a resident medical appointment at a recognised Hospital and should be as near as possible 26 years of age.

Applications which must be filled in and returned to the undersigned on or before November 10th.

T GLENTON FELL,
Secretary.

Sept. 29th 1930

Telephone Central 6305 and 2534

Woolwich and District War Memorial Hospital,

Shooters Hill London S E 18
GENERAL HOSPITAL (112 Beds)

RESIDENT MEDICAL OFFICER

The Board of Management invites applications from suitably qualified male candidates with special knowledge of Surgery for the post of Resident Medical Officer Salary £175 per annum, with board residence and laundry The appointment will be for one year from November 1st, with renewal of appointment for one year at a salary of £200 if approved by the Board of Management

Applications (accompanied by copies of not more than three recent testimonials) stating age qualifications, experience, and nationality should be addressed to the Secretary Superintendent to reach him not later than first post on Tuesday October 14th

Woolwich and District War Memorial Hospital,

Shooters Hill London, S E 18
General Hospital (112 Beds)

The Board of Management invites applications from suitably qualified male candidates for immediate appointment as HOUSE SURGEON In addition to his surgical duties he will have care of the Maternity Unit of 8 beds

An honorarium of £100 per annum will be paid in respect of this appointment, plus board, residence, and laundry

Applications accompanied by copies of not more than three recent testimonials should be addressed to the undersigned to reach him not later than first post on Tuesday October 14th

EDWIN RADFORD,
Secretary Superintendent

Salford Royal Hospital

(263 Beds)

Applications are invited for the following vacancy in the Resident Medical Staff (male)

HOUSE SURGEON (attached to the Orthopaedic Department)

Salary at the rate of £125 per annum

The appointment is for a period of six months, with board and residence

Candidates must be registered under the Medical Acts

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognized for the English Fellowship (Final)

Forms of application which may be obtained from the undersigned must be delivered at once.

By Order of the Board
Salford Royal Hospital GEORGE RUDDLE,
Oct 6th 1930 Gen Supt & Sec.

Merthyr General Hospital,

MERTHYR TYDFIL

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months Salary at the rate of £150 per annum, with board rooms, and laundry

Applicants must have had experience in administration of anaesthetics

Applications stating age and qualifications and enclosing copies (only) of not more than three testimonials should be addressed Hon Secretary Hon Medical Staff Merthyr General Hospital

Liverpool Hahnemann Hospital,

Hope Street

Applications are invited for the post of HOUSE SURGEON to the above Hospital which falls vacant on October 15th next

Appointment is for six months renewable Salary at the rate of £100 per annum Knowledge of Homeopathy desirable but not essential Duties include casualties occasional anaesthetics and assisting at operation

Apply stating nationality sex age and experience, and enclosing copies of recent testimonials to the Registrar

Jewish Maternity Hospital,

Underwood Street E 1

There is a vacancy for an HONORARY PATHOLOGIST to the Hospital An honorarium of £25 per annum is paid Applications together with copies of three recent testimonial should reach the Secretary not later than the first post on Monday October 20th

LIONEL MODEL Secretary

Hertford County Hospital

Applications are invited for the post of HONORARY ANAESTHETIST to the above Hospital

Applications together with copies of testimonial should be sent by Monday October 20th to the undersigned

LEIGH G BROOKS Secretary

Royal Mineral Water Hospital,

BATH

Two vacancies in the office of HONORARY PHYSICIAN will be filled at a Court of Governors to be held on Thursday, October 30th Candidates must be Graduates in Medicine of a University of Great Britain or Ireland

Two vacancies in the office of HONORARY SURGEON will be filled at the same time Candidates must be Fellows of one of the Royal Colleges of Surgeons of Great Britain or Ireland

The condition of the appointment may be seen at the Hospital

Candidates are requested to send their applications with not more than three testimonials to the Registrar of the Hospital, before October 23rd

Personal canvassing is prohibited
October 6th, 1930

Nottingham Children's Hospital

Applications are invited for the post of RESIDENT HOUSE PHYSICIAN (woman) Candidates must have held a resident Hospital appointment Experience in the administration of anaesthetics essential The salary will be at the rate of £150 per annum, with apartments, board and laundry The appointment will be for six months, the duties to commence on December 1st

Applications, together with testimonials, and stating age, qualifications, and experience, to be sent to F PRAGNELL, the Honorary Secretary, 1, King John's Chambers Bridlesmith Gate Nottingham, by October 20th Selected candidates will be required to attend at the Hospital for a personal interview on October 28th when the appointment will be made

Bolingbroke Hospital,

Wandsworth Common, S W 11
(121 Beds)

HOUSE SURGEON (male) required The appointment is for six months commencing on November 1st next Salary £120 per annum, with board residence, and laundry

Candidates must be fully qualified and registered

Applications stating age, qualifications, and experience, with copies of not more than three testimonials should be sent to the undersigned as soon as possible

W S RANDOLPH BISS
Secretary Superintendent

North Riding Infirmary,

MIDDLESBROUGH
General Hospital (150 Beds)

Wanted THIRD HOUSE SURGEON (male) to take up duties as early as possible Salary at the rate of £125 per annum, with board residence, and laundry Six months appointment. Candidates will be eligible for the higher appointments as they become vacant

Applications, stating age, nationality, and previous experience, with references (copies), should be sent forthwith to the undersigned

CHARLES POSTGATE
Secretary Superintendent

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY The Institution, which contains over 100 beds, is one of the premier Provincial Hospitals in Scotland and offers exceptional opportunities of gaining experience in all branches of the profession Salary at the rate of £100 per annum, rising to £150 per annum

Applications, with testimonials, to be forwarded to the Treasurer, Dumfries and Galloway Royal Infirmary, 84 Irish Street, Dumfries at once.

Bristol Royal Infirmary

Applications are invited for the post of Whole-time ASSISTANT for the Pathological Laboratory of the Cancer Research Department Commencing salary £400 per annum or according to previous experience of the candidate Candidates must possess a medical qualification and send in their application stating age and experience together with copies of not more than three testimonials, to the undersigned

LLEWELLYS C SMITH F C I S
Secretary & House Governor

Macclesfield General Infirmary

(100 Beds)

HOUSE SURGEON required immediately Salary at the rate of £180 with board and residence Candidates must be duly qualified and registered under the Medical Act

The appointment to be held for six months

Applications stating age accompanied by copies of three recent testimonials should be sent to the undersigned

A L HANRAHAN Secretary

The Royal Hospital,

WOLVERHAMPTON
(Incorporated under Charter)

HOUSE SURGEON (male) required

The Hospital contains 240 beds, includes the usual special departments and is recognised by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice.

Candidates must be registered under the Medical Acts, and unmarried

The appointment is for six months Salary at the rate of £150 per annum Board furnished rooms, and laundry provided Applications with copies of testimonials, to be forwarded to the undersigned

Wolverhampton W H HARPER
Oct 3rd, 1930 House Gov & Sec

The Gloucestershire Royal Infirmary and Eye Institution

GLOUCESTER (155 Beds—4 Residents)

Applications are invited for the posts of RESIDENT SURGICAL OFFICER (male). Salary at the rate of £175 per annum Six months appointment with board residence, and laundry Good opportunity for surgery

SECOND HOUSE SURGEON (male) Salary at the rate of £120 per annum Six months appointment, with board residence and laundry

Applications, stating age qualifications and nationality with copies of three recent testimonials, to be sent to the undersigned

I F SIMONS
October 9th 1930 Secretary

Bury Infirmary, Lancashire

(A General Hospital of 170 Beds)

Applications are invited for the post of THIRD HOUSE SURGEON who must have both Medical and Surgical qualifications The appointment is for six months at a salary at the rate of £150 per annum, with board, residence and laundry

Applications stating age qualifications, and nationality, with copies of three recent testimonials to be sent to the undersigned not later than October 15th, endorsed Third House Surgeon

ALEX W MAITLAND
Honorary Secretary

East Suffolk & Ipswich Hospital,

IPSWICH
(265 Beds—7 Residents)

Applications are invited for the post of CASUALTY OFFICER. Salary £150 per annum Board, residence, and laundry Previous experience essential

Applications from British (male) candidates stating age qualifications and experience and accompanied by three recent testimonials to be sent to the undersigned

The Hospital, ALTHUP GRIFFITHS
Ipswich Secretary
August 18th 1930

East London Hospital for Children and Dispensary for Women, Shadwell, E 1

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) vacant on November 1st

Applicants must be duly qualified Practitioners in Medicine and Surgery Salary £200 per annum with board residence and laundry The appointment is for one year and is renewable Applications with testimonials must reach the undersigned on or before Saturday, October 18th

W M WILSON Secretary

East London Hospital for Children and Dispensary for Women, Shadwell, E 1

Applications are invited for the post of HOUSE SURGEON (male) The appointment is for six months from November 1st Board residence and laundry are provided Salary at the rate of £125 per annum Applications with testimonials should reach the undersigned on or before Saturday October 18th

W M WILSON Secretary

The General Hospital,

BIRMINGHAM

Applications are invited for the following Resident appointment from November 15th

ANAESTHETIST Salary £120 per annum
HOUSE PHYSICIAN Salary £70 per annum
HOUSE SURGEON Salary £70 per annum

Applications giving full details of qualifications and accompanied by testimonials (if desired) should reach the undersigned by October 20th

A H FRANKS
October 3rd 1930 House Governor

Egyptian Government

PUBLIC HEALTH DEPARTMENT

Applications are invited for the following posts in the Laboratories of the Public Health Department Cairo

DEPUTY DIRECTOR. Salary £E.1 140—1 390 according to qualifications and experience. Applicants must possess a registrable medical qualification and have practised bacteriology in recognised Institutes for a period of not less than six years. Preference will be given to applicants who have occupied a University teaching post, or who have had experience in laboratory administration and have carried out and published original works in bacteriology. Age should no exceed 45 years. Appointment for five years.

FIRST BACTERIOLOGIST Salary £E.960—1 200 according to qualifications and experience. Applicant must possess a registrable medical qualification. Age should not exceed 40 years. Appointment for five years.

Applications stating age qualifications, and past experience, and accompanied by copies of recent testimonials should be addressed to the Under Secretary of State Department of Public Health Cairo before October 31st 1930. Further particulars may be obtained from the Royal Egyptian Legation 75 South Audley St. W.1

Hospital of St Cross, Rugby

(114 Beds.)

Applications are invited for the post of SENIOR and JUNIOR RESIDENT MEDICAL OFFICERS (Males)

Candidates must be registered Medical Practitioners and must be prepared to begin duties on November 1st. Salary for the Senior post at the rate of £150 per year. Junior at the rate of £100 per year with board and residence in the Hospital.

Candidates are requested to state whether they are prepared to accept the post of Junior if not selected for the Senior office.

The appointments are for a period of six months only at the end of that time the Junior will be eligible to apply for the Senior post which then becomes vacant.

The Hospital is recognized by the University of London for the purpose of the M.D and M.S

Applications stating age and qualifications with copies of three recent testimonials should be sent to me before October 14th

W. COCKBURN
Superintendent & Secretary

The Hospital for Sick Children,

NEWCASTLE UPON TYNE. (92 Beds.)

Applications are invited for a RESIDENT HOUSE PHYSICIAN (male or female) for a period of six months as from November 1st. Salary at the rate of £95 per annum together with board residence, and laundry. Applications, stating age and qualifications with copies of testimonials, to be sent to the Secretary Mr NEIL BRODIE 18 City Road Newcastle on or before October 16th.

The Hospital for Sick Children,

NEWCASTLE UPON TYNE. (92 Beds.)

Applications are invited for a RESIDENT SENIOR HOUSE SURGEON (male or female) for a period of six months as from November 1st. Salary at the rate of £95 per annum together with board residence and laundry. Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE, 18 City Road Newcastle on or before October 18th.

The Hospital for Sick Children,

NEWCASTLE UPON TYNE. (92 Beds.)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female) non-resident for a period of six months as from November 1st. Salary at the rate of £100 per annum. Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE, 18 City Road Newcastle on or before October 18th.

The Royal Aberdeen Hospital for

SICK CHILDREN

Wanted HOUSE PHYSICIAN to commence duties on November 1st. Candidates are requested to call or communicate with Senior Members of the Hon. Medical Staff. Applications accompanied by one copy of testimonials to be lodged on or before Friday October 17th with Mr A. S. R. BRUCE, 12 Dee Street Aberdeen.

County Council of Durham

EDUCATION DEPARTMENT

SCHOOL DENTIST

The County Education Committee invite applications from fully qualified and experienced Dentists for appointment as a School Dentist to act under the School Medical Officer in connection with the treatment of dental defects of children attending Schools in the County area and to undertake such other duties as may from time to time be required by the Education Committee. Commencing salary £500 per annum rising by annual increments of £25 to a maximum of £600 per annum together with travelling expenses in accordance with the County Scale. The successful candidate will be required to devote his (her) whole time to the duties of the office and to reside in or near the district in which he (she) may be attached at a place to be approved of by the Education Committee. The appointment will be subject to three calendar months' notice on either side such notice to date from the last day of any calendar month. Copies of not more than three recent testimonials are required.

Canvassing directly or indirectly is prohibited and will disqualify. A deduction of 5 per cent. will be made from the salary in accordance with the Local Government and Other Officers Superannuation Act 1922 which has been adopted by the Council and the appointment will be subject to passing the County Council's medical examination in connection therewith. Forms of application to be returned not later than Saturday October 25th may be obtained from the Director of Education Shire Hall Durham on receipt of a stamped addressed foolscap envelope.

Shire Hall, Durham. October 6th 1930

THOS. B. TILLEY
Director of Education

Rotherham County Borough

RESIDENT ASSISTANT MEDICAL OFFICER

The Public Assistance Committee invite applications for the above post at the Hospital Alma Road Rotherham.

Salary £200 per annum together with the usual residential allowances.

Candidates must be single not exceeding 30 years of age fully qualified and registered.

Applications stating age qualifications etc together with copies of three testimonials to be sent to the Public Assistance Officer 26 Moorgate Street Rotherham not later than October 24th.

CHAS. L. DES FORGES
Town Clerk.

Municipal Offices, Rotherham. Oct. 7th 1930

The Royal Infirmary, Doncaster

(185 Beds.)

JUNIOR HOUSE SURGEON (male) required. Opportunity for gaining excellent experience. Appointment is for six months and successful candidate is eligible for re-appointment and probable promotion.

Salary £175 per annum with board residence and laundry. Applications with full particulars should be addressed to the undersigned by Friday October 17th.

WALTER R. SMITH
Secretary Superintendent.

Ear and Throat Hospital,

Edmund Street BIRMINGHAM.

HOUSE SURGEON (Resident) wanted at once (man or woman). Experienced in administering anaesthetics. Salary at the rate of £150 per annum with board residence and laundry.

Appointment in the first instance for six months. Full particulars may be obtained on application to the undersigned.

S. G. GREW
Secretary

October 1930

Royal Victoria and West Hants

HOSPITAL, BOURNEMOUTH.

CASUALTY OFFICER AND HOUSE SURGEON (male British nationality) required. Salary £150 per annum with board lodging and washing. The appointment is tenable for six months and candidates must be registered according to the provisions of the Medical Act.

Applications stating place of birth with copies of three testimonials to be sent immediately to the undersigned.

Women and married men are ineligible.

GORDON L. SAUL
Secretary

October 6th 1930

Royal Victoria Infirmary,

NEWCASTLE UPON TYNE.

The House Committee declare vacant the office of HONORARY ASSISTANT SURGEON to the Throat and Ear Department.

According to statutory provision every candidate must be registered in Medicine and Surgery.

Applications with copies of three recent testimonials and stating age and other particulars must be sent to the House Governor & Secretary Royal Victoria Infirmary Newcastle upon Tyne not later than Saturday October 25th.

The appointment will be made on Thursday November 6th.

Personal canvassing will be considered a disqualification for office.

S. DUNSTAN
House Governor & Sec.

Oct. 6th 1930

Royal Berkshire Hospital

Wanted on November 1st for BLAGRAVE BRANCH HOSPITAL, CALCOT READING (50 beds) a HOUSE SURGEON. Appointment for six months. Salary £150 per annum with residence, board and laundry. Suitable post for applicant working for examination or thesis.

Applications with three copies of testimonials to be sent before 24th instant to the undersigned

F. A. LYON
Secretary
Royal Berkshire Hosp.

Reading
Oct 10th 1930

Samaritan Free Hospital for

WOMEN Mary lebone Road N.W.1

Applications are invited for the post of HOUSE SURGEON for a period of six months commencing on November 10th next. Salary at the rate of £100 per annum with board lodging and washing. Previous experience as House Surgeon essential.

Applications accompanied by copies of three testimonials must reach the Secretary at the Hospital on or before Friday noon October 31st.

C. H. HAWKINS Secretary

St Marylebone General

DISPENSARY 30 Marylebone Lane W.1.

The Council of this Institution invite applications for the post of HON. PHYSICIAN in charge of the School Children's Consultation Clinic. Candidates must be a Doctor in Medicine of one of the Universities of the United Kingdom and/or a Fellow or Member of the Royal College of Physicians of London practising solely as a Physician. Applications and testimonials should reach the Secretary before October 24th. Candidates will be asked to attend a meeting of the Medical Committee on October 28th.

The Italian Hospital,

Queen Square W.C.1.

The Committee of Management invites applications for the post of HONORARY ASSISTANT GYNAECOLOGIST. Candidates must be Fellows of a Royal College of Surgeons of Gt. Britain or have the equival nt qualification in Italy and shall have their names on the Register of the General Medical Council.

Applications with copies of testimonials should be sent to the undersigned not later than Monday October 20th.

E. R. HANCHET Secretary

Royal Albert Hospital and Eye

INFIRMARY DEVONPORT

A vacancy in the post of SENIOR HOUSE SURGEON exists.

Applicants must be fully qualified registered and unmarried. Salary £150 per annum, with apartments board and laundry free.

Applications stating age, accompanied by copies of not more than three testimonials addressed to the Chairman of the Selection Committee, should reach the undersigned not later than Monday October 20th.

FRANK POWE,
Secretary

October 6th, 1930

The Sheffield Royal Hospital

Required, OPHTHALMIC HOUSE SURGEON at once (male). Salary for the first six months £80 per annum, afterwards £100 with board, residence, and laundry. There are twelve Resident Medical Officers.

Applications should be forwarded immediately to—

W. H. BOOTH,
Superintendent and Secretary

Metropolitan Hospital,
Kingsland Road, E.8

There are vacancies for the following
(a) SENIOR HOUSE PHYSICIAN
(b) SENIOR HOUSE SURGEON,
(c) JUNIOR HOUSE PHYSICIAN
(d) JUNIOR HOUSE SURGEON
(e) TWO CASUALTY OFFICERS

Salary £100 per annum Appointments in the first place will be for a period of six months dating from November 1st

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom

Applications with copies of three recent testimonials and a certificate of ability to administer anaesthetics should be sent to the undermentioned not later than the first post on Monday October 20th

Two members of the resident staff are candidates for the two Senior appointments

HERBERT F RUTHERFORD,
Secretary & House Governor

Metropolitan Hospital,
Kingsland Road, E 8

The Committee of Management are prepared to receive applications for the appointment of

(a) A PHYSICIAN, who will be Junior member of the Medical Staff Candidates must be Members of the Royal College of Physicians of London, and Graduates in Medicine of a University recognised by the Medical Council and not engaged in general practice

(b) A SURGEON who will be Junior member of the Surgical Staff Candidates must be Fellows of the Royal College of Surgeons of England, and not engaged in general practice

Candidates will be required to call upon Members of the Staff

Twenty applications, complete with copies of recent testimonials must reach the undersigned (from whom further particulars may be obtained) not later than first post on Monday October 20th

HERBERT F RUTHERFORD
Secretary & House Governor

New Sussex Hospital for Women
AND CHILDREN BRIGHTON
(Incorporated) (50 Beds)

The Council of Management invites applications from fully qualified Medical Women for the following posts

1 HOUSE PHYSICIAN to take up duty on November 1st

2 HOUSE SURGEON to take up duty on December 15th

Honorarium for each £50 per annum with board residence and allowance for laundry Applications with copies of three recent testimonials to reach the undersigned on or before October 25th

M C LANDER,
September 29th 1930 Secretary

The Princess Louise Kensington
HOSPITAL FOR CHILDREN
St Quintin Avenue North Kensington, W 10
(50 Beds)

HOUSE PHYSICIAN (woman) required for eight months from November 1st Salary for the first 2 months at the rate of £75 a year after which should she be appointed Senior Resident (of two) the salary would be at the rate of £100 a year Board residence, and laundry in each case Applications with copies of three testimonials must be submitted on a form to be obtained from the Secretary Princess Louise Kensington Hospital for Children Applications must reach the Secretary not later than Wednesday October 22nd

Princess Louise Kensington
HOSPITAL FOR CHILDREN
North Kensington

The Board of Management invite applications for the post of HON ASSISTANT DENTAL SURGEON Applicants must be Bachelors or Licentiates of Dental Surgery Candidates should apply for further information to the Secretary Princess Louise Kensington Hospital for Children St Quintin Avenue W 10 to whom final applications should be made by Wednesday October 22nd

The Royal Infirmary,
SUNDERLAND (290 Beds)

Wanted One HOUSE PHYSICIAN (male) Salary £140 per annum with board residence and laundry State age and qualifications and submit copies of three recent testimonials to—

S C FRYERS
House Governor & Secretary

Royal National Orthopaedic
HOSPITAL

SURGICAL REGISTRARS

The Committee invite applications for the appointment of Three Registrars (male) as from November 1st Honorarium £105 per annum The appointments are for 12 months renewable for a further 12 months on the recommendation of the Medical Board Applications with copies of three recent testimonials, should reach the Secretary, 234, Gt Portland Street, W 1, not later than October 22nd

Eastbourne Princess Alice
MEMORIAL HOSPITAL (96 Beds)

Applications are invited at once for the post of HOUSE SURGEON (male) Salary at the rate of £150 per annum with board lodging and laundry The appointment is for six months Candidates must be unmarried fully qualified and registered Applications stating age qualifications etc, accompanied by copies of not more than three recent testimonials (one of which must be from Medical School) should be sent to the Secretary

The Children's Hospital,
SUNDERLAND (70 Beds)

Wanted immediately, HOUSE SURGEON (female) Candidates must possess double qualifications (registered)

Salary £100 per annum, with board residence, and laundry The appointment is for six months Applications stating age with copies of three recent testimonials to be sent to the undersigned

S C FRYERS
House Governor and Secretary

St John's Hospital, Lewisham

Vacancies will occur in the appointments of HOUSE PHYSICIAN HOUSE SURGEON, and CASUALTY OFFICER on November 1st next These appointments are resident and are tenable *for six months at a salary of £100 p a*

Applications from duly registered Practitioners should reach the undersigned not later than the morning of October 18th The Selection Committee will sit on October 21st

J C GILBERT,
Secretary Superintendent

The Metropolitan Ear, Nose, and
THROAT HOSPITAL (1838)
(Incorporated) Fitzroy Sq, W 1

HOUSE SURGEON (non resident) Salary £150 per annum

Applications are invited for the above appointment, and should be forwarded with not more than three recent testimonials to the undersigned from whom further particulars may be obtained

F L PHILLIPS, Secretary

Victoria Central Hospital,
WALLASEY

HONORARY GYNAECOLOGIST

Applications are invited for this post particulars of which may be obtained from the Secretary

Applications, with not more than three recent testimonials should be sent in before Oct 24th

ARTHUR J AUST
Honorary Secretary

Bedford County Hospital
(124 Beds)

HOUSE SURGEON (male) fully qualified unmarried, required for a term of not less than six months commencing at once Salary £175, with board lodging and laundry

Applications stating age nationality qualifications, together with three recent testimonials to be sent to the Hon Secretary Hon Medical Staff Committee as soon as possible

Darlington General Hospital
(120 Beds)

HOUSE SURGEON required male fully qualified British Salary £160 per annum with board residence and laundry

Applications stating age, qualifications and experience accompanied by copies of two recent testimonials to be addressed to the undersigned forthwith

A RIDDLE Secretary

Dumfries and Galloway Joint
SANATORIUM BOARD

ASSISTANT MEDICAL SUPERINTENDENT

Applications are invited for the appointment of Assistant Medical Superintendent of (1) the Board's Sanatorium at Lochmaben Dumfriesshire and (2) an adjoining Infectious Diseases Hospital The officer will be required to devote his whole time to the duties and not to engage in private practice Salary £300, rising by annual increments of £25 to £400 per annum, with board lodging and laundry Candidates must be regularly qualified in Medicine and Surgery

Full particulars and forms of application may be obtained from the undersigned with whom applications (on the prescribed form) must be lodged prior to noon of Monday October 20th

County Building, Dumfries JOHN ROBSON, Clerk of the Board
October 6th 1930

The Prince of Wales's General
HOSPITAL Tottenham, N 15

The Governors of the Prince of Wales's General Hospital will shortly proceed to the election of an HONORARY ASSISTANT SURGEON for which post applications are invited

Candidates must be Fellows of the Royal College of Surgeons and be engaged in the practice of Surgery only

Applications, together with copies of three recent testimonials should be lodged with the undersigned on or before Wednesday Oct 29th

J C BUDETT,
October 7th, 1930 Director

City of Bradford

HOUSE PHYSICIAN required for CRASSINGTON SANATORIUM Appointment for one year only Salary £225 per annum, plus board and lodging

Applications should be forwarded before October 20th to the Medical Superintendent the Sanatorium Crasington, who will supply all particulars

Town Hall, Bradford N L FLEMING, Town Clerk
October 7th 1930

Saint Pancras Dispensary,
39 Oakley Square London, N W 1

The office of RESIDENT MEDICAL OFFICER will shortly become vacant Salary £200 per annum with residence and attendance Candidates (unmarried) must be registered Medical Practitioners Applications with copies of testimonials must be sent to the Hon Secretary on or before October 27th The appointment will be made on November 4th next

2 Endsleigh St, Tavistock Sq W C 1 H PITER RODKIN, Hon Sec

Staffordshire Mental Hospital,
CHEDDLETON, near LEEK

ASSISTANT MEDICAL OFFICER required Commencing annual salary £600 no emoluments £50 additional in respect to D P M Candidates with special research qualifications in any ancillary branch of medicine may submit particular in favour of a higher initial salary Clinical laboratory available Applications to the Medical Superintendent

Essex County Hospital,
COLCHESTER (160 Beds)

Wanted at once ASSISTANT HOUSE SURGEON AND REGISTRAR (male) Salary £120 with board washing and residence Medical and Surgical qualifications required

Applications with three recent testimonials to be sent by Friday October 17th to—

ALFRED G BUCK Secretary

Connaught Hospital,
Orford Road E.17 (100 Beds)

RESIDENT HOUSE SURGEON (male) required Salary £100 per annum Appointment for six months with board quarters and laundry Applications stating age nationality qualifications and experience accompanied by copies of not more than three recent testimonial should be sent immediately to the Secretary

The Kidderminster and District
GENERAL HOSPITAL (120 Beds)

HOUSE SURGEON required

Salary £150 per annum with residence board and laundry Applications with not more than three testimonials to be sent to the Assistant Secretary, Miss SUSAN SMITH South Cliff Kidderminster

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District	Town or District.	Town or District
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH. *(Two Assistant Medical Officers)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	PAISLEY CORPORATION *(Assistant Medical Officer—Female)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG, GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	STIRLING ROYAL BURGH *(Medical Officer of Health.)*
MAERDY GLAMORGAN *(Workmen's Medical Scheme)*		YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
		YORKSHIRE WEST RIDING COUNTY COUNCIL. *(School Medical Inspector)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES *(All Friendly Society Appointments)*	Dr R. H TODD (Hon. Sec. New South Wales Branch Savings Bank Building 21 Elizabeth St Sydney N S W	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch, B M A House 20 North Terrace Adelaide	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr G F V ANSON (Hon. Sec. New Zealand Branch, British Medical Association P O Box 155 Wellington New Zealand
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon Sec. Queensland Branch) British Medical Association B M A Building Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr J P Major (Hon Sec. Victorian Branch) British Medical Association Medical Society Hall, East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon Sec. Western Australian Branch British Medical Association No. 6 Bank of N S W Chambers St George's Terr., Perth Western Australia.

October 8th 1930 By Order of the Council ALFRED COX Medical Secretary

West London Hospital, Hammersmith W 6 (234 Beds.)

Applications are invited for the post of HONORARY OPHTHALMIC SURGEON for which the present Honorary Assistant Ophthalmic Surgeon is a candidate In the event of his election there will be a vacancy for an Honorary Assistant Ophthalmic Surgeon for which applications are also invited.

Candidates must be Fellows of one of the Royal Colleges of Surgeons of England Edinburgh or Ireland. The successful candidate will be required, in addition to his other duties to undertake such teaching for the Post Graduate College as the Board may approve.

Applications with copies only of testimonials must reach me not later than Thursday October 23rd Candidates must attend the Meeting of the Medical Council on Friday October 24th at 4 30 p m and prior to that date call upon and send copies of application and testimonials to each member thereof They must not canvass members of the Board of Management but nevertheless must send copies of their application and testimonials to each member thereof and if so notified be in attendance at a Meeting of the Board at 5 p.m. on Tuesday October 28th when the election will be made

H A MADGE, Secretary

Royal South Hants and SOUTHAMPTON HOSPITAL, SOUTHAMPTON

ASSISTANT HOUSE SURGEON required, to commence duties at once. Six months engagement Salary £180 per annum with rooms board and laundry Applications stating age to be sent to the undersigned, together with copies of testimonials (limited to five) as soon as possible.

HY TRUSSON Secretary

Lowestoft and North Suffolk HOSPITAL, LOWESTOFT

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board, residence and laundry Duties to commence in August.

Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

West Norfolk and King's Lynn GENERAL HOSPITAL.

The Board of Management invite applications for the post of SENIOR HOUSE SURGEON (male or female). Duty to commence as soon as possible Salary £200 per annum Residential quarters etc.

The post is one of considerable surgical responsibility Candidates should have previous experience Appointment is for six months in first instance

Applications stating experience and full particulars to be addressed to—

JOSEPH E. SEARJEANT House Governor & Secretary

St Mary's Hospitals, MANCHESTER

Two HOUSE SURGEONS for the WHITWORTH STREET WEST HOSPITAL (Maternity) and Two for the WHITWORTH PARK HOSPITAL (Gynaecological) each for a period of six months from November 1st next Salaries at rate of £50 per annum with board and residence Application with copies of three testimonials to be sent to the undersigned on or before October 15th.

R RATCLIFFE, Secretary

Stockport Infirmary

HOUSE PHYSICIAN (male) required. Salary £175 with board residence and laundry Duties to commence November 1st

Immediate application with copies of three recent testimonials stating age, University and experience to be sent to the undersigned.

EDWIN J PEARCE, Secretary Superintendent.

Worthing Hospital

Applications are invited for the post of HOUSE SURGEON which will be now vacant The appointment is for six months renewable. Salary at the rate of £150 per annum with board, lodging and laundry Applications stating age qualifications, and experience with copies of testimonials should be sent to the Secretary at once.

Oldham Royal Infirmary

Two HOUSE SURGEONS required immediately, one for Male Wards and one for Out Patient and Special Departments Appointments tenable until December 31st. Successful applicants will be eligible for re-appointment. Salary at the rate of £175 per annum with board residence, and laundry Applications to be submitted forthwith, together with copies of three recent testimonials, to the undersigned.

CHARLES D DRAKE, General Superintendent

Manchester and Salford Hospital FOR SKIN DISEASES

HOUSE SURGEON

Applications are invited for the post of House Surgeon Must be registered. The appointment is for six months Salary at the rate of £100 per annum with board and residence

Applications with copies of three testimonial to be sent to the undersigned, Quay Street, Manchester on or before Wednesday Oct 15th.

JOHN VALL, Secretary

Great Yarmouth General HOSPITAL. (72 Beds)

Required to commence duties immediately a JUNIOR HOUSE SURGEON

Salary at the rate of £140 per annum together with board, residence and laundry

Applications, together with copies of three recent testimonials to be submitted to the undersigned.

FRANK JENNINGS Secretary

Shrewsbury Dispensary

MEDICAL OFFICER required. Candidates must be fully qualified. No restriction as to private practice. Applications with copies of three recent testimonial to be received not later than Thursday Oct 23rd 1930.

Particulars from A. E. COOPER, 62 Claremont Hill Shrewsbury

(Appointments continued on p 59.)

North-West Coast — Old-established mixed PRACTICE Cash receipts 1929 £1,129 Panel 580 Good scope Easily worked Good house 3 reception 5 bedrooms Garage and garden Premium—Practice—1 years purchase—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

North - West Coast — Good middle class PRACTICE Average cash receipts £1 700 *Excellent modern house* for sale Garage and garden —BRITISH MEDICAL BUREAU 33, Cross Street, Manchester

Old Kent Road — Required, PRACTICE within 10 minutes walk off East Street —Address No 6812, B M A House Tavistock Square W C 1

Ophthalmic Practice for Sale In coast town, South Africa —Address No 7069 B M A House Tavistock Square W C 1

Practice, old-established, cash receipts average over £1,000 p a Panel and appointments over £400 p a Agricultural country near two Hosp towns Modern house conveniences and electric light Premium and part deferred by arrangement — Address No 5815, B M A. House, Tavistock Square, W C 1

Required —A good Family and Panel PRACTICE in Scarborough, Whitby or Bridlington *Please state particulars and* when vacant —Address No 6865, B M A. House, Tavistock Square, W C 1

Scottish Borders —Country PRACTICE, old established Receipts over £550 Panel 390 Easily worked Little midwifery Beautiful country Scope Good house garden Premium £800 — Address No 7054 B M.A House Tavistock Square, W C 1

Shropshire — Pretty Country *PRACTICE* Cash receipts £1,100 p a Panel 600 Scope for surgery Good house, 2 reception 4 bedrooms Garage and tennis court Premium—Practice and house—£2 000 —BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

South Coast —Seaside Resort — Average cash receipts £745 Panel 700 Excellent house for sale, 3 reception 5 bed rooms Premium—Practice—2 years purchase —BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Surrey, 35 miles from London — Old-established practically unopposed Country PRACTICE Average income £1 400 including panel and appts about £550 Modern house every convenience 1 1/2 acre of garden Price freehold £1 800 part on mortgage. Premium 1½ years purchase —Address No 7061 B M A House Tavistock Sq W C 1

To Purchasers — Do not buy without expert assistance With 40 yrs experience Mr PERCIVAL TURNER can advise in all cases Terms free on application to 4 Adam St Strand W C 2 Telephone Temple Bar 9011 Telegrams Epsomian London

Unopposed Country Practice in Es x Receipts £1 000 p a Fixed appointments £330 *Panel £400 Quaint* freehold house standing back in 1/2 acre of well kept garden Two panelled reception room H and c ater Cas in tailed Terms—house and Prac s offers —Add No 7104 B M A House Tavistock Sq W C 1

West of Scotland —Practice for immediate sale Panel £260 p a Receipts £600 Good reasons for disposal — Address No 7055 B M A House Tavistock Square W C 1

X-Ray Practice — For Sale owing to ill health Receipts average £350 Low price for quick sale Vendor held it nearly Hospital appointment —Address No 7054 B M A House Tavistock Square W C 1

Well-established Practice in suburbs of City in North of England. Panel 1 550 £2 500 cash receipt bal Book debts Accounts audited Suitable house in excellent positions for Doctor and Assistant Branch portion of Practice may be sold separately Short Partnership if desired Price for whole Practice £4,375 —CORMACK & BYERS W S Lockerbie

Yorkshire (N R) — Unopposed Country PRACTICE in pretty district Average cash receipts £750 p a Panel 450 Excellent modern house 12 rooms Garage and large garden with tennis court Rent £42 p a Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Consulting Rooms to Let — Harley Street and district Whole and part time Lists sent on application Rooms wanted in Harley Street Send particulars to ELCOCK & Co 10 Henrietta Street, Cavendish Square, W 1 Langham 2601

Corner House, suitable for Doctor high class populated residential district situated in Stamford Hill 8 rooms bath room 2 w c s nice garden, room for garage 60 years lease £6 ground rent £1 350 — Write OWNER 106 Clarence Road Lower Clapton E 5

Devonshire Street —To Let, a well furnished ground floor CONSULTING ROOM with plate afternoons only Available now —Address No 7076 B M A House Tavistock Square W C 1

Fine old Georgian House, eminently suitable for Doctor near station and on outskirts of town High-class residential district No Doctor in that part of town All conveniences Nice old orchard garden tennis court etc— A c/o SMITH & SON South Street Farnham Surrey

Halewood Chambers, 74 to 80 Cower Street W C near Marylebone Euston St Pancras and King's Cross Quiet comfortable rooms h and c Bedroom, bath table d hote breakfast 7/6 dinner 4/ From 2 gns p w — Phone Museum 3941—2

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Queen Anne Street, W 1 —Only £50 a year secures PART TIME USE of fine ground floor CONSULTING ROOM attendance and every convenience — Address No 6855 B M A House Tavistock Square W C 1

Queen Anne Street — For Sale, long LEASE of modernized RESIDENCE fitted with every convenience Lettings produce £720 per annum Whole of 2nd 3rd, and 4th floors available for purchaser together with use of *Consulting Room on ground floor* Price £6 000 of which £3 500 can remain on mortg —No. 6389 B M A House Tavistock Sq W C 1

Sunny Top Floor Flat, Devonshire Place self contained 2 bed 1 sitting room (large) kitchen and bath No lift £170 — Address No 7109 B M A House Tavistock Square W C 1

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Welbeck Street, W 1 —Bedrooms to Let or BEDROOM and SITTING ROOM Part time use of consulting room if desired Doctor's house newly decorated —Address No 6954 B M A House Tavistock Square W C 1

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APPOINTMENTS—Contd.

Newcastle - upon - Tyne Eye HOSPITAL.

Wanted a RESIDENT HOUSE SURGEON (female). Salary £150 per annum with board and lodging. Applications stating experience (if any) age with copies of three recent testimonials to be sent to CHARLES E. V UPTON Secretary

Aberdeen Royal Mental Hospital

JUNIOR ASSISTANT PHYSICIAN (male) wanted for the above Mental Hospital Preference will be given to one who has had general hospital experience Commencing salary £250 per annum with board lodging and laundry

Applications stating qualifications and experience with copies of three recent testimonials should be sent to the Physician Superintendent

The Infants Hospital, Vincent Square Westminster

Applications are invited from qualified Medical Practitioners for the post of CLINICAL ASSISTANT in the Out patient Department. Attendance on two afternoons each week for a period of six months. Applications stating previous experience should be addressed to the Secretary

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W J HICKS *Secretary*

ST LUKE'S HOSPITAL

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19 Nottingham Place London W 1.
Telephone Mayfair 6420.

Northern Branch—Apply Lady Superintendent, 57 Clarendon Rd., Leeds. Phone Leeds 26165

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South Coast — Within 60 miles Over £1 000 increasing rapidly Panel 500 Clinic £50 Fees 5/6 to 12/6 Good house 4 bed. etc.—No. 8742.

Surrey — Rapidly increasing NUCLEUS Receipts over £750 Panel 580 Excellent house 8 bed. with large garden to rent.—No 8741

Glos — Country —Over £1,250 p.a. Panel nearly 1,100 Fees 5/6 to 6/ Detached house 1/4 acre. £1 000 down balance over 4 years—No. 8740

Ulster — Seaside Town, about £750 great scope. Panel 500 increasing Fees 2/6 to 7/6 and up House 5 bed. etc.—No. 8733

Kent — Share worth £800 p a, after preliminary assy Mixed Practice. Panel 1 400 Appts. £250 p.a. Fees 5/6 to 21/ Good house to rent.—No. 8737

S. Wales — Average £3,360 1/2 share or sale. Panel 3 000 Visits 5/6 Good but small house. Premium only £1,500 —No. 8736

London — West End —Nearly £2,000 p.a. Small select panel. Fees from 7/ up Mldy fees from 25 gns. House 6 bed. etc.—No. 8735

S. Cornwall —Death Vacancy — About £900 Small panel. Fees 5/6 to 10/6 Good house, 4 bedrooms and 1/2 acre. —No. 8734

London, S W — £630 p a increasing Panel 400 Visits 5/6 Mid wifery 3 gns. up Small house on main road —No. 8730

Devon —Dispensing Practice in large village averaging £940 p.a. Fees 5/ to 2 gns. Surgery 2/6 to 7/6 Large house with an acre and cottage for £3 000 of which £2,500 could remain or for sale without house.—No. 8727

S W County near Coast —Dispensing PRACTICE over £2 000 p.a., chiefly agricultural. Visits 5/ up Surgery 2/6 up 1,100 panel.—No. 8728

N E Wales, near Border — Three-tenths share, producing over £700 p.a. Fees £5/ up Panel 2,600 Large house and garden at £8 p.a. £1 300 or £1,000 and £350 spread.—No. 8725

West of England Town —Half of £1 700 p.a. Panel over 2,100 Fees 5/6 to 5/ House 6 bed., etc. Partnership property easy payments.—No 8723

North Kent — Unoppd — Over £1 000 p.a. Panel £250 Appts. £200 Fees 5/6 to 12/6. Choice of houses to buy or rent.—No. 8719

Kent Country, near Coast —Over £1,100 p.a. Panel £290 Appt. £55 Fees 5/ to 21/ Very comf house 3 recep 6 bed. etc.—No. 8718.

Kent Suburb — Residential — Share worth over £500 exceptional scope Fees 5/ to 21/ Young single man preferred. Choice of houses.—No. 8712.

South Coast — About £1,300 PARTNERSHIP with succession Small panel. Fees 5/6 mostly and up to 10/6 roomed house to rent or buy — No 8706

North Wales —Old-established —About £900 p.a. Panel £292. Adj Cott Hosp Scope surgery Good hse Garage and garden.—No 8692.

Eastern County — Woman Doctor's industrial dispensing PRACTICE, average over £500 p.a. Fees 5/6 to 7/6 House 4 bed. etc. a £70 p.a. Long tenancy —No. 8691

SPECIAL NOTICE.

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Full particulars on application to Mr Percival Turner

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(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD)

(FOUNDED 1880)

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The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr A V STOREY, the General Manager, in all transactions requiring the services of a Medical Agent

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1 S MIDLANDS —Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1 000 Suitable house available Cottage Hospital Premium one third share 2 years purchase

2 N W COAST — Partnership in Practice nearly £3 000 p a in suburb of seaport town Panel over 2 500 House (4 bedrooms) for sale or rent Share up to one half at 1½ years purchase

3 WILTSHIRE —Country Practice of £650 p a (panel and appointments about £400) in a beautiful part Good house (company s water, main drainage) for sale or rent Premium £750

4 MIDLANDS —Practice about £500 p a in beautiful country district in hunting centre Panel about 400 Specially built house (5 bed and dressing rooms) with electric light Garage and acre garden Premium one years purchase

5 LONDON, EAST —Practice (carried on by Medical Woman) in populous area Receipts last year £580 Small panel No midwifery Six roomed house to rent Premium £750 to include drugs etc

6 DEATH VACANCY — CORNWALL — Compact Country PRACTICE Receipts last year £900 Panel 230 House (4 bedrooms), with 1/2 acre garden, for sale or rent.

7 SURREY —Partnership in Practice about £3 500 p a in desirable residential town Small select panel House (6 bedrooms) to rent Premium—one third share—2 years purchase

8 NORTH OF ENGLAND — Middle and working-class PRACTICE of nearly £2 000 p a in Cathedral City Panel about 1 950 House (4 bedrooms) garage, and garden, for sale Scope for increase Premium 1½ years purchase

9 KENT — Partnership (after preliminary Assistantship) in Country Practice in beautiful district. Panel 1 400 House (5 bedrooms) garage and acre ground to rent. Share of £800 p a at 2 years purchase

10 LINCOLNSHIRE — Country Practice of over £200 p a, within 10 miles of the Coast. Panel 104 Weak opposition House (5 bedrooms) Garage and 1/4 acre garden Good scope. Premium—Practice and house—£950

11 ESSEX —Assistantship (with view to Partnership and Succession) in Country Practice of £1,500 p a. Panel 1 200

12 EAST COAST —Practice averaging £2,670 p a in popular watering place. Panel about 600 House in excellent position for sale Great scope. Premium 1½ yrs purchase

13 LONDON, E — Cash Practice £2,050 p a Panel 1 860 House (4 bedroom, professional rooms etc) to Premium 1½ years purchase

14 N YORKSHIRE — Partnership in old-established Practice under 3 miles from the Coast Population about 15,000 Receipts £2,800 p a House (3 reception rooms, surgery, waiting room, 4/5 bedrooms, etc.). Electric light Garage Tennis lawn, paddock, and orchard Rent £64 p a. Premium one half share £2 000, part by instalments

15 LONDON, W — Old-established Practice over £850 p a in outlying residential suburb Visits mainly 5s, some 7s 6d. and 10s. 6d Practically no midwifery Nice compact house (2 reception rooms, consulting and waiting room, 4 bedrooms, etc) Rent £85 p a Premium £1,100

16 W MIDLANDS — Practice over £1,500 p a Market Town Attractive agricultural district Panel 500 Good house (7 bedrooms, etc) Electric light and gas. Scope for increase Premium £2 100

17 LONDON, N —Partnership in Practice of £2 300 p a Growing residential district Panel 1,100 Scope for increase Hospital Premium one third share 2 years purchase

18 HOME COUNTIES — Assistantship, view to Partnership Receipts last year £4,100 Hospital (60 beds) Applicants must have some surgical experience One third share at first

19 DEATH VACANCY — N LONDON — PRACTICE £670 p a Good suburban district Panel 530 House (4 bedrooms, etc) Rent £60

20 S DEVON —Partnership in non-dispensing Practice about £2,400 p a in favourite watering place. Panel 950 Good hospital One third share at 2 years purchase. Preliminary Assistantship

21 FAVOURITE INLAND HEALTH RESORT —Non dispensing PRACTICE of over £1 550 p a Panel 700 Nice house (7 bedrooms), garage and garden, for sale. Scope Premium 2 years' purchase

22 WEST MIDLANDS —Practice of £2,400 p a in small residential country town Panel about 1,000 Excellent non basement house (6 bedrooms) in about 3 acres of grounds, for sale Very good sport Premium 1½ years purchase

23 MIDDLESEX —Practice averaging £1,450 p a in pleasant up river suburb Panel 860 House with 4 bedrooms in residential area, for sale Premium £2 250

24 LONDON, N —Increasing Practice of over £500 in pleasant *residential district Panel over 100* Well situated house (4 bedrooms) for sale or rent Ample scope Premium 1½ years purchase

25 S W OF ENGLAND — Practice over £2,000 p a in small country town near coast Panel 1 086 House (5 bedrooms) with electric light for sale Premium 1½ years purchase.

26 S WALES — Non-dispensing Practice of £760 p a in one of the Principal Towns Panel 620 Corner house in residential part for sale. Good scope Premium £760

British Medical Bureau

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Practices and Partnerships for Disposal (continued)

27 S WALES —Mixed Private and Industrial PRACTICE of £1,500 p.a. in town of 12 000 Panel 1 500 Well-built house (6 bedrooms) in own grounds good garden and garage to rent Premium £1,700

28 SOUTH-WEST OF ENGLAND —Practice averaging £1,666 p.a. in seaport town Panel over 2,000 House with 5 or more bedrooms for sale Premium £2,500

29 SOUTH OF ENGLAND —Practice of £960 p.a. in Market Town under 100 miles from London Panel 287 House (5/6 bedrooms) garage and good garden for sale or rent Cottage Hospital. Premium 1½ years purchase

30 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town Panel 1 100 Suitable house Plenty of sport Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment to one holding F.R.C.S One-half share at 2 years purchase with ultimate succession.

31 ITALY — Season Practice (March to October) in famous City Receipts from £200/£700 p.a. according to Season. Up-to-date Hospital Premium £250

32 MIDLANDS — Practice over £800 p.a. in first rate Town Panel 500 Suitable house to rent. Premium 1½ years purchase.

33 S DEVON — Practice averaging nearly £1 850 p.a. in beautifully situated Market Town easy distance of coast Panel 480 House (5 bedrooms) garage and garden electric light to rent Premium £2,800

34 YORKSHIRE (N.R.) —Practice £920 p.a. in small attractive Country Town Panel 450 Good house (5 bedrooms) garage, garden etc for sale or rent. Very good trout fishing Premium £1 250

35 MIDDLESEX —Rapidly increasing PRACTICE in new developing district about 12 miles from London Earnings past year £967 Panel 200 Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Premium 1½ years' purchase.

36 SOUTH AFRICA —Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre Purchaser should be able to do Surgery Prem £2,200 part by instalments.

37 SOUTH-WEST OF ENGLAND —Partnership in increasing middle-class Practice of about £2,500 in seaport town. Panel 870 One-fourth or one-third share at 2 years' purchase. *Preliminary Assistantship*

38 SURREY — Partnership in good mixed-class Practice about £3 000 p.a. in Town within 10 miles South of London Small panel. Suitable house obtainable Excellent scope. Premium one-third share 2 years purchase

39 LONDON, S.E.—Practice about £3,000 p.a., carried on by two Medical Men in outlying suburban district. Panel 1 350 Two houses available Premium 1½ years purchase. Or one-half share would be sold with early succession

40 DEVONSHIRE —Partnership in Practice of £3 400 p.a. in first rate country town Panel 2 000 Charming old house with good garden to rent. Well-equipped Hospital with chance of *appointment on staff to one keen on medicine* Premium one-third share 2 years purchase.

41 SOUTH-WEST OF ENGLAND —Partnership in increasing non-dispensing Practice about *£1 600 in first* rate town Small select panel. Share worth £800 p.a. at 2 years purchase. Partner holding F.R.C.S. will probably be elected to staff of Hospital.

42 ESSEX —Partnership in increasing Practice about £1 800 p.a. in rapidly developing neighbourhood Panel about 500 Choice of two houses One-half share at 1½ years purchase

43 KENT and SUSSEX BORDER —Practice averaging £1 100 p.a. (including over £300 from panel) in beautiful country district. Very convenient house (6 bedrooms) for sale Sport Premium 1½ years purchase.

44 S DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast Panel 540 Good house and garage in acre of garden for sale All kinds of sport Premium £1,500

45 KENT — Partnership in Practice about £4 400 p.a. in outlying suburban district Panel 2 400 Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs pur

46 WEST MIDLANDS — Partnership in Practice of about £2,850 p.a. in country town Panel 1 700 Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale Good social centre Premium one-half share 2 years purchase

47 W OF ENGLAND — Partnership in *old-established Practice* in pleasant Country Town House to rent or purchase. Share worth about £1,000 p.a. at 2 years purchase

48 LONDON, S.E. —Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2,000 House (5 bedrooms etc) Garden To let. Premium one-fifth share 2 years purchase.

49 YORKSHIRE (N.R.) — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450 Visits 3/6 to 10/6 Modern house, 12 rooms. Garage and good garden *Rent £42 p.a. Premium* 1½ years purchase.

50 SOUTH AFRICA —Old-established PRACTICE of over £1,800 in a Town with large White population Climate ideal—no tropical diseases (altitude nearly 5,000 ft.) Delightful residence (6 bedrooms electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1 200 *or offer*

51 LONDON, S.W.—Partnership in Practice about £2,500 p.a. in first rate suburb Panel 1,250 Suitable flat *available* Share up to *one-half* at 2 years purchase

52 SHROPSHIRE —Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1,100 Very nice house garage, and large garden for sale Sport. Premium one-half share 2 years purchase.

53 YORKSHIRE (W.R.) — Compact easily worked PRACTICE averaging £1 600 p.a. in manufacturing town. Panel over 1 300 Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

54 LONDON, E. — Practice £990 p.a. in populous area. Panel 1,240 Shop-fronted premises to rent Plenty of scope Premium 1½ years purchase

55 ISLE OF MAN —Non-dispensing Practice in small Seaside Town. Receipts average £950 (including £350 from panel) Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2,000

56 MIDLANDS —Practice, over £1,700 p.a., in important City Panel 1,570 Centrally situated house (7 bed and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2,250

57 LONDON S.E.—Partnership in Practice £6 600 p.a. in outlying Suburban District Panel 2 000. Premium one-sixth share 2 years purchase.

58 MIDLANDS —Partnership in Practice in *Market Town. Young unmarried man preferred.* Share worth about £800 p.a. at 2 years purchase.

59 LONDON, S.W.—Practice about £630 in suburban district *within half an hour Charing Cro* Panel *about* 400 House to rent on lease Very good scope Premium £900

60 MIDDLESEX — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150 Semi-detached corner residence (6 bedrooms) garage, and garden for sale Premium one-half share 2 years purchase.

61 CHESHIRE —Partner required in increasing better-class non panel Practice in first-rate residential district. Cash receipts past year over £4 500 University Graduate who must have held resident Hospital appointment preferred One-fourth share at 2 years purchase

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All Communications to be addressed to Mr A V STOREY General Manager

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HOME COUNTIES —PARTNERSHIP in old established Country Town Practice (firm of four) situated under 50 miles from London Receipts over £5 200 Suitable house available garden tennis court, etc, possibly be rented Premium for 1/4 share 2 years purchase

SOUTH COAST —(Favourite Holiday Resort) – PARTNERSHIP in well established middle class Practice Flat available at reasonable rent Receipts £1 300 Panel 800 Appointments £100 No midwifery or night work Half share for disposal at 2 years purchase

HANTS —(Near Sea) —Well established PRACTICE in growing locality Small but convenient house, well situated at junction of roads, the freehold property of the Vendor Garden, garage, etc Receipts (average) £651 Panel 365 Fees 2/6 up Practically no night work Premium £850

ESSEX —Well established middle and working class PRACTICE in growing residential locality Suitable house available to rent on lease Receipts at the rate of £1,618 per annum Panel 726 Premium £2 500 Preliminary Assistantship/Partnership Suit married man, aged about 30—35

LONDON, E —Middle and working class locality Good sized house to rent on lease Branch Surgery Receipts average £1,350 Panel 676 Premium 1½ years purchase.

LINCOLNSHIRE —NUCLEUS Country PRACTICE with splendid scope, situated within 2 miles of growing seaside resort Excellent house (5 beds), garden, garage, etc. Receipts £260 Panel 110 Good schools Excellent sport Premium £950 house and Practice

BELGRAVIA —Well situated non panel PRACTICE (with scope for panel if desired) in good thoroughfare House for sale or would be rented Receipts approx £1 000 p a Premium 1½ years' purchase, cash

LONDON W 10 —NUCLEUS middle and working-class PRACTICE (mostly cash) Suitable accommodation to rent at £76 p a. Receipts £385 Panel 300, scope Premium £600

WEST OF ENGLAND —Good-class old established non panel G P Suitable house to rent or for sale Receipts over £2,000 p a Hospital Suit either Surgeon or Physician Premium 1½ years purchase, £2,000 down

LONDON, E 13 — NUCLEUS working class PRACTICE (mostly cash), situated in thickly populated locality House to rent at £60 p a (Part sub let at £26 p a.) Receipts £500 Panel 400 Fees 1/6 up Mids. 2 to 3 gns Premium £500 cash

LONDON N —Working class PRACTICE in thickly populated locality Receipts nearly £1 400 Panel over 2,000 Very little, if any mid wifery Well located house to rent at £80 p a on lease Premium £2 800 cash or near offer

SOMERSET N —Seaside Resort —Well established NUCLEUS PRACTICE. House to rent or for sale (5 bedrooms), large garden and garage Receipts £500 Panel 800 (increasing) Prem £750 or near offer

SURREY —Within easy distance of London Middle-class PRACTICE Excellent house for sale or rental Receipts £570 Panel over 200 Premium £900

CORNWALL —DEATH VACANCY —Well established PRACTICE near Coast. Receipts about £800 p a. House for sale at £2,800 but alternative accommodation available Locum in charge. Premium to be arranged.

KENT (Seaside) —PARTNERSHIP in good middle class Practice, with excellent scope for increase Receipts nearly £1,900 Panel 700 1/3 share at 1½ years purchase. Suitable to experienced Practitioner, aged about 27—35

BERKS —Town PRACTICE within 60 miles of London Middle and working class. Receipts nearly £900 Panel 555 Fees 2/6 up No midwifery (scope) Suitable house available Prem 1½ years' pur

LONDON S W —Well established growing PRACTICE with scope Situated on main road House to rent on lease. Branch Receipts over £600. Panel nearly 400 Premium 1½ years purchase

MIDDLESEX (W) —Middle and working class PRACTICE in rapidly growing district Splendid scope Medium sized house. Receipts £770. Panel 300 Fees 3/6 up Hospital Premium £1,100

LIVERPOOL (near) —Well established mixed G P Modern house available, with Branch Surgery Receipts £2 500 Panel 2 600 Fees 2/6 up Scope for surgery if desired Premium 1½ years purchase

MIDDLESEX (WEST) —RIVERSIDE SUBURB —Well-established G P Suitable house available Branch Surgery Receipts average £1,450. Panel 860 Fees 3/6 up Premium £2 250 Excellent scope

GLOS —Mixed PRACTICE situated in large City Suitable house available Receipts over £1,700 p a. Panel 2,146 Fees 2/6 up Premium £3 640

MIDDLESEX (WEST) —NUCLEUS middle and working class Practice (mostly cash) situated in growing locality within 10 miles of London Receipts for 9½ months, £240 Panel 30 Fees 2/6 up Premium £450 or near offer, to include fixtures, fittings etc Excellent scope.

LONDON (WEST) —Near Hammersmith —NUCLEUS G P, with suitable living accommodation for bachelor Receipts approximately £486 p a Panel 270 Premium £500

MIDDLESEX —PARTNERSHIP in well established Practice Receipts £1,500 p a Panel 900, approved medical aid scheme £600 p.a. Small house available Premium for one-third share £700 Suitable to Scots or North Country Practitioner

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1 DEVON (Charming Town) — Mixed class PRACTICE Receipts £2,400 p a. Panel 1,453, increasing Fees 3/6 to 10/6 Very good modern house, garden, garage, etc To be sold Premium for Practice £4,000

2 RIVERSIDE SUBURB (10 miles from Waterloo) — Well established private and panel PRACTICE Receipts average £1,450 a year Panel 860 Good residence, nice residential part, rent £125 Premium for Practice £2 250

3 RIVERSIDE SUBURB — PARTNER wanted for rapidly increasing Practice. Receipts for current year should reach nearly £1 800 Panel 800, increasing Half share for sale, terms arranged

4 MON — Well established PRACTICE Receipts £1,800 a year Panel 3,000 Good residence available rent £65 Half share for sale. Premium £1 500

5 LONDON E (Outlying Suburb) — Old established PRACTICE held 20 years by Vendor Receipts over £1 600 Panel 720 House, rent £40 District developing rapidly Premium moderate

6 LONDON, S E.—Old established PRACTICE Receipts £300 p a, including panel Has done more Nice prominent house, rent £100 p a. long lease Premium £300

7 HERTS —12 miles from London —Rapidly developing district Receipts £350 Panel 200 Excellent prospects for increase Premium £350 House to be bought

8 LONDON, N W (Kilburn) — Old established Cash and Panel PRACTICE Receipts £500 p a Including panel about 450 Rent £70 Premium £700

9 LONDON S E —Residential part —Old established non panel PRACTICE. Held 36 years by Vendor now retiring Receipts average £1 000 p a Good sized house rent £110 Scope for panel if desired Prem moderate.

No charge to purchasers or for enquiries

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The Birmingham Medical Agency,

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FOR DISPOSAL.

1 NORTH OF ENGLAND — Panel Private, Colliery and Club PRACTICE Receipts av £800 p a Panel 550 Appts £350 Good house to rent. Considerable scope for energetic man

2 SOUTH STAFFORDSHIRE — Well-estab Country PRACTICE Receipts average over £1,000 p a. Panel 700 Good house, garage, and garden

3 MANCHESTER (Suburb) —Lock up Surgery Industrial PRACTICE Receipts £350 Panel 600, and increasing Excellent scope

4 LANCASHIRE — Well estab middle and better class PRACTICE Receipts £988, panel 900, both increasing Appt £30 p a, transferable Good house and garage

5 WEST MIDLANDS —Well estab PRACTICE in market town and agricultural district Receipts £1 572 Panel 500 Appts worth £118 Good house Garage and all conv

6 WEST COUNTRY —Pleasant Country Town, 10 miles from the sea.—Agricultural and middle-class PRACTICE Established nearly 3 years Receipts £500 p a and increasing Panel and appointments Good house to rent or for sale Low premium for quick sale

7 LANCASHIRE (Large Town) —Non dispensing, non panel, largely Surgical PRACTICE, estab nearly 4 years. Receipts average £1 179 p a. and unlimited scope. Good house etc

8 LANCASHIRE —Old-estab Panel and Industrial PRACTICE Receipts £2 242, and increasing Panel 1 450 Appointments worth about £95 Good house to rent.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application

THE DOCTOR IN PRACTICE OR ABOUT TO ENTER THEREIN SHOULD BE ADEQUATELY PROTECTED BY INSURANCE IN RESPECT OF

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1. ESSEX COAST—Popular Seaside Resort—Half share of old-established mixed-class PRACTICE, averaging £2,459 p.a. including panel of nearly 2,000. Retiring partner's house can be rented or leased at £90 p.a. and contains 3 reception 5 bedrooms bathroom etc. Small garden. Garage. Premium £2,450 payable £1,450 down and balance by 4 quarterly instal.
2. LONDON—UNDER 35 MILES FROM LONDON—Old-established practice in unopposed Country PRACTICE within 4 miles of the River. Average income £1,180 including panel of over 1,000. Fees 2/ to 10/. Good house with two reception 4 bedrooms bathroom etc. Electric light. One acre of garden. Garage for 2 cars. Price for freehold £1,600 £1,000 on mortgage. Premium £1,750.
3. PARTNERSHIP—HOME COUNTIES—Within 50 miles—In very pleasant district (with large surrounding population) the third share (with increase later) of old-established mixed-class Practice offering large scope. Present income £3,000 p.a. with panel producing over £1,200 p.a. and appts. worth £150. Fees 3/6 to 2 gns. Good house at moderate rental. Good society and golf. Incoming partner should be about 30 years of age, married and English or Scotch.
4. NORTH MIDLANDS—COUNTY TOWN—Old-established middle and working-class PRACTICE, averaging over £1,900 p.a. (last year £2,094) including panel of about 1,950. Fees from 3/6. Suitable small house with one reception 3 bedrooms etc. and professional room. Electric light. Small garden. Garage. Price for freehold £850 £500 on mortgage. Sporting of all kinds and excellent schools. Premium 1½ years purchase part by instalments.
5. SOUTH WEST OF ENGLAND—COUNTY PRACTICE, within 10 miles of the Coast. Good mixed-class rapidly increasing Practice offering further scope and situated in very pleasant agricultural district. Average gross cash receipts £1,841 (last year £2,300). Panel produces about £420 p.a. Fees 3/6 to 21/. Suitable house with 2 reception 5 bedrooms etc. Electric light. Garden. Garage. Rent or lease £50 p.a. Good sport and schools within reach. Premium £2,500.
6. MANCHESTER DISTRICT—Old-established middle and working-class PRACTICE, worth far over £700 p.a. including panel of 614 and capable of increase. Expenses small. Well situated house with six rooms in addition to professional accommodation. Large garden. Price for freehold £650. Mod. rate premium accepted.
7. HOME COUNTIES—PARTNERSHIP—A third share producing about £1,000 p.a. is offered in a well-established good mixed-class Practice within 20 miles of London. Suitable house can be bought. Premium 2 years purchase.
8. NEAR HARROGATE—Country PRACTICE.—Well-established and rapidly increasing chiefly middle and working-class Practice in delightful district producing for last 12 months nearly £1,450. Panel of 537. Fees 3/6 to 12/6. Mid. 2 to 3 gns. (about 40 cases yearly). Suitable house with 2 reception 3 bedrooms etc., and professional rooms. Rent £30 p.a. Very good sport. Prem. £1,600 part by instals.
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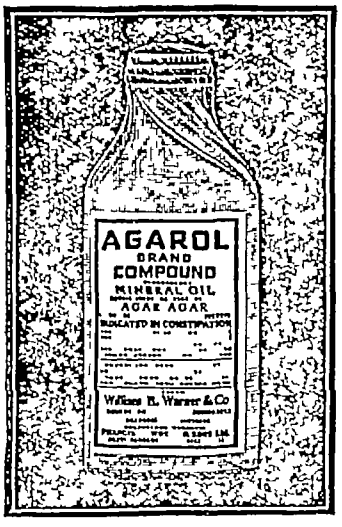
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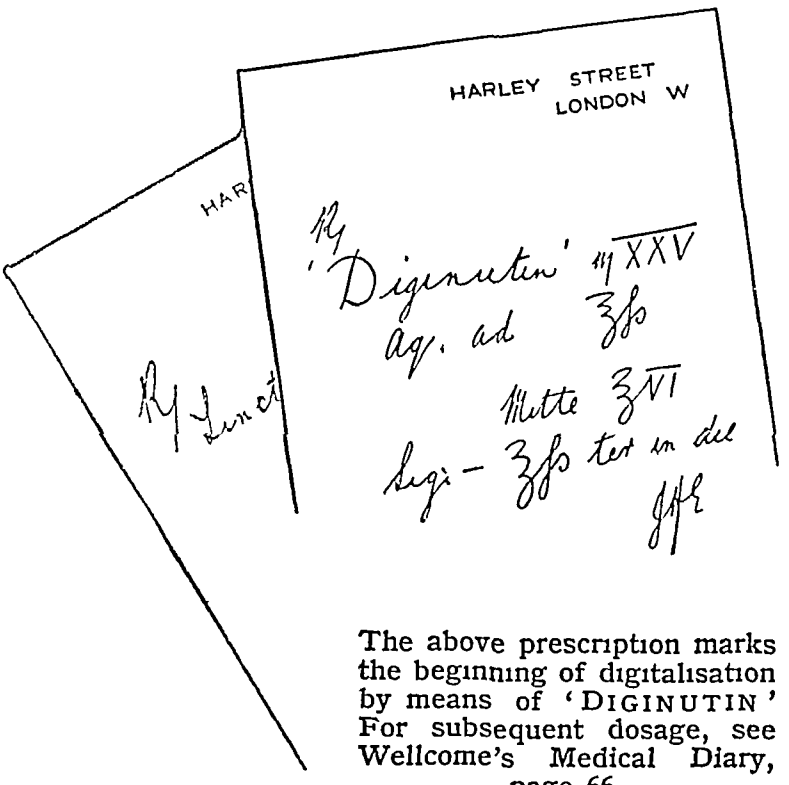
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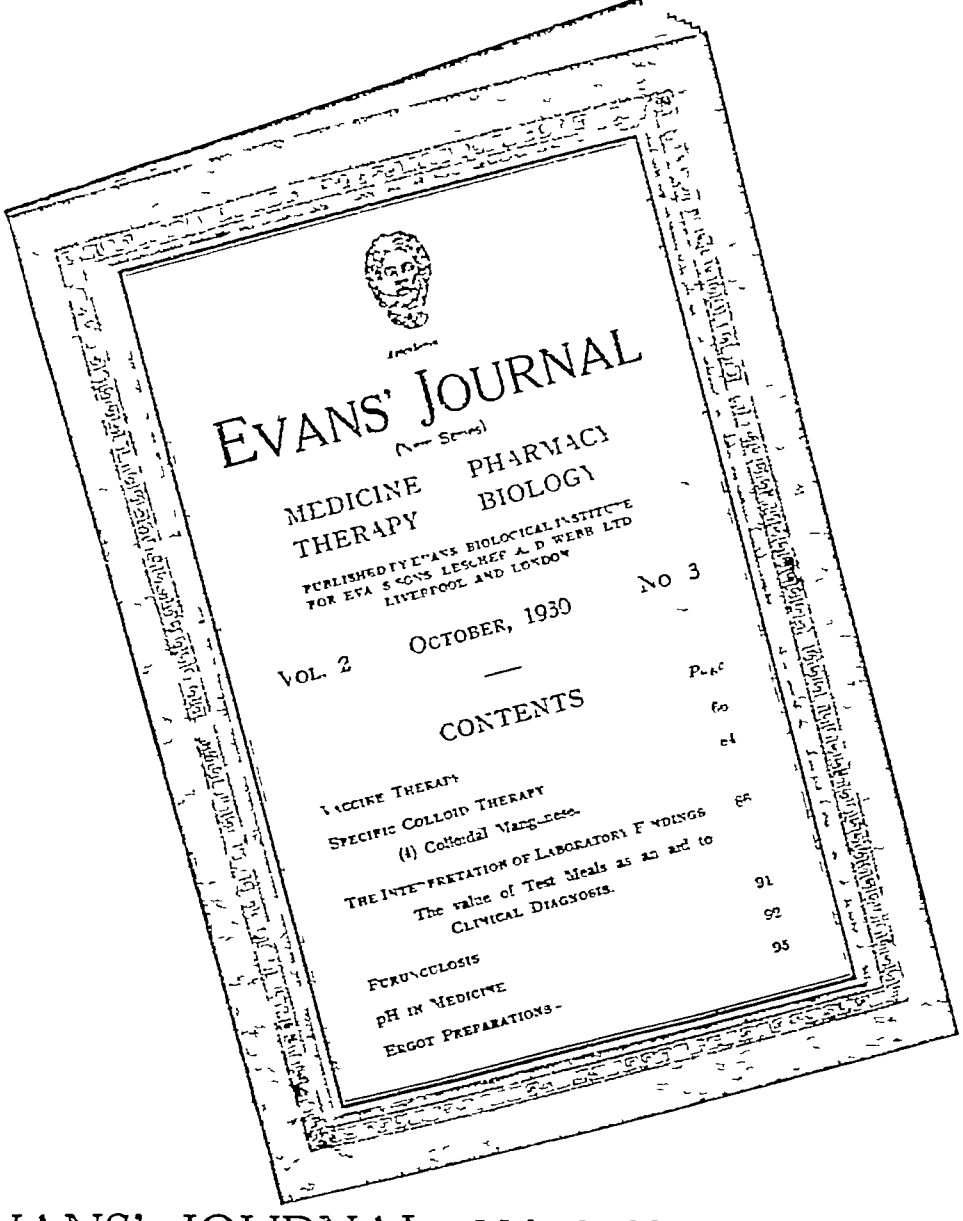
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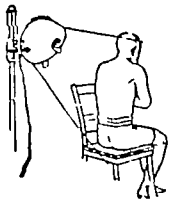
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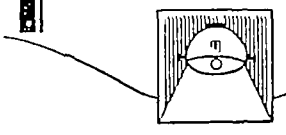
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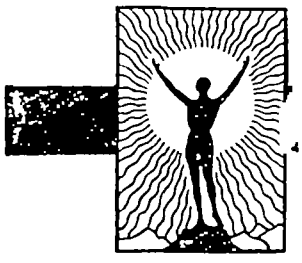
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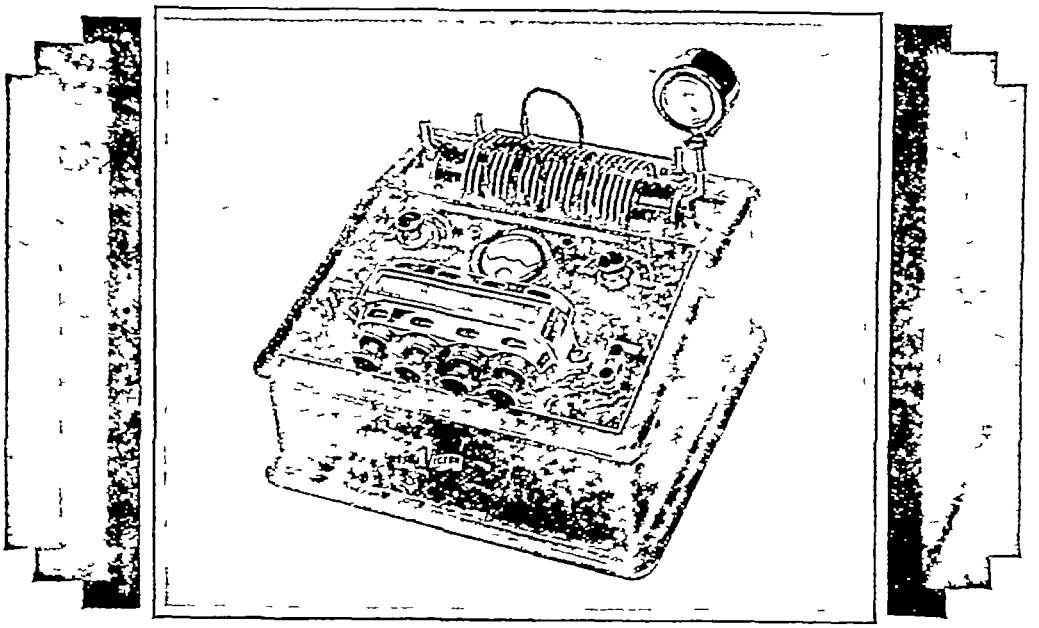
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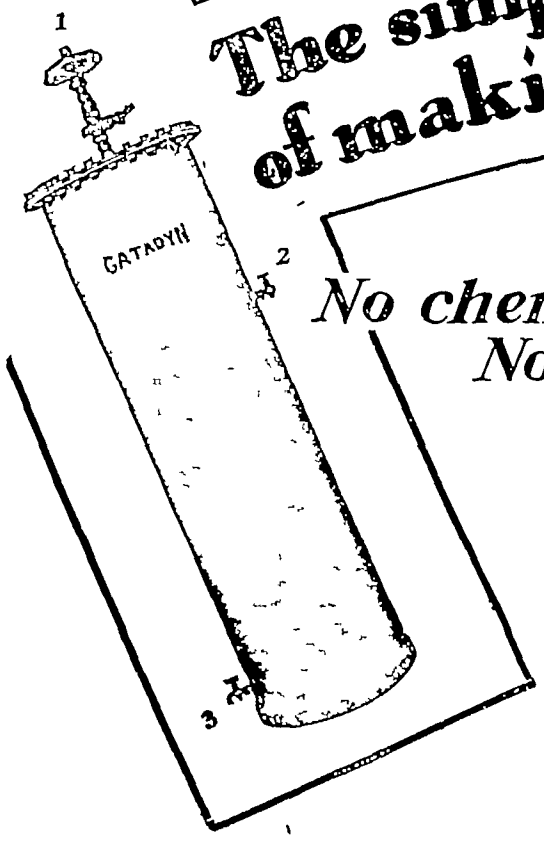
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Note—This water shows bacterial evidence of *slight contamination*		*Note*—This is a clear and bright water of the *highest* degree of bacterial purity It is a pure and wholesome water suitable for drinking and domestic purposes

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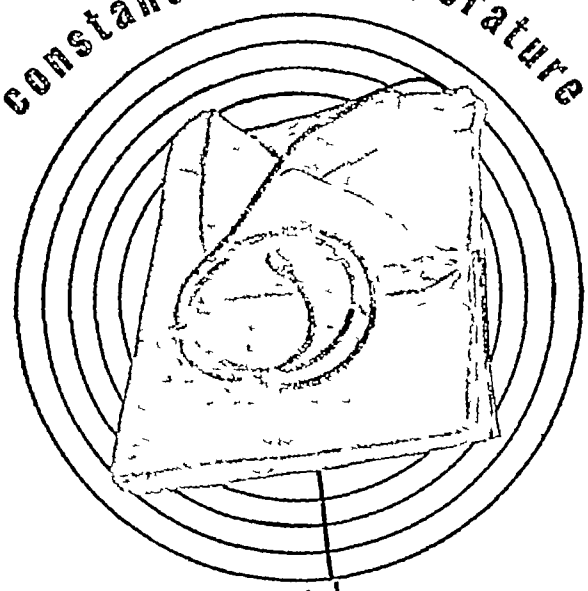
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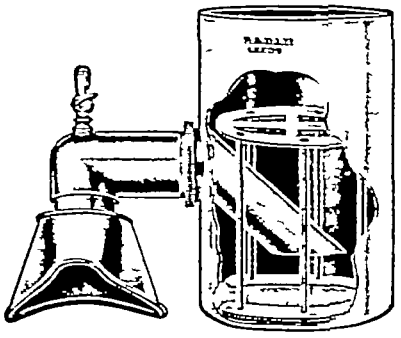
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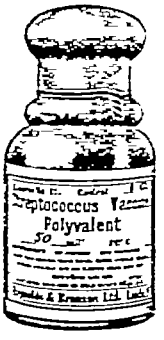
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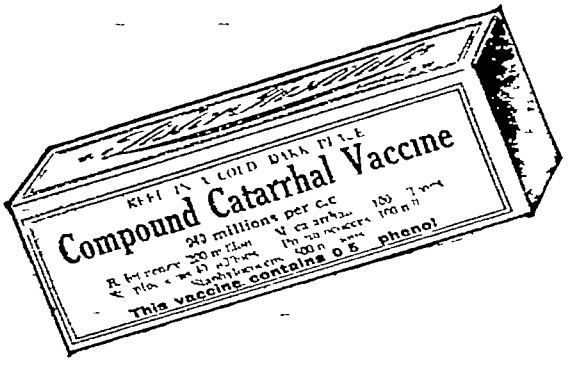
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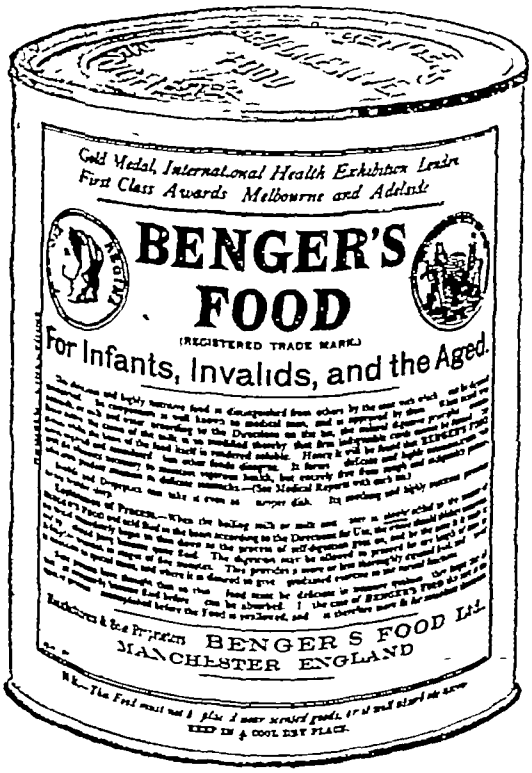
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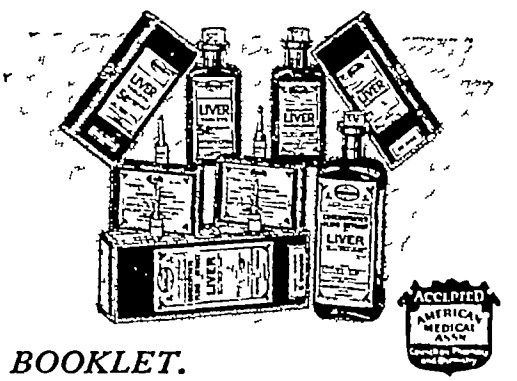
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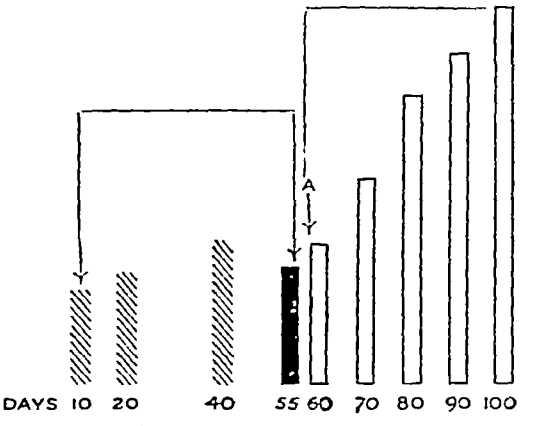
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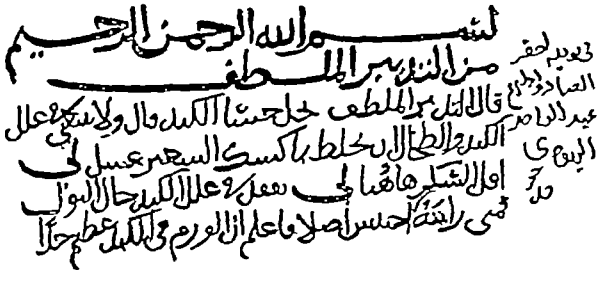
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Observations on THE SYMPATHETIC NERVOUS SYSTEM*

BY

W. J. MAYO, M.D., LL.D., F.R.C.S. (Hon.)

ROCHESTER, MINNESOTA

'He that does not go beyond the facts will seldom get as far as the facts.' (Huxley) In research this axiom tells the story. Starting by deductions from facts, scientific imagination develops hypotheses, which are proved or disproved through that form of inductive philosophy which we call research. Although we desire positive results, negative results have value, and often negativity itself starts a new deduction which leads to the truth. The history of our understanding of the sympathetic nervous system well illustrates the value of both positive and negative scientific contributions.

Anatomical Landmarks

Petit (1724) pointed out that stimulation of cervical sympathetic nerves caused dilatation of the pupil, and Winslow (1732) deduced from measurements that the sympathetic nerves did not arise from the cranial nerves. Haller (1757–1766) first discovered the rami communicantes, which marked a great step forward in our knowledge of the sympathetic nervous system. Remak (1838) discovered that there were two types of fibre in the system, the medullated or pre-ganglionic, and the non-medullated or post-ganglionic; and Müller (1840) contributed a theory as to their respective functions. The splendid research of Gaskell, published in 1885, put our anatomical knowledge of the sympathetic nervous system on a sound basis; and Langley and Dickinson (1895) followed with new knowledge of the pelvic part of the parasympathetic system.

Physiological Landmarks

For a long time Bichat's theory (1830) held the field—that is, that the cerebro-spinal system brought us into contact with the outside world, but that the sympathetic system regulated the nutrition of the body. This was finally disproved by Gaskell's demonstration of the interrelation between the two systems, aided by the method, published by Langley and Dickinson (1889), of distinguishing between pre-ganglionic and post-ganglionic fibres by the use of nicotine. Experimental work on the physiology of the sympathetic nervous system dates from 1851, when Claude Bernard discovered that when the sympathetic nerve is cut in the neck of a rabbit the blood vessels in the ear of the same side become much dilated. Since then the fundamental work of the Cambridge school of physiologists has been followed in Europe by that of Jaboulay, Leriche, Jonnesco, Danielopolu, Förster, and Brüning in Australia by that of Hunter, Royle, and Wade; and in America by that of Kunz and Cannon. The contributions of Hunter and Royle led to the remarkable recent advance in our working knowledge of the sympathetic nervous system, the practical application of which has had most encouraging results.

Autonomic Nervous System and Endocrine Glands

While we are thrilled with these researches, and by the surgical adventures which they have stimulated in the practical application of their results to disease, let us not lose sight of the autonomic nervous system as a whole of which the sympathetic system is only a part. Moreover, the endocrine glands, chiefly the thyroid gland, the suprarenal glands, and the hypophysis are in close functional association with the sympathetic nervous system, and the suprarenal glands and hypophysis contain cells derived from the *anlage* of the nervous system. Studies of the interrelation between the central nervous system, the sympathetic nervous system, and the internal secretions, hormones, vitamins, light rays, and other biochemical phenomena which have to do with foods, are contributing new knowledge of the human economy for application in medicine and surgery. In the short time at my disposal I shall touch lightly on a few problems, the solution of which depends on a better understanding of the physiology of the autonomic system.

Thyroid Gland

In the elucidation of the relation of iodine to disturbances of the thyroid gland we owe much to Marine and to Plummer. Plummer showed that, contrary to generally entertained views, the prescription of iodine would remove the immediate effects of the deleterious secretions of the excited thyroid gland, and would restore patients to a condition in which thyroidectomy, formerly a hazardous operation, became one of safety. Plummer also demonstrated that although iodine had this remarkable effect the improvement was to a large extent temporary, and that this drug was in no sense curative. The surgeon no longer depends on his own clinical knowledge in the diagnosis of thyroid disease, and decides on operation only when aided by the clinician and the metabolic laboratory.

Suprarenal Glands

Of great importance are the suprarenal glands and their different secretions from the cortex and from the medulla. The small medullated nerves which arise from the lateral horns of the spinal cord pass to sympathetic ganglions with the single exception that certain of these nerves pass to the suprarenal gland, where they are distributed to the cells of both cortex and medulla. In the last fifteen years the growth of knowledge of the function of the suprarenal glands has come through the work of clinicians and their co-workers in laboratories. With regard to bilateral organs, if one organ is intact it is sufficient for bodily purposes, and this is true of the suprarenal glands. In a number of cases I have removed a suprarenal gland because it was involved with a diseased kidney, and in subsequent clinical observation of the case I was not able to find that this procedure had any demonstrable effect on the patient.

Vascular Type of Sympathetic Dysfunction

These important glands, the thyroid gland and the suprarenal glands, are closely associated with the vascular phenomena of certain diseases which recently have been attacked through the sympathetic system. Thus Raynaud's disease has been definitely ameliorated by operations on the sympathetic ganglions and trunks; by the same procedure it is possible to check the progress of certain types of arthritis which lead to permanent crippling and to deformity, and of angioneurosis which gives rise to certain forms of scleroderma of the face, neck, and extremities. Patients suffering from thrombo-angiitis of the extremities have been benefited by removal of the appropriate sympathetic ganglions and trunks. It is not possible that chronic interstitial nephritis (Bright's granular nephritis) is the end-result of the same vascular type of sympathetic dysfunction? It has been shown that excision of its sympathetic nerves appears to have a marked influence on the congenital types of dilatation of the colon which are grouped under the general heading of Hirschsprung's disease.

Control of Visceral Functions

In considering the parasympathetic system one wonders whether the vagus nerves may sustain an unsuspected relationship between the emotions and the heart, just as one wonders about the exact relationship of Langley's pelvic nerves to certain obscure happenings in and around the bladder, the pelvic portion of the colon, and the rectum.

When one tries to visualize the various forms of local control one may postulate that smooth muscle fibre was among the very earliest of the self-controlled tissues.

[364r]

*Made in opening a discussion in the Section of Surgery at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

Unstriated muscle may originate its own action, and within the limits of the influences which necessitate this action it is self-sufficient The ultimate source of this power, which carries on the vegetative functions, is molecular and colloidal energy released through enzyme action, as marvellous as the energy stored in radium Cathcart and Benedict estimate that only 25 per cent of the energy produced in the body can be expended by tissues under the control of the will, 75 per cent being used by the so-called vegetative functions of the body, of which we are unconscious

In the intramural plexuses, which to a large extent *control motion* in the gastro-intestinal tract, we see what might be described picturesquely as pre-sympathetic ganglions, and one might even suggest that this may be true of the sino-auricular node and the bundle of His in the heart In the unconscious control of visceral functions through the sympathetic and parasympathetic systems, and the related glands of interaction, one might imagine that the heart is still showing the effect of an early form of control, by primitive emotional centres which existed long before the intellectual organs developed

Psychic Influences

A supreme relationship originated in that shadowy day when hunger and fear, and love and hate, ruled the early ancestral state Perhaps the psychic influences of this relationship have lost none of their magic Our emotions and our capacity for acquiring knowledge are hereditary Emotions may be said to be the outgrowth of those experiences which we call instincts in the lower animals, reactions which existed before the development of true intellectual centres Unstriated muscle is unconsciously controlled, striated muscle is under conscious control But the heart is composed of a primitive type of striated muscle Does this indicate an ancient form of control by unidentified emotional centres? Does the anatomically low origin of the vagus nerve indicate such a primitive cardiac function? Note the direct connexion of the suprarenal glands with sympathetic nerves In other words, does stern control of the emotions throw stress on the heart, and lead to degeneration of its musculature and to coronary disease?

Do such speculations lead us to believe that by further refinements of diagnosis at the hands of physicians familiar with the electrocardiograph and with other methods of precision the surgeon will be enabled, in early cases of impending vascular disease of the heart, to relieve the strain on its muscle by division of nerve fibres or by extirpation of sympathetic ganglionic tracts? In susceptible persons, spasmodic constriction of the arteries in Raynaud's disease, scleroderma of vasospastic origin, and some types of arthritis, eventually leads to vascular obstruction How about the heart? Is angina pectoris a similar vasospastic phenomenon, and coronary and myocardial disease its end-result? In the final analysis, heredity may be found to be a controlling factor

From the Royal Victoria Hospital in Manchester attention has been called to the fact that a common cause of death among surgeons is disease of the heart, especially coronary stenosis, coming on in the latter part of the sixth and the early part of the seventh decade of life In all other respects the surgeon maintains his general health equal to others, and often post-mortem examination does not show evidence of other serious disease The tendency to death from heart disease is not confined to surgeons, but is common to all men who live lives of stress, in which stern control of the emotions is necessary It is true that much of the disability among surgeons is due to the fact that surgery is to a certain extent a handicraft, and that age and anxiety produce reduction in skill, but, after all, that is not the most serious consideration The keen clinician, as he grows in experience, becomes more and more valuable as age advances He is not exposed to those malign influences of anxiety and responsibility to the same extent as is the surgeon One might say that the clinician sees his patient drowning and throws him the best means of relief he has, but that the surgeon, in order to give relief, jeopardizes the patient anew

THE CLINICAL RESULTS FOLLOWING THE OPERATION OF SYMPATHETIC RAMISECTION *

BY

N D ROYLE, M D , CH M , F C S A ,

ORTHOPAEDIC SURGEON, LEWISHAM HOSPITAL, SYDNEY

SYMPATHETIC ramisection was introduced by me in October, 1923, for the treatment of spastic paralysis It followed upon experiments carried out to investigate the apparent failure of reciprocal innervation in spastic conditions The results of these experiments are recorded elsewhere[1]

De Boer had previously found that the normal tonus of the hind limb of the frog and the cat disappeared when the rami communicantes of the sympathetic ganglion were cut Other investigators obtained similar results, but I was unaware of these when I carried out my experiments

DISCUSSION OF TONE

When the limb was deprived of its sympathetic nerve supply it behaved differently to a normal limb in that it showed a loss of resistance to passive movements, in addition, it exhibited an inability to oppose gravity in the decerebrate, anæsthetized, and normal passive animal—that is, there was a loss of the posture-maintaining mechanism The different behaviour of a limb deprived of its sympathetic nerve supply was attributed to a loss of tone

There is considerable controversy about the exact nature of tone, and a definition is difficult to give, but the definition that I use is that tone is the expression of a proprioceptive mechanism subserving posture, and is present in muscles which have been stretched or are being stretched—that is to say, it is not exhibited to any extent by muscles at rest

Over this mechanism of tone we have no conscious control except as a concomitant to active contraction There is a small amount of tone in a normal muscle which is overcome by the contraction of the opposing group, but is not directly inhibited Though I do not subscribe to the idea of co-contraction, tone is certainly induced by stretching the opposing group in any movement

The upper eyelid maintains a definite posture in the waking stage in response to the stretching imposed by gravity We cannot voluntarily make this *posture* any more fixed or any less fixed, but the tone is not sufficient to impede movement in changing the position of the lids If through some pathological change tone becomes *abnormally* increased, as it does in spastic paralysis, it not only increases the tendency to maintain posture, as is shown by the persistent attitudes of spastic hemiplegia, or by the inability to balance in spastic paraplegia on account of rigid limbs, but it also forms an obstruction to movement There is an apparent failure of reciprocal innervation due to an increase in tone in opposing groups of muscles For example, the excessive tone of the flexors of the elbow or knee induced by stretching cannot be inhibited when the extensors are contracting Although this may not appear in the laboratory animal, it does in the intact human subject

The chief indication for the operation of sympathetic ramisection is the failure of inhibition in voluntary muscles This is expressed by delayed relaxation time in reflexes, as in the knee-jerk, and by the inability to relax the muscles quickly There must also be present definite cortical control over the muscle group for the operation to be effective The essential change following a ramisection is that the patient no longer has to inhibit the excessive tone of his formerly contracted hypertonic muscles if cortical control is present Sympathetic ramisection does not remove contractures of fibrous tissue, nor does it restore cerebro-spinal pathways It decreases tone, and thus enables patients to move smoothly and more rapidly Movements are gained or regained as a result of operative treatment, as in the intrinsic muscles of the hand or the common extensors of the fingers, because the patient is

* Read in opening a discussion in the Section of Surgery at the Annual Meeting of the British Medical Association, Winnipeg 1930

able to relax the opposing group The relaxation of flexion of the fingers, for example allows extension to be performed (This statement does not apply in athetosis)

Results in Various Spastic Conditions

I have now performed the operation of sympathetic ramisection approximately six hundred times with three deaths Two of these deaths were from embolus shortly after the operation and one was from pneumonia in the first week following operation Thus the operative death rate is 0 5 per cent Approximately three hundred patients underwent operation and two operations were performed upon each patient In some instances all four limbs were deprived of their sympathetic nerve supply In the case of the upper limb it is interesting to note, a sympathetic trunk section performed bilaterally in the upper thoracic region has not apparently a detrimental effect on the cardiac mechanism Many patients were able to play vigorous games after operation without discomfort Many of the operations I performed must be regarded as experimental

To ascertain the effect of operative treatment in spastic paralysis and allied conditions, I sent a questionary to each of my patient and received one hundred and twenty-six replies and in each case it is from the patient's or parent's own opinion of the improvement that the figures are compiled My record show that the remainder of the patients that did not reply had similar if not better results The patient or parent is after all the best judge of improvement although he is not able to recognize the physiological changes following ramisection when complicated by some other condition For example one parent returned the answer "No result at all" when to my knowledge and from cinematographic records the practical and physiological result was good but was marred by the presence of bilateral talipes calcaneus which did not allow the patient to walk properly Another patient 23 years of age who walked for the first time in her life six weeks after operation returned the result 'Good with room for improvement' I think most surgeons who treat spastic paralysis would have classified the result as excellent

The following are the patients' own opinions of their improvement in answer to the question if the results could be classified as (1) excellent, (2) good, (3) poor, (4) no result at all

Congenital Spastic Paraplegia

Thirty-seven patients or parents replied as follows

Excellent	8 (21 62 per cent)
Good	20 (54 05 per cent)
Poor	5 (13 51 per cent)
No result at all	4 (10 8 per cent)

Some result was obtained in at least 88 per cent of all patients and good or excellent results were obtained in 75 6 per cent

Congenital Spastic Hemiplegia

Thirty-five patients or parents replied as follows

Excellent	11 (31 42 per cent)
Good	14 (40 per cent)
Poor	9 (25 71 per cent)
No result at all	1 (2.85 per cent)

Some result was obtained in 97 per cent and an excellent or good result was obtained in 71 4 per cent Many of these results followed my old operation of cervical ramisection On October 6th, 1929, I introduced a more complete operation, and the recent results are better

Congenital Spastic Chorea

Ten patients or parents replied as follows

Excellent	3 (30 per cent)
Good	4 (40 per cent)
Poor	3 (30 per cent)
No result at all	*nil*

In patients suffering from this disease some result was obtained in 100 per cent and an excellent or good result was obtained in 70 per cent Patients with all degrees of spastic chorea were treated from those with spasm which resembled decerebrate rigidity to those with choreiform movements preventing the patient feeding himself or standing up properly This so-called spastic chorea is not a true spastic condition as the patient is really not spastic during his quiescent period That is to say, there is no opposition in passive movement but the patient is unable to inhibit the choreiform movements

Acquired Spastic Hemiplegia

This section includes cases arising from cerebral haemorrhage embolus, gunshot wounds and trauma In most patients my old operation of cervical ramisection was performed

Excellent	4 (21 5 per cent)
Good	7 (36 8 per cent)
Poor	7 (36.8 per cent)
No result at all	1 (5.2 per cent)

Some result was obtained in 94 per cent and an excellent or good result in 58 per cent The results are very much better with thoracic sympathetic trunk section as shown by the result of a more complete operation in the following case report

Thirty-eight years previously the patient had had what was described as a heat stroke resulting in a fit This was followed by loss of function in the right upper limb She had had various forms of treatment and when she presented herself she had regained the ability to move the hand but the movement were slow and difficult She could not extend her fingers with the wrist dorsiflexed nor could she supinate the hand or extend her arm above her head She had some control of the intrinsic muscles but she could not place her thumb on the little finger The reflexes were hyperexcitable and the relaxation time was prolonged There was resistance to passive movements of the right upper limb in all directions

Right sympathetic thoracic trunk section was performed on April 2nd, 1930 This was followed by an immediate loss of tone and relief of her spastic condition She regained the movement of dorsiflexion of the wrist and supination of the forearm within a few days The patient was able to shake hands this was the first time she had used her hand in this way for thirty-eight years She could put her thumb on her little finger with ease and the control of her intrinsic muscles was very much improved

Acquired Spastic Paraplegia

The patients in this group include those suffering from disseminated or lateral sclerosis

Excellent	2 (50 per cent)
Good	2 (50 per cent)
Poor	*nil*
No result at all	*nil*

Excellent or good results were obtained in 100 per cent, but the numbers are too small to be reliable From my records I know that other patients did not obtain satisfactory results, but I performed many experimental operations in practically hopeless conditions In lateral sclerosis there is no hope of obtaining results if the cerebro-spinal pathways are sclerosed and incapable of transmitting motor impulses

Parkinsonian Rigidity

Twenty-two patients replied as follows

Excellent	1 (4.5 per cent)
Good	5 (22.7 per cent)
Poor	9 (40 76 per cent)
No result at all	7 (31 7 per cent)

Some result was obtained in 68 per cent of these patients and an excellent or good result in 27 per cent The large returns for "poor" or "no result at all" are due to the effects of the progressive sclerosis which is associated with this disease There are changes in reflex activity and in movement after ramisection, and these remain, but the patient gradually loses initiative and it is this mental change which modifies the practical result The tremor of paralysis agitans is modified only but not removed, by ramisection

Chronic Constipation and Megalocolon in Adults

	Chronic Constipation	Megalocolon
Excellent	1 (50%)	2 (66%)
Good	1 (50%)	1 (33%)
Poor	*nil*	*nil*
No result at all	*nil*	*nil*

An excellent or good result was obtained in 100 per cent in each class of disease

The operative treatment of chronic constipation and Hirschsprung's disease followed my observations made in patients suffering from spastic paralysis These spastic patients are commonly constipated, and the results following ramisection were so striking that Dr R B Wade applied a modified ramisection to the condition known as Hirschsprung's disease in children [2] I have operated on five adult patients—three with dilated large bowel and two with chronic constipation The following two histories indicate the condition before and after operation

CASE I

This patient, a female, aged 28, had always been constipated Four "alophen" pills would produce only a slight movement of the bowel She stated that it was usual for her to have an interval of eight days between motions She had always suffered with indigestion She complained of ill health and inability to perform her household duties

On examination her knee jerks were found to be hyperexcitable, with slow relaxation, and there were no oscillations This was more apparent on the right side than on the left, and was taken as evidence of sympathetic hyperactivity

A modified left lumbar sympathetic ramisection was performed on October 24th, 1929 On December 3rd she had very much improved, she had lost the pain in her back and the movements of her bowel were normal When seen on May 7th, 1930, she stated that she had gained a stone in weight, that she had not taken any aperients for over six months, and that she was feeling particularly well

CASE II

The patient, aged 58, complained of fatigue, slight nausea, and sleeplessness He stated that at times he had previously been constipated for ten to fourteen days On the last occasion four weeks had elapsed since he had had a normal motion These attacks had occurred about every four months for the last twenty years He had had tonsillitis as a child and malaria when 40 years of age Appendicectomy had been performed at the age of 47, and his tonsils and devitalized teeth had been removed one year later His basal metabolic rate was +22 The patient stated that he felt mentally fatigued and hazy during attacks No abnormality was discovered in the urine Radiological examination showed a dilated pelvic colon The reflexes were hyperexcitable and retarded in relaxation He had a very bad colour and perspired freely

A modified sympathetic ramisection was performed on May 6th, 1930 He was given an aperient which caused a motion on the second day Since then he has had a motion every day An interesting point is that the reflexes returned to normal after operation, and the patient has lost what he described as haziness in his mental outlook

Sarcoma of the Femur

The effect of ramisection on the lymphatic circulation is illustrated in a patient suffering from a sarcoma of the lower end of the femur

In this patient amputation of the limb was considered useless owing to the *x* ray appearances of the tumour and the duration of its growth The patient suffered extreme pain This was completely relieved by sympathetic ramisection, and there was, in addition a shrinkage of the tumour Shrinkage was so rapid that it could be due only to improvement in the lymphatic circulation Before operation the growth measured 38 cm in circumference, and on the afternoon following operation 36 5 cm Eleven days after operation it measured 34 8 cm Secondary growths in the inguinal region then appeared and involved the blood vessels, particularly the veins and lymphatics, and the growth gradually increased in size, though it did not attain the size it was before operation The patient died about three months after operation Professor Welsh of the University of Sydney reported the growth to be a fibro sarcoma

Raynaud's Disease and Buerger's Disease

Thirteen patients replied as follows

	Raynaud's Disease	Buerger's Disease.
Excellent	5 (71%)	4 (66%)
Good	2 (28%)	*nil*
Poor	*nil*	2 (33%)
No result at all	*nil*	*nil*

An excellent or good result was obtained in 100 per cent in Raynaud's disease and in 66 per cent in Buerger's disease

A constant and most obvious change that follows ramisection is vaso-dilatation This was described by me in my first paper, and the observation was used by Adson and Brown in their application of a modification of ramisection in Raynaud's disease The sympathetic supply to a lower limb may be entirely removed by dividing the laterally directed rami to the second, third, and fourth lumbar nerves, and by dividing the lumbar sympathetic trunk at the level of the fourth lumbar vertebra What is the reason, therefore, for removing part of the nerve supply of the bladder and bowel at the same time? The necessity for opening the peritoneum is also not obvious, but it is done by some surgeons as a routine procedure It is a more dangerous and shock-producing operation, and is accompanied by a higher death rate than operations by the lumbar route

I have operated in seven instances for Raynaud's disease with successful results, and in six instances upon patients with thrombo-angiitis obliterans with successful results in four

Writer's Cramp

Writer's cramp is a condition which can be treated by surgery of the sympathetic nervous system, as illustrated by the following case history

The patient complained of inability to write This was due to retraction of the hand controlling the pen When he attempted to write, the thumb and wrist flexed, and this movement was accompanied by severe pain The onset had been sudden, and had occurred seventeen years previously

A thoracic sympathetic trunk section was carried out in August, 1928, and the pain and spasm immediately disappeared At the end of six months he was able to write from two to four hours a day The character of his writing also improved In June, 1930, he wrote "I can write more freely and for long periods. The pain and spasm have completely left me"

From this result it may be expected that the condition known as "telegraphist's cramp" may be successfully treated by operation on the sympathetic nervous system

Anterior Poliomyelitis

The application of sympathetic ramisection to the paralysis left by anterior poliomyelitis leads to satisfactory results as far as the paralysis is concerned There was definite increase in power in one or two instances In one instance, in answer to the questionary, the parent of the patient classified the result as "good," stating that there was little difference in the size of the two lower limbs compared with what there had been, that her circulation had improved, and that she was walking much better There are, in my opinion, very few instances, however, in which the operation of sympathetic ramisection could be applied to anterior poliomyelitis, but there are perhaps a few in which general weakness of a limb could be improved by increasing the blood supply

Conditions Simulating Tic Douloureux

A patient, aged 9 years, complained of pain in the right side of the face for a period of two years The pain was not constant, but occurred in severe exacerbations two or three times a week, and was referred to the distribution of the trigeminal nerve During attacks the face became flushed, and the flushing was accompanied by excessive lacrymal secretion and secretion from the right side of the nose Eating often precipitated a spasm, but at other times it came on from no obvious cause He also complained of pain in the lower end of the spine when the pain in the face was present The pain was agonizing and made the patient cry After the pain had passed off the patient felt cold, and passed quantities of light-coloured urine

On examination the face was a little more sensitive on the right side X ray examination of skull pelvis and jaw showed no evidence of any pathological change, and the patient's serum did not react to the Wassermann test

Thoracic sympathetic trunk section was performed on February 13th, 1930, and this was followed by attacks which gradually increased in severity and number He had nine attacks in two weeks The attacks then ceased, and he has had none since The patient has now been free from pain for over six months

The diagnosis of this condition may be disputed on account of the age of the patient, but the pain was referred to the trigeminal supply The attacks did not cease immediately, this may be explained on the basis of paralysis of circulation and increased congestion following division of sympathetic nerves to one side of the head

Unusual Vaso-spastic Conditions

The following two case reports relate facts that are not usually described in medical literature

CASE I

The patient was a girl of 14 years of age who had sudden pain in her right foot two and a half years ago This was accompanied by swelling of the foot and leg The first attack lasted for three weeks and disappeared as suddenly as it came on Occasionally she had been two months at a time without symptom but she had a prolonged attack in 1929—from February to May For the last six months pain and swelling had been present every two or three days The attack prior to operation had lasted seven weeks

On examination pulsation was felt in the posterior tibial and anterior tibial arteries at the ankle The deep reflexes were hyperexcitable and prolonged in relaxation on the right side normal on the left The right lower limb was cold and there was excessive vasomotor tone as evidenced by the slow return of colour after the removal of pressure

Sympathetic ramisection of the right lower limb was performed on May 10th 1930 This was followed by an immediate cessation of pain and disappearance of swelling There has been no recurrence of her symptoms since the operation

CASE II

For about two years the patient had suffered from coldness in the left lower limb The right lower limb was also affected but not so badly This prevented the patient from sleeping at night and was accompanied by a feeling of heaviness and profuse perspiration The condition had been treated elsewhere as neuritis Exercise made the leg warmer but it became cold soon after the patient rested

Left lumbar sympathetic ramisection was performed on October 2nd 1929 This was followed by immediate relief and cessation of perspiration and coldness The right lower limb also improved as a result of operative treatment of the left side Improvement has been maintained up to the present time

RETINITIS PIGMENTOSA

The latest and a most important application in surgery of the sympathetic nervous system is in the treatment of blindness associated with retinitis pigmentosa This disease is characterized by degeneration of the retinal tissues and an accumulation of pigment in the substance of the retina consequent upon degeneration and constriction of the retinal vessels The idea that the disease is caused by degeneration of retinal vessels is supported by experimental evidence Another suggested cause is that the disease is due to a primary degeneration of nerve tissue but it is doubtful that this occurs apart from some alteration in blood supply

The subjective signs of the disease are (1) night-blindness (2) loss of visual acuity, (3) contraction of fields of vision (4) in advanced cases total blindness

My attention was first directed to the pathological changes in the blood vessels in this disease by Dr Lawrence, ophthalmic surgeon of Melbourne, and I thought that as division of the sympathetic supply of the eye would permanently dilate the vessels the conditions underlying the disease might be altered with beneficial effect Dr L A. Brearley ophthalmic surgeon of Sydney, sent me the patients and examined them after treatment

The operation I carried out upon these patients was thoracic sympathetic trunk section, and consisted in dividing the sympathetic trunk just about the level of the second thoracic ganglion This operation has been described elsewhere [3]

Results of Operation

The first patient underwent operation on May 29th 1930 During the week after operation he did not improve but since then there has been steady improvement in the acuity of vision and in the enlargement of the fields of vision The patient had had retinitis pigmentosa for the past ten years Prior to operation he could not see clearly everything was misty for example he could not see fingers moving at a distance of four feet He was totally blind in the dark He had suffered from blepharospasm of the right eye for three months prior to operation Two weeks after operation he could tell the time on a clock with a two-inch dial black figures on a white ground He could also distinguish fingers moving at a distance of four feet On June 18th he was very much improved he could read letters half an inch high and the face of an alarm clock with a four-inch dial at a distance of eight feet On June 24th he reported that the fields of vision were enlarged and that the vision of the left eye was also improved although the right thoracic sympathetic trunk only was divided in the operation He also reported that he could read small print in a good light The blepharospasm disappeared

The other four patients have also had some improvement in the acuity of vision and enlargement of the fields of vision, but it is too early to state the results accurately excepting in one instance, in which the field of vision was enlarged three times in a month

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GENERAL OUTLINE OF THE PROBLEM OF TRAINING HEALTH WORKERS *

BY

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THE topic assigned to me in this symposium is the General outline of the problem of training health workers Health workers include university graduates in medicine arts or science engineering agriculture public health nursing social science and those who have received training in the duties of a sanitary inspector Many of these possess a basic professional training and have also spent one or more years qualifying as public health administrators bacteriologists engineers statisticians etc

In connexion with the vocational preparation of health workers it is pertinent at the outset to consider whether universities can reasonably be expected to provide courses of study for those who wish to equip themselves for any and every type of public health work In some universities it may be quite impossible under existing financial conditions to assume any responsibility for graduate work in public health Others may content themselves with undergraduate teaching of the subject in the medical arts science and engineering faculties Still other institutions may indicate that they provide graduate instruction for those equipped and trained by suitable undergraduate study to profit by instruction of a real university graduate character The fact is that university schools of hygiene in North America are largely at the present time limiting their activities to the preparation of students who are graduates in medicine arts science or engineering Exceptions are found in Canada where a university school of hygiene has assumed a share in the responsibility for the instruction of graduate nurses (not university graduates) who are registered in one or two year certificate or diploma courses

Adequate arrangements for the conduct of graduate work in public health or preventive medicine in a university school of hygiene leading to the degree of master of arts or doctor of science or of philosophy usually presents a monetary problem only Assuming adequate appropriations and a suitably qualified staff real graduate work in epidemiology physiological hygiene infection and immunity as well as in other cognate subjects can be carried on It is hardly necessary for such graduate students to have access to health departments even though such a contact may have mutual advantages Those engaged in qualifying as specialists in public health are as a rule doing research and possibly some teaching and will probably be called upon to occupy university positions or direct the work of certain divisions in large and important health departments This portion of the student body of a university school of hygiene constitutes a very essential part of the whole public health occupational group To neglect recruiting for this unit may lead to serious difficulties in the future Public health, like

* Read in opening a discussion in the Section of Preventive Medicine at the Annual Meeting of the British Medical Association, Winnipeg 1930.

other branches of applied science, will advance only if observation and investigation indicate the solution of complex or difficult problems Some of the researches of this group will be most conveniently carried on in laboratories, others in the field or in the hospital or clinic, others in more than one of these

The preparation of the specialist in bacteriology and immunology, in physiological hygiene, in epidemiology and statistics, requires several years, also a sound scientific foundation Others with much less in the way of preparation may be qualified to do exceedingly satisfactory work of a routine character in these fields, but should not be counted upon to make novel contributions, though, of course, they may sometimes do so Several university centres in the United States and in Canada now afford facilities for the preparation of these specialists, and there is an annual increase in the number of university graduates in honours biology, physics, chemistry, and mathematics who are entering upon careers in one of the scientific branches of public health It is interesting to observe how largely such graduates bulk in the faculties of a number of the more recently established schools of hygiene

Because of the economic as well as the humanitarian significance of the work of the modern public health engineer, his training can hardly be too broad or too prolonged It is he who considers, approves, or recommends the expenditure of vast sums of money for the creation of public works which profoundly affect man's environment These engineers, then, should truly be scientists, men of affairs, as well as lovers of beauty, if we and our descendants are to enjoy the benefits of sanitation so applied that our aesthetic and physical well being is to be safeguarded In at least one or two splendid institutions of higher learning in North America provision has been made for the training of public health engineers An increase in the number of such institutions will doubtless be observed when the demand becomes insistent or the need more obvious

What of the preparation of public health nurses or health visitors? Those emissaries of preventive medicine certainly cannot be too well equipped or too carefully prepared They it is who, in the home, in the school, in the residential institution and elsewhere, interpret and spread the important truths of public health which, to be more effective, must be widely known and understood As interpreters of science they have no mean task Preventive medicine is one of the most essential of all the branches of applied science To serve mankind fully and generously, its precepts must be understood and practised In increasing the understanding of the potentialities of preventive medicine the public health nurse has a splendid field of service

The equipment which is necessary to enable these public health workers to carry out their responsibilities may be obtained in special schools of nursing or university schools of hygiene Their preparation may require one or two years' after graduation from the nurse training school of a general hospital A standard not less than university matriculation should be the requirement for entrance into those training schools from which public health nurses are to be recruited The content of the courses suitable for these students is at present the subject of interesting experiments in certain university schools of hygiene in Canada and the United States Only the technical training of sanitary inspectors can be referred to here It may be indicated, however, that their suitable preparation for the responsible posts they occupy is a matter of interest and importance to the community at large as well as to departments of public health Neither Canada nor the United States, apparently, has progressed in this matter as far as Great Britain Satisfactory provision will doubtless be made in more than one Canadian university centre in the near future Field training stations in the United States have assumed this task in a number of states where whole time health units, county or other have been instituted in large numbers

Finally before proceeding to discuss more in detail courses of study for physicians who intend to enter whole time public health work a word should be said about the desirability of recruiting well trained graduates in veterinary science or agriculture for work in this field In laboratories, in food control activities, and in general sanitation such graduates can and do perform important duties in many health departments in various communities in North America Their training is of a university grade, and important contributions to science are constantly being made by certain of them The courses of study which equip them for public health work need not be outlined here There remains for consideration the question of the preparation of graduates in medicine for public health work

The curricula of many schools of hygiene in the United States and Canada provide for one year courses leading to a diploma or certificate in public health In addition, in the United States, certain universities offer two year courses leading to a doctorate in public health or to a doctorate of science in hygiene It is true that these two latter courses are open to graduates in arts or science as well as to medical graduates In one school at least the course leading to the degree of Doctor of Public Health is open to students "who have completed satisfactorily three years of the course in an approved medical school and who have had a liberal education as evidenced by a degree in arts or science or its equivalent" In an interesting statement which recently appeared in the *American Journal of Public Health* the courses of study, chosen by members of an honorary public health society organized in the United States in 1924 and now numbering 225, were presented To quote from this statement

"The most popular degree represented among the members of the society is the doctorate of public health (Dr P H) which is held by 69 persons Twenty of the medical graduates have obtained certificates in public health (C P H) without other public health degrees, while 5 have taken the doctorate of science in hygiene (Sc D) Among the 129 non medical sanitarians, the doctorate in science has been the most popular, as there are 30 such degrees Doctors of philosophy are also numerous, 26 being listed, though mostly among faculty members Fifty seven of the 250 members are listed as holding only bachelor or master degrees, or certificates in public health Many of these are, however, candidates for various doctorates, though a considerable number are already actively engaged in public health work In tabulating the occupations of the members of the society it is significant that the largest proportion are teachers, though of course many are connected with the faculties of the institutions having chapters About 30 are with other universities State health departments claim 24, and local health work only 14, according to the available records Another 25 are associated with voluntary health agencies Only 31 of the total of 250 members are listed as being outside of the United States"

The graduate training of physicians in public health presupposes at least some undergraduate instruction in the subject Since this latter topic is to receive extended consideration in another communication to be presented later, it will be sufficient to indicate in a few words what has been and is being done in some representative medical schools in the United States and Canada

In 1924 there was established in the University of Toronto a course of practical instruction or field work for undergraduate students in medicine This was in addition to the then existing forty hours' didactic and demonstration course In general it was designed to do two things—namely, to familiarize the medical student with the opportunities which would later be open to him as a medical practitioner to practise preventive medicine, and in the second place to acquaint him with the public health resources of a modern urban community

The course was planned to occupy between three and four weeks of the time of the student, the exercises in the course each requiring one half day The number of exercises has varied from twenty eight to thirty two, and they have been given in part in the laboratories of the School of Hygiene in the University of Toronto and partly in the Departments of Public Health of the Province of Ontario and of the City of Toronto In addition, various farms where milk is produced, certain dairies, and some industrial establishments have been utilized for observational visits Without the very generous and sympathetic co operation of staffs of the health departments mentioned and the very cordial assistance of a number of private corporations and individuals, this plan of instruction could not be carried out

One other feature of the course may be referred to Students engage in the undertaking either in the spring at the close of the fifth year or in the fall just before the opening of the

sixth or final year of the medical curriculum Thus the medical undergraduate has an extended experience in public health and preventive medicine at a time when he is free from the distractions of many other courses of study This arrangement is not intended to relieve other departments of the faculty of medicine of any of their responsibilities for the so called permeation of the curriculum with the preventive idea On the contrary it is emphasized that the goal will be reached only if all departments of the medical faculty provide instruction and draw particular attention to the preventive aspects of the different subjects both laboratory and clinical primary and final

This matter has been dealt with at length because as far as the writer is aware the Medical Faculty of the University of Toronto was the first to institute such a course of study for undergraduates In my opinion this may lead in the future to a greater understanding of the work of the health departments by medical practitioners a keener realization and better understanding of how physicians may participate more freely and fully in the practice of preventive medicine and finally to an increase in the number as well as improvement in the quality of medical recruits for full time work in the field of public health

Other very desirable efforts designed to stimulate the interest of medical students in public health and preventive medicine have been introduced Examples of these are—the Harvard plan requiring undergraduates to undertake a sanitary survey and present the results in a very complete and comprehensive report the McGill arrangement whereby each student undertakes a health study of a city or town and presents a report to the department of public health and preventive medicine embodying a carefully prepared statement of the health and social welfare resources of the community studied Finally it is worth noting the interesting and valuable work required of undergraduate medical students in the Dalhousie Health Centre in connexion with Dalhousie University under Professor W H Hattie There through domiciliary visits the student is afforded an opportunity of observing environmental social and economic conditions which so profoundly influence our efforts in the practice of preventive and curative medicine

The medical undergraduate of to day in many universities in the United States and Canada is very much better equipped than was his predecessor of ten twenty or thirty years ago to proceed to his graduate work which will lead him either in the one year course to the diploma of public health in Canada or to the certificate in public health in the United States or in the two-year course to a doctorate in Public Health or the Science of Hygiene

The curricula for the diploma or certificate of public health vary in different universities The major courses in all of them however include bacteriology immunology epidemiology statistics physiological and industrial hygiene To these are usually added public health engineering chemistry nutrition parasitology administration etc In general it may be said that where a student devotes a second year to obtaining a doctor s degree he usually spends this time in advanced work in one or two branches only The balance between laboratory courses and practical work in the field varies also reflecting not only differences in the viewpoints of the faculties of the universities concerned but also the difference in opportunity for practical work and variations in the degrees of intimacy existing between teaching institutions and the public health bodies official and voluntary in their respective communities

Fixed and rigid curricula for the diploma of public health have not yet emerged in Canada or in the United States Experiments may be undertaken and changed in content or method if the results indicate that modification is desirable This is probably fortunate in countries where universities or at least some of them have concerned themselves with problems relating to the training of health workers during a period of hardly more than twenty five years The problem has been introduced in this very general way because to others has been delegated the task of specifically setting out in greater detail the ways in which medical student physician public health nurse sanitary inspector and others may be suitably equipped to carry on the satisfying tasks of promoting health preventing disease as well as increasing man s length of years

UNDERGRADUATE MEDICAL TRAINING IN PUBLIC HEALTH*

BY

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There are three major problems in the training of the undergraduate medical student in public health The first is to provide him with at least a minimum of the factual knowledge which he will require The second is to show him the field of work and thus by the visualizing of opportunities stimulate his interest and enthusiasm to desire and acquire more knowledge The third is to bring him to understand his responsibility for applying his knowledge for the benefit of those who will look to him as their medical adviser It should be borne clearly in mind that we are training men to be general practitioners and not to be health officers

Ideally the preventive aspect of medicine should permeate the whole teaching of medicine To what extent this is possible will vary from place to place because of the personal factors involved This ideal should be a guiding principle and it should tend to limit the instruction given under public health and preventive medicine in so far as it is practicable for other departments to deal adequately with the preventive aspect of their particular subject There is no doubt that the medical student is more impressed by the teaching of his clinical instructors and to the extent that such instructors direct attention to prevention there will be found a proportionate increase in the interest of the student body

The medical student approaches the study of medicine as a subject of diagnosis and treatment to him the practice of medicine means the care of the sick Knowing this it would appear that an early contact should be made by the Department of Public Health and Preventive Medicine with the incoming student body and that this contact should be maintained throughout the entire medical course If this contact is made early it should at least be possible to convince the student that prevention forms a large part of the practice of medicine and that if he is to be properly equipped to practise his profession he must be quite as well qualified to prevent disease as he is to diagnose and treat it The approach to the student is not made with the idea that he should be less interested in diagnosis and treatment but rather that his interests should be extended to include prevention Particular emphasis may be placed on the fact that there is no sharp line between treatment and prevention and that proper early treatment is essentially preventive

In the first year the student can be shown the field of preventive medicine He can be given some idea of its possibilities as applied to the community by organized health departments and particularly regarding the opportunities in private practice He should be told how medicine is becoming socialized and how the public demand for health guidance is changing the practice of medicine in order that he may be prepared for this Early in his course the student will welcome the subject of personal hygiene because it will *enable him to talk intelligently about subjects* which are everyday topics of conversation This compensates for his ignorance of disease—a matter of embarrassment to most young students There is also an opportunity to point out some practical applications of anatomy and physiology and to give the student the viewpoint that an understanding of the normal is essential in the practice of medicine as for example in the periodic health examination

In the second year the student may be introduced to public health organization Here the approach should be through the relationship of the practitioner of medicine to the health department If medicine and particularly public health is presented as one of the social resources of mankind the student will appreciate that if he is to render proper service to his patients he must know and make use of all available community resources The history of the development of the modern public health movement is full of interest and serves as an excellent background upon which to fix the

* A paper read in the Section of Preventive Medicine at the Annual Meeting of the British Medical Association, Winnipeg 1930.

student's attention and to give him an understanding of the present public health organization This may be rounded out with advantage by some instruction covering the social resources outside public health which the practitioner commonly uses or which he should use for the advantage of his patients The Department of Public Health and Preventive Medicine is responsible for the teaching of public health organization as such, and the medical student should be shown clearly where he, as a general practitioner, will fit into organized public health work, and his legal and moral obligations in this connexion should not be overlooked in his instruction

In the major course which is given by the department, we must consider what subjects are to be covered and what time should be allocated to each The subjects which appear to be of major importance are the various hygienes and the communicable diseases It is not minimizing the importance of sanitation to say that for the medical practitioner, it is less interesting than the hygienes and the communicable diseases The sanitation about which he needs to know is chiefly rural sanitation, for in cities and towns sanitation is the responsibility of the public authority, whereas, in many rural areas, the public authority is practically non existent, and the practitioner must be prepared to give sound advice

No hard and fast rule is recommended in the allotment of teaching hours for the various subjects, because it is advisable to keep in mind the varying capacity of the teachers If one teacher is particularly experienced, then it is wise to give him additional time for his subjects, and to use the more thorough teaching on such subjects as a basis for other teaching If for example, industrial hygiene is stressed, then the teaching of ventilation, of lighting, and of health examination in industry can be used as the basis for such teaching when dealing with school hygiene, and the time devoted to school hygiene can be proportionately reduced

Mental hygiene is part of preventive medicine The more closely the mental and physical health problems are kept together, the better the student will come to understand that when dealing with any individual from infancy to adult life, he must consider the whole individual, mentally as well as physically It is not a question whether physical or mental health is the more important, it is rather a question of understanding that every individual has a physical and a mental side, and that health can only be attained through a proper development of both, also, that the prevention of physical and mental diseases must be considered on the same basis

Communicable disease prevention and control are better dealt with after the student has acquired some clinical knowledge of the communicable diseases, and therefore the proper time for dealing with them depends upon when the clinical instruction is given The communicable diseases and other infections are an important part of the practice of medicine and so the community control and individual measures of protection should be covered in some detail Instead of fearing overlapping or duplication in important subjects there should rather be concern lest essentials be omitted

In order to make the subject something more than theory, in order to have the student know that the material which he is being taught is actually applied, it is desirable that he should see as much public health work in operation as is practicable Field visits must be made worth while, or they are a waste of time and minimize the importance of the subject under consideration

With these points in mind we have devised a course at McGill University which I shall outline briefly, not because we consider it ideal—for we do not—but because it is an application of what I have said The organization and development of our course has been made possible by the whole hearted and sympathetic support of the Dean of the Faculty of Medicine Dr C F Martin, and the co operation of the other departments, acknowledgement of which is gratefully made

The course in medicine at McGill University is one of five years In the first year the Department of Public Health and Preventive Medicine has a course of six lectures which serve as a contact with the students, introducing them to the subject of public health and preventive medicine with special reference to personal hygiene In the second year ten lectures are given on public health organization and administration, including community social organization

The major course of thirty five lectures is given in the third year Ten of these lectures are on mental hygiene, six on industrial hygiene, and eight on the other hygienes Eight half days are available for field visits Of these, two are taken in the laboratory to demonstrate public health bacteriology As we have found the class room demonstration to be of great value, through the co operation of two voluntary health agencies, we have had such demonstrations covering the visiting nurse's visit to the home and a child welfare conference It is our intention to have more of these demonstrations There is a written and an oral examination at the end of the third year

As communicable diseases are a fourth year subject, we give ten lectures in that year on the preventive aspect of communicable diseases

The student is required to make a health study of some area, and to present his report during the first month of his final year The purpose of this study is to have each student visit some centre and see public work health in operation, thus causing him to do some thinking about public health and preventive medicine In the report of his study, he records the facts as he finds them, discusses them, and makes criticisms and recommendations The report is reviewed with him individually by one of the staff, and we have found the hour devoted to this review to be most profitable In the final examination 25 per cent of the marks are given for this study, public health and preventive medicine being one of the final subjects

The fifth year is a clinical year, and we plan to offer as an option, to a limited number of students, the opportunity for special work in child welfare, mental hygiene, and industrial hygiene as part of their fifth year work

This is a brief statement of the ways in which we have a contact with the student throughout his course, and an expression of what we consider to be the principles of undergraduate medical instruction in public health and how we are applying these principles at McGill University

SPECIAL OR POST-GRADUATE PUBLIC HEALTH TRAINING *

BY

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Dr Fitzgerald, in his opening paper, has surveyed the problem of the training of health workers It is my duty to present in more definite terms how certain phases of the problem are being met, and indicate the new developments in training that might logically be initiated

Let me deal first of all with the group of out and-out specialists who have come to the university and enrolled in its school of graduate studies I refer to those whose academic qualifications have been acquired in some branch of learning other than medicine, who are proceeding to a degree of master of arts or doctor of philosophy, and who have elected to specialize in some subject closely related to public health under the guidance and responsibility of departments of hygiene and preventive medicine Every effort should be made to give such students the best, soundest, and most adequate training that a university can offer, for it is from this group that most teachers and research workers will be recruited It would not be profitable, nor would it be expedient, to enter into details where such a diversity of subject-matter is involved

There is another aspect, however of this training of the specialist group It would seem that there is a definite need to include in the scheme of education of the health worker a university course designed especially for the person who wishes to become an expert technical assistant

* A paper read in the Section of Preventive Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930

It may be suggested that provision has already been made inasmuch as schools of hygiene provide post graduate instruction for such students and that an adequate cultural background is ensured by the bachelor of arts degree Would it not be a great economy however, to provide a definite course leading to the degree of bachelor of arts, but at the same time qualifying the student for a special vocation in which after four years of study he might obtain a position with at least some remuneration? Universities have already established a precedent of long standing in vocational training not only in offering such courses as engineering and dentistry but music and commerce The need for such specialists is acute One thinks of special training for biometries and biomathematics for bacteriology and serology for physiological and industrial hygiene Obviously the existing departments of a university would be called upon to provide the desired instruction

The public health nurse has assumed a very important role in all schemes of municipal and rural public health It is generally conceded that she has accomplished in large measure what far-seeing health administrators expected of her It is time however, to ask if the courses of study are adequate to train her for the work she is expected to do Her first duty is undoubtedly that of an educator—to preach the *gospel of public health and* preventive medicine She is often called upon to teach health habits in the schoolroom she has become the technical assistant to the school doctor, every day she has to deal with economic and social problems which are often of paramount importance Apart from exceptional circumstances she does no bedside nursing Primarily she is a teacher and social case worker Is her training suited to the work she is attempting? Laying aside the question whether a nurse's training is the best training for the work of the so-called public health nurse in what way may her instruction be modified or amplified?

In Canada there are six universities where either a diploma or certificate or other degree in nursing is offered and where provision is made for the training of nurses In two of these at least—namely, in Western University and in the University of British Columbia—an elective course in public health nursing is available after two years' instruction in the university followed by two years in a hospital school for nurses The Department of Public Health Nursing in the School of Hygiene at Toronto has made a unique contribution to the training of nurses in public health by offering a four year course having special regard to public health One year is devoted to the study of the basic sciences—biology, etc , twenty-six months are spent in an approved hospital school for nursing where a course of training is laid down which when completed will qualify the candidate for registration in her profession in the province of Ontario In addition—and thereby differing from the regular nursing school requirements—definite provision is made for special training in acute communicable disease tuberculosis, and in the nursing and care of the child In the fourth or final year the candidate again receives instruction and special training at the School of Hygiene No university degree is offered other than the diploma The purpose, then of this course is to ensure a broader education by making use of the facilities offered by other departments of the university The candidate must be accepted by a recognized nursing school before enrolment in the course, and have passed the complete junior matriculation which qualifies for entrance into the university and, in addition, the senior matriculation in three subjects Thus a reasonably difficult entrance requirement is maintained which ensures the selection of candidates who are capable of appreciating the course of study pursued

One must be able to meet the accusation of the critics that perhaps we are turning out super-doctors or at least sub-doctors Nothing could be further from the minds of those who are responsible for the subject-matter in the course Take for example the study of bacteriology which is an item of the curriculum It is improbable that the individual nurse will ever look down a microscope again Nevertheless, it would be lack of imagination to deprive the student of the opportunity to learn by herself at first hand and under proper controlled conditions the fundamental facts regarding the spread of micro-organisms, their growth and cultivation, the specific toxins they may produce and how their effects may be specifically counteracted An accurate knowledge only will enable the nurse to teach in the home by precept and principle, and with conviction, the facts of infection and immunity Similarly one may uphold the inclusion of psychology and mental hygiene in the curriculum Not that the public health nurse will herself attempt to diagnose mental abnormalities, but rather that she may set in motion at the proper time and under the proper conditions the machinery available in a community with a modern health service to cope in adequate fashion with the situation as she finds it further, that she will have some real appreciation of the results that may reasonably be expected

Changes in the training of the public health nurse may be rationally anticipated to develop along the following lines (1) Insistence upon adequate educational qualifications with university matriculation as a reasonable minimum (2) Instruction for a period of one year at least in scientific subjects, with special emphasis upon biology and physiology (3) Instruction in nursing of a special character with hospital routine and nursing care reduced *to a minimum* (4) A course of instruction and practical work embodying the principles of preventive medicine and their application as well as social case work— such instruction to follow upon the nursing training and to extend over a period of at least twelve months (5) The total period of training to be not less than four years

There is little purpose in attempting to formulate a fixed curriculum of instruction universally adaptable for graduates in medicine who are qualifying for a degree in public health, since countries differ too widely in customs practices, and laws to make any semblance of uniformity either practicable or even desirable Moreover the distribution of population and its racial origin modify the problems of preventive medicine and public health Provision of medical service of any character, curative or preventive for the farming districts of the Canadian West and for the northern portion of Quebec is made with difficulty—hospital health centres have been evolved to meet the conditions in one area and fully trained district officers in the other The curriculum of instruction in a new country must be elastic instructors must adopt the experimental method and modify their teaching to changing conditions This does not imply in the least that the curriculum should be in a state of constant upheaval but rather that the emphasis upon certain subjects should be shifted in order that the instruction may be best suited to the changing needs of the student A candidate for the diploma shall be a fully qualified graduate of medicine from a recognized school he shall preferably but not necessarily have spent at least one year in clinical or hospital training or in some medical institution closely allied to public health, such as a fever hospital or a diagnostic laboratory The course of study shall be not less than three semesters (approximately eight months) of university instruction and two months practical work in some branch of public health This affords an opportunity for the candidate to become more familiar with the field or work of his choice Laboratory courses in the following subjects are essential bacteriology and immunology parasitology, public health chemistry, epidemiology physiological hygiene The prescribed course in bacteriology and immunology in the School of Hygiene of the University of Toronto consists of 250 hours of laboratory work, of which 180 hours are devoted to bacteriology The exercises in bacteriology and immunology and serology are confined principally to the carrying out of the procedures of a modern diagnostic laboratory with the addition of the preparation of media by the student and the isolation and identification of micro-organisms of diphtheria pneumonia, tuberculosis, typhoid, etc A few of the best students will profit by such a course to a degree which will enable them to take charge of a public health laboratory with little or no additional technical training The average student will definitely not profit to this

extent The subjects of immunology and serology are presented by a series of practical studies and in classes where the student is himself responsible both for a theoretical discussion and for a working demonstration Parasitology is of relatively minor importance in Canada A laboratory course of 30 hours is offered A laboratory course in public health chemistry of 60 hours is designed to familiarize the student with the chemical methods for the examination of milk water, and sewage, and the principles of water purification and sewage treatment Lecture and laboratory courses in epidemiology and vital statistics comprise 220 hours lectures and demonstrations in physiological and industrial hygiene, 65 hours The time allotted for field work, including attendance at clinics, is 250 hours, sanitation, 30 hours, history of preventive medicine, 10 hours, public health administration and nutrition and dietetics, 42 and 30 hours respectively

The emphasis upon the subjects taught has shifted in a striking manner during recent years in Canada The time allotted to the study of environmental factors or sanitation has become less, while the personal factors of preventive medicine has received greater emphasis The emphasis has thus shifted from the study of the influence of the environment to that of the factors concerned in the physiology of the individual—from sanitation to preventive medicine and physiological hygiene This change has been brought about partly because of the appreciation of the achievements of sanitary engineering and partly because of the success resulting from the application of the knowledge acquired through researches in the fields of infection and immunity, epidemiology, physiology, and nutrition

TRAINING OF THE SANITARY INSPECTOR*

BY

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THE great advances in preventive medicine during the last twenty years in Canada have been brought about largely because of the efforts of those having direction of public health activities, federal, provincial, and municipal, in keeping themselves abreast of new developments in the field of sanitation and hygiene

A quarter of a century ago none of the medical schools in Canada specified in its curriculum a special training in the branches of sanitary science having to do with the promotion and protection of health to enable a prospective graduate in whatever community he settled, to utilize his accumulated knowledge and skill to the best advantage of himself and those around him The care of the public health in those centres where the statute requiring the appointment of a health officer was not disregarded entirely was not infrequently entrusted to a recent graduate who needed the appointment and the stipendiary pittance attached, as a stepping stone to something higher, or in other cases to some older member of the medical fraternity whom fate or destiny had doomed to failure in the practice of his profession

In only two decades momentous changes have taken place, both in public opinion and in the attitude of the doctor himself towards the prevention of disease To-day it is being recognized by progressive physicians and by most progressive units of popular government, but particularly where people are congregated in large cities and towns, that prevention is by far the most reasonable, feasible, and most economic method in dealing with disease,' also—and this is of great importance for the future—that the State is responsible for the physical and mental health of its citizens in as full a measure as it is for their education

What sanitary science has accomplished in dealing with the great fatal diseases of former days such as small-pox, malaria yellow fever, puerperal fever, typhoid and typhus fever, diphtheria, and tuberculosis, may be ascertained by every reader of the daily newspaper and the popular magazine throughout the land It is not improbable that the life and work of such men as Jenner, Pasteur and Lister of Trudeau and Koch, of Walter Reed and Gorgas and Manson, will, in the not distant future, become the literature of the boy at the public school

Already the great wave of publicity which is being given to the spectacular accomplishments in the field of prevention, not to speak of the ever increasing new and astonishing experiments in the field of research, has developed a critical judgement in the public mind which demands capability and efficiency in those selected for the direction of public health administration No longer in our larger cities are the part time, poorly paid, haphazard services of the private practitioner considered adequate or effective for this task Experts in the solution of our social and economic problems, as viewed from the standpoint of health, are required for the duties involved

Our medical schools have not been unheedful of the situation which has confronted them Not only in Great Britain, but in this country as well, these schools have provided courses both in the principles and in the practice of preventive medicine which afford to the student a working knowledge of hygiene and sanitary science sufficient to warrant him in the assumption of the duties which pertain to the office of part time health officer in the towns and rural communities to which most of our young physicians tend to move, and which may also serve as an introduction to the training for the diploma in public health, should he subsequently decide to devote himself to one or other of the many health specialties which present opportunities in increasing numbers every year to those who are qualified to accept them

The evolution, or rather radical reform, which has taken place in our conceptions of the education and standards of training necessary to increase the effectiveness of the medical officer of health has been equally discernible in all the professional services subsidiary to his work The more progressive the health department the more insistent is the demand for the trained specialist who shall devote his time and energy to some particular phase of public health protection Epidemiologists, laboratory workers, school medical officers, directors of maternal hygiene, child hygiene, and infant hygiene, dentists, psychologists, psychiatrists, and public health nurses, cannot hope to meet successfully the problems which every enlightened health official has to face, unless and until, added to an initial capacity plus a good preliminary education, they are armed with a technical training sufficiently broad and exacting in its requirements to enable them to meet their own responsibilities in special lines, and, at the same time, to co-ordinate, where necessary, their activities with those of other official or voluntary agencies

With respect to the education and preliminary training of the sanitary inspector in Canada we must admit that the state of affairs which I have sketched perhaps too optimistically as existing in the more technical branches of the public health programme does not everywhere apply, being in many sections of the country neither satisfactory at the present time nor promising hope for the immediate future In the Western Provinces, local boards of examiners have been appointed to conduct the examinations of the Royal Sanitary Institute, and courses of lectures and demonstrations are periodically provided where a sufficient number of students register In this way the local Departments of Health in the larger centres of these extensive areas have been able to secure competent persons to take charge of municipal sanitation, including food inspection There are far too many instances however, throughout the Dominion where the sanitary inspector is the Cinderella of the health department, dreaming among the ashes of the past Too often we find him bound like Sisyphus of old to the perfunctory performance of his meaningless and unproductive task and prevented by the limitations of his education and training from becoming the integral factor that he ought to be in the machinery of disease prevention In many villages, towns, and townships, he may, in addition to his regular duties, be

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constable, assessor, tax collector, relief officer, truancy officer or dog catcher, one or more or a plurality of all combined receiving in most instances a salary not in excess of $900 or roughly speaking £200 per annum. There is no doubt in the minds of those familiar with conditions in many localities that a radical change is needed in that particular health service upon which the public traditionally places great reliance.

It is not my purpose to venture upon an appraisal of the sanitary inspector's work in comparison with that of other branches of community health service. On the one hand we find those who look upon the abatement of common nuisances, plumbing inspection and the allied efforts of the sanitary inspector as having no connexion whatever with public health and as having a tendency to obscure and depreciate in the minds of the general public the real and invaluable work that is carried on by the health authorities. These duties they submit should be transferred to other departments where they more properly belong. Others, including we think a majority of the heads of municipal health departments, take the ground that proposals of this kind are radical and unwarranted by the experience of the past and that the removal of the sanitary inspector from the jurisdiction of the medical officer of health would deprive him of an official who notwithstanding his shortcomings has been his chief dependence during the pioneer years of the struggle to obtain better conditions of health.

All participants in the argument concerning the importance of sanitation and food control are agreed on the tremendous significance of excremental filth as a cause of disease. All admit the role played by human parasites and by insect and animal carriers in the transmission of typhoid, malaria and bubonic plague. To the contention that the construction of sewers and sanitary privies for the proper disposal of sewage and the installation of pure water supplies have been potent factors in the banishment of typhoid, cholera and dysentery there are no dissenters. Outbreaks of typhoid fever, scarlet fever and septic sore throat that have had their origin in infected milk—amounting to hundreds in the aggregate—leave no room to cavil at the necessity for the strictest supervision of this food commodity. The frequency of small local outbreaks of typhoid fever in towns and villages where pasteurization is not in vogue illustrates this clearly, while the magnitude of the disaster which happened in the city of Montreal only three years ago demonstrated with terrible consequences that eternal vigilance is the price of safety. According to a report of the United States Public Health Service 4,755 cases of typhoid fever with 493 deaths occurred during the period March 1st to June 28th. It is evident, says the report, that Montreal has suffered a severe epidemic of typhoid fever with a case incidence in proportion to population probably unprecedented by any other large city within the present century. Let those who would deny to the efficient sanitary inspector a place in the sun derive what satisfaction they can from the facts of this calamity.

That there is little relation between housing and health or that the effect of insanitary conditions in home and school, workshop and factory, has been exaggerated, who will dare to dogmatize? These assertions and those of similar portent can be corroborated or proved false only by future investigation and research such as is being carried on in many fields and by scores of students with the finest intellects. Only by an extension of our inspection service, not a limitation, can the inspector hope to be of assistance in the solution of these worth while problems concerning the relation between overcrowding, bad housing, fatigue, poor ventilation, underfeeding, etc., on the one hand and the existence of disease on the other.

The kind of inspection I have in mind can only be carried out by technical experts and the thesis that I would maintain in this paper is that the sanitary inspector of the future must be more of a technical expert than he has hitherto aimed to be. Some one has said that real health work is 90 per cent. education and the remark has become current phraseology. It is only the amateur health official who seeks to get results by a display of his badge and a show of authority. The present age is one of conviction by persuasion not by compulsion. It cannot be too frequently emphasized that the individual who looks upon his position as one to be prized because of steady employment, moderate hours of work and fairly good pay, and who lacks the incentive to read and study, cannot hope to become an asset to a health department. Thus is also the age of popular instruction and the sanitary inspector must beware lest he find himself less well informed in sanitary matters than many a skilled artisan with whom his duties bring him into contact in the home. To become a good teacher he must not only have a full acquaintance with the details of his own subject but also extensive information and reading in allied and cognate subjects. He must have the ability to speak forcibly and think clearly. These are qualifications that some inherit, others gain by experience, but the capacity to think and speak and write can be cultivated by study and practice. Space does not permit in a paper of ten or fifteen minutes the discussion in detail of a suitable curriculum which might be drawn up to meet the needs of the present situation. It would however include the following among other subjects:

1. Knowledge of legal machinery, Federal, State and Municipal, for controlling disease, and of the Provincial Public Health Acts and Regulations enumerating the duties of sanitary inspectors.
2. Elementary vital statistics, the stock taking of Public Health.
3. The communicable diseases, their modes of spread and the means of prevention, the part played by carriers. Information of a practical nature on the use of vaccines, serums, antitoxins and other such biochemical agents.
4. Water supplies and the disposal of sewage.
5. Milk supplies in relation to disease, the sanitary collection of milk samples, elementary bacteriology of milk and an intimate knowledge of the machinery of pasteurization.
6. Food supplies. Elementary chemistry. The diseases of animals. Meat inspection, including the post mortem appearances of healthy and diseased animals. Cold storage. The relation of oysters and other shell fish to infection. The preparation, packing and canning of foods.
7. Personal hygiene including instruction on proper food, bathing, exercise, work and sleep, sex hygiene, the abuse of alcohol, dental hygiene.
8. The principles of good ventilation, plumbing, the sanitation of schools, hospitals and public institutions, housing conditions.
9. Inspection of restaurants, bake shops and other food establishments such as dairies and markets where food is kept or offered for sale.
10. Public Health and publicity.
11. An outline of tropical medicine.
12. Disinfection.
13. Smoke prevention.
14. Nuisances.

How shall the training in the lecture room, the laboratory and in the field which I have outlined as the minimum requirement be provided? My answer is that the necessary departments for the education of such an indispensable public health official as the sanitary inspector might become should be created in connexion with our provincial universities and that for the practical instruction and field work of a curriculum similar to that outlined these should co-operate with our various provincial and municipal health departments and perhaps in some cases with our volunteer public health and social agencies. Such a plan as this is neither visionary, nebulous nor impractical and would result, I feel confident, in materially raising the status of the inspector and in obtaining for him a corresponding increase in remuneration. The scheme of establishing boards for conducting the examinations of the Royal Sanitary Institute which has been tried in the West has produced favourable results and the syllabus of subjects and courses of demonstrations if adapted to the needs of a sparsely settled country like ours are admirable, but the scheme has not become sufficiently nation-wide, it does not evidently appeal to the young man seeking to equip himself for his life work as would a university connexion even if only part time, and it will not enlist the aid of social agencies and workers

in breaking down political opposition as would the plan to which I have merely alluded

On March 3rd of this year Mr H E Spencer, Member of Parliament for Battle River, Alberta, moved the following resolution which was adopted unanimously by the House of Commons

"That, in the opinion of this House, the Government should take into consideration the advisability of making grants to the provinces equal to one third the cost of establishment, and to cover permanently such full time health units as may be organized"

In the discussion of this resolution Mr Spencer said

"The minimum staff necessary for one of these health units will be a medical officer, a public health nurse, a sanitary inspector, and a secretary The area covered by each health unit comprises usually about six municipal units, serving a territory of 2,000 square miles, which would comprise a population of some 2,200 to 2,500 people That, of course, would vary according to the particular province in which these health units might be organized and the density of population in the area concerned"

In the event of a county or combined area unit modified by the various provinces to meet their individual requirements, being adopted—and since it has passed beyond the experimental stage in proving its effectiveness, it will become adopted, for it would appear that should the official health authorities neglect to take the leadership in the movement for the establishment of these, the people, through such bodies as the United Farm Women of Alberta will themselves assume the leadership—success or failure will depend eventually upon the qualifications and training of those in charge of the important work these units will undoubtedly perform Is it too much to expect that in this undertaking of the near future, and indeed in all efforts for the safeguarding of the public health, the sanitary inspector should be equipped with good mental endowment, sound education and proper training, so as to perform intelligently and well the tasks assigned to him? For in the final analysis progress in sanitation depends on scientific investigation, and at the same time the usefulness of new discoveries depends very much on the skill of those who have to employ them"

THE TRAINING OF THE HEALTH VISITOR *

BY

F C MIDDLETON, M D, D P H,

DEPUTY MINISTER OF HEALTH SASKATCHEWAN

In attempting to prepare a short article on the subject which has been assigned to me— The Training of the Health Visitor —my interpretation of what constitutes a "health visitor" may not exactly correspond with the interpretation accepted for instance in Great Britain

On this side of the Atlantic, our nomenclature for similar officials in the motherland differs somewhat, and, in fact, in Canada or the United States the term 'health visitor" is not generally or officially used What I have to say, therefore will refer more particularly to agencies in this country which include in their programme various forms of health visiting in its broadest sense, and I trust that in the discussions to follow we may be privileged to learn about the training and work of the 'health visitor' from those who are familiar with the duties pertaining to this office

There does not appear to be any definite standard required for those who may wish to become health visitors in America There is of course the common requirement that the person must be a graduate nurse but many training schools have a fairly low educational standard for admission, although this standard is gradually being raised Inasmuch as the product of the training school must be accepted the preliminary educational background, which is so flexible a requirement, should first be given consideration

The work of a health visitor in a very large degree is that of teaching health to do this to the best advantage, her education, before entering her nursing course, should at least be equivalent to that of a girl entering the teaching profession She is all the better fitted if she has taken her teacher's certificate, and has spent a year or more as a teacher, since much of her work will be directly or indirectly concerned with children This is especially so if the health visiting is done as part of a generalized public health nursing service, including school inspection

Her training course should be taken in an approved hospital which has a fairly high standard The hospital should have bed service for surgical and medical cases, admitting children to both services, it should also maintain an obstetrical department or be affiliated with a hospital maintaining such a service The course of study should include class room instruction in anatomy, physiology, materia medica, ethics of nursing, bandaging and fracture dressing, surgical technique, infant feeding, maternity nursing (including pre natal and infant care), and communicable diseases Before taking any post graduate work she should spend a year in private and institutional staff duty, as by so doing she will get much more out of her post graduate course in public health nursing A candidate for post graduate study in public health nursing should not be younger than 22 years, and not more than 40 years of age It will not always be possible for the candidate to comply with the preliminary educational standards mentioned above, in which case it might be necessary to set her an essay to write on a given subject to show her proficiency in expressing ideas, and to indicate the general character of her education

Her public health training must fit her to take her place in the scheme of organized public health endeavour She is to be the connecting link between the health official and the citizen She must be trained to interpret to individuals the principles of right living, and strive to create a public health conscience, which will elevate standards of living in the community She must be taught to seek personal contact with families in order to instil into them the essentials of health, before disease develops, always working forward to the prevention of disease Through her public health teaching she must be taught how to make contacts for subsequent public health teaching, by working backward from sickness in the home, or physical defect in the school Combined with the regular lectures some students will require the maximum of individual coaching and tuition

Public health nursing originated from spontaneous good will and an altruistic spirit, and these characteristics are still necessary, in a degree, in the health visitor As modern science has transformed the art of medicine, so has it transformed public health nursing in its various forms The system has developed slowly and naturally The early district nurses were required to be 'educated gentlewomen" Every nurse is not fitted to do public health work She must be tactful, she must possess a cheerful personality, she must be tenacious and have a broad vision, resourceful with plenty of common sense She must go about her work with confidence in order to gain and retain the confidence of those she visits

The functions of the public health nurse which should determine her training are to teach habits of healthful living in the home, to see to it that the physician's instructions are intelligently carried out, and to be on the alert for all that is suspicious or divergent from health These functions differentiate the health visitor from the social worker, the vocational worker, the dietitian, etc, who also share in public health work

In health visiting the emphasis swings from bedside nursing in its narrow sense to family health work with education as the basis, it has grown from including only the sick poor to an ever increasing group of independent self supporting members of society, who are in a position to pay for such service It is important, therefore, that the health visitor should obtain through her public health nursing agency her ideals and technique of health teaching, community relations, and a concept of the family as a unit for care rather than the individual sick person alone

In addition to health teaching she must also be able to give instruction through demonstrations to the family or friends regarding the home nursing of those who are ill She must be trained to be observant in order to detect

* A paper read in the Section of Preventive Medicine at the Annual Meeting of the British Medical Association Winnipeg 1930

serious problems other than sickness in the home and also to take advantage of all available resources in the community for handling and treating these difficulties. There must be a proper balance between insight into different social situations and an understanding of how to care for them when to refer them to other agencies and to which agency they should be referred. She must understand the importance of a proper contact and that this must be made with sympathy courtesy and adaptability to all individuals and situations.

The visit should reflect the general policy of the organization the health visitor may be representing. The same results cannot be expected in every community. The same not the same resources to offer. The criterion of the effectiveness of an agency other things being equal is whether it is doing the thing that is essential and that counts in that community. Generalized public health nursing will usually lend itself best to mutual contact but of course a well-organized specialized service ignores none of the health needs of the individual or family. It is usually considered more satisfactory to limit the number of agencies calling on a family as some people resent duplication. Discretion is needed in such cases. One advantage resulting from a generalized service is the human relationship that comes from the one nurse contact in the home this also stimulates the nurse to endeavour to correlate her work there. Of course special nursing may be necessary to demonstrate new types of nursing for the education of the community. Good judgement is necessary in all these cases.

Tendencies in modern nursing education indicate the need for appreciation on the part of student nurses of the preventive as well as of the curative aspects of disease. Those in charge of training schools are finding it necessary to concern themselves with the social phases of illness and with health teaching as well as with instruction in nursing technique. This is as it should be the amount of preventive teaching and public health nursing which is included in the regular course depends very largely on the available facilities.

The courses of instruction for the public health nurse in the various universities does not appear to vary a great deal the aim in all being to prepare nurses for a generalized public health nursing service or for executive and teaching positions in all fields of public health nursing. Even in a public health nursing course certain phases are being stressed more as the need is being demonstrated, such as nutrition home economics mental hygiene the relation of voluntary organizations to public health and the value of periodic medical examination. In the rural districts the generalized public health nursing system is most suitable because it is less expensive while in the larger urban centres possibly the specialized public health nursing gains favour. In the generalized system the main purpose is usually health teaching and only emergency or first-aid assistance is given.

The organization which includes hourly bedside care as its main work is the Victorian Order of Nurses for Canada this organization corresponds to the Plunkett Society of New Zealand the Victorian Bush Nursing Association of Australia and the Visiting Nursing Association of the United States.

The plan adopted by the Victorian Order for preparing nurses for staff work may be of interest. When possible it secures the services of nurses who have taken the university course in public health nursing especially for executive positions. The number of nurses with this preparation is inadequate and in order to ensure that a certain number will be available each year who have this training a limited number of Victorian Order scholarships (last year eight were granted) are granted to nurses who have had good preliminary preparation and who show evidence of executive ability. The value of each scholarship is $400 and the course given only to graduate nurses. The universities to be taken at McGill University Montreal University of Montreal Montreal University of Toronto Toronto Western Ontario University London Ontario or the University of British Columbia at Vancouver. On successful completion of the course, nurses accepting scholarships are expected to remain in the service of the Victorian Order at prevailing salaries for at least one year.

To meet the problem of securing nurses for the Order with sufficient preparation for staff work three months training is given at the Montreal branch at intervals during the year. Each student spends one week with the Montreal Child Welfare Association to which the Order pays $20 per week. It also pays the salaries of these nurses for two weeks of their training the Montreal Victorian Order paying the salaries for the remainder of the time. There is an educational director at the branch for lectures given by physicians from the medical school payment is made at the university rate. For the first week which is devoted to lectures demonstrations and observation visits no salary is paid to the nurse. If she then decides not to continue the course, or if the supervisor decides she is not adapted for visiting nursing work the arrangement may be terminated. After the first week a salary is paid at the rate of $85 for the first month to cover the nurse's living expenses and for the second and third months at the rate of $100 per month. When she has finished the training she is expected to remain with the Victorian Order for at least six months at a salary of not less than $115 per month.

The course itself is given at a teaching centre where there are a well trained teaching staff and good supervised practice at a university centre. The subjects stressed are organization technique of visiting nursing health nutrition the prevention of disease demonstrations are given especially in maternity work and child welfare work pre natal care mothers classes records and immunization. Students also receive instruction by doing visiting nursing for the Metropolitan Life Insurance policy holders this service works in very conveniently with their regular work.

The International Health Division of the Rockefeller Foundation of New York has contributed in no small degree towards enabling nurses financially and in other respects to take special courses and carry out observation work as preparation for any special department of public health activity. This Foundation with the information at its disposal can send nurses to the most suitable places for obtaining the necessary training for their particular requirements. A splendid programme and itinerary for nurses lasting three months or so is arranged at the expense of the Foundation on the recommendation of public health administration officials.

Many of the industrial and commercial firms employ nurses as health visitors those who have had post graduate courses in public health are preferred.

Some training schools for nurses are affiliated with a tuberculosis sanatorium. The pupil nurses are required to spend three months in the sanatorium during this period they receive training and lectures which give them a good foundation for tuberculosis home visiting.

For the past few months the nurse engaged in private duty has found it very difficult to find enough work to do owing no doubt to economic conditions. This has forced the private duty nurse to offer her services on an hourly basis. She may therefore adopt this system hereafter and really become unconsciously a health visitor.

District nursing has been termed the most successful form of charity. At first the visiting nurse dealt with every form of illness and emergency but with the increasing emphasis on prevention many specialists have been brought forward. All of them are concerned with improved means for nursing the sick and for preventing illness naturally the training required must be variable.

I read a short time ago in one of the journals that among 1974 health visitors there were twenty two different certificates or varieties of experience and eighty-eight combinations. Some had no certificates others had up to five each. Some had no training others had up to eight years' training. This condition of affairs is due no doubt to inability to secure properly trained health visitors rather than to indifference on the part of those engaging their services.

In Western Canada at least the problem of training the health visitor must be solved by securing the co-operation of the universities. The supply of trained health workers is inadequate and the demand must be met.

ULCERATIVE COLITIS ITS TREATMENT BY IONIZATION

Summary of Twenty-eight Cases *

BY

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With a view to estimating the value of ionization as a treatment for colitis an analytical summary was prepared of a consecutive series of cases dealt with in this way In some, ionization was the sole treatment, in others, it was tried after various other methods had failed In two cases emetine was given at the same time by impatient observers, although it was extremely doubtful that the patients could have been infected with amoebic dysentery Included in this series were several fatal acute cases which ran a very rapid course, and some chronic cases which were apparently incurable

In all there were twenty-one cures Six patients relapsed, and four were again treated with satisfactory results, the other two, who did not carry out the instructions, failed to get relief at other hospitals Two failures are still alive, but one of these ascribes the improvement in his general health and increase in weight (2 st 11 lb) to the ionization Another who refused the treatment had a colectomy performed Three patients were too ill to stand the treatment One case of spontaneous cure without any special treatment is of importance in assessing the value of treatment

All the patients but one were treated in hospital—the West London Hospital, the London Jewish Hospital, and St Mary Abbots Hospital They were seen in conjunction with colleagues, who are responsible for the reports on the sigmoidoscopic examinations

The first case was treated in 1923, and the detailed history is instructive

M R, a married woman, aged 33, had been in the London Hospital for nine months (June 29th, 1922, to February 26th, 1923) with ulcerative colitis She had suffered for four months previously with diarrhoea and the passing of blood and mucus An appendicostomy had been performed and daily lavage given, but when seen at home after her discharge she was very ill, and had been sinking for some time She was admitted to the London Jewish Hospital in a condition of collapse, being very emaciated Grey slimy stools were passed every half-hour, accompanied by constant abdominal pain and persistent vomiting Around the appendicostomy wound there was extensive sloughing and leakage of faecal material The weight on admission (July, 1923) was 4½ stone At my request Captain Marsh started ionization the *day after admission with 2 per cent* zinc sulphate, using the appendicostomy wound for the positive electrode This was repeated three times weekly and the bowel washed out daily with hypertonic saline Improvement was noted from the commencement of the treatment the vomiting ceased the appetite returned, the pain did not recur, and within a fortnight the stools had decreased to five in the twenty four hours and she had increased in weight (August 8th) On September 5th she was much improved but the treatment was interrupted for a month During this time she had daily lavage, but the stools increased in frequency to eight daily While no blood or mucus was passed, the faecal fistula around the appendix appeared to be spreading Ionization was started again on October 8th, this time the bowel being filled with zinc sulphate Three days later there was a considerable improvement, the stools were brown and partially formed the wound was looking better and the leakage was less Ionization was continued at weekly intervals and she was discharged on November 30th The appendicostomy was almost closed but there was still a slight faecal leakage She attended the out patient department regularly In January 1924, when she weighed 7 st 11 lb, she reported traces of blood in the stools, so ionization was again started and maintained at weekly intervals *for a time She was then on a normal diet, and had no diarrhoea* In May she was admitted to the surgical wards for closure of the very small faecal fistula which remained This was done by Mr Slesinger since then her condition has been normal She was seen in February 1925 and was perfectly well, her weight being 10 st Recently she reported that her good health had continued, and that her weight had increased to 11 st

Further work on these lines has confirmed the impression that ionization has the same striking effect on ulcers of the colon as it is known to have on superficial ulcers and sinuses In certain cases treatment failed, this might be explained by an appreciation of the extent of the pathological processes All the cases gave evidence of inflammation of the bowel, the stools or diarrhoeic flux containing pus and blood with admixture of mucus In most the sigmoidoscope revealed ulcers in the rectum and pelvic colon, but these parts in some of the cases were not affected In one or two, at a previous operation, ulcers had been determined in the colon None showed evidence of bacilli or specific organisms

The symptoms are not always proportionate to the extent of anatomical lesions Sometimes the toxaemia is extreme with slight lesions, though this is usually not the case, and exhaustion from diarrhoea is the outstanding symptom In one fatal case with a long history of diarrhoea a thickened, enlarged, and chronically inflamed appendix was removed, but death occurred from exhaustion There were only a few small scattered ulcers in the colon In patients who recover there is no evidence of the full extent of the damage

Our earlier knowledge of the disease, based on post mortem and museum specimens, pictured it as of uncommon incidence, generally occurring in middle age, resistant to treatment, and terminating after a long course by exhaustion In these chronic cases the mucosa is extensively destroyed throughout the whole or greater part of the colon, with exposure and even invasion of the muscular coat, in places the remnants of mucous membrane give the appearance of polyposis, in some cases the wall of the gut has hypertrophied and become pigmented In the chronic variety the microscope reveals diffuse inflammation spreading throughout the intestinal coats, and even fibrosis It is difficult to see how so extensive a destruction of tissue could be repaired under any treatment Most of the fatal cases met with have been of this type Some acute cases run so rapid a course that death occurs in a few days, here again there is often extensive destruction of the bowel wall

Long experience suggests an increasing incidence of alimentary ulcers Many more cases of acute and subacute ulcers are noted than can be accounted for by more refined instrumental methods of diagnosis For a time these are merely superficial erosions, though, as in the case of peptic erosions, they are not always dissociated from serious symptoms It must be recognized that these erosions can heal spontaneously This can be verified by sigmoidoscopic examinations The etiology of these ulcers is unknown The only factor common to all the cases is constipation, in some cases stubborn, and lasting as long as a week In one case there was not even diarrhoea All the patients on being discharged were prescribed liquid paraffin in one or other of its elegant preparations, and advised to persist with it

Duration of Symptoms

The duration of symptoms prior to treatment is a variable factor and difficult to determine Nor can the time factor be regarded as invariably indicating the extent of the mischief Most of the patients had diarrhoea with "blood and slime" for a few months only In Case 6 there was recurrent diarrhoea for nine years, in Case 3 blood was passed for ten years, but blood and slime for only eight months One patient had a definite acute onset one year and two months previously, and another had symptoms for a year Of the unsuccessful cases, one patient had acute symptoms for four years Some, however, were of short duration Nevertheless, my impression is that the longer the disease has progressed the less certain is the cure

Appendicostomy with subsequent lavage—the treatment recommended by most surgeons—had been tried in some cases Colon lavage with various saline and astringent solutions had failed in others In some antidysenteric serum had been used, but without the striking results reported by some observers

* Since submitting this summary for publication five more cases have been under treatment with strikingly successful results A detailed analysis of all these cases will be presented at an early opportunity

	Name	Age	Duration of Symptoms	Sigmoidoscopy	Duration of Treatment	Ionization	Result	Relapse	Remarks
1	M R	33	18 months	Too ill	21/7/23–30/11/23	Thrice weekly	Cured	No	Case reported in text
2	M A	28	Months	Ulceration	29/10/26–2/12/26	× 10	Cured	No	"Terrific constipation"
3	M R	3	10 years	Ulceration	6/12/27–29/3/28	Weekly	Cured	No	Recurrent attacks of diarrhœa
4	M A	35	Months	Ulceration	11/6/28–1/7/28	× 6	Cured	Yes	Relapse accompanied constipation
5	R B.	2[illegible]	5 weeks	Ulceration	16/7/28–25/8/28	Twice weekly	Cured	No	Rapid improvement. Weight increased 1½ st.
6	T F	43	9 years	Hæmorrhagic ulceration	11/2/30–5/5/30	× 8	Cured	No	Pea-green diarrhœa with arthritis
						× 11			Preceded by constipation.
7	S K	37	7 months	Ulceration	31/1/29–21/3/29	Twice weekly	Cured	Yes	Relapse accompanied constipation
8	R B	53	2 months	Ulceration	23/10/28–8/12/28	× 7	Cured	No	Stubborn constipation for years preceded attack
9	S D	35	5 months	Ulceration	22/11/28–21/1/30	Twice weekly then once	Cured	No	Very intractable case. Intolerant of treatment and very anæmic.
10	A W	57	Months	Ulceration	2[illegible]28/10/28–5/2/30	Twice weekly	Cured	Yes	Rapid improvement
						× 5			
11	E P	21	2 months	Ulceration	5/2/30–31/3/30	× 12	Cured	No	Regained 2 st. in weight by Sept., 1929
12	L J	22	Months	Hæmorrhagic	12/1/29–22/3/29	× 9	Cured	Yes	Admitted as suffering from chlorosis. Under treatment for relapse
13	W W	30	9 months	Ulceration	19/3/30–2/6/30	× 6 from 19/7/28	Cured	No	Serum and lavage ineffectual
14	A J	59	5 months	Hæmorrhagic	25/7/29–7/8/29	× 8 from 7/7/28	Cured	No	Lavage for one month ineffectual.
15	L B	43	8 months	Ulceration	12/5/25–17/8/25	× 3 from 27/12/29	Cured	Yes	Lavage ineffectual. After ionization stools normal
16	F C	5	14 months	Ulceration	31/10/29–31/12/29	Began 6/1/30	Cured	No	Appendicectomy and lavage ineffectual. Emetine used
17	G C	23	6 weeks	Injected mucosa	1/12/29–1/3/30	× 8 from 19/12/29	Cured	No	Serum and lavage ineffectual. Emetine also given. no evidence of dysentery
18	P N	53	10 days	Ulceration	13/11/29–31/1/30	× 3 from 5/1/28	Cured	No	Improved under lavage but relapsed
19	M C	35	2 months	Ulceration	27/7/28–3/11/28	× 6	Cured	No	Rapid cure after ionization.
20	S H	23	1 year	Ulceration	21/5/30–12/7/30	× 5	Cured	No	Hyperchlorhydria. Rapid improvement.
21	F C	—	8 months	Ulceration	21/7/30–19/11/29	× 19	Failed	—	Preceded by constipation and arthritis. Rapid improvement.
22	I F	43	10 months	Ulceration	21/8/29–31/7/29	Via appendicostomy	—	—	Gained 1½ st.
						Per rectum	Failed	—	Appendicostomy and lavage ineffectual
23	J C	24	4 years	—	15/3/29–30/11/29	Frequent	Died	—	Under ionization weight increased from 6 st. to 8 st. 11 lb. but ulcers remained
24	L D	—	Months	Ulceration	25/1/29–18/2/29	Into errant	Died	—	Appendicectomy. Transverse colostomy. Ulcers in transverse colon, which bled readily
25	C W	21	3 months	—	4 days	Too ill	Refused to continue	—	Discharged himself and was treated elsewhere with serum and lavage but died in a few months.
26	Mr	—	Years	—	—	Through appendicostomy × 3	Died	—	Extensive destruction of mucosa of entire colon. Peritonitis
27	Mrs	45	Months	—	Months	Intolerant	Cured	—	Improved after ionization but ceased treatment. Colectomy
28	— S	30	6 weeks	Ulceration	14/1/25–3/2/25	No treatment			Lesion confined to pelvic colon. Extensive ulceration for six inches
									Constipation. Spontaneous cure with liquid paraffin

Technique

In the earlier cases daily lavage was employed but patients at times became intolerant of this and rendered the ionization difficult. There is no sound argument for sluicing the bowel contents. It can neither rest the gut nor disinfect it for within a very short time of washing out the colon the contents become foul again. In the later cases, therefore, the daily lavage was omitted and castor oil was administered twenty-four hours before each ionization.

A special flushing electrode was used. This was made for me by the Medical Supply Association. The ionization is carried out while the zinc solution is passing in. At first 2 per cent. solution was used, but latterly only 1·2 per cent. in quantity up to the limit of tolerance. At first only a little may be tolerated with 2 or 3 ma. of current but finally three pints may be held whilst a current of 20 ma. is passing for fifteen minutes or longer.

The dietetic factor is important in view of the nutritional disturbance. It is not possible to alter the consistence of the contents of the colon to any extent by varying the food given by the mouth. The solid residue from a purely milk diet cannot be less irritant to a diseased colon than that resulting from a light diet more varied more palatable and certainly more nutritious to an adult. Hence a liberal light diet was always allowed.

Several manifested a hypochlorhydria and some achlorhydria. In these hydrochloric acid in doses of half a drachm was given together with glycerin of papain.

Cure is judged by the presence of normal stools containing no pus and to a lesser degree—as only a part of the bowel falls within the field of vision—sigmoidoscopic evidence.

Relapses

Relapses are liable to occur in all cases of ulcerative colitis in my series there have been several. These, however, have been of a mild nature and have readily responded to treatment where the patient returned for advice early. In each of these the relapse was caused by indiscretion of diet or a return of constipation. Apart from those shown in the table, no other relapses have occurred up to the present time.

An important point is the secondary anæmia which often supervenes. This is at times resistant to treatment. One patient (Case 12) has returned to hospital for a blood transfusion which, I think, could have been done with advantage much sooner. This patient was actually sent to hospital as suffering from chlorosis with a hæmoglobin content of 21 per cent., colitis was diagnosed only after admission.

In conclusion it would seem from the evidence here adduced that in ionization we have a distinct advance on previous methods for treating ulcerative colitis.

The first case was treated at my request by Captain Marsh but the remainder have been done by me with the assistance of my various house-physicians to whom I am indebted for carrying out with so much patience the detail essential to success.

THENAR AND HYPOTHENAR TYPES OF NEURAL ATROPHY OF THE HAND

BY

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In the *British Medical Journal* of January 19th, 1929, Dr Wilfred Harris reports two cases of occupational pressure neuritis of the deep palmar branch of the ulnar nerve, one occurring in a bootmaker and the other in a motor cyclist In his comments he states

"Until recently I have never seen a pressure neuritis of the deep palmar branch of the ulnar, nor do I know of any description of such a condition, but two cases which I saw within a week were so clearly limited to this nerve branch that possibly its apparent rarity may be due to want of recognition"

This statement, coming from a well-known English authority on disorders of peripheral nerves, would appear to indicate that the clinical picture which was described by me some twenty years ago has not gained recognition in Great Britain In American literature it has long been recognized and has appeared in some textbooks and medical dictionaries as a special form of atrophy

The neural form of atrophic paralysis of the small muscles of the hand, without accompanying sensory disturbances, may be caused by compression neuritis of either the deep palmar branch of the ulnar nerve or the thenar branch of the median nerve, both of which subserve a purely motor function

Atrophic paralysis of the small muscles of the hand occupies a position of peculiar importance in the symptomatology of nervous disease because of the great variety of pathological conditions in which it may occur as an important and often early symptom It may follow involvement of the spinal cord, the anterior nerve roots, the brachial plexus, and of the ulnar and median nerves As a rule, the associated sensory disturbances or the absence of sensory symptoms play an important and often determining part in diagnosis and the topographical localization of the lesion, indicating its neural, plexus, radicular, or medullary origin, as the case may be

The types of *neural* atrophy of the hand which I have described are characterized by a strictly neural distribution, with complete absence of those disturbances of sensibility which usually accompany lesions of the median and ulnar nerves For this reason they resemble, more or less closely, certain of the myelopathies and myopathies beginning in the small muscles of the thenar, hypothenar, or interosseous regions of the hand

This peculiar form of neural atrophy results from a neuritis or compression of purely motor branches of the ulnar and median nerves, and may be divided into a thenar and hypothenar type In the *thenar* group the atrophy is limited to the muscles of the thenar eminence supplied by the median nerve, and is the result of compression of the thenar branch as it passes beneath the anterior annular ligament of the wrist The *hypothenar* group is characterized by paralysis with atrophy of all the small muscles of the hand supplied by the ulnar nerve, and results from compression of the deep volar branch as it passes between the tendons of origin of the short abductor and the short flexor of the little finger Both of the compressed nerves are purely motor in character, which explains the occurrence of neutral atrophy without disturbances of sensibility in their respective distributions

Of the hypothenar type six cases were described in my early studies, all of which were unilateral and identical in symptomatology In all, there was a complete paralysis of the intrinsic muscles of the hand supplied by the ulnar nerve, without sensory disturbances In two of the cases in which this symptom was investigated the function of the palmaris brevis muscle was preserved This peculiarity is explained by the anatomical distribution, the filament supplying this small subcutaneous muscle is given off from the superficial palmar branch of the ulnar nerve, and so escapes injury in the compression of the deep palmar branch Complete reactions of degeneration were observed in all of the cases, strictly limited to the ulnar distribution in the hand

Of the thenar type four cases have come under my observation, in two of which the atrophy was unilateral and in two bilateral In all four cases, including those in which the atrophy was bilateral, the clinical features were identical—namely, paralysis with atrophy of the muscles of the thenar eminence innervated by the median nerve, with reactions of degeneration and complete preservation of sensibility in the distribution of the median nerve Since these cases were published I have occasionally encountered the condition in both private and hospital practice, and I do not consider it a great rarity In my experience it has often been confused with atrophy of spinal origin

The neural atrophy in both the thenar and hypothenar group may come on gradually, following in the wake of the paralysis, and in this way a certain progressive tendency may be manifested in the earlier months, which may simulate very closely a beginning spinal atrophy of the Aran-Duchenne type In some of my original cases an early progressive muscular atrophy had been diagnosed because of the localization of the atrophy in the small muscles of the hand and the absence of sensory disturbances A discussion of the various occupational factors and the differential diagnosis relating to other forms of atrophy will be found in the references to my earlier publications

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

INJECTION OF WHOLE BLOOD FOR FURUNCULOSIS

Cases of recurrent crops of boils are usually resistant to treatment Among other methods the injection of colloid manganese helps in some cases, but I have never been satisfied that this is an efficient treatment While serving in India, where furunculosis is common in the hot weather, I adopted a method which proved to be remarkably successful and in some cases dramatic in its cure I do not claim the method is new, but I have never come across anyone using it

Five c.cm of blood are withdrawn from a vein at the elbow, and immediately injected into the muscles of the buttock A 10 c.cm syringe is used with a peripheral nozzle and two needles If the syringe is kept in spirit it should be carefully washed out with distilled water The site of election for the intramuscular injection is the upper and outer quadrant of the buttock, since this part is free from large vessels and nerves If a line is drawn outwards from the top of the gluteal fold and bisected by a perpendicular line this will give the four quadrants, the upper and outer of which should be used for intramuscular injections in this region The spot for injection is marked by a daub of tincture of iodine One needle is fitted to the syringe, the other lying handy in distilled water, 5 c.cm of blood are now withdrawn from one of the veins at the elbow, and the needle is detached from the syringe The second needle is driven sharply into the marked spot on the buttock and, after waiting a moment to see that no blood flows, the nozzle of the syringe is applied to the needle and the blood is injected

I have found that existing boils dry up within twenty-four hours as a rule, and the formation of further boils is prevented In only one case was a second inoculation necessary after a lapse of four days

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Chagford.

EFFECT OF ACTIVATED FLUORESCEIN ON GROWING BEANS

The following note may be of interest since at present the effect of "activated" fluorescein is a much discussed point

During the last year I have been investigating the effect of x rays on growing bean roots (*Vicia faba*) and found that irradiation for two minutes at 120 Kv 4 ma and 23 cm distance (SED x Solomon's unit) caused a cessation of growth seven days after irradiation while larger doses produced an earlier and more marked effect.[1] The methods employed for growing and measuring the bean roots have been described in a previous paper[2] For the experiments four groups of beans were taken which had been growing for the same length of time, with roots of approximately equal length

Group 1 Irradiated only

Group 2 Placed in 2 per cent solution of fluorescein for one minute and then irradiated

Group 3 Placed in 2 per cent solution of fluorescein for one minute

Group 4 Neither irradiated nor treated in fluorescein

As a result of several experiments with different duration of x ray treatment during which the beans were covered with black paper it was found that all the roots of the beans which had been dipped into fluorescein were shorter than those in the other groups and taking this fact into consideration it was found that the roots of those which had been both irradiated and treated with fluorescein were only very slightly proportionately shorter than those which had been irradiated only From this slight difference was not observable on the one occasion on which the beans were irradiated without being covered with the paper Stunting of growth never occurred any sooner in the roots of the beans which had been treated with fluorescein and x rayed than it did in bean roots which had been x rayed only and since the bigger the dose the sooner stunting occurs the experiments would suggest that the intensifying action of "activated" fluorescein on x rays is negligible

Four more groups of beans have been similarly treated and microscopic preparations made from the root tips at varying length of time after irradiation in order to determine if fluorescein has any effect on mitosis but the results of these observations are not yet ready for publication

I am indebted to the British Medical Association and the Medical Research Council for grant in aid of work of which these experiments formed part and to the Master and radiologist of the Pounda Hospital Dublin for allowing me the use of their x ray plant

SYLVIA B WIGODER MB MD,
Assistant Radiologist Manchester and District Radium Institute

Reports of Societies.

THE STETHOSCOPE

PRESIDENTIAL ADDRESS TO MEDICAL SOCIETY OF LONDON

At the first meeting of the session of the Medical Society of London on October 13th, the new president Dr P A Young was inducted into the chair, and delivered his presidential address the subject of which was "The stethoscope past and present" The address was illustrated by an exhibit of old instruments and books from the Wellcome Historical Medical Museum and other sources

Dr Young said that he had chosen to speak of the stethoscope as a symbol of clinical medicine, not because he regarded it as indispensable, but because he feared that a study of physical signs including the use of the stethoscope was being relegated to a subordinate position relying upon laboratory results having to some extent usurped its place Progress in all branches of knowledge involved change sometimes constructive and at others destructive readjustment not infrequently led to the loss of useful things and the neglect of fruitful ideas In the establishment of the clinical method Laennec himself played no inconsiderable part Undoubtedly he would have made an undying name for himself as a morbid anatomist and a scientific physician, even if he had not invented the stethoscope The great morbid anatomists who succeeded him investigated the topography of disease by their careful and laborious post-mortem researches Morbid anatomy however demonstrated only the localizations the tissue reactions and the terminal results of disease The application of the microscope to the study of diseased tissues and the further developments of bacteriology served to attract attention to the processes of disease themselves A great clinician the late Sir James Goodhart drew general attention to these matters in his Harveian Oration in 1912, under the arresting title of "The passing of morbid anatomy" Since that time bacteriology had come to the forefront and in its turn was being superseded by biochemistry Laboratory developments including x ray examinations tended to dominate medicine, and there was a danger Dr Young feared of the passing of clinical medicine There was a risk lest in enthusiasm for the new what was valuable in the old should be jettisoned He yielded to no one in admiration for what the laboratory worker was doing but he wished to plead for a due perspective in these matters One of Laennec's great gifts to the physician was the stethoscope Before his time the equipment of the physician consisted solely of his senses—sight, touch smell and unaided hearing on the information afforded by these senses he employed his intelligence and experience to make his diagnosis and devise his treatment Certain mechanisms of simple type such as the wheel pulley lever, and crowbar were so fundamental and essential that it was difficult to conceive of civilized life without them To such an order in medicine, the stethoscope would seem to belong But times were changing and to judge from correspondence in the medical journals it was now regarded as an obsolete instrument like the lancet the bistoury and the cupping apparatus One writer stated that the earliest beginnings of pulmonary tuberculosis were associated with often quite negligible stethoscopic signs to be supplemented by serial skiagrams It was even suggested by another that the course of this disease could be controlled by x-ray procedures entirely apart from other physical methods Yet another considered that the time had come when it must be recognized that chest radiology had proved that much of the former teaching was wrong and that the x ray tube was a far more searching apparatus than the instrument of Laennec Dr Young thought it might serve a useful purpose therefore if he tried to sketch briefly the development of the classical routine—inspection, palpation, percussion The earlier physicians were of necessity obliged to rely chiefly upon the clinical history and what they could observe with their eyes and ears, but their studies of the history and symptoms, and their powers of observation were profound The first substantial advance in physical examination had been made by Auenbrugger of Vienna, who introduced the art of percussion This great and modest genius worked for seven years before he published in 1761, his very brief masterpiece His invention was opposed and soon forgotten but it survived in Piorry's plexímeter one form of which the speaker exhibited, mentioning that he had picked it up in the Caledonian Market some years previously Stokes of Dublin had the credit of introducing finger-to-finger percussion What Stokes did was to apply the dorsal surface of the plexímeter finger to the chest thus reversing the present procedure The plexímeter to-day was only interesting as a curiosity

Laennec first used the stethoscope in 1816 He read a paper on the subject in February 1818 and published the first edition of his immortal *Traité de l'Auscultation médiate* in August 1819 Dr Young exhibited a first edition of the treatise which he had borrowed from

[1] Wigoder Sylvia B and Paterson R E *Brit Journ Rad* December 1929

[2] Idem *Journal of the Royal Inst Cornwall* 1929

Reviews.

OSLER AND McCRAE

THE eleventh edition of Osler's *Principles and Practice of Medicine*,[1] edited by Professor THOMAS MCCRAE, follows the tenth (also brought out solely by the original author's pupil and friend) after an interval of five years. Since it first came out in 1892 well over a quarter of a million copies have been sold, and the characteristic features have not only been preserved, but in the numerous additions the editor has shown the same concise and epigrammatic style that made the earlier editions so attractive. With the rapid changes in medical knowledge and conceptions, the writer of a textbook is faced with many difficulties, and among the most anxious are decisions whether or not new ideas will stand the test of time, and how much to notice or excise, there is, therefore, the temptation to add rather than to prune, and textbooks tend to grow in size, though not always with corresponding value. This pitfall Professor McCrae has successfully avoided, for, though there are many additions, the maximum amount of information is conveyed in the minimum space, with the result that the size of the volume remains almost exactly the same.

The preface calls attention to twenty-four new items, and to a number of the more important changes, but there are, of course, others, such as the liver treatment of Addisonian anaemia, and the editor may well be forgiven if he has lost count of them all. Among the interesting additions mention may be made of poisoning by the radio-active substances, mesothorium and radium, due to oral absorption of luminous paint for clock dials (which causes necrosis of the jaw with changes in the bones) and aplastic anaemia. Post-vaccinal encephalitis, as seen in this country and in Holland, is succinctly described in two different parts of the volume. A short section on miscellaneous affections of the locomotor system contains accounts of Albers-Schonberg's disease, or marble bones, Christian's syndrome of defects in the membranous bones, exophthalmos, and diabetes mellitus, which Rowland of Detroit regards as allied to Gaucher's and Niemann's diseases, and a form of generalized xanthomatosis due to disordered lipoid metabolism. The numerous admirers of this favourite textbook will welcome the retention of the summaries of the morbid changes, and the historical touches which adorn the accounts of various diseases.

This year has also seen the fourteenth edition of Taylor and Poulton's *Medicine*, which originally appeared two years before Osler's *Medicine*—two standard textbooks in which English-speaking medicine is portrayed at its best.

ALLERGIC DISEASES

THAT the title of a monograph which has run through two editions in four years should be changed completely in a new third edition needs some explanation. On perusing Dr. RAY BALYEAT'S *Allergic Diseases* the reason is obvious at once for in his study of asthma and hay fever the author has fallen in with the most up-to-date views, and presented his extensive experience with hundreds of cases of migraine, eczema, and urticaria, as well as with a few selected instances of epilepsy and abdominal pain. The absence of any reference to Henoch's purpura, mucous colitis and some forms of arthritis or bladder pain is noteworthy, but the allergic basis of some of these disorders is at present not so well established. The change in title may appear antithetic to the statement in the preface that the work is couched in "non-technical terms so that it can be easily understood by the average patient," especially as all reference to allergy is omitted from the author's explanation of technical terms. Nevertheless, to students of, or sufferers from, allergic reactions such a monograph is particularly welcome. Advances in diagnostic technique and treatment are occurring rapidly, and the recent publicity this subject has received, in both the medical and the lay press, has created in many a desire to know the rationale of each new procedure. Balyeat deals admirably with this aspect of the subject, not only giving excellent advice to suit the needs of the ordinary patient, but also providing a clear and interesting account of the main facts of allergy for the general practitioner, who, in this country, will be pleased to know that English physicians were the pioneers of clinical allergy, in spite of the fact that its manifestations are not so common on this side of the water. The sixty pages devoted to plants indigenous to districts in the United States are more of local than of general interest, but the chapter on the etiological relationship of animals and fowls is impressive, and the importance, as a preventive measure, of forbidding pets in the home is well stressed. The author's finding that feathers, animal emanations, and dusts play a much larger part in the etiology than do foods, except in cases with onset early in the first decade, coincides with experience in this country, and underlines the influence of environment in determining specific sensitization. At the same time it should be realized that the tendency to manifest some form of allergic reaction is generally determined by heredity, and that other allergic conditions are prominent and inter related both in the individual and in his family. According to the author's experience, nasal abnormalities have but secondary importance in the etiology of allergic diseases. Infections, he believes, should be treated on general principles, and patients should be informed that nasal operations *per se* are seldom a cure. In 80 per cent of hay fever cases and 70 per cent of cases of asthma no operative procedure of any sort is needed. The beneficial effects of climate and of various renowned resorts are due to the absence or lessened activity of the specific allergens. The practitioner is well advised to have each case thoroughly tested before recommending any change, both to ensure that the patient shall be free from attacks while he is away and to obviate attacks on his return.

This monograph is written in a clear and interesting style. It is printed in large, bold type, on good paper, and is well illustrated and indexed. It can be recommended to both patients and practitioners as a guide to "what every asthmatic and hay fever sufferer ought to know."

"LA THERAPIE MECANIQUE"

IN his preface to Dr. GABRIEL BIDOU'S book,[2] Professor D'ARSONVAL says that the author has the rare merit of being not only a good clinician, but, at the same time, a good physician, mechanician, and physiologist. All these qualities are essential in the practice of "therapie mecanique" which is defined as being "the art of re-establishing the play of human articulations, lost or modified by disease or injury, by the judicious and discriminate use of special apparatus or mechanical devices designed for the requirements of functional recuperation." The apparatus which Dr. Bidou has invented is called an "arthromoteur." It is capable of giving all passive and resisted movements to all joints, at any amplitude or height, whether the patient to be mobilized be seated or lying down. The description of the general "arthromoteur" is detailed and lucid, and the notes given of patients treated by it and by the application of individual apparatus are most encouraging. Patients severely disabled by the sequelae of acute anterior poliomyelitis, such as paraplegia with contractures, have been enabled to obtain "functional recuperation." Bidou wants to call the attention of medical men to this new branch of medical science because of the important part it takes in curing static and dynamic alterations in the normal play of the constituent segments of the body the least modification of which can bring innumerable disorders in its train. "Therapie mecanique" should not be confused with mechanotherapy, which the author considers has neither the scientific basis nor the technique to entitle it to

[1] *The Principles and Practice of Medicine designed for the use of Practitioners and Students of Medicine*, originally written by the late Sir William Osler Bt. M.D. F.R.S. Eleventh edition, revised by Thomas McCrae M.D. F.R.C.P. New York and London: D. Appleton and Co. 1930. (Roy. 8vo. pp. xxxviii+1237. 23 figures, 15 charts. 30s. net.)

Allergic Diseases: their Diagnosis and Treatment. By Ray M. Balyeat M.D. F.A.C.P. Third edition revised and enlarged. Philadelphia: F. A. Davis Company. 1930. (6×9¼. pp. 395. 84 figures. 5 dollars.)

[2] *La Therapie Mécanique*. Par Dr. Gabriel Bidou. Preface du Professeur d'Arsonval. Paris: Vuibert. 1930. (6×8¼. pp. 104. 58 figures.)

stand as a therapeutic measure The book is written beautifully and the arguments are so logical and scientific that to read them is a pleasure We feel however that without the special gifts of the author and his talent for considering the body mechanically other workers might lose sight of the desired end through preoccupation with the complexity of the apparatus

TREATMENT OF PULMONARY TUBERCULOSIS

A recent addition to the Modern Treatment Series published by Jonathan Cape is *The Surgical Treatment of Pulmonary Tuberculosis* by Dr Bernard Hudson It is a well produced book of 128 pages without illustrations just the right size and written in the right style, for a work of this purpose The whole field of the treatment of pulmonary tuberculosis by collapse of the lung is covered and since the balance is good the general practitioner reader without previous special knowledge of the subject should get exactly the information he needs, and that in good perspective The class of patient among whom Dr Hudson has worked for so many years in Switzerland presents a slightly different problem to that which has to be faced by those who are treating tuberculosis in the English working classes so that the teaching would be somewhat different in detail if presented by a physician of the same experience in England but the essentials are the same The tone of the book is rather gloomy—a wise attitude when dealing with modern treatments still in the stage of development

Dr J Kamiekstis publishes a short monograph on the treatment of pulmonary tuberculosis with benzinol Its action he explains is to produce a local inflammation in which there is a rapid destruction of blood corpuscles whereby ferments stimulating phagocytosis and bacteriolysis are set free A 30 per cent solution of benzine in olive oil is used The injections are intramuscular A harmless local reaction and a focal reaction are produced The initial dose is from 0 05 to 0 3 c cm , the rate of increase being by 0 025 c cm or 0 05 c cm The author is emphatic that the size number and frequency of the injections must be suited to the individual case There are no contraindications and very good results are claimed No details of actual cases are given

What the General Practitioner must know of the Surgical Treatment of Pulmonary Tuberculosis" is the title of a small book of sixty pages with twenty-eight excellent illustrations by Dr Hans Alexander Under surgical treatment Dr Alexander includes all forms of treatment by lung collapse and in this monograph he gives his readers a very comprehensive summary of the present-day German views on the subject The book can be recommended

Dr Kang's *Handbook on Tuberculosis* is a hurried survey of the whole field of tuberculosis in all its forms A useful book for nurses and social workers

THE GOLF STROKE

However much we take to heart the caution of Sir Farquhar Buzzard against advising our patients to play golf there is little doubt that we shall continue to prescribe it for ourselves, and therefore Dr James Forrest's *The Golf Stroke* will interest many doctors as well as laymen The book is a sequel to *The Basis of the Golf Swing* published in 1926 by the same author Every golfer knows too well the endless variety of errors which creep into his game causing him to fall short of that somewhat imaginary standard of excellence which he is pleased to consider his proper form Dr Forrest would have us believe that however numerous and varied the errors may be, they all arise from the same fundamental fault in striking the ball We use the wrong stroke and not the "right" stroke Here we have the one stroke contrasted with the other with great detail and many excellent photographs and a series of exercises calculated to eradicate the wrong style and promote the right while our imagination is inspired with the golden vision of the rapid evolution of the tiger from the rabbit We fear there will be some whose faith in patent medicines for golf diseases is exhausted Others may think the price (22s 6d) prohibitive Others again, may still cherish the hope that if only they can discover that elusive sin which besets their game they will leave the broad and easy way which leads to perdition and enter the narrow path that is so difficult to find and hard to follow To these we can only express the hope that the study of this book will be rewarded by some at least of the good results which the author promises

NOTES ON BOOKS

The Growth of the Mind, by Sir Robert Armstrong-Jones is the ninth of the series of Henderson Trust Lectures The essay is eminently readable and in condensed form covers a good deal of ground in a manner which the student will find helpful The various definitions and conceptions of mind are discussed and an account is given of the development of the nervous system from its elementary form in the medusa up to its most complex form in man Diagrams serve to illustrate the text

The veteran Dr A Rabagliati who has practised in Bradford for just over sixty years, has brought out a second and expanded edition of his *Initis or Nutrition and Exercises*" which originally appeared in 1916 The morbid condition which he has labelled initis is regarded as a congestion of the connective tissues of the body although admittedly there is not any microscopical evidence to support this view It evidently covers fibrositis and muscular rheumatism Excess in diet and particularly the afternoon tea meal is blamed for this condition and exercises are recommended as the means of cure Although the details of the regimen may leave room for criticism the two principles of moderation in diet and the value of passive exercise in the form of massage remain as a sound basis for health

The production of a second edition of Dr E K Rideal's *Introduction to Surface Chemistry*" is a welcome sign that the book has met with widespread appreciation So much has been added to our knowledge of this subject in recent times that an arrangement and connexion of the facts was needed and Dr Rideal's many contributions to this knowledge fitted him singularly for the task of such a presentation Biological chemistry which is so largely a study of the behaviour of colloidal matter can only be properly followed with the help of a knowledge of the special properties of surfaces and the reactions which take place at interfaces Dr Rideal's book is an appreciative compendium of the researches accomplished and the theoretical views to which they lead

Dr A Neumann has published a pamphlet on the results of Dr Salzborn's method of treating carcinoma"—a worthless paper The treatment consists in the oral administration of two powders—grey and white—with a few drops of some liquid Of sixty-nine cases of what are stated to be certainly carcinoma one case is recorded as cured Protocol No 7 1915 Total extirpation on account of uterine carcinoma 1923 Ablation of right breast At the time there existed metastases in the second and third dorsal vertebrae according to the diagnosis made in the radiological department of the first surgical clinic the patient failed to reveal this fact to the operating surgeon A month after the operation Dr Salzborn commenced treatment at first regularly during three months

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"*The Growth of the Mind* By Sir Robert Armstrong-Jones C B E M D D Sc F R C P D L The Henderson Trust Lectures No IX Delivered at the University of Edinburgh November 28th 1929 Edinburgh and London Oliver and Boyd 1929 (Cr 8vo pp IX 29 15 figures 6d)

"*Initis or Nutrition and Exercises* By A Rabagliati M D F R C S Ed Second edition enlarged London The C W Daniel Company 1930 (Dem 8vo pp 200 50 illustrations 10s 6d net)

"*An Introduction to Surface Chemistry* By Eric Keightley Rideal Second edition revised and enlarged London Cambridge University Press 1930 (Demy 8vo pp 453 21 net)

"*Die Ergebnisse der Krebsbehandlung bei Dr Salzborn* By Dr Alfred Neumann Wien und Leipzig Moritz Perles 1929 (Med 8vo pp 28 M 1)

"*The Modern Surgical Treatment of Pulmonary Tuberculosis* By Bernard Hudson M D Cantab M R C P Lond Th Maclean Treatment Series London J Cape 1930 (Cr 8vo pp 123 5s net)

"*Die Penzoltbehandlung der Lungentuberkulose* Dr Jonas Fairbank Kaunas Buchhandlung Spaulos Fondas 1929 (5½ × 8 pp 24 2 ht 50 c)

"*Was muss der praktische Arzt von der Chirurgie der Lungentuberkulose wissen?* Von Dr med Hans Alexander München J Ingentuberkulose wissen? pp 62) 8 fig J F Lehmann 1929 (6 × 9 Handbook on Tuberculosis By B S Kang M D D P H London Bale Sons and Danielsson Ltd 1930 (Cr 8 pp viii–150 8 figure 5s net)

"*The Golf Stroke* By James Forrest M B London T Murby and Co. 1930 (12½ × 10 pp. viii + 110 196 photographs. 22s 6d. net.)

subsequently at gradually increasing intervals up to 1927 For four years the patient has been able to work, the sensations in the dorsal vertebrae gradually diminished, and, examined in February, 1929, the spine was found by Dr Neumann to be normal" Of the remaining cases the majority are stated to have been improved, the following may serve as an instance 'Protocol No 153 Supraclavicular metastasis after amputation of the breast Under Dr Salzborn since February 11th After three tablespoonfuls of the medicine breathing relieved, sleep better'

The Student Christian Movement Press has issued a booklet, *The Doctor's Job*,[1] by Dr A LLOYD WILLIAMS, to which Sir Donald MacAlister has contributed a foreword The book pleads with the student the cause of religion, and at the same time suggests to him attitudes towards such questions as psychotherapy sex birth control the panel, and the voluntary hospital system As Sir Donald MacAlister remarks, the reader may not always agree with the author's conclusions But the platitudes of most of the book are clearly stated, and their perusal should be of benefit to the newly fledged practitioner

Sanatorium[2] by DONALD STEWART, is advertised by the publisher as an unusual novel describing the life of a young man in a sanatorium for tuberculosis, which he leaves after twelve months' internment The author makes but little attempt to disguise his facts, and there is no difficulty in recognizing the sanatorium that he has in mind The tale is a pure mental autobiography, typical of hundreds of patients of the more intelligent type It depicts the intense seclusion of the sanatorium the pettiness self deception, and narrow jealousies of individual patients, the intolerableness of the communal life and most of all, the immensity of the mental gulf that separates the tuberculous patient from the normal person The book is gloomy, depressing, and indubitably true

Mr WARREN R DAWSON, in his studies in magic, mythology, and folklore entitled *The Bridle of Pegasus*,[3] at least demonstrates fully his claim to be a research worker The twenty pages of bibliography appended to his volume must have entailed many hours of patient toil The matter of the book is various It ranges from the amphidromia rite in which the Greek father ran naked round the hearth carrying his recently born child to the use of mouse and mummy in medicine Occasionally Mr Dawson advances an explanation of his own for some of the weird customs he describes He also points out how the slavish copying by one man from another and by one race from another preserved for centuries the long reign of tradition and precedent From time to time, however, error crept into the tradition Thus it came about that the early use of bitumen from the 'Mummy Mountain" in the territory of Darab as a drug in various diseases, became distorted into the horrible use of bits of mummy from Egypt in mediæval medicine It is probable that bitumen was never used for embalming by the ancient Egyptians The erroneous tradition may have arisen because many resins, and bodies treated with resins are black and lustrous like bitumen Even a late as the seventeenth century mummy was described as being "in much and excellent use in all countries of Europe", and as "the very body of a man or woman brought chiefly from Arabia or Syria (no other part of the world so good)"

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[1] *The Doctor's Job* By A Lloyd Williams M B, B S Lond, M R C S Eng L R C P Lond With a foreword by Sir Donald MacAlister of Tarbert Bt K C B London Student Christian Movement 1930 (Cr 8vo 11 x 7½ 72 2 net)

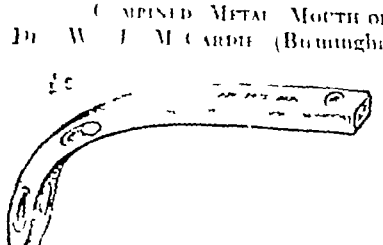
[2] *Sanatorium* By Donald Stewart London Chatto and Windus 1930 (Cr 8vo 11 x 7½ 305 7 6d net)

[3] *The Bridle of Pegasus* By Warren R Dawson F R S E F R S L D S Sc C F R A I London Methuen and Co Ltd 1930 (Post 8vo 11 x 7½ 293 7s 6d net)

PREPARATIONS AND APPLIANCES

COMBINED METAL MOUTH OPENER AND AIRWAY

Dr W J M CARDIE (Birmingham) writes Messrs Down Bros have made to my design a combined metal mouth opener and airway which I find very useful in anæsthetic work It is flatter than the ordinary boxwood wedge and usual type of airway, and has smooth, bevelled ends it is therefore more easily introduced between the teeth into the mouth, and cannot damage the throat It is made in three sizes



I think that this mouth opener and airway will prove helpful to others who give anæsthetics

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY

THE annual general meeting of the Medical Sickness, Annuity, and Life Assurance Society, Ltd, was held at the First Avenue Hotel, High Holborn, W C, on October 8th, when Dr F C MARTLEY presided

Chairman's Address

Dr MARTLEY, in opening his address, referred to the heavy loss which the society had sustained in the unexpected death on August 31st, of Dr Charles Buttar, who had been a director of the society since 1921, and who had been of great assistance to the board in its deliberations Dr G de Bec Turtle had been appointed to the vacancy on the board Dr Martley also paid tribute to the services rendered by Dr T J Allan during his seventeen years as chairman of the society, and also when serving on the executive committee of the Friendly Societies The board was, he said, pleased to be able to retain his invaluable counsel and experience as a member thereof

With regard to the year's work, members would be glad to know of the continued progress of the company, which was particularly gratifying in view of some of the big financial crises which had taken place The practice purchase loan scheme continued to grow, and its success in meeting the requirements of the younger men on qualification was undoubted All instalments had been repaid, and no bad debts incurred He looked forward to an expansion of the house purchase scheme, which had been revised to meet the requirements of medical men purchasing their houses through the society The amount paid in sickness benefit during the past year was £1,300 less than the previous year, while the premium income had increased by over £6,000 The sickness experienced was about 67 per cent of the expectation, which compared favourably with that of the national health, which showed an experience of over 100 per cent of the expectation The premium income in respect of this class of business was the largest of any company transacting permanent sickness insurance The directors had considered the possibility of continuing the permanent sickness policy for members to the age of 70, but acting on the advice of their actuary they had decided against the proposal The new business of the life assurance fund had exceeded a quarter of a million sterling In 1922 the total sum assured was £182,042, whereas this year it totalled £1,368 716 The increase in the society's new business was especially gratifying in view of the fact that out of some forty nine assurance companies in the country only twenty seven had increased their business during the previous year With the continued growth of the work of the society, there was naturally an increase in expenses, caused by an expansion of office accommodation and additional staff The investments of the society were spread widely, and it was fortunate that they had not suffered in the heavy depreciation which had occurred in many securities A few stocks which were not repayable at par at a future date had been written down, but the auditors' certificate showed that in the aggregate the mean market prices of the stocks were still £9,840 in excess of the value stated in the balance sheet The sickness and life funds now amounted to £670 635, an increase of £64 150 Acting on the actuary's advice and recommendation the society was again able to propose the payment of the interim bonus at the same rate as was declared last year Dr Martley concluded his address by paying tribute to the loyalty and efficiency of the staff of the society

The annual report for the year ended June 30th, 1930 was adopted unanimously Dr T J Allan Dr W K Sibley, and Dr G de Bec Turtle were re elected to the board of directors, and Messrs Barber, Sturges, and Fraser were reappointed auditors

Payment of Bonus

The recommendation was unanimously adopted for the payment of an interim bonus on all with profit policies for permanent sickness and accident insurance and life assurances becoming claims during the year July 1st, 1930, to June 30th, 1931

On the motion of Dr T J ALLAN, seconded by Sir WILLIAM WILLCOX a hearty vote of thanks was accorded to Dr Martley for presiding at the meeting

Nova et Vetera.

MEDICINE AT ANTWERP AND GHENT

Dr. A. de Mets has published two small but valuable monographs under the titles *Iconographie Médicale Anversoise*[1] and *Iconographie Médicale Cantoise*,[2] which are of interest and value to the medical historian. They are not iconographies in the strict sense of the term but rather profusely illustrated accounts of the medical corporations in the two Flanders cities. Both monographs are dedicated to the memory of friends and colleagues who fell in the war, and both are printed on art paper in a limited and numbered edition and on ordinary paper for general use. The coloured plates are well reproduced and the text is illustrated with numerous engravings of places and persons connected with the story, foremost among them being Jean Palfijn, the surgeon and anatomist who was born at Courtrai in 1650 and proved himself a worthy fellow-countryman of Andreas Vesalius.

In 1238 the population of Antwerp was estimated at 8,000 and was served by the hospital of St. Elizabeth which even at that time had existed for more than two hundred years. It consisted of a large hall with a chapel attached and was presided over by a Mater who was a surgeon receiving an annual salary of ten Brabant schellings and a winter tunic. There is however no evidence of teaching until 1450 when the surgeons of Antwerp were formed into a corporate body governed by a president, two acting deans, past deans and a council. This corporation was dedicated to Cosmas and Damian, for at the first column on the left of the nisle in the cathedral was the altar of the "Confraternitas SS. Cosmae et Damiani." Dr. de Mets gives a picture of the cathedral showing the altar, which is of interest to us because the Barbers' Guild in London may have had a similar altar in St. Paul's Cathedral. The confraternity contained apprentices, compagnons and masters. It insisted upon its members attending lectures on surgery, which probably included anatomy, for periods of two to ten years, and rules were laid down for orderly conduct while they were being delivered.

The Corporation of Surgeons at Antwerp was established by order of the Governing Body of the City on July 13th, 1648, and from that time until the end of the eighteenth century there was a regular school of medicine with organized courses of instruction, disciplinary powers and a scale of fees. Dr. de Mets has rendered a valuable service by recording the names and dates of the presidents from 1659 to 1817, and to this list he has added a register of the certificates issued by the special School of Surgery from 1626 to 1794.

The medical teaching at Ghent seems to have centred round the ancient Byloke Hospital. It consisted, like other mediaeval hospitals, of a large hall with a raised platform at the east end for the altar, and Dr. de Mets is fortunate in being able to give a picture of it as it still exists. The medical teaching seems never to have gone much beyond that necessary for a barber-surgeon, but the pupils from Ghent supplied the Imperial armies with such surgeons as were required in their endless campaigns. The records of the guild show that the Barbers and Barber-Surgeons of Ghent had the same faults as their fellows in other countries. They were fined for putting basins of blood in their windows for shaving on Sundays, for going about the streets with bell and for crying their wares aloud in the city. Neither excommunication by the Church nor the infliction of fine by the guild nor civil process before the magistrates could wean them from their evil practices and they were not always free from the suspicion of keeping disorderly houses. On the other hand the guild prescribed that they were not to contract with their patients by the year but were to be paid per visit, that they were not to charge less than four mites for shaving, cutting the hair, making a tonsure, or for shingling. Cutting and combing—probably "lousing"—cost six mites. Four mites was the price for bleeding from the arm, but if the patient was bled from the hand, foot or other part of the body he had to pay a gros which was twenty-four mites. It cost a gros too, for the pulling of a tooth.

D. A. P.

[1] *Iconographie Médicale Anversoise.* Par Dr. A. de Mets. Anvers: J. E. Buschmann. 1929. (4 Belgas.)
[2] *Iconographie Médicale Cantoise.* Par Dr. A. de Mets. Gand: Maison d'Editions et d'Impressions Anc. Ad. Hoste S.A. 1929. (4 Belgas.)

THE CUMBERLAND MATERNITY AND CHILD WELFARE SCHEME

The county health committee of Cumberland has recently approved a complete scheme of maternity and child welfare put forward by Dr. F. H. Morison, the county medical officer of health, the scheme is peculiar to the county, and has been adopted by the county council after the introduction of certain minor modifications by the Ministry of Health. Unlike most schemes of the kind, it is based on the co-operation of general practitioners, rather than on an extension of centres and clinics, and it has been considered and approved by the English Division of the Border Counties Branch of the British Medical Association. A letter sent out by the divisional secretary, inviting the support of practitioners in the area, has so far received replies which foreshadow hearty co-operation.

The Present Position

In setting out the scheme Dr. Morison touches on the services as they stand at present. Midwives trained in pelvic measuring, examination of urine, diagnosis of the position of the child, and general hygiene as well as in the conduct of normal labour are available in the county to the number of 101. Under the Midwives Act provision is made and extensively used for payment of fees to doctors called in by the midwife to the confinement or for certain conditions prior to confinement or to attend mother or child after a confinement. Specialist advice is available in cases of puerperal fever and puerperal pyrexia, and hospital accommodation of limited extent exists for the treatment of abnormal cases, patients living in unsatisfactory homes and septic cases. Centres are available for the treatment of venereal disease in pregnant women, and ante-natal and infant welfare clinics have also been established in many districts. It is found that expectant mothers attend only in small numbers but that the attendance of nursing mothers is fairly regular. In cases of puerperal sepsis provision has been made for bacteriological examination and for trained nursing assistance.

With regard to infant welfare the health visitor or the district nurse exercises supervision from the time the child is handed over by the midwife until the care of the school medical service comes in operation. All the midwives in the area are supplied with an outfit and with written instructions for the prevention of ophthalmia neonatorum, when cases of the condition are notified they are visited at once by the health visitor.

The maternal mortality of the county is high, and although the infant mortality has fallen by half during the past twenty years the maternal death rate has remained the same or even increased slightly. Dr. Morison's scheme begins with the care of the mother during the ante-natal period, and here co-operation on the part of the pregnant woman is essential. She should engage a doctor or midwife as early in pregnancy as possible, and it is recommended that both a doctor and a midwife should be engaged in every case. In order that a complete service may be available throughout the county five or six more midwives still require to be appointed. Handywomen are still employed as midwives in various parts, and in a few instances their activities have been supervised by medical practitioners.

Ante-natal Examination under the New Scheme

The scheme provides that ante-natal examination shall be made by a medical practitioner in every case either privately or at a clinic. This will have many advantages—notably that the doctor will have first-hand knowledge of the case if summoned to the confinement later, and that co-operation between doctor and midwife will be improved. The midwife is not competent to express an opinion on the general health of the mother, and since this may have an important bearing on the future of mother and child a medical examination is necessary in every case. The medical practitioner who makes the examination will, of course, be entitled to claim a fee

from the county council He will be required to report whether the case appears to be normal and suitable for attendance at home by the midwife, whether there are conditions rendering advisable the attendance of a doctor at the confinement, whether any further examinations or treatment are necessary, whether there are such abnormalities present as call for treatment in hospital, and whether the home conditions are unsatisfactory for the confinement In all cases, except those of women who have means to make private arrangements, the patient will be under the supervision of the midwife throughout pregnancy, and the midwife should inform her of the facilities offered by the local authority for her safety and comfort Advice on the preparation of infant clothes is obtainable at clinics, at the women's institutes, and from the midwife

If the doctor decides, as a result of his ante natal examination, that the opinion of a consultant is desirable, arrangements will be made for this to be available, the consultant, after conferring with the doctor and midwife, and advising as to treatment, will report to the county medical officer If an examination under an anaesthetic is necessary, provision will be made for a second practitioner to receive a fee, similarly, any ante natal treatment undertaken by the doctor will be remunerated, except in the case of insured women, who are entitled to ante natal care Provision of hospital accommodation for cases requiring ante natal treatment, such as facilities for transport by ambulance, and threatened miscarriages, will require to be made in every area In cases where the patient has not means to procure a suitably nutritive diet the onus of supplying her with adequate food falls on the maternity and child welfare authority, usually this will take the form of milk, either fresh or dry, and can be provided also during the natal and nursing periods Sterilized outfits for use in labour are already obtainable from the health department at a minimal cost, some arrangement may be made for their purchase during pregnancy at a cost of a little over 2d per week No provision exists at present for the dental care of expectant mothers, and the suggestion is put forward in the scheme that some arrangement should be made with dentists in private practice for this service

The Conduct of Labour

During the natal period, which includes the confinement and the ten days following a midwife should be present to act as nurse whether a doctor is attending the case or not Normal cases will be dealt with by the midwife alone, but in the event of some abnormality arising she must at once summon the doctor under the rules of the Midwives Board The doctor summoned will, of course, receive a fee, as will also an anaesthetist should one be required Arrangement for obtaining the assistance without delay of a consultant obstetrician if necessary is recommended under the scheme, at present except in cases of puerperal fever or sepsis, no such provision exists

Hospital accommodation required for abnormal cases is estimated at 5 per cent of the number of births in the county, or 150 cases yearly Taking the average stay in hospital as three weeks, nine beds would be required for this group of cases it is proposed that they should be dispersed through the county in existing hospitals, possibly in annexes to the main buildings Consultant services would be available at any of these hospitals The advantage of utilizing existing hospitals rather than establishing one or more maternity hospitals lies in the reduction of expense since no new equipment need be provided in addition many patients would suffer by a long ambulance journey which can be avoided by a wider distribution of beds Provision of beds for normal cases when the patients live in insanitary homes would not require such general distribution as the patients can be moved with safety It is not yet known how much advantage would be taken of such accommodation but should the various hospitals already mentioned be unable to meet the demand, it is suggested that beds might be provided in the Poor Law institutions lately taken over by the county council A suggestion is put forward that the council might find it economical to provide an ambulance for its own purposes, or to make an arrangement with the St John Ambulance Association for assistance

Post-natal Treatment

The post natal period extends from the ten days during which the doctor or midwife is responsible for the case until the mother has completely recovered During this time the health visitor or district nurse will advise the patient to consult her doctor for a post natal examination It is recommended that in case of illness of mother or child during the three months following confinement the health visitor should be required to register a request for medical assistance with the maternity and child welfare authority, if the request was considered to be reasonable the doctor would be informed, and would receive the same fee as for an ante natal visit Arrangements for obtaining the opinion of a consultant could be made at one of the hospitals, if necessary, and operative treatment could be obtained at any of the voluntary hospitals

There is at present no provision for convalescent treatment during pregnancy or after confinement anywhere in the county, and it is suggested that one of the old Poor Law institutions might be converted for this purpose Dr Morison also advises that a register be kept of the names of women suitable to act as home helps to the mother during the lying in period As an essential part of the scheme it is laid down that no expectant mother will be eligible for the benefits provided unless she has had an ante natal examination

In cases of puerperal fever and puerperal pyrexia arrangements are already in existence for the provision of a second opinion, for bacteriological investigation, for admission to hospital, and for the attendance of a trained nurse If the practitioner wishes, he can have the opinion of an obstetric consultant from Carlisle, on the request of the medical officer of health Bacteriological investigations are undertaken by the Clinical Research Association, but since this entails some delay the work will be taken over by the pathological department of the Cumberland Infirmary when it is complete These cases are admitted to only six hospitals in the county at present, but the possibility is considered in the scheme that some of the old Poor Law institutions may be utilized for this purpose, emergency nurses are provided by the Cumberland Nursing Association and where necessary the county council bears the whole cost

Provision for Infant Welfare

Under the heading of infant and child welfare, the scheme aims to keep the child under continuous supervision from the time of birth until the supervision of the school medical officer begins The appointment of health visitors in 1918 led to a marked reduction in infant mortality in the years which followed, and the extension of ante natal supervision may be expected to have an equally important effect It is suggested that if the child requires medical treatment for which the parents are unable to pay, then upon the advice of the health visitor, the doctor should be called in, and that he should receive a fee similar to that offered for an ante natal visit Children living within reasonable distance of clinics should attend there for regular supervision, no treatment will be undertaken at the clinics except for minor ailments and for those conditions which would be unlikely to obtain treatment elsewhere, such as eye, ear nose, throat, and cripple cases Arrangements will be made with various voluntary hospitals in the county for the accommodation of surgical and medical conditions requiring institutional treatment which may arise among infants and children Provision of convalescent treatment will be necessary, and the cases of all children reaching the age of 5 years in a state of health which prevents their attendance at school should be investigated in order that medical or surgical help may be provided as required The importance of refresher and post graduate courses for midwives and health visitors is emphasized

The minimum estimated gross expenditure on the scheme exceeds the present annual outlay by nearly £7,000 expenditure stands at present at £4,437, so that the new scheme will cost more than twice as much Modifications of the scheme introduced by the Ministry of Health require that the doctor's fee for each ante natal and post natal visit shall be only 5s *plus* mileage, instead of 10s as proposed, further, that the application of the scheme shall be limited "to those women who engage a midwife for the confinement, and who are not insured persons under the National Health Insurance Act, and who, having regard to considerations of distance and their physical condition, are unable to attend an ante natal clinic" The third point restricts the scheme "to those children who are unable to attend a welfare centre and whose parents cannot afford the necessary treatment"

The scheme will come into operation in November, and will apply to the whole county with the exception of the city of Carlisle and the boroughs of Whitehaven and Workington

British Medical Journal.

SATURDAY, OCTOBER 18TH, 1930

RADIUM THERAPY

Chaucer paraphrasing the first aphorism of Old Hippocrates, wrote

> The lyfe so short the craft so long to lerne
> Th assay so hard so sharpe the conquering

It this is still true of the medical art as a whole it applies with peculiar force to radium therapy to-day Almost every recent pronouncement on radium has declared that pending further and more intensive study of the many problems that present themselves, and careful collation of methods and results over several years the efficacy of this powerful agent must remain *sub judice*

The National Radium Trust and the Radium Commission have now rendered an account of their first years stewardship and a summary of their reports will be found elsewhere in this issue The conclusions reached by the Commission are printed in full at page 657 They amount to a guarded and provisional verdict of Not Proven The Commissioners insist once again on the need for great caution in estimating the value and efficacy of radium in the treatment of cancer and deprecate in the strongest terms the kindling of false hopes by means of sensational, or even optimistic statements The best that can be said is that some results, under certain conditions, are very satisfactory, that others, for no clearly established reasons are less so and that in a considerable proportion of cases the results are either inconclusive or definitely disappointing This however does not in their view justify a pessimistic outlook because many problems that yet remain unsolved may yield to experience and research

A good case has been made out for the increased employment of radium A new weapon and a powerful one, has been placed in the hands of the medical profession, though how effective it may be it is impossible, as yet to say Nor is it yet established whether patients with malignant disease should be treated with radium alone or with radium combined with surgery or *x* rays It is probable that a judicious use of all three methods may be required but in any case clinicians must be familiar with them all In these words the Radium Commission summed up the case for radium ' when issuing a preliminary survey of the position eleven months ago [1] The time was ripe for some such authoritative statement with a warning against extravagant claims because there appeared to be a real risk that the dashing of false hopes might bring into discredit a method that seemed full of promise in the treatment of certain forms of cancer All those qualified to give an opinion are now agreed that radium may be extremely dangerous in unskilled hands, and that one primary need of the moment is for an adequate force of radium workers trained in the highest standards of technique in short, that there is to-day more radium in this country than there are people capable of using it It is to be hoped that the courses of instruction at the newly founded National Post Graduate School o Radiotherapy will do much to supply the need

Experts in radium therapy had many opportunities of pooling their views on various aspects of the problem during the Annual Meeting of the British Medical Association at Winnipeg In a debate on the uses of radium in gynæcology [2] the opener remarked on the difficulty of comparing results because of the elastic standard of cure adopted by different centres, and the many divergences in technique and dosage, and Professor Chipman, entering a plea for more knowledge and greater care insisted that radium should only be applied by those specially trained in its properties and effects The Surgical Section held a symposium on the uses of radium in surgery [3] in which each speaker dealt with the region to which he had paid particular attention All who took part seemed to be of one mind about the need for team work between experts on a more comprehensive scale in order that the clinical radium worker may conduct his practice on scientific lines They were agreed too in condemning the view that radium is a panacea for cancer, and in calling for more work in all directions before the value of radium can be assessed The general attitude was summed up by the surgeon who reported this debate for us as one of cautious optimism ' In the Radiological Section, also words of caution were spoken during the discussion on radiation therapy [4] Dr Douglas Quick made the point that while in some malignant conditions radium could be employed with great advantage, in others it was only of value for the treatment of certain phases of the disease Professor Ewing remarked on the fact that some highly sensitive tumours disappeared quickly under radiation by direct killing of cancer cells, but there was a much larger group of resistant tumours which could not be cured by killing cancer cells, except in dangerous doses, and in these cases moderate repeated doses were safer and more efficacious hence, it was important to decide, not only the group to which a particular tumour belonged but also on what principle it should be treated

One thing about which all workers appear to be satisfied is that the most striking and permanently beneficial effects of radium are seen in rodent ulcer and cancer of the skin But in regard to malignant disease generally the Commission states, as its considered opinion that while radium holds out a good promise of beneficial results and certainly of alleviation of suffering it is at present a very dangerous weapon and one which unless used with the greatest skill care and precaution may easily be productive of more harm than good

THE TRAINING OF PUBLIC HEALTH WORKERS

One of the most generally interesting of the Sections at the Winnipeg Meeting of the British Medical Association was that of preventive medicine The first day was devoted to a symposium under the presidency of Dr A S M Macgregor on the development of a well trained public health personnel A summary of the discussion was given in the *Journal* of September 13th last (p 431) and in this week's issue we print some of the opening papers—a general introduction to the subject by Professor J G Fitzgerald of Toronto and others by Dr A Grant Fleming of Montreal Dr D T Fraser of Toronto Dr James Roberts of

[1] *Brit. Medical Journal* November 16th 1929 p. 811.

[2] *Brit. Medical Journal* September 13th 1930 p 428.
[3] Ibid. September 20th 1930 p 475
[4] Ibid., September 27th 1930 p 528.

Hamilton Ontario, and Dr F C Middleton of Regina At the present time, when the development and organization of the public health services for wider purposes than mere sanitation or even personal, domestic, school, and industrial hygiene is under serious discussion, the consideration of the supply, education, and technical equipment of the personnel of these services is of peculiar importance Though conditions vary in Great Britain and in Canada, the fundamental requirements in both countries are the same, and in these papers important facts are set forth and important suggestions made, with regard to the suitable training of undergraduate medical students, of sanitary inspectors, of nurses, and of home visitors in this connexion Sir Eustace Hill in his remarks, which were not embodied in a formal paper, dealt almost exclusively with the training of midwives, and Dr J W Bone followed these up with a valuable statement on this matter It is curious, indeed, that the subsequent discussion tended to confine itself to the question of midwives and a maternity service, which are not touched upon in the opening papers This was perhaps natural in view of the recent publication of the reports of the departmental committees on maternal mortality and morbidity, and on the training of midwives It is understood that these reports are now receiving the careful attention of the Government, and, as far as the education of the medical student is concerned, of the General Medical Council, and there will no doubt be further opportunity for comment in the early future

The really significant feature of Dr Grant Fleming's paper on undergraduate medical training in public health is the underlying assumption that this training is not to be directed to those who intend to become specialists in the public health services, but to all medical students, on the principle that all medical practitioners, especially general practitioners, must be regarded as in intimate relation with, or even as actual members of, those services That this should become the common assumption, and that practical application should be given to it both in Great Britain and in Canada, are perhaps the most urgent needs in public health matters to day Three things are necessary that wide opportunities should be at once given for private practitioners to take responsible part in the work of public health departments, and especially in that of council hospitals and clinics, that general practitioners should show themselves increasingly willing to devote a portion of their time to such responsibilities and work, and that the education of the medical student should be so guided in the future that this will seem his natural duty, and become a commonplace among his activities For this last purpose two things are required that throughout the medical curriculum, in the teaching of each subject, its preventive aspects should be emphasized, and that during his undergraduate course the student should be familiarized with the actual working and conditions of the various public health activities

The first of these two requirements has now become widely recognized and is being increasingly supplied It is to the permeation of the whole teaching of medicine by stress on the preventive aspect of medicine as opposed to the establishment of 'preventive medicine' as a separate subject of the curriculum that attention is being directed This is as it should be Dr Fleming in his paper admirably asserts this guiding principle, and draws attention also to a very important consideration connected therewith Mental hygiene he says 'is part of preventive medicine The more closely the mental and physical problems are kept together, the better the student will come to understand that he must consider the whole individual, that every individual has a physical and mental side, and that health can only be attained by a proper development of both also that the prevention of physical and mental diseases must be considered on the same basis' The other requirement—that the medical student should be familiarized with the practical working of public health services—has hitherto received quite inadequate attention, though this defect is now being remedied at a number of medical schools In this country the general tendency has been to give such special instruction and establish such practical contacts late in a student's career, even, perhaps, only in the last year thereof In Canada, on the contrary, it would seem that some provision is made for this, even in the first year of medical study, and that year by year thereafter there is provided increasing opportunity for familiarity with public health organization The relative advantages or disadvantages of these two methods are well worthy of consideration In any case it must be borne in mind that "field visits must be made worth while, or they are a waste of time and minimize the importance of the subject under consideration"

The status and the training of sanitary inspectors, of public health nurses, and of health visitors—as of other social workers—are matters of growing concern The paper by Dr Russell Roberts draws attention to very real dangers in connexion with the office of sanitary inspector The importance of his position has scarcely received adequate recognition, though in this country the question whether he should be an official of the health department or of that of the engineer and surveyor, has not seriously been raised There is general agreement that he most usefully belongs to the former His technical training cannot be too thorough, and that of the other health workers mentioned must, of course, be adequate There is one danger, however, of which the tenor of these papers gives some indication Neither university training nor academic distinction or accomplishment should be considered an essential condition in the training of these officers Such training and distinction are, of course, no disqualification, but the spheres of activity of these workers offer exactly those opportunities of service which should be freely open to men and women who, though of good education, have no aptitude for passing examinations or satisfying high scholastic tests, but who possess the qualities of character, the sympathetic insight and wisdom of judgement, which are the most valuable requisites for usefulness and success in these branches of public health work

THE MILK INDUSTRY AND SCIENTIFIC RESEARCH

MILK is still one of the most valuable foods of mankind, and the production of milk is one of the most important branches of agriculture This industry has made greater advances during the past decade than any other one connected with our food supplies In the future, perhaps, the production and sale of milk will become one of the public utility services, and, like water, gas, and electricity, will come under the control of municipal or other authorities Meanwhile it may be recalled that investigations into the production of milk have received the active support of the Ministry of Agriculture, and that two institutes are engaged on its various problems—apart, of course, from the numerous organizations concerned with the study of milk and disease The National Institute for Research in

During the older of the two was established in 1912 at Reading its work has continually developed and extended since the war until the present time when it covers a considerable area of ground its activities comprising all questions relating to the production, handling and distribution of milk and the manufacture of dairy product In the annual report for 1929[1] Professor Stenhouse Williams describes in detail the work of the staff, and the future developments which are contemplated The institute contains three main departments in addition to an experimental dairy The department of dairy husbandry is concerned with such diverse problems as manuring of pasture lands, milking machines, fat records, feeding of calves and milk production Another department investigates the many complex chemical problems associated with milk while the bacteriological department conducts researches in connexion with the various organisms associated with milk and milk products In Scotland the Hannah Dairy Research Institute,[2] which is under the directorship of Professor J P Catheart, has been established to study milk problems There is considerable activity in agricultural research in Scotland, and since the Development Commissioners considered that the milk industry presented problems which were beyond the resources of the Reading institute the south western part of Scotland, with its enormously important dairy industries was selected as a suitable neighbourhood for the establishment of a second organization of the kind The Hannah Institute is located near Ayr in close association with the University of Glasgow Its work is just commencing, but already researches have been started on the quality of the protein requirements of dairy cows, inheritance of milk yield, milk fever, tuberculosis and the utilization of milk residues Investigation into milk and milk production are not confined to the State-aided institutions, however, and many of the milk combines have established laboratories for bacteriological and chemical testing The United Dairies, for example have twenty-one such laboratories, the last of which was opened this summer at Willesden by Sir Andrew Baltour reference was made in the *Journal* of June 21 st (p 1150) to this event and the value of the work undertaken The public is being gradually educated to grasp the importance of clean milk and tubercle-free milk, and to recognize the importance of milk as an instrument in the spread of disease It does not yet realize, however, that milk is one of the best and cheapest foods available—the United States are far ahead of us in this matter nor does it appreciate the enormous loss of milk from faulty breeding feeding production and lack of hygiene—a loss which it of course must bear in the form of increased price The work being done by the two State-aided institutes and by the private laboratories of the milk industry is assisting to decrease this loss and so by increasing the supply to reduce the price At the present moment the class of the population which most urgently requires a good milk is compelled by its high price to purchase a cheaper and inferior grade It may be hoped that the time will soon come when science and the farmer will abolish this anomaly

MODIFICATION OF INCOME TAX LAW

A minor change in income tax law brought about by the Finance Act of this year has not attracted general attention but it will affect a number of medical men sooner or later Certain radical changes have been made in the assessment of profe sional profits affecting the years 1927-28 onwards, and in particular altering the ba is from the average profits of the three previous years to those of the previous year, in connexion with these changes new procedure is laid down for dealing with a succession to a business or practice Previously where A had transferred a practice to B the latter was liable to account for tax on the previous three years' basis, unless he could show that his own earnings had fallen short from some specific cau e since the change That provision has been repealed, and in the case of such a transfer made after April 5th 1928, A and B are dealt with as if the practice had ceased and then been restarted by B The result is that A is chargeable for his last financial year (or the part up to the date of his withdrawal) on the amount of the profits of that period, and the Revenue has the option of revising the assessment of A's penultimate year to bring it into accord with the amount of the profits of that year instead of the then previous year B is chargeable for his first period to the next April 5th on the amount of his earnings for that period, and for the following two financial years has the option of paying on the usual statutory (previous year's) basis or the amount of the earnings of those years respectively It is obvious that cases may occur in which these legislative changes have substantially altered the position, not only as between the Revenue and A and B combined, but also as between the individuals A and B Special provision, however, has been made for those cases—particularly common in the medical profession—which involve the transfer of a share only in a business or practice Briefly, the individuals concerned are allowed to choose whether the partial change in proprietorship shall be ignored—and the previous year's basis therefore continued—or whether the liability shall be dealt with on the basis that the former proprietors terminated and their successors restarted the practice The statute requires the choice to be unanimous and, in the absence of any such notice, the change is ignored for the purpose of computing the gross assessment If, therefore, A and B are in partnership and C enters the firm, either in addition to or instead of one of the former partners, the previous year's basis will still apply unless A, B, and C each notify the inspector of taxes that they require the practice to be dealt with as a new one, as from the date of C's entry into the partnership So far as an outgoing partner is concerned, his choice will depend on the amount of his earnings for the period of two years or less up to the date when his interest in the practice ceased, and consequently, he can usually arrive at a decision as to which alternative will suit him best soon after that date On the other hand, an in-coming partner is in a more difficult position In his case the balance of advantage depend on future and not on past earnings and, obviously, he will wish to defer his choice until he has had a reasonable opportunity of seeing how his profits are likely to work out in the new condition This is precisely where the former statutory rules failed. They required the unanimous choice to be made "within three months after the change took place," which obviously allowed too little opportunity for the in-coming partner to arrive at a considered opinion and then arrange for the concurrence of the others concerned This year's Act has extended the period for giving the necessary notice to twelve months instead of the original three months and now allows an in-coming partner a fair opportunity of weighing up the pros and cons of the situation and to take the necessary steps to obtain the application of the more favourable statutory rule In the past the provision giving this choice has seldom been used the new rule will give it further scope and will convert what has hitherto been a theoretical right into one which may prove to have real practical value

[1] University of Reading The National Institute for Research in Dairying Annual Report 1929 Reading Charles Elsbury Printer Mill Lane.

[2] First Annual Report The Hannah Dairy Research Institute Annual Report for the year ending March 31st 1930 Glasgow John Thomson Ltd. 456 Dumbarton Road Partick Glasgow

ANTHROPOLOGISTS AT THE WELLCOME MUSEUM

A RECEPTION for the members of the Royal Anthropological Institute and other bodies interested particularly in African races and culture was held at the Wellcome Historical Medical Museum on October 10th, Dr Henry S Wellcome, the museum's founder and director, acting as host After making a tour of the museum, which includes an exposition of the healing arts as practised among primitive peoples, the visitors were addressed by Lord Lugard, formerly Governor-General of Nigeria, and now British member of the Permanent Mandates Commission of the League of Nations The interest which had been shown in *the welfare of subject races during* the past few years, said Lord Lugard, was one of the most remarkable phenomena of the twentieth century, but in reality it had been growing ever since the abolition of the overseas slave trade No doubt this interest was due in large measure to economic causes, the civilized nations recognizing their need of the products of the Tropics, but it had also a strong humanitarian motive The coloured races had now become articulate, and were bound to become more so as their contact with civilization developed It was very necessary to study how the impact of civilization on a primitive race might be made in an evolutionary rather than a revolutionary way Second only to the immediate problem of India, to be the subject of some momentous decisions during the next few months, was the problem of imperial responsibility in the great continent of Africa To attempt to impose British institutions upon African races resulted at best in an artificial veneer acceptable to, and understood by, only a comparatively small minority who had dissociated themselves from their people In his own acquaintance with the lawless savage Lord Lugard had found that in fact tribal organization exercised an effective discipline, and created a strong patriotism for the local community and an unswerving loyalty to the chief Tribalism had its own code of civil and criminal law, and had evolved among other things a system of land tenure He emphasized the need for that first task of the anthropologist, the study of existing institutions among primitive peoples To that end, Dr Wellcome's extremely interesting museum, illustrating the practice of medicine throughout the world from the earliest ages, makes a great contribution Lord Lugard linked it with the ethnological museum in the Lateran Palace at Rome, which showed in contrast the earlier conditions of primitive savagery and the achievements of to-day, thanks to missionary effort on various lines, including educational and medical Such collections conferred great benefits on both the white man and the black, and would assist in solving the problem of race relations in the future Professor J L Myres, president of the Royal Anthropological Institute, also expressed to Dr Wellcome the feelings of gratitude with which anthropologists regarded one of the most stimulating museums in the country It was a museum where the objects themselves were of extraordinary interest, but what gave them their peculiar value was that they were all eloquent in their selection arrangement, and description of the continuity and development of one of the noblest of applied sciences that mankind had at its disposal Other speeches were made by Dr C S Myers, director of the National Institute of Industrial Psychology, Dr H J J Peake vice-president of the Royal Anthropological Institute, and Mr T A Joyce, deputy keeper of the department of ethnography in the British Museum Dr Wellcome in a few sentences in reply, explained how soon after he began collecting the idea of assisting research workers and students took possession of his mind, and he gradually formed a museum which visualized, as a museum should do within its particular sphere, the failures and mistakes as well as the successes of the past

INTERNATIONAL SOCIETY OF ORTHOPAEDIC SURGERY

THE first congress of the International Society of Orthopaedic Surgery was held in Paris on October 2nd, 3rd, and 4th, under the presidency of Sir Robert Jones On the occasion of its foundation in October, 1929, it had been decided that the society should have a limited membership, ten members only being allotted to the United States, Great Britain, France, Germany, and Italy At the congress it was generally felt that the number of representatives from certain of the smaller countries ought to be increased, but on the question of a large expansion of the total membership there were sharp differences of opinion It was eventually decided to authorize a modest increase in the quota from each country for the next congress, which is to be held in London three years hence, with Professor Nove-Josserand of Lyons as president Dr Munk Jansen of Leyden was elected vice-president, in addition to the vice-presidents already holding office—Professor Gocht of Berlin and Professor Putti of Bologna At the opening scientific session of the congress on October 3rd Sir Robert Jones gave his presidential address on "The domain of orthopaedic surgery" This was followed by the chief subject for discussion—the treatment of congenital dislocation of the hip after the age of 15, the official reporters being Professor Kreuz of Berlin, Dr F Dickson of Kansas City (in the absence of Dr F Gaenslen of Milwaukee), Mr H A T Fairbank of London, and Professor Putti Various members took part in the succeeding discussion, all the five official languages of the society being spoken On the second day of the scientific proceedings, the subject was injuries of the wrist-joint, introduced by Dr Albert Mouchet of Paris and Dr Munk Jansen Operations were performed on two mornings by Professor Ombredanne and Dr Mathieu Sir Robert *Jones presided at the official banquet on* October 2nd at the Union Interalliee, and in the single speech of the evening exercised his inimitable charm on all, despite the linguistic difficulties

INDUSTRIAL HEALTH RESEARCH BOARD

THE tenth annual report of the Industrial Health Research Board contains an account of the work done during 1929 [1] The first section discusses problems of general importance to industry, these include heating and ventilation, vision and lighting, sickness and absenteeism, and the physiology and psychology of work Under vision and lighting, the importance, even to those people who possess normal vision, of using special spectacles for very fine work, is further demonstrated On the subject of accident causation, further evidence is adduced to prove that not only are there certain workers who are prone to accident, but that such may be detected by the use of psychological tests Progress is reported in the study of causes underlying the wide variations observed in sickness absenteeism, and the possibility of obtaining evidence of the incidence of sickness in industry and the methods of recording it is being investigated In this connexion reference is made to a study of the incidence of nervous symptoms among worker in various occupations An extensive survey of the physique of men engaged in different industrial occupations is progressing, and a bibliography of the literature on effects of posture is being prepared Under the heading of psychology of work, an account is given of studies on the effects of monotony and repetition, which are being conducted under actual factory conditions The second section of the report describes work that has been done on specific problems submitted by Government departments and industrial associations, including inquiries into sickness among printers and card-room operatives, the causes of absenteeism

[1] H.M. Stationery Office 1930 6d net.

among coal miners and the effects of pit head baths The report on sickness among printers brings out the special liability to illness (including tuberculosis) of compositors in early life and their comparative immunity from illness later, as contrasted with machine printers warehousemen and cutters and leads to the suggestion of instituting medical standards of fitness for the recruitment of compositors, and the possibility of further light being thrown on the tuberculosis rates of machine printers by *obtaining working life histories*" *When the possible* earnings of coal face workers in the collieries investigated fell 32 per cent, the time lost from voluntary absenteeism fell to one-half, and that from sickness to three-fourths An association was found at some collieries between the introduction of pit-head baths and a decline in the time lost from sickness The third section gives a short account of research work in experimental industrial psychology which has been carried out in various universities in order to determine the extent to which acquired skill is transferred from training in an industrial process to the performance of operations which are simple components of that process, the relative effects of concentrated and distributed practice, and the effects of variety and uniformity in work In its final paragraph the Board appeals for wider interest in its work, and for the more widespread adoption by industry of those definite conclusions—offering well-ascertained benefits to operatives—which have emerged from it

TONSILLAR DISEASE AND RHEUMATISM

There is abundant justification on clinical grounds for the inclusion of acute tonsillitis in the rheumatic series Not uncommonly indeed it is the first event in the development of a group of symptoms which would be universally recognized as acute rheumatism Naturally, therefore, inquiries into the etiology of rheumatism have included a survey of the possibilities of tonsillar infection and of the prophylactic value in this respect of removal of the tonsils On the latter point there are differences of opinion Hence there is a special measure of interest in an observation recorded by Dr Dan McKenzie in an address recently delivered to the Laryngological Section of the Royal Society of Medicine The main object of the contribution was to discuss the circumstances in which, with advantage the tonsils can be gradually destroyed by diathermy and incidentally Dr McKenzie remarks that 'in rheumatism from tonsil infection improvement in symptoms is often observed after the first application of the diathermy" and he suggests that this improvement is due to the sterilizing influence of the application on the infected tonsillar areas It is to be hoped that further observations on this point will be recorded

CLIO MEDICA

Under this title Professor E B Krumbhaar of Philadelphia is editing and Paul Hoeber of New York is publishing a series of primers on the history of medicine, which might well be placed on the English market The series consists of handy little volumes of less than a hundred pages each, and they are written to introduce medical men and others to the way in which medicine has become what it now is The first volume to be issued was on the *beginnings of medicine in Egypt and Assyria* by Mr Warren R Dawson, the second, by Sir D Arcy Power, dealt with medicine in the British Isles and the third, by Sir Humphry Rolleston, treats of internal medicine, a term commonly used in other countries for what we call physic Each volume can easily be read in the course of a short railway journey and each should whet the appetite for more Sir D'Arcy Power concerns himself chiefly with the corporate bodies and the methods by which the medical student has been educated, and he adds a bibliography for the benefit of those who wish to go more deeply into the subject Sir Humphry Rolleston covers the whole ground of medicine, from the difficult story of the beginnings to the latest discoveries of the present day All is presented in an orderly fashion and so clearly that it makes pleasant reading even for a layman, whilst to the professional man it is the unfolding of a remarkable panorama *It is, indeed, only a Pisgah sight*, but it should stimulate the growing interest in medical history which, as the recent congress at Rome shows is one of the features of the present age throughout the world

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The Bradshaw Lecture will be given before the Royal College of Physicians of London on Tuesday November 4th by Dr W L Hume the subject is paroxysmal tachycardia The Mitchell Banks Lecture, on indications for treatment in pulmonary tuberculosis will be given by Dr L S T Burrell on Thursday, November 13th The lectures will be delivered at the College, Pall Mall East S W at 5 p m Members of the medical profession will be admitted on presentation of card

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At a meeting of the Central Midwives Board for England and Wales, held on October 2nd, Dr John S Fairbairn, consulting obstetric physician and gynaecologist to St *Thomas's Hospital* was *elected chairman* in place of the late Sir Francis Champneys

BRITISH EMPIRE CANCER CAMPAIGN

In the absence of Lord Reading Sir Charles Gordon Watson presided at the quarterly meeting of the Grand Council of the British Empire Cancer Campaign held on October 13th at the new offices at 12 Grosvenor Crescent Hyde Park Corner S W

On the recommendation of the Scientific Advisory Committee a further grant of £150 was made to Dr J C Mottram pathologist at the Radium Institute London, £300 to Mrs. E. K. Dawson M B Ch B of Edinburgh for the continuance of investigations into mammary cancer and £250 to Mr E Nevill Willmer at the Physiological Laboratory, Cambridge University

An application for affiliation from the Natal Radium and Anti Cancer Fund South Africa was acceded to thus completing the representation of the British Empire Cancer Campaign either by way of branches or affiliated bodies in every one of the British Dominions It was also reported that owing to the success attained by the Nottinghamshire Council of the Campaign its work was being extended by associating with the counties of Derby Lincoln Leicester, and Rutland thus forming the East Midland Council and that the Duke of Portland had agreed to act as president of this new combined council

A report was received from the executive committee that the informal conference between the members of the scientific committees of the Campaign and other cancer research workers would take place before the end of the year in order to take stock of the progress effected and to discuss further general lines of research into the cancer problem

The Grand Council was informed that the popular book entitled *The Truth about Cancer* had been finally approved by all the technical committees and will be published by the firm of John Murray at 2s. 6d. a copy The Finance Committee reported that the Campaign had received an intimation that a legacy of over £20 000 would become available shortly for its research into the causes and cure of cancer

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The date of Mr Justice McCardie's Maudsley Lecture was incorrectly given in our last issue. It will be delivered before the Royal Medico-Psychological Association in the Great Hall of the British Medical Association House, Tavistock Square on Thursday, *November 20th* at 3 o'clock

NATIONAL RADIUM

REPORTS BY TRUST AND COMMISSION

THE first annual reports of the National Radium Trust and the Radium Commission were published together last week as a Blue Book[1] Both bodies were established by Royal Charter on July 25th, 1929 The main functions of the Trust are to take charge of the funds raised by public subscription and voted by Parliament for the provision of radium, and to arrange for the purchase of radium therewith The Commission's duty is to make arrangements for the proper custody, equitable distribution, and full use of the radium purchased by the Trust While the Trust's first report deals with the purchase of radium up to March 31st, 1930 (which is the period covered by the accounts audited in the form prescribed by the Treasury), the Commission's report extends over a period ending August 31st, 1930

NATIONAL RADIUM TRUST

Within a few days of their appointment the trustees met to consider what steps should be taken to begin the purchase of radium with the money at their disposal—namely, £100,000 or more from the *Times* appeal (being part of the Thank-offering Fund for the King's recovery) and £100,000 voted by Parliament After weighing all relevant considerations—price, guarantees as to quality, the practicability of early delivery, and the filling of the radium in containers—the Trust entered into an agreement with the Union Miniere du Haut Katanga for the purchase of 10 grams of radium at 50 dollars (U S A) a milligram, payable at the current rate of exchange on the day of delivery, this has worked out on the average at about £10 5s a milligram The Trust was able to obtain these preferential terms (considerably below the current market price) in consideration of the fact that it was purchasing radium for the formation of a central national stock It was agreed that the National Physical Laboratory's certificate of measurement should be accepted as determining the quantity of radium delivered Under the same agreement the Union Miniere placed at the disposal of the Trust a "bomb" of approximately 4 grams of radium on loan free of charge, for three months, with the option to purchase at the end of that period at the rate of 50 dollars a milligram, this option was exercised in February A small quantity of Cornish radium (186 5 mg) was also bought, for £1,920 On the recommendation of the Radium Commission, steps were taken later to buy 3 grams of radium for the preparation of radon emanation By the end of March, 9 215 grams of radium were in hand, 5 grams had been ordered, and the purchase of 3 grams was under negotiation

The Trust decided not to undertake to purchase for individual institutions until further progress had been made with the purchase of the radium required for the central stock Having regard to the terms of the original appeal in the *Times*, the Trust considered that the money in its hands must be devoted to the purchase of radium with as little delay as possible for the alleviation of sickness, and that no part ought to be devoted to enterprises mainly directed to the exploitation of possible new sources of supply

WORK OF THE RADIUM COMMISSION

As set out in the Charter of Incorporation, the duties of the Radium Commission are

"(*a*) To make arrangements for the proper custody equitable distribution and full use of the radium which may from time to time be the property of the Trust with the object of promoting the treatment of the sick throughout Great Britain and the advancement of knowledge of the best methods of rendering such treatment and of securing due economy in the use of radium for the purposes of such treatment

"(*b*) to consider proposals submitted to them for the use of the radium for the said purposes and to make such arrangements for the supply on loan of the radium or any preparation thereof as are necessary to enable any proposals which they may approve to be put into operation,

"(*c*) to collaborate with the Department of Scientific and Industrial Research on such terms as regards the repayment of any costs incurred by that Department as the Treasury may approve in securing arrangements (i) for the custody of so much of the radium as may from time to time not be on loan, (ii) for the preparation of the radium in a suitable form before its issue on loan and for the subsequent recovery of the radium from the form in which it has been prepared"

The composition of the Radium Commission and of the Trust was stated fully in the *British Medical Journal* of August 17th, 1929 (p 317) The Commissioners, eleven in number, with Viscount Lee of Fareham as chairman, and Mr Comyns Berkeley as vice-chairman, met first on September 26th, 1929, and by the end of August, 1930 twenty full meetings had been held, besides numerous meetings of subcommittees and conferences with other bodies

Lines of Policy

The general policy of the Commission was outlined in our issue of October 5th, 1929 (p 636), and official communications on the present position of the radium problem and on the work of the Commission and its policy appeared on November 16th, 1929 (p 911), and April 12th, 1930 (p 714) The main task to which the Commission addressed itself was that of framing and creating a national organization which should serve, so far as practicable, the needs of Great Britain Its primary objectives were held to be (*a*) "treatment of the sick," as prescribed by the Royal Charter, and (*b*) evaluation of radium in the treatment of cancer as determined by results over a period of years

"To carry out this task in the most effective, safe, and economic manner it was considered imperative that a policy of concentration of radium, as against dissemination, should be adopted and pursued It was therefore decided that the distribution of national radium should be restricted to places possessing a university with a medical school and complete clinical courses and that only one hospital—nominated by the medical faculty of the local university and approved by the Commission—should be recognized as the national radium centre for the area concerned In this way only was it thought practicable for the Commission to retain any effective control over the distribution and use of the radium committed to its charge and experience so far has shown that these initial and basic decisions have been justified by results

'Proceeding on these lines the following geographical distribution of radium at the selected national centres was approved *England* (7 centres)—Birmingham Bristol, Leeds Liverpool Manchester Newcastle on Tyne, Sheffield *Scotland* (4 centres)—Aberdeen, Dundee, Edinburgh, Glasgow *Wales* (1 centre)—Cardiff

"It was concurrently decided to treat London as a separate and special case, and to combine a centre for treatment there with a national post graduate school of radiotherapy for the service of the whole country"

Immediately after the declaration of this policy negotiations were opened with university authorities in all the selected areas In every case the Commission's proposals met with a cordial response, and deputations from the medical faculties concerned were received at the Commission's offices (5, Adelphi Terrace, W C 2) In this way many local difficulties or doubts were resolved, and the procedure was settled in detail for organizing the national centres on a uniform basis with due regard to local circumstances These preliminaries over, the Commission entered into a formal agreement with each centre specifying the conditions under which the national radium allocated was to be loaned and utilized By the end of August some 18 grams of radium had been provisionally allocated to national centres Progress in the organization of these centres has varied much a summary of the present stage of their development is printed as an appendix to the report It is hoped that all the radium allocated will be in full clinical use by the end of this year

Post-Graduate School of Radiotherapy

In the Commission's view the need for a larger number of practitioners, fully qualified to practise radiotherapy is at least as urgent as an increased stock of radium and it has been much impressed by the lack of adequate facilities for the teaching of this all-important subject

[1] Cmd 3758 H M Stationery Office 1930 1s 3d net

One of its first preoccupations, therefore, was the creation of a central National Post-Graduate School of Radiotherapy, and it was decided that this could most appropriately be established in London. It soon became apparent, however, that the scale of equipment and operation of an adequate centre would be beyond the resources of any existing teaching hospital while, on the other hand, it was felt to be undesirable that the new school should have to wait for the establishment of the projected British Post-Graduate Hospital and Medical School at Shepherd's Bush or become absorbed in it.

As already indicated in these columns[2] the Commission decided that the best solution of this problem would be the co-operation and (if practicable) the amalgamation of two existing institutions—the Mount Vernon Hospital at Northwood, Middlesex, and the Radium Institute in Portland Place, London. As a first step the authorities of the two institutions were invited to attend a joint conference in February 1930, and, after two formal meetings, the general scheme drawn up by the Commission was agreed to in principle. Under this arrangement the main clinical and pathological work of the joint institution will be carried out at Mount Vernon, while the diagnostic and out-patient department, with a proportion of the surface therapy work, will be centred at the Radium Institute, which will also become the Commission's principal centre for the supply of radon (radium emanation). The total amount of national radium allocated to the joint centre will be: Mount Vernon Hospital, 3 grams (for clinical work); Radium Institute, 1 gram (for radon). This will be in addition to the existing supplies of the two institutions. The post-graduate school is being formally inaugurated this month, and a comprehensive course of instruction has already been approved and advertised.

Uniform Case Records

It has been the Commission's aim from the first to maintain harmonious relations with other important bodies interested in the medical uses of radium—namely, the Medical Research Council, King Edward's Hospital Fund for London, and the British Empire Cancer Campaign. With this object in view a joint conference was held in December last, followed by frequent consultations and correspondence. A valuable outcome of this co-operation has been the approval and adoption of uniform case records for clinical use, which constitute a first and essential step in the compilation of national statistics of radiotherapy. The forms for entering full particulars of cases, including regional charts and follow-up sheets, are reproduced in an appendix to the Commission's report.

The Westminster "Bomb"

The 4-gram "bomb" originally held on loan and later purchased outright, was acquired in order to enable the Commission to try out the method of 'distance radium therapy" or "mass irradiation," which has been practised for some time past in other countries with undetermined results and which, it proved successful, might in many cases obviate the need for surgical intervention. The Westminster Hospital, chosen by the Commission to undertake this work, had had previous experience with a smaller 1-gram bomb, but the larger apparatus involved new problems of technique, and while it has been continuously in use for the treatment of patients night and day since November, 1929, under the control of a highly experienced team, many problems still remain to be solved. As at present advised the Commission is of opinion that the experience so far gained is not sufficiently encouraging to justify the acquisition of any more large bombs at the present time.

General Conclusion—Judgement Deferred

In conclusion the Commission insists once again that great caution is necessary in estimating the value and efficacy of radium in the treatment of malignant disease, and it cannot too strongly deprecate the creation of false hopes by means of sensational or even optimistic statements.

As a result of world experience, extending now over many years, the best that can be said is that some results, under certain conditions, are very satisfactory, that others, for no clearly established reasons, are less so, and that in a considerable proportion of cases the results are either inconclusive or definitely disappointing. This does not justify a pessimistic outlook, as many problems which yet remain unsolved may yield to experience and research. But time is an essential condition of success, and it can only be after several years of pioneer work that there can be a sufficient supply of statistical and scientific data to enable positive conclusions to be reached and published to the world.

The Commission has therefore made it its first duty to organize a concentrated and controlled national radium service, with a definite and co-ordinated programme, which will be carried out at selected centres under the supervision of recognized experts, and of which the progress and results will be recorded on a uniform system. By this means the treatment of the sick, which is enjoined in the Royal Charter, will *proceed pari passu with the advancement of knowledge of the best methods* of radium therapy, whilst due economy will be secured in the utilization of the limited stock of national radium.

Finally, the Commission feels bound to repeat its warning *that radium is not yet established as a cure for cancer*, that whilst it holds out a good promise of beneficial results and certainly of alleviation of suffering it is at present a very dangerous weapon and one which, unless used with the greatest skill, care and precaution, may easily be productive of more harm than good. This is the Commission's considered opinion as the result of its first year's work, but at least five years of further experience and co-ordinated research will probably be required before any final verdict can be anticipated.

[2] *British Medical Journal*, June 28th, 1930, p. 1155.

THE MINISTER OF HEALTH'S DEPARTMENTAL REVIEW

FORECAST OF A NATIONAL MATERNITY SERVICE

At the annual conference of the Labour Party, held at Llandudno during the week beginning October 6th, Mr ARTHUR GREENWOOD, the Minister of Health, gave a review of departmental legislation. He said that although boards of guardians had disappeared the old Poor Law remained on the Statute Book. What could be done by administration towards the production of a new Poor Law code in harmony with the spirit of the moment was being done by his department. The breaking up of the Poor Law had often been spoken of. The Local Government Act did not break up the Poor Law, but it began to create conditions under which the Poor Law could be broken up, and he hoped that local authorities would pursue as far as they could the policy of breaking up the Poor Law into its component parts. He had tried to do this in connexion with the Mental Treatment Act, a measure misunderstood by many of his friends, but which he considered to be a great new charter in the treatment of mental disease.

Dealing with slum clearance, the Minister said that he attached great importance to a provision in the Housing Act, 1930, which required local authorities to look ahead for five years and to submit a programme for the scrutiny of the Minister. The results of slum clearance schemes up to now had been small, but the new Housing Act provided a code which would enable every bad house in the land to be swept away, and to ensure reasonably decent housing conditions everywhere. Slum clearance, he added, was not half as expensive as the load of disease which bad housing created.

Mr Greenwood then turned to the problem of maternal mortality, which he said was very much in his mind. It was a tragic thing that maternity should be the deadliest of callings that every year three thousand mothers should die in the performance of the greatest of all tasks and responsibilities. More than half—60 per cent. in fact—of maternal deaths were preventable. Moreover, the conditions which led to the deaths of the three thousand might leave their mark for life upon many of the 700,000 who survived. The problem was a baffling one, and so far from the maternity death rate declining, it had actually been increasing. "It is not going to be an easy job to tackle.

The situation is due to many causes I am going to say to the local authorities—and I shall do it very soon—'Parliament has placed in your hands, in the public health responsibilities which you bear, opportunities for dealing with this problem' I *hope* local authorities will do all they can within their power to make the necessary provision for ante-natal treatment, for maternity hospitals, and for post-natal treatment We have, however, to go further than that I think we have to evolve a national maternity service We mean to do that" Immediately the party conference was over the Government would *begin negotiations* with all the people concerned in the problem If the problem was to be dealt with effectively, every form of health provision and health service must be mobilized Local authorities must be consulted also the approved societies and the medical profession, with a view to framing a comprehensive scheme which, combined with the activities of the local authorities, would ensure that no mother should unnecessarily die

On the day Mr Greenwood was speaking at Llandudno, the National Association of Insurance Committees (whose doings are recorded in the *Supplement* this week) met in London and had before it a motion in the name of Cheshire Insurance Committee heartily welcoming the interim report of the Departmental Committee on Maternal Mortality and Morbidity, and supporting the recommendations therein set out, also urging upon the Minister the necessity of taking immediate steps to give effect to them The resolution further contended that in so far as any scheme of maternity service might relate to insured women and the uninsured wives of insured men, such scheme should be administered by and through insurance committees as an extension of medical benefit Another proposal in the same resolution was that the Minister be requested to prepare a short statement of information and instruction on matters affecting maternity for distribution by registrars of marriages to all newly married women The Insurance Committees' Conference followed its usual course with important resolutions, and referred the whole matter to its executive council for consideration

MOTOR CARS FOR 1931.

THE OLYMPIA SHOW

[From our Motoring Correspondent]

(*Continued from page 624*)

A year ago it was thought that the prices of cars had reached their lowest point and that, having regard to the costs of material and labour, it would be impossible to produce them more cheaply Whether it be that the impossible has become a possibility, or whether the various makers are looking for a bigger output to recoup them, one of the most outstanding features of the annual Motor Show which opened on October 16th, is the general all-round reduction in prices While to-day all cars, generally speaking may be relied upon to give satisfactory service, the need for reliable running is of prime importance to doctors inasmuch as their means of conveyance has to be available all the year round and in all weathers Moreover the daily use of cars renders it necessary that not only must the mechanical portions of the vehicle be equal to the task, but that the paintwork and upholstery shall be of a durable, appearance-retaining character Hence, it may be suggested that lowness of first cost ought not to play too important a part in a doctor's choice of car, and that a slightly dearer vehicle may be cheaper in the long run

Four-cylinder Cars still Popular

First word reference was briefly made to the continued popularity of four-cylinder cars As a matter of fact, both the recent Paris Motor Show and the present exhibition show that those who a year or two ago were mournfully sounding the dirge of four-cylinder vehicles were a little too previous On the other hand the position to-day is that not only are there still makers confining their output to cars with four-cylinder engines but there are others who, after having ceased their manufacture for a time, have re-added this type to their programme For the motorist of limited means there is no doubt that four cylinder cars are not only economical in first cost and maintenance, but are capable of rendering useful service At the same time, it is impossible to deny that the six cylinder vehicle has a greater smoothness of running and an undefinable charm about it that gives it a strong appeal to appreciative motorists Indeed, it may be said that "sixes" are likely to form the most popular type of automobile during the coming year, although in the case of cars costing from about £360 upwards vehicles with eight-cylinder engines are being more widely offered and used

Technical Survey

Remembering that motor engineering is no longer a young industry, motor users are beginning to take it for granted that all cars will give efficient and reliable service, and that the various components, from the engine to the back axle, have been both carefully designed and constructed to that end At the same time, there are still large numbers of motorists who take an interest in the progress of engine design and mechanical details For such of our readers who fall into this category it may be of interest to review briefly the tendency of the times Apart from "the battle of the cylinders," already alluded to, it is noted that honours continue to be divided fairly equally between engines with overhead and those with side valves, and that detachable cylinder heads, to facilitate decarbonizing, are now adopted almost universally. Carburettors are being more generally fitted with air cleaner, and, in some instances, a small pump is now being used to supply the fuel to the float-chamber For ignition purposes the coil and battery system continues steadily to replace the magneto formerly employed, the necessary current being supplied by the 6- or 12-volt starting and lighting battery provided on all cars Although the writer has still a preference for the magneto, it may be safely presumed that manufacturers would not, in increasing numbers, adopt a system of ignition other than one which, given the necessary modicum of attention, may be expected to function correctly and regularly It is apparent, too, that battery makers are now turning out more satisfactory accumulators Close supervision, however, is still required, so that motorists generally will be well advised to have their batteries occasionally examined by experts who will see that the cells are kept "topped up" and the terminals clear of corrosion Such attention is especially necessary with doctors' cars owing to the fact that they have, in the course of the day's round, to be started and stopped more frequently than ordinary touring cars, with a consequent greater load on the battery

Improvements in Change-speed Gears

Unit construction of engine and gearbox continues the order of the day, as also do clutches of the plate or disc type Three-speed gearboxes are mainly used on the smaller cars, although on some of these, as on the majority of the bigger vehicles, four-speed gearboxes are now being provided A good deal of attention has in recent years been devoted to the production of quieter change-speed gears, with the result that to-day one hears much of four-speed, silent third boxes, for which it is claimed that the third speed is as quiet in operation as the top direct drive As for the control of gearboxes, it will be found that the centrally located lever is steadily replacing the side change The ordinary hand-controlled sliding-pinion form of gearbox is still mainly employed, it may be mentioned, however, that the mechanically controlled or "self changing" gearbox, introduced two years ago by the Armstrong-Siddeley Company as an optional extra, has apparently not only proved satisfactory in practice but is meeting with users' approval, for it is now being fitted on all the different models of cars produced by the company mentioned The only other departure of note in connexion with clutches and gearboxes is the "fluid flywheel" and semi-automatic change-speed gear, which has been adopted on the Daimler cars Two or three years ago a good deal of interest was shown in the proposal to include a free-wheel in the transmission system of cars to enable them to run very much in the same way as a bicycle Although there is one make of American car in the show

fitted with a free-wheeling device, which is claimed to assist materially in quiet gear changing, the idea does not appear to have found favour with British manufacturers.

Four-wheel brakes are, of course, found nowadays on practically all cars. In the lower priced vehicles these continue to be operated directly by means of rods and levers, but on cars costing £200 and over there is an increasing tendency to employ servo-operated brakes. Shock absorbers are to-day provided in connexion with the springs of motor vehicles, another tendency of the times being an increasing popularity of wire wheels, although it may be noted that, to improve their appearance, large central hub plates are now being fitted.

Servicing Station Facilities

Although among the rank of motorists there are still large numbers of owners who prefer to look after the oiling and greasing of their cars themselves—to facilitate which many manufacturers have either adopted what is known as "one-shot" lubrication, or have arranged the various lubricators in one or more convenient groups—the tendency of the day is to entrust this work to service stations which continue to spring up in all districts, and where such tasks as oil and grease replenishing, piston and cylinder head decarbonization, the grinding in of valves, tyre inflation, etc., can be effected, both correctly and promptly, and at moderate charges, by experts in such work. So important a branch of the motor industry has car maintenance and servicing become that for the first time the Olympia Show embraces a special section devoted to equipment for garages and service stations. If the medical motorist has time to visit this part of the exhibition he will, in all probability, be amazed at the wonderful variety of devices that are now available to facilitate car servicing and "valeting" work.

The Popularity of Saloon Cars

Of motor body types the saloon form remains easily the most popular, offering as it does comfortable accommodation for at least four persons, while as a touring machine for two people it possesses the advantage of enabling luggage to be carried with a minimum of trouble. A type of body that would seem to be meeting with growing approval among those medical men who prefer to drive themselves is the coupe with dickey-seat "boot" at the rear, of which many elegant examples are to be seen. As mentioned last week, sliding or folding sunshine roofs are now being provided by most manufacturers, and though still an extra in many cases, in some instances they are now being furnished without additional charge. One notes, too, that unsplinterable glass for wind screens and windows is now being widely fitted, there being to-day few cars in which this safety provision does not figure in the specification. Although the fabric body is still to be found on many of the stands, it has only met with a limited degree of popularity. What is known as the coach built saloon is the more prevalent type, this having a wood framing with thin sheet metal exterior panelling. The internal finish of cars continues to be improved, and not only are the seats well upholstered, but many conveniences for both drivers and passengers are being provided. Many old established makes of cars continue to appear in a modern garb, the enhanced appearance being due to the adoption of more attractive radiator shapes. The old form of nickel-plated exterior bright parts of cars which, to keep clean, called for the expenditure of much time and labour, has given way to the modern chromium plating. The latter, however, has a new rival in fittings of stainless untarnishable steel, which some makers have adopted.

Cars for Medical Men

As has already been indicated, if there is any particular note about the 1930 show it is the great effort now being made by car manufacturers, not merely to improve their productions, but to offer them at prices which a few years ago would have been regarded as practically impossible. Thus the motor car is brought within reach of a much wider circle of possible buyers. As hitherto it is not easy to single out any particular class of car as being specially suitable for doctors' use. There are those who will find one of the "babies" amply meet their requirements. Others will require more roomy vehicles, and still others, notably those whose practice lies in hilly districts, will need a more powerful vehicle. For these there is available a very wide choice of four- and six-cylinder vehicles, the "sixes" being now offered at prices ranging from £199 upward, with quite a number of productions of about 16-h.p. under £300.

"Baby" cars—infantile in appearance but not in performance—continue one of the outstanding features of the show, and it is interesting to notice how their fame is spreading abroad, the pioneer of the type, the "Austin Seven," being now manufactured under licence in France, Germany and the United States. The class is steadily growing in size, for in addition to the Austin there is now the Morris Minor, the Singer Junior, the Triumph Super-Seven, and an interesting newcomer, the Swift "Cadet." Hitherto the "baby" cars have been limited to engines with four cylinders, but one of the features of the year is the appearance of the Wolseley "Hornet" and the Triumph "Scorpion," both of which have six-cylinder engines.

The Armstrong Siddeley and Austin Cars

The Armstrong Siddeley Company, which is continuing to concentrate on four models of six-cylinder cars—12-h.p., 15-h.p., 20-h.p., and 30-h.p.—have not only been able to introduce many improvements but also to reduce prices. On all models safety glass wind-screens with twin wipers are being fitted, as also finger tip controlled dip and switch lamps and "stop" tail lamp. The 12-h.p. Armstrong-Siddeley, which was one of the pioneers of the modern light "six," is now available at £270, or £25 less than last year, while at the 1930 price it can be fitted with the self-changing three-speed gear, which has proved so successful on the higher-priced models to which it has hitherto only been applied. The 15-h.p. model, which is made in both short and long chassis forms, and with either three or four speeds, has an improved engine, and, like the 20-h.p. and the 30-h.p. cars, is equipped with the automatic change-speed mechanism. The frame has been lowered, while another interesting detail, also found on the two larger models, is a central system of chassis lubrication.

It is a tribute to the satisfaction given to users of their cars that the Austin Motor Company, Ltd. has found it unnecessary to depart from the range on which they have concentrated for several years past—namely, 7-h.p. and 12-h.p. four-cylinder and 16-h.p. and 20-h.p. six-cylinder. The Austin Company introduces improvements as and when they are found possible, and not merely at show-time. The cars to be seen at Olympia this week, however, embody several changes from those displayed last year. The popular "Seven" is, for instance now provided with more roomy bodywork, a larger petrol tank, and more conveniently operated change-speed and brake levers. The old reliable 12-h.p. four-cylinder car remains practically unaltered as regards mechanical details, but, like the 16-h.p. and 20-h.p. vehicles, the bodywork has been improved and given more attractive lines. The 16-h.p. "Six," one of the most popular of the Austin range, has an engine with an eight-bearing crankshaft, a feature also of the 20-h.p. model. One of the most noticeable points of the Austin 1931 programme is the lower prices, all the different types having been reduced.

Hillman and Humber Cars

As is now fairly well known, although the Hillman and Humber companies are in close association, they are carried on as entirely separate undertakings. For next year Hillmans are continuing both the 14-h.p. four-cylinder and 20-h.p. eight-cylinder vehicles the prices of which have been considerably reduced, the saloons being now available at £275 and £355 respectively. Despite the lower prices, various improvements have been effected in the details. Chief interest in the Hillman exhibit, however, centres on a new 20-h.p. straight-eight" to which the name "Vortic" has been given and in which many notable refinements have been incorporated, prominent among these being a new silent-running four speed gear-box controlled by a centrally located lever, servo-operated brakes, lighter steering, and thermostatically controlled radiator shutters.

No car enjoys a higher reputation for reliability than the Humber. For 1931 three models are being produced—

16/50-h.p., and the Snipe and Pullman models. Needless to say, from both the chassis and bodywork points of view, the latest Humber cars are of the highest grade and embody all modern features.

Morris Cars

The Olympia Show would be incomplete without this company's models, and the most striking feature of the 1931 programme is undoubtedly the introduction of a new light six-cylinder vehicle known as the Morris Major, which, in regard to wheelbase, track, and size of bodywork, is identical with the familiar Morris-Cowley. The engine is a neatly designed piece of work, with a bore and stroke of 63.5 × 102 mm., the tax rating being £15. This new model is available at £215 as a fabric "saloonette" with luggage boot at the rear, at £220 as a two-door coupé with folding head and dickey-seat, and at £225 as a folding-head, four-door coach-built saloon. The Morris Minor embodies certain detail improvements, at reduced prices, the fabric saloon now costing £135. A similar remark applies to the well-known Cowley four-cylinder model, the saloon of which has been reduced to £185. Very few changes have been found necessary in the Morris Oxford 15-h.p. "Six," a very popular type. The Oxford is a much more roomy vehicle than the Major, and in its latest form a folding central arm-rest, when raised, enables three persons to be comfortably accommodated on the rear seat. The most powerful of the Morris series of cars, the Isis, which is also available at lower prices, embraces the various improvements embodied in the Cowley, Major, and Oxford vehicles, one of the more important of these, and one that will be appreciated by owner-drivers as well as by professional chauffeurs, being the convenient grouping of the various lubrication nipples. Speaking generally, there is no doubt of the continued up-to-date character and popularity of the Morris vehicles.

Two Notable Coventry Productions

At the new prices, which show drastic reductions from last year, the 1931 cars of the Rover Company, Ltd. should meet with considerable favour. Thus, either as a coach-built or Weymann saloon or as a coupé, the familiar Rover "Ten" four-cylinder car is now available at £189, as against from £255 to £270 last year, and this, notwithstanding the improvements which have been incorporated, and which comprise a wider frame with lower mounted and more roomy body, safety glass wind-screen, electric screen wiper, and luggage grid. Another interesting model which will appeal to many motoring doctors, especially now that its price has been brought under £300, is the Rover two-litre six-cylinder car rated for taxation purposes at 16-h.p. Like its larger sisters—the Light Twenty and the Meteor—the two-litre engine has a four-speed silent-third gearbox. It may be added that all the Rover "Sixes" are available in two grades—the standard and the Regal—the latter for an additional cost having better upholstery and the extra equipment mentioned above in connexion with the Rover "Family Ten."

Many will be interested to learn that there again figures, but in improved form, in the 1931 range of Singer vehicles a 10-h.p. four-cylinder car. Listed at £210, either as a saloon or as a coupé it is a car that may be relied upon to give good service with a moderate cost of upkeep, especially in view of the improved specification, notable items of which are a four-speed gearbox, servo-operated brakes, and springs with shock absorbers. The Singer Junior, which has been reduced in price, now has a four-speed gearbox as well as a larger rear-mounted petrol tank. The bodywork has also been improved and a sliding roof embodied in all closed cars without extra charge. Both the six-cylinder models—the "Six" and the "Super Six"—have also had certain refinements introduced and have been lowered in price.

Next week it is proposed to deal briefly with other cars exhibited and also to mention some of the more interesting motoring accessories shown in the galleries. Readers may be reminded that the show will be open daily from 10 a.m. to 10 p.m. until Saturday, October 25th, and that the charge for admission is 2s. 6d. on Fridays and Saturdays and 5s. on all other days.

C. J. W.

England and Wales.

Vital Statistics for 1929

THE Registrar-General's *Statistical Review of England and Wales for 1929*, Tables, Part II, Civil, may now be obtained from H.M. Stationery Office (price 2s.). As in the previous year, the volume contains statistics of population, marriages and divorces, births, passenger movement, parliamentary and local government electors, and vital statistics of the British Dominions. The population of Great Britain and Ireland, estimated in thousands, was as follows:

	1928.	1929.	Increase + or Decrease − per cent.
England and Wales	39 483	39 607	+0.32
Scotland	4 893	4 884	−0.18
Northern Ireland	1,250	1,250	—
Irish Free State	2 949	2 943	−0.20
Total	48 574	48 684	+0.23

The number of marriages solemnized in England and Wales during the year was 313 316, and was equal to a rate of 15·8 persons married per 1,000 persons living. Both the number and the rate are the highest recorded since 1921. Compared with 1924 the number of marriages celebrated by religious ceremony has decreased from 762 to 743 per 1 000 marriages, while civil marriages, on the same estimate, have increased from 238 to 257. A feature of the returns since the beginning of the present century has been the large number of marriages occurring in the third quarter of the year. During 1929 the number recorded in the July–September quarter was almost double that recorded from January to March. The births registered during the year numbered 643,673, being equivalent to a rate of 16·3 per 1,000 of the population. This is a decrease of 16,594 on the figure of the previous year and a fall of 0·4 in the rate. The number of illegitimate births was 29,307—395 less than in 1928. The proportion of male to 1,000 female births was 1,043, a figure closely approximating to the proportion in recent years and pre-war years. (The maximum was 1,060 in 1919.) The number of parliamentary electors on the register, prepared in respect of the qualifying period of three months ended December 1st, 1928, was 25,095,793, of whom 11,866,794 were males and 13,228,999 females. This is the first register compiled under the provisions of the Representation of the People (Equal Franchise) Act, 1928, and the first in which the number of females has exceeded the number of males. Compared with the previous register the number of male voters has increased by 5·7 per cent., while the extension of the female franchise has resulted in an increase of 53·1 per cent.

Progress of Surgery in Manchester

At the first ordinary meeting of the Manchester Medical Society on October 1st, the president, Mr. J. Howson Ray, gave an address entitled "Thirty years of surgery in Manchester." After referring to his association as a member of the honorary staff with the work of the Salford Royal Hospital, the Royal Manchester Children's Hospital, and for the past twenty-four and a half years with the Manchester Royal Infirmary, he outlined the striking advances made in surgery since 1900, mentioning particularly the progress that had occurred up to the beginning of the war, and the influence of the war on subsequent work. Referring chiefly to the statistical records and reports of the Manchester Royal Infirmary, he indicated many of the changes that had taken place, especially as regards the growth of abdominal surgery, and the improvement in technique and the influence of x rays, surgical diathermy, and radium on the surgical outlook of to-day. By means of lantern slides a series of graphs was shown to illustrate many of the points in the

address, and especially to demonstrate the general increase of surgical work the incidence of types of cases admitted to hospital in the various years was similarly shown In several of the graphs mortality curves were added, revealing the greatly improved results that had been obtained, one graph had been prepared to indicate the yearly admission of cases of diseases of the thyroid gland Commenting on the marked progress in thyroid surgery, the speaker mentioned that he had seen one of the early cases of implantation of sheep's thyroid for myxoedema, and in looking over the records of the Manchester Royal Infirmary he had noticed that in April, 1891, the late Mr G A Wright had performed this operation in the same month and year in which Dr G R Murray had given the first intravenous injection of glycerin extract of sheep's thyroid for a patient, who was a subject of myxoedema, and who lived for twenty-eight years subsequently The speaker announced the figures indicating the number of patients admitted in the successive years from 1900 onwards for acute and chronic appendicitis, chronic and perforated gastric and duodenal ulcers, acute intussusception, lesions of the pancreas, inguinal and femoral hernias (strangulated and non-strangulated), malignant disease of the tongue and floor of the mouth, rectal carcinoma, and cancer of the colon In the course of the address reference was made to the changing character of some of the work in hospital to-day, it was pointed out that the injection treatment of varicose veins had almost entirely removed this class of case from the present-day list of in patients of the Manchester Royal Infirmary

Guild of St. Luke.

The Guild of St Luke will hold its sixty-sixth annual festival service in St Paul's Cathedral on Tuesday, October 21st, at 8 p m , when the Right Rev J E Hine, formerly Bishop of Zanzibar will preach, and the alms will be given to the Royal Medical Benevolent Fund In the course of the service there will be a solemn procession, and it is hoped that as many as possible of those who attend will wear academic dress Ticket holders should be in their seats by 7 45 p m Seats will be reserved for medical practitioners and students, who are specially invited to attend, whether or not they are members of the guild Those wishing to take part in the procession may robe in the Chapel of St Michael and St George The guild was founded in 1864 by medical students, and still desires to appeal particularly to them Membership is also open to medical practitioners who are communicants of the Church of England, clergy being eligible for election as clerical associates The object of the guild is the mutual encouragement and support of its members in leading a Christian life The entrance fee is 1s , and the annual subscription a minimum of 2s 6d Tickets for the service and further information may be obtained from the secretary of the guild, Dr Andrew Currie, 20 Oxford Terrace W 2, or from the secretary of the women's ward, Dr Dorothea Brooks, 65, Park Road, Battersea, S W 11

Provision of Infectious Disease Hospitals.

It will be remembered that by Section 63 of the Local Government Act, 1929, each county council is required "as soon as may be after the commencement of this Act" to make a survey of its area with regard to hospital accommodation for the treatment of infectious disease, provided either by the council of the county itself or by the councils of districts within its boundaries Upon the completion of such survey the council has to prepare a scheme for adequate hospital provision in consultation with the councils of any other county, county borough or district concerned Such scheme has to be submitted to the Minister of Health for approval The Ministry has now issued to county councils (except London) a Memorandum (L G A 40) and accompanying Circular (1145), dealing with the surveys they have to undertake and the schemes they are required to prepare Some county councils have, however, already taken action The Memorandum points out that the necessary hospital provision may be made either under the Public Health Acts under the Isolation Hospitals Acts or under the Local Government Act, 1929 Under these Acts a local authority may itself provide a hospital or may combine with other local authorities to make the necessary provision Various methods by which such combined action may be taken are set out, but it is stated that action under the Isolation Hospitals Acts, 1893 and 1901, has been found to be cumbersome and inconvenient, and that the methods allowed by the Public Health Acts are to be preferred Further, the Ministry states that "experience has shown that a large hospital serving a wide area forms a more satisfactory administrative unit than a number of smaller hospitals serving smaller areas, and with modern means of transport the removal of patients to a hospital situated at some distance from their homes presents little difficulty The county council should consider whether it would be desirable to close any small hospitals found not to be satisfactory, and to enlarge those which are satisfactory in all respects, and can conveniently be extended and made to serve a wider area" It may be added, however, in this connexion, that the convenience of the friends and parents of patients also requires consideration "When the survey has been completed the county medical officer should be instructed to make a report to the council with a view to the preparation of a scheme The Minister desires to call attention to the growing need for the provision of hospital treatment for complicated cases of measles, influenza, pneumonia, whooping-cough, and the acute infectious diseases of the central nervous system" The Minister of Health does not propose to set out any complete model scheme, since the conditions in different counties vary so widely, but certain model clauses are contained in an appendix to the Memorandum, and these will be found of assistance to the medical officers and councils

Chadwick Lectures.

A course of Chadwick public lectures will be held during October, November, and December, illustrated by lantern slides, diagrams, the epidiascope, and films Dr Francis Bach, the Chadwick travelling scholar for 1929–30 and medical registrar of the British Red Cross Society's clinic for rheumatism, will be the speaker at the first of these lectures on Thursday, October 23rd, at 5 15 p m , the place being the Hastings Hall in the House of the British Medical Association The subject of his lecture will be the significance of rheumatism in youth and middle age, and particular reference will be made to the recent British, Continental, and American work as to its causation and prevention Sir William Collins, chairman of the Chadwick Trustees, will preside The two following lectures will also be given in the Hastings Hall, on Thursdays, October 30th and November 6th, at 5 15 p m , the lecturer on the first occasion will be Dr Gerald Slot, physician in-charge of the rheumatism supervisory clinic of the London County Council He will discuss rheumatism in childhood, and comment on its incidence, etiology and symptomatology, mention being made of the work of a supervisory clinic and the treatment of the cardiac child Dr Matthew Ray senior physician at the British Red Cross Society's rheumatism clinic, will be the speaker on November 6th, and will deal with the treatment of rheumatism On Friday November 14th, at 8 15 p m , in the lecture room of the Royal Institute of British Architects 9 Conduit Street, W 1, Mr J H Coste chemist to the London County Council, will discuss the object and methods of sewage treatment particularly in their relation to inland towns and isolated institutions The fifth or this series of lectures will be delivered at Gateshead Town Hall on Friday, December 21st at 7 30 p m by Dr Matthew Ray, on the treatment of rheumatism Sir Robert Philip will deliver the Malcolm Morris Memorial Lecture on Friday, November 28th at 5 30 p m in the lecture room of the Royal Society of Arts John Street Adelphi, W C 2 His subject will be the outlook on tuberculosis with special reference to its changing orientation Sir James Crichton-Browne will take the chair A second lecture on the object and methods of sewage treatment will be delivered by Mr J H Coste, in Reading on a day in December to be subsequently announced Further particulars of these free public lectures—for which no tickets are required—may be obtained from the secretary, Mrs. Aubrey Richardson, 204, Abbey House, Westminster

Surgical Instrument Manufacturers at Dinner

The annual dinner of the Surgical Instrument Manufacturers' Association took place at the Holborn Restaurant on October 10th, and was attended by a very large company of members and their wives and other guests Mr Patrick C Maw was in the chair The toast list was shorter than the musical programme, which was highly entertaining and of excellent quality Mr A W Down, in proposing the health of the association, said that the industry was one in which the members always took a great pride A very long apprenticeship was required, and there was close comradeship between master and man One of the objects of the association was to encourage a high standard of manufacture and he thought he could say that no instruments had so fine a name throughout the world as those which came from the workshops of this country The chairman, in responding to the toast, said that the trade did its best to keep up the high quality of its manufactures, but naturally there was keen competition from foreign firms whom at times it was difficult to beat He made a plea for some measure of protection to be given to the industry In responding to the toast of "The Guests," which was given by Colonel A Young, Sir Holburt Waring said he had always received the greatest kindness and help from the instrument firms with whom he had dealings He was glad to learn that a long apprenticeship was the rule in the trade, and he hoped it would continue It had been stated that the trade was desirous of some form of protection Certainly the curse of the present time in connexion with any highly technical branch of industry was that it should be flooded with machine-made material Sir Holburt Waring mentioned that lately he had been much interested in the provision of equipment of surgical and other appliances for a new block at St Bartholomew's Hospital, and in such matters one ought to be satisfied only with the very best One of the provisions laid down was that the authorities should avoid, so far as possible, certain appliances made of glass or containing a portion of glass for the hospital theatres It was difficult to carry out the specification, but one of the surgical instrument firms came to the rescue and carefully worked out the ideas put before them, and the success they had made of it did great credit to the manufacturers Recently, he had visited an international exhibition of surgical appliances in Dresden, and he regretted that this country was not better represented, while a good display was made from Soviet Russia In future he hoped that the trade would not hesitate to learn as much as possible from other parts of the world Manufacturers should travel abroad and see what other people did Mr I Ferris Scott, Financial Secretary and Business Manager of the British Medical Association, also responded to the toast remarking that he had heard that those representing certain large interests abroad were so convinced that there would be some measure of protection in this country before very long that they had it in mind to open factories here, presumably for the mass production of medical and surgical appliances

Scotland.

Royal Faculty of Physicians and Surgeons

Admission of Honorary Fellows

An interesting event at the monthly meeting of the Royal Faculty of Physicians and Surgeons of Glasgow on October 6th was the admission of four highly distinguished members of the medical profession as Honorary Fellows of Faculty, an honour sparingly conferred, and then only on men of the highest eminence in the profession Three were present to receive the honour—namely Dr Robert Muir professor of pathology in Glasgow University Dr W L Reid eminent in the domain of obstetrics and gynaecology but now enjoying well-earned retirement and Lieut-Colonel L A Waddell C B I M S (ret.) The fourth Honorary Fellow, who was elected in absentia was Professor Karl Friedrich Wenckebach of Vienna who researches into various conditions of the heart especially its irregularities have given him an international reputation, and who is recognized as one of the most accomplished of modern physicians Welcoming Professor Robert Muir, the President of Faculty (Dr John F Fergus) referred to the outstanding position in pathology and bacteriology which Professor Muir occupied his books on these subjects were standard works, which were universally acclaimed as authoritative and masterly As a teacher he had been no less successful, and had earned the admiration and affection of many generations of students, he had brought a lustre and prestige on his own subjects to the Medical School of Glasgow, of which not only the University, but also the Faculty and the whole medical profession were justly proud Dr Fergus further referred to the large number of Professor Muir's old students and assistants who had been called to fill chairs of pathology, not only in this country, but also in lands beyond the seas He emphasized the loyal and generous support which Professor Muir had always given them in their applications for these positions The president, in concluding his remarks, mentioned the recent distinction conferred on Professor Muir by the award to him of a Royal Society Medal, he considered that the Faculty had but paid honour where honour was justly due in following the example of that society in conferring its Honorary Fellowship Admitting Dr W L Reid, the president referred to the high position the new Fellow had occupied in obstetrics and gynaecology, in the scientific development of which he had rightly been hailed as a pioneer By his teaching and his example he had done much to raise the school of obstetrics and gynaecology in Glasgow to the high position it at present occupied By his skill, and by the simplicity and integrity of his character, he had gained the confidence of a large circle of patients, who regarded him as a trusted and able adviser, and also of medical men, who found in him a helpful and loyal colleague Though he had attained a venerable, but a serenely happy and even sprightly, old age, the president hoped that Dr Reid might be spared for many years yet to enjoy life, and not least, that Honorary Fellowship which the Faculty, of which he had formerly been president, had that day conferred upon him The president remarked that Lieut.-Colonel Waddell, as an officer in the Indian Medical Service, had rendered distinguished service to his Sovereign and to his country, he had taken a notable part in many episodes of Indian warfare for which he had rightly been awarded many medals and decorations, including the C B He had also shown high administrative and academic qualities, having been professor of pathology in the Medical College, Calcutta, for several years, and had also held the post of deputy sanitary commissioner for ten years, while his writings on medical jurisprudence in India and his researches on serpent venom were well known But though he had thus proved himself to be "distinguished in the profession," which was the sign manual of those admitted to the Honorary Fellowship, Colonel Waddell had also attained a world-wide celebrity in the domains of archaeology and ethnology, and was a recognized authority on all that pertained to ancient myths and fables, his latest work, *The British Edda*, being a remarkably interesting work on highly original lines The president hoped that, though Colonel Waddell had received innumerable honours and distinctions, he would nevertheless find the Honorary Fellowship of the Faculty, which had been spontaneously and cordially conferred upon him by his professional brethren, one which would yield him pleasure In admitting Professor Wenckebach *in absentia* the president expressed the regret felt by the Faculty that so distinguished a man was not able to be present in person to have the Honorary Fellowship conferred upon him A native of Holland, a geographically small but scientifically great country, and with the traditions of the famous University of Leyden and celebrated teachers like the great Boerhaave to inspire him, Professor Wenckebach, after filling many important positions in Germany had been called to the chair of internal medicine in Vienna, where he had achieved a reputation, not only as a cardiologist but also as an accomplished physician, which had become world-wide Already an Honorary Fellow of the Royal College of Physicians of London, and a recently created LL D of Edinburgh University, Professor Wenckebach was one whom

the Faculty delighted to welcome to its Honorary Fellowship a distinction which in his case, as in the cases of the other new Fellows, had been awarded by the unanimous vote of the Fellows of Faculty

St Andrews University Graduation

Under the presidency of Principal Sir James Irvine, a graduation ceremony was held in the old Parliament Hall at St Andrews University on October 10th, when over forty students graduated The honorary degree of doctor of laws was conferred at the same time on John Alexander Campbell Kynoch M B, C M I R C S, F R C P professor emeritus of midwifery at St Andrews University In presenting him for the degree Professor Blyth Webster remarked that when Professor Kynoch retired in 1928, he had been professor of midwifery for thirty years having filled the chair since its establishment The senatus in accepting his resignation, had minuted its testimony that his long professional life had been marked by unostentatious service of the public weal and conduct at all points in accordance with the best traditions and distinctive character of medical ethics '

Students Hall of Residence at St. Andrews

With the opening of the present term a hall of residence for men students has been established at St Andrews University The new St Salvator's Hall stands to the north of the Younger Graduation Hall and is built in three wings each of four stories, in a Scottish architectural style There is a common room and a dining hall with dais and high table each student is provided with a combined sitting room and bedroom The hall has been erected out of a gift of £100,000 which was sent in 1927 by Mr Edward S Harkness of New York to the University of St Andrews in order to develop collegiate life in this university The same donor recently presented to Great Britain a sum of approximately £2,000,000 to be devoted by five trustees to charitable purposes in recognition of the manner in which Great Britain has borne her burden since the war, when she spent her resources freely in the common cause It may be recalled that he also provided the funds for the Commonwealth Fund Scholarships, by means of which thirty British graduates are sent every year to the United States in order to spend two years of study and travel under generous conditions Under the present scheme of St Salvator's Hall at St Andrews some £40 000 is to be devoted to providing residential scholarships and the holders of these will be required to live in Hall The scheme aims at reviving the mediæval system that prevailed in St Andrews University where some other attempts have already been made not always with success to establish residential halls The women students at this university already have a residence in University Hall which was built at the end of last century it has proved so popular that it has several times been expanded The old system of regents has been revived Each scholar or any other student who desires it will be attached to a regent—a member of the staff—who will act as a guide and adviser to him unlike the tutors of the English universities, however he will not supervise his student work

Inverness Maternity Home.

The annual meeting of the Ida Merry Maternity Home Inverness, was held on October 8th, under the presidency of Mrs Grant of Knockie The Hon Mrs Merry, honorary treasurer, stated that although the financial position was sound, funds were required to provide a more commodious building in view of the steadily increasing number of mothers coming to the home for treatment Miss Owen of the Seaforth Highlander Maternity Home at Fort George gave an account of the value of maternity homes in the Highlands Seventeen years ago a maternity home had been opened at Fort George since then hundreds of mothers and babies had passed through it The president remarked that the personal touch was an important factor in such homes and could never be supplied if they became part of a State organization

Correspondence.

AVERTIN ANAESTHESIA

Sir,—The picture of the present position of avertin anaesthesia painted by Dr Parsons at the Annual Meeting at Winnipeg (*British Medical Journal*, October 4th) is sombre and disappointing, it is not a true representation of the facts as I see them, and gives me almost the impression of having been painted not from the living model, but from a collection of figures

The statistics of the death rate intrinsic to avertin quoted from Lundy, which "might conceivably be reduced considerably in the future" (*Journal* September 27th, p 527), are derived from a study of the first 30 000 cases There can be little doubt that this hope has been or will be realized, for it is known now that the doses originally recommended were excessive and that the substitution of fluid for solid avertin has introduced into the technique a drug—namely, amylene hydrate—which has a stimulating action upon the respiratory centre The natural deduction from these facts would seem to be that it is premature to draw any comparison between the death rates of ether chloroform and avertin Further, in any future attempt to estimate the death rate of avertin account must be taken of the part played by morphine or other preliminary sedative in increasing the depression of respiration caused by avertin It is quite astonishing to find that few writers draw a distinction between avertin anaesthesia and the anaesthesia produced by a combination of avertin and, for example morphine The difference is always obvious, may be great, and should never be forgotten In any inquiry into a fatality which has been attributed to avertin, not only should the dose given be ascertained but also the question asked whether a preliminary sedative had been administered In two at least of the recorded fatalities large doses of morphine or omnopon had been given It is in my experience inadvisable to use morphine unless the indications are unmistakable

It is difficult to agree with the statement that avertin anaesthesia is followed by prolonged coma or a deep sleep from which the patient can be roused with difficulty this is so contrary to my experience (*Proc Roy Soc Med* 1929 xxiii) that I feel sure that Dr Parsons can offer an explanation of this alarming description And in conclusion I hope that he will not hesitate in the future to use avertin when there is serious pulmonary disease in combination with local anaesthesia or gas and oxygen it seems to be the ideal anaesthetic—I am etc

London N W 1 Oct 11th FRANCIS E SHIPWAY

SALINE INJECTIONS FOR HAEMORRHAGE

Sir,—The interim report of the Departmental Committee on Maternal Mortality and Morbidity makes stimulating reading for general practitioners The Committee are satisfied they say (p 109), 'that there is need for an improved practice of midwifery" Admitting this, we must strive to keep abreast of modern standards The report itself shows how easy it is to fall a little below them On page 19, speaking of ninety two cases of post-partum haemorrhage the Committee say ' in only a small proportion was subcutaneous, intravenous or rectal saline used" Again, on page 109, the comparative rarity with which intravenous or subcutaneous injection of saline, or even its introduction per rectum was given in ante partum or post-partum haemorrhage has amongst other things, impressed the Committee with a need for a higher standard of knowledge and skill on the part of the medical practitioner on the spot

Are not the Committee themselves a little in the same case in this important detail—a little below the level of present knowledge? They speak of saline and must I think mean by that the ordinary normal saline (80 grains to the pint) That is appropriate they rightly imply, for subcutaneous use because unless shock has already put the capillaries out of action saline can be absorbed into the blood stream from the cellular tissues But saline is not appropriate, as they imply it is for intravenous use for, being a crystalloid solution it reduces the colloid

concentration of the blood The fluid quickly leaves the circulation by permeating through the vessel walls After a transitory improvement the patient relapses, and her last state may be worse than the first

Of course, the Committee must know all about Bayliss's gum saline (6 per cent gum acacia in 0 9 per cent saline) Being of the same viscosity and colloid and crystalloid concentration as blood, this fluid will stay in the vessels when given intravenously, this is common knowledge The patient has lost blood It is volume that is wanted Here is a means of restoring volume far more available than blood transfusion Why did not the Committee say so, instead of implying their approval of useless and perhaps detrimental intravenous saline?

Again, the Committee speak of saline per rectum Is it not the case that plain water is better—better because its osmotic pressure is lower, and it is therefore quicker absorbed? (See Mr Norman Dott in Fraser's *Surgery of Childhood*, in an excellent chapter on all these matters see also the *British Pharmaceutical Codex* on sodium chloride)—I am, etc,

Holmes Chapel, Cheshire, Oct 12th LIONEL JAS PICTON

CONGENITAL RADIO-ULNAR SYNOSTOSIS

SIR,—I was much interested in a paper on this subject by Mr D J Davies (*Journal*, October 4th, p 557) Such a careful description naturally excites comment

I am sure that by this time Mr Davies will have revised his opinion that the condition is "exceedingly rare," for he saw the first case in July, 1929, and the second appeared no later than May, 1930 In my short experience the cases are commoner still, I have seen at least ten, and have recent records of six Of these six three were bilateral, and all these were instances of Mr Davies's Type 2, three were unilateral, and one of these was Type 2, in which the radius seems to sprout from the upper end of the ulna The other two unilateral cases were examples of Type 1, in which the articular surfaces of the radius and ulna are separate, but the bones are fused for an inch or so immediately below These are the only types I recognize, and are the only two I can find in the literature

It follows that Mr Davies's Type 3 is new, this is extremely interesting if we can be sure that he is not confusing separate entities He writes "The head of the radius is well developed, but it is displaced backwards or forwards", and that "this condition is usually unilateral, and associated with syndactilism, supernumerary thumb, or even absence of thumb" He then describes a case which he allocates to this third group, but it is bilateral and there are no supernumerary thumbs, nor, on the other hand, is the girl lacking in thumbs Her forearms apparently are held in a position of semi-pronation, and "*pronation could be carried out to about 90 degrees*" (the italics are mine) What does that mean? Probably it means *through* 90 degrees, at any rate they can be rotated through an appreciable angle This, in my opinion, completely precludes the possibility of the existence of a radio-ulnar synostosis In the presence of actual fusion one can at the most obtain a little movement through about one or two degrees, due to "rocking" of the great sigmoid cavity on the trochlea

Further in the paper it is stated that the elbows could not be fully extended such is not so in cases of radio-ulnar synostosis in which flexion and extension are unimpaired But in cases of congenital dislocation of the head of the radius extension is limited, and not flexion also the forearm in these cases is held in a position of semi-pronation and rotation is possible through varying angles The dislocation, moreover, may be forwards or backwards, and the head of the radius is altered in shape, just as the heads of the radii in Mr Davies's prints are altered in shape His line drawings would pass very well for drawings of congenital dislocation of the head of the radius In fact, the clinical and radiological evidence he adduces strongly suggests that the case is one of bilateral congenital dislocation of the head of the radius His second case is undoubtedly one of congenital radio-ulnar synostosis, and when ossification is complete will be found to fall into Group 1—I am etc,

Liverpool, Oct 8th BRYAN McFARLAND

EARLY DIAGNOSIS OF INFECTIVE LATERAL SINUS THROMBOSIS

SIR,—In Mr Muecke's paper, read before the Section of Laryngology and Otology at the recent British Medical Association meeting in Winnipeg, and published in the *Journal* of September 20th (p 465), stress was laid upon the fact that the early diagnosis of lateral sinus thrombosis can only be made on purely clinical grounds This encourages me to direct attention to a sign which occurs occasionally in the presence of lateral sinus thrombosis, and which I have noted three times during the past two years

The sign consists of a homolateral hemipallor of the face, with no cyanosis and no oedema The hemipallor is definitely limited by the mid-line of the face and by the outline of the lower jaw, and does not affect the neck In these cases the pallor remained from the time of admission to hospital until anaesthesia (ether) was administered for the mastoid operation, an interval of about two hours The sign appears to occur with sufficient frequency to be noteworthy, if confirmed by otologists and other observers it should prove of use in establishing a diagnosis of lateral sinus thrombosis It is necessary that the general examination of such cases should be carried out in daylight or in a situation where shadows can be excluded—I am, etc,

Glasgow, Oct 11th D RITCHIE PATERSON, F R C S Ed, D L O

HYOSCINE—SCOPOLAMINE

SIR,—In the *Journal* of October 4th (p 550) Dame Louse McIlroy states "Hyoscine is sometimes substituted for scopolamine, but it tends to prolong labour and to cause post-partum haemorrhage" Hyoscine and scopolamine are two names for the same drug, which was discovered independently by two workers, one in England and the other in Germany It was not for some time that it was satisfactorily established that they had both isolated the same principle Considerable difficulty was experienced in making a stable preparation of scopolamine, the early and unsatisfactory products gave variable results, and tended to perpetuate the belief that the two names represented two separate entities I feel sure that Professor McIlroy would be the last person to wish that any erroneous ideas about scopolamine should still linger, for it is to my mind the most valuable drug we possess for reducing the pains of childbirth I have given it as a routine to hundreds of patients, and have never seen any harm come to the baby In conclusion, I would like to point out that this widely held belief of the different action of scopolamine and hyoscine is one more example of the fact that the clinical assay of a drug is liable to be prejudiced—I am, etc,

London, W 1, Oct 11th G W THOMALD

NECROPSIES BY GENERAL PRACTITIONERS

SIR,—In your issue of October 4th (p 582) this matter is approached by Lieut-Colonel Henry Smith It is gratifying to read of Colonel Smith's success, and one could not expect otherwise after the vast field of medicine and surgery in all its special branches that he says he has covered

I have been a police surgeon for some years, and where the case is one of supposed murder or of any other great importance I have usually sought the assistance of a Home Office expert For such work to be placed in the hands of a county council medical officer, as Colonel Smith suggests, is only a step worse than in the hands of the general practitioner, for these officers are simply administrators of school medical officers or medical officers of health with little all-round practical knowledge of medicine and surgery Besides which it would be taking from the general practitioner a little more work beyond what he has already been robbed of

As far as I am aware, students are still taught medical jurisprudence and forensic medicine sufficiently to guide them through most cases, and also to know when and in which cases to seek the assistance of a Home Office expert For my own part I have always been at ease in the witness-box—I am, etc,

Chichester, Oct 5th ARTHUR M BARLOW

UNNECESSARY NECROPSIES

SIR,—Opening out of the discussion on the performance of necropsies which has been proceeding in the *Journal* there are two other questions connected with coroners' courts which I should like to mention: they are the holding of inquests in the case of deaths under anaesthetics, and in deaths of aged persons suffering from chronic complaints.

I believe I am right in saying that when information reaches a coroner of a death under an anaesthetic he is bound to conduct an inquiry. I would suggest that instead of this hard and fast rule the matter should be in his discretion to decide whether to hold one or not. When anaesthetics were first introduced there might have been some justification for compulsory inquests, but surely medical art has advanced beyond that stage, and there is now no longer the smallest novelty in the fact of general anaesthesia.

One of the reasons for such inquests *no doubt*, is to ensure that anaesthetics should not be given carelessly, or by those without the necessary experience. In such cases the coroner would generally have sufficient information to enable him to decide that an inquest was desirable, and he would hold one. But there are numbers of other cases where an anaesthetic is administered by a man with expert knowledge, where the gravity of the operation has been *fully canvassed beforehand by the surgeon and medical* attendant, and where the patient or his representatives are entirely alive to the risks about to be run, and agree to run them. The case is a desperate one, but the patient will die unless some operation is performed which may save his life. He rightly decides to take his only chance. In not a few of these formidable cases a fatal termination is the result. Now what is to be gained by an inquest here? Nothing that I can see. But on the other hand, a great deal of hardship may easily be inflicted on all concerned—distress to the relatives, loss of prestige to the anaesthetist and doctors, and useless expense.

Is it fair that a man who accedes to a brother practitioner's request, as many of us have done, to give an anaesthetic in some critical case of, say, abdominal obstruction, should have the nightmare of a sort of public court-martial hanging over his head because he is good enough to do his utmost to help to save the patient's life? He has enough to think about without this further anxiety. He should have the quiet satisfaction of knowing that doing his best in such circumstances will earn him whatever the result the gratitude he deserves for his courage, and not a possible compulsory appearance in a public court.

With regard to the deaths of aged persons, I think that a real hardship is often inflicted by the coroner insisting on *an inquest where some old patient who is known to be* suffering with cardiac or other serious ailment dies without having recently consulted a medical man. There are many such people who live their lives in comparative comfort until the clock running down, they are found one morning dead in bed. Their doctor knows perfectly well that such an event is to be expected, but unless he has actually attended them within the last month (the usual term) an inquest is insisted upon. Surely, in these cases if the doctor, knowing the family circumstances, is satisfied as to the natural cause of the death the coroner might with safety extend that month to something more like a year. I do not quite see why one year should not be considered an equally safe limit for all practical purposes.—I am, etc.,

Sanderstead, Surrey, Oct. 8th. H. D. EVERINGTON.

DIATHERMY TREATMENT OF TONSILS

SIR,—In view of the recent controversy appearing in the *Journal* over the claims of x rays and ultra-violet light in the treatment of septic tonsils I read with no little interest the letter from Dr. Penn in your issue of October 4th (p. 581). With a combined treatment of x rays, ultra-violet light and vaccine therapy administered as often as twice weekly for two or three months, he found some cases to resist all treatment while others returned with a recurrent infection "as bad as they were originally." This poor result he contrasts with the excellent one obtained by diathermy. This has been my experience for some years, and I am glad that he stresses the additional advantage of *being able to treat patients* "with weak heart." Dr. Penn mentions a Schall machine; any really good diathermy apparatus will do. I do not however, allow my patients to carry on with their daily work, but prefer them to remain in bed for a day or two[1].—I am, etc.,

Putney Hill, S.W., 15 Oct. 6th. WYNNE COLLINS.

Obituary

JAMES PAUL BUSH, C.M.G., C.B.E., Cr.M.,

Consulting Surgeon, Bristol Royal Infirmary.

THE lamented death of Colonel Paul Bush, on October 7th, at Clifton, has robbed Bristol of an outstanding representative of its old medical school.

James Paul Bush was born at Brislington, near Bristol, in 1857, and was educated at Clifton College. He studied medicine at the Bristol Medical School shortly before the University College was founded, and his clinical work was carried out at the Bristol Royal Infirmary and at University College Hospital, London. At the Bristol Royal Infirmary he gained the gold medals for medicine and surgery. He obtained the diplomas M.R.C.S. in 1881 and the L.S.A. *in 1882, and in 1912 the honorary degree of Ch.M. in the* University of Bristol. He held a succession of resident posts at the Infirmary, concluding with that of senior resident medical officer, which office he resigned in 1885 to take up the appointment of assistant surgeon. In 1889 he was appointed surgeon to the Infirmary, ultimately retiring from the active staff in 1913 when he reached the age limit and was appointed consulting surgeon. Paul Bush served the Infirmary with exemplary diligence and loyalty, his punctuality being proverbial. Although not a wide reader, he kept abreast of surgical progress, he learned new technique quickly, and was a skilful operator whose judgement, experience, and practicability were esteemed highly. But while he was receptive of new procedures in the art and craft of surgery, he was always opposed to the diversion of the profession into specialties. *It would not be unfair to say that he regarded general* surgeons as belonging to the parent stem and specialists as being noxious weeds or fungus outgrowth. His honesty of purpose however, prevented his opinions from affecting his personal friendship for those of his colleagues who held other views on one occasion he said: "We don't fall out with each other on the Infirmary staff because we can call each other damned fools to our faces at faculty meetings."

As a student he had been a leader in athletics, and captained the Bristol medical cricket and Rugby football teams at their zenith. The Volunteer movement always interested him keenly, and for some years he was surgeon to the Bristol Rifles, a battalion which his father had commanded. In 1900 he volunteered for service in South Africa: he went to Natal as senior surgeon to the Princess Christian Hospital, also acting as P.M.O. of the hospital ship *Le Marc Castle*. For his services in the South African war he received the two medals with several bars, and was invested with the C.M.G. by King Edward at Windsor Castle. On the establishment of the Territorial Force in 1908 Bush was designated to command the 2nd Southern General Hospital, to be formed in Bristol should war break out. His administrative foresight and energy were so great that on mobilization in 1914 a 520 bed hospital was immediately opened housed partly in the King Edward Memorial wing of the Royal Infirmary and partly in the newly built, but so far unoccupied, Poor Law hospital at Southmead. The result was that until many of the general hospitals of the Territorial Force which were extemporized at the outbreak of war Bristol could offer forthwith buildings and equipment which represented the most modern ideas in surgery and medicine. He directed the hospital with marked ability, winning the warmest approbation from Sir Alfred Keogh. There were occasions, however, when his jovial disregard for red tape surprised Whitehall into a king first, what he meant by his contempt of regulations, and then standardizing his innovations

[1] Destruction of Tonsils by Diathermy. *British Medical Journal*, June 14th, 1930, p. 1064.

throughout the civilian war hospitals of the country Among the most valuable of his innovations must be mentioned the "information bureau" which he formed at the 2nd Southern Hospital, and which was often the sole channel by which the War Office itself would trace the whereabouts of the wounded in this country In 1917 he proceeded to Etaples in command of No 56 General Hospital, the constant bombing to which the hospital camps were subjected left its mark on him during the rest of his life In August, 1918, he returned from Etaples to become A D M S of No 2 Area, Southern Command, an area which comprised all the hospitals in Gloucestershire, Somersetshire, and part of Wiltshire At the end of the war his services were rewarded with the C B E, and he retired with the rank of colonel The King of the Belgians appointed him an Officer of the Crown of Belgium, and he became a deputy-lieutenant for the county of Gloucester

Among his other activities Bush had held the post of chief surgeon to the Bristol Police, surgeon to the Bristol Post Office, and consulting surgeon to the Almondsbury Memorial Hospital and to the Pontypool Hospital In University College, Bristol, he was lecturer on operative surgery for many years, and a member of the college council When the University was founded he was one of the first recipients of honorary degrees—that of Ch M He was a member of council of the International Surgical Society, president of the Bath and Bristol Branch of the British Medical Association, successively secretary and president of the Bristol Medico-Chirurgical Society, and a vice-president and member of council of Epsom College His devotion to this school was intense, and his unremitting efforts as local secretary were rewarded by his returning year by year an ever-growing list of subscribers, even during the long and painful illness which preceded his death his interest in Epsom College never flagged

A colleague writes Paul Bush was a man of wide interests, endowed with great energy, thorough and enthusiastic in all his undertakings, and a warm-hearted friend In the Bristol Medical School he will long be remembered, even in his lifetime he had become one of the traditional characters of infirmary anecdote ranking therein with "Dick" Smith and Greig Smith themselves He leaves a widow, a son, and a daughter, with whom deep sympathy is felt

R C B MAUNSELL, M B, B Ch, F R C S I,

Surgeon Mercer's Hospital, Dublin Past President, Royal College of Surgeons in Ireland

The medical profession in Ireland has sustained a severe loss by the unexpected death, on October 10th, of Mr R C Butler Maunsell, while on his return journey from Paris where he had left his only daughter at school

Robert Charles Butler Maunsell was born in November, 1872 the son of Mr Robert Maunsell of Ballinasloe, co Galway He received his early education in the High School Dublin and subsequently entered Dublin University as a medical student, where, in 1894, he graduated M B, B Ch B A O His first appointment was resident surgeon in Sir Patrick Dun's Hospital, after leaving this institution he was appointed in 1898 visiting surgeon and lecturer in clinical surgery to Mercer's Hospital, Dublin, posts which he held until the time of his death In 1900 he obtained the diploma of Fellowship of the Royal College of Surgeons Ireland, in 1904 he was elected a member of its council, he became vice-president in 1922, and was president from 1924 to 1926 During his presidency the Free State Government decided to establish a separate *Medical Register* At this crisis Mr Maunsell devoted much of his time and energy to devising a solution of the difficulties entailed which would be acceptable to both the British and the Irish Governments, it was his scheme, with very little alteration, that was finally adopted He was subsequently elected to represent the Royal College of Surgeons on the first Medical Council of the Irish Free State He was also a Fellow of the Royal Academy of Medicine in Ireland and a member of the council of the Surgical Section Fellow of the Association of Surgeons of Great Britain and Ireland, and president of the Dublin University Biological Association Among his contributions to surgical literature were "Carcinoma of the rectum, complicated by pregnancy and treated by excision" (*British Medical Journal*, 1925), "Surgical treatment of abdominal aneurysm" (*Transactions of the Royal Academy of Medicine*), "Gastro enterostomy, with description of a new clamp" (ibid, 1906), and "Abdominal aneurysm successfully treated by Colt's method" (ibid, 1913) In 1917 he was one of the chief surgeons attached to the Dublin General Hospital at Boulogne He was a member of the British Medical Association

THOMAS PERCY LEGG, C M G, M S, F R C S,

Surgeon and Lecturer on Surgery to King's College Hospital

We regret to record the sudden death of Mr T P Legg, C M G, F R C S, on October 10th, at his residence in Harley Street, at the age of 58

Thomas Percy Legg was born in Leeds, and received his early education at the old Yorkshire College, which has now expanded into the University of Leeds, he was later a student at St Bartholomew's and King's College Hospitals He obtained the diplomas of M R C S and L R C P in 1895, and the degree of M B Lond in 1896, in the following year he became F R C S, and in 1905 graduated B S, winning the university medal in surgery In 1906 he graduated M S After holding the post of house-surgeon at St Bartholomew's, and senior resident medical officer, and, later, surgeon to the Royal Free Hospital, he resumed his long association with King's College Hospital, where he was successively senior surgical registrar and surgical tutor, surgeon, and lecturer on surgery He was also consulting surgeon to the Italian Hospital, the Drury Lane Dispensary, Farnham Cottage Hospital, and Frimley Cottage Hospital He had been a member of the Court of Examiners of the Royal College of Surgeons of England since 1923, and was examiner in surgery at the University of Cambridge

In the war Mr Legg held the rank of colonel, and was consulting surgeon to the Mesopotamia Expeditionary Force His valuable services were recognized by the award of the C M G in 1917 He was the author of numerous papers on surgical subjects in medical periodicals, and was the author, with Sir James Berry, of a book on hare-lip and cleft palate Mr Legg was for many years a Fellow of the Royal Society of Medicine, and of the Medical Society of London The funeral was held at Scarborough on October 11th, and a memorial service was conducted in the chapel of King's College Hospital

We are indebted to Sir Lenthal Cheatle for the following tribute

By the sudden, unexpected, and premature death of Mr T P Legg the medical world has lost a conspicuous example of those men without whose devoted and unostentatious services the profession could not live The more public acts of Mr Legg's service to the profession were those of a lecturer and an examiner in surgery Whether his desires and great ability were fitted for original research or not, then indulgence was prohibited by the time occupied in carrying out other duties Perhaps his sound judgement and common sense, as well as the complete knowledge he possessed of his subject, were exploited to the best advantage in the spheres he selected for their employment The wearing and exacting nature of that work can be wholly appreciated only by those who have undertaken these elementary and critical duties Legg's reverent and conscientious attitude towards them probably hastened the end we all so grievously deplore His abounding sense of duty will act as an inspiration to those who will fill the gaps his death has caused In all his dealings with men his fund of pure, wholesome, and spontaneous humour rendered his companionship delightful, and his lectures popular as well as instructive His colleagues have lost a wise and independent counsellor, whose advice and notions were founded on careful and balanced consideration, having once made up his mind it could be altered by only very cogent reasons All patients alike in his private and hospital practice received his individual attention, and the best that surgery and human sympathy could give them in their need

A. E. WHITEHEAD, F.R.C.S.

Consulting Ophthalmic Surgeon, Leeds General Infirmary.

It was with great regret that we had to record last week the death of Mr. A. E. Whitehead, consulting ophthalmic surgeon to the General Infirmary at Leeds, which took place on the morning of Sunday, October 5th.

Arthur Longley Whitehead was a student of the Yorkshire College and of the Leeds School of Medicine about the time of the affiliation with Victoria University. He graduated at the University of London, taking the degrees of M.B. and B.S. (honours) in 1892 and 1893 respectively. In 1892 he obtained the diplomas M.R.C.S., L.R.C.P., and was elected a Fellow of the Royal College of Surgeons of England in 1924. After a good general training in surgery, during which he held the position of house-surgeon to Sir Arthur Mayo-Robson, he acted as resident ophthalmic and aural officer at the Leeds General Infirmary, and at this time definitely made up his mind to devote himself to the special departments of the eye, ear, and throat. He was appointed assistant surgeon to the ophthalmic and aural department in 1899, and in the same year both he and Mr. Secker Walker were promoted to the full staff, in consequence of the resignation of Mr. John Nunneley and the death of Mr. Bendelack Hewetson.

During the years before his appointment to the staff Mr. Whitehead had been a diligent worker, and the writer of this notice remembers being most favourably impressed by some of the communications which he made to the Leeds and West Riding Medico-Chirurgical Society. He was therefore fully equipped for taking his part in the development of the department. In 1912 it was decided to rearrange the work of the two associated departments, and the ophthalmic work was separated from the ear and throat work, Mr. Secker Walker and Mr. Whitehead electing to confine their energies to the former. Mr. Whitehead was lecturer on ophthalmology in the University of Leeds from 1912 till 1920, and his position as honorary officer to the Infirmary carried with it the position of clinical lecturer to the University in his subject.

Mr. Whitehead was a most accomplished operator and a man of sound judgement and of scientific acumen. His abilities were held in high repute, not only by his colleagues on the staff but also by the profession in the West Riding and by those engaged in ophthalmic work throughout the country. He was president of the Leeds and West Riding Medico-Chirurgical Society during the session of 1925–26, and was also president of the Ophthalmic Section of the Royal Society of Medicine and of the North of England Ophthalmological Society. He was honorary secretary of the Section of Laryngology, Otology, and Rhinology at the Annual Meeting of the British Medical Association in Exeter in 1907, and a vice-president of the Section of Ophthalmology in 1924 when the Association met at Bradford. Mr. Whitehead was a man of great charm of manner and of perfect integrity. An admirable chairman of different kinds of meetings, he owed his success alike to his ability, his tact, and his invariable courtesy. To a large circle of private and professional friends his death will come as a real grief, and he will long be remembered with feelings of respect and affection.

T. W. G.

Dr. JOHN REGINALD FULLER of Crouch End Hill, Hornsey, who died suddenly on October 7th, was born in December 1865, and received his medical education at the medical schools of St. Mary's Hospital and of the University of Durham. He obtained the L.S.A. in 1890, the conjoint diploma of the Royal Colleges in the following year, and the degrees of M.B. and B.S. Durh. in 1895. Seven years later, in 1902, he graduated M.D. in the University of Durham. After holding resident medical appointments at St. Mary's Hospital, at the Birmingham Children's Hospital, and at Hanwell Asylum, he settled in private practice in Hornsey, and rapidly acquired the confidence and affection of his patients, and very considerable influence among his fellow practitioners. He interested himself greatly in the establishment of the local cottage hospital, now the Hornsey Central Hospital, and with one or two of his colleagues was largely instrumental in securing the open method of staffing that hospital, a method then not so prevalent as now. His attention to the work of the hospital never flagged; he was continuously a member of its council and medical committee, and was for several years, and at the time of his death, chairman of the latter. For some time also he was a member of the Maternity and Infant Welfare Committee of the Hornsey Town Council. He had been a member of the British Medical Association for a very long time, and the present Chairman of Council of the Association will always remember that it was Dr. Fuller who first induced him to take an active part in the work of the Association. Dr. Fuller had been three times chairman of the North Middlesex Division, and was a member of the Metropolitan Branch Council for many years. He was a representative of his Division from 1904 to 1912, and had been for seventeen years a valued member of the Middlesex Panel Committee. In his earlier years he was a very successful football player, in both Rugby and Association games, and he remained an enthusiastic and skilful tennis player till a few years ago. His work was always good, and his opinion, whether on clinical or medico-political matters, well considered. His loss will be widely mourned among both the public and the profession of the neighbourhood in which he practised. Though he had not been well for a short time, his death was unexpected indeed, it was hoped that he might occupy the chair at the annual dinner of St. Mary's Medical School at the opening of the present session. He leaves a widow, two sons, and two daughters.

The following well-known foreign medical men have recently died: Professor BELLOMO PESCAROLO, a Turin neurologist, Dr. LUDWIG WEISS, lecturer in dermatology at the New York Post-Graduate Medical School, aged 61; Professor ANNIBALE BERTAZZOLI, head of the gynaecological department of the Ospedale Maggiore, Milan; Dr. REGO DE BARROS, director of the Medico-Legal Institute of Rio de Janeiro; Professor ARTUR KLEIN of Vienna, an authority on immunology; and Dr. BENJAMIN A. THOMAS of Philadelphia, professor of urology in the University of Pennsylvania.

Medico-Legal

CONSULTATION BETWEEN MEDICAL WITNESSES.

A CASE heard recently at the Westminster County Court, in the course of which the judge passed some severe strictures upon a general practitioner, well illustrates the desirability of full and free consultation between medical witnesses before trial where medical points are in issue.

In August 1929 a workman fell and broke his tibia and fibula some two or three inches above the ankle. Compensation was paid until May, when following a joint examination by the medical adviser to the employers and the man's panel doctor payment was stopped. The workman claimed however to be suffering from continued partial disablement, and at the hearing his panel doctor stated that he was suffering from flat-foot which he attributed to the fall. He agreed that there was now no disablement from the fracture. The suggestion that the man was suffering from flat-foot—the result of the fall—was not made to the employers until a few days before the case was to be heard—that is more than a year after the accident. In the box the panel doctor stated that he had noticed the flat-foot at the joint examination in May but did not call the attention of the other medical man to it. Asked why he did not do so he said: "The man's foot was there and I did not think it necessary to point it out." The judge strongly condemned this attitude, and at the conclusion of the case—which was decided against the workman—took occasion to warn practitioners that in these cases workmen are to a large extent in the hands of their medical advisers, and it was their duty to see that sound and adequate advice was given.

Those familiar with the procedure which is usually followed before a workman's compensation case is brought

into court will easily understand how a position so regrettable as this arises In spite of all the teaching to the contrary, too frequently it happens that when an interview between the medical representative of the employers and the medical man acting for the injured workman is arranged, the two meet, not as scientifically trained persons concerned only to arrive at the real facts and their causes and results, but as hostile witnesses each one placing the success of his own side first Hence, instead of full discussion of all the points and their possible issues, each may be trying to give as little information as possible about his own views, while endeavouring to detect weak points in the presentment of the case by the other side The result is seen in the deplorable events described above

It cannot be too strongly emphasized that in these questions the position of the medical man should be that of a scientific expert, and not that of an advocate The policy of the British Medical Association has always been to encourage a frank and complete interchange of views between medical witnesses, and this course facilitates the settlement of disputes out of court, maintains confidence in the integrity of the profession, and furthers the interests of justice

Universities and Colleges.

UNIVERSITY OF OXFORD

DR E W ASHBY WALKER has resigned the office of Dean of the School of Medicine Dr M H Mackeith, Fellow of Magdalen, has been appointed to succeed him

The following are the days on which degrees will be conferred in this University during the coming term Saturday, November 22nd, and Wednesday, December 17th

UNIVERSITY OF LONDON

AT its meeting on October 8th the University Court unanimously re elected Lord Macmillan to be Chairman of the Court during the session 1920-31, and Mr S L Loney to be Deputy Chairman

The following candidates have been approved at the examination indicated

D P H—Hilda M P Bond Annie C Easterbrook C Harbans Lal Marjorie H James H D Jhingan W P Jones D Magrath Edith A Straker Helen B Sutherland *Part I only* D Ross

UNIVERSITY OF BIRMINGHAM

THE jubilee of Mason College and the thirtieth anniversary of the granting of a charter to the University of Birmingham were celebrated on October 13th in the presence of delegates from universities and university colleges and other learned institutions The proceedings opened with a special congregation, at which the honorary degree of LL D was conferred by the Chancellor (Viscount Cecil of Chelwood) upon twelve distinguished persons including Sir Thomas Lewis, M D , F R S and Sir William B Hardy F R S Before delivering an address to the assembly Lord Cecil announced the receipt of a message from the King congratulating the University of Birmingham upon the remarkable development of its work during half a century At a luncheon party the toast of the honorary graduates was proposed by the Chancellor, and Lady Astor and Lord Macmillan replied After luncheon the new and handsome headquarters and club of the Guild of Undergraduates' Union were opened by Sir Charles Hyde, and in the evening the Chancellor gave a reception

UNIVERSITY OF LIVERPOOL

THE following candidates have been approved at the examination indicated

D T H—H R Dundale I D A Gray R Krishna H S Lawrence I Macdonald I S R Menon Nora M Wilson

UNIVERSITY OF DUBLIN

Montgomery Lecture

ON Thursday October 30th at 5 o clock Dr F S Lavers will deliver a lecture entitled Trachoma, with special reference to its sociological aspect, as the Montgomery Lecture for the year 1930

SCHOOL OF PHYSIC TRINITY COLLEGE

The following candidates have been approved at the examination indicated

FINAL MEDICAL (*Part I Materia Medica and Therapeutics Medical Jurisprudence and Hygiene Pathology and Bacteriology*)—O S Torrens (prize (1on high marks) I N Concannon I R Coughlan W J Craig I W O Lyan Edith M J Broderick C H M Mahon I I Russ H I W Craig P C Daly I King Dorothy R R Solomons W T Birmingham

UNIVERSITY OF MANCHESTER

THE following candidates have been approved at the examination indicated

D P H—*Part II* A H Hoyworth Frances A Hogbon A Melklejohn

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A QUARTERLY Council meeting was held on October 9th, when the President, Lord Moynihan, was in the chair

The late Mr T P Legg

A vote of condolence was passed on the death of Mr T P Legg, C M G , member of the Court of Examiners

Gold Medal

Mr R Lawford Knaggs was introduced and was presented with the honorary Gold Medal of the College

Scholars

Mr L I Honeywell was introduced and was presented with the document certifying his appointment as the first Macleghan Scholar, together with a cheque, being the first payment on account of his scholarship

Mr Frederick Basil Kiernander, until lately a student at Epsom College, was nominated as the thirty eighth Jenks Scholar

Librarian

Mr W R Le Fanu was introduced and was admitted to the office of Librarian

Membership

Diplomas of Membership were granted to the following, who have complied with the by laws: H R Hoysha, A H Leudon, D K Mulvany, A L Dovi

Lectures

The President reported that the Thomas Vicary Lecture on "Vicary's predecessors' would be delivered by Professor G P Gask on Thursday November 6th at 5 p m and that the Bradshaw Lecture, on 'Ocular muscles, movements and judgements would be delivered by Mr J Herbert Fisher on Thursday, November 13th, at 5 p m

Primary Fellowship Examination in Canada

The Secretary reported that at the primary examination in anatomy and physiology for the Fellowship conducted by Professor William Wright and Professor John Mellanby at Montreal on September 2nd 3rd and 5th last, 13 candidates were admitted to examination, and that of these 3 were approved—one from an American university, one from an Australian university, and one from an English university—and 10 were rejected

Royal College of Physicians and Surgeons of Canada

The President reported that he had made inquiries regarding a body styled the Royal College of Physicians and Surgeons of Canada and that he was informed by the Secretary of State for the Dominions and Colonies that this body was incorporated by an Act of the Canadian Parliament in 1929 and that the use of the title 'Royal" was approved by His Majesty the King on the recommendation of His Majesty's Government in Canada and that Section 8 (3) of the Act provides that Fellows of the College may be known and designated as Fellows of the Royal College of Surgeons of Canada or Fellows of the Royal College of Physicians of Canada

Medical News.

THE University of Pennsylvania has conferred the honorary degree of LL D on Sir Walter Fletcher, and the D Sc on Professor A V Hill

LORD D'ABERNON has accepted the office of president of the National Institute of Industrial Psychology, in succession to the late Earl of Balfour, its first president

FLORENCE NIGHTINGALE HOUSE, which has been built as a nurses' home in connexion with Harrow Hospital, will be opened by Miss Diana Churchill to day (Saturday, October 18th) at 3 15 p m After the ceremony the Stuart Memorial Hospital extension will be on view although it has not yet been completed Harrow Hospital was founded in 1866, and has now received more than 16,000 patients

FOUR lectures on health and social evolution will be given by Sir George Newman at the Memorial Hall, Farringdon Street, E C , on November 4th, 6th, 11th, and 13th The titles of the lectures are How England learned to control disease health problems of the modern period, modern collective humanism at work, and gains and losses in national health Admission is free Tickets for free reserved seats may be had from the secretary, Halley Stewart Trust, 32, Gordon Square, W C 1

THE detailed programme of special lectures arranged by Professor W W Jameson at the London School of Hygiene and Tropical Medicine in connexion with the course of study for the Diploma in Public Health has now been issued These lectures are open, not only to the D P H students at the school, but also to any member of the Public Health

Service and indeed to all interested members of the general public Copies of the programme may be obtained from the secretary of the School, Keppel Street W C

THE new series of post graduate lectures at King s College Hospital Medical School, Denmark Hill, S E 5, commenced on October 9th and will be continued on succeeding Thursdays till March 19th, with the exception of the last Thursday of the present year and the first of 1931 The lectures, which are free to all medical practitioners and to final year students of King s College Hospital, will commence at 9 p m and coffee will be served in the common room at 8 45 p m

A SERIES of four post graduate lectures on cancer will be delivered under the auspices of the Yorkshire Council of the British Empire Cancer Campaign, on Wednesdays October 22nd November 26th February 4th, and March 5th, at 5 30 p m The first of these lectures will be held in Leeds in conjunction with the Leeds and West Riding Medico Chirurgical Society, when Sir Almroth Wright will speak on medical research Professor Beckwith Whitehouse will deliver the second lecture discussing uterine haemorrhage with special reference to malignant disease This lecture will be given at Halifax in conjunction with the Halifax Division of the British Medical Association The third lecture will be delivered in Leeds in conjunction with the Leeds and West Riding Medico-Chirurgical Society the lecturer Dr Canti will show his film demonstrating the growth *in vitro* of living tissue cells Mr Ernest Miles will deliver the fourth lecture at Huddersfield in conjunction with the Huddersfield Medical Society his subject being the symptomatology and treatment of cancer of the rectum

THE autumn session of the South West London Post Graduate Association will commence at St James s Hospital, Ouseley Road Balham, S W on Wednesday, October 22nd, at 9 p m , when Major Stevens will show the Nepal film taken by the Ross Institute Malarial Expedition Ladies are invited, and coffee and refreshments will be served at 8 30 p m

THE St John s Hospital Dermatological Society will open its new session at 49 Leicester Square W C on Wednesday, October 22nd, at 4 15 p m , when clinical cases will be discussed

THE annual service in Liverpool Cathedral in aid of the Royal Medical Benevolent Fund will be held on October 19th at 3 p m when the preacher will be the Ven G J Howson, M A Archdeacon of Warrington The Lord Mayor and Lady Mayoress will be present and members of the medical profession with their friends are cordially invited to attend Tickets may be obtained from the honorary secretary Dr R Kennon 23, Rodney Street, Liverpool

THE Fellowship of Medicine announces the following lectures at the Medical Society lecture room, 11, Chandos Street Cavendish Square, in the evening series for the M R C P examination at 8 30 on Tuesday, October 21st, Dr L S T Burrell, on bronchiectasis and abscess of the lung and on Friday October 24th Dr Donald Hunter on diseases of calcium and phosphorus metabolism and of the parathyroid glands Tickets may be taken at the lecture room On Monday October 20th at the same place at 4 p m a free lecture will be given by Mr John Hunter on recent advances in surgery of the chest The following free demonstrations will be given at St Mark s Hospital, at 3 30 p m on Tuesday, October 21st by Mr L E C Norbury and at the East London Hospital for Children Shadwell on Wednesday October 22nd, at 10 a m by Dr Hazel Chodak Gregory The following future courses are also announced October 27th to November 8th at Great Ormond Street Hospital, mornings only (limited to 20) October 27th to November 8th at the Royal National Orthopaedic Hospital, Great Portland Street all day (minimum of 12) October 27th to November 15th, at the Royal Westminster Ophthalmic Hospital Broad Street, afternoons only ante natal clinical demonstrations by Dame Louise McIlroy on four Wednesdays at 5 p m , from November 5th to 26th, at the Royal Free Hospital Copies of all syllabuses may be obtained from the secretary of the Fellowship, 1, Wimpole Street W.1

A MEETING of the Medico-Legal Society will be held at 11 Chandos Street, W 1, on Thursday October 23rd at 8.30 p m , when a paper will be read by Dr Letitia Fairfield on Women mental defectives and crime a practical study A discussion will follow The annual dinner of the society will be held at the Holborn Restaurant on Friday December 12th Further meetings of the society have been arranged for October 23rd November 27th January 22nd (1931) February 26th, March 26th April 23rd May 23th, and June 25th

ON Monday, November 17th, Mr A N C Shelley will give a lecture before the Royal Institute of British Architects on 'Public control of building the position in 1930 The meeting will be held at 8 p m at 9 Conduit Street Hanover Square W We are asked to say that the Institute extends a cordial invitation to members of the British Medical Association to be present at the meeting and to take part in the discussion

A SYSTEMATIC course in dermatology will be held at the London School of Dermatology St John s Hospital for Diseases of the Skin, Leicester Square on Tuesdays and Thursdays, from October to March at 5 p m An examination will be held at the end of the course and the Chesterfield medal will be awarded to the best candidate Arrangements can also be made for classes individual instruction, or research at the hospital Further particulars may be obtained from the dean

SIR WILFRED GRENFELL is conducting a tour in Great Britain and Ireland lecturing on his work in Labrador a list of places to be visited by him can be obtained from the Lecture Agency Ltd , Outer Temple W C 2 The Grenfell Association of Great Britain and Ireland whose offices are at 82 Victoria Street, S W 1, has issued a leaflet (No 13) giving an account of the various industries carried on in support of this organization Articles are exhibited and may be purchased at the offices of that association , they include rugs toys, ivories, clothing Christmas cards and books by Sir Wilfred Grenfell All profits from the sales are devoted to the furtherance of his work in Labrador and Northern Newfoundland

THE through Riviera express "Boulogne Vintimille" in connexion with the 2 p m service from Victoria, which commences running on October 25th will this year be worked via Laon Chalons sur Marne, Chaumont, and Is sur Tille, thus avoiding Paris

THE International Labour Office has published seven further leaflets, Nos 213 to 219, dealing with the occupational pathology of the medical and allied professions men of letters, speakers etc the digestive system and general metabolism statistics the nervous system artificial pearls and personal hygiene The brochure entitled *Occupation and Health* which contains these seven leaflets, may be obtained from the director of the London office of this organization 12, Victoria Street S W 1

THE *West African Medical Staff List* for 1930 contains the usual three sections, showing the grading, the distribution between the several colonies served, and the individual qualification and service of members of the staff and of the fifteen women now serving in West Africa It is issued by the Crown Agents for the Colonies, 4 Millbank, Westminster, S W 1

WE are informed that the Belgian periodical *Le Cancer* will henceforth be issued in fascicuil, four of which will complete a volume Each fasciculus will contain original articles in English French, German and Italian a survey of cancer problems and summaries of contents of recently published books and articles dealing with cancer Space will also be found for periodical bulletins of the National Belgian League against Cancer

THE Cambridge University Press announces for early publication *The Growth of Visual Perception in Children* by Dr W Line being the fifteenth monograph supplement to the *British Journal of Psychology*

IN the October issue of *The World s Children* there appears an illustrated account by Dr E Gorter, professor of paediatrics in the University of Leyden, of a new hospital for diseases of children which has been erected by the State and is intended to be a university hospital The expense of upkeep will be borne by the State except for small contributions by the parents of patients The wards on the ground floor are divided by glass walls into cubicles, most of which have only one bed and serve for isolating doubtful cases Special accommodation is provided for the instruction of medical students and there are laboratories for clinical, chemical, bacteriological and serological research

WITH the title *Photography Simplified Printing and Toning* Burroughs Wellcome and Co have issued a small booklet describing pictorially as well as textually the more important points concerned in obtaining good photographs The booklet will be supplied free on application to that firm

THE second Pan Russian Congress of Microbiology will be held at Moscow from December 27th to 30th 1930 when the following subjects will be discussed (1) B C G vaccination against tuberculosis (2) dissociation and cycle of development of micro-organisms particularly of the typho-intestinal group and pseudo-tubercle bacilli (3) the nature of toxin and anatoxin The following subjects have also been suggested (1) tissue cultures (2) typhus fever—nature of the virus and immunity (3) the bacteriophage and (4) undulant fever and contagious abortion in cattle Abstracts of communications should be sent before November 1st to the office of the congress Povrouka 44 Moscow The subscription is five roubles

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W C 1, on receipt of proofs

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westcent, London*

MEDICAL SECRETARY, *Mediocra Westcent, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS.

SOUND PROOF PARTITIONS

"D M O" writes I shall be very glad of any information in regard to dividing my consulting room into two parts by a partition Can any reader recommend a material which is soundproof, and thin and light in weight?

AMENORRHOEA IN A GIRL

"M E P" (South Africa) writes I have under my care a case of functional amenorrhoea which has resisted all medical treatment—tonic, polyglandular, etc The girl menstruated for the first time when 13 years old, had two or three normal menstruations which then ceased absolutely She is now 14 years of age Hypertrophied tonsils and adenoids were removed about nine months ago The patient is a big, strapping, athletic type, but has no abnormal features She has grown somewhat rapidly in the last year or two She is active, has a good appetite, and is normal in every other respect As her mother is somewhat anxious, would any reader advise regarding treatment?

KEEPING FIT IN HOT CLIMATES

"ANCIENT" writes I have lived for forty seven years in India, forty of which were in the plains For the first twenty five years I was in one appointment, and during that time I was only on the sick list for ten days, part of which at the age of 45 was due to mumps I had contracted from a patient, and thus not due to anything climatic The following are some of the rules I have acted upon I secured plenty of exercise—I played rackets till I was 65 I eat what there is going, but avoid all tinned foods, except jam In the old punkah days I always had three coolies to myself, to make sure of a good night's rest Now with electric fans matters have greatly improved in that respect Ice must not be stinted in the hot weather For drink in India I consider the best of all is an ounce of good whisky to a full bottle of soda water I have taken very little of beer and the strong wines, and then only on festive occasions There must be no fretting over trifles such as a mosquito bite Take all the leave possible Now at the age of 78, in a temperature nearly 90° I walk two or three miles a day, climbing hillsides and clambering over rocks and other rough country

CHEIROPOMPHOLYX

DR WILLIAM LIVINGSTONE (Seaford) writes I have come across two cases similar to that described by "Symington" on October 4th (p 586) The one case was caused by weeding, and the other by washing the hands in too strong lysol solution, there was redness and itching over the fingers, and tiny vesicles with dark centres developed The fluid seemed sterile These vesicles confesced and formed Hack's pocks Duration of disease about six weeks I found the following treatment most useful first wash in very hot water, using coal tar soap, secondly, bath in lotion 5 per cent solution of aluminl acetate, diluted 1 in 5 hot water followed by linimentum calaminae or ung hydrarg ox flav Wear gloves out of doors

INCOME TAX

Post Graduate Work. Expenses

"POST GRADUATE" sold his practice as from December 31st, 1929, and may take up professional work when his present course of study has been completed In the meantime his car continues to depreciate, and he is incurring expenses by way of professional subscriptions

*** These expenses are proper subjects of deduction in computing professional profits, but during periods when a practitioner is not in employment or in practice—that is, when there are no gross professional receipts against which to set these expenses—no allowance is due, they cannot, for instance, be set against income from investments

LETTERS NOTES ETC

THE FOOT AND THE SHOE

"W A D L" writes I am much interested in the letter by "M B, D P H" (September 27th, p 548), and in general I agree with him whole heartedly My wife, who has not a large foot—certainly it is not a long one, but it is rather wide, and she also has a high instep—has found great difficulty in getting a British shoe broad enough, which is not also too long Court shoes on this account she has had to forego Recently, quite by chance, she discovered that a firm with a French name, who have many branches in London, could fit her perfectly in any type of shoe required They have at least five widths to every style and size The inner side of the shoe, perhaps, cannot be said to be absolutely straight, but there is plenty of room for the toes, and the pair she purchased are certainly everything that one could desire in smartness

HERPES AND VARICELLA

DR J R HICKINBOTHAM (Colchester) writes On August 14th A B, aged 38, complained of intense pain in the left side of his face and head, and had a small cluster of herpetic vesicles on his left cheek On August 16th the herpetic rash was severe and typical over the distribution of the two upper divisions of his left fifth nerve His left eye was much inflamed On August 18th he called my attention to a few pustules on both his wrists which he had noticed that morning, and further search revealed a few pustules on both sides of his back and on his abdomen, and one on his right ankle They dried up and the scabs came off in a few days The herpes of the face formed dense scabs, which had nearly all separated by September 1st On August 30th, twelve days after the appearance of the scattered pustules, A B's baby, aged 10 months, showed about half a dozen scattered vesicles, and on September 1st had a profuse chicken pox rash of typical character

CHLOROFORM IN MIDWIFERY

"G P" writes In considering the choice of an anaesthetic in midwifery Dame Louise McIlroy (*British Medical Journal*, October 4th, p 549) suggests that the reason why chloroform is safe in midwifery is because we do not induce deep anaesthesia May I point out that the danger is in the struggling stage, more than in the stage of deep anaesthesia? Who ever heard of a death from chloroform in midwifery, and why is it so safe? The thyroid is more active than usual in these cases, and in consequence metabolism is increased and with it elimination There is seldom vomiting in these cases, and this would also point to free elimination If this is the true explanation, the giving of thyroid before other operations would be helpful

ANALGESIA AFTER CHILDBIRTH

DR C J HILL AITKEN (Kilnhurst, near Rotherham) writes Multiparae often dread after-pains more than labour pains Some years ago I was told to try phenazonum From the way multiparae who have received this drug to relieve after pains continue to ask me to be sure and send up 'one or two of those powders' I presume this remedy must give great relief I am referring to normal labours, of course Jardine, in *Clinical Obstetrics*, states that "multiparous patients will almost invariably suffer from after pains for thirty six to forty eight hours after labour"

HINTS TO YOUNG PARENTS

To Mothers and Fathers, described by the Association of Infant Welfare and Maternity Centres as 'a textbook of 82 pages giving clear and invaluable information on how to keep oneself and one's children well and strong, is now in its tenth edition (604th thousand) The work has been completely revised and sections have been added on rickets, rheumatism bed wetting, and elementary psychology Copies may be obtained (price 6d) from the Association of Infant Welfare and Maternity Centres, 117, Piccadilly, London, W 1

DISCLAIMER

WE have been asked by Dr H N Bradbrooke of Abingdon to state that a photograph recently reproduced in a local newspaper showing him *x* raying a patient at the new cottage hospital was published entirely without his authority

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 59, 60, 61, 62, 63, 66, 67, and 68 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 64 and 65

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *179*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

344 Prevention of Hypostatic Pneumonia.

C I Baastrup (*Ugeskrift for Laeger* August 14th 1930, p 762) draws attention to the risk of hypostatic pneumonia when an elderly patient is confined to bed The alternative of making the patient sit up in bed has the disadvantages of causing fatigue and giving rise to stiffness about the hips further, this device does no greatly raise the level of the lower part of the thorax Baastrup insists that his patients shall lie half an hour during the morning midday, and evening on the right side and half an hour on the left He remarks that although numerous practitioners doubtless avail themselves of this or a similar device the textbooks consulted have been practically silent on the point While it is natural to suppose that simply for mechanical reasons, expectoration coming from the right lung escapes by the right bronchus most easily when the patient lies on his left side, and vice versa, this is not the most important factor which comes into play When the patient lies on the right side an *x* ray examination shows the outer edge of the apex of the heart to be 7 cm from the outer limits of the left thorax whereas this distance is reduced to 4 5 cm when the patient lies on his left side When the patient lies on the right side the vault of the left side of the diaphragm is 3 5 cm lower than when he lies on his left side Lying on his right side the patient displaces the vault of the right side of his diaphragm 4 cm higher than when he lies on his left side It will thus be seen that by the simple device of changing from one side to the other very considerable movements of the intrathoracic organs are effected Measurements of the dimensions of the lungs in the two postures right and left sided decubitus showed, by the help of *x* rays and paper mapped out in square centimetres that when a patient reclined on the right side the area of the left lung in view was 213 square cm whereas this figure was reduced to 155 when the patient lay on the left side Similarly, the surface area of the right lung visible to the *x* rays with the patient on his right side was 190 square cm , whereas when he lay on the left side this figure was increased to 236 Another advantage of making the patient lie by turns on the right and the left side is the diminished risk of bed sores

345. Early Diagnosis of Whooping cough.

According to L W Sauer and Leonora Hambpecht (*Journ Amer Med Assoc* July 26th 1930 p 263) the cough plate method introduced in 1916 by Chievitz and Meyer is the best way of obtaining an early diagnosis in whooping cough A plate containing a medium of potato-blood organ is held three or four inches from the mouth and the patient gives several deep expulsive coughs the plate is incubated in an inverted position within a few hours after exposure Examination for colonies of *B pertussis* should be made at the end of the second day if they are very numerous they appear as minute glistening mercury like droplets amid the larger saprophytic colonies If the colonies are few they may not be recognized until the fourth or even the fifth day On staining by Gram s method or by toluidine blue the organisms are seen as small delicately staining ovoid bacilli some of which show bipolar staining Although the course of the whooping cough is little influenced by early diagnosis the patient and any susceptible children exposed to infection can be quarantined before they infect others

346. The Body Systems in Epilepsy

J Felsen (*Arch Int Med* August 1930 p 180) reports upon an intensive laboratory study of the various systems of the body in 73 epileptics All the patients were men and nearly all were between the ages of 21 and 31 normal controls of approximately the same ages were obtained The findings presented significant variations from the normal pointing to the need of making more careful studies of individual patients for a clue to the pathogenesis of epilepsy As regards the stomach a complete absence of free hydrochloric acid was noted in 11 per cent of the epileptic cases observed The blood picture showed higher leucocytosis and lymphocytosis figures during the paroxysmal period than during the interparoxysmal period An increase in the uric acid and chloride contents of the blood was noted in the interparoxysmal period and there was general reduction in chlorides and an increase in uric acid in some cases as the effect of a salt poor diet As regards the renal function, the excretion of phenolsulphonephthalein excretion was diminished in about half the cases and the general high chloride excretion was lowered during a course of salt poor diet Many epileptics were able to tolerate and store large amounts of carbohydrate without its subsequent appearance in the urine in one of the fifteen minute specimens Protein sensitization estimations were made, but there was no instance of a skin reaction to any of the many food and bacterial proteins used Some stools were classified as abnormal from their colour, consistency the presence of blood, or evidence of faulty digestion it is concluded that many epileptics may be benefited by colonic eliminative measures, or dietary limitations or both The general freedom from organic cardiac defects among epileptics was surprising, and it was found that there was a considerably lower percentage of high basal metabolic rates among them A detailed study of the skulls of epileptics revealed a high proportion of pathological conditions compared with those of normal persons Felsen remarks that studies of the vegetative nervous system suggest that the state of the epileptic may be regarded as one of "vegetative instability, but the cause of this instability and its relative importance in the production of a seizure has yet to be explained and interpreted

347 Diphtherial Vulvo-vaginitis

A Stammer (*Zeit f Kinderheilk* , August 23rd 1930, p 132) who records an illustrative case, states that diphtherial vulvo-vaginitis is a relatively rare condition being found chiefly in children who are already suffering from nasal or faucial diphtheria As a rule, the patients are either neglected and dirty individuals, or their resistance has been weakened by measles chicken pox, or typhoid and they have become secondarily infected with diphtheria In rare cases diphtherial vulvo-vaginitis is a primary condition, the infection being conveyed from diphtheria patients to healthy persons by the hands The prognosis is almost always favourable and it is only when the ulceration is extensive that septicaemia is likely to arise Stammer s patient was a girl aged 8 years suffering from threadworms she was admitted to hospital with inflammatory oedema of the labia minora the inner surface of which was covered with whitish yellow deposit There was a haemorrhagic discharge from the vagina which was also covered with thick pseudo-membranous deposit Micturition was very painful Numerous diphtheria bacilli were found in smears and cultures Recovery followed the injection of 6 000 units of antitoxin the use of sitz baths containing a bright red solution of potassium permanganate and the application of 5 per cent precipitate ointment to the labia

Surgery

348. Thoracoplasty in Tuberculous Empyema.

E Archibald (*Canadian Med Assoc Journ* , August 1930 p 160) records the results obtained by thoracoplasty in 34 cases of tuberculous empyema He recognizes three forms of this disease seropurulent effusions purulent effusions and severe mixed infection effusions The first class is characterized by a persistent seropurulent effusion containing tubercle bacilli In such cases when the disease in the lung before the onset of the effusion is of the chronic ulcerative type with cavities when the degree of compression from pneumothorax is not total and when the effusion after five or six aspirations with air replacement recurs constantly Archibald performs a *total thoracoplasty in order to produce* a pleural symphysis and so abolish the effusion In eight cases of this type treated by this method there have been no deaths and no post operative exacerbations There have been three practical cures one marked and one moderate improvement In the second class the effusion consists of a thick greenish or yellowish pus Operation on these patients is urged in the hope of obliterating the pleural space by a thoracoplasty with simultaneous aspirations and thus preventing the change into the dreaded mixed infection type A more complete thoracoplasty is necessary than the standard posterior paravertebral operation The author, as a rule removes in three or four stages, at intervals of one to two weeks the whole of the ribs from the transverse processes to the cartilages Of eleven cases in this class, two were practically cured while two were much and three moderately improved In the third class, the symbiosis of

streptococci and staphylococci, sometimes also of anaerobic organisms, with tubercle bacilli, seems to have a most serious constitutional effect In twelve of fifteen cases of this group a costectomy with drainage was the first surgical measure Of these twelve, eight had to be left without further operation, of these patients seven died and the remaining one is rapidly growing worse In the other seven of the fifteen a total thoracoplasty was performed in three or four stages Of these patients two are able to work for a full day, two can go about freely and work a little, one is greatly improved nine months after operation, and two died in hospital Archibald considers that these figures afford sufficient argument for advising a thoracoplasty in most cases of chronic tuberculous empyema Three case histories are given as illustrations of the types of empyema described and the treatment instituted

349 Subacute Pancreatitis

DEWITT STETTEN (*Annals of Surgery*, August, 1930, p 248) comments on the high mortality in cases of acute pancreatitis, the figures of which range from 71 to 55 per cent He suggests that earlier diagnosis and surgical intervention are the only means of lowering the number of deaths from this disease *If the premonitory symptoms could be recognized*, and the disturbance be corrected in its early stage, the eventual serious lesion might be avoided Inflammatory changes in the pancreas are usually due to a primary disturbance in the biliary system, disease of the gall bladder and biliary calculi are found in the vast majority of cases of pancreatitis In subacute pancreatitis the pancreas shows enlargement and induration, due to oedema, and not to true suppuration, frank haemorrhage, or actual necrosis, as in cases of the acute variety Operation for subacute pancreatitis discloses no gross disease of the gall bladder There is usually a history of attacks of pain recurring at intervals over a period of months or several years The pain, which is very severe, is situated in the mid epigastrium, and usually radiates to the left The main objective sign is tenderness on deep pressure in the epigastrium, with little or no rigidity There is often a definite "head zone" of hyperaesthesia in the left flank at the level of the eighth to the tenth dorsal Nausea and vomiting may occur, but are not outstanding symptoms There may be some leucocytosis, a trace of glycosuria, or a mild degree of hyperglycaemia The treatment, which should be surgical, is best undertaken as soon as the diagnosis has been confirmed by *x* ray examination, which will show a negative condition of the gall bladder, stomach, and duodenum If a definite subacute involvement is found a cholecystectomy should be performed in most cases, the cystic duct stump area being drained The pancreas should be exposed, preferably through the gastrohepatic omentum, the peritoneum overlying the pancreas, which constitutes the posterior wall of the lesser sac, should be transversely incised as widely as possible, and cigarette drains be left in This form of decapsulation relieves the congestion and oedema, and helps the gland to recover its normal condition Although the cases so treated have been few, the end results have been good, and there were no deaths in the three cases reported

350 Gall-stone Operations in Japan

H MIYAKE and F ISHIYAMA (*Deut Zeit f Chir*, July, 1930, p 187) have studied clinically and statistically 754 cases of operation for gall stones in Japanese subjects, they conclude that gall stones in Eastern countries differ in many respects from those occurring in Europe and America The fact that bilirubin stones were more common and cholesterin stones less common than in Western countries is ascribed to differences in diet metabolism between the white and coloured races Cases of calculi due to such parasites as ascaris were common in Japan, but are now diminishing owing to the improved hygiene The material collected gave no statistical evidence that pregnancy was an important etiological factor, the incidence in the two sexes being almost equal in Japan Though typhoid fever is common in Japan, typhoid bacilli were only rarely found as the cause of gall bladder disease, while *B coli* infections often played an important part

351 Treatment of a Thrombosed Varicose Vein

W P WOSNESSENSKI (*Zentralbl f Chir*, August 16th, 1930, p 2055) describes a case of extreme varicosity of the whole extent of the great saphenous vein on the right side, associated with thrombotic changes Operation was considered the best mode of treatment, and after two parallel incisions had been made, one on each side of the vein along its whole length from the saphenous opening to the ankle, the vein together with the overlying strip of skin was removed *en bloc* This procedure left a raw area, over which the skin had to be stretched to a considerable extent in order to approximate the edges The wound healed by first intention and the patient began to walk in twenty days The author enumerates the advantages of this method as follows The usual lengthy operation with its laborious separation of the vein from the skin is avoided The skin, which has to be stretched across the raw area, acts as an elastic stocking The danger of necrosis of the skin edges and consequent healing by granulation would appear to be small, since the raw area was as much as 3 to 4 inches across in one place, and the patient was in a debilitated condition

Therapeutics.

352 Antitoxin Treatment in Scarlet Fever

J D ROLLESTON (*Practitioner*, July, 1930, p 236) reports his observations on 450 cases of scarlet fever treated by antitoxin In 214 the benefit was immediate and dramatic, as shown by improvement of the general condition, fall of temperature to normal within twenty four hours, and rapid disappearance of the eruption, though as a rule the constitutional change took place some time before the rash had faded In 200 cases the improvement, though definite, was less sudden and pronounced, while in 36 no benefit of any kind resulted The serum was almost always injected intramuscularly, and in only a few very severe cases intravenously Repeated injections were required much less frequently than in the case of diphtheria, only 21 of the 450 cases had two injections and three patients received three injections The doses were usually 30 to 40 c cm, irrespective of the age of the patient, which ranged from 1 to 51 years Serum rashes, which were observed in 202 cases (44 8 per cent), were urticarial, with the exception of one case of circinate erythema, and were either localized at the site of injection or were more or less generalized As a rule the eruption was not accompanied by any rise of temperature or constitutional disturbance Like most observers, Rolleston holds that the chief value of the serum treatment of scarlet fever lies in its power to alleviate the toxic symptoms of the acute stage, while it has little if any action in preventing complications

353 Liver Treatment in Pernicious Anaemia

L V VARGA (*Münch med Woch*, August 15th, 1930, p 1397) followed up a number of patients with pernicious anaemia who had been discharged from the clinic after successful treatment by liver preparations He found that those who did not continue treatment rapidly relapsed, those who took liver preparations from time to time gradually lapsed into a state of chronic invalidism, while patients receiving liver extracts regularly and continuously remained well for a considerable time, but eventually developed serious spinal disease or psychosis Those patients, on the other hand, who took cooked or raw liver instead of liver extract, usually on account of lack of means, were all in good health and showed practically normal blood pictures Some of the relapsing patients were readmitted, and in these it was found that the same liver preparation which had previously been successful now produced only a gradual and incomplete improvement Treatment by the administration of liver substance, however, was usually efficacious In view of these findings the author concludes that while liver preparations are useful in the early or acute stages where feeding with large quantities of liver may be impossible, actual liver diet should always be prescribed for prolonged administration after the patient has been restored to health Treatment is always more difficult and less satisfactory after a number of severe relapses, since these appear to exhaust the reserves of the patient The total duration of the disease, however, has little influence on the efficacy of the treatment

354 Paravertebral Alcohol Injections in Angina Pectoris

ACCORDING to J C WHITE (*Ame Journ of Surg*, July, 1930, p 98) a knowledge of the cardiac innervation is necessary to obtain good results from paravertebral alcohol injections in angina pectoris Pain from the heart and ascending arch of the aorta is conveyed to the sympathetic trunk by post ganglionic, unmyelinated fibres travelling in the superior, middle, and inferior cardiac nerves to the corresponding *cervical* sympathetic ganglia, and in the recently discovered nerves which run directly across the mediastinum from the posterior cardiac plexus to the upper dorsal sympathetic ganglia Painful stimuli are carried to the spinal cord by pre ganglionic, myelinated fibres in the upper dorsal white communicant rami Since there are no white rami in the cervical region, all pain sensation referred over the cervical sympathetic trunk must descend to the upper dorsal region before it can reach the spinal cord Pain referred to the left or right precordium and arm enters the cord only on the

same side The vagus contains no important sensory fibres Operations on the cervical sympathetic trunk even if they include the stellate ganglion cannot interrupt all the pathways of cardiac pain The upper dorsal communicant rami or their sympathetic ganglia are the logical points at which to interrupt painful stimuli from the heart These data have been tested by White in 21 cases, and in each instance where a successful blocking of the sympathetic rami in the segments corresponding to the referred pain has been assured the angina pectoris has disappeared Alcohol injection is difficult technically because of the depth of the rami and the small area which is sclerosed by the alcohol Nevertheless White thinks that it is the safest method, and that its results are distinctly better than those following cervical sympathectomy In exceptional patients who are unusually favourable operative risks White removes the upper dorsal sympathetic ganglia in order to avoid the risk of a poor result from an unsuccessful alcohol injection G I SWITLOW (*ibid*, p 88) reports similar good results in angina pectoris following this paravertebral block method In 22 cases relief from pain was secured in 18 He maintains that the future surgical procedures for the relief of cardiac pain must be directed to the rami communicantes found between the eighth cervical and seventh thoracic spinal segments

355. Influence of Salicylates on the Heart in Rheumatic Fever

J WYCKOFF A C DEGRAFF and S PARENT (*Amer Heart Journ* June 1930 p 568) refer to the conflicting results of previous investigations into the effect of salicylates upon the auriculo-ventricular conduction time in rheumatic fever while some workers have recorded a reduction others have observed an increase in the conduction time The present authors have therefore repeated this work upon a group of sixteen patients carefully controlled and over a long period Patients suffering from rheumatic fever and showing a PR interval over 0 2 second were electrocardiographed every day Salicylate administration was started on alternate patients (120 grains daily) after a control period of one week. All the treated patients exhibited prompt alleviation of the symptoms and a reduction of the temperature irrespective of variations in the PR interval but no definite influence upon the latter was observed In some patients the conduction time became normal in the week before the administration of salicylates in others an irregularly increasing or decreasing PR interval was observed during treatment The variations in conduction time of the patients not receiving salicylates were found to be similar to those in the treated patients The authors conclude that disturbances of auriculo ventricular conduction time during the course of rheumatic fever show wide and inconstant variations and there is no proof that they are influenced by salicylate therapy

Radiology.

356. X ray Treatment of the Sympathetic System

L DELHERM and H BEAU (*Journ de Radiol et d Electrol*, July 1930 p 331) record the beneficial results of *x* ray treatment of the sympathetic system in certain cardiovascular affections such as Raynaud's disease obliterating arteritis angina pectoris some disorders of the cardiac rhythm and slight vascular troubles associated with arterial hypertension. Illustrative cases are cited, and a brief review of the literature is appended In Raynaud's disease obliterating arteritis and other vascular disorders the following technique is adopted For affections of the upper limb, radiation is applied over the cervico-dorsal region to the second dorsal vertebra a region which includes the cervical enlargement of the cord and the cervical sympathetic ganglia for that of the lower limb the dorso-lumbar region between the tenth dorsal and the second lumbar vertebra is irradiated, this tract comprising the lumbar enlargement and the lumbar sympathetic chain It is advisable to irradiate also other fields along the vessels of the limb Two symmetrical fields on each side of the vertebral column are treated with E E 25 cm focal distance 25 cm and an aluminium filter 5 mm thick. At each of three treatments weekly 400 *r* units are given—that is 1 200 to 1 600 *r* at each site with at least three weeks interval between each series For the limbs a lesser filtration of 2 mm aluminium is permissible Two hypotheses are held to explain the effects of the *x* rays the humoral which ascribes their good effects to a modification of the suprarenal secretion and the sympathetic Delherm and Beau hold the second view and consider that the sympathetic system is at fault in their cases, and that the rays can modify its tonus They point out that the affections benefited by radiotherapy are those in which the sympathetic functioning is disordered, and that the regions irradiated contain the sympathetic medullary centres and their ganglionic centres In angina pectoris irradiations are directed over the heart and its large vessels by two fields, anterior and posterior Here, again it is concluded that the results of treatment are due to the action of the rays on the sympathetic since it is known that the angina results from hyper excitability of the cardiac plexus Similar reasons are given for the efficacy of this treatment in troubles of cardiac rhythm and in arterial hypertension

357 Sensitization to X Rays and Radium

ALLERGIC reactions of the body to various physical agents, including visible light, are well known, but little is found in the literature regarding similar effects produced by *x* rays or radium, V M MOORE (*Radiology*, August, 1930 p 262) reports a case which suggests at least the possibility that the symptoms were the result of such radiation Duke has shown that the body may be sensitized to longer wave lengths of light as well as to other physical agents It seems legitimate to expect that the shorter wave length should produce similar reactions and this case appears to be a logical sequel to the light sensitization cases of Duke except that it appears to have been produced by the shorter instead of the longer wave lengths A woman aged 52, was receiving post operative radiation for carcinoma of the left breast After intervals of thirty and twenty seven days between the last two radium treatments, two attacks occurred which were marked by suddenness of onset and angioneurotic oedema with widespread reaction (red, firm itching and swollen parts) dyspnoea pyrexia vomiting and prostration Death supervened three days after the onset of the second attack. No predisposition of the patient to allergic reactions was known but an eosinophilia persisting over several years was suggestive A severe initial dose of radiation was apparently sufficient as a sensitizing agent since the reaction was unusually severe the small final doses of radium could hardly have produced such sequels unless sensitization had already taken place Moreover, the period between each treatment and attack was about that to be anticipated following gamma radiation from radium Carter has recorded two cases with similar phenomena and Stevens has pointed out that shortly after radiation the leucocytes diminish in number and begin to return after one or two weeks In the four week period other reactions may be noted, probably due to absorption of protein matter from disintegrated cells and this may in sensitive cases result in anaphylactic shock.

358. Radiological Examination of the Appendix.

A PINOS E VIDAL COLOMER J TELLERIA, and M. CORACHA (*Rev Med de Barcelona* July, 1930) describe a modification of Czepa's method of *x* ray examination of the appendix in cases of suspected chronic appendicitis At noon on the day before the *x* ray photograph is taken the following mixture is given 100 grams of barium sulphate suspended in 350 c cm of clear gum solution to which are added 20 grams of magnesium sulphate At midnight 100 grams of barium sulphate in the gum solution but without the magnesium sulphate are administered At 9 o clock the following morning the first *x* ray photograph is taken If the appendix is invisible the procedure is repeated and the second picture is taken If the magnesium sulphate has produced no purging the dose is increased the patient should pass one or two loose stools each day The examination is sometimes completed by giving a barium enema The authors record the results of 56 such examinations 24 of the patients had no appendix symptoms and in 22 a clear picture of a normal appendix was obtained but as the two negative cases were not operated on the condition of their appendices is not known There was a clinical suspicion of chronic appendicitis in 32 cases in 18 the appendix was visible and in 11 of these a normal appendix was diagnosed Only two patients were operated on and in both this report was confirmed The remaining 7 showed *x* ray evidence of disease (filling only at the base with fixation and pain on palpation) all were operated on and appendix lesions were discovered Of the 14 cases where the appendix was not visible only 7 were operated on In 5 the appendix was macroscopically abnormal and in the other 2 histological evidence of disease was found An appendix into which the barium does not enter is therefore regarded as suspicious From the histological examination of appendices the authors conclude that there are three main reasons why the appendix does not fill (1) perityphlitis and consequent paralysis of the smooth muscle, (2) appendicitis causing obliteration of the lumen and (3) cessation of peristalsis, due to inflammatory lesions of the muscle coat causing a plug of mucus to be retained.

Obstetrics and Gynaecology.

359 Glucose in the Toxaemias of Pregnancy

W T McConnell (*Amer Journ Surg*, June, 1930, p 1263), discussing the use of glucose in pregnancy, emphasizes its value in the early toxaemias when the vomiting is due to carbohydrate disturbance, its administration assists the liver to recuperate, and the endocrine glands are enabled to adjust their functions to the new requirements Where the disturbance is of such metabolic origin the glucose treatment of hyperemesis is attended by marked benefit In the later toxaemias culminating in eclampsia glucose is effective also in lowering the blood pressure, neutralizing the toxin, and lessening the convulsions, if use is made of the "continuous intravenous drip" method, suggested by Matas and elaborated by Heudon, an average amount of 4,000 c cm of the glucose solution can be administered in twenty four hours The concentration generally used is 5 to 10 per cent, and the average duration of such continuous administration was about a week, in no case was there any untoward result The concentration of the solution was determined by the point at which glycosuria appeared, and the usual rate of administration was one drop per heart beat, the patients receiving from 1 to 2 lb of glucose daily Two thermos bottles, each of 1,000 c cm capacity, are attached by a Y tube to a Murphy drip tube, from this a single rubber tube leads to a gold plated silver cannula inserted into the vein just above the bend of the elbow By having two thermos bottles it is possible to arrange for one to be in use while the other is being filled, and the solution is maintained at a constant temperature No reactions or ill effects resulted from the administration of larger quantities by this method, and the desired results were obtained in every case

360 Late Effects of Delivery by Forceps and Version

The effects of birth injury may not be apparent in the young infant, if they appear, recovery may ensue with a return of the condition in later childhood It is thus very difficult for the obstetrician to form an opinion as to the frequency of such lesions H Krukenberg (*Med Klin*, August 8th, 1930, p 1186) has therefore conducted a "follow up" of the children in 934 cases of forceps delivery and 164 cases of version performed between 1912 and 1929 Among the forceps deliveries there were two cases of Little's disease, one of Erb's palsy, and one case of blindness, probably due to damage of the optic nerve at birth The patients with Little's disease had been discharged from the obstetric clinic as normal The child with Erb's palsy had been noted at birth, but had apparently recovered by the seventh day, on re examination at the age of 4½ the arm was found to be useless The version deliveries had given rise to six cases of birth injury, three being cerebral, two due to brachial plexus damage, and one due to fractured femur (with 4 cm shortening at the age of 10 years) Krukenberg considers his cases too few to indicate the frequency of such injuries, but he calls attention to the life long disability resulting therefrom.

361 Hernia of Ovary and Fallopian Tube

C P G Wakeley (*Surg, Gynecol and Obstet*, August, 1930, p 256) discusses hernia of the ovary and Fallopian tube, and reports twenty five cases About 90 per cent of the other cases recorded in the literature were of the inguinal variety, and only three of Wakeley's series were femoral In inguinal hernia of the ovary it is usual to find the Fallopian tube also, whereas in the femoral variety the ovary is usually present alone The majority of cases occur in patients under the age of 1, since the ovary does not generally descend into the pelvis until the end of the first year Later the condition usually occurs in multiparae owing to the greater mobility of the ovary and tube In young children the ovary may appear at the external ring or in the labium majus as a rounded and freely movable swelling, which is not tender, in adults however, it is hypersensitive and painful, and there is a history of enlargement at each menstrual period Torsion and strangulation are the most frequent complications, especially in young children Since the application of a truss is rarely effective, and may result in atrophy with cystic or degenerative changes, an operation affords the only effective method of treatment, the ovary and tube being returned to the abdomen and the hernial sac being excised When, however, torsion or strangulation has occurred excision should be performed, since a useless fibrotic ovary always results from this accident The present author's twenty five cases occurred in a series of 303 inguinal and 200 femoral hernias operated upon during the past ten years

Pathology.

362. Action of the Anterior Pituitary Hormone

The effect of the anterior lobe of the pituitary in controlling sexual development has long been recognized, but most of the experimental work in this field has related to its effect on the female sex organs Thus Zondek, who prepared a water soluble preparation of the anterior pituitary hormone, known as "prolan," was able to produce precocious puberty in female animals H Bolters (*Deut med Woch*, August, 15th, 1930, p 1382) now records the effect of the subcutaneous administration of this preparation on infantile male rats. He states that he has been able to produce rapid development and maturation of the testis, with increase of interstitial tissue, but not, however, the formation of ripe spermatozoa The other sex organs (prostate, vesiculae seminales) also show definite enlargement The actual body weight of the animals so treated was less than that of the controls He thinks it is thus established that this preparation has an effect on the sexual development in the male as well as in the female, but that the testis appears to be more resistant to its action than is the ovary Boeters points out, however, that "prolan" is at present prepared from the urine of the gravid female, he thinks it possible that its effect on the testis might be more pronounced if it was prepared from the male animal

363. Differentiation of Brucella melitensis and Brucella abortus

G Favilli (*Lo Sperimentale*, August 12th, 1930, p 287) has studied the sulphur metabolism in 103 strains of Brucella He finds that the varieties of this organism cultivated on liver agar do not all produce the same amount of hydrogen sulphide With *Br abortus* isolated from cattle and swine there is considerable production, but strains of *Br melitensis* and *Br paramelitensis* isolated from goats, sheep, and men produce no sulphide of hydrogen, or only a very small amount The strain *Br abortus humani*, isolated from men infected with undulant fever from cattle and swine suffering from epizootic abortus, gave a good production of H_2S in the same degree as that originated by *Br abortus* The author concludes that a study of the amount of hydrogen sulphide which individual strains of Brucella are able to produce is the best up to date means of differentiating the various qualities of these bacteria

364 Mercury Poisoning

Acute mercurial poisoning is a well defined syndrome, with characteristic history, symptomatology, laboratory findings, and pathological picture, but a history is not always available, and in such cases, which are rare, mercury may never even be suggested When it is, its consideration may be submerged by more common syndromes which closely simulate it P F Shapiro (*Journ Lab and Clin Med*, July, 1930, p 961) describes two cases (one acute, the other subacute) of fatal mercury poisoning, in which lack of history was the chief diagnostic handicap This led readily to an incorrect interpretation of the clinical symptomatology which, in retrospect, was typical of an acute or a subacute poisoning So remote was the suspicion of mercury that no chemical examination was made Histological examination revealed the diagnosis in both cases, and demonstrated the extreme activity and rapidity of regenerative changes in mercury nephrosis This lively regeneration is more specific for mercurialism than is calcification, which was slight or absent in both cases The pathogenesis of mercury nephrosis is reviewed Attention is called to the fact that when calcification fails to appear inflammatory reaction in the kidneys is likewise absent There is then no interstitial infiltration nor insufficient hyperaemia to produce the typical red sublimate kidney of the third stage of the nephrosis Both the cases described lacked this inflammatory reaction, and are examples of the less frequent brown sublimate kidney

365 Leptospira Icterohaemorrhagiae Infection in the Dog

G Korthof (*Nederl Tijdschr v Geneesk*, August 11th, 1930, p 4097) states that spirochaetosis icterohaemorrhagica in dogs may assume one of two clinical forms—namely, either uraemia or jaundice, accompanied by fever diarrhoea, and haemorrhages, like Weil's disease in the human subject Dogs often become infected with *Leptospira icterohaemorrhagiae*, especially with advance in age, so that old dogs are more commonly infected than not This infection, however, is not associated, as in rats, with the invasion of the kidneys by the leptospirae and their excretion in the urine, and consequently canine infection is not dangerous to man

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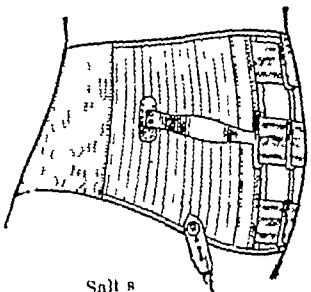
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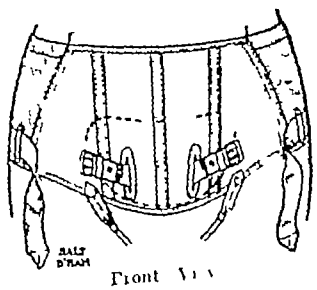
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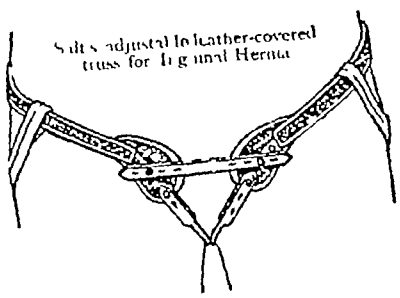
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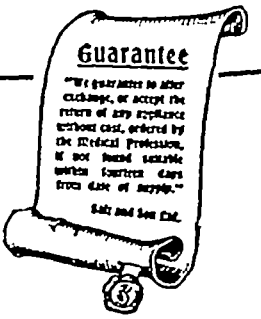
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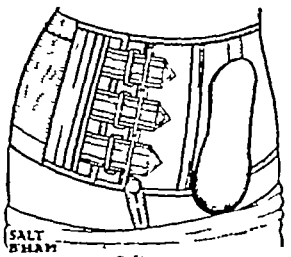
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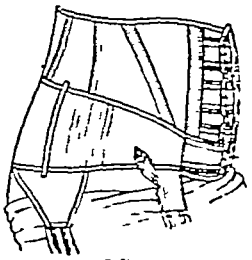




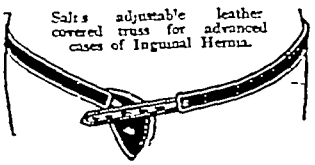
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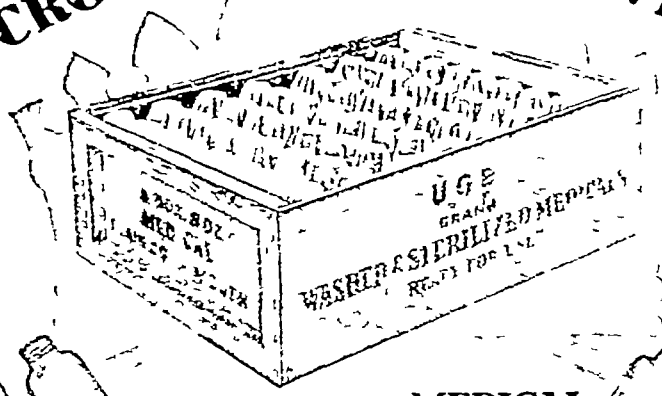
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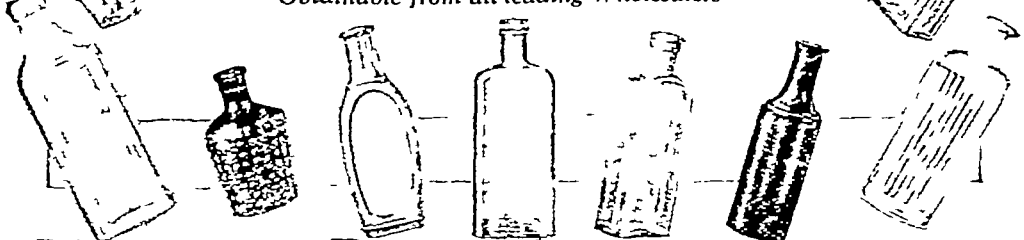
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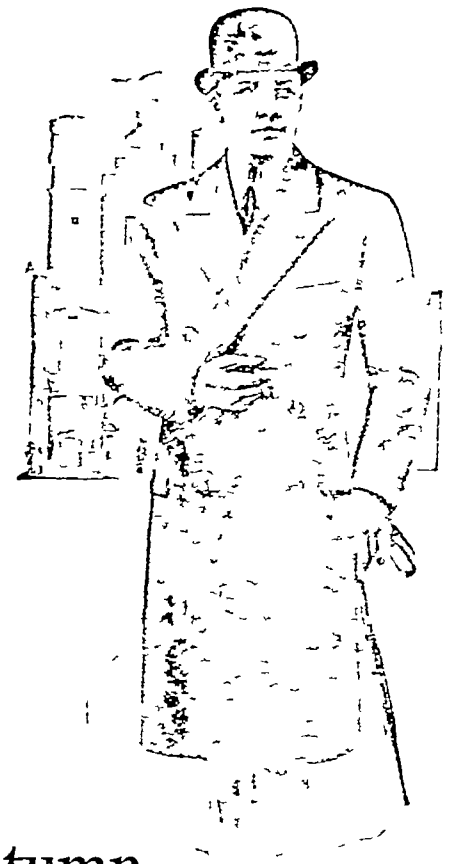
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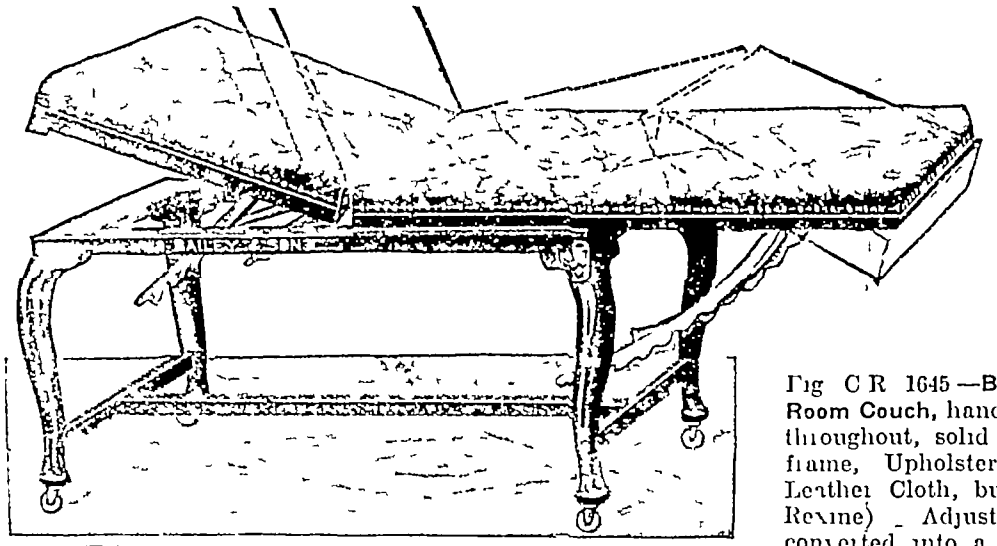
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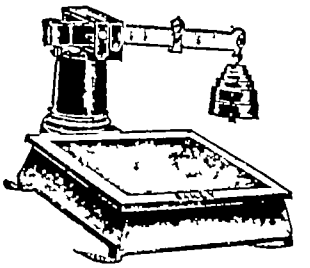
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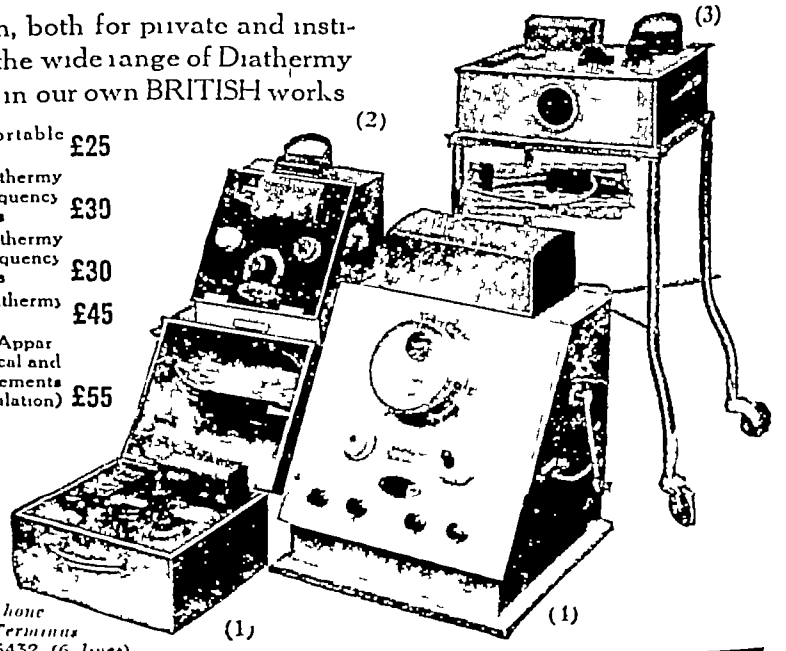
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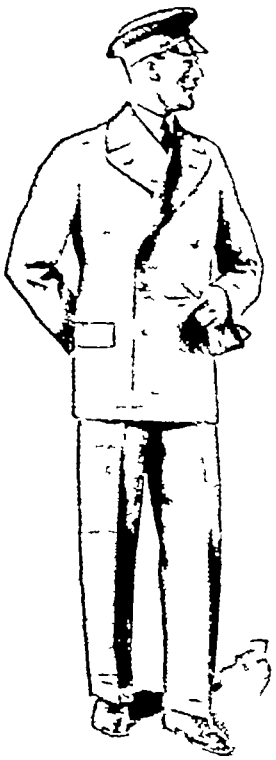
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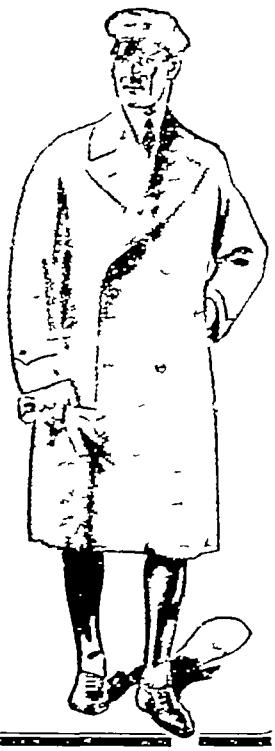
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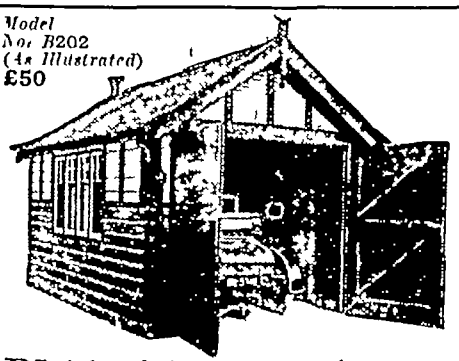
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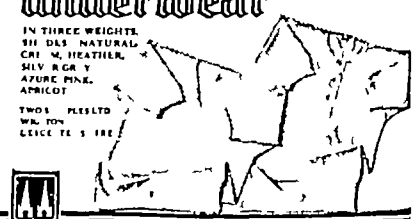
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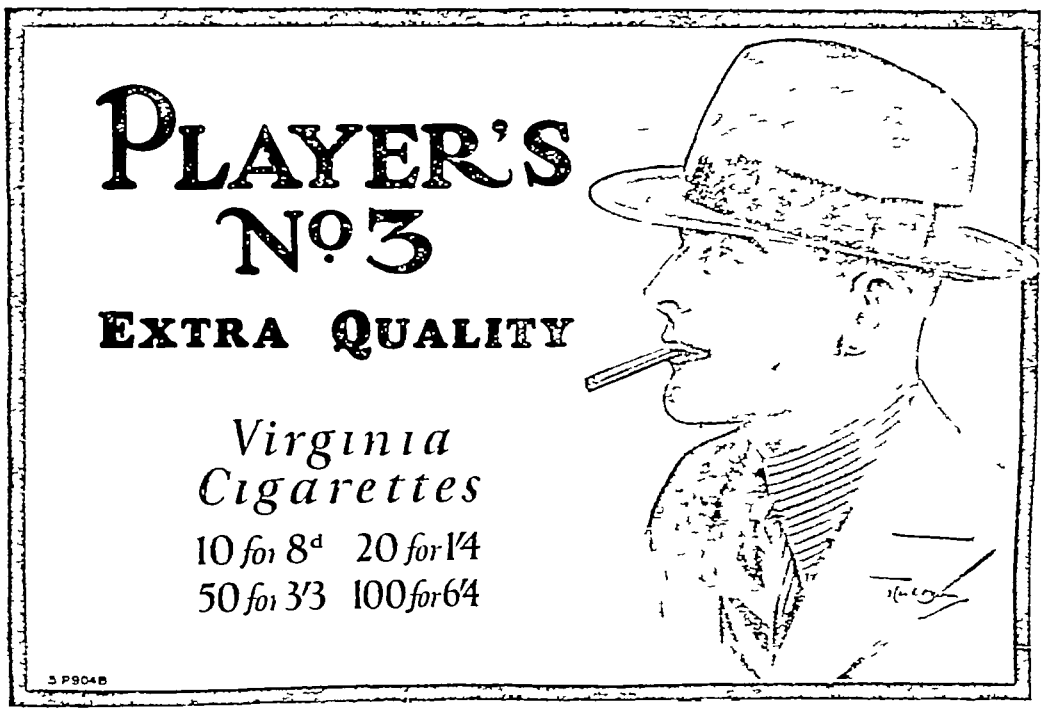
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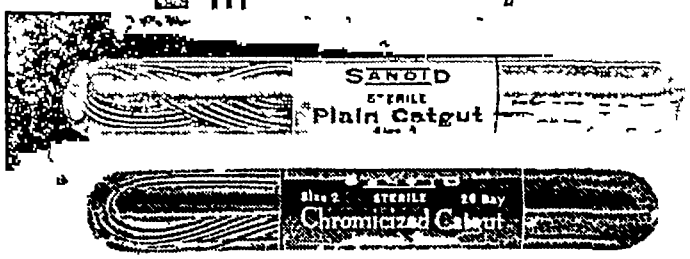
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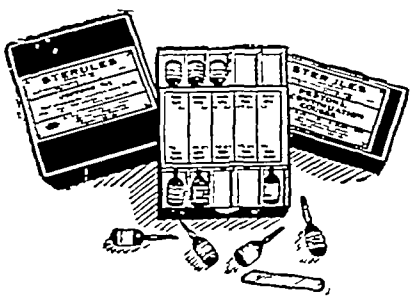
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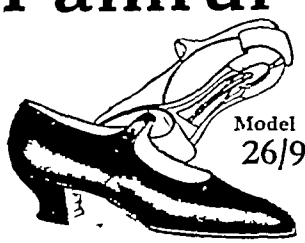
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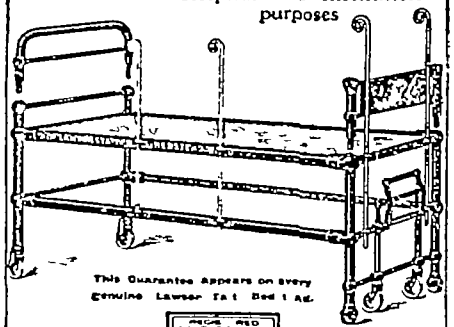
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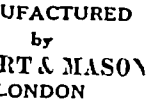
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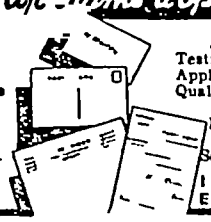
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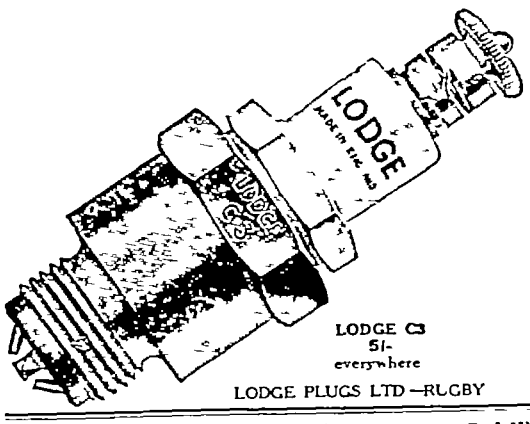
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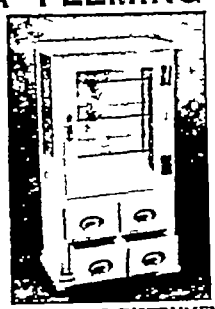


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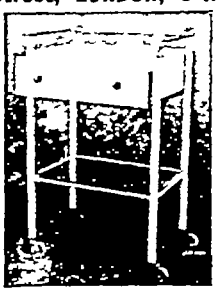


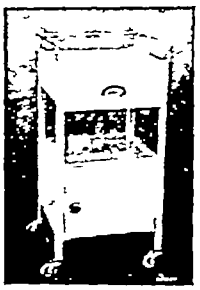


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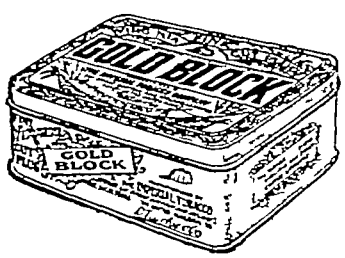


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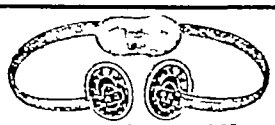
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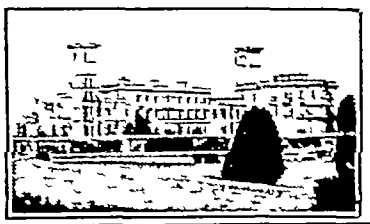
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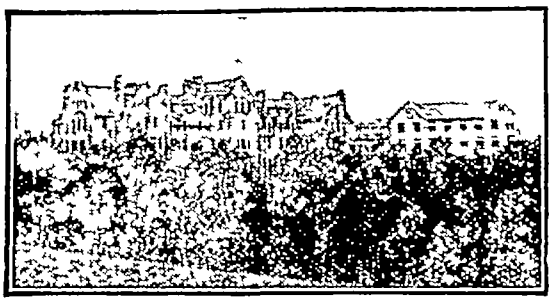
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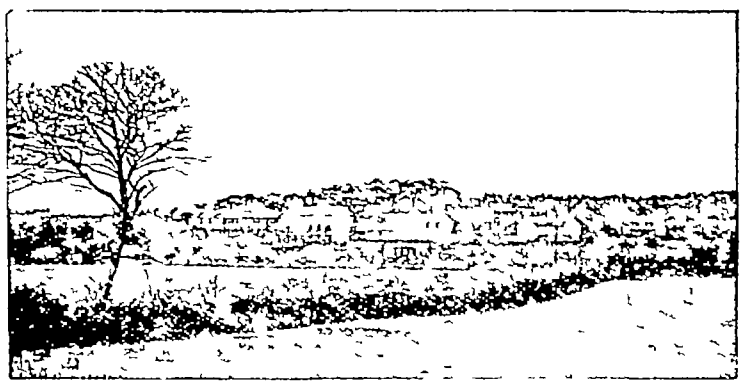
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L WHITTAKER SHARP, M B (Camb)
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Specially built in 1898 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis Aspect S S W, sheltered from North and East, elevation 800 feet Pure bracing air **Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra-Violet Rays** is available, when necessary, without extra charge X-ray plant Electric light Radiators, hot and cold basins, and Wireless in all rooms

Full day and night Nursing Staff

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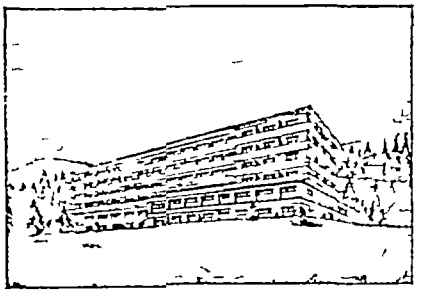
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(Free to Registered Medical Practitioners and Students).

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Dr Nathan Mutch	Urinary Antiseptics	Oct 1st (Wed)
Mr H P Winsbury White	The Diagnosis and Treatment of Retention of Urine in General Practice	Oct 8th (Wed)
Mr R H Jocelyn Swan	Cancer of the Bladder	Oct 15th (Wed)
Mr W K Irwin	The Diagnosis and Treatment of some important Bladder Conditions	Oct 22nd (Wed)
Mr Stanford Cade	Some Points on Radium Therapy	Oct 29th (Wed)
Mr Frank Kidd	Some Elementary Principles in Urology	Nov 5th (Wed)
Dr G R Mather Cordiner	Radiography, its relation to the Diagnosis of Diseases of the Urinary Tract	Nov 12th (Wed)
Mr Kenneth Walker	Prostatitis and Prostatic Calculi	Nov 19th (Wed)
Dr David Thomson	Common Infections of the Genito Urinary Tract	Nov 26th (Wed)
Mr Claude H Mills	Some interesting Urological Cases, with Demonstration of Pathological Specimens and Radiograms of same	Dec 3rd (Wed)
Dr Jenner Hoskin	The Value of Complete Cardio-Analysis in Genito-Urinary Operations	Dec 10th (Wed)

No fee will be charged for attendance at the lectures etc Registered Medical Practitioners and Students are invited to attend any branch of the work in which they are interested Tea will be served at 4 p m

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Out patients are seen daily at 1 o clock. Operations are performed at 3 p m

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Continuous Clinical Instruction, daily from 10 a m to 4 p m —Post-Graduates may enrol at any time for any period from 1 week to 3 months —Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners "—Anaesthetic Courses —Clinical Assistantships —Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals

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FRANK HAYDON Secretary

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CLASSES with Museum and Anatomical Demonstrations for next Exam will commence shortly Correspondence work at any time Particulars from Chas Whittaker F R C S Surgeons Hall Edinburgh

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The College of Preceptors holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June S ptember and December Last Regulations apply to the Secretary College of Preceptors Bloomsbury Square, London W C 1

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The School provides two courses yearly each of 22 weeks. The Spring Course commences on February 2nd 1931 and the Autumn Course in October 1931. Composition fee for inclusive hire of Microscope etc. £34 5s.

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The course of study covering one academic year commences in October. Composition fee £47 15s.

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Special three monthly advanced courses. Composition fee £7 7s.

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For particulars apply to the Dean, Liverpool School of Tropical Medicine, Pembroke Place, Liverpool.

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The post of RESIDENT MEDICAL OFFICER will shortly become vacant. Salary £200 per annum with residence and attendance. Candidates (unmarried) must be registered Medical Practitioners. Application, with copies of testimonials, must be sent to the Hon. Secretary on or before October 25th. The appointment will be made on November 4th next.

2, Endsleigh St., W.C.1. H. PETER BODKIN, Hon. Sec.

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Preacher, THE RIGHT REVEREND BISHOP J. E. HINE, M.D., D.D., Formerly Bishop of Zanzibar, M.C.A.

All Medical students and Practitioners are invited to attend.

Those willing to take part in the procession will please be in the Chapel of St. Michael and St. George.

A certain number of seats will be reserved and tickets for these as well as particulars of the Guild may be obtained from the Guild Secretary, Dr. ANDREW CURRIE, 20, Oxford Terrace, W.2, or from the Secretary of the Women's Ward, Dr. DOROTHEA BROOKS, 65, Park Road, Regent's Park, N.W.11.

The Government of Madras

invite applications for an appointment of PROFESSOR OF PATHOLOGY at the MEDICAL COLLEGE, Madras. Candidates should be natural born British subjects or subjects of *Indian States and between the ages of 28 and 40 years.* They should be Medical Graduates possessing qualifications no lower than the M.B., B.S. Degree of Madras University and be able to produce evidence of proficiency and experience in teaching and research in Medical Pathology and Bacteriology. Appointment will be made on agreement for five years in first instance or on a permanent basis, subject to two years' probation, according to the domicile of the selected candidate. Pay Rs. 1,100 a month rising by annual increments of Rs. 50 to Rs. 1,600. An officer of non-Asiatic domicile would receive in addition overseas pay of £30 a month approximately (sterling equivalent per annum at current rates of exchange £1,350 rising to £1,800). Travelling allowances. Free first-class passage to Madras. Strict medical examination.

Form of application and further particulars may be obtained upon request by postcard from the Secretary to the High Commissioner for India, General Department, India House, Aldwych, London, W.C.2. Last date for the receipt of applications, November 3rd.

Glamorgan County Council

LLWYNYPIA HOSPITAL.

The Public Assistance Committee invite application for the post of ASSISTANT MEDICAL OFFICER at the Llwynypia Hospital (182 beds) at a salary of £350 rising by annual increments of £25 to £450 per annum, together with residential emoluments valued for the purposes of the Local Government and Other Officers Superannuation Act, 1922, at £75 per annum. Accommodation is provided for an unmarried officer.

The post is an established post under the County Superannuation Scheme and for this purpose a deduction of 5 per cent. of the annual salary will be made, repayable with interest on retirement before the pensionable age.

The person appointed will be required to give his whole time to the duties under the control and supervision of the Medical Superintendent.

The appointment will be terminable by two months' notice on either side.

Applicants should have already held a resident hospital appointment giving surgical experience and preference will be given to those who have had personal experience of ear, nose and throat work. Applicant must not be over 35 years of age.

Application for the appointment, stating age and qualifications, and accompanied by copies of not more than three recent testimonials, should be sent to the County Medical Officer, Dr. E. CLAYTON WILLIAMS, Glamorgan County Hall, Cardiff, and should be received by him not later than the first post on the morning of November 8th.

Canvassing, personal or otherwise, will be a disqualification.

Glamorgan County Hall,
Cardiff.

F.R.C.S. (Edin.)

CLASSES BY POSTAL TUITION.—Full Preparation by Classes with DEMONSTRATIONS will commence shortly. COURSE BY CORRESPONDENCE for March and later Exams. also begins now.—H. C. ORAM, F.R.C.S., Surgeon's Hall, Edinburgh.

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HON. ASSISTANT OPHTHALMIC SURGEON required who must have held an appointment of not less than six months in some recognised Ophthalmic Hospital or Ophthalmic Department of a General Hospital. Particulars can be obtained from the Secretary, to whom all applications must be sent by Monday, November 10th.

City of Birmingham

ASSISTANT MEDICAL OFFICER FOR MATERNITY AND CHILD WELFARE

The Maternity and Child Welfare Committee invite applications from Medical Women for the post of whole time Assistant Medical Officer for Maternity and Child Welfare. Applicants must have had Children's Hospital and Maternity Hospital experience, and the Diploma of Public Health is desirable. The duties of the post include the clinical charge of the City Maternity Home, Heathfield Road (27 beds) therefore considerable Obstetrical experience is essential

The salary will be £600 per annum, rising by annual increments of £25 to a maximum of £700 per annum The officer appointed will be required to pay to the Corporation all fees allowances, and emoluments (other than the foregoing) received by her The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination, and will be subject to three months notice on either side The appointment will automatically terminate in the event of the Medical Officer's marriage

Forms upon which the applications should be made may be obtained from the Medical Officer of Health the Council House, Birmingham

Applications, stating age, experience and qualifications, and accompanied by copies of three recent testimonials, should be forwarded on or before November 1st to the Medical Officer of Health, and be endorsed Assistant Medical Officer for Maternity and Child Welfare

Council House, Birmingham — T H C WILTSHIRE, Town Clerk

City of Birmingham

SELLY OAK HOSPITAL

RADIOLOGIST

Applications are invited from fully qualified Medical Practitioners for the post of Part time Radiologist to the above acute General Hospital

Further particulars of the post may be obtained from the Medical Superintendent R P S KELMAN, Esq M B, F R C S (Eng & Edin) to whom applications stating age experience and qualifications accompanied by copies of recent testimonials should be forwarded not later than Wednesday Oct 22nd

The Council House, Birmingham — T H C WILTSHIRE, Town Clerk

Metropolitan Borough of Battersea

Applications are invited from duly qualified Practitioners for the appointment of a PART TIME ASSISTANT TUBERCULOSIS MEDICAL OFFICER at a salary of £400 per annum The officer appointed will be required to devote approximately 20 hours weekly in attendance at the Dispensary to assist the Tuberculosis Officer and to carry out such duties as may be assigned to him in the work of the Borough Tuberculosis Scheme and will act under the direction and supervision of the Medical Officer of Health The appointment will be subject to the By laws and Standing Orders of the Council so far as they are applicable Preference will be given to candidates who have had previous experience in Tuberculosis work

Applications endorsed Assistant Tuberculosis Officer stating age qualifications and experience and accompanied by copies of not more than three recent testimonials should be addressed to the Medical Officer of Health Public Health Department Electric House, 204 Lavender Hill S W 11 and should reach him not later than 9 a m on Tuesday, October 21st

Town Hall, Battersea S W 11 — EDWIN AUSTIN, Town Clerk.

Borough of Dukinfield and URBAN DISTRICT OF HOLLINGWORTH

MEDICAL OFFICER OF HEALTH

The Town Council of the Borough of Dukinfield and the Council of the Urban District of Hollingworth invite applications from duly qualified Medical Practitioners for the position of Medical Officer of Health for the area of the two Council The salary will be £800 per annum and office accommodation will be provided

Forms of application and conditions of appointment can be obtained from the undersigned and applications must be received not later than October 31 t

Town Hall, Dukinfield, October 1930 — FRNEST BARLOW, Town Clerk of Dukinfield

County Council of Durham

EDUCATION DEPARTMENT

SCHOOL DENTIST

The County Education Committee invite applications from fully qualified and experienced Dentists for appointment as a School Dentist to act under the School Medical Officer in connection with the treatment of dental defects of children attending Schools in the County area, and to undertake such other duties as may from time to time be required by the Education Committee Commencing salary £500 per annum rising by annual increments of £25 to a maximum of £600 per annum, together with travelling expenses in accordance with the County Scale The successful candidate will be required to devote his (her) whole time to the duties of the office, and to reside in or near the districts in which he (she) may be attached at a place to be approved of by the Education Committee The appointment will be subject to three calendar months notice on either side, such notice to date from the last day of any calendar month Copies of not more than three recent testimonials are required

Canvassing, directly or indirectly is prohibited, and will disqualify A deduction of 5 per cent. will be made from the salary in accordance with the Local Government and Other Officers Superannuation Act, 1922, which has been adopted by the Council, and the appointment will be subject to passing the County Council's medical examination in connection therewith For

not later than

obtained from

Hall, Durham, on receipt of a stamped addressed foolscap envelope

Shire Hall, Durham, October 6th 1930 — THOS B TILLEY, Director of Education

County Council of Durham

HOLYWOOD HALL SANATORIUM, WOLSINGHAM

ASSISTANT MEDICAL OFFICER

Applications are invited for the appointment of an Assistant Medical Officer (resident) at the Holywood Hall Sanatorium, Wolsingham (about 185 beds)

Salary will be at the rate of £350 per annum, rising by annual increments of £25 to a maximum of £550 per annum, together with board residence, and laundry in addition, valued at £150 per annum

Candidates will be required to have had previous experience in the diagnosis and treatment of Tuberculosis and in Bacteriology

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922 and to a medical examination as required by the Council for the purposes of the Act, and the statutory contributions to the Superannuation Fund under that Act will be deducted from the salary and the appointment will be terminable by three months notice on either side

Applications with copies of not more than three recent testimonials, should be sent to the County Medical Officer Shire Hall, Durham, on or before October 28th

Shire Hall, Durham, October 13th, 1930 — HAROLD JEVONS, Clerk of the County Council

County Borough of Croydon

(PUBLIC ASSISTANCE DEPARTMENT)

APPOINTMENT OF RESIDENT ASSISTANT MEDICAL OFFICER (Male)

The Council invite applications for the above appointment at their MAYDAY ROAD HOSPITAL

The Resident Medical Staff consists of the Medical Superintendent Assistant Medical Superintendent and Surgical Officer Obstetrical Officer Medical Officer, Assistant Medical Officer The Hospital has upwards of 500 beds and offers excellent opportunities for further experience containing a variety of good clinical material

Candidates must have held a resident Hospital appointment and be experienced in Anaesthetics Further particulars may be obtained from the Medical Superintendent

Salary £300 per annum with full residential emoluments valued at £140

Application forms may be obtained of the undersigned and should be returned completed together with copies of three testimonials, not later than Thursday October 30th

Public Assistance Offices, Mayday Road Thornton Heath, October 13th 1930 — JOHN M NEWNHAM, Town Clerk

City of Manchester

PUBLIC HEALTH DEPARTMENT

BOOTH HALL HOSPITAL

APPOINTMENT OF AN ASSISTANT MEDICAL OFFICER

The Public Health Committee invites applications from qualified Medical Men for the position of Assistant Medical Officer at the Booth Hall Hospital for Children (750 beds), Charlestown Road, Blackley, Manchester

Every applicant must be a registered Medical Practitioner and unmarried

Preference will be given to applicants with previous hospital experience

The Hospital is a recognized Training School for Nurses and is equipped with all modern hospital requirements

Salary £250 per annum, with board residence, and laundry in addition No bonus

The appointment will be made, in the first instance for a period of six months, renewable at the expiration of that period

Every application stating fully the training, qualifications, and experience of the candidate and his age, with copies of three recent testimonials, and endorsed on the envelope Assistant Medical Officer, Booth Hall Hospital' must be addressed to the Medical Officer of Health, Civic Buildings, 1, Mount Street, Manchester, only, and not to members of the Committee or Council, and must be received by him not later than Saturday, October 25th

The candidate appointed will be required to commence duty as soon as possible after appointment, to devote the whole of his time to the duties of the position to pass a medical examination, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service

Canvassing in any form oral or written direct or indirect, is prohibited

Town Hall, Manchester, October 13th, 1930 — F E WARBRECK HOWELL, Town Clerk

Workmen's Compensation Act, 1925

MEDICAL BOARD FOR SILICOSIS

Under an arrangement between the Home Office and the Industries concerned, the periodic and other medical examinations required under the Refractories Industries (Silicosis) Scheme 1925, and the Sandstone Industry (Silicosis) Scheme, 1929, are carried out by a Joint Medical Board consisting of whole-time officers the members of which are allotted to certain centres, and which has its central office at Sheffield The Home Secretary announces an immediate vacancy for a WHOLE TIME APPOINTMENT AS MEMBER OF THE MEDICAL BOARD The scale of salary is £750 per annum rising by annual increments of £25 to £900

It is contemplated that in pursuance of the Workmen's Compensation (Silicosis and Asbestosis) Act, 1930, the present medical organisation will be extended shortly to certain other industries and processes, and that probably at least two additional appointments will then be necessary, and applications for the post now vacant will, if the applicants so desire be considered also in connexion with these further appointments

Further information and forms of application can be obtained from the Industrial Division Home Office, Whitehall, London, S W 1 Applications should reach the Home Office not later than October 25th, 1930 Recommendations or testimonials will only be considered if given by persons having personal knowledge of the candidate

Home Office, Whitehall September 29th, 1930

County Borough of Walsall

MANOR HOSPITAL

RESIDENT ASSISTANT MEDICAL OFFICER

Applications are invited from duly qualified gentlemen for the appointment of First Assistant Resident Medical Officer

The salary will be at the rate of £200 per annum together with the usual residential emoluments The appointment will be tenable for a period of twelve months

The person appointed will be required to act under the general direction of the Medical Officer from whom particulars of the appointment may be obtained

Applications stating age professional qualifications and experience, accompanied by not more than three copies of recent testimonials should be sent to the undersigned at once

29 Leicester Street, Walsall, August 25th, 1930 — C S FOTHERGILL, Public Assistance Officer

Kent County Ophthalmic and
AURAL HOSPITAL, MAIDSTONE.
(105 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ear Nose and Throat Department. Candidates must be fully qualified and registered Medical Practitioners and of British birth and nationality. The appointment will be for six months but may be renewed for a further six months. Salary at the rate of £200 per annum with board residence and laundry.

The Hospital is responsible for the practical work of the D.L.O.

Applications stating age together with copies of not more than three testimonials should be sent to the undersigned.

JOHN W. STRICKLAND, Secretary.

Victoria Hospital, Burnley
(120 Beds.)

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment is for six months in the first instance and carries a salary of £150 per annum with board etc.

This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Applications with testimonials should be addressed to the undersigned forthwith.

GEO. W. COOLING,
Sept. 26th 1930. Secretary Supt.

Bury Infirmary, Lancashire
(A General Hospital of 170 Beds.)

Applications are invited for the post of THIRD HOUSE SURGEON who must have both Medical and Surgical qualifications. The appointment is for six months at a salary at the rate of £150 per annum with board residence and laundry.

Applications stating age qualification and nationality with copies of three recent testimonials to be sent to the undersigned not later than Wednesday, October 22nd, endorsed Third House Surgeon.

ALEX. W. MAITLAND,
Honorary Secretary.

Royal Eye Hospital,
St. George Circus, Southwark, S.E.1

HOUSE SURGEON and ASSISTANT HOUSE SURGEON required at the above Hospital. The appointment is in the first instance for a period of six months with board and residence as from December 1st.

Salaries—House Surgeon at the rate of £150 per annum. Assistant House Surgeon at £100 per annum. Candidates must be registered practitioners.

Application with copies of three recent testimonials should be sent to the Secretary at the Hospital not later than Tuesday, October 28th.

F. E. DALTON, *Secretary.*

The Prince of Wales's General
HOSPITAL, London, N.15

The Governors of the Prince of Wales's General Hospital will shortly proceed to the election of an HONORARY ASSISTANT SURGEON for which post applications are invited.

Candidates must be Fellows of the Royal College of Surgeons of England and be engaged in the practice of Surgery only.

Application together with copies of three recent testimonials, should be lodged with the undersigned on or before Wednesday, Oct. 29th.

J. C. BURDETT,
October 11th 1930. Director.

The Gloucestershire Royal
INFIRMARY AND EYE INSTITUTION,
GLOUCESTER. (155 Beds—4 Resident.)

Applications are invited for the post of RESIDENT SURGICAL OFFICER (male). Salary at the rate of £175 per annum. Six months appointment with board, residence and laundry. Good opportunity for surgery.

Applications stating age qualification and nationality with copies of three recent testimonials to be sent to the undersigned.

F. J. SYMONS,
Oct. 10th 1930. Secretary.

Lowestoft and North Suffolk
HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board residence and laundry.

Applications together with copies of three recent testimonials, to be sent to the Honorary Medical Superintendent.

Royal Sussex County Hospital,
BRIGHTON.

An ASSISTANT PATHOLOGIST to the Pathological, Bacteriological and Clinical Research Department of the above Institution required. Commencing salary £400 per annum (non-resident). Candidate must have had experience in Clinical Laboratory work.

Application with copies of testimonials must reach the undersigned at the Hospital not later than November 10th.

The successful candidate will be required to commence his duties as soon as possible after election.

Particulars of duties and rules will be forwarded on application to the Secretary-Supt.

L. L. W. LANCASTER CAVE,
Secretary-Superintendent.

Royal Sussex County Hospital,
BRIGHTON. (238 Beds.)

HOUSE PHYSICIAN (male) required early in November with charge of bed. Salary £150 *per annum with board residence and laundry.*

Candidates must hold a Medical and Surgical qualification of the British Empire and be duly registered under the Medical Act. They must be unmarried and when elected under 30 years of age.

Application with copies of testimonials should be sent at once to the undersigned.

L. L. W. LANCASTER CAVE,
Secretary-Superintendent.

Royal National Orthopaedic
HOSPITAL.

SURGICAL REGISTRARS.

The Committee invite applications for the appointment of Three Registrars (male) as from November 1st. Honorarium £105 per annum. The appointments are for 12 months renewable for a further 12 months on the recommendation of the Medical Board. Applications with copies of three recent testimonials should reach the Secretary, 234 Gt. Portland Street, W.1, not later than October 22nd.

Royal Victoria and West Hants
HOSPITAL, BOURNEMOUTH.

CASUALTY OFFICER AND HOUSE SURGEON (*male British nationality required*). Salary £150 per annum with board, lodging and washing. The appointment is tenable for six months and candidates must be registered according to the provisions of the Medical Act.

Applications stating place of birth with copies of three testimonials to be sent immediately to the undersigned.

Women and married men are ineligible.

GORDON M. SAUL,
October 11th 1930. Secretary.

East Suffolk & Ipswich Hospital,
IPSWICH.
(255 Beds—7 Residents.)

Applications are invited for the post of CASUALTY OFFICER. Salary £150 per annum. Board residence and laundry. Previous experience essential.

Applications from British (male) candidates stating age qualifications and experience and accompanied by three recent testimonials to be sent to the undersigned.

The Hospital, ARTHUR GRIFFITHS,
Ipswich. *Secretary.*
August 18th 1930.

Samaritan Free Hospital for
WOMEN, Mar lebone Road, N.W.1.

Applications are invited for the post of HOUSE SURGEON for a period of six months commencing on November 10th next. Salary at the rate of £100 per annum with board, lodging and washing. Previous experience as House Surgeon essential.

Application accompanied by copies of three testimonials must reach the Secretary at the Hospital on or before Friday, noon, October 31st.

C. H. HAWKINS, Secretary.

Kent and Canterbury Hospital,
CANTERBURY.

HOUSE PHYSICIAN (male) required to commence duties on December 1st. Six months appointment. Salary at the rate of £125 per annum, plus board residence and laundry.

Application stating age, qualifications, etc., should be forwarded to the undersigned not later than October 25th.

VICTOR SOUTHWOOD,
Superintendent & Secretary.

Stockton & Thornaby Hospital,
STOCKTON-ON-TEES.
(150 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence as early as possible. Salary £120 with board, residence and laundry. Candidates must be duly qualified and unmarried. Application stating age, nationality and experience, together with copies of three recent testimonials, to be sent to the undersigned.

JOHN WILKINSON, Secretary.

Stockport Infirmary

HOUSE PHYSICIAN (male) required. Salary £175 with board, residence and laundry. *Duties to commence November 1st.*

Application with copies of three recent testimonials stating age, nationality and experience to be delivered to the undersigned not later than Thursday, 23rd instant.

EDWIN J. PEARCE,
Secretary Superintendent.
October 16th 1930.

Royal Berkshire Hospital

Wanted on November 1st for BLAGRAVE *BRANCH HOSPITAL, CALCOT, READING (60 beds)*, a HOUSE SURGEON. Appointment for six months. Salary £150 per annum with residence, board and laundry. Suitable post for applicant working for examination or thesis.

Application with three copies of testimonials to be sent before 24th instant to the undersigned.

F. A. LYON,
Secretary.
Oct. 10th 1930. Royal Berkshire Hosp.

Oldham Royal Infirmary

Two HOUSE SURGEONS required immediately, one for Mal. Wards and one for Out-Patient and Special Departments. Appointments tenable until December 31st. Successful applicants will be eligible for re-appointment. Salary at the rate of £175 per annum with board residence, and laundry. Applications to be submitted forthwith together with copies of three recent testimonials, to the undersigned.

CHARLES D. DRAKE,
General Superintendent.

Royal Hospital, Richmond,
SURREY.

SENIOR HOUSE SURGEON (male) required as soon as possible *for six months.* Salary at the rate of £150 per annum with board, furnished apartments and washing. Candidates must be fully qualified and registered and single. Application stating age, experience and copies of three recent testimonials, must be forwarded to me by October 25th.

RICHARD ALLEN, Secretary.

Bedford County Hospital
(124 Beds.)

HOUSE SURGEON (male) fully qualified unmarried required for a term of not less than six months commencing at once. Salary £175 with board, lodging and laundry.

Applications stating age, nationality, qualifications, together with three recent testimonials to be sent to the Hon. Secretary, Hon. Medical Staff Committee as soon as possible.

Chester Royal Infirmary
(211 Beds.)

Wanted *HOUSE SURGEON (male)* to commence duties November 1st. Salary £150 per annum with board, lodging and washing.

Application list closes on 24th instant.

Application forms may be obtained from the undersigned.

W. H. GRACE, M.D., M.R.C.P.,
Hon. Superintendent of the
President Medical Staff.

Swansea Hospital
(316 Beds.)

HOUSE SURGEON to the Ear, Nose and Throat and Ophthalmic Departments wanted. Gentleman single. Appointment for six months from December 1st. Salary £200 per annum, with board, residence and laundry.

Applications stating age, nationality, qualifications and experience, together with copies of three recent testimonials to be forwarded to the undersigned.

O. C. HOWELLS,
Secretary Superintendent.

County Borough of Burnley

MEDICAL OFFICER OF HEALTH

The Corporation of Burnley invite applications for the appointment of Medical Officer of Health at a commencing salary of £1 100 per annum The appointment is to a designated post under the provisions of the Local Government and Other Officers Superannuation Act 1922, and the successful candidate will be required to pass a medical examination

The age limit for the appointment is 45 years except in the case of an applicant who is already an officer of the Corporation or of any other local authority which has adopted the provisions of the Local Government and Other Officers Superannuation Act 1922

Conditions of appointment and particulars of duties and a form on which application must be made may be obtained from the undersigned to whom applications, endorsed Medical Officer of Health must be delivered not later than Thursday October 23rd

Canvassing either directly or indirectly will disqualify

Town Hall COLIN CAMPBELL
Burnley Town Clerk
October 1st 1930

Cheshire County Council

WRENBURY HALL TUBERCULOSIS TRAINING COLONY

HOUSE PHYSICIAN

Applications are invited for the appointment of Resident House Physician at the above Institution The appointment to be for one year only at a salary of £250 per annum, with board and residence etc

Form of application and particulars of appointment to be obtained from the undersigned

County Offices REGINALD POTTS
Northgate Street, Clerk of the County
Chester Council
October 1st 1930

Rotherham County Borough

RESIDENT ASSISTANT MEDICAL OFFICER

The Public Assistance Committee invite applications for the above post at the Hospital Alma Road Rotherham

Salary £200 per annum together with the usual residential allowances.

Candidates must be single, not exceeding 30 years of age fully qualified and registered

Applications stating age qualifications etc together with copies of three testimonials to be sent to the Public Assistance Officer, 26 Moorgate Street, Rotherham not later than October 24th

CHAS L DES FORGES
Municipal Offices Town Clerk
Rotherham Oct 7th 1930

South London Hospital for

WOMEN South Side, S W 4

The Board of Management invite applications from fully qualified Medical Women for the appointment of PHYSICIAN to the Skin Department

Full particulars may be obtained from the Secretary

Applications with not less than six copies of testimonials to reach the Secretary at the Hospital not later than Saturday November 7th

Also for ANÆSTHETIST Attendance required Monday afternoons Tuesday and Friday mornings Honorarium 10s 6d per attendance

Applications with copies of testimonials to reach the Secretary at the Hospital not later than Saturday November 7th

General Hospital, Nottingham

RESIDENT CASUALTY OFFICER (male) required at once The appointment is for six months Salary at the rate of £150 a year with board residence and laundry

Applications stating age qualifications and experience with copies of testimonials to be delivered to the undersigned

PETER M MacCOLL
House Governor & Secretary

Great Yarmouth General

HOSPITAL. (72 Beds)

Required to commence duties immediately a JUNIOR HOUSE SURGEON

Salary at the rate of £140 per annum together with board residence and laundry

Applications together with copies of three recent testimonials to be submitted to the undersigned

FRANK JENKINGS Secretary

Lancashire County Council

PUBLIC ASSISTANCE COMMITTEE.

LARE HOSPITAL AND DARNTON HOUSE ASHTON UNDER LYNE, near MANCHESTER

APPOINTMENT OF SENIOR ASSISTANT RESIDENT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners (men or women) for the appointment of Senior Assistant Resident Medical Officer at the above Hospital and Institution, at a salary at the rate of £200 per annum

Candidates should be unmarried

The appointment will, in the first instance be for a period of six months the successful applicant however will be eligible for reappointment for a further period of six months at the end of that period

In addition to the salary the Resident Medical Officer will be provided with the usual residential allowances

The Hospital comprises 300 beds, and the Institution 600 beds

Applications accompanied by copies of not more than three testimonials should be forwarded to the County Medical Officer Public Assistance (Hospital and Medical) Department, County Offices Preston, not later than November 3rd Envelopes should be endorsed Senior Assistant Resident Medical Officer

County Offices, GEORGE ETHERTON,
Preston Clerk of the County
October 14th 1930 Council

The Hospital for Sick Children,

Great Ormond Street, London, W C 1

There will be a meeting of the Joint Committee on Wednesday November 5th, to elect a DENTAL SURGEON

Candidates shall be registered and qualified Dental Practitioners and in addition shall be Fellows or Members of the Royal College of Surgeons of England or a Graduate in Medicine of a University of the United Kingdom

Candidates are invited to send in their applications addressed to the Secretary, *with copies of not more than three testimonials*, written specially for the purpose on or before 12 o'clock, on Monday, November 3rd

All candidates will be required to appear before the Joint Committee on Wednesday, November 5th at 4 45 p m precisely

Forms of application and copies of the rules can be obtained from the Secretary

By Order of the Board of Management
JAMES McKAY
October, 1930 Secretary

The King Edward VII Welsh

NATIONAL MEMORIAL ASSOCIATION

Applications are invited from duly registered Medical Practitioners (male) for the post of THIRD ASSISTANT RESIDENT MEDICAL OFFICER at the NORTH WALES SANATORIUM, Llangwyfan, near Denbigh (236 beds for pulmonary and non pulmonary cases)

Salary £250 per annum plus maintenance, the appointment being limited to one year

Applications, stating age, qualifications and experience together with copies of three recent testimonials should reach the undersigned not later than October 29th

Memorial Offices D A POWELL
Westgate Street, Principal Medical Officer
Cardiff

The Royal Liverpool Children's

HOSPITAL
Myrtle Street, LIVERPOOL

The Committee invite applications from Graduates with previous Hospital experience for the appointment of RESIDENT CASUALTY OFFICER (male) The appointment will be for a period of one year duties to be taken up at an early date The holder of the post will be eligible for re-election

Salary at the rate of £250 per annum

Applications with copies of recent testimonials to be sent to the Secretary, Royal Liverpool Children's Hospital Myrtle Street Liverpool from whom further particulars may be obtained

Worthing Hospital

Applications are invited for the post of HOUSE SURGEON either sex now vacant The appointment is for six months renewable Salary at the rate of £150 per annum with board lodging and laundry Applications stating age qualifications and experience with copies of testimonials should be sent to the Secretary at once.

City of Plymouth

APPOINTMENT OF RADIUM OFFICER.

Applications are invited from duly qualified and registered Medical Practitioners for the appointment of a Radium Officer to the City of Plymouth

The person appointed will be a whole time officer, and will rank as an Assistant Medical Officer in the Public Health Department on the staff of the Medical Officer of Health The salary will be at the rate of £1 000 per annum.

The City Council is about to purchase one gramme of radium, which will be housed in one of the general hospitals in the City where a Deep X ray plant and the services of a Pathologist are available. The Radium Officer will have charge under the direction of the Local Radium Commission of this radium and be responsible for its proper use He will also be required to conduct Cancer Clinics and to make such investigations of cases of malignant disease as may from time to time appear desirable

Preference will be given to candidates who have had experience of radium work in Paris and Stockholm and who have had previous personal experience in radium therapy

Application forms will not be provided but candidates should state their age and qualifications, and give full details of their experience in radium therapy Canvassing will disqualify

Applications together with one or more testimonials must be received by the undersigned not later than Saturday October 25th and envelopes should be endorsed Radium Officer

A T NANKIVELL, M D M R C P
Town Hall D P H etc
Stonehouse Medical Officer of
Plymouth Health
October 14th 1930

St Paul's Hospital for Diseases

(INCLUDING CANCER) OF THE GENITO URINARY ORGANS AND SKIN, Endell Street Holborn, W C 2

Applications are invited for the undermentioned position

HOUSE SURGEON (Vacancy 24th inst). Candidates must be doubly qualified and registered Salary at the rate of £150 per annum with board and *residence* The appointment is for a period of six months on the termination of which the holder is eligible for the position of Resident Medical Officer in which capacity he will have charge of the Surgical beds

Applications, with copies of recent testimonials to be sent forthwith to the Chairman of the Medical Committee

St Mary's Hospital, W 2

MEDICAL REGISTRAR

The Board of Management invite applications for the above post

Candidates for the appointment must be registered Medical Practitioners and Fellows Members, or Licentiates of the Royal College of Physicians or Graduates in Medicine of a University in the British Empire

The salary is £200 per annum, with luncheon and tea provided

Copies of the regulations for the Medical Registrar may be obtained on application at the Secretary's office

Applications with copies of testimonials should reach the undersigned on or before Tuesday, October 28th

W PARKES Secretary

Bradford Royal Infirmary

Wanted for December 1st One HOUSE PHYSICIAN (male) One HOUSE SURGEON (male)

Candidates must be single and legally qualified Salary £150 per annum with board residence and washing

There are 215 beds and 6 resident officers

Applications stating age qualifications and previous experience (if any) with copies of recent testimonials to be received by the undersigned not later than Tuesday October 28th

J J BARRON
Secretary Supt

Queen's Hospital, Birmingham

Applications are invited for the post of HOUSE PHYSICIAN to the BIRMINGHAM AND MIDLAND NERVE HOSPITAL (associated with Queen's Hospital) Salary £70 per annum together with board apartments and laundry

Further particulars may be obtained from the undersigned to whom applications should be sent at once

G HURFORD House Governor

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	MIDDLESBROUGH COUNTY BOROUGH. *(Two Assistant Medical Officers)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE MON *(Medical Officer for Medical Aid Association)*	PAISLEY CORPORATION *(Assistant Medical Officer—Female)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MAPDY GLAMORGAN *(Workmen's Medical Scheme)*		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch Savings Bank Building 21 Elizabeth St. Sydney N.S.W.	**SOUTH AUSTRALIA** *(Lodge Appointments)*	Secretary South Australian Branch B.M.A. House 207 North Terrace Adelaide.	**WELLINGTON NEW ZEALAND** *(Contract Practice Appointments)*	Dr. G. F. WILKINSON (Hon. Sec. New Zealand Branch, British Medical Association P.O. Box 156 Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec. Queensland Branch) British Medical Association B.M.A. Building Adelaide St. Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries.)*	Dr. J. P. Major (Hon. Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices)*	Hon. Sec., Western Australian Branch British Medical Association No. 6 Bank of N.S.W. Chambers St. George's Terr. Perth Western Australia.

October 15th 1930 By Order of the Council ALFRED COX Medical Secretary

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The Queen's Hospital for CHILDREN
Hackney Road London E.2.

RESIDENT MEDICAL OFFICER required on November 30th.

The appointment is made for six months and may be extended for further periods of six months but cannot be held for more than two years.

The Resident Medical Staff consists of the Resident Medical Officer as above Two Casualty Officers Two House Physicians and One House Surgeon.

Salary (inclusive of panel fee) £200 per annum with board residence and washing Candidates must have held a responsible Resident appointment at a recognised Hospital and should apply as soon as possible for forms of application which must be filled in and returned to the undersigned on or before November 10th.

T. GLENTON KERR
Sept. 29th, 1930 Secretary
Telephone Clissold 6305 and 2534

Princess Louise Kensington HOSPITAL FOR CHILDREN
North Kensington

The Board of Management invite applications for the post of HON. ASSISTANT DENTAL SURGEON. Applicants must be Bachelors or Licentiates of Dental Surgery. Candidates should apply for further information to the Secretary Princess Louise Kensington Hospital or Children St. Quintin Avenue W.10 to whom final application should be made by Wednesday October 22nd.

The Sheffield Royal Hospital

Required OPHTHALMIC HOUSE SURGEON at once (male). Salary for the first six months at the rate of £80 per annum afterwards £100 with board residence, and laundry. There are twelve Resident Medical Officers.

Applications should be forwarded immediately to—

W. H. BOOTH
Superintendent and Secretary

Birmingham and Midland Eye HOSPITAL,
Church Street BIRMINGHAM

The Committee of Management are about to appoint an ASSISTANT SURGEON to this Hospital and now invite applications for the post.

Election will be for three years as from January 1st 1931 but the applicant appointed will be eligible for re-election.

Candidates must hold the following qualifications F.R.C.S. of England or Edinburgh or Membership of the Royal College of Physicians London or Graduate in Medicine of a British University and a Diploma in Ophthalmology.

Applications together with testimonial certificate of registration and of age should be addressed to the General Superintendent on or before Thursday November 13th.

A copy of the rules and regulations will be forwarded on application to the undersigned.

C. V. MASON
Sept. 18th 1930 Gen. Supt. & Sec.

Merthyr General Hospital,
MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum with board, rooms and laundry.

Applicants must have had experience in administration of anaesthetics.

Applications, stating age and qualifications and enclosing copies (only) of not more than three testimonials should be addressed Hon. Secretary Hon. Medical Staff, Merthyr General Hospital.

Jewish Maternity Hospital,
Underwood Street, E.1

There is a vacancy for an HONORARY PATHOLOGIST to the Hospital. An honorarium of £25 per annum is paid. Application together with copies of three recent testimonials should reach the Secretary not later than the first post on Monday Oct. 20th.

ALICE MODEL, Secretary.

Nottingham Children's Hospital

Applications are invited for the post of RESIDENT HOUSE PHYSICIAN (woman). Candidates must have held a resident Hospital appointment. Experience in the administration of anaesthetics essential. The salary will be at the rate of £160 per annum with apartments board and laundry. The appointment will be for six months the duties to commence on December 1st.

Application together with testimonial and stating age qualification and experience to be sent to F. PANCELL, the Honorary Secretary 1 King Johns Chambers Bridlesmith Gate Nottingham by October 20th. Selected candidates will be required to attend at the Hospital for a personal interview on October 28th when the appointment will be made.

North Riding Infirmary,
MIDDLESBROUGH
General Hospital (150 Beds).

Wanted THIRD HOUSE SURGEON (male) to take up duties as early as possible Salary at the rate of £125 per annum, with board residence and laundry. Six months appointment. Candidates will be eligible for the higher appointments as they become vacant.

Application stating age nationality and previous experience with references (copies) should be sent forthwith to the undersigned.

CHARLES POSTGATE,
Secretary-Superintendent.

The Children's Hospital,
SUNDERLAND (70 Beds).

Wanted immediately HOUSE SURGEON (male). Candidate must possess dual qualification (registered).

Salary £100 per annum with board residence and laundry. The appointment is for six months. Applications stating age with copies of three recent testimonials to be sent to the undersigned.

S. C. FRYERS
House Governor and Secretary.

(Appointments continued on p. 67)

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Wanted — Assistant, male, indoor single for panel and private Practice in Lancashire use of car some experience in Anaesthetics Salary £250—£300 according to experience Full particulars copies of testimonials usual bond—Address No 7174 B M A House Tavistock Square W C 1

Wanted — Outdoor Assistantship with view by M D Edin (single male aged 28) ex H P Fevers and Children Three years general practice experience Excellent references Preferably near London or big city — Address No 7166 B M A House Tavistock Square W C 1

Wanted —Indoor male Assistant Desirable qualifications R C knowledge of panel practice one working for higher degree Salary by arrangement—Address No 7252 B M A House Tavistock Square W C 1

Wanted — Assistantship or LOCUM by M B B Ch (Woman) Four years experience in C I Used to sole charge Well received Excellent testimonials Now free in London—Address No 7162 B M A House Tavistock Square W C 1

Wanted — Assistant, male, outdoor Pleasant country and panel Practice State age stature nationality if motorist registration date and other particulars £350 p a—Apply Dr WALLACE, Drefach Llanelly

Wanted —Assistantship, with definite view Partnership or Succession Industrial Practice Good panel M B B Ch D P H Liverpool Manchester or London preferred But not essential—Address No 7270 B M A House Tavistock Square W C 1

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Wanted—Young married Assistant for busy East End panel and private Practice £300 per annum and house Please give full particulars in first letter—Address No 7170 B M A House Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view State full particulars.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Wanted — Outdoor Assistantship by Woman L R C P S L M Rotunda D P H Good personality and exp suitable to work up Branch Surgery Ilford or near Prof Locums considered Interview arr Free Nov 1st —No. 7184 B M A House Tavistock Sq W C 1

Wanted —Indoor male Assistant (young) for winter months To commence December 1st Interview essential —Address No 7269 B M A House Tavistock Square W C 1

Wanted — Assistant Central London by man or out Bachelor house Usual salary Young and energetic man required — Address No 7172 B M A House Tavistock Square W C 1

Wanted by Scotsman, outdoor ASSISTANTSHIP London or near 3½ years C P Used to ob charge Interview any time—Address No 7173 B M A House Tavistock Square W C 1

Wanted —Assistant, male, indoor Scot for industrial Practice between Edinburgh and Glasgow Some C I experience Drive car £250—£300—Address No 7254 B M A House Tavistock Sq W C 1

Wanted — Assistantship with view by M D Scot R C Experience of Hospital and C P Preferably in large town with hospital No capital—Address No 7253 B M A House Tavistock Square W C 1

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Assistant, single, male, Protestant wanted for a middle working and panel class Practice London, S E. Salary £300 indoor Dispenser kept State age height experience—Address No 7269, B M A House Tavistock Square W C 1

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APPOINTMENTS—Contd.

Manchester Hospital for Consumption and Diseases of the Throat and Chest

Wanted a RESIDENT MEDICAL OFFICER for the In-patient Department (60 beds) HOWDON CHESHIRE. Must be registered. Salary £200 per annum with board apartment laundry and railway contrac. Duties include attendance on three mornings a week at the Out-patient Department Manchester.

Applications with copies of testimonials to be sent not later than October 30th to—
Herdman Street C. W. HUNT
Manchester Secretary

Sussex Maternity and Women's Hospital. (38 Beds.)

RESIDENT HOUSE SURGEON (male) required. Salary at the rate of £130 per annum board and washing found and £40 allowed for travelling expenses. Good experience in Midwifery and Gynaecology afforded. No canvassing allowed. The successful candidate will be required to enter on his duties on December 12th.

Applications in writing accompanied by testimonials should be sent to W. F. GRAVES Clerk, 117 North Street Brighton
October 17th, 1930

The Metropolitan Ear, Nose, and Throat Hospital (1838) (Incorporated) Fitzroy Sq. W.1

HOUSE SURGEON (non-resident). Salary £150 per annum.

Applications are invited for the above appointment and should be forwarded with not more than three recent testimonials to the undersigned from whom further particulars may be obtained

L. L. PHILLIPS Secretary

Shrewsbury Dispensary

MEDICAL OFFICER required. Candidates must be fully qualified. No restrictions as to private practice. Application with copies of three recent testimonials to be received not later than Thursday October 23rd 1930.

Particular from A. E. COOPER 28 Claremont Hill Shrewsbury

Kent County Council

PUBLIC ASSISTANCE DEPARTMENT

FEMLEY INSTITUTION

ASSISTANT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners for the post of Assistant (wholetime) Medical Officer resident at the Poor Law Institution Femley (436 beds).

The salary will be at the rate of £200 per annum and the appointment will be for a period of twelve months.

Application form to be obtained from the Public Assistance Officer Brunswick House Boxhall Hill Maidstone to be returned to him as soon as possible stating age experience qualifications

A contributory pension scheme will be applicable to the appointment

Canvassing Hours W. L. PLATTS
Maidstone Clerk of the County
October 15th 1930 Council

Cardiff Royal Infirmary (Associated with Welsh National School of Medicine)

Applications are invited for the post of GYNAECOLOGICAL HOUSE SURGEON

The appointment is for six months commencing immediately as the post is now vacant. Salary at the rate of £90 per annum with board and lodging.

Application forms can be obtained from the undersigned and should be returned with copies of three recent testimonials as soon as possible

R. ARMSTRONG
October 14th 1930 Medical Supt.

County Borough of Newport

MENTAL HOSPITAL, CAERLEON

ASSISTANT MEDICAL OFFICER (Male).

Applications are invited for the above post. Candidates must be unmarried. Previous experience desirable but not essential. Commencing salary £400 per annum with apartment board and laundry. Appointment pensionable under Asylum Officers Superannuation Act 1909.

Application stating age qualification and experience (if any) accompanied by copies of three recent testimonials to be sent to the Medical Superintendent as soon as possible

South-Eastern Hospital for CHILDREN Sydenham S.E.26

Applications are invited for the post of ASSISTANT RESIDENT MEDICAL OFFICER (lady). The appointment will be for six months from November 1st. Honorarium £100 per annum with board residence and laundry. Ample time for reading. Application by letter only stating age and qualifications with copies of testimonials should be sent to the Hon. Secretary WALTER MASON M.B.E. Woodfield 88 Dacres Road Forest Hill S.E.23 to be received not later than Monday October 20th.

Macclesfield General Infirmary (100 Beds.)

Wanted at once SECOND HOUSE SURGEON male. Salary at the rate of £150 per annum with board and residence. Anaesthetic experience essential.

The appointment is for six months subject to one month's notice on either side.

Applications stating age nationality and qualifications with copies of testimonials to be sent to the undersigned.

A. E. HANRAHAN Secretary

Royal Liverpool Babies' Hospital, Woolton

Required immediately RESIDENT MEDICAL OFFICER for the above Hospital. The appointment to be for a period of six months. Salary at the rate of £90 per annum

Application with copies of testimonials to be sent to the Chairman of the Hospital c/o The Child Welfare Association 9 Copperas Hill Liverpool on or before Saturday November 1st.

Liverpool Stanley Hospital, Stanley Road.

One HOUSE PHYSICIAN required immediately. Salary £100 per annum with board etc. Applications to the Secretary

Administrative County of London

HOSPITALS SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Women Medical Practitioners for appointment to the position of ASSISTANT MEDICAL OFFICER at ST. BENEDICT'S HOSPITAL, Church Lane, Tooting, S.W.17. The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and should occasion arise to assist at any of the other establishments or medical districts under the control of the Council. The scale of salary attaching to the position is £250 rising by annual increments of £25 to £450 a year together with board lodging and laundry. The salary is subject to review by the Council. Candidates must have had a resident appointment in a Public General Hospital. Marriage terminates contract of service.

Forms of application may be obtained from the Medical Officer of Health (Staff Division 4a) The County Hall S.E.1. A stamped addressed foolscap envelope should be enclosed and forms must be returned by November 3rd. Canvassing disqualifies.

MONTAGUE H. COX
Clerk of the London County Council.

The Government of Madras invite application for an appointment as ASSISTANT DIRECTOR OF PUBLIC HEALTH (woman) for Maternity and Child Welfare work in the Madras Presidency. Candidates who must be single women or widows should be Graduates in Medicine of a recognised University and the possession of a Diploma in Public Health would be an advantage. Preference will be given to candidates having experience in Maternity and Child Welfare work. The officer will be appointed on probation for two years and if found suitable in all respects will be offered permanent pensionable employment in the Madras Public Health Service. Pay Rs.600 a month rising by annual increments of Rs.50 to Rs.1,200 a month (approximately rising equivalent at current rates of exchange £840—£1,680 per annum). Free first-class passage to Madras. Strict medical examination. Form of application and further particulars may be obtained upon request by post-card from the High Commissioner for India, General Department, India House, Aldwych, London W.C.2. Last date for the receipt of applications October 25th 1930

Doncaster Royal Infirmary

TWO HONORARY ASSISTANT SURGEONS

The Board of Management invite applications for the post of Honorary Assistant Surgeons. The successful candidates must either hold or must obtain the F.R.C.S. or M.S. Degree within two years of appointment (the appointment is subject to confirmation every twelve months).

In future appointments of full Honorary Surgeons the candidates must be or be prepared to be in Consulting Practice.

Thirty-six copies of application and testimonial to be sent to the Secretary Superintendent for circulation to Members of the Board.

Applications should be received not later than November 2nd.

Darlington General Hospital (120 Beds.)

Wanted HOUSE SURGEON male or female British fully qualified. Salary £150 per annum with board residence and laundry. Special Department Maternity Orthopaedic Eye Ear Nose and Throat. Application stating age qualification etc with copies of two recent testimonials to be addressed to me forthwith.

A. RIDDLE, Secretary

Redlands Hospital for Women, GLASGOW

Applications are invited from Medical Women for the post of HOUSE OBSTETRICIAN for six months from November 1st. Salary at rate of £50 per annum. Applications with copies of three testimonials to be sent by 27th inst. to JANET F. STEEL, Medical Secretary.

Mercer's Hospital, Dublin

A vacancy occurs for an HONORARY VISITING SURGEON and the Governors invite applications for the post on or before November 1st proximo.

By Order of the Governors
H. D. JUPP Registrar

Royal Free Hospital and London (R F H) SCHOOL OF MEDICINE FOR WOMEN

OBSTETRICAL AND GYNAECOLOGICAL UNIT

Applications are invited for the following appointments vacant on January 1st 1931
SENIOR ASSISTANT (part time) £150
SECOND ASSISTANT (full time) £50
THIRD ASSISTANT (full time) £270 with residence
Applications accompanied by copies of not more than three testimonials and the names of not more than two persons to whom reference can be made should reach one of the undersigned from whom further particulars may be obtained by the first post on Monday November 10th Nine copies of all documents must be furnished
REGINALD R CARRATT Secretary Royal Free Hospital W C 1
LOUIE M BROOKS Warden & Secretary London (R F H) School of Medicine for Women, W C 1
October 13th 1930

Addenbrooke's Hospital, CAMBRIDGE

Applications are invited for the post of RESIDENT ANAESTHETIST and EMERGENCY OFFICER (male) The appointment will be for six months from October 17th and may be renewed for a further period of six months but is terminable at any time by one months written notice on either side Salary at the rate of £130 per annum, with board residence and laundry
Candidates who must be unmarried and duly registered are requested to forward their applications stating age, qualifications etc together with copies of not more than four recent testimonials, to the undersigned as soon as possible
W H HEAD Secretary Superintendent

The Willesden General Hospital, N W 10

GYNAECOLOGICAL OUT PATIENTS DEPARTMENT

Applications are invited for the appointment of CLINICAL ASSISTANT to the Gynaecological Out patients Department on Thursdays at 9 30 a m The successful applicant will be expected to attend at the Hospital regularly and to take charge of the Department when the Medical Officer is absent
The appointment is for a period of six months from November 1st
Applications should be addressed to the Secretary not later than Tuesday October 28th from whom full particulars of the appointment may be obtained
R J HEARNE Secretary
October 9th 1930

Walsall General Hospital

The Committee invite applications from men for the post of CASUALTY HOUSE SURGEON Salary £120 per annum
Candidates who must be registered under the Medical Acts must produce three recent testimonials
The appointment will be for six months
The Hospital contains 100 beds and is equipped in all Special Departments
Applications stating age qualifications and nationality must be received by the undersigned immediately
WALTER FRANCOMBE, Secretary
September 29th 1930

Aberdeen Royal Mental Hospital

JUNIOR ASSISTANT PHYSICIAN (male) wanted for the above Mental Hospital Preference will be given to one who has had general hospital experience. Commencing salary £250 per annum with board lodging and laundry
Applications stating qualifications and experience with copies of three recent testimonials should be sent to the Physician-Superintendent

Connaught Hospital, Orford Road E.17 (100 Beds)

RESIDENT HOUSE SURGEON (male) required Salary £100 per annum Appointment for six months with board quarters and laundry Applications stating age nationality qualifications, and experience accompanied by copies of not more than three recent testimonials should be sent immediately to the Secretary

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W J HICKS *Secretary*

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Salop — Country —£1,030 p a Panel and appts £460 Visiting fees 5 up Modern house 5 bed etc large garden to rent Easy terms—No 8747

S. Wales —Over £1,500 Panel 1 400 Mdy fees £3 3s Visits 5 Surg 3/6 up House, 13 rooms and surgery —No 8746

Hants (15 miles from sea)— nearly £1 000 p a Panel 240 Fees 3/6 to 15/ House 2 reception, 6 bed, surgery and large garden—No 8744

Brighton —£1,300 1/2 share, early succession. Panel 7—800 Fees 3/6 to 10/6 Flat to rent Suit middle-aged man —No 7843

South Coast — Within 60 miles Over £1 000 increasing rapidly Panel 500 Clinic £50 Fees 3/6 to 12/6 Good house, 4 bed etc—No 8742.

Surrey — Rapidly increasing NUCLEUS Receipts over £750 Panel 580 Excellent house, 8 bed, with large garden to rent.—No 8741

Glos — Country —Over £1,250 p a Panel nearly 1 100 Fees 3/6 to 5/ Detached house, 1/4 acre £1,000 down, balance over 4 years—No 8740

Ulster — Seaside Town, about £750 great scope Panel over 600 increasing Fees 2/6 to 7/6 and up House 5 bed etc—No 8738

Kent — Share worth £800 p a, after preliminary assn Mixed Practice Panel 1 400 Appts £250 p a Fees 3/6 to 21/ Good house to rent.—No 8737

S. Wales — Average £3,000 1/2 share for sale Panel 3 000. Visits 3/6 Good house 4 bed Premium only £1,500. —No 8736

S. Cornwall —Death Vacancy — About £900 Small panel Fees 3/6 to 10/6 Good house, 4 bedrooms and 1/2 acre —No 8734

London, S W — £630 p a increasing Panel 400 Visits 3/6 Mid wifery 3 gns up Small house on main road —No 8730

Devon —Dispensing Practice in large village averaging £940 p a Fees 5/ to 2 gns Surgery 2/6 to 7/6 Large house with an acre and cottage for £3 000, of which £2 500 could remain, or for sale without house—No 8727

S. W County near Coast —Dispensing PRACTICE over £2,000 p a chiefly agricultural Visits 5/ up Surgery 2/6 up 1,100 panel—No 8728

North Wales —Old-established —About £900 p a Panel £293 Agricl. Cottage Hosp Scope surg rv Good house Garage and garden—No 8692

Eastern County — Woman Doctor's industrial dispensing PRACTICE average over £500 p a Fees 3/6 to 7/6 House 4 bed etc, at £78 p a, long introduction—No 8691

N E Wales, near Border — Three tenths share producing over £700 p a Fees £5/ up Panel 2 600 Large house and garden at £78 p a £1,300, or £1 000 and £350 spread —No 8725

West of England Town —Half of £1,700 p a Panel over 2 100 Fees 3/6 to 5/ House, 6 bed, etc Partnership property, easy payments—No 8723

North Kent — Unopp'd — Over £1 000 p a Panel £250 Appts £200 Fees 5/6 to 12/6 Choice of houses to buy or rent—No 8719

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LONDON E.—Middle and working-class ca h and panel PRACTICE. C rner house (10 rooms) to rent on lease Receipts approx £1 560 p.a. One appointment Panel 2 200 V i it and medicine 3/6 up C nsultation and medicine 2/ Midwifery £3 3 1 remium £3 000 cash

LONDON N —Middle-class PRACTICE in well populated locality Scope for panel if de ired Twelve-roomed house to rent on lease Sej arate entrance to surgery Average receipts £1 700 Panel (approx.) 300 recently started. Visits 5/ up C n ultation 2/6 up Midwifery £5 5s One appointment Premium 1½ years purchase

MIDDLESEX.—NUCLEUS private non-di pensing PRACTICE with small panel situated in recently developed resid ntial locality Detached corner house 9 rooms Receipt £432 Panel 59 Vi its 7 6 up Consultations 5/ up Midwifery £5 5s up 1 remium £o 0 House £2 200 part may remain on mortgage

SHROPSHIRE.—Country Town PRACTICE unopposed Modern hou e with every convenience to rent at £100 p a (11 room) Large garden (3 acres). Receipts over £1 000 p a Panel 500 Vi its 8 6 up Consultations 5/ up Midwifery £2 2 up Three appoint ments Premium 1½ years purchase.

S W COAST —Well-est ablished General PRACTICE. Excel ent house with all modern convenience Fruit and vegetab e garden garage Receipts nearly £2, 00 Panel over 1 400 Visit 6 up Consultations 3/6 up Scope for surgery if desired 1 remium for Practice £3 000

HOME COUNTIES —PARTNERSHIP in old-establi hed Country Town Practice (firm of four) situated under 50 miles from London Receipts over £5 200 Suitable house available garden tennis court etc possibly be rented. Premium for 1/4 share 2 years purchase

SOUTH COAST —(Favourite Holiday Resort) – PARTNERSHIP in well est ablished middle-class Practice Flat availabl at reasonal e rent Receipts £1 300 Panel 800 Appointments £100 No midwifery or night work. Half share for disposal at 2 years purcha e

HANTS —(Near Sea)—Well-established PRACTICE in growing locality Small but convenient house well situated at junction of road the freehold property of the Vendor Garden garage etc Receipts (average) £651. Panel 360 Fees 2,6 up Practically no night work. Premium £850

ESSEX.—Well-established middle and working-class PRACTICE in growing residential locality Suitable house available to rent on lease Re ceipts at the rate of £1 618 per annum. Panel 726 Premium £2,500 Preliminary Assistant hip /Partnership Suit married man aged about 30—35

LONDON E.—Mid lle and working-class locality Good sized house to rent on l ase Branch Surgery Receipts average £1 350 Panel 6 6 1 remium 1½ years purcha e

LINCOLNSHIRE.—NUCLEUS Country PRACTICE with splendid scope situated within 2 miles of growing seaside resort. Excell nt house (5 bed) garden garag etc Receipts £260 Panel 110 Good schools Excellent sport Premium £950 house and Practice

BELGRAVIA —Well situated non pan l PRACTICE (with scope for panel if desired) in good thoroughfare House for sale or would be rented. Receipts approx. £1 000 p a Premium 1½ years purchase ca h.

LONDON W 10 —NUCLEUS middle and working-class PRACTICE (mostly ca h) Suitable accommodation to rent at £76 p.a. Receipts £585 Panel 300 scope Premium £600

WEST OF ENGLAND —Good-cla s old-established non panel G P Suitable house to rent or for sale Receipts over £2,000 p.a. Hospital Suit either Surgeon or Physician. Premium 1½ years purchase £2 000 down

LONDON E.13 — NUCLEUS working-class PRACTICE (mostly ca h) situated in thickly p pulated locality House to rent at £60 p.a. (Part sub-let at £25 p.a.) Receipts £500 Pan l 400 Fees 1/6 up Mid 2 to 3 gns Premium £500 ca h.

SOMERSET N —Sea ide Resort.—Well-established NUCLEUS PRACTICE. House to rent or for sale (5 bedrooms) large garden and garage. Receipts £500 Panel 800 (increasing) Prem £750 or near offer

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CORNWALL.—DEATH VACANCY —Well-established PRACTICE near Coast. Receipts about £800 p.a. Hou e for sale at £2,800 but alternative accommodation available Locum in charge Premium to be arranged.

KENT (Seaside).—PARTNERSHIP in good middle-class Practice with ex cellent scope for increase Receipts nearly £1 900 Panel 700 1/2 share at 1½ years purchase. Suitable to experienced Practitioner aged about 2 —35

BERKS —Town PRACTICE within 60 miles of London. Middle and working-cla s Receipts nearly £900 Panel 555 Fees 2/6 up. No midwifery (scope) Suitable house available. Prem 1½ years' pur

LONDON S.W —Well-established growing PRACTICE with scope Situated on main road House to rent on lease. Branch. Receipts over £600 Panel nearly 400 Premium 1½ years purchase.

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5. S DEVON —Old-estab. PRACTICE of £9-0 situate in residential village within 10 miles of Coast. Good society and every form of sport Exc. resid. with modern conveniences garden garage etc. Premium £1,500
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2. MIDLANDS —Panel and Private PRACTICE. Established 5 years. Receipts £700 panel 550 both increasing Appointments worth about £70 p a. House to rent Garage etc
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5. WEST MIDLANDS.—Well-estab PRACTICE in market town and agricultural district. *Receipts* £1,572. Panel 600 Appts. worth £118 Good house. Garage and all conv
6. WEST COUNTRY —Pleasant Country Town 10 miles from the sea.—Agricultural and middle-class PRACTICE. Established nearly 3 years Receipts £500 p.a. and increas ing Panel and appointments Good house to rent or for sale. Low premium for quick sale.
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Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau Vendors may depend upon receiving introductions only to eligible and bona fide purchasers All information is treated in strictest confidence Full and trustworthy information regarding Practices, Partnerships etc, for disposal, supplied gratis to Purchasers

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2 HOME COUNTY — Steadily increasing PRACTICE, averaging £1 355 p a in a first rate Country Town Panel nearly 1 500 Large attractive old fashioned house (7 bed rooms) for sale Cottage Hospital Premium 1½ years purchase

3 SOUTH MIDLANDS —Practice averaging £1 180 p a in residential country district Panel 1 000 Detached house (4 bedrooms) garage and good garden for sale Good society Premium 1½ years purchase

4 SUSSEX — Partnership in Practice about £3 000 p a in delightful residential country district Panel 1,550 Nice house (8 bedrooms) with garage and about acre garden etc to purchase if desired Good society and educational facilities Premium one half share 2 years purchase Partner must be experienced preferably aged 35—40

5 WEST OF ENGLAND —Middle and better-class non-dispensing PRACTICE over £1 750 p a in first rate town No panel. Well situated non basement house (7 bed and dressing rooms) garage and garden for sale or rent Good introduction Premium 1½ years purchase

6 MIDDLESEX — Steadily increasing non-dispensing PRACTICE in growing district Receipts past 12 months £420 Panel about 30 Well situated corner house (4 bed rooms) garage and garden, for sale Good reasons for rapid increase Premium £500

7 LONDON, N W —Practice of between £1 100 and £1 200 p a in suburban district Panel 650 Corner house (4 bedrooms) for sale Scope Premium 1½ years purchase

8 S MIDLANDS —Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1 000 Suitable house available Cottage Hospital Premium one-third share 2 years purchase

9 N W COAST — Partnership in Practice nearly £3 000 p a in suburb of seaport town Panel over 2 500 House (4 bedrooms) for sale or rent Share up to one half at 1½ years purchase

10 WILTSHIRE —Country Practice of £650 p a (panel and appointments about £400) in a beautiful part Good house (company's water, main drainage) for sale or rent Premium £750

11 MIDLANDS —Practice about £500 p a in beautiful country district in hunting centre. Panel about 400 Specially built house (5 bed and dressing rooms) with electric light Garage and nice garden Premium one year's purchase

12 LONDON, E —Practice (carried on by Medical Woman) in populous area Receipts last year £580. Small panel No midwifery Six roomed house to rent Premium £750 to include drugs etc

13 DEATH VACANCY — CORNWALL — Compact Country PRACTICE Receipts last year £900 Panel 230 House (4 bedrooms), with 1/2 acre garden, for sale or rent

14 SURREY —Partnership in Practice about £3 500 p a in desirable residential town Small select panel House (6 bedrooms) to rent Premium—one third share—2 years purchase

15 KENT — Partnership (after preliminary Assistantship) in Country Practice in beautiful district Panel 1 400 House (5 bedrooms) garage and acre ground to rent Share of £800 p a at 2 years purchase

16 ESSEX —Assistantship (with view to Partnership and Succession) in Country Practice of £1500 p a. Panel 1 200

17 LONDON, W — Old-established Practice over £850 p a in outlying residential suburb Visits mainly 5s, some 7s 6d and 10s 6d Practically no midwifery Nice compact house (2 reception rooms consulting and waiting room, 4 bedrooms, etc) Rent £85 p a Premium £1 100

18 W MIDLANDS — Practice over £1,500 p a Market Town Attractive agricultural district Panel 1 500 Good house (7 bedrooms etc) Electric light and gas Scope for increase Premium £2 100

19 LONDON, N —Partnership in Practice of £2 300 p a Growing residential district. Panel 1,100 Scope for increase Hospital Premium one third share 2 years purchase

20 DEATH VACANCY — N LONDON — PRACTICE £670 p a Good suburban district Panel 530 House (4 bedrooms, etc.). Rent £60

1 S DEVON —Partnership in non-dispensing Practice about £2 400 p a in favourite watering place Panel 950 Good hospital One third share at 2 years purchase Preliminary Assistantship

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22 WEST MIDLANDS —Practice of £2,400 p.a. in small residential country town. Panel about 1 000. Excellent non-basement house (6 bedrooms) in about 3 acres of grounds for sale. Very good sport. Premium 1½ years purchase.

23 MIDDLESEX —Practice averaging £1,450 p.a. in pleasant up-river suburb. Panel 860. House with 4 bed rooms in residential area, for sale. Premium £2 250.

24 LONDON, N —Increasing Practice of over £500 in pleasant residential district. Panel over 100. Well situated house (4 bedrooms) for sale or rent. Ample scope. Premium 1½ years purchase.

25 S W OF ENGLAND — Practice over £2,000 p.a. in small country town near coast. Panel 1 086. House (6 bedrooms) with electric light, for sale. Premium 1½ year purchase.

26 S WALES — Non-dispensing Practice of £760 p.a. in one of the Principal Towns. Panel 620. Corner house in residential part for sale. Good scope. Premium £750.

27 S WALES —Mixed Private and Industrial PRACTICE of £1 300 p.a. in town of 12,000. Panel 1 300. Well built house (6 bedrooms) in own grounds, good garden and garage to rent. Premium £1 700.

28 SOUTH-WEST OF ENGLAND —Practice averaging £1 666 p.a. in seaport town. Panel over 2 000. House with 5 or more bedrooms for sale. Premium £2,500.

29 SOUTH OF ENGLAND —Practice of £960 p.a. in Market Town under 100 miles from London. Panel 287. House (5/6 bedrooms), garage, and good garden for sale or rent. Cottage Hospital. Premium 1½ years purchase.

30 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town. Panel 1 100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years purchase with ultimate succession.

31 ITALY — Season Practice (March to October) in famous City. Receipts from £200/£700 p.a. according to Season. Up-to-date Hospital. Premium £250.

32 MIDLANDS — Practice over £800 p.a. in first rate Town. Panel 500. Suitable house to rent. Premium 1½ years purchase.

33 S DEVON — Practice averaging nearly £1 850 p.a. in beautifully situated Market Town, easy distance of coast. Panel 480. House (5 bedrooms), garage and garden, electric light, to rent. Premium £2 800.

34 YORKSHIRE (N R) —Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms), garage, garden etc. for sale or rent. Very good trout fishing. Premium £1,250.

35 MIDDLESEX —Rapidly increasing PRACTICE in new developing district about 12 miles from London. Earnings past year £767. Panel 200. Very convenient house (4 bedrooms), garden and garage for sale. Great scope. Premium 1½ years purchase.

36 SOUTH AFRICA —Practice over £3 000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre. Purchaser should be able to do Surgery. Prem. £2,200 part by instalments.

37 SOUTH-WEST OF ENGLAND —PARTNERSHIP in increasing middle-class Practice of about £2,500 in seaport town. Panel 870. One-fourth or one-third share at 2 years purchase. Preliminary Assistantship.

38 SURREY — Partnership in good mixed-class Practice about £3 000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third share 2 years purchase.

39 LONDON, S E —Practice about £3 000 p.a., carried on by two Medical Men in outlying suburban district. Panel 1 350. Two houses available. Premium 1½ years purchase. Or one-half share would be sold with early succession.

40 DEVONSHIRE —Partnership in Practice of £3 400 p.a. in first rate country town. Panel 2 000. Charming old house with good garden to rent. Well-equipped Hospital with chance of appointment on staff to one keen on medicine. Premium one-third share 2 years purchase.

41 SOUTH-WEST OF ENGLAND —Partnership in increasing non-dispensing Practice about £1 600 in first rate town. Small select panel. Share worth £800 p.a. at 2 years purchase. Partner holding F.R.C.S. will probably be elected to staff of Hospital.

42 ESSEX —Partnership in increasing Practice about £1 800 p.a. in rapidly developing neighbourhood. Panel about 500. Choice of two houses. One-half share at 1½ years purchase.

43 KENT and SUSSEX BORDER —Practice averaging £1 100 p.a. (including over £300 from panel) in beautiful country district. Very convenient house (6 bedrooms) for sale. Sport. Premium 1½ years purchase.

44 S DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage in acre of garden for sale. All kinds of sport. Premium £1 500.

45 KENT — Partnership in Practice about £4 400 p.a. in outlying suburban district. Panel 2 400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs. pur.

46 WEST MIDLANDS — Partnership in Practice of about £2,850 p.a. in country town. Panel 1 700. Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre. Premium one-half share 2 years purchase.

47 LONDON, S E — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2 000. House (5 bedrooms etc.). Garden. To let. Premium one-fifth share 2 years' purchase.

48 SOUTH AFRICA —Old-established PRACTICE of over £1 800 in a Town with large White population. Climate ideal—no tropical diseases (altitude nearly 5,000 ft.). Delightful residence (5 bedrooms, electric light) in perfect order with 2 acres grounds to be let. Very good scope. Hospital. Premium £1 200 or offer.

49 SHROPSHIRE —Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1 100. Very nice house, garage, and large garden for sale. Sport. Premium one-half share 2 years purchase.

50 YORKSHIRE (W R) — Compact easily worked PRACTICE, averaging £1 600 p.a. in manufacturing town. Panel over 1 300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

51 LONDON, E — Practice £990 p.a. in populous area. Panel 1 240. Shop-fronted premises to rent. Plenty of scope. Premium 1½ years purchase.

52 ISLE OF MAN —Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2 000.

53 MIDLANDS —Practice, over £1,700 p.a., in important City. Panel 1,570. Centrally situated house (7 bed and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2,250.

54 LONDON, S E —Partnership in Practice £6 600 p.a. in outlying Suburban District. Panel 2 000. Premium one-sixth share, 2 years purchase.

55 LONDON, S W —Practice about £630 in suburban district within half an hour Charing Cross. Panel about 400. House to rent on lease. Very good scope. Premium £900.

56 MIDDLESEX — Partnership in Practice in early £3 500 p.a. in rapidly growing residential town and 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

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1 SOUTH WESTERN SUBURB.—Pleasant residential district Very old-established mixed-class PRACTICE held nearly 30 years by Vendor who is retiring Cash receipts average £1 865 p a including appointment worth £179 and panel of 725 Practically no midwifery Good house with ample accommodation Rent on lease £90 p a Premium £2,800

2 ASSISTANTSHIP with view to SUCCESSION.—Outlying Eastern Suburb.—Middle and working-class PRACTICE averaging £1 368 p a, including panel of 726 Fees from 2/6 About 40 midwiferies from £3 3s Suitable house containing 2 reception 4 bedrooms etc Small garden Can be rented on lease at £40 p a Premium £2,500 payable by arrangement

3 PARTNERSHIP.—ESSEX.—Outlying suburb.—A one half share is offered in a good mixed class Practice increasing and offering large scope Receipts last year approximately £2 300 Panel of 1 700-1 800. Fees from 2/ Suitable house available and can be rented for about £100 p a Premium 2 years purchase

4 ESSEX COAST.—Popular Seaside Resort.—Half share of old established mixed-class PRACTICE averaging £2,459 p a including panel of nearly 2 000 Retiring partner's house can be rented on lease at £90 p a and contains 3 reception 3 bedrooms bathroom etc Small garden Garage Premium £2,450, payable £1 450 down and balance by 4 quarterly instals

5 OXON.—UNDER 45 MILES FROM LONDON.—Old established practically unopposed Country PRACTICE within 4 miles of the River Average income £1,180 including panel of over 1 000 Fees 2/ to 10/ Good house with two reception 4 bedrooms, bathroom etc Electric light One acre of garden. Garage for 2 cars. Price for freehold £1 600 £1 000 on mortgage Premium £1 750

6 PARTNERSHIP.—HOME COUNTIES.—Within 40 miles.—In very pleasant district (with large surrounding population) the third share (with increase later) of old estab mixed-class Practice offering large scop Present income £3 000 p a with panel producing over £1 200 p a and appt worth £160 Visits 3/6 to 2 gns Good house at moderate rental Good society and sport Ingoing partner should be about 30 pref married and English or Scotch

7 MANCHESTER DISTRICT.—Old established middle and working class PRACTICE worth last year about £700 p a, including panel of 614 and capable of increase Expenses small. Well-situated house, with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted

8 HOME COUNTIES.—PARTNERSHIP.—A third share producing about £1,000 p a is offered in a well established good mixed-class Practice within 20 miles of London Suitable house can be bought Premium 2 years purchase

9 NEAR HARROGATE.—Country PRACTICE.—Well estab and rapidly increasing chiefly middle and working class Practice in delightful district producing for last 12 months nearly £1 450 Panel of 537 Fees 3/6 to 12/6 Mid 2 to 5 gns (about 40 cases yearly) Suitable house with 2 recep 3 bedrooms etc and professional rooms. Rent £30 p a Very good sport Prem £1 800 part by instals

10 LINCOLNSHIRE COAST.—Well established mixed-class PRACTICE averaging £2 749 p a (last year £2 868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly) Newly built modern house with special professional accommodation central heating etc Garden Garage Price freehold £2 300 part on mortgage Good sport and schools within reach Premium 1½ years purchase

11 DEATH VACANCY.—SOUTH CORNWALL.—Old established unopposed PRACTICE situated in small but growing seaside town (much augmented by good-class visitors in the summer) in a very delightful district worth between £800 and £900 p a including panel producing over £100 Nearest opponent 6 miles Very good house (2 reception 4 bedrooms bathroom) with 1/2 acre of garden Can be rented or purchased Efficient locum in charge

12 WEST MIDLANDS.—Very old-established mixed class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2 367 p a., with panel over 1 000 Opposition not strong Very fine house (3 reception 6 bedrooms, bathroom, etc) standing in nearly 3 acres of ground Beautiful garden tennis lawn and productive orchard Price freehold £2 000 Premium 1½ years purchase

13 LONDON S.E.—Pleasant residential suburb.—Very old established non panel (but scope for this) PRACTICE held over 30 years by Vendor who is retiring Receipts last year over £900 Patients mixed but mostly good class Large house (part could be let off for flat) Rent £98 p a. Premium 1½ years purchase.

14 PARTNERSHIP.—WITHIN 100 MILES NORTH OF LONDON.—A one sixth share (with increase in 2 years) is offered in a very good non-dispensing mainly better-class Practice, in a large town at present worked by three partners who now require further assistance Gross cash receipts average about £8,000 p a Selected panel of 700—800 Fees 5/ to 21/ average 7/ Suitable small house with sitting room 3 bedrooms etc. Rent £90 p a Premium 2 years purchase

15 YORKS.—HOSPITAL TOWN.—Well established good middle and working class PRACTICE, with beautiful surrounding country Average income over £3 000 including an appointment worth nearly £1 300 and panel of 1 648 Fees from 2/6 Midwifery from 2 gns About 35 cases Good detached house in excellent repair with 2 recept 5 bedrooms etc large garden Price for freehold £2 200 Good sport and schools. Premium £4 500 Very good surgical scope.

16 SOUTH WEST OF ENGLAND.—PARTNERSHIP.—In a large thriving seaport town the third share (with increase to half later) of old established rapidly increasing middle-class Practice. Receipts average £2 272 p a (last year £2 549) including panel of 870 Very little midwifery Suitable arrangements can be made as to house for incoming partner Premium 2 years purchase. Scope for surgery

17 MIDDLESEX.—Rapidly developing district within 20 miles.—PARTNERSHIP.—A one half share in an old-estab good middle-class Practice averaging for the past two years over £3 500 p a Panel of 1 100 and appts bring in £100 p a. Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms etc Garden. Price for freehold £2 100 Premium 2 years purchase

18 BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village near two good towns Income for last 12 months £1 992 including panel of 1,000 and appts worth about £150 Fees 2/6 to 10/6 House contains 3 reception 6 bedrooms etc Sport of all kinds Premium 2 years purchase

19 PARTNERSHIP.—Within 40 miles of London.—Pleasant Town (pop. over 6 000 with large surrounding district).—A two-fifths share (to commence) is offered in an old-established steadily increasing Practice Income last year about £1,750 including panel and appts about £380 Small house available (rent £60) or larger house for purchase (price freehold £1,300) Premium only 1½ years purchase Excellent future prospects

20 KENT.—Country PRACTICE near Coast.—Old-established mixed-class Practice averaging about £1 100 p a. Panel of nearly 400 Fees 3/6 upwards Convenient house, with 3 reception 6 bedrooms etc Good garden Price for freehold £1 650, £900 on mortgage Good sport and schools within reach Premium 1½ years purchase

21 PLEASANT CATHEDRAL CITY within 200 miles North of London.—Old established mixed-class PRACTICE averaging £1 600 p a including £800 from panel and over £100 from clubs Visit 5/ upwards (occasionally 2 gns) Very little midwifery from 2 to 5 gns Large attractive house with garden Rent £80 From 14 yrs purchase

22. NORTH OF ENGLAND.—In a small pleasant town, old-established sound PRACTICE averaging over £1 200 p a including nearly £500 from panel and appts Good house (3 reception 5 bedrooms bathroom etc electric light and every convenience garage garden) Price, freehold £1 300 Mortgage for full amount can be arranged Premium £1 450

23 MANCHESTER.—Chiefly working-class PRACTICE Average income £1,000 including panel of 1 000 Moderate expenses Corner house with 3 reception 8 bedrooms etc. Garage Rent on lease £65 p.a. Premium £1 500 or near offer

24 NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old established mixed-class Practice Income for immediate past year over £4 250 Panel of 3,500 Fees 3/6 to 7/6 Very good house with 4 reception 6 bedrooms etc 1½ acres of garden. Price for freehold £2 500 Premium 1½ years purchase.

25 EASTERN COUNTIES.—Old established, unopposed, and rapidly increasing Country PRACTICE in very pleasant sporting and agricultural district averaging nearly £1 200 p.a. (last year over £1 400) Panel of 500 Very good house (3 sitting 6 bedrooms bathroom etc.) Garden, with tennis lawn. Garage Electric light Price freehold £2 000 £700 on mortgage. Premium 1½ yrs. purchase.

26 YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2 000 p.a. in first year) is offered in a good middle class PRACTICE Income for the immediate past twelve months approximately £4 000 Small selected panel of 430 One appointment worth nearly £650 p a Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

27 PARTNERSHIP.—COUNTRY TOWN, within 130 miles North of London.—A one-fifth share is offered in a very old established good mixed class Practice having good scope. Gross cash receipts for past twelve months nearly £6 000 including panel of 3 400 Fees from 4/ Not much midwifery Suitable house available Prem 2 yrs. purchase

28 YORKS.—PARTNERSHIP.—Within a few miles of large residential town the half share of old-established unopposed country PRACTICE owing to retirement of senior partner through age and in different health Cash receipts for past three years average over £2 500 p a., including appointments and panel of 1 200 Very little midwifery Railway station Good house available with large garden. Electric light and water laid on Price freehold £1 200 part on mortgage Premium 2 years purchase

29 CLOS.—COUNTRY PRACTICE.—Old-established PRACTICE in picturesque surroundings averaging about £1 250 p a including panel of over 1 100 Visits from 3/ Commodious house with 3 reception 6 bedrooms etc Garden Garage Price for freehold £1 500 £1,000 on mortgage Premium £1 850

30 LANCS.—LARGE TOWN.—Old-established good working class PRACTICE averaging about £2 500 p a Panel of over 1 800 Fees from 2/6 Suitable house available Premium 1½ years purchase

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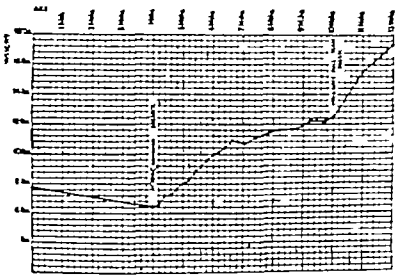
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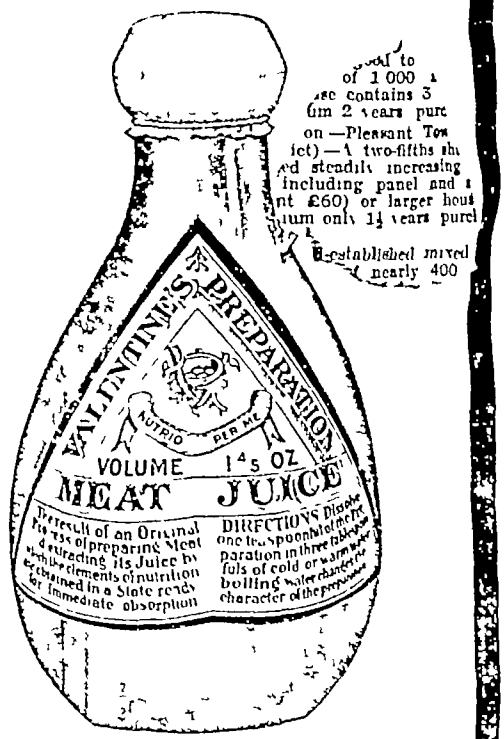
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OCTOBER 25th 1930

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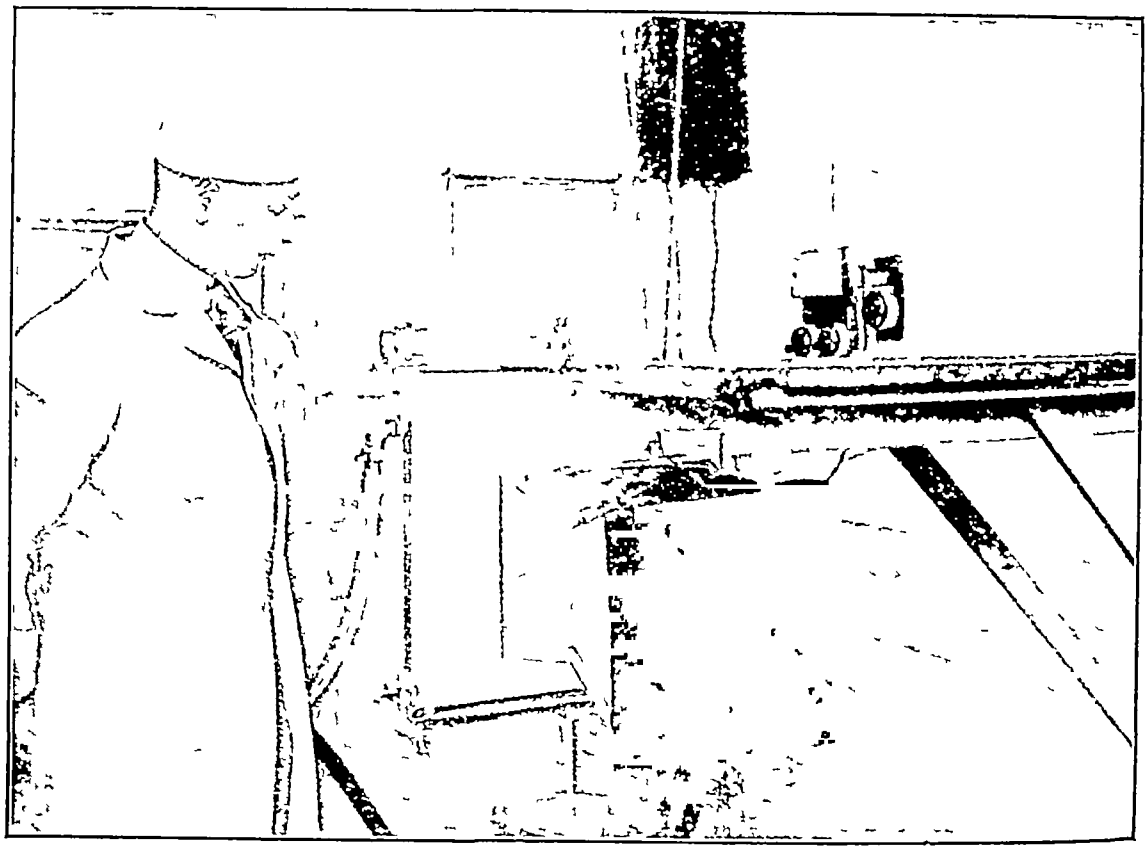
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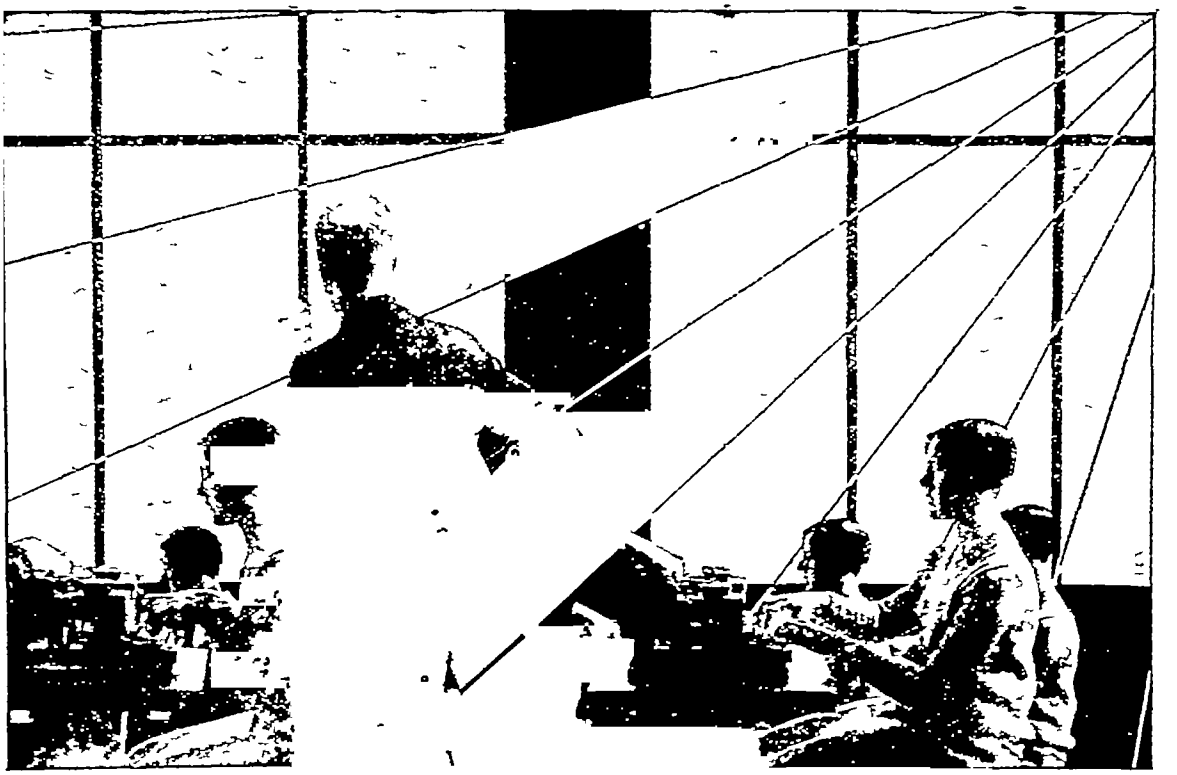
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PRIMARY DYSPEPSIAS
- Hyperpepsia—Intermittent hyperchlorhydria
- Hypopepsia and apepsia—Dyspepsia arising from disturbance of neuro motility
- Intermittent pyloric stenosis, not of organic origin

SECONDARY DYSPEPSIAS
- Arthritic dyspepsia
- Toxic dyspepsia (gastro hepatic)
- Dyspepsia due to enteroptosis

HEPATIC

- Congestion due to excessive or improper feeding
- Congestion due to cirrhosis (before the cachectic stage)
- The diathetic congestions of diabetic, gouty, and obese persons
- Congestion due to poisoning (mercury, morphine, etc.)
- Toxic congestion (influenza, typhoid fever, etc.)
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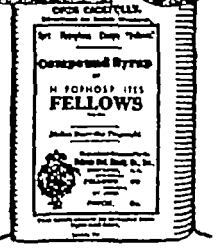
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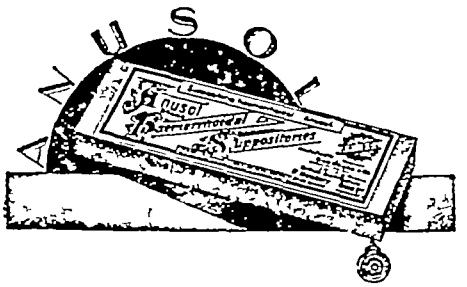
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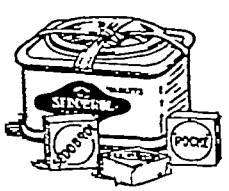
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The case to which I referred was a child of six months who was brought to me after having treatment elsewhere for diarrhoea and vomiting The child was practically a skeleton and apparently had been vomiting everything—even medicines—for many days The mother thought and her friends thought, the child was dying, and I happened to be the nearest doctor I gave the child one teaspoonful of plain Kaylene in plain, cold, boiled water, and kept the mother and child in my consulting room to watch effects If ever a child was drawn from the jaws of death I think that little sufferer was The Kaylene was retained, the gasping steadily lessened, the haunting look of that child's eyes became less distressing, in fact, the change for the better was so pronounced that in an hour's time I allowed the mother to take the child home

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The following extract from a recent report speaks for itself with regard to the value of Dimol Snuff—its potency and reliability—in cases of diphtheria carriers, and what has been found a practical solution for the elimination of this troublesome bacillus should be as applicable to the Pneumococcus, Bacillus influenzae, Meningococcus, Micrococcus catarrhalis, etc —

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>
> Taking both classes together we consider that we have been successful in about 90% or more cases
>
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>
> As a routine we use Dimol Snuff twice a day with an insufflator If a failure occurs and it is apparently the nose itself and not a question of adenoids then we increase the treatment to six times a day The children do not appear to suffer any harm from the powder even in these extreme doses
>
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>
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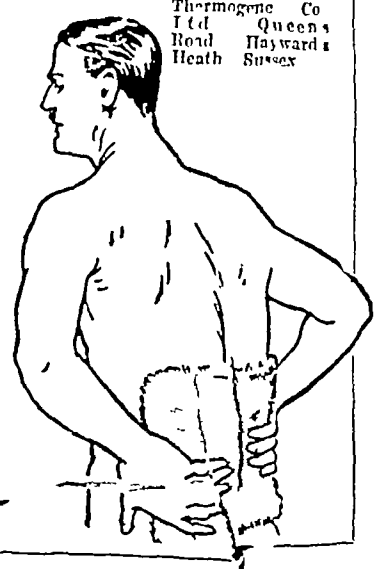
The Relief of "Rheumatic" Pains

Dr Guntzburg, the Medical Superintendent of the Physiotherapeutic Institute of Antwerp, states that *in practically all so-called "rheumatic" cases a pronounced degree of peripheral circulatory failure is symptomatic*, and he says that the *skin condition is* "the immediate factor in the production of rheumatic pains" This is in accord with the emphasis laid at the recent Bath Conference on the part played by damp and cold in promoting neuritis and fibrositis

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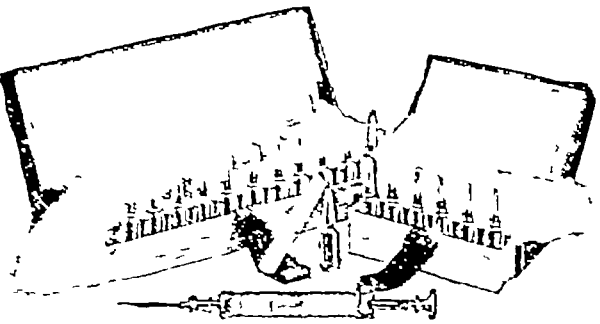
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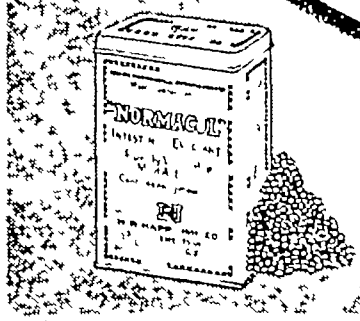
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THIS extract from the "Epitome of Literature" published in the 'BRITISH MEDICAL JOURNAL,' dated May 3rd last is important as representing in 1930, a complete justification of the formula upon which

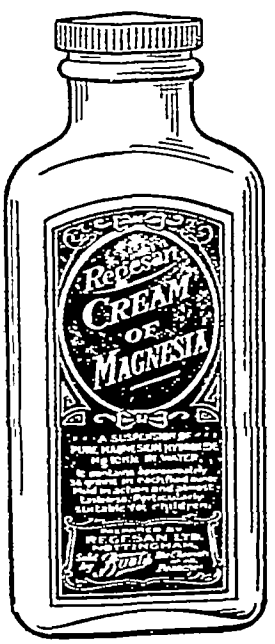
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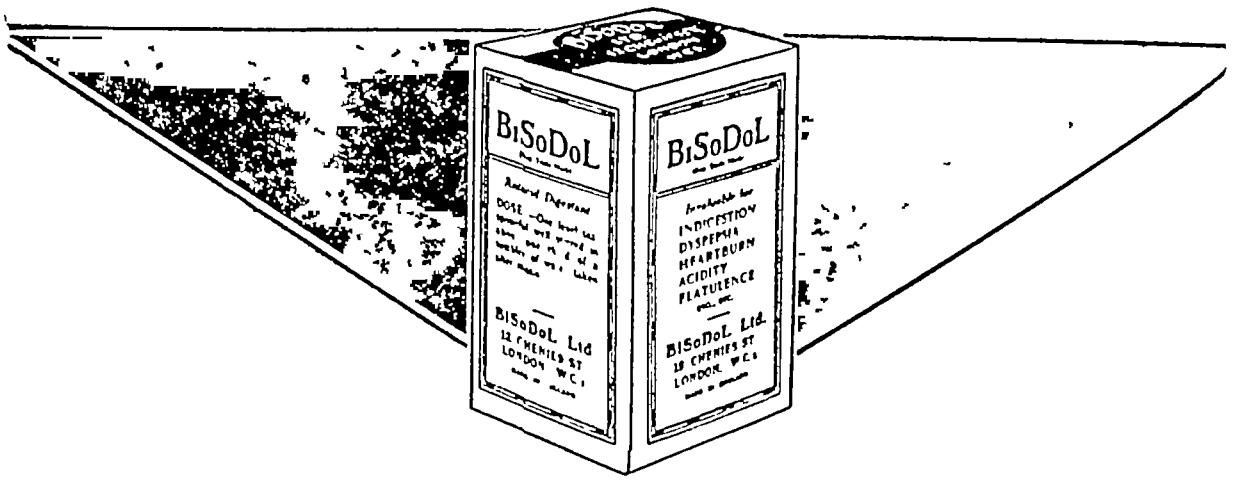
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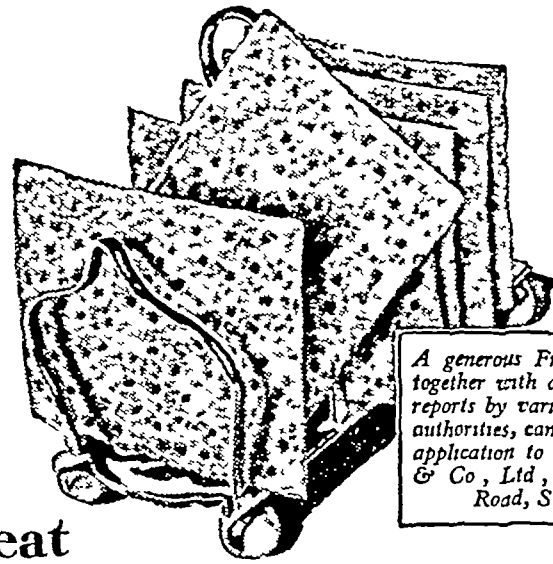
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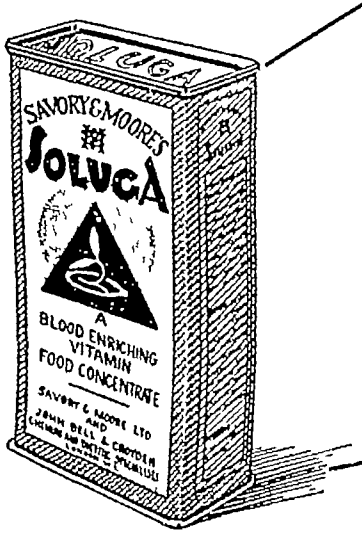
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The Harveian Oration

ON

THE BIRTH OF CHEMICAL BIOLOGY

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, ON OCTOBER 18TH, 1930,

BY

J. B. LEATHES, F.R.C.P., F.R.C.S., LL.D.,
PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF SHEFFIELD

We meet here on St. Luke's Day to honour the wish of William Harvey and to carry out the terms of the deed of gift which he assigned to the College in 1656. Harvey's wish, you remember, was that there should be once every year a commemoration of all the benefactors of the College, and that this commemoration should keep alive in us the desire "to imitate these benefactors, to contribute our endeavours for the advancement of the society according to their example, and to search and study out the secrets of Nature by way of experiment."

HARVEY'S BENEFACTIONS

In any such commemoration we cannot but remember the many ways in which Harvey himself was a benefactor of the College. For fifty years a Fellow, he served as *treasurer for many, down to 1629, for forty years* he was Lumleian lecturer in anatomy and surgery, to which post he was appointed in 1615, at his own cost he built for the College "a great parlour or convocation house for *the Fellows to meet in*" with a *library* and museum above it which was opened in 1653 with a ceremony sumptuously provided by himself. This hall was built apparently over the court or garden of the premises at Amen Corner, which recently by the *generosity* of Dr. Harvey had been bought for the College. Here, in the year before Harvey's gift, the College had set up his statue.

When Harvey first became a Fellow in 1607, the College meetings were still held at Linacre's house in Knightrider Street, as they had been since 1518. But in 1614 the rooms at Amen Corner were rented from the Chapter of St. Paul's, and thirty-five years later Dr. Harvey relieved the College of the burden of the annual rent by his purchase and gift. Harvey's hall and library were furnished by him and equipped with books and with instruments at the time, and in his will he left "to the Colledge of Physicians all my bookes and papers and my best Persia long carpet and my blue sattin imbroevdred cushion, one paire of brasse Andirons with fire shovell and tongues of brasse for the ornament of the meeting rooms I have erected for that purpose."

But buildings and contents, and the statue of Harvey as well, were destroyed a few years later on the fourth day of the Great Fire. After that the new College buildings in Warwick Lane, built by Wren and Robert Hooke, were not opened till 1674. These buildings served the College for a hundred and fifty years, down to 1825, when the rooms in which we are met came to be identified with the College as they have now been for three generations. In more than four hundred years there have been but four buildings that have been the College of Physicians. If and when in the fifth century of the life of the College there is to be a fifth, the benefactions of Harvey and of Harvey for the second cannot be forgotten.

But it is not only benefactions such as these that we are bidden to commemorate. Our commemoration is to be of those who have built for all time who have sought and studied out "the secrets of Nature by way of experiment" and thereby made the College as they were members a house of fame and if not none the less have deserved well of it. Even in a legal document for the transfer of an estate this single-minded benefactor could not fail to make clear what in his opinion was the highest claim to *commemoration* as his whole life had shown—"the inquiry of truth" which" in the words of his contemporary, "is the lovemaking and the wooing of it."

"DE GENERATIONE ANIMALIUM"

Harvey, you remember, was 50 when he published the *De Motu Cordis et Sanguinis*, and had already been attached to the Court as physician extraordinary to the King for ten years. Four years later he became physician in ordinary to Charles I. Notwithstanding his duties at Court, and his practice both at St. Bartholomew's and among his private patients, and in spite of the political troubles of the times, he continued to make opportunities for pursuing his search into the secrets of nature, amassing materials for the remarkable work which he was at last persuaded to publish in 1651, when he was 73 years old—the *De Generatione Animalium*. "During a long series of years," he tells us there, "for three months in the autumn and winter almost every day I had the opportunity of dissecting numbers of hinds and does" in the royal parks and forests for the study of this subject—not only hunted animals, but also animals set apart for his special use. Week by week the changes are recorded from September on to the end of December. And though perhaps less systematically, he also carried out countless dissections of other viviparous animals during pregnancy. This was in the years before the war, the year 1633 he specially notes as an exceptionally early rutting season.

In 1642, after the battle of Edgehill, he was in Oxford, apparently till its fall in 1646. Of that time Aubrey says: "I remember he came several times to our College (Trinity) to George Bathurst, B.D., who had a hen to hatch eggs in his chamber, which they opened daily to see the way of generation." When Oxford fell, he gave up the wardenship of Merton, to which he had been appointed in the previous year, and returned to London or its neighbourhood. There we know he found that much of his most valued material, on the generation of insects, "the fruits of many years' toil, had not only with the permission but by *command of Parliament been abstracted by my enemies* from my museum" when his house at the same time was stripped of all its furniture. These notes that perished also must have been collected during the busiest years of his life before the war. He was now 63 and from this time he lived with his brothers either in London or in its neighbourhood, finding solace in my studies and a balm for my spirit in the memory of my observations of former years.

The *De Generatione* is therefore remarkable if only as witness to the single-minded constancy of a busy man "wooing and making love to truth" through half a lifetime. That it profoundly influenced the growth of knowledge, as did the *Opusculum Aureum* of 1628, cannot be maintained. That it is free from "that philosophy of discourse and disputation into which we are betrayed by the forces of our own minds" is too much to say. What work of those days was, if we except the *De Motu Cordis*? But it contains a mass of observation the result of sustained thought unwearying anatomical studies and, as has been so well put before us in recent years by Dr. Herbert Spencer, his watchful attention to a wide clinical experience. Naked-eye anatomy could do no more. It is easy to reflect that it was already possible for the anatomist not to confine himself to naked-eye observations. Harvey used a lens, but the compound microscope had been constructed a good many years before this book appeared. Had the distractions of the times been less cruel it would hardly have been left for Malpighi fifty years younger than Harvey, to reap the first harvest of *microscopic* anatomy in the years immediately following Harvey's death. Swammerdam indeed made the first observation of blood corpuscles within a year, and the histological publications of Malpighi began with the *De Lulio nili* a few years later. But the microscope has not even now solved the riddles of generation: we can indeed say pretty confidently that it will not. Such was the quest on which Harvey was concentrated for thirty years.

In the seventeenth century modern physiology was born, its birth was attended by two miracles. The first was the miracle of 1628, when Harvey bade medicine take up its

bed and walk, and the delusions of 1,400 years' enslavement to authority and tradition were swept away by the evidence of independent observation and experiment—one of the most remarkable chapters in the history of human thought The other was the miraculous birth of the physiology of respiration ten years after Harvey's death

There are passages in the *De Generatione* and the tract on parturition which suggest that Harvey was struggling to emancipate himself from the current doctrines of the functions of the lungs and blood "Whether the object of respiration is really to cool the animal shall be discussed elsewhere at greater length", and after giving good reasons for a different account he says

"If anyone will carefully attend to these circumstances and consider a little more closely the nature of air, he will allow, I think, that air is given neither for the cooling nor the nutrition of animals It is as if heat were rather enkindled within the foetus than repressed by the influence of air Thus much by the way on the subject of respiration, hereafter perhaps I may treat of it at greater length"

But there is no evidence that his own ideas of the nature of air would have furnished the answer to his questionings

The Birth of the Physiology of Respiration

He died in 1657 Robert Boyle, who had settled in Oxford three years earlier, was that very year at work with Robert Hooke upon his air-pump It was completed in 1659 He published his first account of the *New Experiments Physico-Mechanical Touching the Spring of the Air* a year later, and 1661, the date of the second edition, is the date of Boyle's law

In 1658, a few months after Harvey's death, John Mayow, in his eighteenth year, went as a commoner at Wadham to Oxford, where Boyle had been working for three or four years Two years later—in 1660—Mayow was elected a Fellow of All Souls, where he studied law and took his bachelor's degree in 1665, after five years He was, we are told, exempted from taking orders, because he was also studying physic In 1668 he published his first tract, *De Rachitide*, the following year his second, *De Respiratione*, and in the next year, 1670, he took his doctorate of law

Mayow's Contribution to Physiology and Chemistry

The *De Rachitide* is interesting first of all as in it we see how Mayow was saturated with the medicine of his day * It opens thus

'There has been only one so far as I know who has written anything on the subject of rickets, namely, the distinguished Dr Glisson, *and that may seem strange, because as a rule disease* as it stalks through the land cannot keep pace with the incurable vice of scribbling about it The disease made its appearance some forty years ago in the western parts of England, and since then has infested infants' cradles through nearly the whole of England, though more rarely the northern part of it"

Now that the causation of rickets is known, it would be an interesting subject for economic and historical research to trace, if this record is true, the cause of the appearance of this disease at that time, and in those parts He argues that the defective nutrition is not a defect of the blood Nutrition, according to the ideas of that day, was conveyed also by the nerves He shared this idea because, he says

"everyone knows when a nerve is cut not only is sensation lost but nutrition suffers Moreover when in an experiment on a dog I have accidentally wounded a nerve, on dissection after about three months I have found a fairly conspicuous glandular concretion where the nerve had been cut, and this seemed to have its origin from the nervous juice escaping from the wound of the nerve"

Upon the nature of the contribution of the nerves to nutrition he gives his views in other places Here he merely says that the nervous juice, meeting and mixing with the blood, produces a certain vigorous reaction and heat ("effervescentiam") The sections at the end on treatment contain many prescriptions, which for those not familiar with the details of seventeenth century therapeutics are a revelation The inclusion of 6 drachms of fresh butter in some of these is an accidental anticipation of modern practice, but it were better that we should not commemorate his advice that it should be administered in an extract *fimi equi non castrati recentis*

The tract on respiration of 1669 is much more important. The first question he deals with, the entry of air into the lungs, at once shows the school in which he had studied

"Some," he says, "attribute it to the abhorrence of a vacuum, or some fanciful attraction, others think that the air displaced by *the expanding chest pushes adjacent* air through the nose and mouth into the lungs, as if the air had an unalterable volume. Whereas if a fairly large bottle with a narrow neck be held to the mouth and the nostrils are closed, air is easily drawn into the lungs through the mouth from the bottle, though the surrounding air cannot be pushing it The entry of air is effected by its elastic property, so clearly demonstrated by Boyle, and by the pressure of its superjacent air on that which is nearer the surface of the earth When a bladder squeezed nearly empty of air is tied at the neck and put into a glass from which the air is then pumped out, it is seen to swell, however little air was left in it, as soon as the pressure of the air outside it is removed."

In the second edition of this tract, published five years later, he adds the well-known experiment, more aptly illustrating the entry of air into the lungs, in which the bladder is tied to the inner end of the pipe of a bellows, the valve hole of which has been closed with a glass window, as the blades of the bellows are separated, the bladder can be seen to swell with air, entering it through the pipe, and driven in by the pressure of the atmosphere

"The structure of the lungs is adapted for their inflation in this way, for they consist, as Malpighi has shown [eight years previously], of a system of most delicate membranes arranged so as to form an almost infinite number of orbicular vesicles communicating so that the air can pass from the trachea into them one after the other and inflate them as the lungs expand"

His description of the enlargement of the chest was in more than one respect for the first time correct, and particularly in that the double articulation of the ribs with the spine, which he was the first to describe in the second edition, 1674, owing to its obliquity when the ribs are raised, causes, not only the sagittal, but also the lateral diameter of the chest to be enlarged The importance and mode of action of the diaphragm, the significance of orthopnoea, and the small part played by muscular action in ordinary expiration are all clearly set forth

But it is in the account of the use of respiration that the important revolution appears The ideas that had been advanced before were three (1) that the entry of air cooled the blood, (2) that the expansion of the chest drove the blood through the lungs, (3) that the passage of air in and out of the lungs so mixed and agitated the blood that the separation of fluid from solid, known to take place when blood was left to stand at rest outside the body, was prevented

As to the first of these, he insists that air is necessary for activity and the generation of heat, not for cooling the blood This is a cardinal fact for him, and is fully developed later In the first instance, he may have owed this idea to Harvey, as we have seen

Secondly, the movements of the chest are not necessary for the pulmonary circulation to be carried out, though he recognizes that they help it blood injected into the pulmonary artery of a dead animal reaches the left ventricle without difficulty, and one has only to hold one's breath and feel one's pulse to recognize that plenty of blood circulates, although the lungs are not moving

And, finally, that the air does not merely mechanically agitate the blood and so ensure its being properly mixed, as Malpighi maintained in his letter to Borelli, *De Pulmonibus*, 1661, is clear, "since any air however often it had been breathed should be equally effective for this purpose, but air that has been breathed repeatedly cannot maintain life" He quotes, too, "the experiment recently shown at the Royal Society," in which a dog with its chest opened was kept alive by a stream of air driven from a bellows through the trachea, and escaping by punctures at the surface of the lungs He does not mention that it was shown by Hooke, perhaps because a similar experiment had been done by Vesalius But Hooke, and Mayow too, realized the importance of the

mistakenly say that medicine was not Mayow's profession, it was law that he practised in the summer at Bath

xperiment as showing that it was not necessary for the ungs to move in order that the animal should live provided fresh air was supplied If, with the lung distended o the same degree, the dog s nose and mouth were closed, t died

We may therefore state positively that something absolutely necessary to life is imparted to the blood by the air which is breathed and when this whatever it is is exhausted the air becomes useless and no longer fit for respiration Expiration has also this further use that in the expelled air certain vapours that exhal from the blood are at the same time blown out

This last however, is a point which he did not later attempt to develop

What it is in the air that is so necessary for life it is not easy to define It probably is certain very volatile nitrous particles abundant in the air which are communicated through the lungs to the blood This aerial nitre is so necessary for every form of life that even plants will not grow in soil deprived of it Even plants seem to have a kind of respiration and require air

What role this aerial nitre plays in animal life is our next inquiry It appears that when duly mixed with combustible components of the blood it brings about a certain reaction not in the heart alone but in every muscle that moves — in the heart because it is a muscle and therefore in its substance rather than in its cavities For it is necessary for every movement of the muscles, and without it there could be no movement of the heart the more violent the movements the more intense and more frequent the respiration because there is great expenditure of the explosive nitre made necessary by the chemical changes in the contraction of the muscle and also in the accelerated action of the heart which is made necessary by the richer flow of blood to the muscles

To this I add that it is proved by the experiments of the most illustrious Boyle that flies, bees and other insects after being cut through the middle can neither move nor live in a place void of air though in the air they move for some time These small animal therefore that have neither blood nor heart nor lungs at all events in their divided part must needs have air it would seem for no other purpose but movement alone

I have dealt in detail and quoted freely from this first treatise on respiration of 1669 because, while it is short and was written without the fuller development of experimental evidence that is found in the better known publication of 1674 the position is made clear the discovery of oxygen aerial nitre as a component of the air and its physiological importance, is clearly outlined A new planet swims into our ken

Influence of Boyle and Hooke

That Boyle had been an inspiration to Mayow is also clear But there had been other influences Robert Hooke went up to Christ Church from Westminster in 1653, in the year before that in which Boyle settled in Oxford he was five years older than Mayow eight years younger than Boyle Even at school he had been experimenting with flying machines He soon attracted the attention of the Warden of Wadham, Dr Wilkins who introduced him to Willis and so to Boyle Hooke, we know, was working with Boyle at the construction of his air-pump before Mayow went up to Oxford The *Micrographia* was published by Hooke in 1665 four years earlier than the first *De Respiratione* In this work 'the ingenious Mr Hooke as Mayow calls him had revealed himself in the first place as a born experimenter, a genius in a rather discursive one But he had also expressed ideas very similar to those used by Mayow, though in a totally different connexion He had examined with the microscope the structure of wood charcoal an object no less pleasant than instructive" and he proceeds to describe the dry distillation of wood and the part played by air in the process He speaks of air as a menstruum in which combustible materials dissolve with liberation of heat and, if the process is sufficiently energetic of high

> This dissolution of combustible bodies is made by a substance inherent and mixt with the air which is like if not the very same with that which is fixt in saltpeter which by multitudes of experiments that may be made with saltpeter will, I think most evidently be demonstrated Moreover to add the dissolving parts of the air are but few and therefore a small parcel of it is quickly glutted and will dissolve no more and therefore unless some fresh part of the menstruum be applied to the body to be dissolved the action ceases and the body lies to be dissolved and to shune which is the intention of it though placed in the greatest heat whereas altogether a menstruum when melted and red hot that abounds more with those dissolvent particles and therefore as a small quantity of it will dissolve a great combustible body so will the dissolution be very quick and violent Therefore as in other solutions if a copious and quick supply of fresh menstruum though but weak be poured on or applied to the dissoluble body it quickly consumes it So the menstruum of the air if by bellows or any other such contrivance it be copiously applied to the burning body is found to dissolve it as soon and as violently as the more strong menstruum of melted nitre

There is so much in this that is entirely new and so much that appears again *mutatis mutandis*, in Mayow experiments and arguments that it is clear there must have been intimate communion between the two Mayow indeed has been charged with plagiarism It would be as fair to make this charge and perhaps easier to maintain it against Hooke he published the ideas first and Mayow was then 25 and unknown when Mayow put them out, Hooke was well known and in middle life—not a good subject to play that game on And as a matter of fact similar ideas appear in Lower's *De Corde* (Chapter v) published in the same year as the first edition of Mayow's *De Respiratione* Lower speaks of the nitrous spirit of the air passing into the blood, and states as a dictum "wherever fire can burn with ease we can breathe with ease" a fact established by the experiments described by Mayow But here, too, there is no attribution to Hooke nor for that matter to Mayow But the fact that it was *Hooke who proposed* Mayow for the Royal Society in 1678 makes it likely that there was no plagiarism, but that Mayow, as a close student and admirer of Boyle, was also intimate with Hooke, and that they worked together and Lower, too, without stopping to define who had thought first of each experiment or each deduction That Mayow added nothing is certainly not the case To begin with he was a physician and Hooke was not, his first philosophical interest was biology Hooke was merely incidentally interested in biological science Gifted with exceptional mechanical ingenuity—when a boy at Westminster he is said to have invented thirty several ways of flying"—his contribution to science was in the contrivance of experiments of all kinds, as a microscopist he was interested in the structure of charcoal and in explaining why it is black more than in the structure of the living plant It is not my design to examine the use and mechanism of these parts of wood. that being more proper to another inquiry, which he leaves alone He graduates thermometers but not for physiological experiments It is in contributions to the technical perfection of the air pump, and his machine for cutting edges in clock wheels that he was at his best In the preface to his book he says he has "gleaned up here and there a handful of observations in the collection of which I made use of microscopes and some other glasses that improve the sense' just a discursive miscellany There, too he defines his own position in science

> It is the great prerogative of mankind above other creatures that we are not only able to behold the work of nature or barely to sustain our lives by them we have also the power of considering comparing altering a thing and improving them to various uses By the helps of art and experience some men excel others almost as much as they do beasts By the addition of such artificial instruments and methods there may be in some manner a reparation made for the mischiefs and imperfections mankind has drawn upon itself by negligence and intemperance and a wilful and superstitious deserting of the prescript and rules of nature

As a philosopher his work was typical of the best that the seventeenth century did for experimental science The remedy for the errors of human reason can only proceed from the substitution of

> the real the mechanical the experimental philosophy for the philosophy of discourse and disputation that chiefly aims at the subtilty of its deductions and conclusion without much regard to its first ground work All the fine dream and opinions which the luxury of subtil brains has devised would then quickly vanish and give place to solid histories experiments and works.
>
> The links upon which true philosophy depend are to begin

with the hands and eyes, to proceed on through the memory, to be continued by the reason, nor is it to stop there but to come about to the hands and eyes again and so by a continual passage round from one faculty to another it is to be maintained in life and strength as much as the body of a man is by the circulation of the blood through the several parts of the body, the arms, the feet, the lungs, the heart and the head"

He was indeed worthy of a place in the great quartet of Oxford students, who, in the decade following Harvey's death, were led by Boyle, but Boyle was first fiddle, Hooke second, and the subjacent biological ground-tones were supplied by Lower and Mayow

Mayow did not merely hang himself on If Boyle and Black and Cavendish are the great names contributed by this country to the creation of physical chemistry, Mayow's is great for the part he played at the birth of biological chemistry, a science to which chemistry owes as much as biology, and without which chemistry would have but three legs to stand on If the ideas in his work did not all originate with him (the evidence does not make it *clear that they did not*), by his own experiments he not only established them and made them his own, he extended their implication into fields of thought that meant much less to other members of the team with whom he worked

The ideas are there in this first edition of the *De Respiratione*, published in 1669, the year after Boyle moved to London Five years later in the "five tracts" they are extended, enlarged, and the experimental foundations for them given in a way which amply justifies the place that this estimate of his work assigns him

POSITION OF CHEMISTRY IN THE SEVENTEENTH CENTURY

It is difficult for us to-day—at first reading I, at any rate, found it impossible—to do justice to Mayow's *De Sal Nitro*, the most important of the five tracts that appeared in 1674, two of which are merely new versions of the earlier ones When he wrote, hardly any of the terms, hardly any of the ideas which are the alphabet of chemistry, had been defined The mists and vapours of the Middle Ages obscured everything It is universally recognized that in order to understand the greatness of what Harvey did, it is imperative to know what had been before, how in the history of human thought Greece and Rome had had to pass away, a new civilization to arise, and after seven centuries also pass away, and yet two centuries more go by before the light shone out that was lit by Harvey But in that field the Renaissance had then been at work for three generations, even if we disregard all anatomy before Vesalius

The Renaissance had done nothing for chemistry Van Helmont, almost exactly Harvey's contemporary, was the only forerunner in the seventeenth century, Paracelsus in the sixteenth, Basil Valentine in the fifteenth Van Helmont was hardly more clear of mediæval entanglements than Paracelsus It is true he weighed the growth of a tree and proved that the increase of weight did not come from the soil But he concluded that the tree must be made out of water, and argued that the gas into which it was converted when burnt was also transformed water The "incoercible" gas, "gas sylvestre," given off by fermenting grapes, was no less water In the six fermentations, which he is at pains to describe, by which food is assimilated to form the living body, there is hardly anything that we can recognize as conforming to fact, as there is nothing that rests upon accurate observation or experiment Paracelsus or the Arabs themselves could have done as well

There are but few sidelights on the position of chemistry at the time in England The sagacious Harvey, we are told did not care for chymistry and was wont to speak *against the chymists*" *In a well-known passage*, John Wallis Sedleian professor of geometry, describes the society of philosophers that met weekly in London, from at any rate 1645, out of which the Royal Society arose, and how

"about 1648 some of our company being removed to Oxford our company divided those in London continued their meetings there, those of us in Oxford did likewise and brought those studies into fashion there meeting first at Dr Petty's lodgings, *in an up the river's house because of the convenience of inspecting Lyes*"

But there were no chemists of the company Afterwards the meetings were held at Wadham at the lodgings of the warden, Dr Wilkins, later (some time after 1654) at those of the Honourable Robert Boyle In 1659, we are told by Anthony Wood, the antiquarian and gossiping historian of Oxford notables, Boyle brought from Strasbourg "the noted chemist and Rosicrucian, Peter Sthael," to lecture in Oxford, and settled him in the house next door to his own lodgings, so that the "elaboratory" which he had there might be convenient for Sthael's use Sthael apparently lectured for some years, for in 1663 Anthony Wood himself attended "The club consisted of ten at least", he mentions names, among them not Mayow's, but "John Lock of Ch Ch, afterwards a noted writer," also, you remember, a physician

"This John Lock was a man of a turbulent spirit, clamorous and never contented The club wrote and took notes from the mouth of their master who sat at the upper end of the table, but the said John Lock scorned to do it so that while every man else would be writing he would be prating and troublesome"

Boyle therefore—one of the inquiring minds who were putting into practice what Bacon had preached—was, unlike Harvey, interested in chemistry But after the first year of Sthael's course, which he presumably followed, he published, anonymously it is true—no doubt to spare the feelings of his protegé—a destructive criticism of the chemical philosophy of the day, *The Sceptical Chymist* It should have long been clear that the four elements of the peripatetics could not suffice when experimental chemistry began But the name of Aristotle kept them in swav, and experimental chemistry had been limited to the action of fire and the use of crucibles and retorts inherited from the alchemists The empirical chemists since Basil Valentine time, who appear to have been seldom great thinkers, had supposed that the properties of different forms of matter depended on the proportions in which the *Tria Prima* occurred in them—volatile mercury, combustible sulphur, and incombustible non-volatile salt Paracelsus dreamed of a whole system of medicine based on this sort of chemistry In the *De Origine Morborum ex Tribus Primis Substantiis* he says

"When you take a bit of wood into your hand your eyes tell you it is a bit of wood, a single substance, that is no use, a rustic can see that You will see deeper below the surface and know that what you hold in your hand is mercury, sulphur, and salt It is not till you recognize this that you can be said to see with the eyes of a true physician *He can see this* as clearly as the rustic his bit of wood, and what is true of the bit of wood is true of the human body Whatever burns is sulphur," and he instances resin, gum, turpentine, fat, butter, oil, and strong wine "Whatever smokes or can be sublimed is mercury, whatever is left as ash is salt"

Bacon commended and adopted this system of the chemists, and in 1622 published the outline sketch of a work he had planned, *Historia Sulphuris Mercurii et Salis*

Now that people were beginning to use their hands and eyes in the inquiry of truth and to think clearly, it was easy to see that this would not do But in *The Sceptical Chymist* there is little that is constructive

Mayow therefore found in chemistry no terms that had been defined, only such as meant one thing at one time and another at another

"Among the elements of the Peripatetics," he says in the fifth chapter of the *De Sal Nitro* "the two chief are fire and air For these two our *nitro-aerial mercury* [that is, oxygen] might justly be substituted, since it possesses a really fiery nature, and constitutes also the most active part of the air As to the 'spirit' of the chemists [that is, *mercury*], which usually heads their array of elements, what they mean by this *high-sounding term* I simply cannot understand, for the spirits of fermenting liquors which flare up when thrown on the fire should be included in another element of the chemists which they call *sulphur* [meaning combustible matter], while the corrosive spirits [spirit of salt, spirit of vitriol, spirit of nitre] *should* be dealt with among the salts from which they are obtained It the word *spirit is to* be retained, it is more appropriate for the nitro aerial particles in the air, at one time executing motions that are placid, at another the most violent imaginable

"In the census of the *elements sulphur* deserves the next place, because after our mercury it is the most fermentative It, too,

may at one time be sluggish and inert at another attain full vigour and maturity or even be untameably wild From the *conflict between these two [or a w should* as from the oxidation of organic substances] all the mutation in nature seem to arise

Then come the salts which include both the acid and the alkalis whether fixed or volatile of which salts in the modern sense are formed In actual use the term 'purely saline salt" means alkaline ash "acid salt" means the acid-component of a neutral salt Salt of tartar would be *potassium carbonate salt of wormwood the ash of* wormwood 'For the rest there is the ubiquitous water and no less ubiquitous Terra damnata" the lifeless earth, dead and damned that may be left to mineralise

That is at least a beginning a scheme that provides a setting for what to Mayow the biologist is the cardinal fact in chemistry, that not only the heart but the whole body lives and moves by the union of oxygen with *fuel carried* by the blood

The basal facts upon which he builds are two first, that in the air there is something which forms only a comparatively small part of it, but which has the same physical properties as the rest, and this it is which is necessary alike for burning and for supporting life the second that in nitre this same thing is present and for this reason combustible matter will burn if mixed with nitre even in the absence of air

De Sal Nitro

It is with the second of these themes that he deals first in the opening chapters of the most important of the five tracts, the *De Sal Nitro* Nitre can be formed in the soil only when air has access to it the air then contributes something But the soil certainly contributes something *too,*

> for nitre is formed in greater abundance in soil impregnated with fixed or volatile salt as in the neighbourhood of stables dovecotes or slaughter houses and also from oil containing quicklime or a lixivium

And he knows that when nitre is heated with tartar, the acid spirit of nitre escapes and much more alkaline ash is obtained than is obtained by heating tartar alone so that *nitre contains some fixed salt This fixed salt is also* obtained from nitre when it is heated with oil of vitriol so as to drive off the acid *spirit of nitre, the fixed salt being* left as the vitriolate, which has all the medicinal and other properties of vitriolate of tartar (potassium sulphate) And similarly, true nitre can be made by neutralizing *spirit of nitre* with salt of tartar (potassium carbonate) Therefore the fixed salt in nitre certainly is derived from the soil The other component of nitre, the acid spirit nitric acid does not itself exist in the air any more than nitre itself

> It is probable that the spirit of nitre is a compound and that some of its particles to which it owes its humid and grosser nature are derived from terrestrial matter others dry and extremely subtle agile ethereal and really igneous these at any rate are *certainly derived from air*

The cautious reserve with which this statement is made was justified a hundred years later when Cavendish showed that both kinds of particles existed in the air and could be made to unite *by the passage of electric* sparks through it

The part of nitric acid which according to Mayow's experiments is certainly derived from air is nothing else than oxygen,

> the igneo-aerial particles which are absolutely necessary for the production of flame let me therefore henceforth call the fiery particles which occur also in air nitro-aerial particle or nitro-aerial spirit

To account for the other component of nitric acid the evidence justifies him in concluding that it may be present in what we should call organic matter in the soil for which the chemists had provided him with no better term than "sulphur", and the formation of nitric acid from this leads him to a remarkable discussion of the part played by oxygen in the formation of acids generally instancing the conversion of iron sulphide by moist air into sulphate from which the acid spirit of vitriol can be obtained this is also the work of the nitro-aerial particles of the air 'much as in the formation of rust or in the souring of ale or wine" If he had only put it into Greek he would have *had the word "oxygen," and for the same reasons as those* for which Lavoisier gave it this name

A very important section also on a purely chemical subject, the mutual affinities of acids and bases, comes later in the treatise (Chapter xiv Of the heat of quicklime, incidentally of the combination of contrary salts") and is a clearer exposition of the subject than had yet been given

> Although acid salt and alkali pass into a neutral substance when they meet yet they do not as is generally supposed entirely destroy each other For example when the acid spirit of salt is coagulated with sal volatile (and the same is true of all alkali) although the mixed salts seem to be destroyed yet they may be *separated again with their forces* unimpaired This happens when sal armoniac or any volatile salt combined with an acid spirit is distilled with salt of tartar [potassium carbonate] For then the whole of *the acid in the sal armoniac will be coagulated* with the fixed salt of tartar but the volatile salt of which it also in part consists will escape of the same nature as before And the reason of this is that the acid spirit of salt is prone to enter into closer union with any fixed salt than it is *with a volatile salt so that it immediately leaves the volatile* salts to combine more intimately with the fixed salt If on the *other hand* oil of vitriol be united with salt of tartar they can scarcely be separated from one another not because they have mutually destroyed one another but because there *is nothing in nature with which either of them can unite more* firmly than they do with each other An acid salts leave volatile *salts to form a closer union with the fixed salt of tartar* with a more suitable spouse so no doubt fixed salts elect one acid in preference to another that they may combine with it in a *closer union*

The behaviour of nitre with oil of vitriol illustrates this

> The acid salt of nitre will pass under a mild heat into the receiving vessel whereas otherwise that spirit will not be carried up except by a very vehement fire And thus so simple because the acid salt of nitre is volatile and the *more fixed vitriolic acid* thrusts it from its consort the sal alkali so that it is released from its ties and carried up under the action of no more heat than is necessary for the rectification of spirit of nitre whereas otherwise it can hardly be divorced from fixed salts unless it be by the most *intense heat The mass left in the retort closely resembles* vitriolated tartar and can fitly be substituted for it

More follows, as on the combination of metals with acids on the sulphides of alkalis and metals and on the theory of incompatibles, that is equally lucid because it rests on orderly experiment done with understanding The application of the same ideas to the relation of quicklime to slaked lime and the carbonates fails but nothing better was done with this for eighty years The experiments are correctly carried out and observed but without Black's fixed air and the differentiation of mild and caustic alkalis the explanation goes astray

This work was published when Mayow was 34 he had taken his doctorate in law four years earlier he was practising medicine at Bath through the summer his real interest was the physiology of respiration he apparently did not consider himself ready to take his doctorate of medicine, but he found time to bring order into the chemical thought of the day in the intervals of his other occupations

The discovery of oxygen—by far the most important step yet taken in the history of chemistry—was of still greater interest in relation to the physiology of respiration The experimental development of this is in the seventh and eighth chapters of the *De Sal Nitro*

When a mouse is placed under a bell jar that rests upon a wet bladder stretched over the mouth of a larger vessel the animal as it breathes removes from the air under the jar the component of the air that is taken up in its lungs and the bladder bulges into the bell jar as the pressure is reduced in it so that the larger vessel may be lifted bodily by lifting the bell jar This is precisely similar to what happens when a flame has been burnt in a cupping

glass applied to the skin Similarly he describes in detail experiments in which he measures the amount of air consumed by a candle burning or by an animal breathing under a cupping glass immersed in water When the candle goes out and the levels have been duly adjusted the water is found to occupy one-thirtieth of the space previously occupied by air, when the mouse dies, one-fourteenth In neither case is it possible to kindle in the air that is left combustible matter by means of a burning-glass, as can readily be done in fresh air

These experiments could not have been done in Harvey's lifetime because the conditions under which alone they could be carried out had not been defined by Boyle Mayow carried them out with all precaution that could then be devised, and though they suffer from the defect that no account is taken of gaseous products of combustion or respiration, they open an entirely new chapter in the history of both chemistry and physiology The alembic and crucible no longer constitute the entire armament of the chemist, there is something better for him to do than to go on for ever distilling off mercury from blood and urine

"Clearly something in the air is absolutely necessary for life and enters the blood in respiration, for if the need for respiration were that the blood may be shaken up and divided into the minute particles by the movement of the lungs the animal should not die so soon, for the air that is left should be able to do this perfectly well, and as it is subject to nearly the whole pressure of the atmosphere there is no reason why it should not enter the expanded chest, for I have shown that it is the pressure of the atmosphere that causes it to do this It is true the bluntness of our senses prevents us from seeing the passages by which the air enters the blood [just as it prevented Harvey from seeing those by which the blood passed from artery to veins] They must be exceedingly short and minute, for they merely have to pass through the membranes of the lungs and they must be almost infinite in number And yet in lungs that have been boiled and dissected an almost infinite number of perforations like the minutest points can be seen with the microscope Whether they are the mouths of capillary trachea I cannot say

"Animals and fire draw particles from the air so that it loses elastic force, that these particles are of the same kind in each case is established If in a similar experiment to those previously described a lamp and a mouse are at the same time enclosed in a glass over water the lamp goes out first and the animal dies later But the animal dies in about half the time that it would have been able to live had the lamp not been there It is not suffocated by the smoke of the lamp, for the same result is obtained if spirit of wine is used, moreover I have tried to kindle with a burning glass, in a vessel in which an animal had died from exhaustion of the air, combustible material previously hung in it I had protected a part of the inside of the vessel from the condensed breath of the animal by a piece of paper which I could pull away by a string passing out below the mouth of the vessel But it would not take fire I shall not however make a final statement on this because the season being winter and the sky almost continuously covered with cloud I was not able to repeat the experiment

"When the lamp goes out or the animal dies the remaining space is filled with air diminished in volume but able to resist the pressure of the surrounding air I have indeed ascertained that such air is possessed of no less elastic force than any other air, for when the pressure of the atmosphere is removed it expands with no less vigour than common air"

Mayow published nothing after the five tracts Four years later he was elected to the Royal Society, on Hooke's nomination, left Oxford, and was married, and the following year died in an apothecary's shop off Covent Garden, and was buried in St Paul's Church there He was 39—the youngest of the Oxford quartette, and the first to die The five tracts were translated into Dutch five years later, into German one hundred and twenty years later, in 1799, into French in 1840, and into English in 1907

The only reference to his work for more than one hundred years after his death appears to have been made by Stephen Hales His work was forgotten His discoveries rediscovered were the starting point of modern chemistry By that time the men's minds had become ground in which the seed could germinate

You will, I hope, think that in our commemoration it is fitting that Mayow should be remembered in the twentieth century, if only because he was so sadly forgotten in the eighth

ANAESTHESIA FOR OPERATIONS UPON THE GRAVID UTERUS.*

BY

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It is the intention of this paper to show how, by a wise selection of methods, the anaesthetist may collaborate with the obstetric surgeon to make his work more effective and the safety of the patient more secure

Preliminary Considerations—During pregnancy women tolerate anaesthetic drugs exceedingly well Last year, at the Birmingham Maternity Hospital, nitrous oxide was administered to more than three hundred women for dental extractions at all stages of pregnancy, and there was not a single miscarriage Ether, chloroform, gas-oxygen, and spinal anaesthetics are often administered for all kinds of surgical procedures, but, save in the presence of dangerous infections, such as peritonitis, it is rare for the pregnancy to be interfered with

Operations on the uterus and its appendages, when in the gravid state, fall into three groups (1) operations only on the uterus and its appendages, (2) operations on the uterine contents, and (3) operations on the gravid uterus together with its contents

Operations only on the Uterus and its Appendages

These operations are usually undertaken with the purpose of improving the course of the pregnancy, or of making normal and unobstructed labour possible, thus it may be necessary in the earlier months of pregnancy to replace a retroverted gravid uterus Inasmuch as muscular relaxation of the abdominal wall is required, and cyanosis is not advisable, ether preceded by atropine is more satisfactory than gas or gas-oxygen

Fibroid tumours (particularly those in the cervix) and simple ovarian cysts may obstruct the pelvic cavity, removal of these is often a matter of considerable operative difficulty The aims of the anaesthetist are therefore abdominal relaxation, the avoidance of circulatory congestion and oozing from cyanosis, and the least possible disturbance of the kidney and liver functions Perhaps the best compromise is obtained with chloroform, or a mixture of chloroform with ether Gas oxygen does not give sufficient relaxation, and the resulting tension and pressure on the uterus may produce an intrauterine haematoma, resulting in a miscarriage Spinal analgesia is useful because it controls the bleeding

Mr Lewis Graham of Birmingham has permitted me to quote a series of six operations for myomectomy which were performed under a mixture of chloroform and ether without any untoward event In one instance the fibroid was as large as a coco-nut and deeply embedded After removal, the base of the placenta could be seen at the bottom of the wound in the uterine wall, but the pregnancy continued normally By way of contrast, however, I may refer to a case, at the sixth month of gestation, in which an adherent degenerating fibroid was removed, under ether, with very great difficulty, the woman miscarried on the next day

Accidents to ovarian tumours, such as rotation or infection, may render the patient acutely ill, in these cases the anaesthetist must help the surgeon to save the patient's life regardless of the pregnancy Gas-oxygen is a very suitable agent, because anaesthetic toxaemia and post-operative collapse are reduced to the minimum Indeed, relaxation in these conditions is obtained with comparative ease Ruptured ectopic gestation is usually best dealt with under gas and oxygen But in a case of ruptured tubal gestation, which was complicated by severe bronchopneumonia, a spinal anaesthetic was employed with a satisfactory result

*A paper read in opening a discussion in the Section of Anaesthesia at the Annual Meeting of the British Medical Association, Winnipeg 1930

Operations on the Uterine Contents

Here although in the course of the operation the uterus may be incised or manipulated, the surgeon endeavours to effect his purpose on the contents of the uterus without producing any permanent injury or alteration in the condition of the uterus and the tubes. Taking this group on a wide scale we have to consider anaesthesia for (1) manipulation of the foetus to obtain good position and satisfactory presentation before labour, (2) normal labour and labour complicated by protraction, manipulation instrumental and so forth, (3) emptying of the uterus by direct operation including evacuation of the premature foetus or ovule and Cæsarean section for the viable foetus.

Manipulation of the Foetus in utero

A general anaesthetic is not usually required for the necessary manipulations are quite endurable and the expectant mother is not over-sensitive but in exceptional cases the malplacement may be intractable or the patient may be over anxious. Complete muscular relaxation under ether may help the difficult manipulation while if the psychological factor is the only difficulty, light gas-oxygen anaesthesia is valuable. Spinal analgesia will relax the abdominal wall completely but the uterus in such circumstances is firmly contracted, and thus it may not be possible to turn the foetus.

Labour

Early in the history of anaesthesia the pain of normal labour was treated by inhalations of ether and of chloroform. Sir J. Y. Simpson, in Edinburgh, was the first to demonstrate the anaesthetic properties of chloroform and his vigorous advocacy of its use in midwifery was soon supported by the consent of Queen Victoria to be herself chloroformed in childbirth—thus chloroform *a la reine*.

Mrs. Stanley Baldwin has recently led a campaign to provide "anaesthetics for British mothers," I think that medical opinion is agreed that the matter as raised by Mrs. Baldwin is debatable on several grounds.

Although millions of mothers have received chloroform a few points in its use may be worthy of mention. During the first stage chloroform is rarely needed. In the second stage amnesia should be aimed at. Analgesia and sometimes light anaesthesia are permissible but full anaesthesia stops the uterine peristalsis, and post-partum haemorrhage becomes a serious risk.

Many times it has been said that chloroform is safe for pregnant women, but that is not quite true. Light chloroform *a la reine* is indeed surprisingly safe, but I know two medical practitioners each of whom has lost a patient from heart failure during the application of forceps under full chloroform anaesthesia. Removal of the mask should precede application of the forceps. To allow the patient to administer chloroform to herself by squeezing the bellows of a Junker's inhaler is an accepted practice but it is necessary to be careful that the Junker's bottle is tested and fixed firmly out of harm's way, lest a pool of chloroform in the bed lead to severe burns.

Ether was used for midwifery before chloroform was discovered. It is pungent for the patient, it causes secretion bubbling and cyanosis when atropine has been withheld, and the stages of amnesia and analgesia are not maintained quite so readily as with chloroform. Nevertheless W. J. McCardie, after long experience maintains that ether may prove a most valuable stimulating anal gesic for a patient who is exhausted from a long labour. During recent years gas-oxygen has received much attention in connexion with midwifery. H. E. G. Boyle a pioneer in this respect, recommends that a gas-bag dispended with a four-to-one gas-oxygen mixture should be held in the patient's hand. Following instructions which have been given to her, she takes four or five deep breaths from the bag when she feels a pain coming and strains down. Thus partial loss of pain, good pressure from the abdominal wall and strong uterine contractions are secured. Dr. Boyle thinks that oxygen itself promotes contraction perhaps by eliminating sarco-lactic acid and thus preventing muscular fatigue. A little ether may be added when the head is passing over the perineum and the child is then born in a lively condition. The method is of undoubted value but the cumbersome nature of the apparatus tends to limit its employment to maternity hospitals and clinics. In the more protracted and serious complications of obstetric work such as high forceps manipulation, craniotomy and the like gas and oxygen has saved many lives.

The new anaesthetic drug avertin has been tried in this connexion and Dr. Doris Wall reports as follows:

Avertin is pleasant in its induction and has no action upon the foetus. There are no unpleasant after effects and there is the advantage of complete amnesia extending some hours after the delivery and long after the analgesic effect has passed off. The depth of anaesthesia produced is about that of twilight sleep, and when given in divided doses to a primipara it can be made to last throughout the second stage although this is sometimes difficult. Its duration appears to be increased by injecting the drug dissolved in milk.

The rate of the pains is slowed down to about half although their intensity is only slightly diminished. If any manipulation is required avertin must be supplemented with a little ether or with gas and oxygen.

I find that colonic-oil-ether has a similar effect but during induction it is not so pleasant for the patient it leads to more congestion and to deeper anaesthesia.

Spinal analgesia has been employed by many workers and Dr. Cosgrove in 1928 reported unequal results, the uterus was often flaccid and the perineum was relaxed probably due to a low injection—a caudal block. High intrathecal injection, with muscular paresis and analgesia up to the costal margin always produces relaxation of the trunk and lower limbs, including the abdominal wall and the perineum. At the same time, in my experience the uterus contracts tonically.

The effects of this contraction, I find, differ according to the stage of labour at the time of the injection. Injection of a spinal anaesthetic before the os is fully dilated leads to stopping of uterine propulsion, and the foetus does not progress until the anaesthetic effect has worn off. Injection after the os has dilated to the full extent may enable the accoucheur to compress the uterus sufficiently to expel the child with comparative ease or forceps may be applied or finally the foetus may not progress at all. Injection after the head has descended through the pelvic canal may lead to immediate delivery, especially if the child is small usually the child is readily expressed by gentle manual pressure on the abdomen.

It will be seen that the indications for spinal analgesia in normal labour are not impressive but in a small series of cases in the presence of severe heart disease I have found it useful. I inject the solution at the beginning of the second stage, when the os is fully dilated and the expulsive pains are strong. It is at this time that the diseased heart commences to run the gauntlet of overstrain. The immediate relief from straining down helps the patient to a remarkable extent. Forceps can usually be applied with comparative ease, and slow steady traction associated with pressure on the uterine fundus yields a satisfactory delivery. Birth of the placenta follows usually at once for the organ is exfoliated by the strong shrinkage of the uterine wall. Post-partum haemorrhage has not occurred in my experience, and indeed bleeding has been scanty. Epidural anaesthesia has received some attention but Dr. Rucker in 1928 reported that he found failure to produce analgesia to be not uncommon and that is a serious drawback.

We conclude therefore that in labour chloroform is the most generally useful anaesthetic while gas-oxygen is the most safe. Analgesia, by either the spinal or the local technique, has but a limited field. I may add that a woman told me recently that in 1918 when she was near term, an air raid frightened her so much that she was unconscious for two days during which time her baby was born.

Emptying of the Uterus by Direct Operation

Evacuation of an immature foetus, a mole or other retained products of gestation may require a simple dilatation and curetting or division of the cervix may be

advisable Dilatation under chloroform is attended with the risk of reflex cardiac syncope, gas-oxygen often fails to relax the legs sufficiently to allow of a satisfactory lithotomy position, and with all forms of general anaesthesia the risk of dangerous post-partum haemorrhage is very grave Considerable loss of blood is not uncommon, while fatal haemorrhage has occurred in the practice of many experienced gynaecologists

At the Birmingham General Hospital, Professor Beckwith Whitehouse, Mr Alfred Danby, and the anaesthetists have come to regard spinal analgesia as a valuable safeguard against this danger With analgesia up to the level of the umbilicus, we find that strong tonic contraction of the uterus is the invariable rule The loss of blood at the time of the operation is remarkably small, the post-operative loss is lessened, and the firmly contracted uterine wall offers satisfactory resistance, so that the curette or the ovum forceps can be employed without much fear of perforation of the uterus The presence of phthisis is often an indication for evacuation of the uterus, and because inhalational anaesthesia is undesirable, spinal analgesia has proved most helpful in a considerable series of these cases The toxaemias of pregnancy, diabetes mellitus, kidney disease, and heart disease are complications which are rendered less dangerous by the use of spinal analgesia for this operation

Anaesthesia for Caesarean Section

Inhalational anaesthesia is the usual method employed in Caesarean section, chloroform, ether, nitrous oxide-oxygen, ethylene-oxygen, and acetylene-oxygen have their advocates The aims of the anaesthetist are to avoid poisoning the mother with the drug, to prevent cyanosis, to keep the circulation brisk and the uterus free from congestive engorgement, and to allow the baby to be born in a lively condition, with the least possible amount of the anaesthetic drug in its circulation, so that it may cry and expand its lungs at once

It appears, therefore, that the gases nitrous oxide and ethylene are the more satisfactory anaesthetics because they are not toxic and because they are rapidly eliminated from the baby's blood stream

In any case we advise that morphine should be withheld before Caesarean section, and that the anaesthetic should not be commenced until everything is in readiness for the operation, that is to say, the skin should be prepared, the towels adjusted, and the surgeon have put on his gown and gloves The heavy abdominal contents may press on the heart and the bases of the lungs, so that additional oxygen may be necessary until the uterus has been emptied After the extraction of the child, anaesthesia may be deepened by the addition of a little ether Considerable experience with general anaesthesia for Caesarean section has shown that a smart haemorrhage from the incised uterine wall is the rule, and, not infrequently, it may be some minutes before the injection of pituitrin and ergot, together with the application of hot towels and massage of the flabby uterus, induces the organ to contract down and to arrest the bleeding

In December, 1922, Professor Beckwith Whitehouse and I employed spinal analgesia for Caesarean section in a woman, aged 29, who was suffering from diabetes mellitus We reported the case, together with a second, at a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine in 1923, and we laid special emphasis on certain advantages which spinal analgesia presented Powerful and sustained tonic contraction of the uterine wall rendered the uterine incision almost bloodless, and the suture line was tight and accurate The child cried immediately after extraction, and the mother made excellent progress Since that time I have employed spinal analgesia for most cases of Caesarean section in which the patient and the surgeon were willing

The account of the technique and of the results, which I shall now give, is illustrated by the analysis of one hundred cases of which satisfactory records have been available The patients were treated at the Birmingham General Hospital and Maternity Hospital, and in private practice The majority of the cases were operated upon by Professor Whitehouse, to whose interest and initiative this work owes a great debt Sedative drugs, such as morphine, were not given until after the delivery of the child, in order that the child might be born free from respiratory depression

It might be thought that these women would be panic stricken at the idea of such an extensive procedure taking place while they were conscious But even the most apprehensive of women, once the injection has been accomplished, settle down quietly with the *will* to go through with the business In eighty replies to our inquiry as to their progress in hospital and subsequently there has not been a single complaint concerning the method One woman who had undergone Caesarean section on two occasions, the first under spinal and the second under general anaesthesia, called upon me the other day to express her gratitude and her preference for the spinal method In four instances patients in this series asked for spinal analgesia for a second Caesarean section, although one of them had suffered from a severe post anaesthetic headache on the first occasion

So much has been said and written on the different methods of producing spinal analgesia, such as light and heavy stovaine, spinocain, novocain, percaine, and tropacocaine, that I shall not dwell at length on the subject of technique In this series 1 c.cm of a 10 per cent solution of novocain was used on one occasion with success, but for the remaining ninety-nine the anaesthetic solution employed consisted of a 5 per cent solution of tropacocaine in normal saline This solution has a specific gravity of 1016, and it is therefore heavier than cerebro-spinal fluid, whose specific gravity is 1006

According to the size of the vertebral canal 1·75 to 2·25 c.cm of this solution is injected into the second lumbar space, while the patient lies on her left side We have formed the opinion that it is wise to prevent excessive loss of cerebro-spinal fluid In a test series some years ago headache occurred in nine out of thirteen patients where more than 5 c.cm of fluid escaped The patient is turned gently on to her back, her eyes and ears are covered, but her face is left free, lest she complain of feeling stuffy The table is tilted 25 degrees from the horizontal, with the head lowest Analgesia develops to the level of the costal margin, or even as far as the level of the nipples Failure to produce analgesia up to this level occurred only in two cases, due probably to an insufficient bulk of the solution

Special technique is but rarely necessary for the actual lumbar puncture In seven cases gas-oxygen was given throughout the operation, but, although the uterine contraction was satisfactory, the child was dazed for a few minutes after birth A single dose of ethyl chloride provides one minute's anaesthesia, during which the back muscles are relaxed, the lumbar injection is made, and apprehensive individuals, after regaining consciousness, soon settle down Dryness of the mouth is the source of much discomfort, but satisfaction is derived from the sucking of the end of a wet pad of gauze

As soon as the skin becomes anaesthetic, we notice that the uterus appears to bulge more prominently, and it becomes more hard to the touch When exposed, it is found to be firm and wrinkled with vertical ridges The direction of the ridges suggests overaction of the circular muscle fibres, and Whitehouse and I have adduced evidence experimentally to show that spinal analgesia produces strong contraction of the circular fibres of the uterine muscle This gripping effect of the uterus explains the failure of spinal analgesia, when given for miscarriage or labour, to expel the uterine contents

In about half the cases the pressure exerted by the firm erect uterus on the abdominal contents caused retching, but in nearly every instance the discomfort and the retching ceased as soon as the child had been extracted and the uterus had contracted down Notwithstanding the necessity in some individuals of opening into the uterine cavity through the placental site, when anterior, severe bleeding did not occur in a single instance Pituitrin and ergot were reserved for the relaxation of the uterus, which sometimes happened after the effect of the tropacocaine had passed off The ischaemic pallor of the uterine wall was always remarkable, indeed, in the majority of cases,

the total loss of blood during the entire operation did not exceed one tablespoonful Fifteen patients were in labour at the time of the operation and eighty five were not in labour the uterine contraction was equally successful in all of them

Provided that narcotic drugs have been withheld, the child kicks and cries immediately it is withdrawn from the uterus For a tired foetus at the end of a long obstructed labour, in many instances this freedom from drugging at Caesarean section spelt life instead of death The placenta is extruded by the strong contraction of the uterus, and the membranes rarely present any difficulty Suture of the uterine wound is performed neatly and firmly, for the edges are clean-cut and any tendency to relax subsequently actually increases the tension of the sutures

After completion of the operation, the patient is carried to bed very gently, and her legs are elevated higher than the head The lower half of the mattress is raised so that the legs are kept up, with the body horizontal and the head on a pillow This position is maintained for five or six hours and for twenty four hours every effort is made to keep the patient quiet A few hours after operation the uterine pains may be severe, and morphine is a great help At one time we employed scopolamine in addition but an anxious case of violent mania dissuaded us from the use of this drug Abdominal distension for two or three days occurred in 20 per cent but this is a frequent equel to any abdominal section During the periods of influenzal epidemics and in sufferers from bronchitis mild lung complications occurred but there were no fatal cases from pneumonia

By far the most unsatisfactory aspect of this procedure was "spinal headache," which occurred in 24 per cent of this series The headache started within twenty four hours of the operation it was suboccipital in location, and lasted either continuously or intermittently for one hour or for as long as a fortnight—in the majority of cases for twenty-four hours Undoubtedly headache occurs after plain diagnostic lumbar puncture, after spinocain novocain, stovaine, and percaine There is good evidence that the following precautions are valuable (1) use only solutions which have been freshly prepared (2) do not allow much cerebro-spinal fluid to escape (3) avoid puncturing the blood vessels on the anterior wall of the vertebral canal (4) do not inject air bubbles, and (5) handle the patient gently, do not move her more than is necessary, and keep her quiet for twenty four hours after operation

There were no permanent complications attributable to spinal anaesthesia the method was especially valuable in cases of phthisis heart disease kidney disease diabetes and goitre causing tracheal obstruction Only one patient died at or just after operation and she was actually expiring from heart failure before the operation commenced

I have gone into this method at some length for Professor Whitehouse and I believe that it is valuable if carefully carried out

Operations on the Gravid Uterus and its Contents

Hysterectomy of the gravid uterus in the later stages of pregnancy is a severe procedure Most frequently the operation is called for in the presence of concealed accidental haemorrhage, or for severe sepsis in the pelvic organs It is one of the most anxious operations of surgery The patient is toxic, suffering from shock and bloodless The more powerful anaesthetic agents chloroform and ether disturb the patient too much their use is followed by serious post-operative reaction, and pneumonia or failure of the heart or kidneys may follow

Spinal analgesia may produce a dangerous fall in blood pressure in a patient who is already nearly pulseless But one patient, aged 26, after Caesarean hysterectomy under 'spinal analgesia" in 1923 although she suffered from extremely severe post-operative pneumonia recovered and reported this year that she was in good health

Gas-oxygen is a most valuable aid Eight Caesarean hysterectomies were performed under gas and oxygen for concealed accidental haemorrhage, each patient was nearly in a dying condition when the operation was commenced One patient died half an hour after the operation was completed, one died on the sixteenth day but the remaining six recovered

In conclusion, therefore, I would summarize my views as follows

1 By a wise choice of method, the anaesthetist may be able to offer valuable help to the obstetrician and to the gynaecologist

2 In the more severe procedures, gas-oxygen is the best agent *for general anaesthesia*

3 Spinal analgesia has an important place in the technique of Caesarean section

I have to offer my thanks to Mr J T Howetson Professor Whitehouse Mr Lewis Graham Miss Hilda Shufflebotham Mr Alfred Daubs Mr Kenneth McMillan and Mr R P Graham for permission to refer to patients who have been under their care To Sister M H King of the General Hospital and to Sister Knight of the Maternity Hospital Birmingham I owe my grateful thanks for very ready help

THE DIAGNOSIS OF UNDULANT FEVER*

BY

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It is becoming increasingly apparent that infection with organisms of the Brucella group, particularly with the bovine type of *Br abortus*, is by no means always followed by typical undulant fever Persistent malaise often accompanied by irregular fever, chronic ill-health, obstinate headache, joint pains, neurosis, certain skin rashes abortion in women, and focal infections of the internal genital organs in men, seem to be not uncommon manifestations of *abortus* infection Any attempt, therefore to ascertain the true frequency of disease caused by this *organism must take into account not only the clinically* recognizable cases of undulant fever but also those numerous cases of illness in which no definite diagnosis has been made

The methods available for the diagnosis of Brucella infections will be dealt with in turn

The Agglutination Test

This is best performed by mixing graded quantities of the patient's serum with a formolized heat-killed suspension of *Br abortus* incubating in a water bath at 55° C and reading the results after four and eighteen hours A strain of *abortus* should be selected that has been recently isolated many strains after continued subculture in the laboratory tend to lose their agglutinability Enough agglutinating suspension may be prepared at one time to last for several months There is no necessity in England at least to use more than one strain *Br melitensis* and the bovine and porcine types of *abortus* are agglutinated to a more or less equal degree by a serum prepared against any one of them, and the idea that it is possible to distinguish between these three types by direct agglutination is erroneous In Tunis however, according to Burnet' two distinct antigenic types of *melitensis* are met with necessitating the use of two suspensions in routine agglutination tests

The serum should be diluted from 1 in 10 to 1 in 5 120 if only one or two dilutions are put up a certain number of significant reactions will be missed

The interpretation of a positive agglutination reaction is often a matter of considerable difficulty and demands close co-operation between the clinician and the bacteriologist Many workers have emphasized the dangers of non specific agglutination It is noteworthy that this phenomenon has been met with chiefly in areas in which undulant fever is endemic Evidence has been accumulating to suggest that in such areas a certain proportion of the population is suffering from a latent Brucella infection and that the occurrence of agglutinins in the serum of these persons is really the result of infection and

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not an expression of non-specific agglutination Indeed, with the exception of the bacillus of tularaemia, it is doubtful whether any other organisms are able to give rise to agglutinins for the Brucella group Comparatively little exact work has, however, been carried out on this question, and it is impossible to say more than that in the past the importance of non specific agglutination has been considerably overestimated Subject to this reservation the following general propositions are put forward

1 A titre of 1 in 80 or less, in the absence of clinical symptoms, is probably indicative of past infection with an organism of the Brucella group, not necessarily, however, attended by definite disease Exact evidence in support of this statement is not easy to bring forward, it rests partly upon analogy with other diseases, and partly upon the results of examination of Wassermann serums Hutchison and Wilson,[2] who examined 998 Wassermann serums in Manchester, found that 50, or 5 per cent, agglutinated *Br abortus* to a titre of between 1 in 10 and 1 in 80 On the other hand, only 4, or 0 4 per cent, reacted at a titre of 1 in 160 or over Such a high proportion of positive results in low dilutions, in a country whose milk supply is fairly frequently infected with *Br abortus*, seems to be most readily explicable on the assumption that there are always a considerable number of people who, during the past two or three years, have suffered from a mild infection with this organism

2 A titre of 1 in 100 or over, in the absence of clinical symptoms of disease, probably indicates a latent infection, or repeated past infections, not necessarily accompanied by definite disease It appears to be not uncommon for veterinary surgeons and probably others, who come into close contact with aborting animals, to give a positive reaction in a fairly high dilution Thus Huddleson and Johnson,[3] who examined the serums of forty-nine practising veterinary surgeons, found that no fewer than thirteen agglutinated *Br abortus* to a titre of between 1 in 100 and 1 in 500 Only three of the forty-nine gave a past history of undulant fever It may be added, in support of Proposition 1, that fifteen of the forty-nine reacted positively in a dilution of 1 in 50, indicating the existence of a past infection Similarly Thomsen (see Bang[4]) examined eight veterinary students just before leaving college, all reacted negatively to agglutination But of twenty-nine young veterinary surgeons who had been in practice for six to twelve months, twenty reacted positively, of these only three gave a definite history of undulant fever These observations indicate that only a minority of those infected with *Br abortus* develop clinical symptoms of disease, the remainder suffer from a latent infection, which can be detected only by laboratory tests

3 A titre of 1 in 100 or over, in the presence of pyrexia and other symptoms of disease, may be considered as practically diagnostic of active infection with an organism of the Brucella group This statement is founded on the wide experience of Kristensen and Holms in Denmark, and on that of workers in other parts of the world The demonstration of a rise, followed by a subsequent fall in titre during the course of the disease, strongly confirms the diagnosis

4 A titre of between 1 in 20 and 1 in 100, in the presence of clinically undulant fever, may likewise be considered as practically diagnostic of active infection It is abundantly clear that a patient may suffer from typical undulant fever, with a positive blood culture, without ever developing agglutinins up to a titre of 1 in 100

5 The complete absence of agglutinins from a patient's serum does not necessarily exclude the diagnosis of Brucella infection Such cases are uncommon, and appear to be more frequent in *melitensis* than in *abortus* infections (Burnet[5])

It will be realized that the agglutination test is of very real value, but that it is by no means infallible

Blood Culture

The patient's blood should be withdrawn during a pyrexial period, defibrinated, and distributed in 5 c cm quantities into at least two flasks containing 100 c cm or more of broth The exact medium used does not seem to be of great importance, but probably the most suitable is the liver infusion broth, originally described by Holth,[6] and later recommended by Stafseth[7] One of the flasks should be incubated aerobically, in case the infecting organism is *Br melitensis*, or the porcine type of *abortus*, the other should be incubated in an atmosphere of 80 per cent air and 10 per cent CO_2, in case the infecting organism is the bovine type of *abortus* (These remarks apply to England, in South Africa the bovine type of *abortus* appears to be capable, even in primary culture, of growing aerobically (Bevan[8])) Growth is often slow, and may not occur for two to four weeks, it is advisable to plate out on liver infusion agar every five days, incubating the plates both aerobically and in 10 per cent CO_2 The flasks should not be discarded until positive subcultures have been obtained, or until subcultures over a period of five weeks have proved sterile

The isolation of the infecting organism from the blood of the patient is clearly the most satisfactory way of establishing the diagnosis, and every effort should be made, by repeated blood cultures if necessary, to attain this end It must be admitted, however, that success is by no means uniform In undulant fever due to *Br melitensis*, it is generally possible, sooner or later, to recover the infecting organism, according to Nattan-Larrier,[9] blood cultures are positive in about 80 per cent of cases When, however, the disease is due to the bovine type of *abortus*, failure is often met with, and the percentage of positive results appears to be very much lower

Cultivation from Material other than Blood

According to Kennedy,[10] it would appear that about 75 per cent of cases with *melitensis* fever excrete the organism in the urine, the excretion is, however, in constant and repeated samples may have to be examined before a positive result is obtained Whether *Br abortus* is passed out by the urinary tract, it is at present impossible to say

Recently Amoss and Postoni have succeeded in cultivating *Br melitensis* and the porcine type of *abortus* from the stools of patients with undulant fever Their technique involved the preliminary concentration of the organisms by agglutinating serum, and then subsequent growth on eosin-methylene-blue plates

Sometimes pus from a focal abscess is available (Simpson and Fraser[11]) The organisms may be recovered by direct plating on liver infusion agar, preferably containing 1 in 10,000 gentian violet, as recommended by Huddleson, Hasley, and Torrey[12]

At autopsy cultures should be made from the spleen, liver, and mesenteric glands

Animal Inoculation

Cultivation of Brucella strains in liver infusion broth, or on liver infusion agar, with or without gentian violet, is so straightforward that little advantage is to be gained by the inoculation of guinea-pigs This method may, however, be employed for the examination of pus or other material contaminated with secondary organisms The animals should be injected subcutaneously into the thigh and killed three to six weeks later, cultures should then be made from the sublumbar glands and from the spleen It is interesting to note that there is a considerable discrepancy between the accounts in the literature of the lesions caused by the bovine type of *abortus* in guinea pigs In England the macroscopic lesions are extremely slight, and may be overlooked, generally, there is nothing more than a slight enlargement of the sublumbar glands and of the spleen, occasionally minute nodules may be seen on the surface of the spleen and liver by aid of a magnifying glass But in America it appears to be not uncommon for *Br abortus* to give rise to lesions that may be actually confused with those of tuberculosis (Schroeder and Cotton[13]) That this is not always the case, however, is evident from a recent paper by Hasley[12]

The Intradermal Reaction

This reaction, which was first described by Burnet,[14] consists in the intradermal inoculation into the anterior face of the upper arm of 0 05 or 0 1 c cm of a filtrate of a twenty-day-old broth culture of *Br melitensis* or

Br abortus A positive reaction is characterized by the appearance in six hours of a slightly raised oedematous plaque 4 to 6 cm in diameter distinguished in colour from that of the surrounding skin, the reaction, which may be accompanied by pain persists for about two days According to Burnet, the intradermal test is often positive when the agglutination reaction is negative, and he considers, therefore, that it is of greater diagnostic value than the agglutination test This may hold true in *melitensis* infections but it is doubtful in *abortus* infections, Huddleson and Johnson,[3] for example in a small series of cases, encountered one subject who failed to react to the intradermal test even though his serum had an agglutinin titre of 1 in 500 The test has the advantage of simplicity, and is well worthy of trial on a large scale

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HYDRONEPHROSIS DUE TO KINKING OF THE UPPER END OF THE URETER

BY

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HYDRONEPHROSIS is usually due to obstruction of the flow of urine along the ureter The obstruction may be a stone or other body within the ureter, it may be a stricture or kink of the wall, or it may be something pressing upon the ureter from outside, such as an abnormal vessel,[1] fibrous band, or tumour

Here I am chiefly concerned with a valvular condition[2] of the upper end of the ureter which is often overlooked until the kidney has become seriously damaged or even destroyed by long-continued obstruction, with or without added septic infection I have had reluctantly to remove many such kidneys which could have been saved by timely operation

After nephrectomy there is always the fear that the remaining kidney may become fatally obstructed, for the anatomical abnormality is sometimes bilateral Hence the importance of drawing attention to this condition so that the obstructed kidney can be saved and not have to be removed

Etiology

There is very often a congenital narrowing at the upper end of the ureter where it joins the renal pelvis and sometimes there is a valvular fold of mucous membrane there, or the ureteral orifice is not at the lower end of the infundibulum of the pelvis, but on one or other side of the pelvis The ureter then runs for some distance along one wall of the pelvis, and is usually adherent to it Any distension of the pelvis in these circumstances is likely to obstruct the ureteral orifice in a valvular manner, this increases the distension and dilatation of the pelvis A similar state of obstruction is well known in the large arteries and in the oesophagus In the former a saccular aneurysm may obstruct the distal part of the artery in the latter a full oesophageal pouch frequently obstructs the distal part of the gullet

In the course of time, attacks of obstruction marked by renal pain become more frequent, the pelvis gradually dilates, and inflammatory adhesions take place around the pelvis, and these tend to increase the obstruction In one case of pyonephrosis I found the upper ureter folded into three complete kinks by such adhesions, the kidney was pyonephrotic, and so thin that it could not be saved Mobility of the affected kidney certainly adds to the obstruction, and great descent of the kidney may be an important cause of kinking of the ureter, but mobility is also a result of repeated distension of the kidney

Symptoms

There is a history of repeated attacks of pain in the loin behind and in front These attacks sometimes begin during childhood or adolescence, but more often during early adult life The pain rarely extends downwards to the groin or thigh, and there is rarely any dysuria or abnormal urine These points distinguish this condition from stone, but not from obstruction of the ureter by abnormal blood vessels Gradually the attacks become more severe and more frequent and before long a renal swelling may become noticeable during the attacks The appendix is frequently removed in mistake and without benefit, and I have known fruitless operations undertaken for supposed cholecystitis or for ileal kink In the course of time a typical hydronephrotic swelling may be found during the attacks, and pyonephrosis sometimes develops, with or without pathological urine

Diagnosis

Some of the pitfalls have been mentioned We have to distinguish this renal affection from those of the other abdominal viscera by exercising care and caution, and making complete examinations The location of pain and tenderness in front and behind the kidney is very important Cholecystography is often invaluable in excluding disease of the biliary tract We have then to distinguish this from other renal conditions, especially from other kinds of obstruction of the ureter, such as stone and abnormal renal blood vessels

The entire absence of blood, pus, or albumin is against stone, and so is a negative good radiogram, although this can never be quite conclusive Ureteral catheterization and pyelography, and possibly uroselectan, should generally establish the diagnosis long before the hydronephrosis becomes visible or palpable Finally, these repeated attacks call for operation, which serves completely to establish the refinements of diagnosis, and to cure the condition by simple operative measures

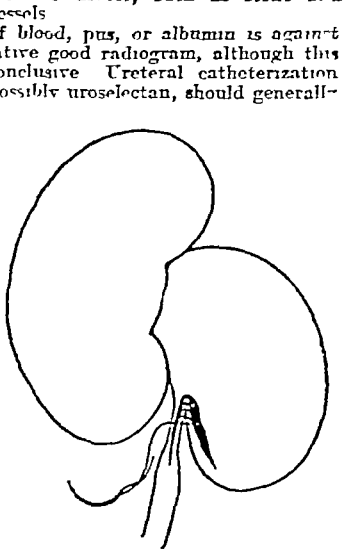


FIG 1.—Valve ureter operation The incision made to overcome the valve and stricture is shown. A continuous suture of fine catgut is inserted as demonstrated in the figure.

Operation

The kidney is explored through the usual time honoured and excellent oblique incision in the loin below the last rib The kidney is carefully separated and delivered, and turned forward so that the renal pelvis and ureter can be minutely examined from behind Any abnormal renal vessel or band of fibrous tissue obstructing the ureter is tied and divided If none of these or stone is found and yet the ureter is of normal size and the pelvis is dilated or distended, the diagnosis of valve ureter is established, and the condition is treated either by enlarging the opening, as shown in Fig 1 or after Fenger's method

[1] *The Operations of Surgery* vol. ii p 82.
The late Sir Henry Morris described this abnormality in his standard work *Surgical Diseases of the Kidney and Ureter* vol. ii p 423

(Fig 3), or by making an anastomosis between the lower pole of the pelvis and the ureter at the same level (Fig 2), fine catgut being used throughout

Division of the ureter, with implantation of it into the lowest part of the infundibulum is neither so easy nor so infallible as the methods recommended above

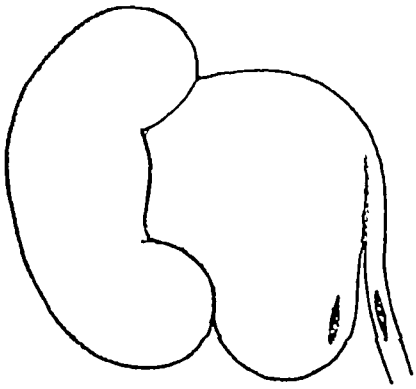


FIG 2—Large hydronephrosis due to valve ureter The opening of the ureter is high up The incisions for an anastomosis between the lower part of the pelvis and the ureter are shown

In the course of years I have operated on many cases of stricture, with or without valvulation of the upper end of the ureter, with excellent results, except in the late cases where the kidney has become spoilt and had to be removed in order to save life and relieve symptoms

The following examples illustrate the difficulties of diagnosis and the results of treatment some years after operation

CASE I—*Hydronephrosis due to Valve Ureter Mistaken for Cholecystitis, Ureteroplasty, Recovery*

A spinster, aged 39, had had attacks of pain twenty years previously in the right hypochondrium, alternating with attacks of appendicitis Appendicectomy was performed by Sir H T Butlin during an interval in 1903 After the operation the attacks of pain in the right hypochondrium often recurred, with sickness, they were thought to be due to floating kidney She felt very seedy with the attacks, and they recurred about once a week up to October, 1922 Between October and February she was free from them, but felt tired and unwell For the last five weeks she had had an attack about once a week She had no fever, and the urine was normal She saw various doctors in the country and in London, who thought the gall bladder was the cause of the trouble (? gall stones) Dr A H Spicer brought the patient to see me He had on several occasions felt a swelling in the gall bladder region, but the patient was not tender there when I saw her On repeated questioning she said she never had any trouble with micturition I agreed with the diagnosis of obstructive cholecystitis, and advised exploration An acute attack, with pain and swelling in the right flank, developed the night before the operation

Operation—March 22nd, 1923 Dr Spicer assisted A Kocher incision was made The gall bladder was normal, the liver low, and the duodenum normal There was a large hydronephrosis adherent to the under surface of the liver The abdomen was closed and an incision made behind in the loin The kidney was mobilized, it was rather thin The large hydronephrosis was partly emptied with difficulty by massage Valve ureter and stricture were found with adhesions to the pelvis Anastomosis, 1/2 inch in diameter, was made between the lower end of the infundibulum and the ureter Fine catgut was used The patient has remained well now for seven years

CASE II—*Hydronephrosis due to "Valve Ureter", Fenger's Operation and Nephrectomy Recovery*

A woman, aged 31 For twenty years she had sudden attacks of pain in the right groin, occurring at intervals of from a fortnight to six weeks, but having no relation to the periods For about ten years the patient had complained of attacks of pain in the right loin extending along the ureter In 1908 she was admitted into a medical ward for a swelling on the right side diagnosed as tuberculous kidney, but as the swelling suddenly disappeared, hydronephrosis due to a kinked ureter was suggested Radiography revealed no stone She was x rayed at Guy's Hospital six years later with a negative result, and I ordered her a belt, which enabled her to go on pretty well for about two years and then the pains returned in spite of the kidney belt Dr Stratton was fortunate to find her one day when the kidney was greatly enlarged He therefore sent her to me again with a view to operation The history of colic was very definite, and an x ray examination again failed to reveal any stone, therefore a diagnosis of either an abnormal artery kinking the ureter or valve ureter or a small stone was made

Operation—June 9th, 1916 I found a large hydronephrosis with a moderately good kidney, which seemed worth preserving The hydronephrosis was due to valvulation at the junction of the ureter and pelvis The ureter was quite natural, but the pelvis was larger than a cricket ball, and there was a very obvious kinking at the junction I therefore enlarged the opening at the *junction after Finney's method* of gastro duodenostomy, using fine catgut in two layers, the superficial one only taking up the fat There was no leakage of urine through the wound, and blood

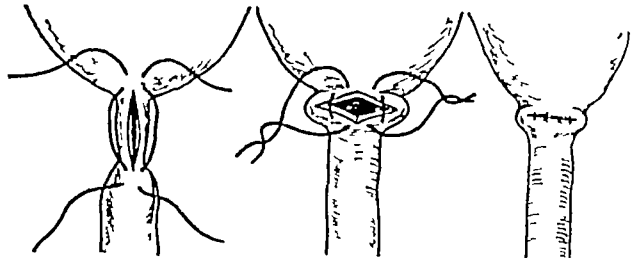


FIG 3—Pyeloureteroplasty, for stricture (Fenger's operation) (*a*) Stricture and valve incised longitudinally (*b*) and (*c*) Wound sewn up transversely

appeared in the urine next day A few days after the operation the patient had a feeling of distension in the old situation She made a good recovery, but had slight recurrences in 1921 and 1923

CASE III—*Hydronephrosis due to Valve Formation at the Junction of the Renal Pelvis and Ureter, Anastomosis, Recovery*

A married woman, aged 66, gave a history of severe attacks of pain in the left loin on and off for many years Sixteen years previously she was an in patient in the London Hospital for pain in the left flank, which was thought to be due to gastric ulcer There was no haematemesis A year later she was seen by the late Dr J H Bryant, who found both her kidneys unduly movable, and ordered an abdominal belt for their support About eight years ago she had haematuria for several months, and albuminuria for a year afterwards In the intervals between the attacks of colic she had an aching pain in the left flank In December, 1921, her doctor found a large cystic bilobular swelling in the abdomen close to the pubis on the left side, and he sent her to see me with a suggested diagnosis of growth of the colon

When I examined her (December 16th, 1921) the swelling was the size of a foetal head, very freely movable in the abdomen It could be pressed back into the left loin, but not into the right loin or right iliac fossa It was bilobular, the upper and left lobe being smaller and flatter than the spherical elastic lower and medial portion The left kidney could not be felt apart from this swelling A diagnosis of left hydronephrosis was confidently made The cause appeared uncertain, and might be due to small stone, an abnormal renal vessel pressing the ureter or kinking of the upper end of the ureter by the descent of a very movable kidney X ray examination revealed no stone, but a negative report in such a case is never conclusive for mate stones small enough to enter the ureter often do not show on the x ray plate While the patient was in Guy's Hospital undergoing investigations the swelling disappeared, and a very large amount of urine was passed

Operation—January 12th, 1922 The left kidney was exposed through the usual oblique incision in the left loin It was extraordinarily movable and low, its cortex was fair in consistency and colour, but thin, its pelvis was empty but greatly dilated the ureter normal and patent throughout The junction of the ureter and pelvis was thick and narrow, and placed far above the lower pole of the pelvis, thus forming a valve which became more and more obstructive as the pelvis distended with urine A long incision was made through the contiguous borders of the pelvis and ureter, dividing the valve The incision was then sewn in reverse with catgut, after Fenger's method, thus overcoming the obstruction The patient made a good recovery

CASE IV—*Hydronephrosis Destroying the Kidney "Valve Ureter" Nephrectomy*

A woman, aged 31, who was florid and fat, gave a history of three severe attacks of anaemia At the present time the blood is almost normal, red corpuscles being 5,000,000 and haemoglobin 80 per cent There was a very large swelling in the left loin the size of a man's head It was dull in front, movable from side to side and from above downwards It seemed to have an anterior hard edge like a spleen, *but the hand could be placed above it*, between it and the left costal margin, and I thought there was splenic dullness separate from it in the chest behind Mr Bellingham Smith had had her admitted to his ward about a year ago, but he thought the swelling had *nothing to do* with the pelvic viscera There were no urinary symptoms The diagnosis lay between splenic tumour, pancreatic cyst, and a very large renal swelling The woman was so fat that it was difficult to examine her well

Operation—April 10th 1924 A very long left paramedian incision was made, and it was at once found that the swelling was

retroperitoneal bulging forwards on the mesial aspect of the descending colon the transverse colon and the splenic flexure were above it. The great omentum was adherent across the front of it to the descending colon. The liver spleen, and other viscera were normal. A vertical incision was made through the peritoneum on the outer side of the descending colon and the tumour was shelled out and removed. It contained five pints of clear watery liquid and was the cystic remains of the kidney. There was no recognizable renal tissue in it but the ureter issued from its inner aspect at the lower point of dissection. The condition was one of valve ureter there was no constriction by any abnormal vessel. The ureter itself was small in size. Three large renal vessels had to be tied and divided. The other kidney was larger than usual but otherwise normal. The patient made a good recovery.

Case V.—*Hydronephrosis due to Valve Ureter. Ureteroplasty. Recovery.*

A very stout married woman aged 64 was admitted to Guy's Hospital on January 24th 1928. In 1906 *hysterectomy for fibroids* was performed. Since 1914 she had had numerous attacks of severe pain in the right flank below the costal margin passing through to the back below the last rib. For years these attacks were thought to be due to gall-stones. There was no history of jaundice or of anything wrong with the urine or urination. In October 1927, a bad attack developed with high fever and a swelling filling up nearly all the right flank which was evidently a hydronephrosis. The symptoms gradually abated and the patient was quite well until December 14th when the signs recurred with severe pain, vomiting and a large swelling reaching to the middle line with a temperature of 103° F. This time the urine contained large quantities of pus. With rest dieting and large doses of potassium citrate the patient got fairly well but the swelling did not entirely disappear, it could be felt in the right loin which was dull behind and resonant in front. X ray examination did not show any stone in the kidneys or ureters. Pus and only a little urine issued from the right ureter whereas the left kidney was excreting plenty of normal urine and the blood urea was normal.

Operation.—The right kidney was explored through the usual oblique incision in the loin. There was a large *hydronephrosis* containing offensive urine the kidney was considerably but not hopelessly damaged the ureter was normal but empty and completely obstructed at its origin high up on the inner wall of the greatly dilated pelvis it was not constricted by any abnormal renal blood vessel. The obstruction was overcome by slitting up the pelvis and ureter at their union the incision extending over an inch into each and being joined with fine catgut in such a manner as to remove the valvular obstruction after Finney's method of pyloroplasty. The patient made a good recovery.

THE SIGNIFICANCE OF REFLEX ACTION IN COLOUR VISION *

BY

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When the retina of the left eye has been stimulated by light of any pure spectral hue above a certain intensity it is found that the sensitivity of the right is enhanced for three colour sensations, which are invariably red, green, and violet. The predominant enhancement always occurs for the sensations complementary to the stimulating colour. If the intensity of the stimulus falls below a certain critical intensity, which for white light is about 0·25 metre-candle, the effect upon the right eye is opposite in character, since it *inhibits or depresses the sensitivity* of all three colour sensations. When the stimulating colour of sufficient intensity is applied to the right eye the measurements on that eye show that the one sensation, red, green, or violet, chiefly involved, if the stimulus is a simple colour, or the two if the colour is compound, as orange, yellow, and blue, are depressed in sensitivity, while the complementary sensations are enhanced.

These experiments, both contralateral and ipsilateral, may be readily explained by assuming the existence in the visual neural apparatus of a sensory reflex action which may exercise either a facilitating or an inhibiting influence on the retinal sensitivity by which its responsiveness becomes enhanced or depressed. As the basis of the visual theory I am presenting is the existence of such a sensory reflex, it is desirable to establish it with the greatest possible amount of experimental evidence.

In the sense of hearing measurements have now been made in my laboratory by J. F. Allen which show that stimulation of one ear by a pure tone either enhances or depresses the sensitivity of the other in a manner similar to the contralateral effects in vision.

In the sense of taste, also, measurements show that stimulation of one side of the tongue by solutions of sugar, salt acetic acid and sulphate of quinine, depress and enhance the four gustatory sensations, both ipsilaterally and contralaterally, precisely as in vision. It is found that weak solutions of these substances inhibit gustatory sensitivity, just as feeble light inhibits retinal sensitivity while in illustration of the facilitating process it is well known that distilled water stimulates the sweet taste after this has become enhanced in sensitivity by stimulation with an acid or a salt solution.

Besides eliciting the sensations of taste stimulation of the tongue by solutions evokes an enhanced activity of the parotid gland by which the amount of saliva secreted in a given time is much augmented. Inhibitory effects also occur. Measurements show that both ipsilateral and contralateral actions take place with appropriate stimulation.

In the muscles it has been found by measuring the angle of elevation of the arm by post-contraction after stimulation has ceased that stimulation of the left arm affects the right in the same way that stimulation of one eye or ear affects the other, or stimulation of one side of the tongue influences contralaterally the sensations of taste on the other side and the secretory activity of the opposite parotid gland.

No contralateral experiments in the sense of touch were thought of at the time the investigation was made. But it was shown that ipsilateral stimulation of the fingers of one hand enhanced the sensitivity of the index finger in the same manner that stimulation of one part of a retina influenced the sensitivity of an adjoining area or of one part of the tongue influenced adjacent receptors.

In all these cases it was found possible to express the measurements in a mathematical law which states that some measure of the response is proportional to the logarithm of the intensity of stimulation. The formula, which is similar to Fechner's celebrated psycho-physical law is $R = k \log I \times c$, where R is the measurement of the sensation, I the intensity of stimulation, and k and c are constants.

The evidence cited has been set forth at length in numerous papers published by the writer and his students. It proves quite conclusively the identity of the actions in all the neural systems to which reference has been made. No exception will probably be taken to the explanation of the phenomena of secretion and muscular contractions by reflex action. It seems reasonable to conclude, therefore, that the identical behaviour of the sensory neural apparatus similarly results from reflex action of a sensory character by which the sensitivity of the receptor-end-organs is controlled.

The theory of sensory action to which these investigations lead may be briefly stated as follows. When a suitable stimulus is applied to receptor organs the afferent nervous impulses excite characteristic sensations in the cortical centres, and in addition simultaneously evoke reflex impulses, which are conducted to the receptors causing either depression or enhancement of their sensitivity. The function of the sensory reflex actions is to control the sensitivity of the receptor end-organs. The alteration of sensitivity occurs in receptors for other sensation qualities within the area stimulated, and extends ipsilaterally to adjacent areas and contralaterally to corresponding areas on the other side of the body. Thus stimulation of an area of the right retina by red light, for example causes a sensation of red while the reflex or inductive reaction extends to the green and violet sensations within the area stimulated and to all three sensations in surrounding areas of the stimulated retina and to the corresponding area of the left retina as well. The inductive action of dim light of all hues is depressing in character, while that of bright colours is enhancing. After the retinal receptors,

* Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

or, indeed, the receptors of any sense organ, have been stimulated, they recover their normal sensitivity by a series of oscillation of the reflex actions in which inhibition and facilitation periodically alternate with each other The retina is depressed or enhanced in sensitivity for further stimulation according to the time that has elapsed since the first stimulation ceased

This theory of sensory action affords a simple physiological explanation of many phenomena of colour vision, only a few of which may now be considered As remarked above, it has been found that when the retina is feebly stimulated with white or coloured light the three primary sensations are all depressed in sensitivity, so that their responsiveness is much lessened Vision therefore becomes doubly difficult in dim illumination, first, because the light is weak, and, secondly, because such light as there is lowers the retinal sensitivity This behaviour of the eye is probably a factor of great importance in such ocular conditions as miners' nystagmus On the other hand, if during some pathological condition of the retina it is desirable to secure visual relief for the eye, it will often be found advantageous for the patient to remain in a dimly lighted rather than a completely dark room A person suffering from detached retinas once wrote to me that the greatest relief experienced in years was obtained under such conditions

Experiments have revealed that the shortest wave-lengths of the spectrum, the extreme violet and blue, are as much as seven hundred times as powerful in exciting reflex action as the brightest yellow This leads to the conclusion that violet especially functions chiefly as a retinal sensitizer Artificial illuminants that are deficient in these rays are therefore devoid of an element most essential to visual efficiency Probably this inductive power is also possessed by the longer ultra-violet rays, so that a moderate amount of this light, under certain conditions, may be beneficial to vision Possibly the yellowish light of a miner's lamp suffers an additional disadvantage from the low intensity or absence of violet and ultra-violet radiation

Probably the most difficult problem in colour vision has been that of the explanation of simultaneous contrast It has been the rock on which most of the theories of colour vision have been wrecked The far-fetched theories of Helmholtz and Hering have admittedly failed to solve the problem The explanation of the reflex theory is simple, founded upon ample experimental evidence, and equally adequate for both uniocular and binocular contrast The general rule of contrast is that each contrasting colour appears modified, as if mixed with nearly the complementary of the other If, for example, contiguous green and yellow patches are viewed by one eye, the green light stimulates all three colour sensations—red, green, and violet—in the corresponding retinal area, but predominantly the green The inductive action of the yellow light enhances the sensitivity of all sensations in the green area, but predominantly the complementary violet sensation The green light consequently will stimulate this sensation more than normally, with the result that the green colour appears bluish-green In the yellow stimulated area the red and green sensations, whose equal excitation causes yellow, are stimulated more than the violet The inductive action of green light, however, enhances predominantly the complementary red and violet—that is, purple—sensations, of which red is visually the more conspicuous The yellow light will now stimulate the red sensation a little more than the green, and will consequently appear orange in hue Thus both colours appear as if mixed with the complementary of each other The same explanation applies to binocular contrast, for the reflex actions involved in the two cases are identical

There are two well-defined types of abnormal colour vision, which are known as colour-blindness and anomalous trichromatic vision Of the former, seven general classes are possible three classes in which one of the three fundamental sensations—red, green, or violet—is defective, three classes in which two of the sensations are defective, and one class, total colour-blindness, in which all three sensations are defective

According to the measurements of Abney, the white sensation is formed by equal stimulation of all three sensations In colour-blindness, therefore, no colour sensation can be entirely missing, since the colour blind see white, while totally colour-blind subjects see all colours as white or grey This indicates that in achromatic vision every colour always stimulates all the primary sensations equally Colour-blindness, or colour defectiveness, seems to be due to the excessive development of the inhibitory reflex actions which may affect any one, any two, or all three primary sensations The perceptual colour sensation pattern must consequently be modified to an extent depending on the degree and incidence of the inhibition

In anomalous vision the colour sensations are supersensitive The cases known seem to be limited to the red and green sensations The explanation seems to be found in the excessive development of the enhancing impulses According to this theory, both types of abnormal vision, particularly colour defectiveness, could be remedied if the efferent nerves could be stimulated at their cortical origin

In the bulk of humanity there seems to be preserved a proper balance between the direct results of sensory stimulation and the reflex actions which are evoked by them This condition is termed normal colour vision About 4 per cent of men have this balance disturbed by over development of inhibition They are accordingly selectively subsensitive in their defective colour sensations Another proportion, equally great, have the normal balance disturbed in the opposite direction by over-development of the enhancing actions Such persons therefore possess supersensitive colour sensations, or anomalous trichromatic vision

Probably a similar grouping of people can be made in regard to every sense organ The majority are normal, and smaller groups are either subsensitive or supersensitive Possibly this principle may be generalized to cover the intellectual powers and the emotional and volitional faculties as well For in all these divisions the normal, the supernormal, and the subnormal groups are well recognized Thus the principle at which we have arrived from experiments on vision may have in the broad field of psychology the widest application

The reflex theory strongly supports the trichromatic theory of Young The facilitating reflex actions by which the complementary sensations of the exciting colour are enhanced provide a physiological explanation of those phenomena for which Hering assumed a chemical assimilative process in the retina In these essential particulars, therefore, the two rival theories become harmonized

AN OUTBREAK OF FOOD POISONING IN STAFFORDSHIRE.

I—THE CLINICAL MANIFESTATIONS

BY

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AND

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THE following cases are reported on account of three peculiarities

1 The rarity of the causal micro organism (the American hog cholera bacillus) in this country

2 The severity of the symptoms and the resulting high mortality

3 The limitation of the infection to one family

The disease was caused by the consumption of a pork pie, which was baked on April 9th and was purchased by the father of the family on April 13th So far as can be ascertained the pie was not exposed to any contamination between the times of manufacture and consumption It was consumed by seven children and their mother on April 13th, at 6 30 p m, the mother eating only a small portion The father and an older son did not

eat any of the pie. The mother vomited later in the evening but quickly recovered. Between 3 and 4 o'clock next morning the seven children became ill, suffering from abdominal pain, vomiting and diarrhœa; they were seen by Dr. Stewart of Walsall Wood, who advised their removal to hospital. The clinical details were as follows:

O. B., aged 4, was dead on admission.

I. B., aged 9. On admission the temperature was 104.4° F., the pulse 160, and the respiration rate 44. There were muttering delirium and restless movements of the limbs; the extremities were cyanosed and felt very cold. Glucose solution was run into the colon; camphor in oil was injected, and attempts were made to give brandy and glucose solution by the mouth. No further vomiting occurred after admission, but green stools containing a good deal of mucus and a little blood were constantly being passed. At 2 a.m. the general condition was unchanged, the temperature being 104.2°, the pulse 170 (!), and the respiration rate 44. The delirium prevented drink from being properly swallowed, and 20 oz. of saline solution were injected intravenously. No improvement ensued, and at 6 a.m. the temperature was 100.8°, the pulse rate uncertain, and the respiration rate 48. The patient died shortly afterwards.

S. B., aged 11. On admission the temperature was 103.2°, the pulse 170, and the respiration rate 30. There was muttering delirium with cold cyanosed extremities. No vomiting occurred after admission, and the stools which were passed about every half hour consisted of thick green-stained mucus with a little blood. Glucose solution was injected into the rectum, and intravenous saline and stimulants were given with no effect. At 2 a.m. the temperature was 104°, the pulse rate was uncertain, and the respiration rate 40. At 6 a.m. the temperature was 104.4°, the pulse unountable, and the respiration rate 64. Death occurred at 6.40 a.m.

L. B., aged 7 years, was conscious on admission. The extremities were cold and cyanosed. The temperature was 101°, the pulse rate doubtful, and the respiration rate 32. The same treatment was given, but in this case, as the child was conscious, she was able to drink well. Though the stools were frequent they contained very little fluid, being composed of thick green mucus with some blood. At 2 a.m. she was still conscious, though the pulse was quite absent, the temperature was 98.8°, the pulse doubtful, and the respiration rate 30. She vomited a little bile-stained froth at 2.30 a.m., but continued to drink well and to retain a good deal of her rectal glucose. By 10 a.m. her pulse could just be felt, and the temperature was 98°. No further vomiting occurred, and a stool was passed at interval of about an hour. The diarrhœa ceased in about twenty-four hours. No further rises of temperature occurred, and she made a slow recovery.

A. B., aged 5, was finished and ready on admission, but did not look very ill. The temperature was 100.4°, the pulse 122, and the respiration rate 26. The boy took drinks well and passed only one green stool during the night; he did not vomit. He was slightly feverish for twenty-four hours, and passed four or five green stools during that time. On the second day after admission he was well again.

M. B., aged 12½ years. The temperature was 99.2°, the pulse 104, and the respiration rate 28. She took drinks well and did not vomit. Her bowels were open twice during the night; the stools were relaxed but not green, and contained only a little mucus. She remained slightly feverish for thirty-six hours, but said that she felt quite well. Her stool was normal after twenty-four hours, and on the third day she was quite well.

N. B., aged 18 months (to whom a little pork pie had been given), had a temperature of 101.4°, a pulse rate of 152, the respiration rate being 28. The baby took drinks well and slept most of the night. She passed one relaxed (but not green) stool during the night, and one slightly green stool the next morning. She was a little feverish for twenty-four hours, but was quite well again on the second day.

The post-mortem examinations were conducted by Dr. Lamb, who reported the usual signs of a severe gastro-enteritis. A notable feature was the great enlargement of the lymphoid follicles. Specimens were examined bacteriologically at the Ministry of Health laboratory at Birmingham University and at the Staffordshire County Laboratory. *B. suipestifer* (American type) was isolated from the intestines of the fatal case and from the faeces of the living patients. The micro-organism was agglutinated in varying degrees by the serum of some of the living patients but showed agglutination up to 1 in 12,800 with its own specific serum. Further details concerning the bacillus are published in the following paper.

The father and other son who had not partaken of the pie were unaffected, and everything pointed to the pork pie as the source of infection. It is usual in these cases all the pie had been consumed, and none of it was available for bacteriological investigation.

The limitation of the trouble to the one family seems rather extraordinary, for the pie was made with 29 others on April 9th. 12 lb. of pie meat, being used for these 30 pies. The pie meat was delivered at the bakehouse about 11 a.m. on April 9th, in grease-proof paper in a tin, and it was transferred to a clean tin bowl. Pepper and salt were at once added, the pies were made, and put into the oven for about forty-five minutes, after which they were placed in a rack in the coolest part of the bakehouse. At 5 p.m. they were taken to the baker's home in a covered basket. Before leaving the bakery the baker jellied the pies with agar-agar. The jelly was made in an enamelled pot from which it was transferred to an enamelled jug and thence poured into the pies. The pig from which the pork for these pies was obtained was killed on April 7th. The leg of pork was boned and chopped on April 9th, about 25 lb. weight was chopped, and 12 lb. of this was sold and baked in the 30 pies. The other 13 lb. was used for making pies elsewhere, and no unfavourable reports have arisen regarding these.

The meat was chopped in a machine fitted with a motor and placed in an outbuilding. The drains have been tested and apart from a defective bell trap in the chopping-house no other defects have been found. The sanitary conditions of all the premises mentioned are quite satisfactory. In fact, although the pie was traced carefully from its origin to its consumption, it is quite impossible even to suspect at what stage it may have been infected. No other pie of the same batch has caused any unusual symptoms.

It is evidently customary to put the meat inside the pastry before cooking it. Infected meat may therefore be incompletely cooked, especially when a large number of pies are baked together in the same oven.

This is a brief report of a small outbreak of food poisoning due to a micro-organism which occurs very rarely in this country—namely, *B. suipestifer* (American type).

II.—THE BACTERIOLOGICAL INVESTIGATION

BY

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Food poisoning due to the American hog cholera bacillus is rare in this country. The outbreak here described involved eight patients; there were three deaths. The bacteriological features were sufficiently interesting to stimulate a more detailed investigation than that which sufficed for routine identification.

Bacterial strains vary in their reactions, and even the same strain may show variation in different laboratories; such discrepancies are at times due to extraneous factor, but they can sometimes be explained by differences in the ages of the cultures, by the presence of variants, and by the occurrence of other changes in the bacteria themselves. The work was therefore continued for several months, and the results is now recorded not as a report of the outbreak, but rather as a supplement to the paper of Drs. Clayton and Milne. It has been decided to publish the various papers separately, so that those readers interested in one aspect will not be unduly burdened with the other.

The bacteria were isolated from the faeces of the living patients, and from a piece of intestine removed from one of the dead children. Plate cultures revealed two types of colonies after incubation for twenty-four hours at 37° C.: one was small, round, and glistening, the other was rough, more opaque, and showed crenated edges. After forty-eight hours' incubation the differences were accentuated. The rough opaque colonies were then four to ten times larger than the smooth ones, and the crenated edges had spread like streamers on the surrounding medium. The smooth colonies retained their uniform small size for weeks. The small colonies consisted of minute rapidly motile Gram-negative bacilli. The large irregular colonies contained pleomorphic Gram-negative non-motile bacilli. For convenience the motile bacillus may at once be termed Type H, and the non-motile bacillus Type O.

These types did not produce any change in lactose, saccharose, salicin, raffinose, dulcite, or inosite after several weeks' incubation at 37° C They both produced acid and gas within twenty-four hours in glucose, mannite, xylose, and maltose Type H caused slight acid and gas to appear in arabinose in twenty-four hours, these were profuse in forty-eight hours Trehalose underwent no change with Type H, but Type O induced rapid and profuse production of acid and gas These results were verified repeatedly The negative sugars remained unchanged for long periods Controls were also used

When first isolated the motile bacilli were very specific They were not agglutinated by the following serums typhoid, paratyphoid A, paratyphoid B, paratyphoid C (standard), Newport, Mutton, Gaertner, typhoid O, Stanley Reading, Derby, and English *suipestifer* (Plymouth) They were agglutinated with American *suipestifer* serum (Lister Institute) in a dilution of 1 in 12,500 in two hours The patients' serums gave rise to slight agglutination The non-motile bacilli were at first unagglutinable, but later showed granular agglutination with American *suipestifer* serum 1 in 800, and flocculer agglutination in the stronger dilutions The granular agglutination did not reach its maximum until after eighteen hours' incubation with the serum The H type gradually became less specific, and now agglutinates with these serums paratyphoid C (standard) 1 in 125, Stanley 1 in 2,500, Reading 1 in 500, Derby 1 in 125, English *suipestifer* (Plymouth) 1 in 2,500 Type O now shows agglutination with English *suipestifer* serum as well as with the American serum, but remains negative to the others Type O has a trace of H antigen, which is diminishing The serum of the last rabbit inoculated with this bacillus agglutinates it in a dilution of 1 in 2,500, but there is also some flocculation of the motile bacillus with this serum in a dilution of 1 in 50, which is weaker than in the previous experiments The presence of some H antigen in the O type is also shown by the American serum, which still causes flocculer agglutination with this type in a dilution of 1 in 50, in addition to the granular agglutination already mentioned

The inoculated rabbits' serums contained co-agglutinins for paratyphoid C (standard), English *suipestifer*, and in a few instances for Gaertner's bacillus, one of the patients' serums showed co-agglutinins for Gaertner's bacillus One rabbit agglutinated *B typhosus* 1 in 25, but absorption tests proved this reaction to be independent of the inoculations

The absorption tests showed

American suipestifer Serum		Lister Institute
Titre before Absorption	Titre after Absorption with Type H	Titre after Absorption with Type O
Type H 1 in 12 500 floc	Type H 1 in 250	Type H 1 in 12 500
Type O 1 in 800 gran	Type O negative	Type O negative

The motile bacillus absorbed a large proportion of the flagellar agglutinins from this serum, and the somatic antigen of this bacillus also removed the agglutinins for Type O Type O, being non-motile, could only remove the body agglutinins, leaving the flagellar agglutinins unreduced

Type O Rabbit Serum		
Titre before Absorption	Titre after Absorption with Type H	Titre after Absorption with Type O
Type O 1 in 2 500 gran	Type O 1 in 250	Type O negative
Type H 1 in 50 floc	Type H negative	Type H 1 in 50

When the flagellar antigen was removed from Type H by heating, it was also found that the somatic antigen of Type O showed slight absorptive preference for itself, but as this apparent preference may be due to various causes the subject is being further pursued

Both the types were innocuous to guinea-pigs on ingestion When injected subcutaneously the H type killed these animals, but the O type caused no evident ill effects Rabbits succumbed to alimentary administration of the H type, but the O type was harmless Filtrates of the motile bacillus were very fatal to rabbits, but had only slight effects on guinea-pigs

A small dose of washed motile bacilli was found which did not kill a guinea-pig when administered subcutaneously, but a similar dose of washed bacilli was lethal to another guinea-pig when the removed filtrate was again added to the micro-organisms No protection against living motile bacilli could be conferred on these animals by several inoculations of the filtrate

A short investigation was undertaken to gauge the value of complement fixation as a means of separating these types from each other and from the other closely allied members of this group Even with preliminary titration of the antigens this test was too lacking in specificity to be of any value for this purpose

Commentary

Here, then, is a food-poisoning micro-organism which shows two subtypes with morphological, cultural, biochemical, serological, and biological differences Some of these differences are more definitely fixed than others

The different reactions of the two types on trehalose are interesting, but as variations are well known in this group, especially with this substance, all that can be said is that for the time being the biochemical reactions of Type O are not identical with those of Type H It was formerly thought that the absence of fermentation in arabinose, inosite, dulcite, and trehalose separated the *suipestifer* from the paratyphoid B group, but Edwards and Rettger[1] have shown that this contention is not correct

The two types of antigen which produce flagellar and somatic agglutinins have been recognized for some time, Smith and Reagh[2] noted them twenty-six years ago The H antigen, associated with the flagella, is susceptible to heat The O antigen contained in the bodies of the bacteria is thermostable The types have been named according to the predominating antigen Their occurrence is not confined to the hog cholera bacillus Infection with O types of the typhoid-paratyphoid group may complicate bacteriological and serological diagnosis, and the ordinary two hours' incubation used for the macroscopic agglutination test may not reveal somatic agglutinins The reduced virulence of the O type may account for the mild symptoms of some of the patients, although it is difficult to understand how a patient could be affected with a single type when the two are associated

The existence of these variants encourages a belief in some degree of mutation, atavistic and involutional changes are always possible, and before any light can be thrown on this question a more stable classification of bacteria must be obtained At present it is difficult to draw the line between the artificial and the real distinctions that separate one so-called bacterial species from another

Conclusion

This paper describes some of the characteristics of a hog cholera bacillus which was responsible for an outbreak of food poisoning The outstanding features were the presence of two subtypes, and the high serological specificity of the cultures when the organisms were at first isolated

I desire to thank Dr *Schutze of the Lister Institute* for repeatedly supplying me with the American *suipestifer* serum My thanks are also due to Mr F W Duke, the chief laboratory assistant here, for his untiring assistance and patience during this investigation

References

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

TWO CASES OF INTESTINAL OBSTRUCTION

THE following two cases of intestinal obstruction are of interest owing to the similarity in the pathological condition and the very dissimilar effect produced by the same cause. The cases are also remarkable in view of the ages of the patients and the success which followed operative intervention.

CASE I

An unmarried woman aged 81 was seen by me on the morning of October 27th 1928. The history given was that for three days she had been vomiting with severe griping pain on the left side of the abdomen. The patient was collapsed the pulse rate being 160. The vomit had become faecal. Abdominal examination revealed an acute strangulated femoral hernia and a marked swelling on the left side of the abdomen showing dullness up to the level of the umbilicus. I persuaded the relatives to allow me to transfer the patient to a nursing home for operation. Under light oxygen and ether anæsthesia I relieved the strangulation and replaced the bowel without much difficulty. The patient made an uneventful recovery. Three weeks later I performed a laparotomy removing a large ovarian cyst at the same time. I repaired the femoral opening. The post-operative period was normal. The hernia was undoubtedly due to the pressure of the cyst. The patient is quite well now and able to perform her household duties. She has just returned from her seaside holiday.

CASE II

The second patient was a married woman aged 78 whom I was called to see on August 7th 1929. She gave a history of not having had her bowels opened for four days although enemas had been tried. She was vomiting and had intense pain and a sensation of fullness all over the abdomen. Her temperature was 100·2° F., the pulse 115. The abdomen was tympanitic and distended chiefly centrally over the right iliac region there was dullness. The patient informed me that for twenty years she had had a sense of fullness on the right side. I operated next morning and found that she had a right ovarian cyst held down in the pelvis by peritoneal bands. A loop of ileum had slipped in between two of these bands and become strangulated. The bowel was found to be quite viable when its strangulation had been reduced. I performed ovariotomy, the cyst was one of the largest I have ever removed. The patient made an uninterrupted recovery and has just returned from a holiday.

In the treatment of both cases I have been much indebted to the skilled assistance of my colleague Dr. C. M. Anderson.

R. C. CLEMENTS, M.D., D.P.H.,
F.R.C.S.Ed.

Manchester.

PERFORATION OF DUODENAL ULCER WHEN FLYING

THE case recorded below is peculiar for the following reasons: (*a*) the symptoms of perforation came on suddenly when the patient was at rest; (*b*) this is perhaps the first recorded case of any similar abdominal emergency when flying.

At Reykjavik on June 30th a corporal in the Royal Air Force aged 30 developed acute abdominal pain when at an altitude of about 2,000 feet in H.M. Flying Boat *Iris*. The machine was immediately brought to the water and medical assistance sought from H.M.S. *Rodney* to which ship the patient was transferred without delay. He gave a history of dyspepsia extending over several years, and his clinical condition was typical of perforation of an abdominal viscus. The immediate operation performed was suture of a perforation of the duodenum, and it presented no peculiarity worthy of note. Convalescence was uneventful.

F. TWIGG,
Surgeon Commander, R.N.

H.M.S. *Rodney*.

Reports of Societies.

TREATMENT OF CHRONIC INFECTIONS

AT a meeting of the Section of Therapeutics of the Royal Society of Medicine, on October 14th, Dr. PHILIP HAMILL took the chair and delivered his presidential address on the treatment of chronic infections. He said that it was now realized that low-grade infections with or without exacerbations were responsible for much ill health. It was difficult to diagnose the nature of these infections, since many organisms might be recovered from a lesion, and it was not easy to say which if any were to blame and which were secondary infecting agents. The aim of treatment was to render the site unsuitable for the growth of organisms, to remove toxins to attempt to apply preparations toxic to the organism but not to the body, and to raise the resistance of the patient.

As far as protozoal infections were concerned a high degree of therapeutic success had been obtained by the use of arsenic, antimony, bismuth, and benzidine derivatives. He would be interested to know how much he malaria treatment of general paralysis of the insane depended on the rise of temperature produced. Recently good results had been reported from a rise of temperature induced by diathermy; if these were substantiated this form of treatment was likely to prove highly valuable. An analogous use of diathermy was found in the treatment of gonococcal cervicitis, where it was possible to cause a local rise of temperature above the thermal death point of the organism without injury to the tissues of the patient. In the bacterial infections chemotherapy was of less value where the organisms were on the surface or in cavities communicating with the surface. Powerful antiseptics were apt to damage the tissues, and in any case it was difficult to secure the prolonged and intimate contact between the drug and the organism which was essential for success. In addition, many antiseptics were inactivated by serum or discharges, flavine was an exception, but for some reason its use had decreased of late years. The chief objection seemed to be the staining of the tissues, which made it unpopular with patients, but cosmetic disadvantages should not be allowed to outweigh therapeutic advantages. In some situations the question of time could be solved by the application of ointments and plasters, and in other sites tampons could be used.

Dr. HAMILL explained that he would pass over infections of the eye and mouth because they had received so much attention in the past, in the nose and ear the difficulties of treatment were partly mechanical. It was not easy to obtain free drainage, and although the mastoid antrum could be obliterated this was not always possible with other cavities. Some surgeons advocated packing the nasal sinuses with silver protein preparations for an hour or more, but though good results were claimed by some others condemned the method as useless; probably the truth lay somewhere between these two extremes of opinion. Ionization with zinc was used fairly extensively in children's clinics but the technique was difficult to apply in the nose, although this method was becoming more extensively used there was no indication that it was being adopted as rapidly as would be the case if it were an infallible remedy. It would be interesting to know whether the action was thought to be on the organism, or whether the results depended on a stimulation of the epithelium. Ultra-violet light treatment had also been recommended for the nose and radium had been used as an epithelial stimulant. Chloramine was used by a few, and he would like to know whether there were objections to its use. In the lung much had been done to cure chronic infection by the use of surgical measures; collapse of the lung by pneumothorax or by phrenicotomy had been of great value in bronchiectasis. Essential oils, notably creosote had a marked effect in diminishing sputum though it was difficult to understand the mechanism by which it acted considering how small the amount of oil must be which was excreted by the bronchial mucosa. Infection of the biliary tract could be much improved by repeated doses of magnesium sulphate to induce drainage; discomfort was rapidly relieved by

this treatment, and cases were recorded of known typhoid carriers who had been rendered innocuous by this method alone Good results were reported following massive doses of hexamine, though it was difficult to see why this should be the case, since the bile was an alkaline medium In chronic colitis irrigation by innumerable substances, including silver nitrate and silver protein salts, had been attempted, but the results were not impressive In some cases good results had been obtained with injections of antidysenteric serum, and occasionally a case of ulcerative colitis would clear up rapidly after a blood transfusion Cases of amœbic dysentery were occasionally missed, but recovered when emetine treatment was begun Treatment of urethral infections was difficult because the organisms were in the crypts of the glands, massage was usually recommended to empty the glands, and good results were claimed from the injection of silver protemate into the urethra, other observers, however, denied the value of this method The use of diathermy for *gonococcal cervicitis* had already been mentioned, but unfortunately this treatment could not be employed for infections in the male Ultra-violet light from a titanium arc had been used, and it was claimed that the rays were sufficiently penetrating to destroy organisms through a considerable thickness of tissue, they might act, however by provoking a tissue reaction Intrauterine infections were difficult to treat by the direct application of any preparation, but drugs could be given to increase secretion, and infected endometrium could be removed by curettage

Drugs given by the mouth or by injection did not appear to be extremely valuable in chronic infections, some experts spoke well of *mercurochrome* and others found it unsatisfactory Creosote was an exception among drugs given by the mouth, and urinary antiseptics were valuable in some cases The stimulation of the tissues appeared to be a hopeful line of treatment, and ultra-violet light had been found to be of value in cases of varicose ulcer Modern methods of treatment of varicose veins should diminish the incidence of ulceration in the future Ergosterol ointment had been recommended for this condition, and it would be instructive to know what results had been obtained General methods included adequate nutrition and good medical care, vaccines had been *periodically blessed and damned with faint praise*, but they were certainly useful in some fields, patients with chronic bronchitis were often more comfortable after therapeutic inoculation, and elderly persons with chronic cystitis often benefited considerably from vaccines, though complete cure was rare there was generally a marked reduction in frequency of micturition, which was much appreciated by the patient Chronic colitis was maintained in many patients by a streptococcal infection, an improvement, sometimes rapid, followed the use of a vaccine in these cases Opinions were divided on the value of vaccines in genito-urinary infections Protein shock therapy had been popular a few years ago, but was now less commonly used, blood transfusion often had a remarkable effect in clearing up residual infections, especially in chronic colitis, where an infection of three or four years' standing might clear up in two or three weeks following a transfusion

In conclusion, Dr Hamill asked the opinion of the meeting on several points What antiseptics were of most value locally? What was the value of methods said to augment nutrition and general resistance, such as ultra-violet light and the use of ergosterol? What was the general opinion of the importance of vaccines, protein shock, and blood transfusion as therapeutic measures to combat chronic infection?

Dr W LANGDON BROWN said that recognition of the importance of focal sepsis was the discovery of the twentieth century, the usual routes by which chronic infection entered the body were the alimentary canal and the genito-urinary system Where it was possible to eliminate the focus, treatment was a success, otherwise it inevitably failed There must be a fallacy either of observation or technique when a drug was praised by one man and condemned by another Sir Thomas Horder had said not long ago that after twenty-five years of hard work he found that all he could do for a patient with ulcerative endocarditis was to treat him on the lines of the tuberculous patient—that was, to give him *rest and open-air treatment* and to attend to his nutrition, in other words, to improve his resistance as much as possible Many of the measures advocated for the treatment of chronic *infections depended* for their value on an improvement in the resistance of the patient, salvarsan acted more on the tissues of the patient than on the spirochæte, transfusion of blood was only another way of increasing resistance To turn to the question of ulcerative colitis, more than 50 per cent of patients with this condition had achlorhydria, and it might be said that the infection arose more from a weakness of defence than from the strength of the attack Many patients recovered if given hydrochloric acid regularly, it was a second discovery of the twentieth century that persons were disposed to suffer as a result of achlorhydria, a condition affecting 4 to 6 per cent of the total population Dr Langdon Brown agreed that hexamine *could improve chronic infections* of the gall bladder, though it was difficult to understand its *mode of action*, he quoted several cases in which hexamine had been given while the gall-bladder was being drained, and in which a colourless flow of bile, indicating reduction, had followed two hours after administration of the medicine, in a control case where alkalis alone were given, reduction had not taken place

RADIOLOGY ITS PROGRESS AND FUTURE

IN the Section of Electro-Therapeutics of the Royal Society of Medicine on October 17th, Professor J M WOODBURN MORRISON delivered the annual address from the chair

In a brief review of the progress of radiology and a forecast of its future, Professor Woodburn Morrison said that few branches of medicine had made greater progress during the last thirty years, and the debt to the pioneers who blazed the trail should not be forgotten In the matter of apparatus the radiologist was now furnished with machines of such power that only experts should use them Transformers working at 600 and 900 kilovolts had been made, together with tubes to stand up to them Two things he would still ask of the manufacturers first, that all apparatus should be shock-proof, and yet be *capable* of giving sufficient output for rapid work, secondly, that all x-ray films should be non-inflammable Possibly an entirely new substance to replace celluloid would have to be produced for use as a base, but in view of the other wonders of modern chemistry this was surely possible No one appreciated the efforts of the manufacturers and designers of modern electrotherapeutic and x ray apparatus more than himself The instruments were of such precision that almost any intelligent person could be taught to use them or supervise them in a few weeks Progress in treatment of many conditions by electrotherapeutic methods had been steady, and in the treatment of inflammatory conditions of the lungs by diathermy there had been definite advance The method was only in its infancy, and opened up a wide field to the research worker Treatment by ultra-violet radiation had passed through its boom period, and, although still suffering from the exaggerated claims made for it, it was now finding its place as a useful addition to established treatment in many cases With regard to a suggestion that physiotherapy should be added to the Section, Professor Morrison said that modern medicine was sometimes declared to be intolerant of innovations, this was only when the innovators set up absurd claims to be possessors of the whole truth, and, repudiating all authority, held out to those who trusted them extravagant and unwarranted expectations The practice of medicine could not be separated into watertight compartments One could never speak truly of any *method of practice* as being the only one Medicine was sufficiently catholic in its outlook to include its many and varied branches, and only those were excluded who by their own conduct shut themselves out With these reservations, it might be that there was no objection to the inclusion of physiotherapy in the Section There was no need to put forward extravagant claims for x rays in diagnosis The use of x rays was now

universal and it was even necessary sometimes to speak of its limitations The medical student was apt to rely too much on x ray examination, forgetting that it was only a part of an examination by physical means The term "x ray diagnosis" was objectionable Progress had been made in x ray treatment, which could now be carried out with safety to both operator and patient The blatant and exaggerated claims made on the introduction of the so-called 'deep therapy" into this country did a great deal of harm to radiology, inasmuch as they destroyed the confidence of the public but the public were soon enlightened and an enlightened public opinion was a very healthy corrective Good resulted, however, in the shape of improved apparatus and the method had now found its true place in the treatment not only of malignant disease but of many other conditions In malignant disease he thought that the existence of an x ray therapy department of a hospital could be justified by its failures If only the diseases as named were considered, the treatment must be set down a failure but it was different when the whole case was reviewed Inoperable and advanced cases of malignant disease were guided and cared for through a long and trying period and life was made easier and brighter for the patient and his friends The result might be called a failure but viewed in another light it was an outstanding success

Turning to radium therapy Professor Morison complained of much loose thinking and writing on the subject He appreciated the pioneer work of the radium institutes and research organizations, but he deprecated some recent books on the subject of radium and cancer which gave the impression that radium was a cancer cure A statement which was also made without sufficient basis was that cancer was increasing It was, of course, a true statement, in that the number of deaths from cancer was greater than formerly, but according to Dr Dunlop, Registrar-General for Scotland, when dealing with the recorded deaths from cancer in that country from 1911 to 1928, the fact that more people now lived until the age when cancer incidence became high accounted for three-fourths of the observed increase in the cancer death rate, and the remaining increase (except in mammary cancer) could be attributed to better recognition of the disease principally by histological and x ray examination Professor Morison thought that it was time to consider the question of making cancer a notifiable disease, so that more exact information might be forthcoming The Radium Commission certainly did not regard the question of cancer as one which was settled, and that all it had to do was to dole out radium to approved institutions, it was of opinion that careful inquiry and research were called for under the guidance of leaders of the medical profession At the present moment radium centres were springing up all over the country, and young medical men who had forgotten most of the physics they learnt during their first year in medicine, who had had no training in radiology and no sufficient experience in the surgical treatment of cancer to be in a position to give a considered opinion on the relative merits of the methods, were sent abroad to various clinics, and on returning were appointed radium officers to hospitals After reading an interesting letter by Dr Graham Bell, the inventor of the telephone, published in 1903, suggesting the introduction of radium tubes into the tissues, Professor Morison said that the trend of radium therapy in the great Continental centres was to avoid the direct introduction into the tissues of needles and tubes wherever possible, the line of advance being the development of the surface applicator One bright spot in radium treatment of cancer was in cancer of the cervix but it had to be admitted that radium therapy, so far as concerned cancer in general was still in the experimental stage All the time, in both radium and x-ray therapy, there was a call for more powerful weapons, but those weapons were dangerous and difficult to control The practice of radium therapy still required the co-operation of the surgeon, the physicist and the radiologist Radium therapy had not yet 'replaced the use of the knife in the treatment of cancer,' it might never do so, but it was a useful auxiliary capable of alleviating distressing symptoms and of prolonging life The whole subject was one for carefully directed inquiry and research, controlled by the faculties of medicine of the great universities

Speaking of the teaching of radiology Professor Morison referred to the granting of a diploma by three universities At the present day, when the medical curriculum was so overcrowded that there was hardly time given for the undergraduate to think of anything but examinations it was difficult to see how radiology could be satisfactorily included, but, as he had found in his own experience, a course in radiology was arranged students would attend voluntarily Finally Professor Morison touched on the status of the radiologist He looked forward to the day and thought it was coming soon, when every radiologist who had cases to treat would have charge of beds in a hospital For the benefit of the patient and for the true advancement of radiology this was a necessity It was only at the bedside that many things became plain and by accurate daily observation of cases under treatment that new facts were discovered leading to true advancement Opposition must be expected especially from those who dwelt in the backwaters of medicine On the other hand the leaders of the medical profession at all times welcomed advances in radiology and on many occasions had stretched forth a helping hand The old French proverb, *Tout vient a point a qui sait attendre*," should be translated 'Everything comes to him who knows how to wait" In waiting the radiologist must equip himself by undergoing the training and acquiring the experience necessary to fit him for his office, remembering that if the man did not dignify the office, the office would not dignify the man

Mr C THURSTAN HOLLAND, in proposing a vote of thanks, remarked on the fact that Professor Woodburn Morison had been appointed the first professor of radiology in this country This chair in the University of London would give radiology in this country a status which it had never enjoyed before

"SANCTA SIMPLICITAS"

At a meeting of the Sheffield Medico-Chirurgical Society held at the University on October 8th, the president, Professor GRAHAM SIMPSON, delivered his inaugural address

The president after welcoming Professor Arthur Hall on his return from South Africa and congratulating him on the honour paid him by the Government in sending him as its representative to the Silicosis Conference, said that he had chosen the title of this address from an anecdote in the works of his favourite author In one of the volumes of Ernest Renan, it is related that John Hus when he was led out to be burnt at the stake noticed in the procession an old lady quite bowed down by a large faggot he expressed neither surprise nor resentment, but merely exclaimed "O sancta simplicitas" The speaker then developed his thesis, which was to the effect that all, or nearly all progress consisted in the application of this holy simplicity to the problems of life in this way they were rendered plain or uncomplicated, therefore easy to understand, and so easy to remember He illustrated this by examples of embryology throwing light on the problems of surgery and pathology, and took as instances the thyroglossal duct the developmental rotation of the primitive gut and certain aspects of the development of the eye His experience in examining had taught him that one of the defects in modern medical education was the insufficient groundwork of anatomy and embryology he compared the flooding of the student's mind with the details of innumerable diseases when the groundwork was unsound to the unsatisfactory task of trying to stand a pyramid on its apex.

Professor Graham Simpson next turned to modern improvements in diagnosis and suggested that from a medical point of view the first thirty years of this century might be named 'the age of the scopes' or the era of extended vision' He showed the great simplification brought about by the use in diagnosis of the oesophagoscope, of the bronchoscope, and of the cystoscope and illustrated the brilliant success of the last by an account of two cases of

papillomata situated at the neck of the bladder The discovery and the ever-extending use of the x rays were, he thought, a striking example of such simplification, he mentioned the case of a sinus in the temporal region which by this means was traced to the presence of an uncrupted wisdom tooth He considered that the same principle held good in the domain of treatment, and criticized the present "ritual" of surgical operations, he thought that, fifty years hence, their successors in surgery might look on much of the elaborate ceremonial of the operating theatre as indeed "ritualistic" and smile, perhaps indulgently, as surgeons did to-day when thinking of the era of the carbolic spray Of the treatment of fractures he asserted that, with one exception, the desired simplicity had certainly not been attained, this exception was the treatment of fractures near joints by acute flexion This method came within his definition of simplicity, for all that was needed was an anaesthetic, some wool, a bandage, the x rays, and some common sense, unfortunately, the absence of the last constituent had led to some lamentable catastrophes Professor Graham Simpson concluded his address by an attempt to apply this principle to some of the problems of ordinary life, and pointed out that our conception of the universe was becoming simplified, that the modern physicist's conception of the infinitely little, the atom, bore a striking resemblance to the astronomer's conception of the infinitely great

Professor ARTHUR HALL proposed a vote of thanks to the president for his address, and this was seconded by Emeritus Professor A M CONNELL

MESCAL ADDICTION

AT a meeting of the Society for the Study of Inebriety on October 14th, with Mr McAdam Eccles in the chair, a paper was read by Dr MACDONALD CRITCHLEY, junior neurologist of King's College Hospital, on mescal addiction

Dr Critchley said that during the last two or three years the police authorities of Paris and elsewhere had been perturbed by the increasing use, by certain already decadent drug addicts, of the alkaloid mescaline sulphate Mescal, or peyotl, was neither a euphoric nor an exhilarant, but it possessed in unequalled measure the property of causing hallucinations and evoking the most amazing kaleidoscopic visions The plant from which the drug was derived was a cactus, named by botanists *Anhalonium lewinii*, indigenous to the deserts of Central America, and in appearance like a small radish The dried flowering tops of this plant were used for what were known as "mescal buttons" Mescal or peyotl addiction had been known for centuries among the Mexican Indians, and for its origin one might search back into the history of the Inca civilization Terms such as the "flesh of God," the "devil's root," and the "sacred mushroom of the Aztecs" had been applied to this cactus, and to-day it was largely used ceremonially by certain Indian tribes The present knowledge of its chemistry dated from 1896, when four alkaloids were extracted from the plant, of which mescal was the most important Its pharmacological properties on animals were investigated in 1898, when it was stated that in small doses it slowed the heart rate and increased the blood pressure, and in larger amounts poisoned the respiratory centre

The chief effect of the drug on man, said Dr Critchley, was in the visual or psycho-visual sphere, and mescal intoxication showed itself in a state of prolonged visual hallucinosis, accompanied by vertigo, headache, nausea, confusion of thought, and profound disorientation, particularly with regard to time Dr Critchley described certain experiments with the drug which he and a medical friend had carried out upon themselves Some of the visual phenomena began about twenty-five minutes after 0·2 gram of mescaline sulphate had been ingested The hallucinatory images were at first simple in pattern and colour, and only visible when the eyes were closed Later they became more complicated, and no longer comprised simple geometrical designs as at first, but took a three-dimensional form, and were most brilliantly illuminated and coloured The hallucinations now became apparent with the eyes open, though never to the same extent as when the eyes were closed This bewildering state reached its maximum in ninety minutes, and persisted at this level for several hours He quoted notes which had been written by one of the experimenters, dictated during the actual seance One note read as follows

"A particularly picturesque scene, an old fashioned single-span bridge, across the upper reaches of a river, large stones by the side of the stream, and a narrow navigable channel in the middle Now there is a sort of 'close up' of the bridge which is of the old fashioned type, composed of large blocks of stone A pillar has appeared in the centre, and transformed it into a double span bridge The water now dries up, and a rocky bed becomes visible, and is gradually transformed into a stone road in a moorland scene, and still later into a meadow with buttercups and daisies, at length changing into a bandstand in a park, with chairs, each of which is whizzing round rapidly on its own axis"

An analysis of the hallucinations showed that certain forms constantly recurred, chiefly spirals, cones, lattice-work, carpet-like patterns, and so forth The visions were always brightly coloured, no one tint predominated The frequent incompleteness of the visions was remarked The contour of a figure would be almost complete, but not quite, a pattern would lack a certain element which was just, but only just, outside the field of view The emotional content of the hallucinations was expressed as amazement, interest, and delight A change in the appearance of external objects frequently occurred Newspapers and carpets looked like relief maps Stationary objects appeared to move, and regularly moving objects appeared to move jerkily The faculties of smell, taste, and hearing might be enhanced or perverted There was a description of this intoxication in the late D H Lawrence's story *The Woman Who Rode Away*, from which he quoted the following description

"So distinctly she heard the yapping of tiny dogs, the shuffle of far-off feet, the murmur of voices so keenly she detected the smell of smoke, and flowers, and evening falling, so vividly she saw the one bright star infinitely remote, stirring above the sunset, that she felt as if all her senses were diffused on the air, that she could distinguish the sound of evening flowers unfolding, and the actual crystal sound of the heavens, as the vast belts of the world atmosphere slid past one another, and as if the moisture ascending and the moisture descending in the air resounded like some harp in the cosmos"

The after-effects of the drug consisted of insomnia, vertigo, and headache The scope of mescaline in the field of therapeutics was almost unexplored The Indians used the plant for every kind of ailment, and there had been attempts to introduce it into the American *Pharmacopoeia* It had been suggested as likely to be useful in asthma, neuralgia, rheumatism, and neurasthenia There was, however, no certain knowledge as to its therapeutic properties *In the treatment of blindness* in tabes one observer had noted a temporary increase in visual acuity

In reply to a remark by the CHAIRMAN, Dr Critchley agreed that probably there was nothing fresh in the hallucinations—nothing that was not already in the subconscious mind of the individual In reply to other questions, he said that the use of mescal was not widespread, because it was extraordinarily expensive and very difficult to obtain Some individuals after taking mescal had no hallucinations He did not know that mescal addiction existed alone, but some of those who were already addicts of other drugs took mescal, as it were, in their stride It was not dangerous to life, but among observers of the Indians there was a general opinion that it was harmful physically, mentally, and especially economically, for the ceremonial debauches occurred commonly during harvest, and made the individual unfit for labour

On the CHAIRMAN inquiring whether anyone in the audience had had any experience of mescal, a lady volunteered the statement that she had taken it for three days, she did not know what amount was given her, for it was given in the form of pills, of which she had two on the first day, four on the second, and eight on the third She had no hallucinations, but she felt "gloriously happy" She was happier on the second day than on the first, and on the third day "everything was so funny that I roared with laughter the whole day long"

Reviews.

SURGICAL PATHOLOGY

Bowlby's Surgical Pathology, as it is now called, has reached its eighth edition.[1] Books on surgical pathology are not plentiful, so that the student is restricted in the choice of a textbook, but Bowlby's work has always been regarded as one of the best that a student could choose as an introduction to the subject. It was one of the first books on surgical pathology, the first edition having appeared in 1887 and it was written with the definite object of helping the students of St. Bartholomew's Hospital in the earlier stages of their work. It was at once appreciated and used, and embodying, as it does now, an experience of more than forty years, it requires no further recommendation. Its plan, as described in the preface to the original edition is excellent: "I have dealt first with the diseases as they are met with during life, and have then described their natural courses and terminations, and the morbid appearances presented by the structures involved. The nomenclature and classification adopted are simple and free from complication, and the general exposition is such as those who had the privilege of Sir Anthony Bowlby's acquaintance would be led to anticipate: clear, straightforward statement in as few words as suffice; an avoidance of doubtful and fanciful theories and of forced explanations; a leaning towards the useful and practical; and a sound and accurate prose style." Mr. GEOFFREY KEYNES, who has undertaken the preparation of the present edition, has made no essential change in the character of the work, minor alterations have been made in order to bring the work up to date, and a chapter, written by Mr. K. Paterson Ross, has been added on tumours of the brain and spinal cord, but very little of the original matter has been eliminated. The book will appeal with especial force to the students of St. Bartholomew's Hospital on grounds of personal respect and affection, but doubtless its solid qualities will ensure for it a continuance of appreciation and popularity in a wider circle.

LERICHE AND POLICARD'S Surgical Pathological Physiology[2] is written from a special standpoint, as explained at length in their preface. It is an essay rather than a textbook and is intended, not for beginners but for those already familiar with the subjects with which it deals—namely, inflammations, wounds, grafts and the diseases of bones, joints, vessels, and nerves. Its object is to encourage an attitude which is regarded by the authors as indispensable for further progress in surgery. The clinical and technical phases, they hold, are closed—we have merely to follow the teaching of our predecessors in those matters, the study of mechanisms is that which is proper to our epoch. We should henceforward regard disease and the operation that it may call for as an experiment which nature affords, the physiological consequences of which may be submitted to investigation. The method thus indicated has been followed by the authors as years and the object of their book is to illustrate its application in connexion with the diseases mentioned. Although the latter are of diverse nature a general principle connects the several chapters—namely, that the laws of tissue life govern the mechanisms of the pathological states of the tissues. These laws regard the interests of the tissues only, not those of the individual or to the latter they may be useful or harmful and it is a mistake to associate tissue function with the notion of intention. The authors consider that such expressions as "reactions of defence" and "reparative products" are not justifiable, since the tissues follow their own physiological law whether beneficial to the individual or not. Among the many interesting examples which the authors give of the application of this principle their analysis of the course of events occurring in Volkmann's ischaemic contraction may be mentioned in illustration. In this condition it is well known that a localized necrosis of the upper fibres of the flexor muscles of the digits occurs as the result of an arterial lesion. The necrosis, in itself comparatively unimportant, is followed by a progressive fibrosis of the affected area, which is seriously disabling. Investigation appears to show that the fibrosis depends on a chronic congestion within the area, exaggerated by the enclosing aponeurosis, as proved by the amelioration which follows wide incision of the latter. The root of the mischief, however, is found to lie in a vasomotor reflex originating in the arterial lesion, if this reflex is eliminated by removal of the lesion (practically a sympathectomy) the fibrosis will be arrested, and, if not of too long standing, will retrocede and no disability remain except that due to the original necrosis. A case in point is mentioned in which a typical Volkmann contracture following a fracture with rupture of the brachial artery was almost completely removed by excision of the arterial stump six months after the injury. The book is interesting from beginning to end.

FUNDAMENTALS OF DIAGNOSIS

To readers who enjoy the discussion of fundamental principles and recognize the possible slavery which words, unresisted, may inflict upon our minds, we can commend Dr. F. C. CROOKSHANK'S small volume *Individual Diagnosis*.[3] To read that there is an essential difference between the ambition to cure *disease* and the ambition to cure *diseases* may to the passer by seem to be a hair-splitting business. Yet it is the proposition which Dr. Crookshank's pages are directed to sustain, and the claim is made that on the recognition of it rests not only a right attitude towards medicine in general, but also a wise direction of therapeutic activities.

At the basis of the discussion is to be found the familiar word "diagnosis," and the consideration of this term leads into important pathways. Thus, included in the elementary instruction given to the future practitioner of medicine is the engaging maxim that diagnosis must necessarily precede treatment. Equally the pupil is urged to remember that when the time for treatment has arrived it is the patient, and not the patient's disease, that must be the object of his therapeutic activities. Clearly, then, an understanding of what is meant by "diagnosis," is of the first moment. Does the word mean a knowledge of the patient as an individual, or merely an identification of the pathological disturbance of which, apparently, the patient is the victim? If the latter, how can diagnosis equip the practitioner to treat the patient? Yet it is largely in this restricted sense that the word appears in medical textbooks and lectures—that is, it is taken to mean in substance the detection of a pathological condition or disease which the patient has "got," and which itself exists somewhere in a typical form, though often lamentably atypical on the mundane level. The contrasted definition is that diagnosis implies a thorough knowledge of the individual patient alike on the negative and on the positive side. Hence, given accurate observation a diagnosis is never wrong, though an opinion founded on the diagnosis may be wrong. And this to some will be a hard saying.

What we write here is only a rough illustration of the discussions which are included in Dr. Crookshank's chapter entitled "Diagnosis and the Syndrome," while in the second chapter, named "Organ-Jargon," the claim for thorough knowledge of the patient is carried from the physical to the psychological level. The argument is no mere verbal dexterity, but is directly related to practical ends, and the study of it is a bracing intellectual experience. It pretends to go, and does go, to the root of things. Perhaps here and there the allusions are somewhat subtle but judged on the literary and the book has a decided air of distinction. Dr. Crookshank has had some influential predecessors but the doctrine they have preached has never been a popular one; all the more reason that the text should be repeated in an age which is a rather hurried one for the philosopher.

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[1] *Bowlby and Andrewes' Surgical Pathology and Morbid Anatomy*. Eighth edition, revised by Geoffrey Keynes. M.A., M.D., F.R.C.S. London: J. and A. Churchill. 1930. (6½ × 9½; pp. x + 622; 223 figures; 21s. net.)

[2] *Physiologie Pathologique Chirurgicale*. Par R. Leriche et A. Policard. Paris: Masson et Cie. 1930. (6½ × 9½; pp. 212; Fr. 25.)

[3] *Individual Diagnosis*. By F. C. Crookshank, M.D., F.R.C.P. Psyche Miniatures, Medical Series, No. 13. London: Kegan Paul, Trench, Trübner and Co., Ltd. 1930. (Pott 8vo; pp. 82; 2 diagrams; 2s. 6d. net.)

DISEASES OF THE NOSE AND THROAT

THERE is a vast amount of work in diseases of the nose and throat carried out as a routine in out-patient departments and by general practitioners For this work the faculty of rapid and accurate diagnosis, and the ready application of appropriate treatment, have to be acquired The *Manual of Diseases of the Nose and Throat*,[4] by Dr CORNELIUS COAKLEY, can be recommended as a reliable guide for this kind of work It has stood the test of time and has achieved a seventh edition, which in itself is a sufficient testimony to its worth Care has been taken to provide a full description of medical treatment and of the various minor operations All the operations on the nose and accessory sinuses are described in a lucid fashion There is, however, still some matter which might be *eliminated to make room for the new* Chronic subglottic laryngitis is a conspicuous example of a diagnosis which has had its day and should be omitted, for it is a diagnosis only, and corresponds to no actual pathological condition The bulk of the book might be reduced by a strict revision of this kind, but it is a safe guide for house-surgeons and clinical assistants beginning work in a special department, for it provides fully just the information required

DEVELOPMENT OF THE CHILD

THE fifth edition of Professor KARL BUHLER'S book, *The Mental Development of the Child*,[5] has been translated from the German by Oscar Oeser The earlier sections deal with the differentiation of instinct, training, and intellect, and with the stages at which the developing human infant begins to show its mental superiority to the higher animals In later chapters the development of language, of the perceptions of time and space, size, shape, and number, is discussed, and in an extraordinarily interesting section the psychological importance of fairy tales is analysed The development of drawing as a means of expression, the evolution of thought and judgement, and the beginnings of social behaviour form the matter of the final chapters The subject is a fascinating one, and receives an added interest from the suggestions thrown out by Professor Buhler that it has an important bearing on the developmental history of the human race He points out that our observations of young children are still incomplete, and offers many illuminating suggestions for further lines of research The book is intended for students and teachers, and is a summary of a larger work, it is admirably written and translated, and covers in detail the gradual emergence of the child from the animal state to human consciousness Throughout it is illustrated with concrete examples, of which the significance is always discussed fully and impartially, and it should form a valuable scientific background for those undertaking the study of child psychology

Child Adjustment in Relation to Growth and Development,[6] by ANNIE DOLMAN INSKEEP, though rich in interesting material, is perhaps discursive rather than exhaustive The book is an elaboration of a series of lectures, and the slightly colloquial style makes agreeable reading Mrs Inskeep has had a wide experience of young children, both at home and in the class-room, and her book is intended for the use of school teachers and officers, parents, and social workers who come into contact with children The early part of the book is concerned largely with the physical development of the child in height and weight, musculature, and co-ordination, especially in relation to right- and left-handedness The importance of age as a variable anatomical and physiological factor is discussed, and the teeth, the development of the brain, the eye, and the ear are each the subject of a separate section In writing of the eye Mrs Inskeep emphasizes the immature development at the time of the first attendance of the child at school, a point which is too often overlooked The adjustment of the home and school to the physical growth of the child and the development of the mind and the measurement of intelligence by various types of test are dealt with at length, and the three final chapters cover adjustment during the pre-adolescent and adolescent periods, the emotional health of the child, and mental hygiene in the school A brief appendix gives some tabloid information on the behaviourist theory, the Gestalt-theorie, Freud, Jung, and Adler, and psycho-analysis The book embodies much excellent material in the shape of observation and experience, *but the continual appeal to tests of* one sort or another is likely to receive less enthusiastic support from the English than from the more energetic and perhaps more ingenuous American mind At all events the grave suggestion that the inherent emotional trends of young children should be tested by an analysis of respiratory and blood pressure changes recalls Chesterton's story of the man mistakenly interrogated on the charge of being his own murderer, at the mention of his own name his pulse record, not unnaturally, showed a violent leap Confronted with the infinite number of variable factors which constitute a human being this desire for wholesale standardization may as yet stand abashed

GONORRHOEA IN THE MALE

THE success of the first edition of Dr A L WOLBARST'S *Gonococcal Infection in the Male*,[7] which was noticed in our columns on January 21st, 1928, has resulted in the appearance of a second This is far from being a reprint, since it contains new matter, important changes in many of the chapters, and the addition of numerous new illustrations The fact that the author regards gonorrhoea as a constitutional rather than as a local disease gives a special importance to the section dealing with constitutional therapy In the previous edition a special chapter was contributed on chemotherapy by Mr J E R McDonagh, but in the new edition its salient points have been incorporated in the rest of the work

In considering posterior infections, Dr Wolbarst draws attention to the necessity of arriving at a precise diagnosis by means of posterior urethroscopy, and as an assistance to the reader he has reproduced numerous plates of posterior lesions affecting the verumontanum and the orifices of the ejaculatory and prostatic ducts. These plates have been prepared by photographing wax models made by the author himself It has long been said that the verumontanum is a mirror which reflects the condition of the seminal vesicles, and Dr Wolbarst's atlas of pathological changes that may be noted in its appearance will be of great use to those who are not expert in the use of the posterior urethroscope In speaking of the treatment of chronic vesiculitis, the author considers that Belfield's operation is one of the most valuable therapeutic measures at our disposal He endorses Belfield's view that at least 80 per cent of cases can be cured by this means It is difficult to understand how such discrepancies should exist in the opinions expressed by different authorities on this subject The technique of the operation is so simple that disappointing results cannot be explained by a failure on *the part* of the surgeon to carry out the operation in the correct manner But in spite of any hesitation the reader may feel in accepting the author's optimism on this point, it is an advantage rather than a disadvantage that a writer on gonorrhoea should adopt an optimistic rather than a pessimistic attitude towards his subject

The mental effect of perusing *Gonococcal Infection in the Male* is to stimulate one to approach this somewhat disheartening disease with a new optimism It is essentially a tonic to the jaded venereologist

[4] *A Manual of Diseases of the Nose and Throat.* By Cornelius G Coakley, M D, F A C S Seventh edition, revised and enlarged London J and A. Churchill. 1930. (5½ × 8½, pp x + 672 153 figures, 7 plates. 18s.)

[5] *The Mental Development of the Child* By Karl Bühler The International Library of Psychology, Philosophy, and Scientific Method London Kegan Paul Trench Trubner and Co, Ltd New York Harcourt, Brace and Co 1930 (Demy 8vo, pp xi + 170 11 figures 3 plates 8s 6d. net.)

[6] *Child Adjustment in Relation to Growth and Development.* By Annie Dolman Inskeep, Ph.D New York and London D Appleton and Co 1930. (5 × 8¼, pp xiv + 427 26 figures. 10s 6d. net.)

[7] *Gonococcal Infection in the Male* By Abr L. Wolbarst, M.D Second edition, completely revised and enlarged London H. Kimpton. 1930 (6 9½, pp 297, 135 figures, 7 plates. 25s. net.)

NOTES ON BOOKS

We welcome the eighth edition of SAVILL's *System of Clinical Medicine*,[1] which has appeared within five years of the last (see *Journal* 1925 ii 1131). The present edition, like its five predecessors published since Dr Thomas Savill's death has been edited by his widow Dr Agnes Savill, assisted by a number of specialists. The chapters on diseases of the lungs and liver have been revised as well as the sections on the pancreas, mental disease, urinary examinations, clinical bacteriology and serum therapy, and much of the chapters on debility and the nervous system has been rewritten. The completely new matter includes, among many other subjects, coronary thrombosis, quinidine treatment, insulin coma, liver therapy, malarial treatment of general paralysis, Schilder's disease, pyknolepsy, methods of localization of cerebral and spinal tumours, and some rare skin diseases. As in the last edition the chapters on diseases of the heart have been revised by Dr Strickland Goodall, diseases of the lungs by Dr Reginald Hilton, diseases of the stomach and liver by Dr S. W. Patterson, tropical diseases by Dr Byam, fevers by Dr J. D. Rolleston, diseases of women by Professor Louise McIlroy, diseases of the nose and throat by Mr Philip Franklin, and diseases of the ear by Sir James Dundas-Grant. As the result of exclusion of obsolete matter the work, in spite of so much new material, has been enlarged by only twelve pages. The editor and her collaborators are to be congratulated on having brought the present edition of this deservedly popular work well up to date.

A book on massage by two directors of physiotherapeutics is not likely to minimize the importance of the subject. The small book on Massage and Re-education,[2] by Drs DUREY and MEUPE is a case in point. It includes most that it is necessary to say on the subject and even goes beyond it in the prescription and description of uterine massage.

The seventh edition of *Lippincott's Quick Reference Book for Medicine and Surgery*,[3] which appears just two years after the last, has been revised throughout. The articles on appendicitis, hay fever, nephritis, and eye diseases have been rewritten, and numerous other additions have been made to bring the work up to date.

The *Abstracts of Dissertations Approved for the Ph.D. M.Sc. and M.Litt. Degrees in the University of Cambridge for the Academical Year 1928–1929*[4] consist of brief synopses of studies in agriculture, botany, geology, zoology, biochemistry, physiology, mathematics, chemistry, and physics, besides history, literature and economics. Among the theses of interest to the medical profession are "Dynamic changes occurring in man at work" and "A paper on a peculiar carbohydrate metabolism which discusses the results obtained from a study of the action of insulin *in vitro*, the nature of blood sugar, and the relationship between lactic acid and carbohydrate in the mammalian liver."

Lipreading[5] by IRENE R. EWING reminds us of how much has been done in recent times for the relief of the deaf mute. The author who has taught lipreading for over twenty years emphasizes its importance as a method of communication and the unflagging attention necessary to establish it. She explains in the first part that lipreading is of psychological as well as of practical value to the deaf adult, dissolving with new hope the introspective melancholy and isolation of his state, and demanding concentration from his slackening mental activities. The partially deaf find that it helps out their hearing and conserves the distinctness of their speech. Quick wits rather than analytic intelligence are needed for acquisition of the art. But progress comes only by constant application to different types of speech. The second part contains hints for friends of the deaf and for students of lipreading. Teachers are advised to study the temperament and mental aptitudes of their pupil. Mirror practice, repetition aloud of words understood, and practice papers are all helpful. The third part deals sympathetically with those children who, born deaf, are cut off from the conception of words. Mrs. Ewing holds that the first efforts at lipreading must be directed towards the development of a watching attitude, and that the words chosen should refer to objects and actions in which the child is really interested; even if the plan of the teacher's lesson is thereby disturbed. She deprecates finger spelling as a deterrent to the regular exercises of lipreading. One feels that in the initial phases of this difficult work the teacher must develop a power of attention so acute as to approach suggestion. *Hear with your Eyes*[12] by M. E. GOOD, is an interesting but entirely technical study on the memorizing of sounds from face forms. Vowels, consonants, and syllables are minutely described in their muscular effects; expressive illustrations and exercises being supplied for elucidation.

If *Lascar Hindustani for Ship-Surgeons*[14] by Dr S. CHALMERS PARRY turns out to be more helpful to those who already have some knowledge of the language than to novices it will be no fault of the author's; this is a defect common to all phrase books, and there seems no getting round it. The questions from doctor to patient have been thought out with great care and as long as the patient answers them as he is intended to answer them, with a "Yes" or a "No," difficulty is not likely to arise. The real trouble is that he may start talking. Lascar Hindustani back to the doctor. If we may make one suggestion for improving this excellent little manual it is that in the next edition the author should include a brief account of the phonetic principles he has adopted and a key to pronunciation.

[1] *A System of Clinical Medicine*. By Thomas Dixon Savill, M.D. Lond. Eighth edition. London: E. Arnold and Co. 1930. (8½ × 9; pp. xxviii + 1019; 167 figures, 2 plates. 28s. net.)

[2] *Massage et Rééducation*. Par Dr. Durey et Dr. L. Meuriot. Paris: Gauthier-Villars et Cie. 1930. (5½ × 8; pp. xi + 65; 19 figs. 15 fr.)

[3] *Lippincott's Quick Reference Book for Medicine and Surgery*. By George E. Rehberger, M.D. Seventh edition, revised. London: Lippincott Company. 1930. (Sup. roy. 8vo; illustrated; 655 pp. net.)

[4] *Abstracts of Dissertations Approved for the Ph.D., M.Sc. and M.Litt. Degrees in the University of Cambridge for the Academical Year 1928–29*. London: Cambridge University Press. 1930. (8½ × 5½; pp. 95.)

[5] *Lipreading*. By Irene R. Ewing. With an introduction by Sir Henry J. Wood, D.Sc., F.R.S. Manchester: University Press. 1930. (Cr. 8vo; 1p. 13 × 7½. 2s. 6d. net.)

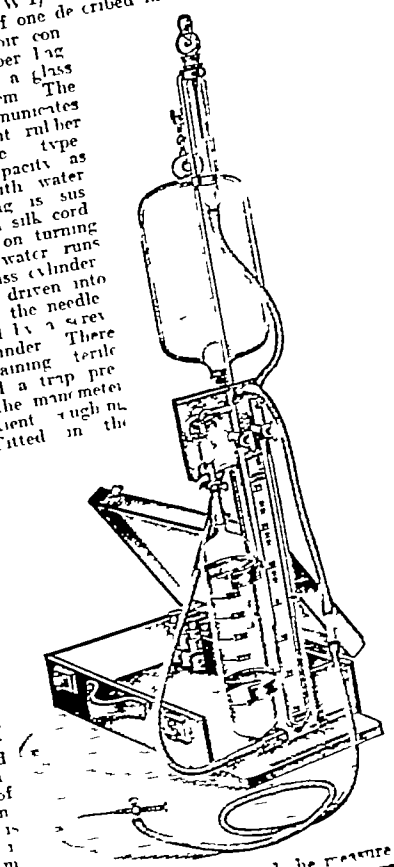
[12] *Hear with Your Eyes*. By M. E. Good. London: Methuen and Co. Ltd. 1930. (Cr. 8vo; pp. viii + 139; illustrated. 2s. 6d. net.)

[14] *Lascar Hindustani for Ship-Surgeons*. By S. Chalmers Parry, M.A. Cantab. London: W. J. Clark and Co. 1930. (2s. 6d.)

PREPARATIONS AND APPLIANCES

A PNEUMOTHORAX APPARATUS

DR. GEOFFREY MARSHALL (London, W.1) writes: The apparatus here illustrated is a modification of one described in 1921. In my former model the air reservoir consisted of a collapsible india-rubber bag. This has now been replaced by a glass cylinder graduated up to 600 c.cm. The lower end of this cylinder communicates by flexible tubing with a stout rubber bag of the hot-water bottle type. This bag is of the same capacity as the cylinder, and is filled with water. When ready for use the bag is suspended by means of a knotted silk cord as shown in the figure, and on turning the glass two-way tap the water runs into the lower end of the glass cylinder displacing the air which is driven into the flexible tube attached to the needle. The rate of flow is governed by a screw clip at the top of the cylinder. There are three glass bulbs containing sterile wool to filter the air, and a trap prevents loss of water from the manometer in the event of the patient coughing during the operation. Fitted in the case are four bottles of novocain iodine solution, etc., also room for pneumothorax needles and syringe, for injecting the local anæsthetic. The manometer registers intrapleural pressure or pressure at which the gas is being injected, according to the position of the two-way tap. The apparatus can be used for both injection and withdrawal of measured quantities of gas and its advantages are that it is easy to handle, is light and compact and it can be carried in any position. The weight of the apparatus is 7¾ lb. and the measurements of the case are 19¼ × 9 × 4½ in. It is made by Messrs Down Bros., Ltd., St. Thomas's Street, S.E.



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VACCINATION WITH BCG

Now that the congresses of Paris, Oslo, and London are over, it may be worth while to review briefly some of the more important observations made on the B C G strain, which came up for discussion both in and out of session. In doing so we shall omit all reference to the Lubeck disaster, the official inquiry into which is still proceeding. The facts at present available are confused and somewhat contradictory, and we do not wish by putting forward premature explanations, to prejudice the issue in any way.

In the absence of reliable statistical data on the effect of B C G vaccination of human beings, many workers have devoted their attention to a more careful study of the strain itself. It will be remembered that Petroff[1] succeeded in demonstrating in the B C G strain two different types of colony: one which he called the R type, was avirulent on subcutaneous injection into guinea-pigs, while the other, which he called the S type, and which was present in far smaller numbers, was stated to be capable of giving rise to generalized tuberculosis. Careful study of Petroff's protocols renders it doubtful how far his conclusions on the virulence of the S type are justifiable. After subcutaneous inoculation of guinea-pigs with about 1 to 3 mg. (moist weight) of bacilli, death was not invariable, nor were the lesions at necropsy always severe and extensive. As for rabbits, intravenous inoculation of even large doses, 15 to 30 mg., was often borne quite well, and in the few rabbits that did succumb, the lesions were confined to the lungs and kidneys. As is well known, very similar results may be obtained by the use of dead bacilli, which, though naturally unable to set up infection, are nevertheless capable of giving rise to tubercle formation. It seems quite clear that the virulence of the S type was definitely below that of a standard bovine strain. The employment by Petroff of relatively large doses may explain why some workers, notably Gerlach,[2] have *failed to confirm* his findings on the virulence of the S type, even when using his own cultures.

If these results stood alone, it would be unwise to lay too much stress upon them. But during the last two years several workers have either confirmed certain of Petroff's results, or have brought corroborative evidence to indicate that his main contention regarding the essential heterogeneity of bacillary type in the B C G strain is correct. Not only has the existence of two colonial forms been demonstrated in numerous laboratories, but the conversion of the practically avirulent whole culture into a highly virulent culture has been accomplished both by passage through guinea-pigs and by certain *in vitro* procedures. These results, most of which are still unpublished, leave no doubt that the virulence of the B C G strain is capable under suitable conditions of being exalted. They are all the more convincing because of the close agreement which they present with observations made of late years on other micro-organisms, such as the pneumococcus, the streptococcus, the fowl-cholera bacillus, and *B. aertrycke*. Generally speaking, when a strain of one of these organisms, as the result of repeated subculture in the laboratory, loses its virulence, it is found that the initial, virulent, smooth bacteria have been replaced by avirulent rough bacteria. During the actual process of transformation, the evidence suggests that the rough organisms make their appearance, and gradually increase till they eventually replace the smooth organisms more or less completely. So long as a certain proportion of the smooth type remains, the whole culture may prove virulent, but once this proportion has dropped below a certain level, its virulence falls. Provided the replacement has not gone too far, it is often possible by suitable means, such as animal passage, to restore *the full virulence to a culture that has become almost avirulent*. This restoration seems to depend on an increase in the proportion of the smooth to the rough *organisms in the culture*.

The analogy which the B C G strain presents with attenuated strains of such other organisms as have been mentioned is a very striking one. There is general agreement that this strain, though highly attenuated, is not completely devoid of virulence. Petroff's demonstration that it contains two types of bacilli, one avirulent and the other possessed of at least a certain degree of virulence, together with the findings of Watson and others that its virulence can be restored by animal passage, affords sufficient proof of the incorrectness of Calmette's contention that its virulence is fixedly and permanently attenuated. If this conclusion is accepted, it follows that the administration of this vaccine to human beings is fraught with some degree of hazard. It is true that B C G has so far been used to vaccinate something like 400,000 infants without any apparent deleterious effect, but the fact remains that the danger of its reversion to a more virulent type, particularly under altered conditions of cultivation, cannot be regarded as insignificant. Its use in practice is therefore a question of expediency. In the face of such a widespread disease as tuberculosis many authorities consider it justifiable to incur the necessary risk, judging this to be very much less than that of active tuberculosis. On the other hand, several workers are so impressed with the dangers inherent in the use of living vaccines that they prefer not to use the B C G strain at all.

The case for the supporters of B C G vaccination would be very much stronger if only animal tests had given unequivocal results, but unfortunately these have so far been disappointing. The experiments carried out by Watson[3] in Ontario, Rankin[4] in Alberta, Larson and Evans[5] in Illinois, Schroeder and Crawford[6] in Maryland, and Haring, Traum, Hayes, and Henry[7]

[1] Petroff, S. A. *Proc. Soc. Exper. Biol. and Med.*, 1927, xxiv, 632 and 956. Petroff, S. A., Branch, A., and Steenken, W. Ibid., 1927, xxv, 14. Idem. *Journ. Amer. Med. Assoc.* 1929, xciv, 9. Petroff, S. A., and Steenken, W. *Journ. Exper. Med.* 1930, li, 831.

[2] Gerlach, F. *Fortsch. der Hyg. Bakt. Immunitätsf. u. exp. Therap.*, 1930, xi, 775.

[3] Watson, E. A. Eleventh International Veterinary Congress, London, 1930.

[4] Rankin, A. C. *Canadian Journ. Research*, 1929, i, 48.

[5] Larson, W. P., and Evans, W. A. *Journ. Amer. Vet. Med. Assoc.* 1928-29, lxxiv, 581.

[6] Schroeder, E. C., and Crawford, A. B. Ibid., p. 773.

[7] Haring, C. M., Traum, J., Hayes, F. M., and Henry, B. S. *Hilgardia*, Californian Agricultural Experimental Station, March 1930, iv, No. 12.

in California involving the use of over three hundred cattle indicate that vaccination with the B C G strain cannot render the animals fully resistant to infection either when they are submitted to artificial inoculation or exposed to natural sources of contamination. There is evidence that the development of the tubercle bacilli within the body may be retarded for some time, but even with revaccination this increased resistance proves but transient, and the disease in the vaccinated animals develops ultimately very much the same way as in the controls. In Europe the vaccine has been used for cattle chiefly under field conditions and the difficulty of obtaining exact numerical results is nearly as great as with human beings. Ascoli in Northern Italy maintains that it has brought about a very marked decrease in mortality but this is not altogether supported by the figures he supplies. In any case since the vaccine has been used for only about four years it is too early to judge its prophylactic value: the incidence of tuberculosis in calves heifers, and young cows is very low and it will be necessary to wait for at least another five years before its preventive action can be at all accurately assessed. Until further and more extensive experiments have been carried out on animals and until these have been attended by uniformly favourable results it will appear to many that the conservative attitude so far adopted by the medical and veterinary professions in this country towards vaccination with B C G has been not altogether unjustified.

CHRONIC ABDOMINAL DISORDERS

THE chronic abdominal disorders of which visceroptosis is a type have given rise to much discussion and to the production of an extensive literature. The patient complains of general weakness and more or less constant abdominal discomfort. There is a susceptibility to catarrh and to muscular pains of a fibrositic nature and vasomotor symptoms are common. But the predominant symptoms are related to the abdomen—discomfort or pain flatulence constipation capricious appetite. The patient soon develops an introspective habit of mind and the variation of symptoms becomes noted and analysed and tends to be ascribed to trivial changes in food weather or social environment. Objectively the physician can find little more than under nutrition and an over reaction to stimuli of all sorts so far as can be judged there is no serious abdominal condition present. The persistence of symptoms however leads to disquietude in the mind of the physician lest something has been missed and this disquietude has crystallized into various theories of causation.

These theories are discussed fully by Dr. H. Bedinghold in his book on *Visceroptosis and Allied Abdominal Conditions Associated with Chronic Intoxication*. The earliest in point of time was that of visceral displacement. This theory culminated in Glenard's [illegible] that the symptoms were caused by the dragging due to visceroptosis. This purely mechanical cause had to be abandoned when x-ray examination showed how variable the position and tone of the hollow viscera may be in health. Lane introduced the theory that the visceral displacements produced a kink in various portions of the alimentary tract which resulted in intestinal contents might occur but such factors as ideal stasis duodenal ileus and stagnation in a dilated elongated pelvic loop cannot be accepted as sufficient explanation. Equally with these anatomical theories variations of secretion and of nervous control of the intestinal tract appear to be inadequate. Following on the idea that stasis encouraged absorption of poisons from the bowel contents search was made for these poisons but so far no such poison has been obtained from either bacterial or chemical products recovered from the intestinal contents. What little of poisonous nature is absorbed from the bowel is detoxicated in the liver though it is possible that further work on vitamins may demonstrate that vitamin deficiency is responsible for varying absorption from the intestine.

In most of the patients constipation is a leading symptom. Constipation may be either atonic when there is sluggishness of the whole colon or spastic with delay in the lowest part of the colon but autointoxication and constipation are not necessarily related. Indeed none of these factors appears to be enough. There seems to be an underlying constitutional deficiency usually congenital and inherent but at times acquired through the stresses of life anxieties or illnesses. Two types of patient may be differentiated the one cheerful, energetic but under engined who works till she drops the other querulous and fretful, suffering from a sense of inferiority and using the symptoms of chronic invalidism as a means of obtaining a measure of sympathy and attention that could not be claimed through merit. Dr. Bedinghold analyses his own cases (he found 152 of the latter type among 1,200 consecutive patients) in an able way and this part of the book will be read with interest and benefit by all who have to deal with similar patients. Treatment consists primarily in the improvement of physical health by diet rest exercise and the removal of any sources of minor infection or irritation. But medical measures alone will fail just as abdominal surgery has failed. Without a broad view of the patients constitutional disabilities and the social and psychological factors involved the physician cannot give the sympathy and encouragement that is necessary to help these patients to minimize the unfortunate consequences to them of over responsiveness of the abdomen.

Mucous membranous colitis a common variety of chronic abdominal disorder characterized by spastic constipation spasmodic abdominal pain and flatulence and the passage at intervals of strings of glairy mucus per rectum is the subject of a little book by M. Chiray and R. Stuffel. This condition is not really a colitis though a secondary colitis or putrefactive or fermentative nature may supervene. The underlying state according to the authors is essentially a neurosis on the basis of a neuro-arthritic diathesis with a vagotonic symptoms and is usually associated with some endocrine disorder such as hypothyroidism and ovarian insufficiency. In the absence of complications therefore no pathogenic condition is found in the abdomen. The treatment consists in attention to general health and can often be started best at a spa. Diet should be of such a nature as to give the colon a residue to work upon but much roughage is not always well borne. Liquid paraffin alone or in emulsion with agar or psyllium seeds and five c.c. of atropine for the constipation and courses of atropine for the spasm.

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[1] Ascoli V. Elezioni Internazionali Veterinarie Comitato Permanente Bruxelles and Ufficio Internazionale di Epizoozia Rome 1929 p. 1.

[2] Bedinghold H. Visceroptosis and Allied Abdominal Conditions Associated with Chronic Intoxication. Oxford Medical Publications. London, Milford, Oxford University Press. 1929. (Pp. 152. 16s. 6d. net.)

[3] La Colite Muco-membraneuse. Par M. Chiray et R. Stuffel. Masson et Cie. 1929. (Pp. 82. Figures. 10 fr.)

AMENTIA

A most valuable collection of records and publications on amentia has been presented to the Library of the Royal College of Surgeons of England by Dr Thomas Brushfield, who was formerly in charge of the Fountain Hospital for Imbeciles at Tooting, under the Metropolitan Asylums Board The records comprise the detailed histories which Dr Brushfield compiled of all the children who came under his charge from his appointment in 1914 till his retirement in 1927, with photographs of the children taken on admission and after treatment The histories are classified by the types of amentia—mongolism, cretinism, microcephaly, etc—and Dr Brushfield has preserved elaborate details, not only of each child's physical condition and family history, but of the mental tests employed in each case, and of the progress of such as were fit to attend school All these records are fully indexed, and numerous tables have been drawn up summarizing and analysing the material from various aspects These histories and statistics, covering so considerable a period from the time when the particular study of mentally deficient children was only beginning, are all the more valuable in that they have not been continued on any such scale as was undertaken by Dr Brushfield He has presented them to the College Library in Lincoln's Inn Fields so that they may be readily accessible for any research worker in this subject, for whom they ought to prove of inestimable value, as there is no comparable collection of similar material available But besides his first-hand records Dr Brushfield has also presented his very large collection of papers and cuttings on amentia, gathered from all over the world These will be kept together in connexion with Dr Brushfield's own records, and the donor has prepared a full index to them The papers cover not merely the varieties of amentia, but whatever may possibly have a bearing on the subject, and there are numerous entries *in the index under such headings as birth, encephalitis,* endocrines, skulls, etc To complete the usefulness of the collection, Dr Brushfield has compiled a bibliography of books and articles issued up to the present on all the subjects covered by his index of which there is no copy in his collection He further very generously proposes to keep this bibliography up to date, and to incorporate into the collection whatever publications he may continue to collect It is greatly to be hoped that there may be workers who will be glad to avail themselves of this carefully prepared material May it also be hoped that some of them will care to continue the collecting of this special literature, which Dr Brushfield has so industriously and disinterestedly begun

SPECIALISM AND RESEARCH IN THE SERVICES

The United Services Section of the Royal Society of Medicine draws its presidents in rotation from each of the three Services This year it is the turn of the Navy, and Surgeon Commander S J Dudley, who assumed the presidential office last week, delivered from the chair a thought-provoking address on the opportunities which the Services, especially the Navy, afford for specialism and research He said that as a result of the growth of medical knowledge the profession of necessity split up into an ever-increasing number of specialisms The advantages of specialization were self-evident, but there were disadvantages The highly specialized doctor was closely adapted to one particular type of environment in which he greatly outshone the general practitioner, who was, however, much more at home in every other type of environment In certain subjects early specialization seemed to induce an actual pride in ignorance of general medicine and surgery In the Navy there was not work for many whole-time specialists, because there were not enough special cases The narrowing effect of specialization could be avoided, by refusing to let the naval officers specialize too much before attaining their half-stripe One excellent naval custom was that all surgeon commanders should serve a commission at sea before further promotion This custom was unpopular, but for the good of the Service he hoped it would continue to be rigorously enforced, especially with regard to those officers who specialized in administration Many hospital doctors and administrators who had been long ashore forgot how rapidly the modern Navy had changed and was changing The specialist it wanted was a man with at least the average knowledge of general medicine and surgery, and with an expert training in some specialty in addition thereto, but not in place thereof Moreover, if the Service was to obtain the best results from its medical experts, naval specialists must be familiar at first-hand with the conditions of life and duty in ocean-going submarines and triple 16 in gun turrets Surgeon Commander Dudley went on to say that the Services offered one of the finest fields for any man who had a liking for research but was not enthusiastic enough to slave out the best part of his life on £200 or £300 a year in a laboratory ashore He would find, in the Navy especially, many opportunities of original investigation Of course, he would have to remember that his Service duties as practitioner of curative and preventive medicine always came first, that he was not asked to do research, nor paid to do it But if he did research, he would always find plenty of encouragement from those in authority over him, and probably also from his material, the ever-cheerful sailor As a matter of fact, in the Services original work had been recognized and rewarded to an extent greater, he thought, than in civil life To many minds research conveyed the idea of test tubes and incubators in laboratories, but that was not the *only, nor* even the most important, kind of research in progressive medicine *The Services offered an ideal field for statistical* investigation, for clinical as distinguished from laboratory research, and for research on epidemiological problems They were, in fact, the happy hunting ground and the last stronghold of the amateur research worker, whose day elsewhere was practically over It was to the Service man a pastime, and if some useful result emerged so much the better, for he would never agree with the dying words of an eminent professor, "Thank God, I have never done anything useful" Surgeon Commander Dudley gave a number of instances of the kind of domestic conundrums which came before the medical officer in the Navy—for example What is the best way of airing bedding in a destroyer or small cruiser during a continuous spell of bad weather? Why is the sailor so fond of patent medicines, and what effect have they on him? What are the psychological influences which determine happy and unhappy ships? Turning to the question of publication of results, the president expressed himself strongly on the need for maintaining certain standards of accuracy and making a proper use of authorities He also protested against the way in which tradition and authority might hinder progress in knowledge There was always a strong instinct to worship *dead leaders, and the medical profession* was no exception to this His own contention was that all traditions and hoird customs, however admirable, needed constant overhauling He also gave some instances of statements, persisting in edition after edition of popular textbooks, which could have been refuted by the most ordinary observation As Sherlock Holmes said to Watson, "It is a capital offence to theorize before one has data" The testing of comparing of therapeutic or prophylactic agents was specially liable to the *post hoc* fallacy There was only one reliable method of testing therapeutic or prophylactic treatment—namely, to take the admissions as

they turned up in hospital or sick bay and treat alternately, one by the old procedure and the next by the new, until a sufficiently large number of results were available for analysis. The Service category 'P U O' had been the subject of witticism, but it had everything to recommend it. It was honest, and it did not vitiate any conclusions the statistician might be trying to draw from sickness records. If progress was to be made in prevention and treatment, the diagnosis must approach certainty, and all doubtful syndromes must be reported as such and closely described.

KUMMELL'S DISEASE OR COMPRESSION FRACTURE OF THE VERTEBRAE

At the meeting of the French Surgical Congress on October 6th a report by Drs. Froelich and Mouchet was read on the subject of Kummell's disease (or "maladie de Kümmell Verneuil," as the French prefer to call it). In this country there is still difference of opinion as to the occurrence of rarefying osteitis of vertebræ after injury, apart from fracture, especially compression fracture. The case of which Dr. Louis Mencière of Rheims gave an account in the discussion following on the report seems to be admissible equally to the category of fractures or of osteitis, so far as the account given enables us to judge. A lad of 18 years of age who was employed in driving a motor tractor in agricultural work, in order to reach the driver's wheel had to bend his body forwards, in which position he was subjected to repeated violent bumps as the tractor passed over inequalities of the ground. Dr. Mencière found at the level of the tenth dorsal vertebra traumatism, and the development of rarefying osteitis of the vertebral body. The case is of interest whatever its pathology, as introducing what may be a novel manner of injury of the spine, and it also has interest, as Dr. Mencière says, from the point of view of accident insurance and employers' liability and compensation.

PERIODICAL HEALTH EXAMINATIONS

From October 15th to December 31st, 1929, an extensive educational campaign in the interest of periodical health examinations was carried out in greater New York by the local medical societies, and the report on this campaign and its results has now been issued. Most of the organization of previous efforts to interest the public in these overhauls has been in the hands of voluntary health bodies or social agencies outside the medical field. Last year's campaign in America was unique in that the medical profession carried out its own campaign, and the full page advertisement with which preliminary proceedings began established the precedent of 'collective advertising" by the profession without any weakening or the prohibition of advertising by individual doctors. This advertisement, by its slogan 'Go to your doctor before he has to come to you," indicated at once the scope of the campaign, and Dr. John A. Hartwell, president of the New York Academy of Medicine, in his preface to the report, indicates the main lines of the policy which was followed. The committee in charge raised the necessary funds from insurance companies and various voluntary health associations, and over a period of two and a half months the public of New York City had its attention directed in a very emphatic manner to the advisability of periodical examinations by the family doctor. The lay press, churches, the schools, many of the business organizations, wireless, and cinematograph, all played a part in preaching the simple gospel of keeping healthy by stopping disease at an early stage. The report states that 130,042 words were sent out to the press and in other ways used in the publicity of the campaign. The mayor of New York issued an official proclamation, all the newspapers printed editorials on the subject of health examinations, and all the churches were asked to set aside November 22nd and 23rd as health examination days. A simple pamphlet entitled "Pity the Poor Ostrich" was widely distributed by doctors among their patients and by employers among their workpeople. All the details of the campaign including an intricate time-table of the various features, are given in the present report, which also includes a candid section on the projects which failed. In conclusion there is an attempt at estimating the value of the campaign. Obviously the immediate results could not be expected to be very remarkable, for to move public opinion on a matter like this requires years of sustained effort. Nevertheless, the answers to a questionary addressed to a representative group of doctors revealed a 25 per cent. increase in the number of applications for health examinations during the period of the campaign. Nearly 80 per cent. of the doctors who replied were impressed with the value of the attempt to interest the public in this subject, and 85 per cent. believed that the campaign would have been more effective if continued over a longer period of time. A notable feature of all the public pronouncements on the subject of health examinations was the insistence on the family doctor as the proper person to make the examination. Dr. A. J. Rongy, the chairman of the committee, wisely remarks that one of the underlying motives of the campaign was to attempt to stem the present drift of the public away from the family doctor. This fact and the "collective advertising" by the profession stamp last year's efforts in New York as worthy of close examination by the profession in other countries.

WELFARE SCHEMES IN INDUSTRIAL FIRMS

In the past commercial firms could urge against schemes of industrial welfare that they were too expensive, to-day such a plea would have little data to support it. The Industrial Welfare Society has recently published the outline of a scheme[1] which shows that most welfare activities cost little or nothing, and that they may safely be introduced into firms of any size with success. Protection against sickness, unemployment, and old age is the object sought by every wage-earner who joins clubs and benefit societies, but cases are not rare, unfortunately, in which these agencies fail, with consequent loss of the savings of contributors. A savings fund controlled by the firm can simplify thrift for the worker by deducting, at his own authorization a part or his weekly wage for the fund, it has the additional advantage that the security of the firm is behind it. Under some of the schemes suggested the employer encourages the worker to save by supplementing his savings that is to say, when the employee has bought an agreed number of savings certificates the firm gives him an extra one, or the employer guarantees a given rate of interest higher than the bank rate. It is sometimes unwise for the firm to offer bonuses or additions which are merely credited to the employee, for in one case recorded the firm became insolvent and the workers lost their bonuses which had never actually been set aside. It is possible for the firm to supplement savings schemes by funds for sick benefit and by holiday funds at a good rate of interest without being involved in excessive outlay. Similar methods can be followed in establishing a pensions fund, allowance being made for the proportion of elderly men in employment at the time. The value of these schemes to the employer is in the closer link they forge between the firm and the workers and in the increased efficiency of workers, who have less desire to change their employment. The pension funds moreover, provide an acceptable method of superannuation when a man becomes incapacitated by

[1] *The Introduction of a Works Welfare Scheme.* 1930. Published by the Industrial Welfare Society (Incorporated) 51, Palace Street, Westminster, S.W.1.

age from performing his work, the State encourages those contributory schemes by exempting the invested income of pension funds from taxation, and, in addition, a firm's annual contribution to a benevolent scheme is free of tax The suggestions of the Industrial Welfare Society are extended to cover accident prevention, care of the workers' health, recreation, and educational programmes The field may sound optimistically wide, but the aim is to make every scheme self-supporting as far as possible A year's total expenditure on a welfare scheme by one firm of engineers employing 700 workpeople was only £647 19s 6d, a sum which included a salary of £500 for a welfare supervisor, the average cost estimated by twelve other firms was £1 per head per annum To a firm of 4,000 employees the allocation of 1d per day per worker would provide a welfare fund of more than £5,000 yearly, which would cover the salaries of the supervisor, ambulance room attendant, and groundsman, as well as contributions to a benevolent fund Such an estimate places welfare schemes within the power of even small firms

THE TRAFFIC IN NARCOTIC DRUGS

THE current number of our well-informed contemporary, the *Police Journal*, which appears under a new editorship, contains two articles dealing with the traffic in dangerous drugs, and the administration of regulations contrived for the restriction of illicit commerce therein Mr A H Sinks, chief of the Rotterdam police, who has been appointed an assessor to the Opium Advisory Committee at Geneva, contends that while "ordinary crimes injure either physically or materially a single individual or a comparatively small group of individuals, opium offences threaten the welfare of whole nations and cause untold injury to national health" He insists that "the havoc caused by the drug curse must be laid at the door of the illicit drug traffickers, who are guilty of one of the gravest crimes against mankind" He dwells on the world-wide nature and international organization of the smuggling of opium, morphine, cocaine and heroin, and cites the well-known case of Egypt with some half-million addicts out of its population of 14 million From Europe large illicit consignments of the drugs have been traced not only to Egypt, but to Mexico, the United States, Canada, and to the Far East, while from the Persian Gulf and from China a considerable contraband trade in opium proceeds to India, Indo-China, and the Far East It would be difficult to contend that, notwithstanding all the efforts by way of conventions, conferences, commissions, and legislation of the last ten or twenty years, there is less illicit traffic in dangerous drugs than there was before the campaign against the abuse thereof was first embarked upon Mr Sinks alludes to the policy of limitation of production of the drugs in question, on which subject a preliminary conference is to be instituted in London next week While admitting that limitation of production would "prove a radical expedient" Mr Sinks does not appear to regard it as the most decisive factor It is true that to be really effective universal co-operation of all producing countries would be essential, and so long as countries like Turkey, Persia, Bolivia, and Peru either do not adhere to the conventions, or refrain from their effectuation, it will be impossible to stop the evil at its source The manufacture of the dangerous alkaloids can be more closely circumscribed and controlled than the growth of the poppy or the coca plant, and presents a problem which should not defy concerted pressure exercised through the League of Nations To the same number of the *Police Journal* Mr C H L Sharman, chief of the Narcotic Division of the Public Health Department of Canada, contributes an interesting article on narcotic control in that country He claims that since 1908 Canada has built up a system of control which is "the equal at least of any narcotic legislation extant" By vigilant federal and provincial police administration and pro cen-tions 662 persons, of whom 519 were Chinese, have in the past seven years been deported from Canada after convic tion for selling or possessing narcotics illegally The Pacific coast and the boundary line with the United States are patrolled, the mounted police having rendered valuable aid, by astute detective measures some of the "big connexion" of the international gang of smuggler have been caught, fined, and committed to several years in a penitentiary, while the lash has been legalized as a penalty for pedlars in narcotics Such articles as these should serve to dispel the notion, still prevalent in some quarters, that the drug addict should be merely an object of compassion, and that any attempt to deprive him of his opium or other drug by legislative enactment is unwarrantable, even if not futile Police evidence testifies abundantly to the fact that such drugs as heroin and cocaine not only conduce to moral degeneracy and criminal acts, but that they are resorted to by criminals, both male and female, such as the gangsters of Chicago, to nerve them to the commission of crimes of desperate violence

SCHEDULED INDUSTRIAL DISEASES IN GERMANY

DR TELEKY, the medical inspector of factories stationed in Düsseldorf, with a large industrial area under his supervision, deals in a recent article[1] with the twenty-two occupational maladies which have been brought under the Accident and Invalidity Insurance Law Compensation becomes payable only after twenty-six weeks under the Sickness Insurance Law is exceeded Although drawn up on our English model (many of the maladies and forms of poisoning being the same), the interesting thing about the German list is that at least seven maladies do not appear in our list at all, while others, such as nystagmus, which one would expect to see scheduled, are not Thus, the diseases which do not appear in our list, or are scheduled under stricter limitation, are chronic and re-current skin diseases from galvanizing processes, chronic and recurrent skin diseases from some foreign woods, chronic and recurrent skin diseases from soot, paraffin, tar, anthracene, pitch, and allied substances, diseases of the muscles, bones, and joints from the use of pneumatic drills, diseases of the deeper air passages and lungs from basic slag, severe diseases of the lung due to dust (silicosis), or tuberculosis accompanying silicosis, Schneeberg lung disease, and deafness or hard-hearing bordering on deafness caused by noise The Schneeberg lung cancer is confined to a small district in Germany, nothing like it is found in this country Basic slag is not largely produced in this country, because the kind of phosphoric ores found in Germany are much more amenable to the Thomas Gilchrist process The scheduling of deafness due to noise is interesting, as this trying defect is a notable instance of the fact that in our own country compensation is given for incapacity and not merely for being the victim of a specific malady contracted from employment A flood of literature in the German medical press is discussing now, "When is a skin malady to be described as chronic?" and "When is silicosis to be described as 'severe'?" the general conclusion being that the code must shortly undergo revision

The Thomas Vicary Lecture, on "Vicary's predecessors," will be delivered by Professor G E Gask on Thursday, November 6th, at 5 p m, at the Royal College of Surgeons of England, Lincoln's Inn Fields

[1] Teleky Ludwig Die Versicherung der Berufskrankheiten in Deutschland Abstract from *Die Zeitschrift "le Assicurazioni Sociali* Jahrgang VI, Nr 3, Mai-Juni 1930 Cassa Nazionale per le Assicurazioni Sociali, Sede Centrale, Roma.

MEDICINE AS A CAREER.*

BY

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THERE has been much argument whether Medicine should be regarded as a science or as an art in which science is applied, and it may be questioned if a really comprehensive definition of Medicine has yet been framed. This shows, what no one can seriously doubt, that it is a many sided profession, presenting a varied choice of possible fields of activity before those who have to decide whether or not it is likely to provide them with a satisfying life career. It offers attractions to men of very different minds—to the humanitarian, 'practical,' educational, and scientific. The proper study of mankind is man," and this includes his psychopathology as well as his physical disorders, medicine touches human life at many points, and exerts its influence on the State, law, industries, education, it appeals to the naturalist and to those who feel impelled, in William Harvey's words, 'to search and study out the secrets of nature by way of experiment."

An interest in disease and all that it means draws men, according to their habit of mind, in one of three directions (1) to practise medicine, curative and preventive, (2) to investigate the problems of disease, or (3) to teach others. The second and third of these occupations are not uncommonly combined, and, though undoubtedly most important, are not adopted by more than a very few of those who take up medicine as a profession. It may perhaps be convenient to speak of research and teaching as careers in medicine before considering the more extensive subject of the various forms of practice.

CAREERS IN MEDICAL RESEARCH AND TEACHING

Research for the advance of medical knowledge is of two kinds: (1) clinical observation, controlled by post-mortem evidence and aided by the numerical or statistical method, as in the past gave most brilliant results in the hands of Hippocrates, Sydenham, Skoda, Bright, Addison, Louis, Stokes, Osler, and others, it is the more difficult of the two, and, though it should most certainly continue has been helped by and has often utilized, the methods and apparatus of the laboratory which are essential parts of (2) the experimental method of physiology and pathology begun by Galen, revived by William Harvey, and which now, widely established and organized, has expanded through experimental medicine into 'clinical science." This is the phrase used by Thomas Lewis, who has drawn a sharp distinction between the training, necessary attributes, career, and ideals of (*a*) those who devote their whole-time energies and life to clinical research, and of (*b*) clinical workers who in the past were largely responsible for the progress of medicine. The research physicians of the new clinical science should work not in laboratories, but in hospital wards, unlike the ordinary physician, their main objective should be, not the diagnosis of a known disease, but the investigation by experimental means of the unknown processes at work. Their mental attitude, Lewis says, should be one of diffidence and scepticism, in contrast to the necessary self-confidence and optimism of the successful consulting physician. Further, the career of the clinical researcher should be life-long and not an episode to fill in time before he becomes a hospital physician with an eye to consulting practice. In fact, Lewis states that such transient research is seldom of any scientific value, and unfortunately has acquired a recognized commercial value, which indeed may be the chief goal in view. This is a hard saying, and, as regards the value of the work, a generalization not entirely borne out by past experience, while admittedly the consultant's outlook is broadened and his capacity for teaching improved by early apprenticeship in research.

The creation of whole-time professors as directors of clinical units in some of the medical schools in London, with assistants who may be whole- or part-time, might supply the men and the posts for clinical science, but the heavy duty of teaching general medicine now undertaken by the units has necessarily restricted clinical research or the special character indicated. Whole-time workers with a minimal amount of teaching might be attached to the units and enabled to live and work by grants from the funds of bodies such as the Medical Research Council, the Beit Memorial Fellowships for Medical Research, and the Rockefeller Foundation's Medical Fellowships. So far there are few applicants for this new career in clinical science, this may be partly because established and permanent openings have been very few in the past. How many men are really fitted for this high calling remains to be seen, but that provision will be forthcoming in the not distant future for the right men seems certain from the recent report of the Medical Research Council. In addition to possessing the necessarily high ability and elaborate training men who decide to devote their lives to clinical science must be prepared for laborious days have little ambition for a prominent position in the limelight, and none for great financial rewards. They must be inspired with the keen desire of discovering hidden truth, and prefer the prospect of perhaps completely solving a few problems after prolonged labour to that of constantly attempting this daily in many cases and without much probability of any certain success.

Those engaged in clinical science will it may be hoped prevent the divorce and bridge the gulf between animal experiments and laboratory work on the one side, and clinical observation on the other. Trotter shows that clinical observation is fruitful in initiating ideas, and the experimental method in putting them to the proof, and that experimental investigation on man, limited as it obviously must be in its extent, is the only wholly unexceptionable method available for the solution of problems of human health and disease.

Lines of research in connexion with medicine are well established in pathology, bacteriology, pharmacology, and biochemistry, the workers in these sciences have from the nature of the available posts, usually been professors, lecturers, or demonstrators, and so primarily teachers. But such teachers should have time for investigation, as thereby they become more inspiring to their pupils. To be good, teaching should be a labour of love and the gratification of the desire to do so, not a means of livelihood only. A teacher's first aim should be to understand his pupils rather than to keep them in order. Successful teachers are of two kinds: those with the talent of presenting the subject systematically to average students so as to secure examination successes—good conductors if not the live wires of the second and higher category, who are of an imaginative, often artistic, nature, stimulators of thought, compellers of enthusiasm, and founders rather than the necessary props of schools.

THE PRACTICE OF MEDICINE

Medicine in the ordinary sense—namely, the supervision and cure or the sick—is not, and probably never will be, an exact science. It is an art aided by the application of several sciences, in which philosophy, religion, and sometimes commercialism also play some part. The degree in which science is applied varies, not only in the hands of different individuals, but in the various branches or departments of medicine, the special branches in which science can be most extensively applied, as in ophthalmology, are for this reason the most satisfactory to those with a scientific turn of mind.

As already mentioned, the essential attributes of a research physician differ in some respects from those necessary in the practice of medicine. Success in the healing art, unlike success in pure science, does not depend solely on mental ability; it demands the properties of the heart as well as those of the brain, and perhaps this cannot be better expressed than in the words of the familiar text "Though I have the gift or prophecy [prognosis] and understand all mysteries [diagnosis], and all knowledge, and though I have all faith, so that I could remove mountains [confidence and operative skill], and have not charity, I am nothing" (1 Corinthians, xiii, 2). To the

* A lecture given at King's College, University of London, on October 15th, 1930.

abilities of an engineer and chemical expert of the human body a doctor should add love of his fellow men and some other qualities of a broad-minded churchman Sympathy requires imagination to see into the minds and understand the anxieties and needs of those who come to be helped and cured, sympathy should not be blunted into callousness by contact with the naked and often repulsive features of poor human nature Unselfishness, common sense, cheerfulness, reasonable optimism, kindly tact, a good memory, punctuality, and methodical habits, are among the traits and manners that make the real doctor To be prepared for whatever emergencies may occur in practice demands imagination and foresight, and, though the whims of chance influence the future in ways that to some onlookers may seem very unfair, probably many of those regarded as lucky are so because they are able to turn opportunities as they arise into solid advantages Good health is obviously important to withstand the strain of continuous hard work, and in their own interest doctors should set an example of personal hygiene, temperance, proper recreation, exercise, and holidays, in spite of the manifold difficulties of their circumstances

Although it is less than sixty years since the London School of Medicine for Women was opened in 1874, the existence, need for, and spheres of usefulness of women doctors are firmly established In this relatively short time women doctors have every reason to be proud of the progress they have made in spite of some conservative prejudice

Choice of One of the Branches of Medicine

Heredity in the form of a paternal general practice may from an early date decide the future medical man's life's work, just as happens in business, and general practice is then the obvious course in the absence of any strong inclination in other directions, such as research for its own sake, ambition, a love of travel, or desire to enter the fighting services But otherwise the choice is far from easy, and indeed it is inadvisable for the student to feel that he should at once and finally settle what particular line of medical work will eventually prove most satisfactory and suitable For not only do the individual's tastes and capabilities change as his development becomes more mature, but the branches and opportunities of medical practice tend to become more numerous, to alter and expand, with the passage of years The necessary data for a wise decision may not be available until some time after qualification, when circumstances, or what seems to be almost an accident, may show what is a man's real bent There is much wisdom in the advice, "Do not specialize too early," for the essential basis of real success is a good general knowledge of medicine as a whole

While one, and certainly the commonest, reason for entering a profession is to obtain a livelihood in a reputable manner, this objective can be reached more easily, rapidly, and in greater measure in some form of trade than in medicine On the other hand, medicine meets a universal demand, and with the expansion and development of medicine and of appointments under the State at home and abroad there are more opportunities and various openings now than ever before Secondly, apart from illness, accident, or misconduct, every competent qualified man or woman can be fairly certain of gaining a living wage, thus contrasting favourably with other professions, though the great prizes are few as compared with those in Law and the Church To enter on the "physic line" may be justified as a means of keeping the wolf from the door, but it cannot be recommended as a way to get rich quick, or indeed to get rich at all It has been estimated that before the war the average income of the medical profession was about £500 a year, and now is about £750, both gross, so that with the present high cost of living and taxes the position is about the same This, of course, leaves little margin to save and provide for the time when illness or old age arrests activities An advantage of public practice—namely, practice for the State, as in the fighting services—is the assured pay and a pension

The life of a medical man, especially in general practice, though full of human interest, is hard, qualification is only a milestone, though an impressive one, in what should be a lifelong studentship Much exposed to infection, hard worked and usually poorly paid, subject to numerous anxieties and the occasional danger of vexatious legal actions for malpraxis, the average span of life among medical men does not equal that of the Church and the legal profession The statistics got out in three London schools at various times by Sir James Paget (1869), Sir Squire Sprigge (1906), and Mr E M Corner (1920) show that the outlook for medical students is encouraging, for about 75 per cent become qualified, and, according to the first two authorities, 66 per cent of those qualified should be satisfied with their professional success Although it has been said, and, of course, with truth, that "it is not the degree that makes the man," there can be little doubt that, other things being equal, a university degree (particularly the letters M D), quite apart from the training are a very considerable asset from the popular and material point of view The schoolboy looking forward to medicine should realize this at a stage when he can make arrangements to matriculate at a university, and so avoid regret later that he had not taken the opportunity at the proper time for it is difficult and time-consuming to remedy this at a later stage in the medical course

General Practice

In spite of various developments, especially the establishment of State medical services, of the clinics for tuberculosis, venereal disease, dental care, school children, child and ante-natal welfare, of the large amount of midwifery done by trained nurses, and of the competition of the increasing number of specialists, general practice still claims the vast majority of the medical profession The increasing activity of the State and municipal bodies in the care of the common health has created some anxiety about the future of general practice, and raised the question of the introduction of a universal State medical service, comparable, for example, to the organization of the postal service Indeed, from what has already taken place further advance in this direction is extremely probable, if not inevitable, it would appear that this impression is now becoming more general, thus the Council of the *British* Medical Association has proposed a scheme of general medical service for the nation which will provide every kind of treatment, and be based on a contributory insurance system, and on the fundamental principle that every individual is under the care of a general practitioner There is not any reason to fear that the medical profession would suffer financially under some scheme framed on these, or indeed other, lines, the work must be done by them, and they would have as now in the case of panel practice, an assured income From uncertainty about the future young medical men are said to be reluctant to purchase practices, especially in the country There is, however, little justification for pessimistic views about the future of general practitioners Under any anticipated change in their present independent position they would still be in the best possible position to detect and correct the earliest stages of ill-health, when prevention—the ideal of modern medicine—is most easily effected They are thus the first line of defence against disease Their disappearance, if indeed it were possible, would be a calamity

The conditions of general practice have greatly altered, in many ways for the better, improved medical education and equipment have brought about a corresponding change in medical practitioners, who can therefore take their share in an organized national scheme for the prevention of disease and an improved national health The scheme of medical benefit under the National Health Insurance Act, 1911, has improved the financial position of panel practitioners as compared with the conditions under the old "club system," and the forebodings and opposition which the panel system evoked from the profession at the time of its introduction are now happily forgotten

The number of registered medical *men* resident in England at the end of 1929 is estimated at 33,443, and the number of panel practitioners 14,726, or 44 per cent , for *women* the corresponding figures are 2,320 and 776, or 33 per cent In 1925 the estimated number of registered medical *men* in England was 27,600 and of these 12,696, or 46 per cent , were on the panel showing that there has now been a considerable increase in the total number and a slight fall in the percentage of those on the panel the

change in the position of women is almost in the opposite direction for in 1925 there were 2,209 registered medical women of whom 434 or 19 per cent were on the panel The number of medical women on the panel has thus markedly increased though the total number on the *Register* has risen very slightly These figures kindly supplied by Dr J Smith Whitaker of the Ministry of Health are chiefly noticeable for the increasing degree that women by taking more part in the rough and tumble of panel practice are establishing closer touch with the lives of the poor

A man in general practice must possess some knowledge of every branch of medicine in fact he must be an all round specialist in miniature, with the important proviso that he realizes his own limitations—what he can do himself and what in the patient's and indeed his own interests he should leave to consultants and specialists With the approaching a real all round specialist is, of course impossible, but to some extent the difficulty of covering the ground in general practice is met by firms of general practitioners so constituted that each of the partners is more skilled in medicine, surgery, or midwifery, and in one or more of the specialties This team work is on the lines of the divisions of a hospital staff

There are other lines of work compatible with, and closely allied to, general practice Examination of people for life assurance is part, but not a considerable item of a general practitioner's routine Some men however, act for several companies or as the chief medical officers of these companies occupy a considerable part of their time in this way but the chief advisory appointments are usually held by consultants and hospital physicians Periodic health examinations of the supposedly fit analogous to periodic visits to the dentist, are an obvious measure of preventive medicine, American life assurance companies have made 100 per cent upon the money spent in providing their policy holders and employees with these medical inspections, for thus incipient disease is detected and unfavourable influences in the individual's habits or environment can be corrected If periodic overhauls of children every six months and of adults annually became general in this country, a line of medical work, allied to that of life assurance, would be opened up this would most suitably be entrusted to the family doctor because he is acquainted with the environment, traits and conditions of the individuals concerned Medical appointments to look after the staff of big business firms and police surgeoncies, are nearly always part-time occupations, and best held by general practitioners Industrial medicine should become more widely organized and provide more posts for medical men, some of which will probably be whole time

CONSULTING PRACTICE

For future consulting physicians the highest university degrees and for consulting surgeons the Fellowship of the Royal College of Surgeons are practically essential, for without them it is difficult or impossible to become physicians or surgeons to most large hospitals—a position necessary not only to maintain efficiency, but to inspire the confidence of practitioners After qualification the embryo consultant should hold a resident appointment as house-physician or house-surgeon at a hospital with a teaching school, here he is in a position of responsibility is the immatur of the visiting physician or surgeon, and like him, teaches the clinical clerks and dressers, and while gaining this experience thereby extends his own knowledge At this time he should begin to collect material for a thesis or other paper After holding this most important office he should proceed if he has not already done so, to a higher degree or diploma, and then seize the opportunity, which will never again be so easy, of enlarging his horizon of medical science thought, and men by spending some months in clinics on the Continent or in America, learning (or perfecting his knowledge of) French, German, and Italian and watching the various methods of research, teaching and practice This, of course, is made more easy by the fortunate possession of a travelling fellowship, or monetary grant which enables him to make a longer visit than might otherwise be possible and to undertake a piece of research work—for example, the solution of a problem which came before him during residence as a house-physician or house-surgeon

After this he should return to obtain a hospital post, such as registrar or member of a professorial unit which, while supporting him financially, is a rung on the ladder towards the permanent staff of the hospital, and provides clinical work further experience in teaching, and opportunities for independent research and reading This is the seed time when he can consolidate "the student habit," store his mind with ideas, and lay the foundation of a reputation as an authority The future consultant has not only to labour but to wait, and this time of probation tests and often sorely tries his grit, but on its proper utilization the future depends, for the weeding out of the competitors now becomes more acute and critical, and time, born of satisfaction at getting so far in the point-to-point race, may easily lead to a fall With the experience thus accumulating he should, after a time, be in a position to publish papers, not because "he has something to say" but because "he has something to say" the main advantage of this is not advertisement which indeed is usually disappointing and may even be harmful, but because, like teaching only more so it is a valuable discipline on account of the work thought, and reading necessary to deal thoroughly with the subject

In the past the lean years of the waiting period were so difficult financially that it was often said that only men with private means could hang on, especially as physicians, with a view to consulting practice There were, however, many exceptions then, and now, when the posts, such as registrarships at teaching hospitals, open to men at this stage, are far more numerous and better paid, and there are far more scholarships and grants for original investigation, this difficulty is not so serious But on the other hand, the possession of a comfortable income is far from an unmixed advantage, for it removes the poor man's obligation to scorn delights and live laborious days, no doubt the danger that he may do little or nothing meanwhile possesses or of independent means can wait, but there is It has been said, with some degree of truth that a consultant is made, not born, and there is no doubt that he has a hard task in making himself efficient and successful

The highest positions in the profession are gained by a few or largest incomes in the profession are gained by a few or the General consultants who, however as a whole have had their wings somewhat clipped by the legitimate growth of specialism, and as mentioned elsewhere many physicians and surgeons tend to concentrate more or less though not entirely, on some division of their extensive subject General physicians have suffered more than their surgical brethren, partly from the increased number of special hospitals, and partly from the much better equipment of general practitioners without an independent income the long wait may be tragic, and many deserving men never get their reward

Consulting surgeons "arrive" earlier, so that their waiting period is less trying than that of their medical colleague Their operative skill has enlarged their regional activity at the expense of the physician's territory, and their financial rewards are much greater The cures wrought by operation are much more obvious and spectacular than those obtained by the physician, who must often admit time as his partner in procuring a successful issue It is not surprising that surgery has lately been more attractive than internal medicine On the other hand, an operating surgeon's tide of activity ebbs earlier, and the physical strain of his exacting life is greater than in the case of the physician It is difficult to foretell the future accurately, but the pendulum may swing back and the surgeon's province and harvest shrink The surgical specialties—orthopaedics, genito-urinary and venereal disease, laryngology and otology, and proctology—have already encroached considerably on his domain and there is accumulating evidence that radium may diminish the need for surgical treatment of malignant disease in some of its most frequent sites It immunology should succeed in banishing infective disease—especially in the abdomen, so that inflammation of the appendix and gall-bladder and peptic ulcer become rare—and if the cause and means of preventing malignant disease were discovered, the conditions demanding the use of the knife would become comparatively infrequent.

CAREERS AS SPECIALISTS

The term "specialist," though often applied by the public to consulting physicians and surgeons in order to distinguish them from general practitioners, properly belongs to those who confine their practice to special departments, such as ophthalmology, gynaecology, laryngology, otology, psychiatry, orthopaedics, and radiology. The enormous advances in all branches of medicine, and the skilled technique required, have made specialization most necessary and beneficial, and the conservative disapproval of specialism by the leaders of the profession in the last century is now of interest only as a phase in the history of the healing art. Most of the specialties mentioned above demand skilled technique, but in addition the ever-increasing detail of medicine is splitting practice into a mosaic, so that there is an inevitable tendency for individual consultants to pay particular attention to some one part of the body or group of diseases, such as the heart, nervous system, lungs, the skin, the genito-urinary tract, the rectum, tropical diseases, or even rheumatism and gout. Intensive study, of course, leads to the advance of knowledge, the perfection of technique obtained from constant practice, and the benefit of patients.

Specialism should be superimposed on a wide acquaintance with medicine as a whole so that in order to avoid a narrow outlook a specialist should know something about every division of the healing art as well as everything about his own subject. It is therefore a mistake to specialize too early: it cannot be begun until after qualification, and should not be attempted until after a resident appointment—house-physician, house-surgeon, or preferably both—at a general hospital, a resident appointment at a hospital for the special diseases in which he is interested should then follow. In many instances there are special diplomas to be obtained, and preparation for these examinations should now engage the future specialist's attention. In addition, the possession of university degrees or the Fellowship of the Royal College of Surgeons is most desirable.

From the material point of view specialists have the advantage, as compared with general consultants, and especially physicians, that the waiting period is shorter, that financial success comes sooner, and may be considerable, though seldom so phenomenal as that occasionally secured by a few outstanding general surgeons and physicians. In America specialization is advancing with somewhat excessive rapidity; in his recent attractive *Doctors and Specialists*, Dr. Morris Fishbein mentions that, whereas in 1905 about 10 per cent. of those whose names appeared in the *American Medical Directory* were specialists, now 25 per cent. of the 150,000 medical practitioners limit their work in this way, and that a questionary addressed to the graduates of Class A medical colleges showed that more than 50 per cent. had already chosen their specialty before obtaining resident appointments.

CAREERS IN THE SERVICES

The call of adventure and the desire to see the world attract men to the medical services of the Royal Navy, Army, Air Force, or of the Colonial Office, and provide a life with varied interests including sport, an assured rate of pay, a pension on retirement, and so freedom from the worry, waiting and the carking cares that may attend private practice. The commencing rate of pay in the Royal Navy is about £413, in the Royal Army Medical Corps £511, in the Indian Medical Service £586, the Royal Air Force £556, and the Colonial Medical Service £600 per annum, and, of course, the pay rises with the rank and length of service.

The opportunities for original work have increased in the fighting services, and that devotion to scientific research is compatible with gaining the highest posts was shown by the late Sir William Leishman's appointment as Director-General of the Army Medical Services. Tropical medicine, with its wide potentialities, is specially open to those in the Colonial Service. Since the war, however, there has been a shortage of medical officers in the fighting services, and accordingly short commissions of four years or so have been offered, they carrying with them a gratuity on retiring, which helps considerably in starting practice. The exigencies of the fighting services may station men where there is little medical work to occupy their time, and where they are isolated from medical colleagues and facilities, there is then a danger that unless they are really keen and resourceful they will get rusty and out of touch with their profession, much obviously depends on individuality and independence of mind.

The progressive activity of the State medical services provides many official positions, not only part time, which are chiefly occupied by general practitioners, but whole time appointments. Medical officers of health are similarly either part-time and then general practitioners, or whole time officials in the larger towns and districts. The resident posts in fever and mental hospitals are also whole-time, and are graded with progressively increasing salaries and pensions. From a material point of view it is thus obvious that these appointments in the various services have the advantage over private practice that a pension is assured on retirement. It must, however, be admitted that retirement, especially in the fighting service, sometimes comes early, before capability of good work is exhausted, but rather late to strike out in a new line, such as a consultant in tropical diseases, or in general practice.

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SUPPURATIVE DISEASES OF THE LUNGS

LECTURE BY DR. CHEVALIER JACKSON

AT a special meeting of Fellows of the Royal Society of Medicine on October 14th, Dr. CHEVALIER JACKSON of Philadelphia delivered a lecture on suppurative diseases of the lungs. Dr. T. WATTS EDEN, president of the Society, was in the chair, and the attendance was very large, many standing all round the Barnes Hall for the two hours which the lecture and the subsequent proceedings occupied. Dr. Chevalier Jackson showed himself to be a lecturer of consummate skill. His lecture was illustrated throughout by lantern slides (chiefly radiographs of chest conditions), except for drawings on the blackboard, which he executed with coloured chalks and with an artistic genius which evoked much admiration from the audience. At the close of the lecture a cinematograph film, which had been prepared by Dr. Jackson's son, was projected, illustrating schematically the different kinds of check valve action of the respiratory tract, and also the method employed in Dr. Jackson's clinic for the treatment of pulmonary suppurative conditions by bronchoscopic aspiration.

Dr. Chevalier Jackson began by pointing out that suppurative diseases of the lung formed so vast a subject that any presentation of it must necessarily be limited. He could only show and describe a few of his clinical cases, with his own interpretations thereon, which might be wrong. In discussing first of all the etiology of the condition, he said that inefficiency of the cough reflex was one of the most important etiological factors. He doubted whether this was appreciated clinically as fully as it should be. Sometimes the cough reflex was totally absent, at others present but inefficient. He feared that at times the cough reflex was destroyed by the giving of opium derivatives and atropine, which so thickened the secretion as to render expulsion more difficult. The primary factor from the bronchoscopist's point of view in all suppurative diseases of the lung was bronchial obstruction. So long as there was free ventilation and drainage, the defensive powers of the lung could cope with almost any infection which found its way in by the air route; he was not at the moment talking of infections which came through the lymph or blood channels.

TYPES OF BRONCHIAL OBSTRUCTION

There were many kinds of bronchial obstruction, but those which were mostly seen by the bronchoscopist could be divided into three. One of these was the complete

stoppage or blocking up of the bronchus and the others were two different kinds of valvular stenosis He likened the three kinds of obstruction to the action of valves in hydraulics—the by pass valve the check valve and the stop valve In the first of these the lumen of the airway was diminished but air could still pass in both directions In the second the air could flow only in one direction owing to the fact that the walls of the bronchus were compressed by the obstruction until the air could not escape, though when the patient took a very deep breath he could draw air past the obstruction, the lumen closing *again at the beginning of inspiration* The third or stop valve represented a complete obstruction, the air being able neither to get in nor out

Dr Jackson likened himself several times in the course of his address to a plumber, saying that treatment by bronchoscopic aspiration was in reality no more than a plumber's job and he described at length the check valve action which permitted the flow in only one direction, and which was found in the action of most pump and was indispensable indeed in the case of reciprocal pumps If there was a valvular mechanism causing a flow in only one direction, this would either fill or empty the reservoir according to the way the pump was set and thus one had either obstructive atelectasis or obstructive emphysema The check valve action of the bronchus was due to the clogging of the cilia by the suppurative material, rendering the cough reflex less efficient when the patient expectorated It was often extremely difficult to remove this material by bronchoscopic methods In the ordinary process of coughing, the pus was coated with saliva, which would coerce this thick material with it, but on aspirating the thick material through a tube sent down into the pus focus it required 5 or 10 lb negative pressure to pull it out The task was so difficult because the cilia were clogged up with this tenacious secretion, and the air could not get below to expel it He also instanced cases of obstruction by another kind of secretion Asthmatic patients—that is to say, cases of true asthma, for 80 per cent of the patients referred to the bronchoscopic clinic for asthma had not got it, but had some other kind of obstruction—had also a thick secretion, having something like a jelly appearance, but in reality extremely tough A good deal of the air hunger of the asthmatic patient was due to this secretion pumping air out or his lungs—not only preventing the air from getting in, but acting like a valve in pumping it out

After pointing out that bronchoscopy might be a useful preliminary to lipiodol injection, Dr Chevalier Jackson went on to speak of obstructive emphysema, due to the presence of a foreign body He showed one case in which the x-ray appearance made it plain that there was a valvular obstruction whereby air could not escape from one lung, though it could do so from the other, and so there was abnormal distension on one side The patient in question was a child brought from a Western clinic by his father, who was himself an internist, and who knew that there was air in the lung and plenty of it, but was unable to hear any going in or out It was concluded that there was obstructive emphysema, but nothing was known of any foreign body A foreign body—a plum stone—was, however, detected and recovered Some form of obstruction was present in nearly all pulmonary diseases, if not present at the beginning, it developed later as a perpetuating factor Benign growths of the lung could act as check valves

All the three types of bronchial obstruction which he had described were to be found in many different diseases He showed one case of a child with diseased glands In the earlier stages of the case the child had a wheeze That was an example of the first type of bronchial obstruction, a diminution in the lumen of the airway, which, however, was still capable of passing the air in both directions *Later the size of the mass increased and pressed upon the* bronchus, compressing the two walls until the air could not escape When the child took a very deep breath he could draw air past the obstruction Finally, in the case which went on to complete obstruction, the air was able neither to get in nor out, but just before that stage was reached there was usually a reversal of the check valve action, whereby the air was pumped out of the lung which was left empty in other words there was atelectatic collapse In another case a child was supposed to have pneumonia and that also was the opinion of the radiologist from the x-ray examination but when a bronchoscopy was done it was found that a bed of timothy grass had got into the lung, and was causing obstruction This again was a case where the defensive power of the lung was weakened by the obstruction of ventilation and drainage Another of the interesting cases shown by the lecturer was one of congenital atelectasis, here the bronchus had been shut up completely by a membrane There was no suppuration in this case, for infection began when the lung contained air, the air introducing micro-organisms—not many of them if the defensive powers of the lung were normal—but if there was obstruction and the "plumber" was not at hand the defensive powers of the lung were weakened, and suppuration went on rapidly Any foreign body could cause suppuration Any kind of nut kernel or organic substance brought this about relatively quickly, with metallic substances a longer time was taken before suppuration supervened Sooner or later however with any kind of foreign body in the tracheobronchial tree suppuration ensued He recalled one case in which, twenty-two years ago, he had been asked to remove a pin from the lung but the pin could not be located He heard no more of this case until recently, when an external operation was advised for drainage He suggested that if it was a case only of the removal of the pin he felt sure that it could be taken out through the mouth by bronchoscopic aspiration Thereupon he was asked whether he was wiser than he had been twenty-two years before, when this procedure had not been recommended His reply was that he himself was not wiser, but that in the meantime bronchoscopy had made progress In fact by bronchoscopy, that pin was got out within a space of two or three minutes, a thing which would have been impossible under the procedure employed earlier A non irritating metallic foreign body like a pin might remain for an indefinite time and do no harm, but sooner or later the process of suppuration would set up a fibrosis and cause trouble

Work of the Bronchoscopic Clinic

Dr Chevalier Jackson here gave the figures for his bronchoscopic clinic in Philadelphia for two periods five years apart

	Total Cases	Disease	Foreign Body
Four months ending December 31st 1925 ..	435	384	51
Four months ending December 31st 1928 ..	6,938	6,826	112

Five years ago 88 per cent of the cases which came for bronchoscopy were cases of disease, this figure was now 98 per cent Nevertheless the possibility of a foreign body in any suppurative disease of the lung must not be overlooked He proceeded to show a number of cases illustrating the variety of conditions which came to the clinic One patient came in with profuse haemorrhage and on bronchoscopy it was found that a black mass was obstructing the bronchus, it proved on removal to be an anthracotic gland In another patient, who had had pneumonia followed by suppuration, the temperature dropped, the suppuration cleared up, and the post-pneumonic process disappeared as a result of bronchoscopic aspiration One patient required as many as forty-five bronchoscopic aspirations before the condition was cleared

A considerable number of cases consisted of post-tonsillectomic and post-operative pulmonary abscess There was a concealed etiological factor in these cases Cases occurring after tonsillectomy were particularly worthy of study because of the seriousness of the condition compared with the relative slightness of the cause As Dr Dan McKenzie had said, it was very disconcerting that so serious a post-operative complication should ensue from such a relatively minor operation as tonsillectomy Professor Jackson mentioned one patient, treated for post-operative pulmonary abscess, who got well after seventy-five bronchoscopic aspirations The internist was inclined to give up

this treatment, but the patient himself insisted on its continuance, saying that he was feeling progressively better, and in the end, when the internist went over the patient and the radiograms, he was bound to confess that the result was one of those things which were hoped for but never expected

Dr Chevalier Jackson concluded by giving a description, drawing on the blackboard meanwhile, of the mechanism of obstruction, and of the establishment of drainage and ventilation He claimed for bronchoscopic aspiration that, in treatment, it could be used to restore the defensive power of the lung, especially the ciliary action, and in prophylaxis to prevent the stagnation of pus, which was the chief factor in the production of a chronic condition arising out of an acute suppurative process

VOTE OF THANKS

Lord MOYNIHAN, in proposing a vote of thanks said that the lecturer had given an exquisite description of his method and its results If there was one among the great dead whom he would have wished to be present on that occasion it was John Hunter Reynolds's portrait of John Hunter, by the way, included among the objects on the table at Hunter's side a specimen of primary ossification of the lung of which the lecturer of the evening had also spoken, and had shown some very remarkable photomicrographs In graceful allusion to Dr Chevalier Jackson's gifts as an artist, Lord Moynihan said that although his name might be supposed to indicate some link with France, his real affinity must be with Italy, and his skill with the pencil had reminded him of the great Giotto of the Italian Renaissance, who, when Benedict XI required his presence, sent his card to the Pope in the shape of a perfect circle drawn by a free sweep of the brush from the elbow The speaker had rejoiced that evening not only in the disclosure of new knowledge, but in the artistry which had been displayed by Professor Jackson in his rapid and perfect execution of the coloured drawings, which, he believed, were to become the permanent possession of the Society One feature of the lecture which had given him special pleasure was the constant reference Dr Jackson had made to his son and his assistants, for the real immortality of a man was not centred in his own work, but in the diffusion of his ideas and knowledge among multitudes of other men who were imbued with his spirit and practised in his craft, and in their turn handed on their inheritance to others

SIR STCLAIR THOMSON, in seconding the vote of thanks mentioned that Dr Chevalier Jackson had only landed in France from America on the previous day, he had left his wife ill at Havre, and was returning to France on the morrow

The vote of thanks was accorded with long-continued acclamation by the large audience

MOTOR CARS FOR 1931.

THE OLYMPIA SHOW

[FROM OUR MOTORING CORRESPONDENT]

(*Concluded from page 670*)

IN the past two issues the salient features of the Olympia Show, which closes to-day have been briefly dealt with To the information already given one interesting detail prepared by the *Autocar* may be added We find that, whereas two years ago 50 per cent of the cars were fitted with magneto ignition, the percentage has fallen to about 25, while the coil and battery type has advanced to over 67 per cent Although water circulation by pump is still most widely used, the thermo-siphon principle of cooling shows a slight progress The tendency to provide gearboxes with four speeds, despite the greater flexibility of modern engines, is shown by the fact that these are now found on 55 per cent of cars centrally placed change-speed levers are also more popular On 80 per cent of makes petrol tanks are at the rear of the chassis, while as to wheels, the summary confirms the impression resulting from our examination of the cars at the show that wire wheels are the most popular Our contemporary does not refer to the fact that four-wheel brakes are now universally adopted in many cases (and certainly on all the larger vehicles) these are now equipped with servo-operating mechanism

More British Cars

Continuing our brief review of the principal British cars on the market, Crossley Motors, Ltd, have a novel yet practical car for certain classes of users in a 23-h.p six-cylinder saloon with six road wheels Chief interest, however, centres in the new Silver Crossley 15·7-h.p six-cylinder vehicle, a well-designed and built car with bodywork of an equally high order With an excellent record for reliability, the Star cars are now being made in two sizes, 17·9-h.p and 20·9-h.p six-cylinder The latest models are notable not only for their smart appearance, but for the very complete equipment, which includes a four-wheel hydraulic jacking system, centralized lubrication, and a fog light Of the two Talbot cars available, probably the 14/45-h.p six-cylinder will appeal mostly to doctors As a four-door saloon it is a roomy vehicle, with chassis details that may be relied on to give good service

Medium-power Cars

Those medical men who have a partiality for the Standard cars will find that the makers have an attractive selection for the coming season The "Nine" four-cylinder model has become a "Big Nine" with many detail improvements, and is now available with either a three or four speed gearbox at prices ranging from £195 upward The chief item of the Standard Company's new models is, however, the "Ensign" light six-cylinder car, taxable at £16, and, like the "Big Nine," supplied with either three or four speeds In view of its up-to-date features and attractive prices it is a model that bids fair to become very popular Finally, for those requiring a car with a more powerful engine, the "Envoy Six" of 20-h.p has many points of interest The 7-h.p *Jowett continues* to be the only car with a two-cylinder horizontal engine It has, however, an excellent reputation for reliability Despite its unorthodox features the 10-h.p *Trojan has* proved to be a dependable car, it still remains the only vehicle equipped with an engine which works on the two-cycle principle, and it has the engine and transmission mounted at the rear of the chassis In saloon form the Trojan can seat five persons *The Swift Company*, in addition to the new 8-h.p "Cadet" referred to last week, is continuing the 10-h.p four-cylinder models with many detail improvements

Wolseley and Riley Cars

The Wolseley Company has a very complete range of cars for 1931, extending from the little six-cylinder "Hornet," mentioned last week, to a 21/60-h.p "straight eight" Probably the model of chief interest to doctors is the "Viper" 15·7-h.p six-cylinder, which, as a fabric saloon, is offered at £285, or with coach-built bodywork at £299 The car is one of the most attractive in its class, and embodies all modern details, including safety glass windows and screen and lockheed hydraulic brakes on all four wheels With regard to the Riley models both the four-cylinder "Nine" and the 15·5-h.p six-cylinder vehicles—which have been very popular during the last year—are being continued with somewhat [illegible] under Weymann bodywork than hitherto

An Interesting New [illegible]

One of the surprises of the s[illegible] is the entry of the Vauxhall Company into the fi[illegible] could now is the entry of the cylinder cars *Hitherto* associ[illegible]ay in [illegible] of popular priced six powered vehicles, the comp[illegible] talking of[illegible]ted with relatively high a six-cylinder model know[illegible]lood chann[illegible]r shows for the first time saloon is offered at £28[illegible] the "Cadet," which a and safety glass wan[illegible]kinds of bronch[illegible], or at £298 with sliding roof of the car throughou[illegible]ds The detail ally it is receiving [illegible]y seen by the screen and window are on attractive lines and natur which is rated at 1[illegible] One of th[illegible] considerable attention The engine, other details of the c[illegible] 1 hp 1 of clean design, while th[illegible] has comprises a three-speed gearbox,

servo-operated brakes on all four wheels and hydraulic shock absorbers. The saloon body is of the coach-built type with leather upholstery and comfortable accommodation for five persons. Altogether the new "Cadet" is one that makes a strong appeal and one that is likely to achieve considerable popularity.

American and Canadian Cars

Among the American and Canadian exhibits the Buicks take a prominent place. Hitherto fitted with six-cylinder engines, these now appear with 'straight-eight' power units of respectively 26·4-h.p. and 30-h.p. Overhead valves are retained while a new type of 'synchromesh' silent three-speed gearbox has been adopted. The cheapest Buick is listed at £398 as a very completely equipped saloon. The Chrysler Company is catering for all classes of users, the models ranging from the Plymouth four-cylinder car at £226 to the 40/125-h.p. 'straight-eight' Chrysler at £1,260. Perhaps the most popular of the series is the 20/60-h.p. Light Six," which sells at £299. Another popular car is the Essex which has not only been further improved, but is now being offered at considerably lower prices, with five-seated saloons ranging from £225. The same manufacturers show the Hudson eight-cylinder car, very popular in the United States and likely to become so in this country, in view of the fact that it is now available at £390.

Popular French and Italian Cars

Among the cars popular with medical men is the Citroën, of which there are two models, 12·8-h.p. four-cylinder and 19·3-h.p. six-cylinder, both of which have been improved in detail, notably as regards the brakes, which are now of the servo-operated variety. While thoroughly up to date in design and construction one of the most noteworthy features of the Citroën vehicles is the attractive prices at which they are now available. De luxe models on both chassis are also being produced at higher but equally reduced prices, the additional equipment including a sunshine roof, furniture hide upholstery, safety glass windows and screen, etc. A French car that has been on the British market for many years is the Peugeot. Only two types of chassis are being built—10-h.p. four-cylinder and 16-h.p. six-cylinder—both of which are offered at relatively low prices. A feature of these cars is the provision of lugs below the axle under which jacks can be conveniently and securely placed. The Renault Company, another old French concern, is building cars with four-, six- and eight-cylinder engines, all attractively priced. Fiat cars, which are now being mainly produced in this country, have been improved in detail and lowered in price. Three models are being made of which the more interesting from the medical man's point of view are the 10/30-h.p. four-cylinder and the 18/55-h.p. six-cylinder models.

Notable Motor Bodywork

The annexe to the main hall is, as usual, devoted to a display of cars fitted with special bodywork by carriage builders. Medical motorists who do not mind the slight extra cost can exercise their choice of any particular design of bodywork. There are too many attractive vehicles in this section of the show to refer to them all. Mention may, however, be made of the "Sandwich" coach-built saloon shown on a 16-h.p. Austin chassis by Martin Walter, Ltd. Attention may also be drawn to the examples of high-grade coachwork of Mann, Egerton and Co., Ltd., a firm that has for some years devoted special attention to the motor requirements of doctors.

Prices for 1931

Although a general reference has been already made to the lower prices of 1931 cars, it may be useful to deal a little more closely with the matter of prices, taking £450 as the outside limit for the average medical man, having in mind the standard saloon in all cases. As a choice at under £150 are three of the Baby: the Austin, Morris Minor, and the Singer Junior. For more than fourteen makes are available from £151 including the Wolseley Hornet, the Citroën, Morris Cowley, and Standard. At between £201 and £250 there are fifteen models, nine with four-cylinder and six with six-cylinder engines, among them being the reintroduced Singer 'Ten" and the Morris Major. Six-cylinder cars predominate in the £251–£300 section numbering thirteen as against eight with four-cylinder engines, while in the £301–£350 division there are four "sixes" as against only three "fours". Among the cars ranging in price from £351 to £400 two "straight-eights" compete with an equal number of 'sixes" while at prices varying between £401 and £450 the buyer has a choice of one "four" five 'sixes," and three "eights."

In connexion with prices, it may be added that Messrs. Mann, Egerton and Co., who are mentioned above, cater specially for doctors as well in London as at their four establishments in the Eastern Counties have just issued a very handy *1931 Car Buyers' Guide*. In this the different models available are set out in the order of their list price under the headings of chassis, two-seaters, tabriolet and coach-built saloons, landaulettes and limousines. Thus it is an easy matter for a doctor to pick out from the *Guide* the names of the models he can choose from within the limits of what he is prepared to pay.

The Accessory Section

A rapid walk round the galleries at Olympia shows the wonderful variety of accessories now available for use on motor vehicles. It also proves that although the headlight problem has not yet been completely solved, lamp manufacturers have evolved many devices which alleviate it to a considerable extent, dipping head-lamp arrangements being now quite numerous.

One of the features of the gallery exhibits is the large number of firms catering for the lubricating oil and grease requirements of motorists. The products of all the old-established firms whose names are familiar may be relied upon, but the motoring doctor will do well to stick to the quality and brand recommended by the maker of the particular car used and to remember always that cheap lubricant is false economy.

In view of the popularity of coil and battery ignition the variety of designs available indicates that no effort is being spared in steadily improving the designs to secure reliability of operation. So too, sparking-plug manufacturers are taking their share in the work of improvement. Notable among the latter are the Lodge plugs, the insulator of which are made in accordance with a patented method which ensures maximum electrical insulation combined with the greatest heat conduction.

Winter Motoring Requirements

While many of the accessories to be seen are mainly intended for summer or all-the-year-round use, at this time of the year when frosty and cold weather may be expected to come upon us at any time attention may be drawn to the various aids to winter motoring examples of which will be found on such general display stands as Carriages: these include radiator muffs and also stoves and heaters of various kinds for use in the garage to prevent freezing of the water in radiators and cylinder jackets, and also to facilitate easy starting on cold mornings. Those who prefer to add an anti-freezing medium to the cooling water rather than use a stove will find several are available, prominent among them being the "Zero" glycerin prepared by Price's Patent Candle Company, Ltd., and the 'Stop-it-Freezing" preparation of the County Chemical Company, Ltd.

A Final Word of Warning

It does not seem to be generally known among motorists that the law now requires in all private garages even if the only petrol in the place is that in the tank or spare tin of the cars some protection against fire either in the form of a supply of sand or a portable fire extinguisher. Quite a number of the latter are to be seen at the show, and in order to be on the safe side both as regards the fire risk and offence against the law medical motorists, if they have not already done so, will do well to add a small extinguisher to their garage equipment.

C. J. W.

Scotland.

Royal Medical Society of Edinburgh

THE opening meeting of the Royal Medical Society of Edinburgh, which started its 194th session, was held on October 17th, when Emeritus Professor G Lovell Gulland delivered the inaugural address He recalled that he had been president of the society in 1886–87, and spoke of the changes that had occurred during the forty-four years since he had occupied the chair In those days, he said, anatomy and pathology had to be learned as thoroughly as to-day, but bacteriology was in its infancy, and the bacilli of tuberculosis, diphtheria, and enteric fever were all discovered while he was a medical student Organic chemistry was limited to a week's lectures at the end of the session Surgery was confined almost entirely to external lesions, for the abdomen, if not entirely a "closed book," was at all events very seldom opened The invasion of the abdomen by Thomas Keith, who was then extra surgeon to the Infirmary for Ovarian Diseases, was regarded as a rash and almost impious innovation At that time surgeons operated in their ordinary clothes One of the secrets of the success of the Edinburgh school, he thought, was its recognition of the fact that if a man was ambitious he must be a good teacher In other places teaching was a secondary matter, men were coerced into it by their position rather than adopting it as their main work, but in Edinburgh in the past, men began teaching young, and kept at it all their lives The custom that had prevailed in Edinburgh and in the Scottish medical schools generally, of depending largely on systematic lecturing, was a very wise one, in his opinion He had heard the system described as a transcription of a third-rate text-book by a fifth-rate copyist, and of course at its worst it might degenerate into that But at its best—and nowhere was it better than in Edinburgh—it was a powerful means of arousing interest and inspiring enthusiasm In his early days students led much simpler lives, for there were fewer amusements, even bicycling was confined to the few who dared to ride the old high machines There were then no students' union, no public dancing halls, and very little golf, athletics were not organized as they were to-day In consequence students were less distracted from their work, and most of them were dour Scots, determined to make the most of their chances He congratulated present-day students, however, on their opportunities Two things seemed to him very necessary in medical practice one was a proper annual holiday, free from worries about practice, and the second, a month or two of post-graduate study every three or five years He considered that public education in health matters to-day was much behind the times, it would have to be fundamentally remodelled before much advance in medicine could be made

Scottish Radiographic Society

The first meeting of the newly formed Scottish Radiographic Society was held in the radiological department of the Edinburgh Royal Infirmary on October 14th, under the presidency of Dr Chalmers Watson In an address on "The evolution of radiology" Dr W Hope Fowler gave a brief history of the gradual recognition of the importance of radiology in the past thirty years The utility of x rays, he said, in the diagnosis of bone and joint injuries, and in the location of foreign bodies, had been quickly recognized by the surgeon, but the physician had sought help from this source very much later, probably because the only apparatus was very crude, being really a glorified medical coil The best x-ray tubes of the time were easily damaged, and had little power of penetrating the denser parts of the body Improved equipment, however, was soon available, and a gradually increasing number of workers made it apparent that the living body would ultimately be almost as carefully studied as the dissecting-room subject, but progress was slow up to the war Since then, the study of the brain and spinal cord, and of the alimentary canal and gall-bladder, had become common More recently the administration of a drug by the mouth outlined the kidney shadows and enabled the physician or surgeon to make a satisfactory diagnosis Radiology had, in fact, made the exploratory operation almost a thing of the past With regard to radium, all that could be said at present was that it could relieve, and in some instances cure, cases of cancer, but no one was yet in a position to state positively the group of cases that could be definitely cured The best results would be obtained by perfect team work between the radiologist, surgeon, physician, and physicist The work done in Stockholm in this direction had been ideal, that of Paris came next, and then the work of one of the London hospitals While radium had received much attention, deep x-ray therapy, in his opinion, was equally if not more important The highly penetrating x rays had many properties in common with the gamma radiation of radium, and were useful for almost similar purposes In many types of tumour, more especially the deep-seated tumours, the disease could be more effectively dealt with in this way To obtain similar results with radium, huge quantities had to be used in order to enable an effective amount of radiation to reach the deep-seated parts, the only alternative being operative procedure in which small amounts of radium were buried in the affected tissue This had the disadvantage that the opening up of the tissues greatly increased the possibilities of producing a spread of the disease Patients treated by deep x-ray therapy could, in the majority of cases, be treated as out-patients, and the time of treatment was considerably shorter than that required for radium Moreover, the physical and technical side of deep therapy had been much more carefully studied than that of radium, and much more was known about its effects

In expressing thanks for the address Dr Chalmers Watson paid high tribute to the value of Dr Hope Fowler's pioneer work in the Royal Infirmary in promoting this branch of science The radium treatment of cancer was in the forefront of public interest to day, and there was, indeed, a risk that in some quarters it was being studied too intensively, to the exclusion of other forms of radiation. The results obtained in the Madame Curie Hospital organization had been so favourable that some experts had been led to rely wholly on radium in the treatment of cancer of the uterus In cancer about the region of the mouth highly favourable results had also been recorded by many surgeons, the use of radium being here frequently combined with other appropriate surgical treatment In a large group of cases, however, comprising those generally included under the term internal cancer, radium had so far proved of little or no value, and for this group the surgical removal of the growth in its early stages was still the only known remedy It had clearly been established that faulty dosage or technique was apt to aggravate rather than cure the disease An intensive investigation of the subject was now made possible in Scotland by the establishment of four radium centres, working under the National Radium Trust, and the details of the organization set up was a matter of great moment to the community The services of highly trained radium experts were essential in the first place Team work, combining the knowledge of the radiologist with that of the surgeon, physician, and pathologist, had proved the basis of the success so far achieved, a thorough system of records, by which every case treated would be kept under observation for years, was absolutely necessary There was good reason for hoping that the new Scottish Radiographic Society would contribute to the extension of knowledge of radiation as a curative agent

Post Graduate Courses in Glasgow

The syllabus of the Glasgow Post-Graduate Medical Association for 1930–31 is practically on the same lines as in former years Teaching has been arranged in medicine, surgery, and midwifery, and also in the various special branches To general practitioners the weekly demonstrations, which are held on Wednesday afternoons at 4.15, should prove most attractive and instructive There are twenty-six meetings arranged, and the fee for the course is three guineas With regard to the special courses, there is one in ophthalmology, in clinical obstetrics and ante-natal work, in diseases of the ear, nose, and throat, and in radium therapy Many practitioners may

ish to take advantage of the offer of clinical assistantships which are available during the whole winter, and graduates will have the opportunity of becoming attached to wards or to out-patient departments where they will have full scope for studying modern methods of diagnosis and treatment. It is recommended that clinical assistants appointed should devote the whole or a major part of the day to their work in order to get the full benefit and a period of at least three months should be spent at the hospital. Further information and a copy of the syllabus, may be obtained from the secretary of the Glasgow Post-Graduate Medical Association, Dr. James Carslaw, 9 Woodside Terrace, Glasgow, C.3.

Provision for Mental Defectives.

A revised scheme for the construction of Cogarburn Institution for Mental Defectives was considered recently by the Public Health Committee of Edinburgh Town Council on a report by Dr. Guy, medical officer of health for the city, and Mr. E. J. MacRae, city architect. Two contiguous estates, a short distance to the west of the city, extending to 420 acres, were purchased by the Edinburgh District Board of Control for this purpose in 1923, and a start was made with their development before the Board handed over its functions to the town council. The report points out that if the original plan were adopted, the buildings would be very scattered, the nurses' home for example, being about half a mile distant from the hospital. This would involve increased cost in construction and management, compared with other institutions of a similar type—for instance the institution at Coleshill, Birmingham, recently opened under the same Act. Here, accommodation for sixty mental defectives has cost about £8,000, compared with an estimated cost of £13,000 for fifty at Cogarburn. In the Cole hill institution the radial distance from the centre to any portion of the estate barely exceeds a quarter of a mile. It is suggested that the Cogarburn institution should be re-planned in a more compact fashion thereby saving many thousands of pounds through concentration of central heating, diminution in area of roads, etc. According to the present plan the total cost of the building would probably be about £600,000. The more compact scheme, it is thought would not result in any loss of amenity, health or comfort and would add considerably to the efficiency of the institution.

England and Wales

Unoccupied Beds in London Voluntary Hospitals.

King Edward's Hospital Fund for London has been holding an inquiry into the relation between the number of voluntary hospital beds in London and the number which are on the average actually occupied by patients, and has just published a report on the subject. There must, of course, always be some beds unoccupied. There may be some temporarily out of use for cleaning, disinfection, building alterations, or other causes. Again some must be kept ready for accidents or other emergencies as well as for isolation purposes, there must also be an interval between one patient and the next. If it should be found possible to decrease this margin between beds available and beds occupied, the result would be to add to the effective bed accommodation with only a comparatively small addition to maintenance expenditure and no capital cost. The margin differs widely in different hospitals, and the report is designed to assist each institution to ascertain how and why these differences occur and to decide whether the fullest use is already being made of the available beds or whether the margin can be reduced. The report, which deals with the year 1929, shows that taking the hospitals as a whole, the margin was on the average 16 out of every 100 beds, and that this figure may be taken as representative and not abnormal. Out of 15,952 beds an average daily number of 519 were closed owing to building operations, cleaning, repairs, and sundry other causes, leaving about 13 per cent. or the total to be the special subject of the inquiry suggested in the report. For this purpose an analysis is given of the figures for each hospital as compared with other hospital doing similar work and with the average of all such hospitals. A prefatory note discusses the information obtained by the inquiry, and sets out the chief general conclusions that may be drawn from the figures. Copies of the report may be obtained from the offices of the Fund at 7, Walbrook, E.C.4.

Lord Mayor Treloar Cripples Hospital and College.

A remarkably interesting and well-illustrated annual report has been published by the Lord Mayor Treloar Cripples' Hospital and College for the year ending March 31st, 1930. The coming of age of this institution was celebrated in September, 1929, and was followed in October of that year by a festival dinner at the Mansion House, as a result of which over £40,000 was raised towards the rebuilding of the hospital. Until recently the wards used were timber structures remaining from the Princess Louise Military Hospital for troops returning from the Boer war, thus they have been in occupation for about thirty years. It was decided that rebuilding should result in the provision of five ward blocks, each of sixty beds. These wards have been planned with a southern aspect, and open on to a continuous terrace, nearly 1,000 feet long and 25 feet wide, with sloping ways and steps leading to the ground. Each unit of sixty beds contains two wards each of twenty-four beds, two wards each containing four beds, and four cubicles, with a centrally placed room for the sister in charge. At the north side of the wards there is a sanitary spur at each end, with an administrative block in the centre, comprising a surgery, store room, ward kitchen, and nurses' cloakroom. Each of the twenty-four-bed wards will have folding doors securing full access to open air and sunlight. Outside the wards there will be a ten-foot-wide glass-roofed verandah, extending for a length of 136 feet. The first of these new blocks is now ready for occupation, and continuation of the whole scheme is in active progress. All the beds in the hospital at Alton and its Hayling Island seaside branch have been in full use through the year.

In his annual report Sir Henry Gauvain, the medical superintendent, comments on the change that has taken place in the nature of the hospital during the last ten years. Before 1920 hardly any patients were admitted to the hospital unless they were suffering from non-pulmonary tuberculosis. With the great awakening of the public conscience in health matters that followed the great war provision for this class of case began to be made increasingly throughout the country, and it therefore became possible to arrange for all types of crippled children to be treated at Alton. The Portsmouth authorities actively co-operated, and an orthopaedic clinic was established in that city, fifty-five beds being reserved in the hospital for Portsmouth children suffering from any type of crippling. This process has continued, and a similar scheme has now been arranged in connexion with Southampton where a weekly clinic has been opened. The work has extended also to the whole of the county of Hampshire, and weekly clinics conducted by the main hospital have now been established in seven areas; others will be brought into being in the near future. Even so the bulk of the work of the parent hospital is still concerned with the treatment of surgical tuberculosis, the principle of conservatism being faithfully followed, as has always been the case at Alton. To obviate the previously necessary extensive and mutilating operations, ingenious bone-grafting procedures have been designed to immobilize more completely tuberculous joint lesions, but they have so far only achieved a modified success, especially in children. More importance is attached to the application of surgical methods towards the correction of deformity resulting from extensive disease—for example the performance of a bifurcation osteotomy of the femur. *Plastic operations for facial* restoration after lupus vulgaris have also been conducted with remarkable success. Special attention is paid to after-care; discharged patients are seen repeatedly at the London out-patient department or this hospital and in the clinics throughout the county, as well as at Alton. Interesting details are given in connexion with the work of other departments, and an appeal is made for still further financial assistance.

Leeds and West Riding Medico Chirurgical Society

The opening meeting of this session of the Leeds and West Riding Medico-Chirurgical Society was held at the Leeds General Infirmary on October 10th Over one hundred members were present to hear the opening address by the president, Mr J F Dobson, surgeon to the Infirmary, and professor of surgery in the University Mr Dobson recalled that his father had been president of the society before him in years gone by, and was happily present at this meeting in good health Members expressed their pleasure at seeing Dr Dobson senior by their applause, after which the president delivered a delightful address upon the causation and prevention of urinary calculus In this Mr Dobson emphasized the factors which have been proved to play a part in the causation of stone in the kidney, and examined various old-fashioned beliefs by the light of present-day knowledge and experience He noted that stones in the kidney and bladder were much less commonly found among patients occupying the beds of the Leeds General Infirmary than was the case some years before the war He had no doubt that the improved nourishment of the general public had a great deal to do with this freedom from urinary calculus, which had been apparent to several members of the staff of the hospital in recent years After emphasizing the important part that certain urinary colloids must play in keeping inorganic salts in a state of solubility in the urine he put forward an ingenious view that if the profession had at its disposal a means of destroying the organic stroma around which the crystals formed urinary calculus, the stone could be dissolved and surgical removal obviated In other words, the problem of stone in the kidney was capable of being solved if it were only possible to destroy the colloid organic stroma around which crystallization and stone formation started The address was given in almost conversational style, and proved all the more interesting on this account, as it gave the impression of being a gathering of friends and colleagues, rather than a cold formality to hear a presidential opening address After his address, the president gave an interesting demonstration of pathological specimens illustrative of stone in the kidney, and some dozens of lantern slides were shown in an adjacent room before the meeting, illustrating the whole subject of urinary calculus Other members showed cases Dr Veale brought a female patient suffering from recurrent haematemesis, who had been examined by x rays repeatedly, and even by laparotomy, so that members had no doubt as to the diagnosis of gastrostaxis, which Dr Veale advanced for discussion Mr Alfred Gough demonstrated a specimen illustrative of a new operation for uterine prolapse, where the removal of the vaginal walls and cervix formed part of the operative procedure Mr Scargill showed a series of radiograms of a foreign body in the shoulder-joint, for which surgical operation had been advised, and this was finally averted by the disappearance of the foreign body and all the symptoms spontaneously The members were amused when the speaker revealed that the subject of the discussion was himself Mr Chamberlain showed a remarkable collection of spoons and other foreign bodies removed at intervals from the intestinal tract of one man, a prisoner from the local prison, who preferred residence in hospital to the prison regime, and who deliberately swallowed spoons or any other foreign bodies which came handy to his purpose Lastly Dr Ingram demonstrated patients and materials illustrative of the "elastoplast" bandage treatment of chronic ulcers of the legs

Pathological Society of Manchester

At the opening meeting of the session Dr E Bosdin Leech delivered his presidential address on "The pathology of Manchester" His opening remarks dealt with the foundation of the society in 1885, by members of the younger generation, who found the local medical society rather too staid for them and who wanted a society where they could wrangle and argue with each other Since then it had done pioneer work, for Delepine began to diagnose pathological specimens for its members at a small fee The work, however, increased so rapidly that it necessitated the formation of a special department, which later became the Public Health Laboratories As this was the first thing of the sort done, the society could claim to have had a hand in the formation of clinical laboratories, now so important a factor in the diagnosis of disease Dr Leech then discussed the development of pathology in Manchester, from the days when Charles White's museum used to be a sight of the town, giving its relation to the development of pathology in general He described the work of the six men who had held the chair of pathology—Dreschfeld, Delepine, Lorrain Smith, Boycott, Dean, and, now, Sharp Dunn Finally he described certain occasions when Manchester pathologists had led the way They originated the present fever hospital system, to combat the terrible ravages of typhus and small-pox early in the last century They brought to light the connexion between certain trades and cancer They were responsible for Manchester being the first town to adopt the modern bacterial methods of treating sewage They had been pioneers in the use of cod-liver oil medicinally, and in the treatment of cataract, and Percival's medical ethics was still the basis of all recent codes

School of Chiropody, Manchester

The inaugural address at the opening of the School of Chiropody in connexion with the Manchester Foot Hospital was delivered on October 13th by Mr Harry Platt, F R C S, chairman of the hospital It was no necessary, he said, to emphasize the importance of chiropody to-day The conditions of modern civilization were producing an increasing number of minor ailments of the feet, so that the work of the hospital was bound to grow as its services became more widely recognized Chiropody clinics, he thought, should have been instituted by the ordinary general hospitals, just as special clinics were provided for the treatment of the ear and the eye The general hospitals had quite neglected to develop chiropody clinics where patients could be treated at convenient times by qualified practitioners There was no doubt that the Manchester Foot Hospital, which was obviously needed, should take its place with the other hospitals and receive financial support from the public hospital funds Referring to the practical work of the new school Mr Platt said that much of it would be done by students and members of the chiropody staff Criticisms were often made that the student who assisted in the ward of a hospital was learning his profession at the expense of the patient It was well known, however, that the best hospitals were those which provided instruction, the maladies of patients in such hospitals were studied in much greater detail than in hospitals where there were no students At the beginning of their course students were very young, and youth was critical Every teacher knew that it was not easy to blame the young student Reasons had to be substantiated, and this necessity for lucid thinking, stimulated by frequent discussion, led to a crystallization of knowledge that was all to the benefit of the patient Besides the training of students, the school would provide opportunities for post-graduate study This service would be of inestimable benefit, especially to practitioners working in small centres The standard of the curriculum was a high one, and it would not, and should not, be an easy matter to become a qualified chiropodist He wished the new school and the hospital every success

By-laws for Improvement Areas

The Ministry of Health has issued to local authorities a series of model by-laws (Series XIII C) designed to prevent overcrowding and to secure and maintain a proper standard of housing conditions in improvement areas as required by Section 8 of the Housing Act, 1930 The areas, which are defined by Section 7 of the Act, consist of aggregations of houses in varying degrees of deterioration where the general conditions are not so serious as to justify wholesale clearance Among the subjects dealt with in the by-laws are the registration and inspection of houses, the adequate provision of sanitary and lighting facilities, and the regulation of the number of adults and children occupying rooms wholly or partly used as sleeping

apartments Such accommodation must be sufficient to allow the separation of persons of opposite sex over 14 years of age other than persons living together as husband and wife Owners of houses are required to observe certain conditions relating to cleanliness repairs and the ventilation of rooms and closets A special section is devoted to hygienic measures applying to lodging houses and to the precautionary steps that must be undertaken in the erection of new lodging houses to diminish the risks of fire The Minister explains in a prefatory note that these by laws may have to be adapted to local conditions and that experience of the working of the new Act may lead to their modification

Ireland.

Peamount Sanatorium

In the course of her medical report on this institution for 1929 Dr Alice Barry, medical superintendent, states that 857 patients were treated in the sanatorium, the number of admissions being 637, of these, 94 were readmissions The number of patients discharged was 622, including 53 deaths, leaving 215 in the sanatorium at the end of the year The average number of beds occupied during the year was 245 73 compared with 240 34 for 1928 General treatment was carried out on the principle of graduated rest and exercise The enforcing of the necessary periods of complete rest during the day has been found a difficulty, because some patients failed to realize that periods of complete rest were part of a definite treatment Special treatment included the use of pneumothorax apparatus, which was provided during the year In one case where the toxaemic symptoms were very acute there was a rapid abatement in temperature and pulse Sanocrysin was employed in carefully selected cases, but the number was insufficient to give any definite conclusion In others tuberculin was administered with very satisfactory result Ultra violet radiation, as an additional aid in the treatment of non pulmonary cases, was found to increase muscular tone Altogether 74 cases were treated by this method during the year Radioscopic examinations were made in doubtful cases and in cases of lung collapse to note the progress of treatment The children's pavilion, which is an independent unit, continues to be a most important part of the sanatorium During the year 102 children were admitted, 105 were discharged, while the daily average attendance was 34.2 The daily routine of each child is under medical supervision, and consists of alternate periods of rest lessons and play Regular school classes are held in reading writing, sewing, folk-dancing and organized play under a specially trained teacher The co-operation between the nursing and teaching staffs has greatly assisted in making this work a success Both boys and girls hand knit their own jumpers, vests, and stockings, a knitting machine has also been in use for some time Teeth are examined periodically, and treated when necessary at the dental clinic in the sanatorium Two artificial sunray lamps were used during the winter The number of discharged patients is stated to be 7,113, excluding readmissions The annual inquiry has disclosed appalling housing conditions to which some of the patients have to return after a course of treatment in the sanatorium In one case a child discharged as "much improved" returned to live in a small room with ten other people six sleeping in the only bed, and five, including the child in question, on the floor Such information appears to be readily given by the patients themselves

Health of School Children in Northern Ireland.

During the last three months Dr Matilda Matson medical officer under the Health and Well being Scheme has carried out the annual medical inspection in thirty schools in the Eglinton, Culmore Clondermott Ballykelly, and Myroe districts According to her report the greatest improvement was the diminution in the number of cases of defective teeth since the operation of the free dental scheme All the children requiring treatment, however, do not appear to have availed themselves of this opportunity Of twenty two children who were invited to get their eyes tested under the free spectacles scheme only eight attended for this purpose Cases of enlarged tonsils and adenoids are reported to be decreasing many children undergoing operation in the Derry hospitals

Salaries in Rathdown Union

At a recent meeting of the Rathdown Board of Guardians, Dr Boyce (Blackrock) and Dr King (Stillorgan), representing the medical officers in the Rathdown district, requested that the existing scale of salaries should be amended to permit of increased increments and maximal salaries A resolution recommending the application to the favourable consideration of the Department of Local Government and Public Health was passed

Correspondence.

EFFECT OF ACTIVATED FLUORESCEIN ON GROWING BEANS

SIR,—Under this heading in the last issue of the *Journal* (p 643) Dr Sylvia Wigoder gives a brief account of her investigation into the effect of x rays, with and without concomitant use of fluorescein, on growing bean roots Dr Wigoder summarizes her experiments as suggesting that the intensifying action of "activated" fluorescein on x rays is negligible—a statement the meaning of which, however, is somewhat obscure in view of the fact that fluorescein would only be "activated" when irradiated

As regards certain of the experiments described, absence of the "slight difference" observed in the roots that had been both irradiated and treated with fluorescein, and those that had been irradiated only, when the beans were irradiated without being covered with black paper, may perhaps be accounted for by the consequent exposure to light For I have found that peas soaked in a solution of sodium fluorescein and then exposed to sunlight for a brief period may be incapable of germination If however, using the same strength of fluorescein, but with shorter exposure to light growth does occur, this is apt to be delayed, while roots and leaf stalks are stunted in comparison with control seedlings Other possible causes of failure in Dr Wigoder's work are concerned with (1) the reaction of the fluorescein solution, and (2) the amount of "screening" if any of the x rays employed for irradiation no information being afforded on either of these points

In our paper published in the *Journal* last year[1] stress was laid on the fact that it had been found essential, in order to obtain good results in the treatment of cancer, that the reaction of the fluorescein solution should be definitely alkaline Professor F E Fyman, F R S, having pointed out to us that the fluorescent property of the drug is greatly enhanced on passing from a faintly acid or neutral reaction to one of alkalinity In our belief non attention to this point has accounted for absence of success in certain instances in the treatment of cancer cases

In a brief paper recently published Dr Gouldesbrough points out that, for the purpose of exciting the therapeutically important secondary radiation induced when sodium fluorescein is activated by x rays a fairly soft ray is necessary—that is a ray that would not be able to penetrate much below the surface of the body Either a very soft ray or a hard ray did not appear to be of much use" He considers that in order to obtain the desired effect, filtration of the x rays through an aluminium screen 4 mm in thickness is essential Perhaps Dr Wigoder will be so good as to supply further information in regard to the various point to which I have referred—I am etc,

Athenæum Oct 18th. S MONCKTON COPEMAN

[1] *Brit Med Journ* June 28th 1930 p 1133
[2] *Proc Roy Soc Med* October 1930 p 1

TUBERCULOSIS OF THE TONGUE

SIR,—Para 328 in the *Epitome* in your issue of October 11th has interested me The observation of R D'Arnoy and J W Miller, that lingual tuberculosis is rare, is borne out in my experience I have met with only one case during my eighteen years as tuberculosis medical officer in co Down This patient was first seen by me in April, 1926 He had unmistakable signs of pulmonary tuberculosis, and tubercle bacilli were found in his sputum There was great thickening of the tongue along the left border, and in the thickened portion, on the under side, an elongated ulcer with irregular edges The temperature was ranging between 95° and 101 6° F, but responded favourably to rest in bed When it had ceased exceeding 99° tuberculin treatment was begun by the family doctor under my direction, and has been continued ever since The patient is now on large doses, so is given an injection once in four weeks He returned to his work as a driller in a Belfast shipyard over two years ago and still goes to it, travelling by motor cycle about three miles to the nearest railway station, and completing the journey by tram His general health is good, and he is quite fit for his work The thickening of the tongue has disappeared, and the ulcer has healed, leaving a slightly depressed scar —I am, etc,

Belfast Oct 18th JOHN R GILLESPIE

ANAESTHESIA FOR THROAT OPERATIONS

SIR,—I was very much interested in Mr H G Bedford Russell's statement in his article in the *British Medical Journal* of October 11th (p 594) that "the introduction of a catheter without the help of an ether induction or of the deep sleep afforded by paraldehyde—that is to say, under the influence of gas only—must be regarded as a great achievement throat operations could easily be performed under gas and oxygen anaesthesia only—that is to say, throat operations would be free from any risk of post-operative vomiting"

It may interest Mr Bedford Russell to know that for the last four years I have been giving gas and oxygen endotracheally for operations on the tonsils and jaws, introducing the tube either through the nose or mouth—under gas only At first I used a spray of 10 per cent cocaine, but I found that I could obtain just as good results without any spray at all I first demonstrated this method in Amsterdam in 1927, and have done so in Hamburg (1928), and in Prague and Birmingham (1929) It formed part of the subject of my post-graduate lecture at the Royal Dental Hospital this year, the publication of which gave rise to some correspondence in the *British Dental Journal*

It is quite true that patients who have had their tonsils dissected under gas and oxygen without ether or paraldehyde being used at any time are freed from the risk of post-operative vomiting and recover much better than those who have had the anaesthetics usually employed No premedication is necessary in order to pass the tube under gas, but it makes the process pleasanter for the patient and easier for the administrator When I employ premedication I aim at making the patient drowsy At the demonstration I gave at this year's annual meeting of the British Dental Association I used premedication in one case only—the other two cases had no premedication of any kind—I am, etc,

London W 1 Oct 17th F P DE CAUX

TRACHEAL INTUBATION

SIR,—It probably happens by no means infrequently that methods, etc, which are claimed as novel have actually been described long before, and have either never been adopted or have been dropped after a time The method of intubation described by Mr Bedford Russell in the *British Medical Journal* of October 11th (p 594) is usually regarded as somewhat of a novelty in anaesthetic procedure, and is probably quite correctly ascribed to Magill However, "Kuhn's tube" is figured in the anaesthetic textbooks, and it is interesting to know that the method of intubation of the larynx for therapeutic and anaesthetic purposes was fully described by F Kuhn in various *German medical papers* between 1900 and 1903 The technique for the oral and nasal routes was given in detail, both *with and without* general and local anaesthesia, with full particulars of dimensions of tubes, shape and curvature of stylet, etc Further, it was recommended that all students should become familiar with the manœuvre The anaesthetic used was, of course, chloroform, but the principle was identical—I am, etc,

London, N W 8, Oct 13th R J CLAUSEN,

MARRIAGE OF DEFECTIVES

SIR,—*Much attention has been drawn* in the press to the recommendation of the Board of Control, put forward in its report for 1929, that the marriage of defectives should be prohibited by law The object of prohibiting by law the marriage of defectives is to prevent their procreation This end, however, can be realized (1) more effectively, (2) more humanely, and (3) less dangerously, by making the marriage of defectives conditional on their sterilization *before marriage*

Effectiveness—It is well known that certain high grade defectives are very fertile, and have many illegitimate children One of the acknowledged objects of marriage specified in the marriage service and applicable to normal people is that it acts as a deterrent from promiscuity Why should not this also apply to defectives? If defectives are legally prohibited from marrying, the incentive to promiscuity will be increased and illegitimate children will be born The measure will thus be ineffective in that it will promote illegitimate procreation by defectives

Humanity—Many high-grade defectives have strong sexual needs To deprive such persons of the right to express these needs in lawful marriage is hardly humane Moreover, it is hardly in the interests of children to be born illegitimately of defectives

Social Danger—Much is made by the opponents of sterilization of the argument that the measure would result in the dissemination of venereal disease But many who in one breath condemn sterilization on these grounds, in the next breath advocate the prevention of marriage of defectives as a means of limiting their fertility Such persons are apparently unaware of the inconsistency between these two arguments The increase in promiscuity which would follow from preventing the marriage of all defectives would clearly be accompanied by a dissemination of venereal disease In this sense the prevention of marriage of defectives would be socially dangerous—We are, etc,

R LANGDON DOWN
J A RYLE
C P BLACKER

Eugenics Society, Grosvenor Gardens, S W 1, Oct 13th

PERSONNEL OF A RADIUM CLINIC

SIR,—In Mr Fitzwilliams's letter (October 11th, p 621) there are two statements which call for comment He says "So far the results of x-ray work in the treatment of cancer have been disappointing to surgeons"

In a review[1] of the results of combined radiological and surgical treatment of cancer of the breast at Radium hemmet, 1921–23, the following figures are given under the heading "Percentage of five-year healings by different methods"

Operation only (Nyström) 20–23 per cent
Operation and post operative γ radiation 29 3 per cent
Operation with pre and post-operative x radiation 40 per cent

Turning now to cancer of the cervix uteri "Broadly speaking, the results obtained [by radiation] are equal to those obtained by operation"[2] The treatment mortality of cancer by the various methods is as follows surgery, 17 3 per cent[3], radio active substances with γ ray treatment (Doederlein), 0 6 per cent[4], radium (Stockholm), 2 1 per cent[5] X-ray treatment as an auxiliary to surgery can double the cures in breast cancer, and as an auxiliary to

[1] *Acta Radiologica* April, 1930
[2] Public Health Reports, No 40, p x
[3] Ibid, p 11
[4] Ibid, p 11
[5] League of Nations Health Organization *Cancer Commission* p. 37

treatment by radio-active substances can cure as many cases as surgery, and at the same time reduce the treatment mortality from 17 3 to 0 6 per cent How are these figures disappointing?

Mr Fitzwilliams further says "But if it should be found that these rays have the effect we hope they have, upon deep-seated growths on which radium can hardly be expected to be of use, and the two related wave-lengths prove to be complementary to each other, a position they do not hold to-day, we shall have a pair of weapons for surpassing the use of the knife" A consideration of cervix cases proves incontestably that x rays have a powerful complementary effect The Paris figures (League of Nations Health Organization) are as under

Year	Percentage of Cures	
1919 ..	10	—
1920 ..	17	—
1921 ..	45	A more up-to-date deep therapy apparatus installed.
1922 ..	56	Second deep therapy apparatus installed
1923 ..	30	Deep therapy alone frequently practised

A statistical evaluation of the complementary action of x rays is afforded by the Munich figures, as under [1]

Percentage of Five-year Cures

Group 1—Operable cases Radio-active substances alone 39.3 per cent but when combined with x-ray treatment 41.5 per cent.

Group 2—Borderline cases Radio-active substances alone, 20 9 per cent but when combined with x rays 23.5 per cent

Group 3—Inoperable cases Radio-active substances alone 8 9 per cent but when combined with x rays 13.1 per cent

Thus, even in the very early cases, x rays give an added chance of cure, while in the inoperable cases, for every 8 9 cases curable by radio-active substances alone, 13 1 cases are curable when suitable x radiation is available and applied—I am, etc,

Birmingham Oct 1 th. A A Russell Greig

PYREXIA OF UNCERTAIN ORIGIN

Sir,—The recent reports in the *Journal* of cases of pyrexia of obscure origin prompt me to mention the occurrence of a number of similar cases in this neighbourhood in the autumn of 1928 They were described in a brief note in the *Lancet* (1928, vol ii, p 1050), where I stated that a search for *B faecalis alkaligenes* in one case had proved negative A series of these cases was embodied also in a paper entitled "The problems of some diseases *ex alimentatione* or *ex infectione*," read before the North of England Branch of the British Medical Association in March, 1929

Many of these patients showed symptoms or abdominal disorder, and were sent into hospital for observation, with the tentative diagnoses of appendicitis, cholecystitis, acute abdomen, pneumonia, meningitis, typhoid, and paratyphoid fever One common basal finding in all was acetonuria, and treatment directed to this resulted in the abatement of symptoms Reference to the biochemical findings in some of these cases was published in the *Journal* (1928, vol ii, pp 786 and 838)

In one case where a boy aged 11 was sent in with symptoms of meningismus—cervical rigidity lying curled up on his right side Kernig's and extensor plantar response positive on one side—the condition cleared up in three or four days time Even after he had regained consciousness and was able to sit up in bed acetone was present in very large amounts in his urine the urea figure rose to 4.5 per cent, and later to 5 per cent.

One other boy was a puzzling case He was admitted in September with a history of having had pain in his right iliac fossa since June this had been diagnosed as appendicitis though the symptoms were not at all typical The pain seemed to be more in the muscles In addition he had diplopia and increased right knee jerk and positive extensor plantar response on the same side After a few days the tenderness in the right iliac fossa disappeared but the upper right segment particularly the right rectus was tender Septic tonsils were found and were enucleated The abdominal symptoms with the other signs of nerve disturbance rather suggested the possibility of encephalitis lethargica and its myoclonic abdominal signs Treatment directed to the alkaline condition of his system ended in complete recovery My notes appended to this case were Alkaline type neuro-muscular irritability as in tetany hypocalcaemia induced through presence of a septic focus—tonsils

My interpretation of all the cases seen at this time was that there was some meteorological condition causing a wave of disturbed metabolism (intestinal hepatic, with deficient parathyroid functioning and hypocalcaemia), which explained the neuro-muscular irritability, it was located perhaps in the spinal segments, as also in the brain (cephalic tetany) This aspect seems to receive confirmation from the letter of Dr Peel of Glasgow, when he writes "Such cases are by no means infrequent here" So also are tetany, rickets, and eclampsia I regard the bacterial findings as secondary to the biochemical disturbance—I am, etc,

Darlington Oct 12th. P Chalmers

[1] League of Nations Health Organization Cancer Commission, pp 45-48.

OCCIPITO POSTERIOR POSITIONS

Sir,—Dr Kathleen Vaughan's letter in the *Journal* of July 19th (p 121) is of great interest I have attended Maori women in confinement during the last twenty years or more, and I do not recollect once having to rotate a persistent occipito-posterior position The Maori woman expels her baby in the squatting posture, being assisted by an old woman (or even man), who grasps her firmly round the abdomen from the front

The unnatural posture in defaecation adopted by the civilized person is, in my humble opinion, one of the major causes of constipation, since, the pelvic colon being incompletely emptied, a chronic toxin absorption takes place, which exaggerates the stasis and sets up a spastic condition Dilated and dropped colon, and incompetence of the ileo-caecal valve, combine to produce the picture of visceroptosis If the squatting posture for defaecation were made compulsory in hospitals, by the provision of the pavement closet, I think *there would be a more rapid* recovery of post-operative cases and those of genito-urinary troubles

I have quite recently put this suggestion before the New Zealand Department of Hospitals, but regret to say objections were raised on aesthetic grounds, this hardly displays a proper regard for enterprise, science, or enlightenment—I am, etc,

Whakatane New Zealand, Sept 2nd. J C Wadmore, Medical Attendant to Natives

ANALGESIA IN CHILDBIRTH

Sir,—I was much interested to read Dame A Louise McIlroy's observations on analgesia and anaesthesia in childbirth It is very true that a considerable amount of our maternal death rate is due to lowered resistance from excessive fatigue, shock, and sepsis, the result of withholding relief during labour and during delivery of the head Analgesia in labour has its uses I have given up using drugs for this purpose In the second stage of labour, and at the end of it, I use chloroform Other forms of anaesthesia require an assistant

I am surprised that Dame Louise McIlroy does not mention one extract, which I consider the safest and most effective analgesic I have come across in forty years—ovarian residue without corpus luteum As soon as labour has started an injection of this extract is given in the buttock, and in less than twenty minutes the pains are altered into a strong bearing down without the cramping pain usual in labour, which goes on by itself the patient being encouraged not to bear down for a considerable time—say, an hour The action is contraction of the fundus, the lower zone of the uterus and cervix relax, and the perineum is found to be very lax, and seldom tears, this, I think, is ideal The dose can be repeated every two or three hours if necessary, but usually the case is over long before that Chloroform should always be given when the head arrives on the perineum, and is guided through by manipulation. I have found the extract a

revolution in obstetrics, and it should be used as a routine in every case, it is also useful for the induction of labour

I thoroughly endorse Dame Louise McIlroy's views on the second stage of labour It is certainly advisable that a practitioner should always be in attendance during labour, and adequate financial compensation should be forthcoming Unfortunately this is always on too low a scale in public practice to get the best men Help from the Government should come in the supply of drums and aseptic towels, dressings, etc, and a fee should always be available to procure the assistance of a senior man to help a junior out of trouble, without any thought of the authorities getting the fee back from the patient This would bring our maternity mortality down The general practitioner knows well where the fault lies, but is never consulted —I am, etc,

Wallington Oct 17th A Z C CRISSY

Obituary.

E D WHITEHEAD REID, M B, B CH,

Senior Surgeon and Radiologist, Kent and Canterbury Hospital

DR EDWARD DOUGLAS WHITEHEAD REID of Canterbury, who died on October 20th from injuries received in a flying accident, was one of the first men in this country to own a private aeroplane, and his skill and care as a pilot were recognized in the air service

He was born in 1883 at Canterbury, where his father, the late Dr T Whitehead Reid, F R C P, held a leading position From Tonbridge School he went to Christ's College, Cambridge, graduating B A in the Natural Sciences Tripos, and thence to St Bartholomew's Both at Cambridge and at hospital he distinguished himself in athletic sports After obtaining the English Conjoint diplomas in 1909 he served as house-physician at St Bartholomew's, and house-surgeon at the London Temperance Hospital, and proceeded to the M B and B Ch degrees in 1910 He then made several voyages as ship surgeon, and, returning to take up his father's practice, was soon elected to the surgical staff of the Kent and Canterbury Hospital He was also appointed medical officer to King's School, Canterbury, and interested himself in ambulance work and the training of midwives During the war he served with a temporary commission in the R A M C at No 1 British Red Cross (Duchess of Westminster's) Hospital, near Etaples, and subsequently in Egypt, where he learnt to fly when acting as surgeon and radiologist to No 31 General Hospital After the war he resumed civilian work at Canterbury, and in addition to his hospital duties and a considerable private practice, he undertook the post of surgeon to the local Venereal Disease Clinic, and became consulting surgeon to the Herne Bay Hospital and the Canterbury Mental Hospital

As may be gathered from this brief record of a life cut short in its prime, Douglas Whitehead Reid was a man of abundant energy, resourceful, enterprising, and businesslike in the arrangement of his day's work It speaks much for the impression he made upon people that within a few months of his return to the place where he had been known as a boy he was able to hold together the practice built up by his father, and to secure election to the hospital staff His schoolfellows and contemporaries at Cambridge and Bart's will long remember him as a man always keen, always striving, always living intensely and enjoying life At the end of the war the ban on his unauthorized enthusiasm for flying was raised, and he was able to join an auxiliary branch of the R A F M S This made him extremely happy

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DR HARRY GEORGE CRITCHLEY, who died on October 11th at Croydon suffered much from ill-health in his later years Yet through discomfort and pain, he maintained an equanimity of bearing that was enviable and exemplary It may have been that this behaviour was a continuing characteristic of his life, for he was always best in work where patience was most needed He was born at Inverness in 1864, and received his medical education at the universities of Durham and Edinburgh, graduating M A Dunelm in 1895 and M D Ed in 1889 As an ophthalmic surgeon he worked much among children For many years he served as one of the part-time oculists in the London County Council schools and in the school clinics His clinical work was uniformly thorough and good He was also ophthalmic surgeon to the large Reedham Orphanage at Purley, Surrey, and had served as senior clinical assistant at the Royal Eye Hospital and other hospitals In his earlier years he had some thought of engaging in public health work, and consequently took the D P H of the Royal Colleges of Ireland Though he settled in practice as an ophthalmic surgeon in Harley Street and Croydon, Dr Critchley's work in this direction was not wasted, for in ophthalmology he considered the bearings of the condition of the homes of the children, of the equipment and management of the schools, and from a standpoint wider than that common to eyeworkers This was shown in his report to the Education Department on the eyesight of *children attending elementary schools*, which appeared in 1898 He was a prominent Freemason, and many friends in Croydon and elsewhere will miss him

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By the death of Dr W H PAYNE of Blackheath, on October 14th, the Greenwich and Deptford Division of the British Medical Association has lost a member who, from the beginning of his career, unselfishly devoted a large part of his time and energy to the service of his fellow practitioners William Henry Payne was born in 1870, and received his medical education at University College, London He obtained the diplomas M R C S, L R C P, in 1893, and graduated M D of Durham University in 1911 On the formation of the Greenwich and Deptford Division in 1912, Dr Payne became its secretary, and during his tenure of office was largely instrumental in starting what has now become the Greenwich and Deptford School Clinic Association There was thus secured for the local practitioners a considerable amount of work which would have otherwise been undertaken by a *full time* medical officer appointed by the London County Council The organization of the clinic involved a considerable amount of negotiation and correspondence, which was mostly conducted by Dr Payne himself In 1916, though over the age limit, he offered his services and received a temporary commission in the R A M C, serving in the hospital ship *Britannic*, and being on board when she was torpedoed in the Aegean Sea He sustained a fracture of the left ankle, was invalided home, and undertook duties in connexion with the R A F until the end of the war A colleague writes Dr Payne was one of the most kind-hearted of men He was endowed with a fund of humour, which made it always a pleasure to meet him Many an eye brightened at his approach, and the tedium of many a sick-bed was relieved by his cheery sympathy With courage and patience he endured his last, long, and disabling illness, astonishing his friends with the cool detachment with which he discussed his symptoms and their significance

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The death occurred at his residence, Colonsay House, Auchterarder, on October 8th, of Dr JAMES MACFEE, who had practised in that town for about forty years Dr Macfee was born at Colonsay, Argyllshire, in 1845, and studied medicine at Edinburgh, obtaining the diplomas of the Colleges of Physicians and Surgeons in 1870 Shortly afterwards he succeeded to his uncle's practice at Auchterarder, which he continued till 1909, when he retired For many years he was medical officer of the parish of Auchterarder and Trinity Gask Dr Macfee was keenly interested in the Volunteer movement, and ultimately held the rank of surgeon lieutenant colonel in the 4th Volunteer Battalion of the Royal Highlanders He was a keen curler and golfer, and took a great interest in freemasonry

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Mr T GLENTON-KERR, for thirty-seven years secretary of the Queen's Hospital for Children, Hackney Road, London, E, died on October 15th after a short illness

Universities and Colleges.

UNIVERSITY OF OXFORD

At a congregation held on October 16 h the follow ng medical degrees were conferred

D M —Janet M Vaughan
B M —Amy C L Clarke Victoria M Robinson.

UNIVERSITY OF CAMBRIDGE

At the congregation held on October 17th the following medical degrees were conferred

M D —E G Holmes
M Chir.—C L Tucke t
M B B Chir.—A J John on G A Eason G O Parber
M B —W J H M Leattie A M Roberts A H Birk I J Franklin Evans
B Chir.— A H Gurney A F Al op

* By proxy

UNIVERSITY OF GLASGOW

A GRADUATION ceremony was held in the Bute Hall on October 15th when Dr R S Rait Principal and Vice-Chancellor presided and conferred degrees upon the successful candidates The degrees of M B and Ch B were conferred upon the 69 candidates whose names were printed in our issue of October 11th (p 635)

The Brunton Memorial Prize for the most distinguished graduate in medicine for 1930 has been awarded to J Ferguson Heggie The West of Scotland R A M C Memorial Prize awarded to the candidate with the highest aggregate marks in medicine surgery and midwifery in the final examination for the degrees of M B and Ch B held during 1930 has been gained by William S Mack

In his address to the new graduates Principal Rait referred to the fact that they had graduated on St Luke s Day and spoke particularly to the medical graduates of the ideals, duties and responsibilities of their profession

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Museum Demonstrations

THE autumn course of museum demonstrations at the Royal College of Surgeons of England will commence on Monday, November 3rd when Mr D H Patey will demonstrate specimens illustrating the pathological conditions of the salivary glands Sir Arthur Keith will give three demonstrations on November 7th he will describe specimens of surgical interest recently added to the museum, on November 14th he will give an account of Colonel McCarrison s experiments in the production of urinary calculi with an exhibition of his specimens and on November 21st he will demonstrate specimens illustrating the enlargement of the prostate with an account of present-day knowledge concerning the etiology of the condition On November 10th and 17th Mr Cecil P G Wakeley will demonstrate specimens illustrating the pathological conditions of the scalp and cranium and of the spine and spinal cord The demonstrations which are open to advanced students and medical practitioners, will be given in the theatre of the College Lincoln's Inn Fields, W C , at 5 p m

Annual Meeting of Fellows and Members

A meeting of Fellows and Members will be held at the College in Lincoln s Inn Fields on Thursday November 20th at 3 p m when a report from the Council will be presented Fellows and Members can obtain copies of the report on application to the secretary and can if they so desire have their names placed on the list of those to whom the report is sent annually Motions to be brought forward at the meeting must be signed by the mover or by the mover and other Fellows and Members and must be received by the secretary not later than November 10th A copy of the agenda will be issued on or after November 14th to any Fellow or Member who applies

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

AT the meeting of the Royal College of Surgeons of Edinburgh on October 14th Dr James Haig Ferguson was re-elected president for the ensuing year Mr Alexander Miles LL.D vice president and Mr John William Struthers, F.R.C.S Ed , secretary and treasurer

The following 48 successful candidates (out of 106 entered), having passed the requisite examinations were admitted Fellows

L Aird, F A Blackwood R H Boyd A M Calder G A Cook M M Dalal W F de Villiers J B Dobson J C Drummond J P Fairley L B Gardiner M A Gerrard St.G B D Gray Brenda G Hallett A. M. Hendry R M Hill L L Hurwich J McQ Johnston A S Johnstone R. A Ialle D G L Lackie R M. Marshall D S Middleton J R Miller H G Mitchell H N Morten-en G Moulson A H Mowat R P Munshi N A. McCormick, D M. Mackay C W Olsen L. R Olver E Y Pearson M.B Perrin A Ronald G L Scott A L Suther land D B Sutton J Swan, C F Swinton B R Tandan R. L. Turner G Vaishnavi, A Walbank H C Warner B W Windeyer

CONJOINT BOARD IN SCOTLAND

THE following candidates have been approved at the examination indicated for which 78 candidates entered

FINAL EXAMINATION.—Jean G Clark, W G Harding, Frances K Harding D McNair R W van Cuilenburg V Sivalingam D D Steele Perkin K L Loh W G Pennington W P Shand M K Thiru vilangam A M E R Abeyesundere M S Golding W E S Winn G Brown J B D Oliver A J Abeyesundere L Bannister h C S. Menon J L K. Lawson N Y Labib H L Ong M N Rozdon R T A Morrow A I. Foster A. G Daly

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

THE annual meeting of the Royal College of Physicians of Ireland was held on St Luke s Day October 18th Drs Edward Keelan John Tait and Frederick MacSorley were elected Fellows

Professor T Gillman Moorhead was elected president and Dr William J Dargan vice president The following were elected censors of the College Medicine Dr Geoffrey Harvey and Dr Robert Marshall, medical jurisprudence and hygiene, Dr William J Dargan midwifery, Dr Gibbon FitzGibbon

The following officers were re-elected Representative on the General Medical Council, Sir John Moore treasurer Dr H Bewley, registrar, Dr T P C Kirkpatrick, librarian, Mr R Phelps

The representatives on the committee of management under the conjoint examination scheme were re-elected as follows Dr Walter Smith Sir John Moore and Dr T P C Kirkpatrick

Dr G E Nesbitt presented to the College a portrait of the late Dr H C Earl

The Services

HEALTH OF THE ROYAL AIR FORCE.

THE state of affairs described in the recently issued report[1] on the health of the Royal Air Force for the year 1929 is on the whole very satisfactory The figures relating to sickness, deaths, and invaliding from the Service are it is true slightly higher than those recorded in 1928 but they are still well below the averages of the two earlier periods 1921-24 and 1925-28 A heavier incidence of influenza and tonsillitis at home and of malaria abroad, was responsible for the greater part of the increased sickness rate, on the other hand, it is satisfactory to note that the amount of venereal disease was appreciably less than in the previous year, the present rate—15 per 1,000—being the lowest so far recorded The increased sickness rate notwithstanding the average duration of sickness per head has undergone decided diminution and the constantly sick figure—24 3 per 1 000—compares not too unfavourably with the figure—23.2—recorded in 1923 Study of a table in which the total sickness of the Force is classified into a large number of etiological groups shows that in the year under review 83 5 per cent of the total sickness was associated with disease and 16 7 per cent with injury A comparison of these figures with those recorded for 1923 (81 6 and 18 4) and with the averages over the two previous periods (83 5 and 16 5 and 86 2 and 13.8 respectively) reveals a slight tendency on the part of injury to increase progressively in its proportion of the total non effectiveness The increase in the rate of invaliding from commands abroad to the United Kingdom—18 4 per 1 000 as against 17 per 1,000 in 1928—was largely due to cases of the enteric group sent back from Iraq in order of frequency the diseases for which cases were transferred to the home establishment were conditions resulting from injury the enteric group of infections psychoneuroses diseases of the urinary system and pneumonia Compared with 1928 there were decreases in the figures representing final invaliding from the Service on account of psychoneuroses, defective vision and fractures but increases in the numbers invalided for tuberculosis valvular disease of the heart chronic suppurative otitis media and mental diseases The final invaliding rate rose to 7 6 in 1929 from 6 2 in 1928 but still compares favourably with averages over the preceding periods. There were 72 deaths from injury compared with 97 in 1928 and in that year there were 40 deaths from disease compared with only 33 in the year under review An investigation into the effects of fast flying and intensive aerobatics which was completed during the year, showed that no special methods beyond those of the ordinary routine examination were required in the selection of personnel for high speed flying and that the rotation te employed at the Central Medical Establishment to ascertain suitability for aerobatics was as precise in its indications as the whirling arm specially designed for this purpose It was found also, that, though medical examinations during the period of training for high speed flying were unnecessary, it was desirable that the training should be under medical supervision According to the report blacking-out — ne chief

[1] Report on the Health of the Royal Air Force for the Year 1929 London H.M. Stationery Office 4to 1s 3d net

effect of steep banking at high speed—seems to be due to withdrawal of blood from the eye itself, and thus, beyond affecting vision, not to incapacitate the individual to a degree that would render management of the aircraft impossible It is suggested that the dimming, or blacking out, should be regarded by pilots as a warning not to increase these effects by turning further

SIXTH INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY

WE have just learned that the sixth International Congress of Military Medicine and Pharmacy will take place at The Hague, from June 1st to the 6th, 1931

The subjects, in chronological order, are as follows (1) Recruiting, establishment, and training of military surgeons and pharmacists (contributors Holland and Jugo Slavia) (2) The psychoneuroses of war, immediate and remote effects of war on the nervous system of soldiers and civilians (contributors France and United States of America) (3) The treatment of haemorrhage on the battlefield, the most urgent remedies essential, and some conditions of their application (contributors Holland and Italy) (4) The preparation and preservation of medicines in tablet form used in the medical services of the Navy and Army (contributors Holland and Rumania) (5) The after effects of war injuries of the teeth and the lower jaw and their treatment (contributors Holland and Poland)

Numerous entertainments and receptions are being organized The Hospitality Committee will arrange accommodation for those attending the congress either at The Hague or at Scheveningen, a watering place about three kilometres from The Hague, situated in beautiful surroundings The committee of the congress is organizing at the same time a historical exhibition of the sanitary services of the sea, land, and air forces This exhibition will include illustrations, documents, instruments, equipment, uniforms of the officers of the sanitary service, etc All Governments have been requested to collaborate by sending exhibits to this artistic and historic display, which should be of the greatest interest The committee in charge of the exhibition is composed of Le Médecin Principal de premiere classe Denekamp, Dr de Lint, Associate Professor of the History of Medicine in the University of Leyden, le Médecin Major deuzieme classe Doornicky and Dr Molema (Netherlands Red Cross) All inquiries should be addressed as follows Direction du Service de Santé, Ministère de la Guerre, La Haye, Holland

The Royal Naval Volunteer Reserve Officers' Decoration has been awarded to Surgeon Commander W C Macartney

DEATHS IN THE SERVICES

Colonel Andrew Lang Browne, late R A M C *died in a* nursing home on October 6th, aged 81 He was born on October 24th, 1848, the second son of the late Dr Browne of Dundalk graduated as M D in the Royal University of Ireland in 1871, and entered the Army as assistant surgeon on March 30th, 1872 *He attained the rank of brigade surgeon* lieutenant colonel on July 6th, 1896, and retired on July 19th, 1899 He was promoted to colonel on the retired list from October 18th, 1902, for his services when employed at Warley Barracks during the South African war of 1899-1902 He also rejoined for service in England during the war of 1914-18

Colonel Joseph Thomas Daly, Bengal Medical Service (ret), died on June 28th, aged 68 He was born at Donnybrook, Dublin, on January 3rd, 1862, the son of James Daly, surveyor, and was educated at the Catholic University, Dublin, graduating as M D, with honours, and M Ch in 1884 in the Royal University of Ireland Entering the I M S as surgeon on April 1st 1886, he reached the rank of colonel on April 1st, 1915 *and retired on April 1st, 1920* His whole service was spent in military employ He served in the Waziristan campaign of 1894 95, on the North West Frontier of India (medal with clasp), in China in 1900 (medal) on the North West Frontier in the Mohmand expedition of 1908, taking part in operations in the Zakka Khel and Mohmand country (medal with clasp), and in the war of 1914-18, in Gallipoli

Lieut Colonel Robert Cardwell Gunning, R A M C (ret), died at Croydon on October 7th, aged 76 He was born at Lunsk illen on October 26th, 1853, and was educated at the Ledwich School, Dublin, taking the L R C S I and L K Q C P in 1876 Entering the Army as surgeon on February 4th, 1877, he became lieutenant-colonel after twenty years' service, and retired on May 25th, 1904 He served in the South African war in 1901-2, as P M O of No 22 General Hospital, and took part in operations in the Transvaal and Cape Colony, receiving the Queen's medal with four clasps He was re employed during the war of 1914-18, from September 24th 1914

Medical News.

AT the opening meeting of the Section of Medicine of the Royal Society of Medicine on Tuesday, October 28th at 5 p m, there will be a discussion on research in clinical medicine, to be introduced by Dr J A Ryle, Professor H Francis Moore, and Dr Helen M M Mackay The openers will deal briefly with the natural scope and limits of clinical research and the measures, if any, which should be taken for its direction and encouragement

THE Minister of Health will deliver the opening address at a joint conference on the problems of physical and psychological defects which will be held by the Invalid Children's Aid Association and the Central Council for the Care of Cripples on November 13th and 14th at the Drapers' Hall, Throgmorton Street, E C Among the subjects to be discussed are the prevention and treatment of crippling diseases and of rheumatic heart disease, the industrial outlook of the *physically disabled, and the problem of the backward and* difficult child Visits are contemplated to various institutions on November 12th and 15th For those attending the conference arrangements have been made with the railway companies in Great Britain to issue return tickets at the price of the ordinary single fare and a third (minimum fare 1s) The conference fee is 5s Tickets and railway vouchers may be obtained on application to either of the honorary secretaries at Carnegie House, 117, Piccadilly, W 1

MR V E NEGUS will deliver the Semon Lecture in the Barnes Hall, 1, Wimpole Street, W, on Thursday, November *6th, at 5 p m The chair will be taken by Mr Frank Rose,* president of the laryngological section of the Royal Society of Medicine The subject of the lecture is "Some observations on Semon's law" (derived from evidences of comparative anatomy and physiology)

THE annual dinner of the Society of *Medical Officers of* Health will take place at the Piccadilly Hotel on November 13th, at 7 15 p m On November 14th Professor David Burns will discuss some points of contact between preventive medicine and physiology A discussion on undulant fever will be opened at the meeting on December 19th by Mr D S. Rabagliati and Sir Weldon Dalrymple Champneys At the general meeting on January 16th, 1931, Dr Millais Culpin will speak on neuroses and the public health On February 20th Dr J A Charles and Dr S H Warren will open a discussion on bacillary dysentery in Great Britain On April 17th Dr Ethel Cassie and Dr G C M M'Gonigle will discuss the pre school child The meetings will take place at 1, Upper Montague Street, W C 1, at 5 p m

THE new session of the Chelsea Clinical Society will open with the annual dinner at the Hotel Rembrandt, Thurloe Place, S W, on Tuesday, October 28th, at 8 p m On November 18th Dr Anthony Feiling will open a discussion on the treatment of headache, and on December 16th a discussion on the treatment of fibrositis will be opened by Dr R L Jones Llewellyn At the meeting on January 20th, 1931, there will be a discussion on the treatment of eczema, to be opened by Dr H MacCormac A discussion on the treatment of glandular deficiencies will be opened by Dr W Langdon Brown on February 17th, and on March 17th the president of the society, Dr F J McCann, will open a discussion on the treatment of menstrual irregularities Sir Farquhar Buzzard will open a discussion on the treatment of nervous exhaustion on April 21st, and on May 10th a discussion on treatment before and after operation will be opened by Mr Lawrence Abel

FOUNDERS' Day at the National Hospital for Nervous Diseases, Queen Square, Bloomsbury, will be commemorated on November 5th by a short thanksgiving service at 3 p m, when the Rev B G Bouchier, Rector of St Anne's, Soho, will give an address During the afternoon visitors may inspect the hospital, this being the seventieth anniversary of *its opening*

A SERIES of popular demonstrations, illustrating science in everyday life, is to be given at the Portland Hall, Regent Street Polytechnic, in aid of King Edward's Hospital Fund for London The first will take place on Wednesday, October 29th at 5 30, when Dr Walter Clark, director of research laboratories, Kodak Ltd, will trace the development of photography, by description and demonstration, from the daguerreotype down to modern processes, including x ray photography, colour photography, and cinematography Later demonstrations will deal with the story of sound production (the gramophone etc), sound photography (the talking film), illumination, and dyeing For full particulars and prices of tickets application should be made to the secretary, King Edward's Hospital Fund for London, 7, Walbrook, E C 4.

THE Fellowship of Medicine announces that special lectures for the M R C P course during this week will be delivered at the Medical Society lecture room, 11 Chandos Street Cavendish Square, W 1 at 8 30 p m , on Tuesday, October 28th, by Dr Donald Hunter (prevention of disease in industry pathogenesis and treatment of lead poisoning), and at the same time on Friday, October 31st, by Dr Maurice Cassidy (coronary occlusion) Tickets, price 10s 6d each lecture are obtainable at lecture room On Monday, October 27th, at 4 p m , a free lecture will be delivered at the same place by Sir James Purves Stewart on the diagnosis and treatment of disseminated sclerosis A free demonstration of the injection treatment of varicose veins will be given by Mr R C Ledlie at the Miller General Hospital on Thursday October 30th at 11 a m A comprehensive morning course will be held at the Great Ormond Street Hospital for Children from October 27th to November 8th At the Royal National Orthopaedic Hospital there will be an all day course from October 27th to November 8th, and an afternoon course at the Royal Westminster Ophthalmic Hospital from October 27th to November 15th The subjects of the November special courses are ante natal treatment and diagnosis venereal diseases, medicine, surgery, and gynaecology diseases of the chest, and proctology Detailed copies of syllabuses and the list of 1931 special courses may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W 1

THE new courses of afternoon lectures at the Royal Institution of Great Britain 21, Albemarle Street, W 1, will commence on Tuesday November 4th, at 5 p m , when Dr C D Ellis F R S will deliver the first of two lectures on new aspects of radio activity the second lecture will be given on November 11th On Thursdays November 6th and 13th, at 5 p m , Mr J B S Haldane Fullerian Professor of Physiology, will lecture on the physiology of water Dr L C Martin assistant professor, Technical Optics Department, Imperial College of Science, will lecture on colour vision on November 20th and 27th at 5 p m

THE Chadwick Trustees have issued a report of the work of three scholars whose appointments were recorded in the *Journal* of August 10th 1929 (p 283) Dr Bach lectured on his results on October 23rd and Mr Elsby will report his findings with regard to the silica dust problem in a Chadwick public lecture to be given in London in the early part of next year These Chadwick scholarships are tenable for one year, and are of the value of £400 each Further information about them may be obtained from the secretary of the trustees, Mrs Aubrey Richardson, 204, Abbey House, Westminster S W 1

THE Bridge of Allan Spa Stirlingshire, will be formally re opened on Thursday October 30th, at noon, by Sir Humphry Rolleston Bt , G C V O

TWO nursery schools have been opened by the London County Council in East London, each having accommodation for 150 boys and girls between the ages of 2 and 5 The children will be trained to form good habits, to keep themselves clean to be tidy, and to do things for themselves Attractive occupations games, exercises, and rest under healthy conditions are being provided for them The schools are open from 8 30 a m to about 4 p m the children remain there between those hours, lunch dinner, and tea being provided for them at a charge of 6d a day Children living within about three-quarters of a mile, whose attendance at a nursery school is desirable for their healthy physical and mental development, are eligible to attend They may be nominated for admission by the medical officer of health for the borough, head teachers of infants schools near by and the Council s district organizer of care committees, divisional officer and divisional medical officer

THE first British Empire Red Cross Conference was held in London last May references to it appeared in our issues of May 24th (p 958) and May 31st (p 1015) The official report of the conference has now been published it contains a large amount of information about the varied activities of the British Red Cross Society at home and overseas Mention is made of the medical attention given to the pioneer settlers in Canada India, Australia, and elsewhere conducting of the first aid service for the roads and for large meetings, provision of medical supplies and hospital libraries the administration of medical institutions establishment of the research and treatment clinic for rheumatism organization of a blood transfusion service and the promoting of general health education In Canada fifty four outpost hospitals are kept in operation by the society while seven sanatoriums and convalescent homes have been established in Australia for the treatment of tuberculous patients and their families More than 200 child welfare centres have been opened in India and in the great Assam flood last year 50 000 persons were inoculated against cholera This report may be obtained from the offices of the society, 14, Grosvenor Crescent, S W 1

AN international medical tour will be conducted from December 26th to January 8th, visiting Marseilles, Toulon, Hyères, Saint Raphael, Cannes Nice Bordighera, Monaco, and other places of interest Full information as to the cost of this tour and the various festivities in connexion with it may be obtained from the secretary at the Federation of the Health Resorts of France, Tavistock House (North), Tavistock Square, W C 1

MESSRS H K LEWIS AND CO , LTD , announce for early publication *The Treatment of Asthma*, by Dr A H Douthwaite *Stepping Stones to Surgery* (anatomy applied to surgery) by Mr L Bathe Rawling, and *Diseases of the Tongue*, by Mr W G Spencer and Mr Stanford Cade being the third edition of Butlin and Spencer s work bearing the same title

THE eighth volume of the *Guide to Current Official Statistics of the United Kingdom* provides a systematic survey of the statistics appearing in all official publications issued in 1929 by Government Departments in Great Britain and Northern Ireland In the case of each publication an account is given of the nature of the statistics therein contained, their mode of analysis, and the time and place to which they relate It is thus possible to discover which of the many Government publications issued each year furnishes statistics required for any particular purpose in relation to such topics as, for example, the state of the public health, unemployment, and research The volume is printed and published by H M Stationery Office at the price of 1s net

AN article describing a method of continuous colon irrigation by Dr T C Graves and Mr D E Turner, which appeared in the April issue of the *Journal of Mental Science*, has now been reprinted in pamphlet form The "Rubery Hill table," designed by the authors for facilitating such irrigation, is a modification of the Trenton table, which Dr H A Cotton installed some time ago at the New Jersey State Hospital An account is given of the way in which treatment is administered, and the value of such continuous irrigation is discussed

AN association of members of the Chartered Society of Massage and Medical Gymnastics in private practice has published a directory giving the names, addresses, and qualifications of its members, and the work they are prepared to undertake They have adopted regulations which pledge them to work only under the direction of a registered medical practitioner The names in the directory are arranged according to the counties in which the members live The price is 1s , copies may be obtained from the secretary of the Private Practitioners Association, Hygeia, Falmouth, Cornwall

WE referred at length in the *Journal* of September 27th (p 536) to the presentation by Miss Susan Lawrence M.P , of an account of the health activities of the League of Nations Readers may be interested to know that her speech has now been printed and may be obtained from Messrs G Allen and Unwin, Ltd , price 6d

DR. EMILE DE GROSZ professor of ophthalmology at the University of Budapest, is visiting the United States, and will deliver lectures in Philadelphia, Chicago Minneapolis, and Rochester The American College of Surgeons during its coming meeting in Philadelphia, will confer upon him its honorary fellowship

THE German Society for Combating Quackery will hold its annual meeting at the Kaiser Friedrich Haus in Berlin on October 27th

AT its meeting on October 7th the Académie de Medecine on the proposal of Professor Vincent, resolved that a note of condolence should be sent to the Royal College of Physicians on the occasion of the disaster to R.101

THE Alvarenga prize for 1930 has been awarded to Dr Henry A. Harris, London, for an essay entitled 'Cod liver oil and the vitamins in relation to bone growth and rickets The College of Physicians of Philadelphia announces that the next award of this prize amounting to about 300 dollars will be made on July 14th 1931 Essays should be typewritten and unsigned, but plainly marked with a motto and accompanied by a sealed envelope having on its outside the motto of the paper, and within the name and address of the author, they must be sent to the secretary of the College, 19 South 22nd Street Philadelphia, on or before May 21st, 1931 The successful essay will remain in the possession of the College, but with its consent may be published by the author Rejected essays will be returned upon application within three months of the award

PROFESSOR MAX PLANCK has succeeded Professor Harnack as president of the Kaiser Wilhelm Society for the Advancement of Sciences, Berlin

A PAEDIATRIC society has recently been founded at Bahia, under the presidency of Dr Martagao Gesteira

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W C 1, on receipt of proofs

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent, London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westcent London*

MEDICAL SECRETARY, *Mediocera Westcent London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

TREATMENT OF EXOPHTHALMIC GOITRE

"D B F" writes I should be glad to hear of any drawbacks or evil resulting from the treatment of Graves's disease by tincture of iodine In my own limited experience of three cases I have had the most satisfactory results

CHRONIC BRONCHORRHŒA AFTER GAS POISONING

"GASSED" (Arnside) asks for guidance in the following case A man of 46 was badly gassed in the war, and ever since has suffered from bronchitis Each day he expectorates from one to one and a half pints of bronchial secretion He coughs and expectorates all day Inhalations and all the usual antibronchitic remedies have availed nothing, morphine and its relatives cause immediate nausea There is no indication of tuberculosis and no gross cardiac lesion Vaccine treatment has not been tried, as no specific or pathogenic germ is present Any suggestion from those who have had experience in such cases would be gratefully accepted

SOUND PROOF PARTITIONS

DR E SHIRLEY JONES (Bentley, Hants) writes in reply to the query printed last week (p 670) 'D M O" should use 'Cabot's quilt, obtainable from any builder This consists of American eel grass sewn between thick brown paper It is light, sound proof and fireproof It is cheap and he should not stint thickness unduly I have used it with satisfaction between surgery and waiting room

"F W L" writes "D M O" will be wise not to rely solely on material to exclude noise but to adopt some method of baffling, by fixing sheets of material at different angles inside a cavity partition I have just had a door made leading from my waiting room to my consulting room, the material used being "celotex," and I find it satisfactory A previous door, although it had a cavity and also a loose flock packing was useless, largely because the facing was of ply wood I believe A partition should lend itself better than any door to the method I suggest

EPHEDRINE

DR M R SAGAR (Plymouth) writes In reply to the inquiry of M M M in the *Journal* of October 11th (p 625), I would suggest that in such cases the ephedrine causes a spasm of the trigonal sphincter—through stimulation of the sympathetic in the pelvic plexuses—and so inhibits micturition I have had two such cases, both patients being elderly men, little, thin, 'shrivelled" looking, and arterio sclerotic, who refused to take it on this account, and in both cases, after an interval of several weeks, I persuaded them to try it again, when there was no such effect, nor has it occurred since One man is now dead but the other still takes it—by mouth—for his asthma with good results, and experiences no difficulty in micturition Atropine is antagonistic to adrenaline, and therefore, presumably to ephedrine, but apparently in one of my cases (the second), at any rate, tolerance was established, for he had burnt and inhaled the fumes of pulv stramon co from the first

'H C M" writes During an attack of asthma at 11 p m a 1/2 grain tablet of ephedrine was swallowed by me, with a good deal of relief At 6 30 a m for a few minutes, though the desire to micturate was great I was unable to pass urine, after those few minutes it was passed with pain and difficulty Burroughs Wellcome and Co in their description of ephedrine, state that in some cases it causes bladder irritation

LETTERS NOTES ETC

MEDICAL GOLF

THE autumn meeting of the London Irish Medical Golfing Society was held at Sandwich on October 11th About 65 players took part, and the competition was very keen The results were as follows

Captain's Prize (best gross)—F T Wright 81+79=163, D J O Keeffe 85+80=165, A G Walsh 82+86=168

Cahill Trophy (best nett)—F J Holmes (18) 77+78=155, R H Jones (17) 76+80=156 T Mayberry (16) 84+72=156

Lett Cup (foursomes)—D S Gordon and G Campbell 3 up A G Walsh and W Macarley 1 up, M J Smyth and A Perry 1 down

O'Malley Cup (18 holes)—G Sneyd (14) 2 up, R Seale (8) 1 up

Canny Ryall Cup—T Mayberry 88—16=72 F M Donahue 90—15 75 M J Smyth 81—6=75, J Gubbins 95—18=77, R Lilles 91—11=77 E T Wright 79—2=77

Juniors Prize T Mayberry *Veterans Prize* E M Donahue *Selective Prize* T J Hollins *Guests Prize* Colonel Mucke

THE autumn meeting of the Medical Golfing Society was held at Littlestone on October 18th and 19th The splendid weather and the excellent condition of the course were greatly appreciated by the 75 competitors The results were as follows

Singles v Bogey—Mather Thomson 2 up

Foursomes v Bogey—D J O Keeffe and H W Molesworth tied with Commander Rusack and A Gallotly, the former couple winning on the first nine holes

Canny Ryall Cup—D Light 85—12=73, Eric Dobson and T A Torrance 74 net

Scratch Prize—T A Torrance 71

Veterans Cup—D Light

PLATT POWDERS

"J W C" writes Much attention has recently been paid to the addition of preservatives to foodstuffs, but I cannot call to mind any reference to the effect on health of the remains of various cleaning materials left adhering to silver and other table furniture, with the exception of some instances of cyanide poisoning after the use of a silver cleaner containing a cyanide It may be that the ingredients of most of the common metal cleaners on the market are innocuous, but I have a suspicion that I have not profited by the absorption of small quantities of some of them which careless domestics have failed to dislodge after their cleaning operations An authoritative pronouncement on the composition of these cleaners would be welcome

MEDICAL ART CALENDAR

HOLLAND is the home of medical art, and it is natural that from that country we should receive a copy of the Medical Art Calendar, an annual publication from the house of J P Kruseman, Noordeinde 91, The Hague, Holland In recommending the 1931 calendar to our readers, we can say with confidence that it is better than ever, and, *considered* from all points of view, it is a most elegant addition to the consulting room or study It might even be included in the literature of the waiting room, so that the apprehensive patient, full of speculative imaginings, may calm his ruffled mind by contrasting the crude alchemy of a savage past with the scientific perfection of the treatment he is about to undergo The price of the calendar is 6s (post free)

A PANEL OF EXPERT TRANSLATORS

IN the *British Medical Journal* of June 21st (p 1155) some particulars were given of a panel of expert translators which is in course of formation by the Association of Special Libraries and Information Bureaux The services of this panel, which consists of members having both linguistic and technical qualifications of a high standard, are now available for specialized work in all branches of knowledge We are informed that a large number of translators familiar with medical subjects have been enrolled The services of the panel are free to members of the association, to others a charge of 2 guineas is made for each name and address supplied Further details may be obtained from the secretary of the association, 26, Bedford Square, W C 1

NUMBER PLATES ON MOTOR CYCLES

THE Automobile Association has been requested by the police authorities to draw attention to the new regulations governing number plates on motor cycles, which came into operation on October 6th Under these the size of the lettering on the rear number plate is increased, and the rear number plate has to be illuminated Full particulars of the requirements are given in the booklet *Motor Law*, a copy of which may be obtained by motorists free of charge on application to any A A office

EVANS'S annual medical price list has been issued this month in a revised form A copy will be sent to any medical practitioner or medic to Evans's Biological Institute, Higher

VACANCIES

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 46, 47, 48, 49, 53, and 54 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 51, and 52.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 187

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

368. Estimation of Circulatory Fitness

L. J. MACKENZIE, P. V. WELLS, E. C. DAVIS and L. S. LEVISAKER (*Amer. Journ. Med. Sci.*, September, 1930, p. 372), in a preliminary report upon an improvement they have devised in testing circulatory fitness, point out that if comparable results are to be obtained the accurate standardization of exercise and respiratory tests is essential if the determination of myocardial efficiency is to be reliable. By means of an instrument termed the flarimeter, which is described, the relative values of vital capacity, breath holding ability, systolic and diastolic blood pressure, heart rate, and stroke volume can be observed and comparisons can be made. Moreover the series of physiological events occurring during exercise are found to be distinctly different from those taking place when instruments are used to throw strain on the heart through changes in respiration and intrathoracic pressure. The flarimeter is a portable spirometer, provided with an orifice for measuring breath holding ability at a pressure of 20 mm. Hg and an optimum rate of flow of 36 c.cm. per second, thus effecting a standardization of breath holding, the changes in systolic pressure are simultaneously noted and evidence is easily obtained of the heart's response. The patient inspires fully and then breathes out as long as possible keeping the water level in the recording tube of the flarimeter steady at the index mark. Shortening of this outbreathing period immediately following practice of the standardized two-step exercise, and its rate of return to the normal afford an indication of the circulatory fitness. It is claimed that while measurement of the vital capacity is an important physiological index, the duration of such standardized outbreathing correlated with the accompanying systolic changes, is of higher diagnostic and prognostic value.

367. Incidence of Chronic Polyarthritis

P. BORGBJAERG (*Ugeskrift for Laeger*, September 18th, 1930, p. 893) has checked by a statistical analysis the opinion he has lately heard expressed in various quarters that the chronic medical ailments of the joints are becoming more common, whereas the cases of acute arthritis tend to become less rather than more numerous. His material consisted of the patients admitted to the two medical departments of the Bispebjerg Hospital in Copenhagen during the years 1914 to 1928 inclusive, the table he publishes gives the statistics for each of these years. In 1914 there was a total of 2,252 patients, among whom there were 28 suffering from primary progressive chronic polyarthritis, or chronic and subacute rheumatic polyarthritis, a ratio of 1.2 per cent. In the same year there were 30 patients suffering from acute rheumatic polyarthritis, a ratio of 1.3 per cent. In 1928 there was a total of 4,144 patients, among whom there were 125 suffering from primary progressive chronic polyarthritis, or chronic and subacute rheumatic polyarthritis, a ratio of 3.2 per cent. In the same year there were 52 patients suffering from acute rheumatic polyarthritis, a ratio of 1.2 per cent. The classification of this material having been in the hands of one and the same person in the period under review, uniformity in this respect was assured. It would seem that, while the incidence of acute rheumatic polyarthritis has diminished slightly in Denmark since 1914, that of the chronic forms of polyarthritis has been more than doubled.

368. Ocular Complications of Vaccinia.

P. TOULANT (*Paris Méd.*, September 6th, 1930, p. 190) concludes that vaccinal lesions due to accidental inoculation of the eyeball or the lids are uncommon, since he has been able to collect only about 100 cases, but may be very serious. As a rule, the vaccinal pustule is situated on the lid and occasionally on the conjunctiva. In 27 cases the cornea was involved. The affection is commonest in doctors and midwives and occurs sometimes in those employed in laboratories where vaccine pulp is manipulated. Less frequently ocular lesions are found in a recently vaccinated child or its parents. The inoculation sometimes follows a very superficial wound such as that caused by a fragment of ivory (Critchett) or a vaccino-style (Morax) and often is brought about by a fragment of the glass tube containing the lymph. A wound however is not necessary, and the lesion may result merely from the lymph being projected on to the cornea or conjunctiva. The symptoms vary according as the lesions are located on the lids, the conjunctiva or the cornea, the last situation being much the more serious. Vaccinal keratitis, which may be primary or secondary to a conjunctival or palpebral lesion, persists for some months to a year, and may leave opacities and synechiae. Sometimes it may give rise to perforation of the cornea and destruction of the eye. Among the 27 cases on record vaccination caused loss of both eyes in one instance and complete loss of one eye in five; in one instance enucleation was necessitated by symptoms of glaucoma and in six cases the vision was considerably reduced. Prophylaxis is very important. The patient and family should be warned of the dangers of accidental inoculation of the eye. If the conjunctiva or cornea is infected the treatment should be that of ophthalmia neonatorum.

369. Multiple Gangrenous Diphtherial Dermatitis

H. BRUDZET and O. CHRTEFFEDDIN (*Derm. Woch.*, August 30th, 1930, p. 1303) record the following case. A girl, aged 3½ years, whose brother had recently died of diphtheria, developed blepharitis and keratitis of the left eye followed twenty days later by a similar involvement of the right eye. A few days afterwards a serious discharge from the nose occurred and gangrenous ulcers appeared on the lips, back of the neck, the right axilla, both groins, and right index finger. There was marked cachexia. Cultures of the nasal mucous membrane and ulcers of the lips and skin, showed the presence of typical diphtheria bacilli. Recovery ensued after the injection of antitoxin.

370. Association of the Syndromes of Basedow and Mikulicz.

J. M. ESTAPÉ (*Per. Sud. Amer. de Méd. et de Chir.*, July, 1930, p. 721) describes the case of a Uruguayan woman, aged 25, who had had rubeola and influenza, but no other disease. A shock was followed three years later by insomnia, restlessness, anorexia with progressive emaciation, and alternating diarrhoea and constipation. She had noticed the increasing prominence of her eyes and pupillary dilatation preceded by swelling of the parotid, submaxillary, sublingual, and lacrymal glands, without fever or other functional disturbance. All these glands were found to be greatly enlarged, firm, elastic, and non-adherent. The patient had a large diffuse goitre and all the classical symptoms of Graves's disease. The nervous instability and insomnia were followed by anxiety, psychoneurosis, and melancholia, aggravated at the menstrual periods. No evidence of any other organic disease could be detected, and the Wassermann reaction was negative. General hygienic treatment with irradiation of the goitre appeared to cure the Graves's disease, but it had no effect on the hypertrophy of the salivary and lacrymal glands.

Surgery.

371. Operative Measures in Chronic Infectious Arthritis.

THE more successful treatments of chronic infectious arthritis are directed to increasing the circulation of the joint, the temperature, and thus the metabolism of the joint, and oxidation of articular tissue. Resection of sympathetic ganglions and trunks was instituted by Rowntree and Adson in the hope that this might produce an optimal degree of articular circulation in certain joints at least. The technique and results in the first 17 cases have already been described, and now P. S. HENCH, M. S. HENDERSON, L. G. ROWNTREE, and A. W. ADSON (*Journ. Lab. and Clin. Med.*, September 1930, p. 1247) give a survey of the subject. The general principle of this operation is to cut and remove the sympathetic ganglia and their rami that contain vaso-constrictor fibres to the vessels of the extremities thereby increasing the circulation and temperature of the joints of the extremities, and probably increasing tissue oxidation in them. The operation is limited to cases of chronic infections (atrophic proliferative, rheumatoid and periarticular) arthritis, and is indicated only in certain selected cases. Six major criteria for the operation are as follows: (1) The arthritis should be chiefly periarticular or synovial, with little, if any, bony alterations. (2) Some alterations in vasomotor tonus should be shown objectively. (3) Vasomotor alterations must be capable of correction or over-correction by the release of the sympathetic control; this can be demonstrated by determining the vasomotor index. (4) The patient

should be less than 35 and not more than 45 years old (5) The arthritis should be progressive and confined to the extremities, particularly the hands and feet (6) A reasonable period of intensive, less radical treatment should be allowed before this operation is considered A modification by Adson of the original technique is described The physiological sequels of the operation are all beneficial, if one views as justifiable consequences the Horner syndrome, the dryness of the skin, and absence of sweating These effects are—marked vaso dilatation, definite increase of temperature of the extremities, abolition of reflex sweating, loss of pilomotor reflex, the reaction of cardiac acceleration not markedly disturbed, and some minor atrophy of the shoulder muscles after cervico thoracic operations, but no objective muscular atrophy of the lower extremities after the lumbar operation Supplementary treatment in the form of careful massage, muscular training, and exercises should be given when indicated The authors believe that this operation is justified in the selected cases described above if used properly and not delayed too long

372 Living Suture Operations in Abdominal Hernias

W E GALLIE and A B LE MESURIER (*Canadian Med Assoc Journ*, August, 1930, p 165) described in 1921 an operation for bad abdominal hernias, in which the use of sutures made from strips of fascia lata was recommended The results after this lapse of ten years are now reviewed All the methods in general use depend upon scar tissue and are attended with a high percentage of failures The present operation, based on the well known fact that fascia lata continues to live practically unchanged after transplantation, was intended to overcome this particular fault Very good results have been obtained, and in a series of nearly 200 operations there have been only six known failures, the causes of which are discussed The most spectacular case was that of a soldier who had lost his right rectus muscle and had a ventral hernia the size of half a football The gap between the edges of the hernial ring was so wide that it could not be closed, and a space of nearly an inch was filled with fascial sutures This man, nine years after operation, is performing moderately heavy labouring work without any sign of recurrence In large ventral hernias the risk of serious complications is undoubtedly lessened if opening the peritoneum and handling the intestines can be avoided The technique of closing the opening in ventral and inguinal hernias is the same as that originally described The Mayo operation suffices for small ventral hernias or for long slits where the edges can be approximated without much tension, but for wide hernias the fascial method is advocated In oblique inguinal hernias these sutures are usually unnecessary, though it is wise to adopt McArthur's suggestion of suturing the internal oblique and conjoint tendon to Poupart's ligament behind the cord by a narrow strip split off from the external oblique aponeurosis In direct hernias and in large oblique hernias in patients nearing middle life a plentiful introduction of fascia lata should be employed The success of the living suture operation depends on the muscles and aponeuroses in the ring being left strong enough to withstand considerable strain, and on the strength and permanence of the fascial suture The authors believe that this method almost completely removes the element of chance which attends operations for hernia, and also greatly enlarges the field in which it is indicated

373 Treatment of Congenital Dislocation of the Hip

MANIPULATIVE treatment of congenital dislocation of the hip is considered difficult or practically impossible after the age of 8 to 10 when the condition is unilateral dislocation, and after the age of 4 to 6 when it is bilateral L BAU (*Chir d Org di Movimento*, August, 1930, p 266) reports the result obtained in 36 cases (13 bilateral and 23 unilateral) of old dislocations in patients between the ages of 8 and 14 Manipulative treatment by the Paci Lorenz method, with suitable modifications for each individual patient, was attempted in all cases The results obtained were 22 reductions (61 1 per cent), 11 transpositions (30 4 per cent), and 3 unsuccessful cases (8 5 per cent) Normally a preparatory period was necessary before obtaining the reduction, after which the limb was fixed gradually in a determined degree of abduction and rotation as to ensure stability of reduction and the possibility of gradual walking Mobilization was started generally in the eighth month, and walking was not permitted for another four months Kinesitherapy was successfully associated with nocturnal traction by means of weights During the first attempts at walking the patient was protected by perfectly adaptable pelvic belts, modelled with a depression to maintain the trochanter in an arrested position, at the same time enabling the limb to move in a correct position Difficulty was sometimes experienced in the form of subsequent rigidity, which rendered walking defective, although the limb remained in the correct attitude In all these cases the author was able to ensure the gradual disappearance of the rigidity after prolonged physical treatment, continuous or nocturnal traction, and gradual mobilization, sometimes under narcosis He gives details of 14 cases, and illustrates them by radiograms

374 Surgical Treatment of Incontinence of Urine in the Male

After reviewing the previous methods of treatment of incontinence of urine in men J BIDRNA (*Bratislavské Lékařské Listy*, August, 1930, p 435) describes his own method of operation which was successfully applied in the case of a man, aged 20, suffering from incontinence as a result of an operation for the removal of a urethral calculus Through a perineal incision the urethral part of the membrane was exposed in the region of the external sphincter The sphincter was substituted by a strip of fascia lata, which was applied round the urethra and served as a sling By suturing the margins of the levator ani to the posterior surface of the bulbo cavernous muscle, the urethra was raised and approached the symphysis pubis Incontinence ceased immediately after the operation, and seven months later the patient was still well The operation combines the two principles of the other previous methods—namely, the production of an annular stricture of the urethra and the artificial flexion of this passage

Therapeutics.

375 Pituitary Therapy in Herpes Zoster

D M SIDLICK (*Arch Derm and Syph*, July, 1930, p 91), from observations in 54 cases, advocates the use of pituitary extract in herpes zoster, particularly for the relief of pain Intramuscular injections of the ordinary preparation used for obstetrical cases were given in from 0 5 to 1 c cm doses, and repeated according to the intensity of the pain In most instances complete relief followed two injections given a day apart, and mild cases only required one treatment, some, however, needed three doses, and one patient received six The effectiveness of this remedy as regards the lesions was only secondary to that noted in respect of the pain, the eruption eventually disappearing entirely Pregnancy is said to be the only contraindication, and the sole untoward effect was a momentary sensation of faintness occasionally observed, the method was found to be safe in the presence of hypertension or advanced age The author considers that the treatment has many advantages over other accepted methods, especially in the control of pain

376 Stramonium in Parkinsonism

E D HOLDEMAKER and M A. BURNS (*Journ Amer Med Assoc*, July 12th, 1930, p 91) administered tincture of stramonium in large doses to 31 patients, four of whom had typical paralysis agitans They received doses of the tincture up to 60 minims three times daily, but the results were poor Ptyalorrhœa was relieved, and one patient felt slightly more relaxed Higher doses than 60 minims caused mouth dryness and anorexia Twenty seven patients were of the post encephalitic type of Parkinsonism, nine being women whose ages ranged from 20 to 43, and eighteen men whose ages were between 20 and 70 There was no definite relation between the length of illness and the improvement following treatment, but the most severe cases showed least response In eleven cases there were excellent results diminution of rigidity, surprising recovery of associated movements, complete relief of ptyalorrhœa, and definite improvement in the mental condition Five patients showed relief of ptyalorrhœa, diminished rigidity, and some return of associated movements All experienced relaxation, and were able to perform actions impossible prior to the treatment Five other patients were relieved of salivation and felt better, but their associated movements remained very defective In the last group six patients were relieved of ptyalorrhœa, but otherwise showed no improvement One woman, aged 28, had been ill for five years and bed ridden for one year, she became able to sew and to play the piano after treatment One man, aged 31, who had been ill for seven years, received 90 minims three times a day, and was then able to return to work as a night watchman Eight patients who could hardly walk, and could not dress nor feed themselves, their gait and posture being typically Parkinsonian, experienced great relief of their rigidity in consequence of treatment, their posture became more erect, and two or three appeared to be almost normal All were able to perform rapid and fine movements and to help in the wards Of the remaining fifteen post encephalitic patients, all but six were so much relieved that they could feed themselves Tremors were greatly relieved in three patients, but the remaining twenty four showed but little improvement, though rigidity was diminished Ptyalorrhœa was

greatly reduced in all cases The mental state was definitely improved in twenty one instances, coincidently with the physical improvement The average dosage for the whole series was for men 80 minims, and for women 72 minims, three times daily The largest dose given continuously was 110 minims and the smallest 45 minims Generally, the younger patients showed greater tolerance, and men were more tolerant than women As regards toxic effects of stramonium treatment xerostomia necessitated limitation of the dose in eighteen cases, while amblyopia occurred later than xerostomia, and disappeared in less than a day after withdrawal of the drug Vertigo occurred in five cases and anorexia in six, insomnia and pruritus each affected one patient

377 Treatment of Trypanosomiasis.

A SICÉ (*Ann de l Inst Pasteur*, August, 1930, p 221) records the results obtained following the administration of '270 Fourneau in 357 cases of human trypanosomiasis This drug, the sodium salt of acetyl para amino-ortho-oxyphenyl arsenic acid, is employed in freshly prepared 20 per cent solutions in sterilized distilled water it is not as rapidly or as easily soluble as tryparsamide It may be administered either subcutaneously or intravenously Of the cases recorded, 106 were in the first period of the disease—namely, the stage of lymphatic and blood infection without any invasion of the cerebro-spinal system—and 251 in the second period, in which the nerve centres were involved In the first group 97 and in the second 213 patients had received no other treatment, while 9 and 38 in each group respectively had been previously treated The results in the first group were 2.8 per cent had subsequent nervous sequels, 2.8 per cent died (causes unknown) and 57.5 were apparently cured The second group showed 14.3 per cent deaths (some from intercurrent maladies in the others the cause was unknown), and 51.3 prolonged if not definite improvement. If the numbers of those discontinuing treatment prematurely are deducted in each group, the percentage of cures is increased to 85 8 and 62 per cent. respectively The dosage should be carefully calculated in relation to the body weight The initial dose is 15 mg per kilo of weight, this is increased by 5 mg weekly to 30 to 35 mg, which dosage is maintained until 300 to 350 mg have been given in cases in the first period. The average duration of treatment is ten to twelve weeks In neural trypanosomiasis treatment must be continued until the cerebro-spinal fluid returns to normal. Two complications may occur during treatment—namely, vomiting, which is unimportant, and ocular troubles, which if treatment is not discontinued, may lead to amaurosis Sicé considers that '270 Fourneau is a powerful trypanocide and in the first period of infection is superior to atoxyl (a useful adjunct in certain cases) and to tryparsamide In the neural types its efficacy though not as great as that of tryparsamide especially in old advanced lesions is still very considerable, whether the drug is given alone or combined with tryparsamide the latter drug should be immediately substituted if the other appears to be losing efficacy

Anaesthetics

378. Acapnia in Post-operative Shock

TWENTY FIVE years ago Y. HENDERSON (*Journ Amer Med Assoc.*, August 23rd, 1930, p 572) advanced the hypothesis that acapnia—deficiency of CO_2 in the blood—was a factor in the depression of vitality, especially in the functions of respiration and the circulation after operation and anaesthesia Acapnia is defined as an acute condition involving disturbances and depression of various functions all of which are relieved and restored to the normal by inhalation of carbon dioxide the acapnial position of the lungs may be described as one near or below that of normal expiration a condition of prolonged deflation *The causal sequence* leading to surgical shock (with the exception of haemorrhage) and that leading through atelectasis to post operative pneumonia are closely related Both originate in acapnia, one through circulatory, the other through respiratory depression Acapnia is closely related to asphyxia or deficiency of oxygen in the tissues each disturbs the respiratory processes of the tissues, and each involves a considerable degree of the other A slight degree of acapnia may be induced by over ventilation of the lungs a more intense form capable of producing death by respiratory failure may result from excessive breathing in the first stage of incorrectly induced anaesthesia In the most severe form leading to shock the deficiency of carbon dioxide or decrease of alkali carbonates in the blood arises from a disturbance of the respiratory metabolism of the tissues and is analogous to asphyxia Inhalation of carbon dioxide effects a restoration of the alkali bicarbonates and carbon dioxide content of the blood Circulatory depression after operation and anaesthesia is due to the lowered activity of the respiratory and other nerve centres which influence skeletal muscles The result is an atonic condition of all the muscles and a decrease of muscular pressure on the tissues, which permit the blood to stagnate in the venules and decrease the venous return to the heart This depression is counteracted by the inhalation of carbon dioxide The consequent increase of muscle tone augments the venous return, and restores the volume of the circulation After every major operation the volume of the air breathed is decreased, and a prolonged loss of tone also occurs, with relaxation in the thoracic muscles and diaphragm The thoracic capacity is thus greatly decreased, the lungs are correspondingly deflated, and occlusion of pulmonary airways readily develops The air in the occluded lobules, lobe or lung is then absorbed and atelectasis is produced The inhalation of carbon dioxide, by counteracting acapnia and inducing deeper breathing inflates the lungs and prevents atelectasis it is thus a specific preventive of post operative pulmonary complications

379 Intradural Caudal Anaesthesia in Urethral Stricture.

C T SPENCER (*Urol and Cut Rev*, August, 1930, p 527) records four illustrative cases of stricture in men aged from 37 to 74 treated by intradural caudal anaesthesia, the advantages of which are its low toxicity and the complete relaxation of the voluntary muscles produced On the other hand, its great disadvantage is the vascular depression which it causes when the splanchnic nerves are blocked This disadvantage, however, is overcome by using an anaesthetic of high viscosity and specific gravity such as gravocain, 0.2 c cm of which causes perfect anaesthesia Caudal anaesthesia is almost invariably complete within less than five minutes after injection, and lasts for about two hours Spencer has also found intradural caudal anaesthesia very satisfactory as a preliminary to cystoscopy, or the instrumentation of patients with prostatism, fibrosis of the vesical neck, and small irritable bladders

380 Spinal Anaesthesia.

H KOSTER and M WEINTROB (*Amer Journ Surg*, August 1930, p 234) describe their personal experience of spinal anaesthesia and discuss the reasons for fatalities citing examples also from the literature In their own total of 6 000 general surgical cases there were only six deaths on the operating table three others occurred later and were regarded as possibly due to the anaesthesia. Exact statistical comparison with a similar number of cases under inhalation or other forms of anaesthesia is impossible, since no parallel control series is available, but the authors point to the large number of cases successfully operated upon for whom any other form of anaesthesia would have been disastrous as in intestinal obstruction with considerable toxaemia They are satisfied that the reduction in surgical mortality by the use of a method which diminishes shock and trauma, increases peristalsis, and affords an additional margin of safety outweighs any possible increase in death by direct anaesthetic mortality Emphasis is laid on the importance of maintaining the Trendelenburg position in cases of severe infection until the anaesthesia has passed off It follows, therefore that in a severe peritoneal infection where Fowler's position is necessary it is inadvisable to employ a spinal anaesthetic Certain cases reported of death following this form of anaesthesia are critically examined by the authors who show that in some cases the anaesthetic was wrongly blamed Surgical operations on the abdomen are particularly suited for spinal anaesthesia in view of the good relaxation which is afforded

Obstetrics and Gynaecology.

381 Excretion of Sexual Hormone in Gynaecological Diseases.

P SCHUSCHANIA (*Zentralbl. f Gynäk* August 2nd 1930 p 1924) gives detailed reports of estimations of the sexual hormone in the urine and faeces in two cases of juvenile metropathia haemorrhagica and in a case of post climacteric ovarian tumour with metrostaxis In one of the first cases the urinary excretion fell from an average of about 50 mouse units a day during twenty nine days preceding menstruation to *nil* during a menstrual period of four days and was about 20 units daily during a period of amenorrhoea. The third patient, a woman aged 67, in whom the menopause had occurred about nine years previously had repeated uterine haemorrhages curetting revealed polypoid, haemorrhagic, glandular endometrial hyperplasia The right ovary the size of the fist was removed and appeared histologically as a granulosa celled tumour exhibiting infiltrative properties

in some places Before the operation, when follicular tumour cells were active, very large amounts of sexual hormone were present in the urine and faeces, for example, daily averages of 65 and 120 mouse units respectively were recorded Ten weeks after operative ablation of the tumour the hormone was absent from five day samples of urine and faeces The author remarks that by this observation direct and quantitative confirmation is afforded of the suggestion of Schröder, Mayer, and others, based on histological grounds, that endometrial hyperplasia and morbid metrostaxis accompanying granulosa celled tumours of the ovary are due to the excessive production there of sexual hormone

382. Krukenberg Tumour of the Ovary

ACCORDING to A BABES and Madame PANTZ LAZARESCU (*Gynécol et Obstét*, June, 1930, p 465) the nature and origin of the Krukenberg ovarian tumour are still unsettled, and it is erroneous to regard every such tumour as secondary to a primary carcinoma of the digestive tract The true Krukenberg tumour is characterized by (1) diffuse infiltration of the ovary by neoplastic cells, (2) the finding in many of these cells of mucus disposed as in signet ring cells, and (3) polymorphism of the tumour cells, the name is wrongly applied as denoting any ovarian neoplasm secondary to cancer in the alimentary canal The reported cases of true Krukenberg tumour of the ovary in which complete necropsy investigations have been made are very few, another is here described Tumours were present in the ovaries, uterus, stomach, large and small intestine, peritoneum, and abdominal glands In the ovaries the tumour cells were widely diffused, polymorphous, and partially muciparous, without any areas of glandular disposition, the same was true of the neoplasms affecting the gastric mucosa and submucosa, the uterine mucosa, and the lymphatic glands In the peritoneal investment of the stomach, however, and of the uterus and intestines, adenocarcinomatous tissue was present in abundance, extending into the subjacent superficial layers of muscle The inference is drawn that the primary origin of a Krukenberg tumour is an aberrant islet of gland tissue in the peritoneum of the stomach or of some other region, an adenocarcinoma is formed, the metastases of which are propagated by the lymphatics, and take a less highly differentiated form, the glandular arrangement being lost but the mucigenous faculty being in parts preserved In cases of the so called primary Krukenberg tumour of the ovary a primary site, probably in the peritoneum, but possibly elsewhere, is likely to have been overlooked

383 Pupillary Reactions during Pregnancy

BELIEVING that excess of an adrenaline like substance might circulate in the blood during pregnancy, Z BERCOVITZ (*Amer Journ of Obstet and Gynecol*, June, 1930, p 767) instilled the serum from a pregnant woman into her own conjunctival sac He found that in about 75 per cent of cases the pupil showed a consequent variation, which consisted more usually in dilatation than in contraction, but sometimes merely in increased activity Two only of 98 non pregnant women showed any pupillary response to a similar procedure About 75 per cent of pregnant persons were found to respond by some pupillary change to the conjunctival application of adrenaline, which was ineffective in practically all non pregnant women In twelve men the pupil was not affected by instillation of their own serum or of adrenaline

Pathology.

384 The Schilling Blood Count

J L ROGATZ (*Amer Journ Dis Child*, July, 1930, p 70) describes the Schilling blood count as varying from the usual differential count in classifying the polymorphonuclear neutrophils into groups according to the degree of their maturity Schilling reduced Arneth's subdivisions of the neutrophil leucocytes to four groups—namely, myelocytes, juvenile cells, "stabs," and "segments" The myelocyte is round, with a pale pink granular cytoplasm when coloured by Wright's stain, and its nucleus ranges from round to oval or kidney shaped In contrast, the monocyte has a blue staining, irregular cytoplasm, with a polymorphic nucleus The juvenile cell has a sausage, bean, or S shaped nucleus, fairly smooth in outline and plump in appearance The stab cell contains a twisted and bizarre nucleus which is contracted, irregular in form, and pyknotic, the granulations being either too deeply stained or partly dissolved, leaving vacuoles in their place This cell, 2 to 3 per cent of which are found in the normal infant's blood, is considered to be a juvenile cell which has become matured without segmentation, in consequence of "degenerative inhibition of development" The essential characteristic of the segmented cell, which takes various nuclear forms, is the presence of the filaments connecting the lobules, two to five or more The basophils, eosinophils, lymphocytes, and monocytes in the differential count and the total leucocyte count complete the tabulation An increase in the juvenile and stab forms occurs at the height of an infection, with decrease of the lymphocytes and monocytes and disappearance of the eosinophils With improvement there is a receding neutrophilia diminution of the number of juvenile forms, with increase of the segment cells, lymphocytes, and monocytes. The eosinophils reappear with a final lymphocytosis indicating recovery It is held that the Schilling blood enumeration, when repeated at frequent intervals during an infection, reflects the progress of a patient and anticipates the appearance of a complication improvement, or other change in the body by twenty four hours or more

385 The Basal Metabolic Rate

ACCORDING some salient facts as guides in the study of basal metabolism, I M RABINOWITCH (*Canadian Med Assoc Journ*, August, 1930, p 152) defines metabolism as the chemical and physical changes which occur in the living cell, when metabolism is at its lowest possible level, with the individual alive and normal, the condition is known as basal metabolism Various methods of estimating basal metabolism are described When this is to be measured directly by heat production the subject is placed in a closed chamber known as a calorimeter Indirect methods consist in measuring the oxygen consumption alone, the carbon dioxide production alone, or both simultaneously As in all quantitative work, standards are necessary by which to estimate the results and to determine whether and by how much basal metabolism is above or below the normal The author has obtained the most uniform results by using an average of both the Sage and the Harris Benedict methods He emphasizes the point that with the use of any particular standard alone the value reported may be 5 or more per cent above or below true conditions, and that this variable is the rule and not the exception Contrary to the general impression that the basal metabolism of an individual is extremely constant, in certain types of persons there are not only seasonal, but also daily and even hourly variations, these are not the result of technical error Muscular activity increases the metabolic rate, as also does fever, for every 1° F above normal 7 per cent should be subtracted from the test results Diet influences metabolism, and protein, more than any other food, raises the rate According to Lusk the nutritional condition of the body, and not a large influx of food, determines the height of metabolism Nervous factors affect the rate, anxiety and loss of sleep raise it, while in the opposite conditions the basal metabolism is more likely to be decreased Increased basal metabolism is found during menstruation, the later months of pregnancy, and lactation At the menopause the metabolism tends to be low Heart disease *per se* does not increase the basal metabolic rate, increases are noted, but are usually due either to increased respiratory effort (muscular work) on account of shortness of breath in heart failure, or an apparent increase because of cyanosis

386 Allergy in Urticaria due to Cold

J S COVISA and J GAY PRIETO (*Derm Woch*, August 9th 1930, p 1188) record two cases of urticaria due to cold, one in a child 2½ years old and the other in a man aged 26 In each case the following investigations were performed A specimen of blood serum was collected while the patient was apparently normal, an artificial urticarial rash was then induced by applying ice to the trunk, and a further specimen of blood serum was obtained Samples of these two serums (0 1 c cm) were injected intradermally into two volunteers, control serum being obtained from a patient with cutaneous epithelioma At intervals of ten, twenty, and thirty minutes after each injection the diameter of the resultant papule was measured The most intense reaction was obtained at the site of injection of the patient's serum taken after the artificial urticaria After twenty four hours cold was applied to each injection site to test the degree of transmission of sensitivity, only the sites of injection of the patient's serum taken before the artificial urticaria showed any change On the assumption of Doerr's theory of allergy the authors suggest the following explanation of these results The serum of the hypersensitive patient contains substances (antibodies) which can be transmitted to a healthy person Cold provokes the formation of another substance (playing the part of an antigen), which is demonstrable in the patient's serum after an urticarial attack This substance neutralizes the antibodies, and in doing so brings about the allergic reaction After some time the antigen like substance disappears, and the antibodies are once more demonstrable

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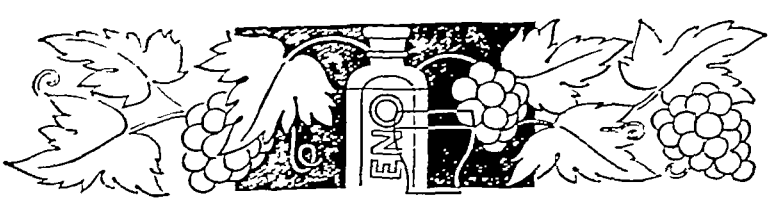
Completeness as a distinguished physician said the other day is "*even more important than regularity*" in the exercise of this physiological function Incomplete evacuation doubtless explains why so many people with regular once a-day habits, continue to suffer from headache lassitude, nausea, and all those other symptoms customarily attributed to alimentary toxaemia The truth is that, in these individuals, the rectal neuromuscular tension scarcely ever recovers normality

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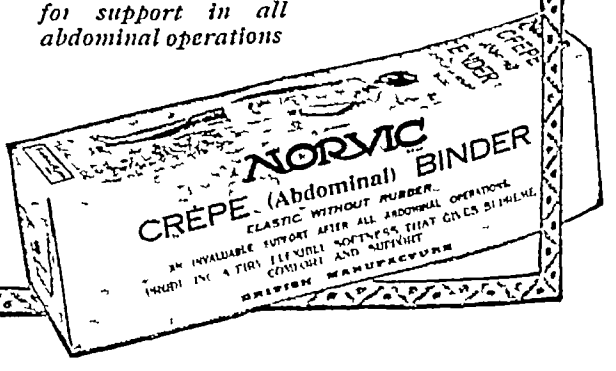
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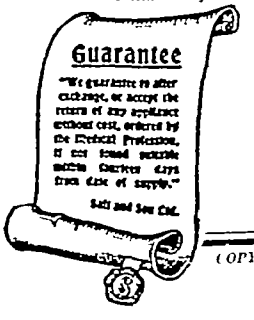
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Illustration No 2 is a reproduction of a photograph from the back with ordinary silk stocking pulled up. (The right leg only has the elastic stocking underneath the silk hose)



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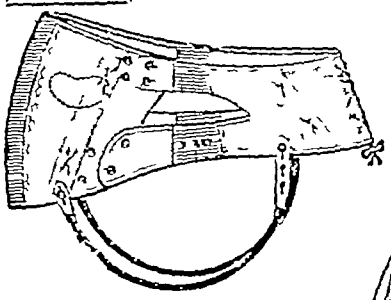
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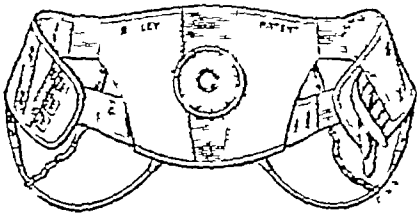
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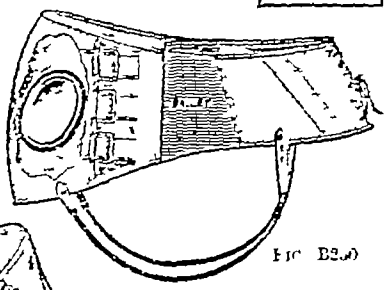


Fig B3.0
(Showing Interior of Cup)
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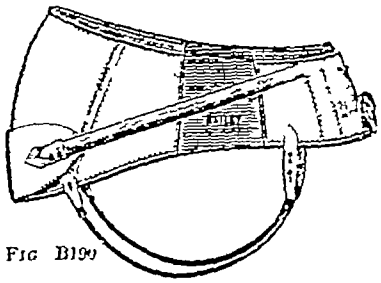
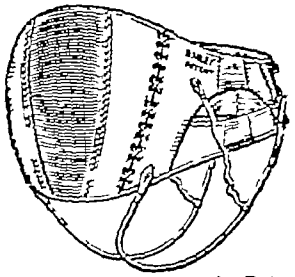


Fig B190
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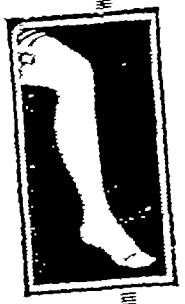


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Conveniently situated four miles from Charing Cross Easy of access from all parts
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Telegrams "Alleviated, London" Telephone Rodney 4741—4742.

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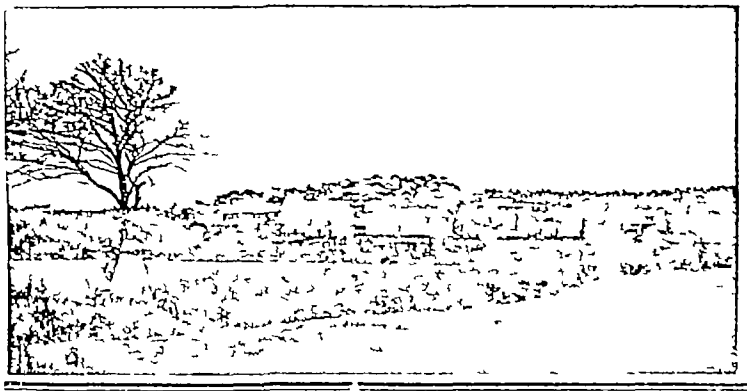
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Apply The Secretary The Cotswold Sanatorium, Cranham, Gloucester *Telephone* 41 WITCOMBE *Telegrams* HOFFMAN BIRDLIP"

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES It is situated in the midst of a large area of park-land at a height of 450 feet above sea level, on the south-west slopes of mountains rising to over 1,800 feet, which protect it from north and east winds and provide many miles of graduated walks with magnificent views Average rainfall 29 57 per annum Full day and night nursing staffs X-ray plant Every facility for Artificial Pneumothorax, and for operations on the chest Electric lighting Central heating Home farm Clean milk from T T Herd For particulars apply to Med Supt, H Morriston Davies, M D, M Ch Cantab, F R C S, Llanbedr Hall, Ruthin, N Wales



KINGUSSIE, N.B

THE GRAMPIAN SANATORIUM.

Situated in the upper Speyside district of Inverness-shire One of the highest inhabited districts in Britain— The Switzerland of the British Isles Bracing and dry mountain climate Well sheltered Sanatorium specially built for the Open air Treatment of Tuberculosis Opened in 1901 Elevation 860 ft above sea level Electric light throughout buildings and in rest shelters Central heating Fully equipped X-ray Plant All forms of treatment available including Artificial Pneumothorax and Ultra Violet Rays for surgical cases of Tuberculosis Terms £4 6s 8d. to £6 6s per week inclusive no extras

MEDICAL SUPT FLETA SAVY M D *For particulars apply to the Secretary*

SMEDLEYS

Unrivalled suites of Baths for Ladies and Gentlemen including Turkish and Russian Baths Vix and Vichy Douches Massage and Hombières Treatment an Electric Installation for Bath and other Medical purposes Dowsing Radiant Heat D'Arsonval High Frequency Diathermy Nauheim Bath New Staples Foam Bath etc Special provision for Invalids Milk from our farm of 300 acres Large Winter Garden Night Attendance Rooms well ventilated and all Lounges warmed in Winter A large Staff (upward of 60) of trained Male and Female Nurses Masseurs and Attendants

Telegrams SMEDLEYS MATLOCK. Phone No 17 For Prospectus and full information please write MANAGER, M.J

MATLOCK

GREAT BRITAIN'S GREATEST HYDRO

Physicians in Charge C. C. R. HARBINSON M.B. B.Ch. B.A.O. (R.U.I.) P. MACLELLAND M.D. C.M. (Edin.)

BRIDGE OF ALLAN HYDRO

(Allan Water Hotel Stirlingshire)

The most modern equipment for treatment by Electro-Therapy including Diathermy Ultra Violet Ray etc Under medical supervision Equable climate Mild and sunny

Telegrams "Braillan Bridge-of-Allan"
Telephone Bridge of Allan 148.

PEEBLES HYDRO

Beautifully situated 600 feet above sea level. *Facing south completely sheltered from north and east.* 21 miles from Edinburgh

All modern Baths, Douches, Massage and Electrical Treatment. Ultra Violet Radiation. Physician in attendance.

IDEAL HEALTH RESORT

Electric Light Central Heating Electric Lift, three Billiard Tables, Ball Room Winter Garden, Swimming Bath Hard and Grass Tennis Courts Badminton Croquet Lawn Golf Course. Prospectus from Manager Phone Peebles 2

BOURNEMOUTH HYDRO,

with Vita-glass Sun lounge and Marine Balcony on the South Coast

Every kind of Bath Plombière Lavage.
Every kind of Massage Ultra-violet Light
Every kind of Electricity Diathermy
Every kind of Diet
High Frequency Electric Lift
Prospectus from Secretary *Tele* 341.
Resident A. W. JOHNSON SMITH M.D.
Physicians J. L. T. ROSE-HUTCHINSON M.D.

VICTORIA SANATORIUM

DAVOS-PLATZ, SWITZERLAND (entirely British Sanatorium) Altered and modernized in Summer 1930 Terms from £5 12s. a week. Medical Supt. BERNARD HUDSON M.D. (Cantab.), M.R.C.P. Swiss Federal Diploma.

Wanted for the Daughter, aged 26 suffering from Neurasthenia of a gentleman resident near Norwich comfortable and sympathetic HOME, until cure complete. Write Doctor's family 100 miles radius desirable. Prefer country Terms and initials—X 7379 B.M.A. House Tavistock Sq. W.C.1

Grove House, All Stretton, Church Stretton Shropshire.

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing
Medical Superintendent Dr McCLINTOCK

Home for Invalids requiring REST CARE or SUPERVISION Large house and beautiful garden of nearly 8 acres, own produce gravel soil. Car etc. Special care to Chronic Patients.— Duncroft" Staines Middlesex.

Small registered Nursing Home comfortable and refined—5 Broadhurst Gardens Hampstead N.W.6. Telephone Maida Vale 7102.

Long Fox Memorial Lecture

The LONG FOX MEMORIAL LECTURE will be delivered by Professor J. A. ARTHUR C.M.G. M.D. F.R.C.P. at 5.15 p.m. on Tuesday October 28th 1930 in the Physiological Lecture Theatre of the University of Bristol
Subject *The Influence of Foetal on the Production and Prevention of Disease*

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London £8 8s. for 10 lessons.—Address No. 123 B.M.A. House Tavistock Square W.C.1

Examining Board in England

BY THE
ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE
ROYAL COLLEGE OF SURGEONS OF ENGLAND

PRE-MEDICAL EXAMINATION

This Examination will commence on Tuesday January 6th 1931

FIRST EXAMINATION (OLD REGULATIONS)

This Examination will commence on Tuesday January 6th 1931

SECOND EXAMINATION (OLD REGULATIONS)

This Examination will commence on Thursday January 8th 1931

FIRST EXAMINATION (NEW REGULATIONS)

This Examination will commence on Thursday January 8th 1931

THIRD OR FINAL EXAMINATION

This Examination will commence on Monday January 12th 1931

DIPLOMA IN LARYNGOLOGY AND OTOLOGY

Part I of this Examination will commence on Monday December 1st and Part II on Monday December 8th 1930

DIPLOMA IN PSYCHOLOGICAL MEDICINE.

Part I of this Examination will commence on Monday December 8th and Part II on Friday *December 12th 1930*

DIPLOMA IN PUBLIC HEALTH

Part I of this Examination will commence on Friday January 2nd and Part II on Friday *January 9th*, 1931

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.

This Examination will commence on Thursday March 5th 1931

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY

Part I of this Examination will commence on Friday February 13th and Part II on Friday February 20th 1931

Particulars of these examination dates of entry etc may be obtained from the Secretary Examination Hall 8 11 Queen Square London W.C.1

HORACE H. REW
October 14th 1930 Secretary

Royal College of Surgeons of ENGLAND

ANNUAL MEETING OF FELLOWS AND MEMBERS

Notice is hereby given that it is proposed to hold a MEETING OF FELLOWS AND MEMBERS at the College in Lincoln's Inn Fields on THURSDAY NOVEMBER 20th 1930 at 3 o'clock p.m. and that a Report from the Council will be laid before the Meeting

Fellows and Members can obtain copies of the Report on application to the Secretary and any of those desire have their names placed on the List of those to whom the Report is sent annually

Motions to be brought forward at the Meeting must be signed by the mover or by the mover and other Fellow and Members and must be received by the Secretary not later than November 10th.

A copy of the Agenda will be issued on or after November 14th to any Fellow or Member who may apply for one

S. FORREST COWELL,
October 17th 1930 Secretary

POST-GRADUATE MIDWIFERY

Qualified Medical Women are admitted to **The Mothers Hospital of the Salvation Army, Lower Clapton Road E.5** for practical fortnightly Courses in Midwifery These include delivery of normal cases attendances at all abnormal cases operations ward rounds of visiting staff V.D. clinics and antenatal clinics. For further particulars, *fees* etc apply to EDGAR DIDDEX, the Secretary

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1
(FOUNDED IN 1882.)

Principal Mr E. S. WEYMOUTH, M.A. (Lond.)
POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS

SOME SUCCESSES

M.D. (Lond.), 1901-29 (9 Gold Medallists during 1913-29)		319
M.S. (Lond.), 1901-29 (including 4 Gold Medallists)		21
M.B. B.S. (Lond.), *Final* 1906-29 (Completed Exam.)		257
F.R.C.S. (Eng.), *Primary* (1906-29)	*Final*	154 / 149
M.R.C.P. (Lond.), 1914-29		168
D.P.H. (Various) 1906-29 (Completed Exam.)		286
F.R.C.S. (Edin.), 1918-29		43
M.R.C.S., L.R.C.P. *Final* 1910-29 (Completed Exam.)		433
M.D. (Dur.) (Practitioners) 1906-29		37

M.D. Various. By Thesis Numerous successes.

Preparation for Medical Preliminary and in Chemistry Physics Anatomy Physiology and final subjects for the Conjoint Board M.B. (Cantab., etc.) also D.P.M. D.O.M.S. D.T.M. & H. D.L.O. L.M.S.S.A. etc Numerous successes

ORAL CLASSES

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MEDICAL PROSPECTUS (48pp.)

CONTENTS —The method and the cost of entering the Medical Profession *Particulars of all Medical Examinations* Postal Courses and Oral Classes Suggestions for the higher Medical Examination Suggestions for the higher Surgical Examination Suggestions for the Special Diploma Examinations *Refresher Courses* Openings for Women Hints for writing theses

Medical Prospectus gratis along with list of Tutors etc. on application to the Principal Mr E. S. WEYMOUTH, M.A. 17 Red Lion Sq. London W.C.1 (Telephone HOLBORN 6313.)

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD E.C.1

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery and Obstetrical complications Monthly or Fortnightly Courses

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the *Diploma in Tropical Hygiene* on January 15th and April 23rd. (Candidates for the D.T.M. must possess the D.T.M. of the University.)

For particulars apply to the Hon. Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool.

TAUNTON SCHOOL,

TAUNTON

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M.B. Examination University Scholarships in Chemistry Biology etc.

Special facilities are offered for the teaching of Chemistry Physics Botany and Zoology

New Science Buildings containing seven laboratories two lecture rooms science library store rooms etc. opened in September 1925. Prospectus from Head Master.

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a m to 4 p m —Post-Graduates may enrol at any time for any period from 1 week to 3 months —Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners "—Anaesthetic Courses —Clinical Assistantships —Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals

Prospectus from the DEAN, West London Hospital, Hammersmith, W 6

MEDICAL CORRESPONDENCE COLLEGE

19 WELBECK ST, LONDON, W 1 [illegible]

PROVIDES HIGHLY SUCCESSFUL ORAL AND POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS

Special Preparations for all Surgical Qualifications

F R C S ENGLAND (Primary & Final) M C CANTAB M S LONDON F R C S EDINBURGH

And all other Surgical Degrees and Diplomas.

¶ The remarkable success of Students of the Medical Correspondence College at the higher Surgical Examinations is specially noteworthy

¶ Both at the Primary and Final F R C S England the majority of our Students are successful at the first attempt, and Candidates who have failed at these Examinations on several previous occasions get through without difficulty after going through our courses

¶ The Surgical Tutors of the College all hold either the M S Lond or F R C S England or both, and are highly experienced teachers

¶ The Postal Courses are thoroughly clear, concise and up to date and the test questions are carefully selected from those set at previous Examinations so as to embrace all parts of the subject By working systematically through the Course the Student is brought up to the examination standard in the minimum time and much unnecessary reading is saved

VALUABLE BOOK

How to Pass the F R C S, free on application to the Secretary

STAMMERING, SPEECH DEFECTS

BEHNKE METHOD Estab 1882 *Cases* non resident treated at 39 Earls Court Square, S W 5 and in residence in the Summer holidays, at Miss BEHNKE'S house on the Chilterns

"Pre eminent success in the education and treatment of stammering and other speech defects — Times Thoroughly physiological principles — Lancet The method is scientifically correct and perfectly effective — Guy's Hospital Gazette

STAMMERING CLEFT PALATE SPEECH, LISPING 3/9

of Miss BEHNKE 39 Earls Court Sq, S W 5

F R C S (Edin)

CLASSES or POSTAL TUITION —Full Preparatory Classes with DEMONSTRATIONS will commence shortly CORRESPONDENCE COURSE for March and later Exams should begin now — H C ORRIN F R C S Surgeons Hall, Edinburgh

Medical and Dental Students

Special Classes for Pre Medical and Dental Exams Matric, and Prelims

Chemistry Physics and Biology Labs

MANCHESTER TUTORIAL COLLEGE

327 Oxford Road Manchester

F R C S (Edin)

CLASSES with Museum and Anatomical Demonstrations for next Exam, will commence shortly Correspondence work at any time. Particulars from CHAS WHITTAKER, F R C S, Surgeons Hall Edinburgh

Required —Well-qualified Tutor for postal and practical tuition in Dental subjects —Apply giving full particulars of qualifications and experience to the Secretary Medical Correspondence College, 19 Welbeck Street

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION

A SERIES OF WEEKLY DEMONSTRATIONS for medical practitioners has been arranged in the various hospitals of Glasgow from the beginning of November till the end of May Some SPECIAL COURSES are also offered and CLINICAL ASSISTANTSHIPS are available in several of the hospitals The syllabus may be had on application to the Secretary Post Graduate Medical Association, The University, Glasgow

MARLBOROUGH COLLEGE, Near MACCLESFIELD,

Specialises in

CAREERS FOR GIRLS

List and Prospectus from Principal

Special Terms to Medical Men

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL N 15

The Practice of the Hospital is limited to Medical Practitioners Particulars from F H O BENIANS, F R C S Dean

Manchester Royal Infirmary

Applications are invited for the DICKINSON RESEARCH TRAVELLING SCHOLARSHIP IN MEDICINE, value £300, tenable for one year Candidates must be University Graduates who have taken out the full course of Clinical Instruction in the Manchester Royal Infirmary and have earned distinction in so doing

A copy of the regulations governing the Scholarship can be obtained from the undersigned to whom six copies of application should be sent not later than Saturday, November 15th

FRANK G HAZELL, Secretary to the Trustees

Manchester Royal Infirmary

October 18th 1930

Birmingham Public Health DEPARTMENT

TUBERCULOSIS CENTRE

Applications are invited from single male Medical Practitioners for the post of ASSISTANT MEDICAL OFFICER in the Tuberculosis Section of the Public Health Department The successful candidate will be employed both in a Sanatorium and in a Dispensary Applicants should have held a resident general hospital appointment or an appointment in some institution set apart for the treatment of those suffering from tuberculosis Salary at the rate of £400 per annum and emoluments valued at £150 The candidate appointed must join the Municipal Superannuation Scheme, for which is medical examination is necessary Forms of application may be obtained from, and should be returned with copies of three recent testimonials to, the Chief Clinical Tuberculosis Officer 44a Broad Street Birmingham, before November 5th.

F H C WILTSHIRE Town Clerk

Borough of Dukinfield and URBAN DISTRICT OF HOLLINGWORTH

MEDICAL OFFICER OF HEALTH

The Town Council of the Borough of Dukinfield and the Council of the Urban District of Hollingworth invite applications from duly qualified Medical Practitioners for the position of Medical Officer of Health for the area of the two Councils The salary will be £800 per annum, and office accommodation will be provided

Forms of application and conditions of appointment can be obtained from the undersigned and applications must be received not later than October 31st

ERNEST BARLOW Town Clerk of Dukinfield.

Town Hall Dukinfield

October, 1930

Lancashire County Council

PUBLIC ASSISTANCE COMMITTEE

LAKE HOSPITAL AND DARNTON HOUSE, ASHTON UNDER LYNE near MANCHESTER

APPOINTMENT OF SENIOR ASSISTANT RESIDENT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners (men or women) for the appointment of Senior Assistant Resident Medical Officer at the above Hospital and Institution at a salary at the rate of £200 per annum.

Candidates should be unmarried.

The appointment will, in the first instance, be for a period of six months the successful applicant, however will be eligible for reappointment for a further period of six months at the end of that period

In addition to the salary the Resident Medical Officer will be provided with the usual residential allowances

The Hospital comprises 300 beds and the Institution 600 beds

Applications, accompanied by copies of not more than three testimonials, should be forwarded to the County Medical Officer Public Assistance (Hospital and Medical) Department, County Offices Preston, not later than November 3rd Envelopes should be endorsed Senior Assistant Resident Medical Officer

GEORGE ETHERTON, Clerk of the County Council.

County Offices, Preston

October 14th 1930

Warwickshire and Coventry JOINT COMMITTEE FOR TUBERCULOSIS

KING EDWARD VII MEMORIAL SANATORIUM, HEATHFORD HILL, near WARWICK.

Applications are invited from duly registered Medical Practitioners for the post of JUNIOR ASSISTANT MEDICAL OFFICER, tenable for six months, at the above Sanatorium which contains 196 beds for the treatment of Pulmonary Tuberculosis. Salary £200 per annum and all found

At the end of six months the successful candidate will be eligible for promotion to the post of Senior Assistant Medical Officer at the Institution, this appointment also being limited to six months

Applications stating age, qualifications and experience, together with copies of three recent testimonials should reach the undersigned by Tuesday, November 4th

(Signed) CORYDON BUDGE, Medical Superintendent

Middlesbrough Education Committee

APPOINTMENT OF SENIOR ASSISTANT SCHOOL MEDICAL OFFICER

Applications are invited from duly qualified men for the post of Senior Assistant School Medical Officer to act under the School Medical Officer in connection with the Medical Inspection and Treatment of School Children

Applicants must have had experience in the work of the School Medical Service and the successful candidate will be required to devote his whole time to the duties of the office

Commencing salary £500 per annum

Applications stating age, together with particulars of qualifications and experience, and accompanied by copies of three recent testimonials, to be forwarded to the undersigned not later than Saturday, November 8th

STANLEY MOFFITT Director of Education

Education Offices, Middlesbrough

October 20th 1930

The Radium Institute, Riding House Street, London W 1

Applications are invited for the post of ANAESTHETIST

Applications, stating age, qualifications and experience, to be received at the Institute by November 1st next

THOS A CARNER, Secretary

Royal College of Surgeons of EDINBURGH

At the Annual Meeting of the College held on October 15th 1930 the following OFFICE BEARERS were elected for the ensuing year

President Dr James Haig Ferguson
Vice-President Mr Alexander Miles
Secretary and Treasurer Mr John William Struthers
Curator of Museum Committee Mr Charles Walker Cathcart
Librarian Mr David Millikin Crerar

PRESIDENT'S COUNCIL

Mr John Wheeler Dowden
Mr Henry Wade
Mr William James Stuart
Dr Arthur H H Sinclair
Mr George L Chiene
Dr John Smith Fraser

Ex-officio

The Vice-President
The Secretary and Treasurer
The Representative in the General Medical Council

REPRESENTATIVE IN THE GENERAL MEDICAL COUNCIL

Mr Alexander Miles

Glamorgan County Council

LLWYNYPIA HOSPITAL

The Public Assistance Committee invite applications for the post of ASSISTANT MEDICAL OFFICER at the Llwynypia Hospital (182 beds) at a salary of £350 rising by annual increments of £25 to £450 per annum together with residential emoluments valued for the purposes of the Local Government and Other Officers Superannuation Act 1922 at £75 per annum. Accommodation is provided for an unmarried officer

The post is an established post under the County Superannuation Scheme and for this purpose a deduction of 5 per cent of the annual salary will be made repayable with interest on retirement before the pensionable age

The person appointed will be required to give his whole time to the duties under the control and supervision of the Medical Superintendent.

The appointment will be terminable by two months notice on either side

Applicants should have already held a resident hospital appointment giving surgical experience and preference will be given to those who have had special experience of ear nose and throat work Applicants must not be over 35 years of age

Applications for the appointment stating age and qualifications and accompanied by copies of not more than three recent testimonials should be sent to the County Medical Officer Dr E COLSTON WILLIAMS Glamorgan County Hall Cardiff and should be received by him not later than the first post on the morning of November 8 h

Canvassing personal or otherwise will be a disqualification

Glamorgan County Hall
Cardiff

Lancashire County Council

APPOINTMENT OF TEMPORARY ASSISTANT TUBERCULOSIS MEDICAL OFFICER for HIGH CARLEY SANATORIUM near ULVERSTON

The Lancashire County Council invite applications for the temporary post of male Assistant Tuberculosis Medical Officer (unmarried) for the High Carley Sanatorium (112 beds). Salary £450 together with the following emoluments Board and furnished apartments full light and laundry

The appointment will be for a period of approximately twelve months

Applicants must be registered Medical Practitioners and the person appointed must devote the whole of his time to the duties as defined by the Council. Candidates must have held House appointments for at least six months in a General Hospital. Experience in the diagnosis and treatment of tuberculosis is desirable although not essential.

Forms of application from the undersigned Closing date November 3rd All letters must be marked on the outside "Assistant Tuberculosis M O

GEORGE ETHERTON
County Officers Clerk of the County
Preston Council

Ear and Throat Hospital, Edmund Street BIRMINGHAM

HOUSE SURGEON (FOURTH) wanted at once to assist in Out patient Department experienced in administering anaesthetics Salary at the rate of £150 per annum with residence board and laundry Appointment in the first instance for six months Full particulars may be obtained on application to the undersigned

N G CREW
October 1930 Secretary

City of Birmingham

SELLY OAK HOSPITAL

SURGEON

Applications are invited from fully qualified registered Medical Practitioners for the above whole-time appointment

The present Hospital accommodation is 550 beds divided into General Medical General Surgical Gynaecological Obstetrical and Children's Diseases sections There are completely equipped Pathological and Biochemical laboratories X ray Electro-therapeutic Massage, Ultra violet Ray and Electro-cardiographic departments Over 3 000 operations are performed annually

Candidates for the appointment must have had good Surgical experience, and be Fellows of the Royal College of Surgeons (England).

The scale of salary will be £700 rising by annual increments of £50 to a maximum of £1 000 per annum

Furnished quarters rations laundry and attendance will be provided Alternatively a cash allowance will be paid if the officer appointed is non resident The officer appointed will be required to account to the Council for all fees allowances and emoluments (other than the foregoing) received by him

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination and will be subject to three months notice on either side

Further particulars of the appointment may be obtained from the Medical Superintendent R P STANLEY KELMAN Esq MB FRCS (Eng and Edin.) at the Selly Oak Hospital

Applications stating age experience, and qualifications accompanied by copies of recent testimonials and endorsed Surgeon should be addressed to me and delivered at my office not later than 10 a.m. on Wednesday November 12th.

F H C WILTSHIRE,
The Council House Town Clerk
Birmingham. October 1930

City of Birmingham

ASSISTANT MEDICAL OFFICER FOR MATERNITY AND CHILD WELFARE.

The Maternity and Child Welfare Committee Invite applications from Medical Women for the post of whole time Assistant Medical Officer for Maternity and Child Welfare Applicant must have had Children's Hospital and Maternity Hospital experience and the Diploma of Public Health is desirable The duties of the post include the clinical charge of the City Maternity Home Heathfield Road (27 beds) therefore considerable Obstetrical experience is essential.

The salary will be £600 per annum rising by annual increments of £25 to a maximum of £700 per annum The officer appointed will be required to pay to the Corporation all fees allowances and emoluments (other than the foregoing) received by her The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination and will be subject to three months notice on either side. The appointment will automatically terminate in the event of the Medical Officer's marriage

Forms upon which the application should be made may be obtained from the Medical Officer of Health the Council House Birmingham

Applications stating age experience and qualifications and accompanied by copies of three recent testimonials should be forwarded on or before November 1st to the Medical Officer of Health and endorsed "Assistant Medical Officer for Maternity and Child Welfare"

Council House F H C WILTSHIRE,
Birmingham. Town Clerk

The Children's Hospital, SUNDERLAND (70 Bed)

Wanted immediately HOUSE SURGEON (Male) Candidates must possess double qualifications (registered).

Salary £100 per annum with board, residence and laundry The appointment is for six months Application stating age with copies of three recent testimonials to be sent to the undersigned.

S C FRYERS
House Governor and Secretary

Harrogate Infirmary

Applications are invited from British subjects (male) for the post of SENIOR HOUSE SURGEON Salary at the rate of £150 per annum with board and lodging Applications to be made on official form to be had from the undersigned should be sent in not later than November 1st The post is now vacant.

CECIL PALLANTINE.
The Infirmary Secretary

City of Birmingham

DUDLEY ROAD AND SELLY OAK HOSPITALS SERVICES

ASSISTANT PATHOLOGIST

Application are invited from fully qualified registered Medical Practitioners for the whole time non resident appointment of Assistant Pathologist to the above Hospital The officer appointed will work at either Hospital under the Pathologist

It is anticipated that the officer's services will be more required at Selly Oak Hospital

The scale of salary will be £500 rising subject to satisfactory service by annual increment of £25 per annum to £700 per annum

The officer appointed will be required to refund to the Council all other fees and allowances received

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination and will be subject to three months notice on either side

Further particulars of the appointment may be obtained from the Medical Officer of Health The Council House Birmingham

Applications stating age experience and qualification accompanied by copies of recent testimonial and endorsed "Assistant Pathologist" should be addressed to me and delivered at my office not later than Wednesday November 12th.

F H C WILTSHIRE,
The Council House Town Clerk.
Birmingham. October 1930.

County Council of Durham

HOLYWOOD HALL SANATORIUM WOLSINGHAM

ASSISTANT MEDICAL OFFICER

Applications are invited for the appointment of an Assistant Medical Officer (resident) at the Holywood Hall Sanatorium, Wolsingham (about 165 beds)

Salary will be at the rate of £350 per annum rising by annual increments of £25 to a maximum of £550 per annum together with board residence and laundry in addition valued at £150 per annum.

Candidates will be required to have had previous experience in the diagnosis and treatment of Tuberculosis and in Bacteriology

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922, and to a medical examination as required by the Council for the purposes of the Act and the statutory contributions to the Superannuation Fund under that Act will be deducted from the salary and the appointment will be terminable by three months notice on either side.

Applications with copies of not more than three recent testimonials should be sent to the County Medical Officer Shire Hall Durham on or before October 28 h.

Shire Hall, HAROLD JEVONS
Durham Clerk of the County Council.
October 14th 1930

Heston and Isleworth Urban DISTRICT COUNCIL.

OBSTETRIC PHYSICIAN

The Council require the services of an Obstetric Physician (male) to undertake Two Antenatal Sessions a month commencing January 1931.

The fee paid is three guineas per session Candidates must be Physicians of experience with a definite understanding of the Public Health aspect of the work.

The candidates must be prepared to attend at the specified times and to provide an agreed deputy in the case of unavoidable absence.

The appointment is subject to the approval of the Ministry of Health.

For further particulars apply to the Medical Officer of Health Chiswick House 92 Bath Road, Hounslow

Application with copies of three recent testimonials to be forwarded to the undersigned not later than Monday November 3rd.

Council House H J BAKER,
Hounslow Clerk to the Council.

Argyll County Council

MEDICAL OFFICER wanted for the Parish of KILLEAN and KILCHENZIE and the Island of GIGHA. The salary includes a payment of £104 4s from the County Council for services as Local Medical Officer A grant from the Highlands and Islands (Medical Service) Board is made by the Department of Health, and considerable private practice may be expected.

For further particulars reference may be made to the County Medical Officer Oban Argyll with whom applications with six copies of testimonials are to be lodged on or before November 12th.

Oban October 22 d 1930

ASSISTANCIES

Wanted —Assistant to start up new Branch Surgery in working class district in East London Suit young married man Five room flat provided (free) above Surgery, with salary of £6 per week Half partnership in one year free. Photo and experience. — Address No 7189, B M A House, Tavistock Square W C 1

Wanted — Assistantship Male, 24, M B, Ch B Appointments include C P Locums H S Orthopaedics H S Gynaecology R M O (Senior) Children R M O Maternity Own car Excellent testimonials — No 7352 B M A House Tavistock Sq, W C 1

Wanted — Assistantship by Indian Doctor M B, D T M, L M, Lieut A I R O 6 yrs charge small hosp, India 3½ yrs P G F R C S I M, Lond Edin Dub Exp Surg, Mid, Trop Dis £180/£200 p a —No 7356 B M A House Tavistock Sq W C 1

Wanted — Assistantship with view early Succession by Woman L R C P S L M D P H, in old estab panel and priv Practice of about £1,500 p a, within 50 miles Good exp and refs In town early Nov — No 7378 B M A House Tavistock Sq W C 1

Wanted — Male Assistant, £350 p a for panel and private Practice near Bristol extra allowance for car or motor bike Two furnished rooms at the Surgery, together with board and attendance, for £2 p w Man owning car or motor bike preferred — No 7373 B M A House Tavistock Sq W C 1

Wanted —Indoor Male Assistant for Country Town Work light Experience good Suit recently qualified man Moderate salary to begin Must be able to cycle — Address No 7405, B M A House, Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted —Lady Medical Assistant (indoor), willing to dispense £240 p a Light work Experience in general practice and refractions State age and height Send photograph (returnable) — Address, No 7374, B M A House, Tavistock Square, W C 1

Wanted — Experienced Male outdoor ASSISTANT for an industrial Practice in Swansea Salary £350 to £400 a year Usual bond State full particulars and photo — Address, No 7413, B M A House, Tavistock Square, W C 1

Wanted — Outdoor Assistant, single preferred, for quiet Country Practice in North of England Work light One with some experience and able to drive a car preferred Refs and photo if poss Salary £400 — No 7408 B M A House, Tavistock Sq, W C 1

Wanted — Indoor Assistant, for general Practice near Cardiff Salary £325 per annum Usual bond —Address with references and photo No 7404, B M A House, Tavistock Square W C 1

Wanted — Lady Assistant, indoor Village Practice, Gloucestershire. Car provided Suit newly qualified Salary £150 Work light —Address, No 7358, B M A House Tavistock Square, W C 1

Wanted — Woman Assistant for mixed panel Practice in Midlands Should drive car or cycle Outdoor Salary £400 — Address, No 7366, B M A House, Tavistock Square W C 1

Wanted — Part-time outdoor ASSISTANTSHIP in London area Experienced general practice Free November 1st —Address, No 7372 B M A House, Tavistock Square, W C 1

Wanted — Assistant, male, single outdoor Salary £375 State age nationality and other particulars — Address No 7415, B M A House, Tavistock Square W C 1

Wanted — Assistantship by Woman M B B Ch B A O Self six years experience private and panel Practice Free now —Address No 7416 B M A House, Tavistock Square W C 1

Wanted — Woman Assistant for working class Practice in London Scotch preferred Write giving all particulars including age height and experience —Address No 7409 B M A House, Tavistock Sq W C 1

Wanted — Outdoor Assistant, with some experience, in Partnership Practice in country district in Kent, middle of November Dispenser kept Salary £350 — Apply, Barton 8, Tenham Kent

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Assistantship or Locums wanted by Medical Woman, 5 years experience private and panel practice Dispensing Can drive car —Address No 7363, B M A House, Tavistock Square W C 1

Indoor Lady Assistant required immediately for private and panel Practice in London —Address stating age, together with copies of testimonials No 7382 B M A House, Tavistock Square W C 1

Lady Assistant wanted in small mixed Practice (panel 1,000) in Eastern suburb, London, to live in or as arranged Opportunity for study Five essential particulars — Address, No 7387, B M A House, Tavistock Square W C 1

L. R C P & S Ed (Lady) desires ASSISTANTSHIP temporary or permanent Moderate salary Experienced in G P Excellent testimonials Drive car Free mid November — Address No 7362, B M A House Tavistock Square, W C 1

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The Hospital for Sick Children, NEWCASTLE UPON TYNE. (92 Beds)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female) non resident for a period of six months as from November 1st Salary at the rate of £100 per annum

Applications, stating age and qualifications with copies of testimonials to be sent to the Secretary, Mr NEIL BRODIE 18 City Road Newcastle

The Hospital for Sick Children, NEWCASTLE UPON TYNE. (92 Beds)

Applications are invited for a RESIDENT SENIOR HOUSE SURGEON (male or female) for a period of six months as from November 1st Salary at the rate of £95 per annum together with board residence, and laundry

Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE 18, City Road, Newcastle

Clapham Maternity Hospital, Jeffreys Road London S.W 4

POST GRADUATE work £10 10s. monthly including board Lady HOUSE SURGEON required shortly Salary £120 per annum

Apply, Dr IAN H McCALL 165 Clapham Rd, S W 9

Surrey County Council

MENTAL HOSPITALS COMMITTEE.

APPOINTMENT OF JUNIOR ASSISTANT MEDICAL OFFICER

Applications are invited for the post of Junior Assistant Medical Officer (male) in the Surrey County Mental Hospital service. Commencing salary which will be subject to statutory deductions under the provisions of the Asylums Officers Superannuation Act 1909 will be £350 rising by annual increments of £25 to a maximum of £450 per annum, together with apartments board laundry and attendance valued for superannuation purposes at £150 per annum. The person appointed will also be paid in addition to his salary the sum of £30 per annum if he holds the Diploma of Psychological Medicine. The appointment will be subject to termination by one calendar month's notice on either side.

Applications accompanied by copies of three recent testimonials and enclosed in an envelope endorsed "Mental Hospitals Junior Medical Officer" must reach me not later than 12 noon on Wednesday November 5th.

County Hall, Kingston upon Thames. October 21st 1930. DUDLEY AUKLAND, Clerk to the Committee.

Corporation of London

PUBLIC HEALTH DEPARTMENT

THE PUBLIC HEALTH (LONDON) ACT 1891

COMPULSORY NOTIFICATION OF CHICKEN POX.

Notice is hereby given that the Mayor and Commonalty and Citizens of the City of London as the Sanitary Authority for the City of London do hereby by virtue of the powers vested in them by Section 56 of the Public Health (London) Act, 1891 and with the approval of the Minister of Health order that the provisions of the said Act with respect to infectious disease shall apply in the City of London to the disease known as Chicken pox in addition to the diseases specifically mentioned in Section 55 of the said Act (or any Order extending or amending the same) and that for a period of six months ending the 17th day of March 1931 Chicken pox shall be a compulsorily notifiable disease within the City of London.

Guildhall E.C.2. October 20th 1930. DELL.

Queen's Hospital for Children,

Hackney Road London E.2

CASUALTY OFFICER required on December 1st. Six months appointment. Salary at the rate of £100 a year with board lodging and washing.

Applications must be made on forms to be obtained from the undersigned and must be sent in with copies of not more than four testimonials on or before November 14th.

CHARLES H. BESSELL, Acting Secretary.

Oct 22nd 1930

Queen's Hospital for Children,

Hackney Road London E.2.

HOUSE SURGEON (male) required on December 1st. Six months appointment. Salary at the rate of £100 a year with board lodging and washing.

Applications must be made on forms to be obtained from the undersigned and must be sent in with copies of not more than four testimonials on or before November 14th.

CHARLES H. BESSELL, Acting Secretary.

Oct 22nd 1930

Stockton & Thornaby Hospital,

STOCKTON ON TEES

(140 Beds.)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months. Duties to commence as early as possible. Salary £150 with board residence and laundry. Candidates must be duly qualified and unmarried. Applications, stating age, nationality and experience together with copies of three recent testimonials to be sent to the undersigned.

JOHN WILKINSON, Secretary.

The Royal Eye and Ear Hospital,

BRADFORD

Wanted JUNIOR HOUSE SURGEON male. Salary £150 with board residence and laundry. Applications stating qualifications age etc. with copies of recent testimonials to be forwarded to the undersigned on or before November 11th.

F. BRIGGS, Secretary Superintendent.

Royal United Hospital, Bath

The Managing Board invite applications for the appointment of TWO HONORARY SURGEONS one of whom will be in charge of the Gynaecological Department.

Candidates must be Fellows of a British or Irish College of Surgeons and state for which appointment they apply.

The appointments will be made by the Election Committee and selected candidate shall if required present themselves before the Board or Election Committee.

Application stating age qualification and experience to be addressed to and reach the undersigned by November 5th.

The names and address of the Election Committee to whom copies of testimonials may be sent will be supplied on application to the Secretary Superintendent.

Canvassing will be deemed a disqualification.

J. LAWRENCE MEARS, Secretary Supt.

Oct 20th 1930

The Middlesex Hospital, W.1

A vacancy is hereby declared for an OBSTETRIC and GYNAECOLOGICAL SURGEON to the Hospital.

Vacancies will also occur for Two ASSISTANT OBSTETRIC and GYNAECOLOGICAL SURGEONS to the Hospital and applications for these latter posts accompanied by testimonials are invited to be sent before noon on Saturday November 8th to the undersigned from whom information as to the form of the application may be obtained.

Candidates must be Fellows (or have passed the qualifying examination for Fellowship) of the Royal College of Surgeons of England.

By Order of the Board,
S. R. C. PLIMSOLL, Secretary Supt.

Oct 20th 1930

Royal East Sussex Hospital,

HASTINGS (114 Beds.)

Applications are invited for the post of SENIOR HOUSE SURGEON and JUNIOR HOUSE SURGEON (female).

Salary at the rate of £150 per annum and £100 per annum respectively.

The appointments are to date as from November 14th for a period of six months.

Candidates must be duly registered Medical Practitioners.

Applications stating age and qualifications with copies of recent testimonials should be sent immediately.

WILFRID G. KEMSLEY, Secretary.

Ancoats Hospital, Manchester

HOUSE SURGEON (Orthopaedic) male or female. To commence duty on December 1st next for a period of six months. Salary at the rate of £100 per annum. Application stating age, qualifications previous experience if any to be forwarded, together with copies of three recent testimonials on or before Wednesday November 12th to the undersigned.

By Order of the Board,
HERBERT J. DAFFORNE, Gen. Supt. & Secretary.

South London Hospital for WOMEN

South Side, S.W.4

The Board of Management invite applications from fully qualified Medical Women for the appointment of

PHYSICIAN to the SKIN DEPARTMENT.

Full particulars may be obtained from the Secretary.

Applications with not less than six copies of testimonials to reach the Secretary at the Hospital not later than November 7th.

The Weir Hospital,

Grove Road Balham S.W.12.

SENIOR RESIDENT MEDICAL OFFICER (male unmarried) required at the end of October. Candidates must be fully qualified and duly registered. Salary £200 per annum with board residence and laundry.

Applications with copies of testimonial to be sent to the Secretary from whom further information may be obtained.

Coventry and Warwickshire HOSPITAL, COVENTRY

(307 Beds.)

RESIDENT ASSISTANT HOUSE SURGEON (male) wanted. Salary £125 per annum. Board laundry and attendance provided. Candidates must be duly qualified and registered.

Applicator stating age and enclosing copies of recent testimonial should be sent to the undersigned not later than November 6th.

(Miss) L. HOOPER, Secretary.

Queen Charlotte's Maternity HOSPITAL

ASSISTANT DIRECTOR OF THE RESEARCH LABORATORY

Applications are invited for the post of Assistant Director of the Research Laboratory now being built at Ravenscourt Square Hammersmith. Duties to commence January 1st 1931. They will include administration of Laboratory supervision of routine bacteriological and pathological services of the Isolation Block and Maternity Hospital post-mortem examination and research work in puerperal fever.

The commencing salary will be £750 per annum.

Further particulars may be obtained from the Secretary Marylebone Road N.W.1 to whom applications should be sent not later than November 3rd with full particulars as to experience etc. and names of referees.

ARTHUR WATTS, Secretary.

Royal London Ophthalmic HOSPITAL

(MOORFIELDS EYE HOSPITAL)

City Road E.C.1

HONORARY DENTAL SURGEON

Applications are invited for the office of Honorary Dental Surgeon to the above Hospital. Candidates must be registered Medical Practitioners holding a Diploma in Dentistry and should be prepared to begin duties at an early date.

The Dental Surgeon will be appointed for one year and will be eligible for reappointment.

Applications stating age and qualifications together with copies of recent testimonials must be received by the undersigned not later than November 10th.

By Order of the Committee of Management,
ARTHUR J. M. TAIRANT, Secretary.

The Willesden General Hospital

(Incorporated) N.W.10 (106 Beds.)

APPOINTMENT OF HOUSE PHYSICIAN

Applications are invited from fully qualified and registered candidate male or female for the appointment of House Physician.

Candidates must be unmarried.

Salary at the rate of £100 per annum.

Detailed applications with copies of testimonial should be sent at once addressed to the Secretary Willesden General Hospital N.W.10.

October 20th 1930

The Children's Hospital,

HAMPSTEAD (65 Beds.)

RESIDENT MEDICAL OFFICER required for the above on December 1st. Salary £100 per annum with board bed sitting room and washing provided. Applicants must be registered under the Medical Acts. Successful candidate will be required to sign a contract for six months engagement. Application stating age nationality and qualification together with copies of three recent testimonials should be submitted to the undersigned on or before November 15th.

J. H. JOHNSTON, Lt.-Col., Secretary.

University College Hospital

Applications are invited for the post of SECOND ASSISTANT in the Child Welfare Department for a period of one year from date of appointment subject to reappointment annually thereafter.

Attendances—Tuesday and Friday afternoon.

Honorarium—£50 per annum.

Applications must reach the Secretary University College Hospital W.C.1 by noon on Tuesday November 4th.

University College Hospital

Applications are invited for the Honorary post of a FIRST ASSISTANT in the Ear Nose and Throat Department for a period of one year from date of appointment.

Applications giving evidence of fitness for the post must reach the Secretary University College Hospital, Gower Street, W.C.1 by noon on Monday November 3rd.

Tiverton Hospital, Devon

HOUSE SURGEON required immediately. Salary £100 per annum with board residence and laundry.

The appointment to be held for six months.

Application with testimonial to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

The Willesden General Hospital, N W 10

GYNAECOLOGICAL OUT PATIENTS DEPARTMENT

Applications are invited for the appointment of CLINICAL ASSISTANT to the Gynaecological Out patients Department on Thursdays, at 9 30 a m The successful applicant will be expected to attend at the Hospital regularly and to take charge of the Department when the Medical Officer is absent

The appointment is for a period of six months from November 1st

Applications should be addressed to the Secretary not later than Tuesday October 28th from whom full particulars of the appointment may be obtained

R J DEARNE
October 9th, 1930 Secretary

Seamen's Hospital Society

The Committee of Management invite applications for the appointment of ASSISTANT RADIOLOGIST at the DREADNOUGHT HOSPITAL Greenwich

The elected candidate will be appointed for twelve months but will be eligible for re election

Candidates must be fully qualified Medical Practitioners and hold the D M R I In view of the future re-arrangement and extension of this Department the elected officer will be required to attend not less than two half days a week

There is an honorarium of fifty guineas attached to the post

Applications with copies of three recent testimonials to be sent in on or before October 29th to the undersigned from whom further particulars can be obtained

By Order
Greenwich R F V BAX
September 25th 1930 Secretary

Seamen's Hospital Society

The Committee of Management invite applications for the appointment of PHYSICIAN with charge of Out patients at the DREADNOUGHT HOSPITAL Greenwich The elected candidate will have beds allotted to him and will be appointed for twelve months but will be eligible for re election

Candidates must be Doctors or Bachelors of Medicine of a University in the United Kingdom, and Fellows or Members of the Royal College of Physicians of London

Applications to be sent in on or before October 29th to the undersigned from whom further particulars can be obtained

By Order,
Greenwich R E V BAX
September 29th 1930 Secretary

Royal Sussex County Hospital, BRIGHTON

AN ASSISTANT PATHOLOGIST to the Pathological Bacteriological, and Clinical Research Department of the above Institution required Commencing salary £400 per annum (non resident) Candidates must have had experience in Clinical Laboratory work

Applications with copies of testimonials, must reach the undersigned at the Hospital not later than November 10th

The successful candidate will be required to commence his duties as soon as possible after election

Particulars of duties and rules will be forwarded on application to the Secretary Supt

I L W LANCASTER GAYE
Secretary Superintendent

Royal Sussex County Hospital, BRIGHTON (238 Beds)

HOUSE PHYSICIAN (male) required early in November with charge of beds Salary £150 per annum with board residence, and laundry

Candidates must hold a Medical and Surgical qualification of the British Empire and be duly registered under the Medical Acts They must be unmarried and when elected under 30 years of age

Applications with copies of testimonials, should be sent at once to the undersigned

I L W LANCASTER GAYE,
Secretary Superintendent

Samaritan Free Hospital for WOMEN Marylebone Road N W 1

Applications are invited for the post of HOUSE SURGEON for a period of six months, commencing on November 10th next. Salary at the rate of £100 per annum with board, lodging and washing Previous experience as House Surgeon essential.

Applications accompanied by copies of three testimonials must reach the Secretary at the Hospital on or before Friday noon October 31st

G H HAWKINS Secretary

British Medical Bureau

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Mrs MILLICENT HICKS *Supt*
W T HICKS *Secretary*

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Telephone Mayfair 5420

Northern Branch—Apply, Lady Superintendent, 57, Clarendon Rd Leeds. 'Phone Leeds 26165

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Herefordshire General Hospital, HEREFORD

Applications are invited for the post of HONORARY PHYSICIAN

Candidates must be fully qualified and registered Applications stating age qualifications, and experience together with not more than three copies of recent testimonials, should reach the undersigned not later than Saturday, November 8th

H A PROGGATT Secretary

Liverpool Stanley Hospital, Stanley Road

One HOUSE PHYSICIAN required immediately Salary £100 per annum with board etc Applications to the Secretary

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S. Midlands —Average £756 p m Town of 45 000 Small panel Fees 5/- to £1 1s Large house and garden Smaller ones available —No 8750

London S E —Over £800 Cash and panel of 880 Visits 2/6 to 3/6. Shop front surgery, with living accommodation. —No 8749

Salop — Country —£1,030 p a Panel and appts £460 Visiting fees 5/ up Modern house, 6 bed etc, large garden, to rent Easy terms —No 8747

Hants (15 miles from sea) — Nearly £1,000 p a Panel 240 Scope Fees 3/6 to 15/ House 2 reception 6 bed, surgy and large garden —No. 8744

Brighton —£1,300 1/2 share, early succession Panel 7—800 Fees 3/6 to 10/6 Flat to rent Suit middle-aged man. —No 7845

South Coast — Within 60 miles Over £1 000 increasing rapidly Panel 500 Clinic £50 Fees 3/6 to 12/6 Good house 4 bed, etc —No 8742

Surrey — Rapidly increasing NUCLEUS Receipts over £750 Panel 580 Excellent house, 8 bed, with large garden, to rent —No. 8741

Glos — Country —Over £1,200 p a Panel nearly 1,100 Fees 3/6 to 5/- Detached house 1/4 acre £1,000 down, balance over 4 years —No 8740

Ulster — Seaside Town, about £750 great scope Panel over 600 increasing Fees 2/6 to 7/6 and up. House 5 bed etc —No 8738

S. Wales — Average £3,360 1/2 share for sale Panel 3 000 Visits 3/6 Good house, 4 bed Premium only £1,500 —No 8736

S. Cornwall —Death Vacancy — About £900 Small panel Fees 3/6 to 10/6 Good house, 4 bedrooms and 1/2 acre —No 8734

London, S W — £630 p a increasing Panel 400 Visits 3/6 Midwifery 3 gns up Small house on main road. —No 8730

Devon —Dispensing Practice in large village averaging £940 p a. Fees 5/ to 2 gns Surgery 2/6 to 7/6 Large house with an acre and cottage for £3 000, of which £2,500 could remain, or for sale without house —No 8727

S W County near Coast —Dispensing PRACTICE over £2 000 p.a., chiefly agricultural Visits 5/ up Surgery 2/6 up 1 100 panel —No 8728

North Wales —Old-established —About £900 p a. Panel £292 Agricl. Cottage Hosp Scope surgery Good house. Garage and garden —No 8692

Eastern County — Woman Doctor's industrial dispensing PRACTICE, average over £500 p a Fees 3/6 to 7/6. House 4 bed, etc, at £78 p a, long introduction —No 8691

N E Wales, near Border — Three tenths share producing over £700 p a Fees £5/ up Panel 2 600 Large house and garden at £78 p a. £1 300 or £1,000 and £350 spread —No 8725

West of England Town —Half of £1,700 p a Panel over 2 100 Fees 3/6 to 5/ House 6 bed etc Partnership property easy payments —No 8723

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FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr Percival Turner

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LONDON W.10.—Ca. £1,400 and Panel PRACTICE situated in middle and working-class locality. Suitable accommodation available to rent at £76 p.a. including Fees 2/6 up. Midwifery 2 gns. up. Panel 1,500. Books audited. Receipts £3850. Premium £600.

SOUTH COAST.—Favourite Holiday Resort.—PARTNERSHIP with view to succession in 12 months time in well-established middle-class Practice. Suitable flat available at reasonable rent. Receipts £1,300. Panel 800. Appointments £100. No midwifery or night work. Premium for half share with view 2 years purchase. Excellent opportunity. Suitable for Englishman or Scotch Practitioner.

HOME COUNTIES (NORTH).—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP 3 to 6 months in old-established middle-class Practice. Receipts average £3,500. Panel nearly 1,200. Suitable house to rent (6 bed.) at £65 p.a. Garden. Town Practice. Fees 5/- up. Mid. 3 gns. up. Two appointments. Excellent educational facilities. 1/3 share is offered with view to half share at 2 years purchase. Suitable to well-qualified man preferably married with Hospital experience and good at Anæsthetics.

BLDS.—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP if desired in well-established mixed Practice. Receipts over £1,300 p.a. Panel nearly 1,800. Fees 2/6 up. Mids. 2 gns. up; not encouraged. Good educational facilities. Premium for 3/4 share, with view to succession 2 years' purchase.

LONDON, N.—Middle-class PRACTICE in well-populated locality. Scope for panel if desired. Twelve-roomed house to rent on lease. Separate entrance to surgery. Average receipts £1,700. Panel (approx.) 300 recently started. Visits 5/- up. Consultation 2/6 up. Midwifery £3 3s. One appointment. Premium 1 years' purchase.

MIDDLESEX.—NUCLEUS private non-dispensing PRACTICE with small panel, situated in recently developed residential locality. Detached corner house, 9 rooms. Receipt £432. Panel 130. Visits 7/6 up. Consultation 5/- up. Midwifery £3 3s. up. Premium £500. House £2,200, part may remain on mortgage.

SHROPSHIRE.—Country Town PRACTICE and practice. Modern house with every convenience to rent at £100 p.a. (11 rooms). Large garden (3 acres). Receipts over £1,000 p.a. Panel 500. Visits 8/6 up. Consultations 5/- up. Midwifery £2 2s. up. Three appointment. Premium 1½ years' purchase.

S.W. COAST.—Well-established General PRACTICE. Excellent house with all modern conveniences. Fruit and vegetable garden. Garage. Receipts nearly £2,400. Panel over 1,400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4,000.

HOME COUNTIES.—PARTNERSHIP in old-established Country Town Practice (firm of four) situated not far 50 miles from London. Receipts over £5,200. Suitable house available, garden, tennis court, etc. Lease of house to be rented. Premium for 1/4 share 2 years' purchase.

SOUTH COAST.—(Favourite Holiday Resort).—PARTNERSHIP in well-established mixed-class Practice. Flat available at reasonable rent. Receipts £1,300. Panel 800. Appointments £100. No midwifery or night work. Half share for disposal at 2 years' purchase.

HANTS.—(Near Sea).—Well-established PRACTICE in growing locality. Small but convenient house, well situated at junction of road, the freehold property of the Vendor. Garden, garage, etc. Receipts (average) £651. Panel 300. Fees 2/6 up. Practically no night work. Premium £850.

ESSEX.—Well-established middle and working-class PRACTICE in growing residential locality. Suitable house available to rent on lease. Receipts at the rate of £1,618 per annum. Panel 726. Premium £2,500. Preliminary Assistantship Partnership. Suit married man aged about 30—35.

LONDON, E.—Middle and working-class locality. Good-sized house to rent on lease. Branch Surgery. Receipts average £1,300. Panel 676. Premium 1½ years' purchase.

LINCOLNSHIRE.—NUCLEUS Country PRACTICE with splendid scope situated within 2 miles of growing seaside resort. Excellent house (5 bed.), garden, garage, etc. Receipts £250. Panel 110. Good school. Excellent sport. Premium £950, house and Practice.

BELGRAVIA.—Well situated non-panel PRACTICE (with option for panel if desired) in good thoroughfare. House for sale or would be rented. Receipts approx. £1,000 p.a. Premium 1½ years' purchase cash.

WEST OF ENGLAND.—Good-class old-established non-panel G.P. Suitable house to rent or for sale. Receipts over £2,000 p.a. Hospital. Suit either Surgeon or Physician. Premium 1½ years' purchase £2,000 down.

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5. GLOS.—Old-established mainly working-class PRACTICE. Receipts £1,250 p.a. including panel about 1,200. Good-sized house rent £75. Premium £1,850 payable £1,000 down, balance spread over 4 years.
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4. LANCASHIRE.—Well-estab. middle and better-class PRACTICE. Receipts £988, panel 900, both increasing. Appt. £30 p.a. transferable. Good house and garage.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 500. Appts. worth £118. Good house. Garage and all conv.
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Practices and Partnerships for Disposal — **Full particulars sent free**

1 MIDLANDS — Partnership in Practice nearly £1 900 p a in good Town Panel 1 100 Suitable house Plenty of sport Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment One half share at 2 years purchase with ultimate succession

2 YORKSHIRE (N R) — Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms) garage garden etc, for sale or rent Very good trout fishing Premium £1,250

3 MIDDLESEX — Partnership in Practice nearly £3 500 p a in rapidly growing residential town under 20 miles from London Panel about 1 150 Semi detached corner residence (6 bedrooms) garage and garden, for sale Premium one-half share 2 years purchase

4 MIDLANDS —Practice, over £1,700 p a, in important City Panel 1 570 Centrally situated house (7 bed and dressing rooms) with garage and garden, for sale Scope for increase Premium £2 250

5 WITHIN 50 MILES OF LONDON — PARTNERSHIP in Practice averaging over £3 500 p a in first rate county town Panel over 1 100 Good house (7 bed and dressing rooms) to purchase or rent One third share at 2 years purchase Partner should be aged 28 35 and have held H S and H P appointments Preliminary assistant hip

6 CHESHIRE —Partnership in increasing better class non panel Practice over £4 500 p a in first rate residential district One-fourth share at 2 years purchase Partner should be University Graduate who must have held Resident appointments

7 LANCASHIRE — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort Receipts last year nearly £1 200 Panel 260 Very nice compact house (4 bedrooms) garage and garden etc, for sale Golf Premium £1 000

8 SOUTH DEVON —Partnership in Country Practice about £1 500 p a in beautiful part easy distance of coast Panel over 950 House containing 5/6 bedrooms for sale Premium one half share £1 520 to include drugs etc Work very light

9 MIDLANDS —Partnership in steadily increasing Practice of nearly £3 500 p a in country town amidst picturesque scenery Panel 1 700 Nice house (5 bedrooms) with garage etc Premium one fourth share 2 years purchase Short preliminary Assistant hip

10 SOUTH MIDLANDS —Practice averaging over £1 200 p a in Market Town Panel over 900 Pleasantly situated house (5 bed and dressing rooms and attics) garage and half acre of garden for sale Scope Premium 1½ years purchase

11 HOME COUNTIES — Increasing Country PRACTICE of nearly £900 p a within 30 miles of London Panel 500 Detached house (5 bedrooms) in quarter acre of ground with garage to rent Scope Premium 1½ years purchase

12 YORKSHIRE (N R) — Very old established easily worked PRACTICE of £750 p a in attractive country district Panel 450 Visits 3/6 to 10/6 Modern house, 12 rooms Garage and good garden Rent £42 p a Premium 1½ years purchase

13 HOME COUNTY — Steadily increasing PRACTICE averaging £1 355 p a in a first rate Country Town Panel nearly 1 300 Large attractive old fashioned house (7 bed rooms) for sale Cottage Hospital Premium 1½ years purchase

14 SOUTH MIDLANDS —Practice averaging £1 180 p a in residential country district Panel 1 000 Detached house (4 bedrooms) garage and good garden for sale Good society Premium 1½ years purchase

15 SUSSEX — Partnership in Practice about £3 000 p a in delightful residential country district Panel 1 550 Nice house (8 bedrooms) with garage and about acre garden etc to purchase if desired Good society and educational facilities Premium one half share 2 years purchase Partner must be experienced, preferably aged 35—40

16 WEST OF ENGLAND —Middle and better-class non dispensing PRACTICE over £1 750 p a in first rate town No panel Well situated non basement house (7 bed and dressing rooms) garage and garden for sale or rent Good introduction Premium 1½ years purchase

17 MIDDLESEX — Steadily increasing non-dispensing PRACTICE in growing district Receipts past 12 months £420 Panel about 50 Well situated corner house (4 bed rooms) garage and garden, for sale Good reasons for rapid increase Premium £500

18 LONDON, N W —Practice of about £1 450 p a in suburban district Panel 1,150 Corner house (4 bed rooms) for sale Scope Premium 2 years purchase

19 S MIDLANDS —Partnership in steadily increasing Practice about £3,000 in first rate country district Panel 1 000 Suitable house available Cottage Hospital Premium one third share 2 years purchase

20 N W COAST — Partnership in Practice nearly £3 000 p a in suburb of seaport town Panel over 2 500 House (4 bedrooms) for sale or rent Share up to one half at 1½ years purchase

21 WILTSHIRE —Country Practice of £650 p a (panel and appointments about £400) in a beautiful part Good house (company's water main drainage) for sale or rent Premium £750

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22 MIDLANDS.—Practice about £500 p.a. in beautiful country district in hunting centre. Panel about 400. Specially built house (5 bed and reception rooms) with electric light. Garage and large garden. Premium on years purchase.

23 LONDON, E.—Practice (carried on by Medical Woman) in populous area. Receipts last year £2,830. Small panel. No midwifery. Six-roomed house to rent. Premium £750 to include drugs, etc.

24 DEATH VACANCY — CORNWALL.—Compact Country PRACTICE. Receipts last year £900. Panel 230. House (4 bedrooms) with 1½ acre garden for sale or rent.

25 SURREY.—Partnership in Practice about £3,500 p.a. in desirable residential town. Small select panel. House (6 bedrooms) to rent. Premium—one-third share—2 years purchase.

26 ESSEX.—Assistantship (with view to Partnership and Succession) in Country Practice of £1,600 p.a. Panel 1,200.

27 LONDON, W. — Old-established Practice over £850 p.a. in outlying residential suburb. Visits mainly 5s. some 7s. 6d. and 10s. 6d. Practically no midwifery. Nice compact house (2 reception rooms, consulting and waiting room, 4 bedrooms etc.) Rent £85 p.a. Premium £1,100.

28 W. MIDLANDS — Practice over £1,500 p.a. Market Town. Attractive agricultural district. Panel 500. Good house (7 bedrooms etc.). Electric light and gas. Scope for increase. Premium £2,100.

29 LONDON, N.—Partnership in Practice of £2,300 p.a. Growing residential district. Panel 1,100. Scope for increase. Hospital. Premium one-third share 2 years purchase.

30 S. DEVON.—Partnership in non-dispensing Practice about £2,400 p.a. in favourite watering place. Panel 650. Good hospital. One-third share at 2 years purchase. Preliminary Assistantship.

31 WEST MIDLANDS.—Practice of £2,400 p.a. in small residential country town. Panel about 1,000. Excellent non-basement house (6 bedrooms) in about 3 acres of grounds for sale. Very good sport. Premium 1½ years purchase.

32 LONDON, N.—Increasing Practice of over £500 in pleasant residential district. Panel over 100. Well situated house (4 bedrooms) for sale or rent. Ample scope. Premium 1½ years purchase.

33 S.W. OF ENGLAND — Practice over £2,000 p.a. in small country town near coast. Panel 1,086. House (6 bedrooms) with electric light for sale. Premium 1½ year purchase.

34 S. WALES — Non-dispensing Practice of £760 p.a. in one of the Principal Towns. Panel 620. Corner house in residential part for sale. Good scope. Premium £750.

35 S. WALES.—Mixed Private and Industrial PRACTICE of £1,500 p.a. in town of 12,000. Panel 1,300. Well built house (6 bedrooms) in own grounds, good garden and garage to rent. Premium £1,700.

36 SOUTH-WEST OF ENGLAND.—Practice averaging £1,666 p.a. in seaport town. Panel over 2,000. House with 5 or more bedrooms for sale. Premium £2,500.

37 SOUTH OF ENGLAND.—Practice of £960 p.a. in Market Town under 100 miles from London. Panel 287. House (5/6 bedrooms) garage and good garden for sale or rent. Cottage Hospital. Premium 1½ years purchase.

38 ITALY — Season Practice (March to October) in famous City. Receipts from £200/£700 p.a. according to Season. Up-to-date Hospital. Premium £250.

39 MIDLANDS — Practice over £800 p.a. in first rate Town. Panel 500. Suitable house to rent. Premium 1½ years purchase.

40 MIDDLESEX.—Rapidly increasing Practice in new developing district about 12 miles from London. Earnings past year £750. Panel 200. Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Premium 1½ years purchase.

41 SOUTH AFRICA.—Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre. Purchaser should be able to do Surgery. Prem. £2,200 part by instalments.

42 SOUTH-WEST OF ENGLAND.—Partnership in increasing middle-class Practice of about £2,500 in seaport town. Panel 870. One-fourth or one-third share at 2 years' purchase. Preliminary Assistantship.

43 SURREY — Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third share 2 years' purchase.

44 LONDON, S.E.—Practice about £3,000 p.a., carried on by two Medical Men in outlying suburban district. Panel 1,350. Two houses available. Premium 1½ year purchase. Or one-half share would be sold with early succession.

45 ESSEX.—Partnership in increasing Practice about £1,800 p.a. in rapidly developing neighbourhood. Panel about 500. Choice of two houses. One-half share at 1½ years purchase.

46 KENT and SUSSEX BORDER.—Practice averaging £1,100 p.a. (including over £300 from panel) in *beautiful country district. Very convenient house (6 bedrooms)* to rent. Sport. Premium 1½ years purchase.

47 S. DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage, 1 acre of garden for sale. All kinds of sport. Premium £1,500.

48 KENT — Partnership in Practice about £4,400 p.a. in outlying suburban district. Panel 2,400. Good house (4 bedrooms) to rent. Premium one-fourth share 2 yrs. pur.

49 WEST MIDLANDS — Partnership in Practice of about £2,850 p.a. in country town. Panel 1,700. Exceptional and extremely attractive house (11 bed and dressing rooms) garages and garden for sale. Good social centre. Premium one-half share 2 years purchase.

50 LONDON, S.E. — Partnership (with preliminary Assistantship) in well-established Practice of £5,500 in outlying district. Panel 2,000. House (5 bedrooms etc.). Garden. To let. Premium one-fifth share 2 years purchase.

51 SHROPSHIRE.—Partnership in Practice about £2,200 p.a. in attractive residential country district. Panel 1,100. Very nice house, garage and large garden for sale. Sport. Premium one-half share 2 years purchase.

52 YORKSHIRE (W.R.) — Compact easily worked PRACTICE, averaging £1,600 p.a. in manufacturing town. Panel over 1,300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years purchase.

53 LONDON, E. — Practice £900 p.a. in populous area. Panel 1,240. Shop-fronted premises to rent. Plenty of scope. Premium 1½ years purchase.

54 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (including £350 from panel). Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and House—£2,000.

55 LONDON, S.E.—Partnership in Practice £6,600 p.a. in outlying Suburban District. Panel 2,000. Premium one-sixth share, 2 years purchase.

56 LONDON, S.W.—Practice about £630 in suburban district within half an hour Charing Cross. Panel about 400. House to rent on lease. Very good scope. Premium £900.

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1 EASTERN COUNTIES—Pleasant Country and Hospital Town (pop about 90 000) within 1½ hours of London Very old-established lucrative PRACTICE, held nearly 30 years by Vendor and averaging for the past three years £2 845 p a including clubs about £400 and panel of 2 200 No midwifery Expenses very light Good house with ample accommodation Price, freehold, £1,500 Premium 1½ years purchase

2 DEATH VACANCY—SUSSEX—Very attractive country district within 35 miles of London—PARTNERSHIP—A one half share in an old established good mixed-class Practice averaging over £2 800 (last year £3 046) Panel of 1 550 Fees 5/6 to 31/6 Midwifery from 3 gns (about 8 cases yearly) Appts. worth about £240 p a Very good house, with 4 reception 6 to 8 bedrooms, etc One acre of garden For sale Premium 2 years purchase

3 LONDON WEST—Chiefly better-class non-panel and non-dispensing PRACTICE offering large scope Average gross cash receipts for past 3 years £1,284 Fees 7/6 to 2 gns Midwifery 10 to 30 gns, only few cases Well situated house in excellent repair, with 2 reception 5 bedrooms, etc Very nice garden Can be rented on lease at very low rental Premium to include valuable lease, £2 500

4 LONDON S E—Outlying Residential Suburb—Very old-established PRACTICE (hitherto carried on by two men in partnership) is for disposal or half share would be sold with succession to the whole in 12 months time Receipts average about £3,000 p a, including appts worth £290 and panel over 1 500 Two houses available Premium 1½ years purchase Eminently suitable for two friends

5 WEST MIDLANDS—In a clean and thriving industrial town (pop about 20 000) very old established mixed-class PRACTICE averaging nearly £2 500 p a, including Union and Vaccination £350, and panel (increasing) about 1,000 House contains 3 reception 6 bedrooms bathroom etc Small garden Would be rented at £65 p a, with view to purchase for £1,500, payable by yearly instalments Premium 1½ years purchase

6 HANTS—Delightful residential district within easy reach of Coast—Old established good mixed PRACTICE averaging £970 p a and offering large scope as district rapidly developing Panel of 230 Fees 3/6 to 15/ Well built well situated house with 2 reception, 6 bedrooms etc Garden, with tennis lawn Price for freehold £2,100 good part on mortgage Premium £1,400 Sport of all kinds and good social facilities

7 X-RAY AND ELECTRO-THERAPEUTIC PRACTICE—Large Hospital Town within 80 miles of London Well established connection averaging £975 p a and offering excellent prospects Patients mostly better class at good fees House is exceptionally well situated with ample accommodation, professional and otherwise Price freehold, £1,500 Premium only £900 to include valuable plant furniture, etc

8 LONDON SOUTH WEST—Very sound old established PRACTICE in thickly populated area averaging over £5,000 p a., including panel of 1 150 but large scope for more Fees 2/6 upwards. Choice of houses Rent of surgery on long lease £100 p a. Prem 1½ years pur

9 GLOUCESTERSHIRE—Old-established PRACTICE in good residential town in the midst of the Cotswold Hills, averaging over £1,300 p a, including panel of about 1,200 Fees from 2/6 Very little midwifery Good detached house in own grounds, with 2 reception, 6 bedrooms etc Separate entrance to professional rooms. Gas and electric light Price, freehold £2 000, half on mortgage Premium 1½ years purchase

10 AYRSHIRE COAST—Village PRACTICE, unopposed and situated in very beautiful district within easy reach of large town Cash receipts last year £740 Panel of 303 Fees 2/6 to 21/ House faces sea, in own grounds and contains sitting room, 4 bedrooms, etc Rent £40 p a Premium £1 000 part by arrangement

11 NORTH WALES—Unopposed PRACTICE in beautiful agricultural district within 4 miles of Coast Average gross cash receipts for past 3 years £853 Panel of 734 which together with appts and clubs, brings in £750 p a. Fees 2/6 to 21/ Small house with 1 reception 3 bedrooms bathroom etc Garden Rent £39 p a Larger house available if desired Premium 1½ years purchase

12 PARTNERSHIP—ESSEX—Outlying suburb—A one half share is offered in a good mixed-class Practice increasing and offering large scope Receipts last year approximately £2,300 Panel of 1,700-1,800 Fees from 2/ Suitable house available and can be rented for about £100 p a Premium 2 years purchase

13 OXON—UNDER 45 MILES FROM LONDON—Old-established practically unopposed Country PRACTICE, within 4 miles of the River Average income £1,180, including panel of over 1 000 Fees 2/ to 10/ Good house with two reception, 4 bedrooms, bathroom, etc Electric light One acre of garden Garage for 2 cars Price for freehold £1 600 £1 000 on mortgage Premium £1 750

14 PARTNERSHIP—HOME COUNTIES—Within 40 miles—In very pleasant district (with large surrounding population) the third share (with increase later) of old-estab mixed-class Practice offering large scope Present income £3 000 p a with panel producing over £1 200 p a and appt worth £100 Visits 3/6 to 2 gns Good house at moderate rental Good society and sport Ingoing partner should be about 30 prefer married and English or Scotch.

15 MANCHESTER DISTRICT—Old-established middle and working-class PRACTICE worth last year about £700 p a, including panel of 614 and capable of increase Expenses small Well situated house with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted.

16 SOUTH WESTERN SUBURB—Pleasant residential district Very old-established mixed-class PRACTICE, held nearly 70 years by Vendor who is retiring Cash receipts average £1,855 p a including appointment worth £179 and panel of 725 Practically no midwifery Good house with ample accommodation Rent on lease £90 p a Premium £2 800

17 NEAR HARROGATE—Country PRACTICE—Well-established and rapidly increasing, chiefly middle and working class Practice in delightful district producing for last 12 months nearly £1 450 Panel of 55[illegible] Fees 3/6 to 12/6 Mid 2 to 5 gns (about 40 cases yearly) Suitable house, with 2 recep 3 bedrooms etc and professional rooms. Rent £50 p a Very good sport Prem £1,800 part by instal

18 LINCOLNSHIRE COAST—Well-established mixed-class PRACTICE averaging £2 749 p a (last year £2 868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly) Newly built modern house with special professional accommodation central heating etc. Garden Garage Price freehold, £2 500 part on mortgage Good sport and schools within reach Premium 1½ years purchase

19 WEST MIDLANDS—Very old-established mixed-class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2 567 p a., with panel over 1 000 Opposition not strong Very fine house (3 reception, 6 bedrooms, bathroom, etc), standing in nearly 3 acres of grounds Beautiful garden tennis lawn and productive orchard Price, freehold £2,000 Premium 1½ years purchase

20 LONDON, S E—Pleasant residential suburb—Very old-established non-panel (but scope for this) PRACTICE held over 30 years by Vendor, who is retiring Receipts last year over £900 Patients mixed, but mostly good class Large house (part could be let off for flat) Rent £98 p a Premium 1½ years purchase

21 PARTNERSHIP—WITHIN 100 MILES NORTH OF LONDON—One-sixth share (with increase in 2 years) is offered in a very good non-dispensing mainly better-class Practice in a large town at present worked by three partners who now require further assistance Gross cash receipts average about £8 000 p a Selected panel of 700—800 Fees 5/ to 21/, average 7/ Suitable small house with sitting-room 3 bedrooms etc Rent £90 p a Premium 2 years purchase

22 YORKS—HOSPITAL TOWN—Well-established good middle and working-class PRACTICE, with beautiful surrounding country Average income over £3 000, including an appointment worth nearly £1,500 and panel of 1,648 Fees from 2/6 Midwifery from 3 gns About 35 cases Good detached house, in excellent repair, with 2 reception 5 bedrooms, etc. large garden Price for freehold £2 200 Good sport and schools Premium £4 500 Very good surgical scope

23 MIDDLESEX—Rapidly developing district, within 20 miles—PARTNERSHIP—A one half share in an old-estab good middle-class Practice averaging for the past two years over £3 500 p a Panel of 1 100 and appts bring in £100 p a Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms, etc Garden Price for freehold £2 100 Premium 2 years purchase

24 BORDERS OF NORFOLK AND SUFFOLK—PARTNERSHIP—A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village, near two good towns Income for last 12 months £1,992 including panel of 1,000 and appts worth about £150 Fees 2/6 to 10/6 House contains 3 reception 6 bedrooms etc Sport of all kinds Premium 2 years purchase

25 KENT—Country PRACTICE, near Coast—Old established mixed-class Practice, averaging about £1,100 p a Panel of nearly 400 Fees 3/6 upwards Convenient house with 3 reception 6 bedrooms etc Good garden Rent on lease £75 p a Good sport and schools within reach Premium 1½ years purchase

26 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed-class PRACTICE averaging £1,600 p a including £800 from panel and over £100 from clubs Visits 5/ upwards (occasionally 2 gns) Very little midwifery, from 2 to 5 gns Large attractive house, with garden Rent £80 Prem 1½ yrs purch

27 MANCHESTER—Chiefly working class PRACTICE Average income £1 000, including panel of 1 000 Moderate expenses Corner house with 3 reception 8 bedrooms etc. Garage Rent on lease £65 p.a. Premium £1,500 or near offer

28 NEAR HUDDERSFIELD—PARTNERSHIP—A half share in an old established mixed-class Practice Income for immediate past year over £4,250 Panel of 3,500 Fees 3/6 to 7/6 Very good house with 4 reception, 6 bedrooms etc 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

29 PARTNERSHIP—COUNTRY TOWN, within 130 miles North of London—Two one-fifth shares are offered in an exceptionally good mixed-class Practice, averaging for past 3 years over £6 000 p a Panel of 3,400 Fees from 4/ Not much midwifery House can be rented at £50 p a Premium 2 years purchase Very suitable for two friends

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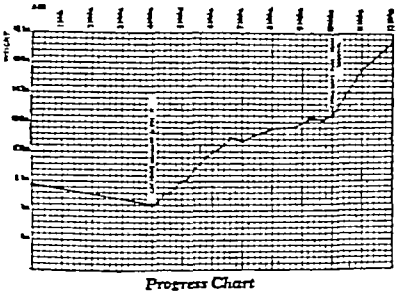
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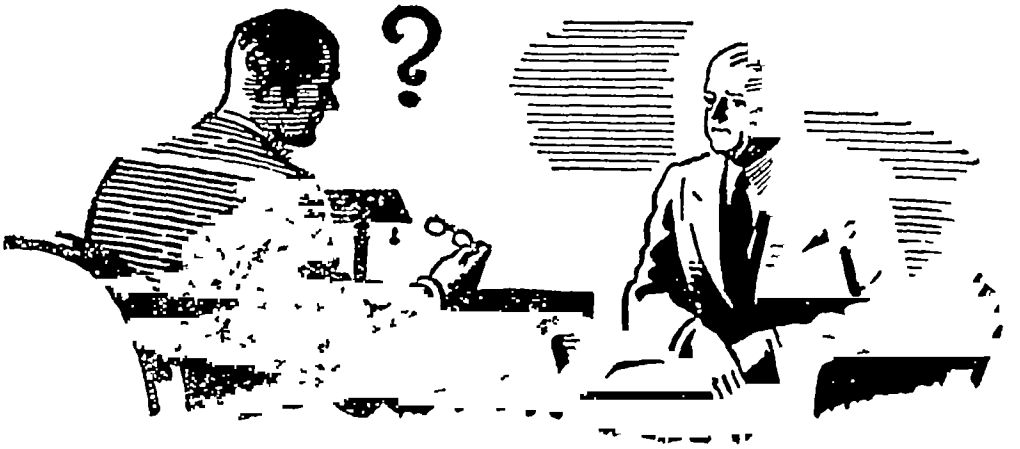
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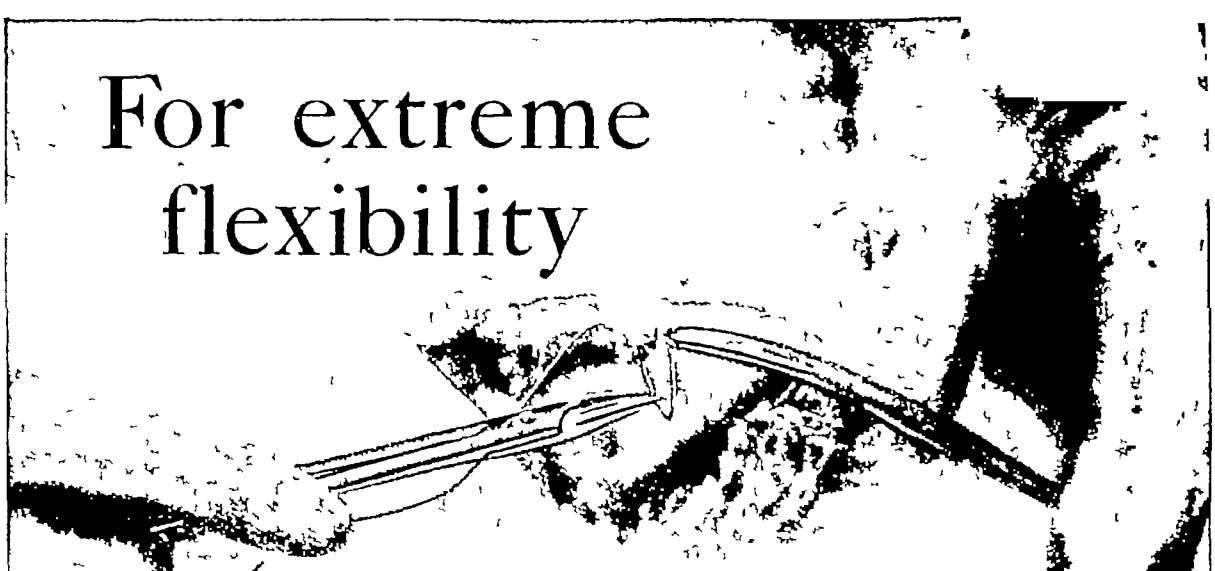
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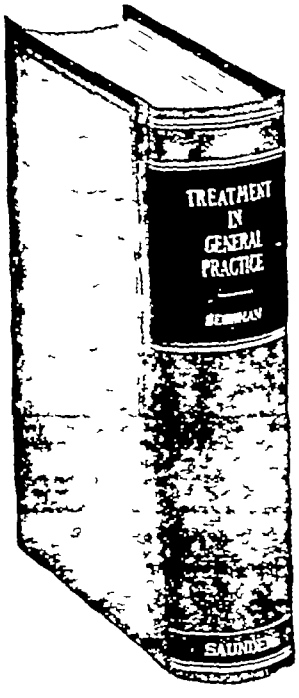
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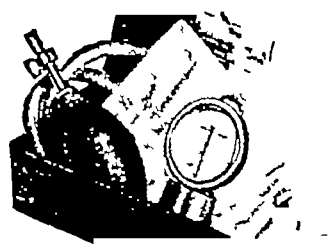
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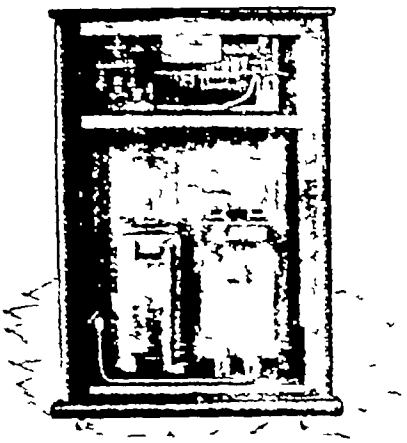
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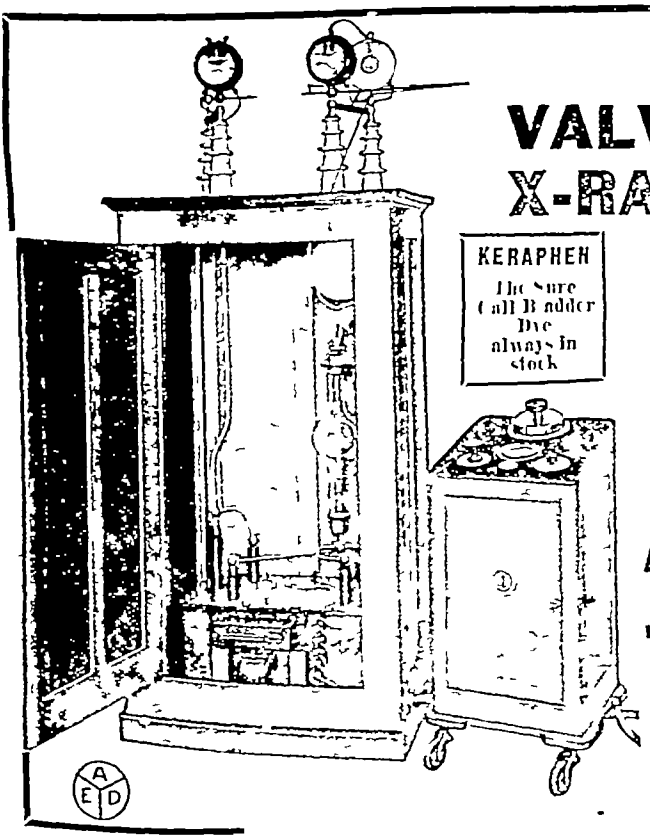
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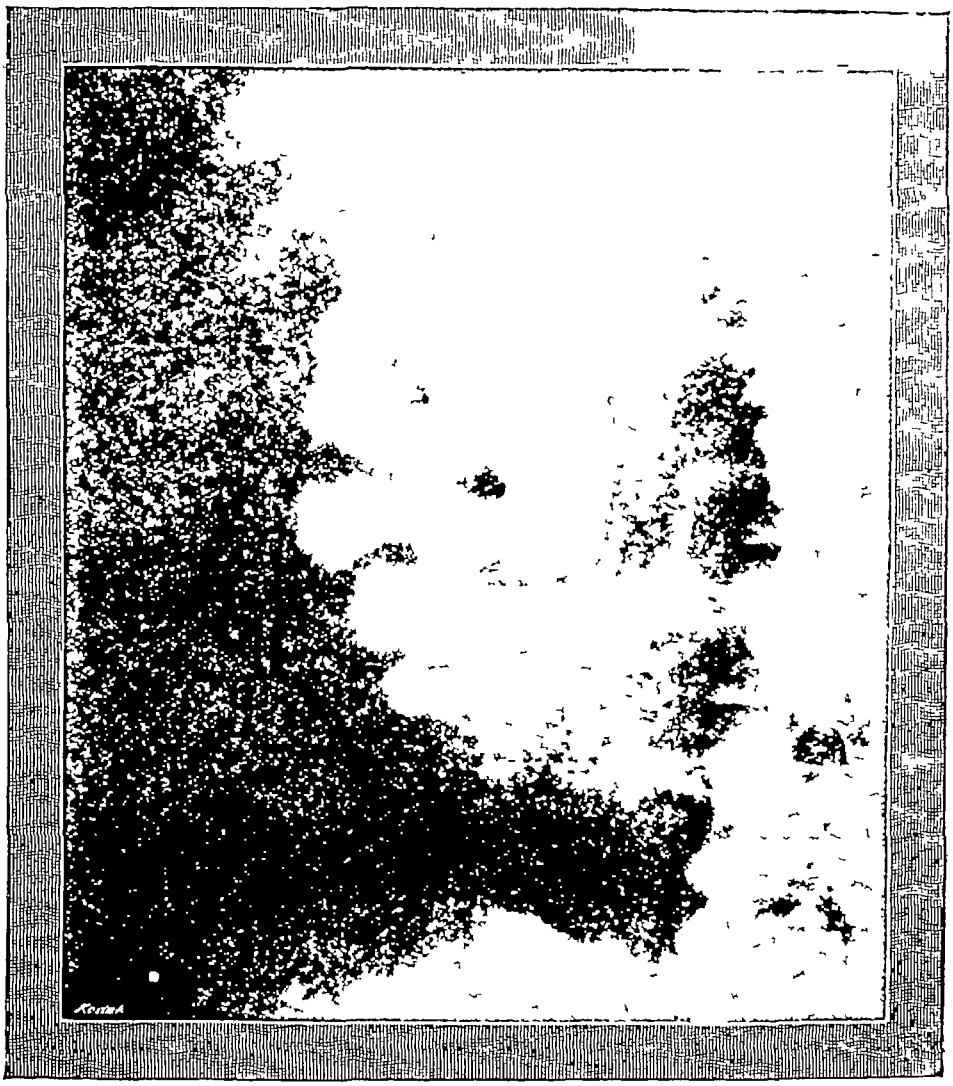
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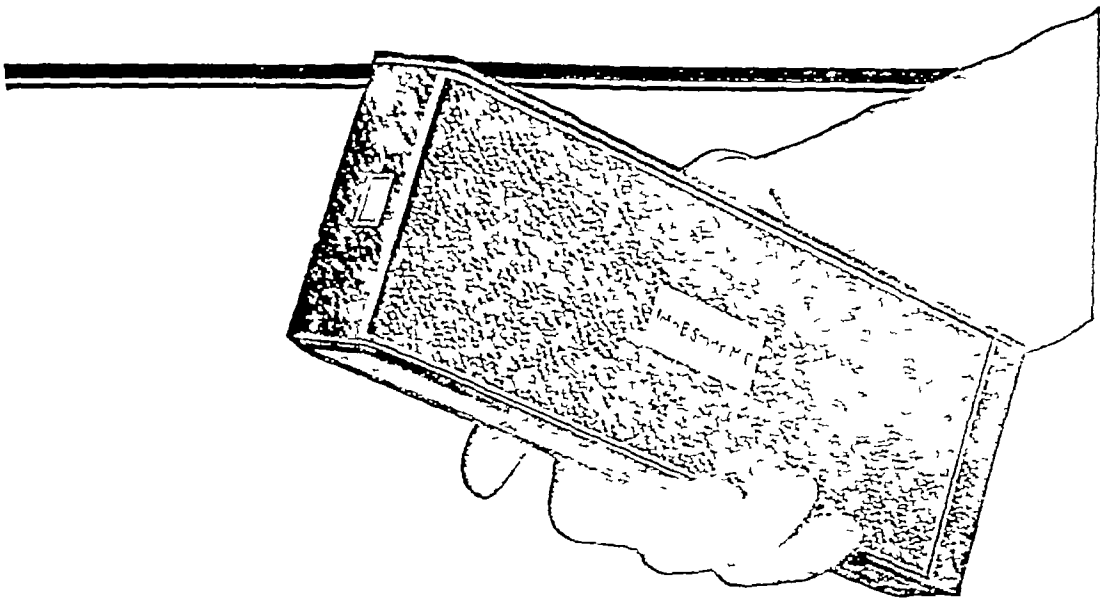
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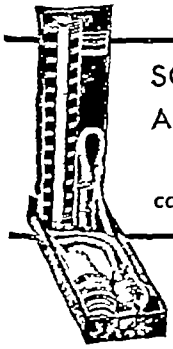
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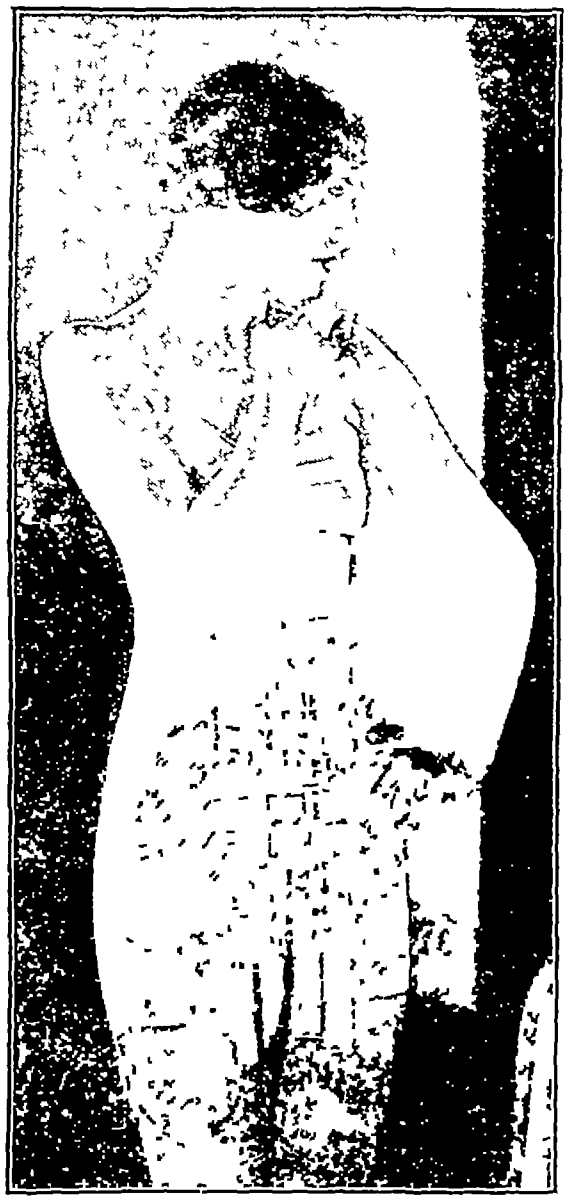
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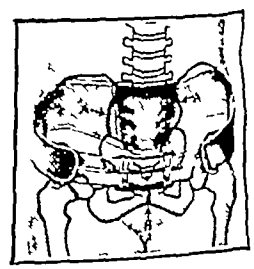
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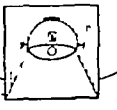
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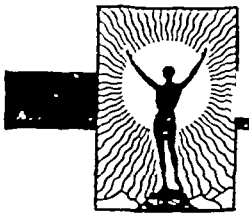
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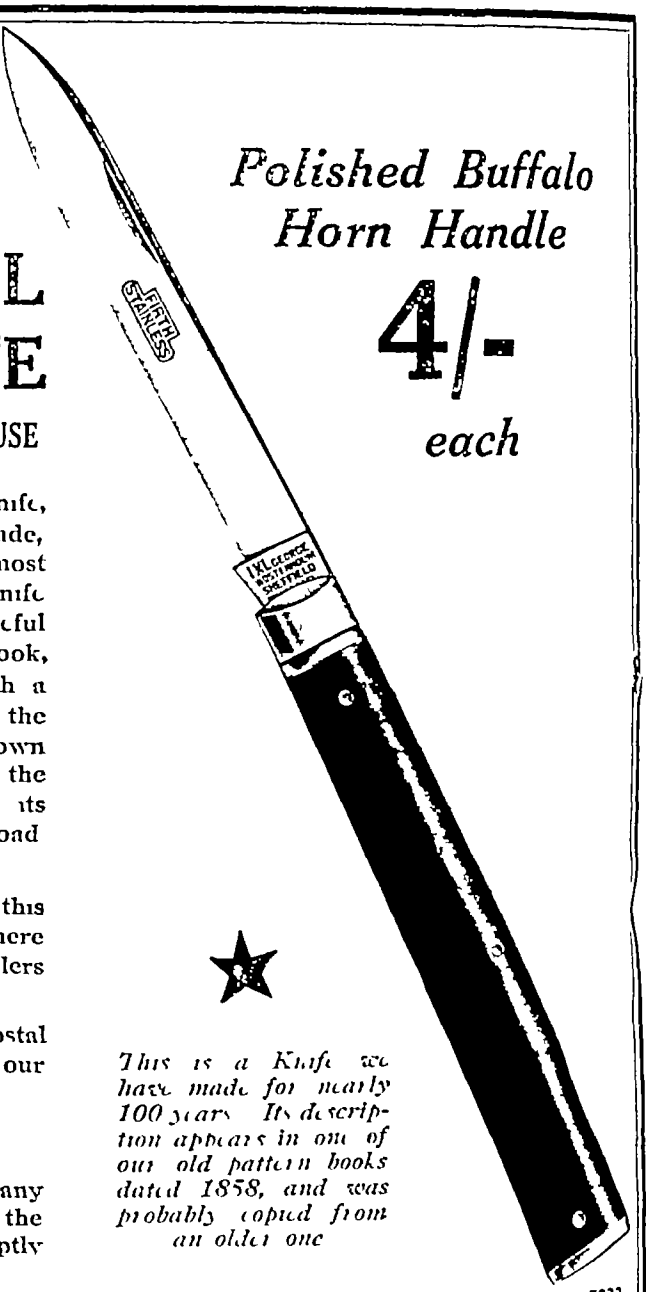
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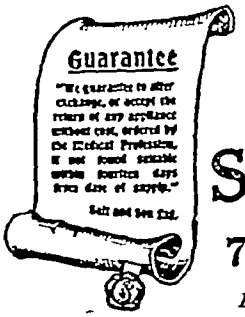
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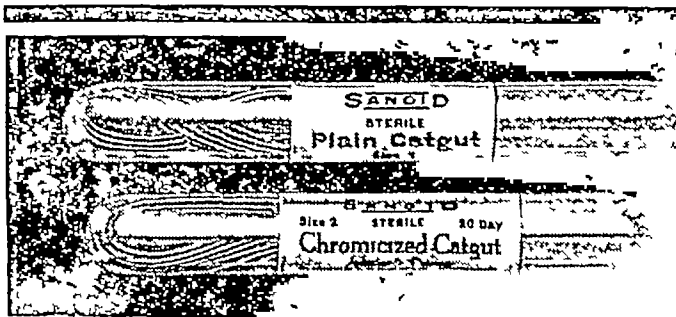
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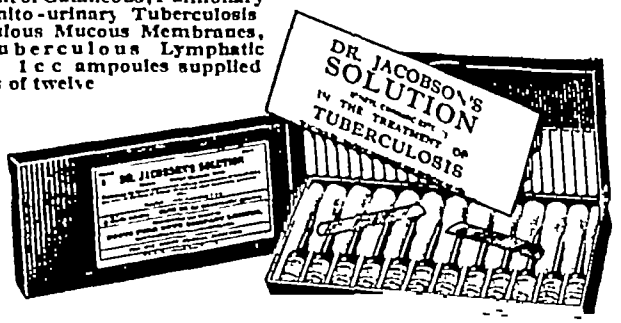
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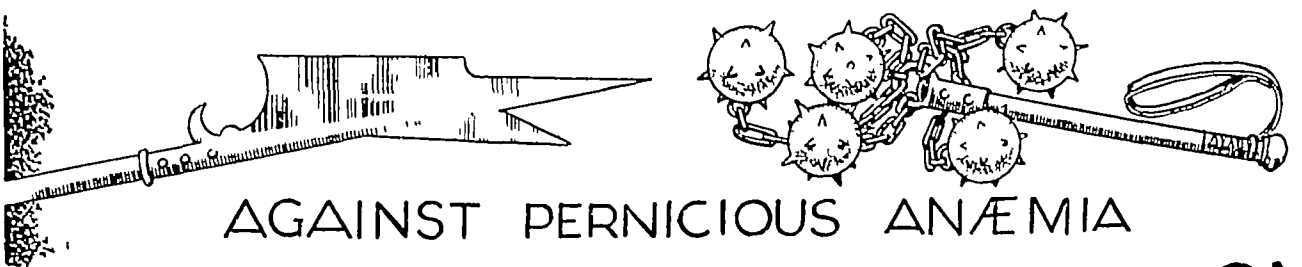
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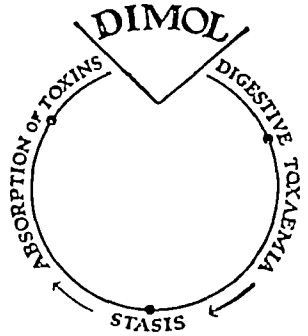
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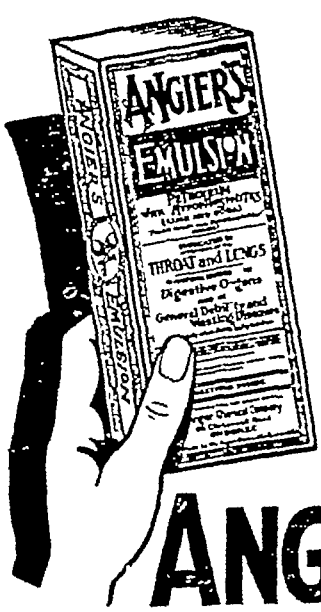
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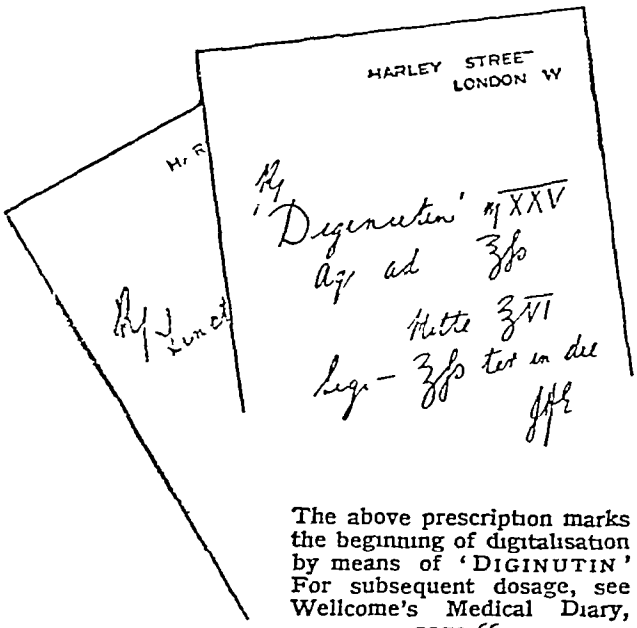
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For Building up Resistance



A Paper on SLEEP AND ITS DISORDERS IN CHILDHOOD

BY

HECTOR CHARLES CAMERON, M.D., F.R.C.P.

PHYSICIAN AND PHYSICIAN IN CHARGE OF THE DEPARTMENT FOR DISEASES OF CHILDREN, GUY'S HOSPITAL

Of the physiology of sleep we know no more than of its pathology. Speculations as to its nature, what part is played by variations in vascularity, in blood pressure, or in osmotic pressure, whether or not there exists a sleep centre, acted upon by a hypnotoxin elaborated during the hours of wakefulness, how far the endocrine glands control the process—all such speculations afford us no help in solving the problems of sleep and its disorders in childhood.

In our discussion, therefore, we can only approach the subject with certainty from the purely *clinical* standpoint. We can only depict disturbances as we find them in practice, and discuss the *ways and means* whereby they may be combated. Views on etiology must be regarded as wholly speculative. I propose to discuss briefly in turn four examples of such disturbances:

1. Sleeplessness and continuous crying in young infants.
2. Sleeplessness in older children.
3. Night terrors.
4. Enuresis.

Sleeplessness in Young Infants

Three factors may be concerned in different cases in *varying degree* in producing this most unhappy state: (*a*) *pain* or discomfort, (*b*) inherited or constitutional neuropathy, (*c*) faulty management.

Pain or Discomfort

In a few cases the unrest is caused by persistent pain. Syphilitic periostitis, the subperiosteal haemorrhages of scurvy, uric acid calculi, otitis media, for example, must not be overlooked. The pains of dyspepsia are a more common cause. In intestinal colic the pain is caused by the increased vigour of the peristaltic contractions of the intestine, and is associated with the passage of a green watery, or slimy stool which is expelled violently from the anus with the audible escape of flatus and fluid and which may be so irritating that it causes excoriation of the skin of the buttocks. Aerophagy with distension of the stomach is an even more common cause of abdominal discomfort. But here, as so often happens in infancy, *cause and effect are hard to separate and we are confronted with a vicious circle of symptoms, each productive of the other.* The infant, in the first months of life, functions almost solely as a suction apparatus. That apparatus is effective only when the child is at rest, quiet, perhaps even drowsy. The suction act is not a voluntary but a reflex act, and the reflex is inhibited by emotional unrest. Brought to the breast sleepless, crying and excited, the child, as it were, stammers in its attempt at suction. It substitutes a voluntary, inco-ordinate, ineffective effort for the quiet, sustained, effective suction. Gulping, straining and choking it secures from the breast a minimum of milk and a maximum of air. The consequent distension of the stomach is painful. The delayed peristaltic contraction of the fundus—a property of the infant's stomach which expels that amount of air which is always and inevitably swallowed with the milk—is incapable of achieving its purpose. Either eructation is prevented by the over-distension or eructation is so violent that the fluid contents of the stomach are ejected as well as the air. To prevent wind we must secure sleep; to secure sleep we must prevent wind. The infant must be brought to the breast *quiet and controlled*, not in a state of emotional excitement. A single grain of chloral hydrate given ten minutes before each of five or six feeds for some days, will often prevent wind. When *the infant* is quiet and drowsy the suction reflex comes into its own again, a full meal is taken without too great aerophagy, and sound sleep follows.

Nasal obstruction from nasal catarrh is one of the most frequent causes of discomfort leading to wakefulness. Not *only* does the cough constantly waken the child, but the consequent nasal obstruction interferes with suction. The infant must stop breathing in order to suck, must stop sucking in order to breathe. Aerophagy and insufficient stimulation of the breast are direct results of nasal obstruction. The two commonest causes for a failure of lactation in the first months are to be found in nervous unrest in the infant, leading to inco-ordinate ineffective suction, and to nasal obstruction in the infant, which in turn is a cause of nervous unrest. A tampon of cotton-wool which allows a few drops of adrenaline solution (1 in 5,000) to flow backwards through the nostrils before the child is put to the breast may break the vicious circle, permit nasal breathing and effective suction, and thereby prevent aerophagy and hunger with the consequent insomnia and crying.

Inherited Neuropathy

The neuropathic infant generally bears in his face and aspect the stamp of his inheritance—thin, meagre and tense with rigid face and limbs. His hands are constantly clenched; often there is opisthotonos. The outline of the recti abdominis is visible on the retracted abdomen. The scalp is usually hairy and the hair is lank and dark, generally massed on the vertex, thin and sparse on the temples. The slightest sound in the neighbourhood awakes him with a characteristic start. Instantly the anxious expression flows back into his face, and the inevitable crying begins. The response to the approach of a friendly face is not a smile, but a cry or a frown.

Faulty Management

Only a few restless babies suffer from inherited neuropathy. Most infants who are sleepless and who cry constantly without any specific pain or discomfort do so because the management is at fault. The competence of *a mother in* handling her infant varies directly with the degree of her own self-confidence. It is through the mother or the nurse that we must work to get our effects. No infant has yet met in the arms of a woman who is herself in a state of nervous tension. In hospitals and institutions infants keep all the time because they are subjected to little perhaps to too little psychical stimulation. They are cared for by a succession of kindly capable young women who *are not apt to be unduly distressed by the* crying of a child. *In an institution* the baby does not pass his time under the searchlight of his mother's face and eyes with a constant interplay between the two—coaxing appealing consoling, urging on the part of the mother—training striving, refusing resisting on the part of the child. This excessive psychical stimulus may be the cause of a restless state of fatigue. Insomnia and constant crying may follow and become persistent when the mother grows agitated and worried by the failure of her renewed attempts to dominate the opposition of the child. The best place for such an infant may be up again t the mother's body, against a warm comfortable part of her body, which takes no part in the expression of her emotions, when the searchlight of face and eyes is directed away from the child and when her hands are free to busy themselves in occupations which divert her thought from the child. For when her thoughts are so diverted peace may come almost miraculously. The mother's agitation and the infant's restlessness may act and react other in such a way that treatment must have regard to both aspect of

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Read in opening a discussion on the Section of Diseases of Children at the Annual Meeting of the British Medical Association in Winnipeg, 1929.

J. Amer. Dis. Child., 1920, xx, 111.

Medical Journal, 1920, i, 878.

H. G. Arc, Dis. in Childhood, 1920, v, 132.

swaddling-clothes, too, with which primitive folk
countries and all ages have encumbered the young
are the infantile strait-waistcoat When enveloped
steady pressure of a light and porous shawl, so tha
Wordsworth's cloud "it moveth altogether, if it m
all," many a restless infant will fall soundly asleep
practice of carrying an infant always upon a sup
pillow has this, perhaps, to explain its popularit
the pillow serves to insulate the tense nervous sy
the agitated mother from that of the child, and
the incessant struggle between the restless moven
the child and the restraining hold of the mother

Sleeplessness in Older Children

In older children sleep is often still intimately d
upon the support which the child derives or fails
from the mother Many nervous children will sle
the presence of the mother The so-called "calli
a persistent hailing of the mother, as soon as the
turned out and the child is left alone, is cause
effect upon the child of the ill-concealed agitatio
mother The parents of children who cry incess
apt to be sensitive persons who are unnecessarily
by the cry Many children, like moths to the ca
compelled to exploit these emotional reactions
parents Refusal of food and refusal of sleep
the same origin

To urge a child to go to sleep is only to call
to his own impotence in the matter No one
sleep by an effort of will, and the sense of this in
main cause of all insomnia A conscious effort
sleep prevents sleep On the other hand, to sp
a child of his remarkable capacity for immediate
sleep, to encourage the tendency natural to ma
to associate sleep with certain treasured objec
reputable remains perhaps, of what was once a
—to lay stress upon improvement, to make lig
sional wakefulness, is to provide helpful manag
children are at times wakeful, at times refu
times wet the bed, but whether these failures a
and of no importance, or whether they are
formidable disorders, depends more than any th
the mother and her power to hide her own an
the mother bird that by its warning note arou
of fear and of danger in her young Comfo
going persons, who always hope for the best,
then children refusing either to eat or to
are many other points of management on th
of which we are all agreed, but which time
me to deal with The need for adequate v
for warmth can hardly be overstressed A
digestible meal taken late at night has ca
sleepless night Lack of exercise no less tha
cause insomnia In a given case we must
circumstances of the child's life and se
contributory causes

The Unstable Metabolism of the Nerv

But when I turn from a consideration o
part which management plays and examin
insomnia which are peculiar to the child
myself on more debatable ground One p
of the sleep question in older children I sh
with in some detail, because it concerns
I think, the consideration of those particu
which I am to speak—namely, night terrors

The metabolism of all children, just
children, is less stable than that of late
nervous children this instability is a ch
striking peculiarity It is not that there is
peculiar to the nervous child, but rather
common to all and which do not
native of symptoms of
ty
all the energ
the

carbohydrate In children, starvation, pyrexia, exertion, and emotional excitement, whether pleasurable or painful, tend much more readily than in adults to exhaust that meagre reserve of carbohydrate which is stored as glycogen partly in the liver and partly in the muscles In the absence of sufficient available carbohydrate, the metabolism is apt to become disturbed, and the evidence of this disturbance is found in a fall in the blood sugar, in an accumulation of ketone bodies in the blood, in a greater excretion of nitrogen, and in an increased accumulation of fat with a diminished content of glycogen in the liver When the carbohydrate level is at the lowest end of the range the body appears to endeavour to achieve the synthesis of sugar out of the ample store of body fat, which is our main reserve of energy It is a view widely held at the present time that the presence of ketone bodies in the blood in considerable amounts indicates the failure of such an attempt Some sugar is indeed successfully derived from fat, but much of the synthesis is incomplete and remains, as it were, at the stage of the ketone bodies Ketonaemia, in other words, may perhaps be *regarded as evidence of a failure to complete the synthesis* of the necessary sugar from the stored body fat

Individual children differ widely in their reaction to the presence of ketone bodies in the blood and to the accompanying hypoglycaemia The nervous child, slender, thin, and pale, with his eager or too anxious expression, with a tendency to "bouts" or "turns" or "attacks," sometimes characterized by severe and incessant vomiting, but more often merely by an increased restlessness, irritability and exhaustion, by obscure pyrexia, by anorexia or nausea by yawning, pallor, and a variety of vague muscular aches and pains, as well as by confused or terror stricken dreams, has, as has long been recognized, a low tolerance for fat It is, I think, clear from a clinical study of such cases that these sudden backslidings in physical energy and nervous control, *associated often* with clear evidence of hepatic inactivity, which the mother describes as bouts or turns are the physical and nervous manifestations of the underlying disturbance of metabolism, produced by over-exertion, psychical shocks, or intective disturbances

The reaction of young children to hypoglycaemia and ketonaemia, induced experimentally by starvation and by a diet with little sugar and a high content of fat, has recently been investigated and recorded in an interesting communication by Salomonsen The author reviews at the same time the extensive literature on the subject of ketonaemia and hypoglycaemia The application clinically of the work of Hilliger, Hecker, Frolich, Ross and Josephs, Cammidge, Osman and Close, and many others, presenting as it does much that is contradictory, has not yet been sufficiently defined or even sufficiently discussed

Fifteen young children between the ages of 1 and 4 were subjected by Salomonsen to periods of starvation of from thirty-six to seventy-two hours Within the first twenty four hours there was invariably a rapid and extreme fall of the blood sugar *in several cases it fell below 0 04* Simultaneously the blood acetone rose from minimal amounts to figures which gave on an average nearly 0 2 part per 1,000

Twelve children between the ages of 5 and 14 were suddenly put on a diet poor in carbohydrate and rich in fat In both series symptoms were produced, the intensity of which varied very much in different individuals but which comprised pallor, anorexia, somnolence, vomiting, loss of weight, increased excretion of nitrogen, hypoglycaemia, ketonuria, and sometimes a palpably enlarged liver The author notes—and this is of especial interest in the present connexion—that he was invariably able to predict which individual children would show a strongly marked reaction Plump, well-coloured, placid children were, as a rule, little incommoded But in the case of certain fragile, "neurolabile" children the *different* symptoms reached quite the same intensity as in a spontaneous attack of cyclical vomiting

In these experiments we are furnished with evidence which supports the clinical observation that it is especially the nervous child who reacts most to stress, whether starvation, previous infection, or emotional excitement

Hypoglycaemia and Disorders of Sleep

It is clear that that particular stress which in practice is most commonly the cause of an "attack" or "bout"—I mean excessive emotional excitement—is not capable of precise investigation in the laboratory, but the reaction of the children to hypoglycaemia, induced by starvation and by a diet with insufficient carbohydrate, is highly suggestive. Nor can the laboratory furnish us with proof of what seems to me equally true, that when the metabolism of the nervous child is under strain in this particular way, when we find hypoglycaemia and ketonaemia, we encounter always an exacerbation in all nervous symptoms. It is when the child is in this state of prostration, of muscular laxity, and of pallor that he is most irritable, least controlled and most apprehensive and that the difficulties and struggles of the day are most likely to lead to sleeplessness, night terrors, or enuresis. As if even the physiological starvation of the night were ill tolerated at such times, we encounter a number of disturbances in nervous children which are confined to the night or undergo exacerbation in the night. In very many children with asthma, enuresis, sleep-walking and night terrors, we may recognize the tell-tale smell of acetone in the breath. In all these conditions I believe that we may regard a low level of the blood sugar as, in some way, a cause or an indispensable part of the cause of the disturbance. The metabolism of the night differs from that of the day, because the blood sugar is at a low fasting level and a higher proportion of the energy is derived from fat as shown by the respiratory quotient. Salomonsen found that the early morning urine always contained the highest *proportion* of acetone. This is in accordance with the common complaint of mothers of such children that they get up 'at their worst,' pale, yawning and intensely irritable. Only after breakfast has provided the necessary carbohydrate is there improvement.

The sleep of certain children whenever there is some degree of hypoglycaemia and ketonaemia tends always, I think, to be abnormal. Confusion, unhappy delirium, muttering speech, restless movements, and terrifying dreams are then the after-effects of the emotions and excitements of the day.

Enuresis, in many cases I think, may be regarded as a specific night terror. It is not the child who does not care who wet the bed but the child who cares too much, who goes to sleep fearing that the accident may happen, oppressed by the conviction that it will happen, dreaming that it does happen. As a rule he is intensely unhappy because of his failing. Sometimes it is true, he hides his feelings and ostentatiously affects an air of unconcern. At times too, in the interests of his daily life he does gain genuine relief. There may be intervals when he forgets it. Yet at times of exhaustion or depression the obsession is apt to return in all its old power, and these relapses are especially prone to recur in that state of pallor, prostration, irritability and increased apprehensiveness which accompanies, and in itself indicates, a blood sugar at the lower levels of its range, ketonaemia, and an inactive liver.

I do not mean to deny in the least the importance of the psychological aspect of the problem but at the moment that which I particularly wish to emphasize is the close association in childhood between mental states and states of metabolism. In the state which I have tried to describe I think that we find a powerful predisposing cause of disorders of sleep. In adults alcohol may bring sleep because it brings courage—Dutch courage we call it—which turns the mind from worry, from the investments which have succeeded, from the disappointments of the day to the hopes of to-morrow. When the blood sugar is low the mind is apt to be agitated restless, apprehensive. In such a case either sleep will not come to the child or sleep is light and the unrest of mind is shown by morning or muttering speech, by unhappy dreams, by night terrors or by enuresis.

Rest wise and understanding management and a diet with a higher percentage of sugar and a somewhat lower percentage of fat, are the chief needs of the nervous child. It is interesting to speculate how far the introduction on a large scale into the dietary of man of the most easily assimilated food stuff—sugar—has been necessary to enable him to stand the strain and to combat the nervous exhaustion of the increased speed at which he lives. To Shakespeare sugar was a rare delicacy. It is of honeyed words and honeyed smiles that he speaks. Jamaica and Demerara provided for the quiet movement of the eighteenth century. The manufacture of beet sugar on a large scale was perhaps necessary before life could accelerate. How invariably in some children travel, change, rush, excitement, and so forth may produce a characteristic bout of vomiting, of asthma of enuresis, of insomnia or of night terrors—disturbances in all of which some degree of hypoglycaemia may act on a predisposing cause. All of us, under a sufficient emotional strain grow pale and lax, yawn, feel nauseated become irritable and sleepless, and lose control, concentration and the ability to face the difficulties of life. The British Army found the value of rum. The German troops had their pockets full of sugar. It is the same with the warfare of the nursery. The negativistic, difficult child, exhausted by his struggles with his parents or by some emotional shock, has a high need for sugar. In practice night terrors are very often well controlled by glucose.

Hysteria and Enuresis

I wish I could speak as confidently of the control of enuresis. But here, and especially with older children, the psychological factors concerned are more complex. In some few inveterate cases I think a true hysterical paresis of the sphincter has developed and perpetuates the incontinence. In a certain proportion of cases of enuresis, usually in boys, there is added incontinence of faeces. This form of faecal incontinence is not to be confused with the accidental discharge of a watery stool which the nervous, excited child is unable to hold. In the incontinence of faeces of which I speak and which accompanies certain inveterate cases of enuresis the escaped mass is hard and scybalous. The symptomatology is indeed identical with that which is found in organic paralysis of the rectum from a transverse lesion of the cord. Very slowly the hard scybalous mass protrudes and escapes through a sphincter which is toneless and paretic. The child is quite unconscious of this passage. The mucous membrane, normally so sensitive is completely anaesthetic. The child may not even feel a finger passed through the patulous sphincter in making a rectal examination. In practice it is not easy to demonstrate a similar paresis and anaesthesia in the sphincter of the bladder but I think that this occasional extension to the rectum, where matters are more easily investigated, does very strongly suggest the hysterical nature of some inveterate cases of enuresis.

The child is physiologically hysterical and normally open to the force of all suggestions habitually made by the grown up people around him. The hysteria of warfare differs from the hysteria of the nursery only because the nature of the suggestions offered. Hysterical blindness, deafness, mutism, and paralysis are rare in childhood because these are not the disasters feared by a too anxious or apprehensive mother. The mother of the child with enuresis is often most miserable and most pessimistic. Everything has been tried. Nothing succeeds. I have known mothers who could hardly speak of the difficulty without tears. I have a letter from the child of one such mother.

> Dear Doctor, she writes. I am now quite a dry girl. What cured me was sleeping with Daddy.

Up against this large unconcerned male. He had regained peace of mind and self-confidence.

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THE GLIOMA GROUP STUDIED BY ORDINARY HISTOLOGICAL METHODS *

BY

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From time to time attempts have been made to subdivide the glioma group. In 1912 Tooth of the National Hospital, Queen Square, showed that clinical malignancy was associated with the presence of enlargement of the glia cells, numerous mitoses, and hyperplasia of the vascular endothelium. The most important contribution, however, is that of Percival Bailey and Harvey Cushing, who in 1926 introduced an entirely new classification of the gliomas. This was based partly on an examination of Dr. Cushing's unrivalled collection of brain tumours by means of the methods devised by Ramon y Cajal, del Rio Hortega, and the other members of the brilliant Spanish school of neuro-histologists, and partly on the correlation of the pathological picture with the clinical course. The study revealed that some of the subgroups were to all intents and purposes innocent, while others were highly malignant.

There were fourteen of these subgroups, each composed, for the most part, of one type of cell met with during the development of the brain. The classification is therefore an embryological or histogenetic one, and the cells are recognized by their reaction to the special gold and silver stains (gold sublimate and silver carbonate) introduced by the Spanish neuro-histologists. It is the object of this paper to show that the important types of tumour can be recognized by ordinary histological methods, and without the aid of the difficult and specialized gold and silver methods. In addition to haematoxylin and eosin, however, Mallory's phosphotungstic acid haematoxylin should always be used, for it stains both the neuroglia fibrils and many of the protoplasmic prolongations of the cells, so that the picture becomes much more clear-cut and characteristic.

To master the fourteen groups of Bailey and Cushing is nearly as hard as to master the fourteen points of President Wilson. But in several of these only one or two examples have been described, and others may be fused into larger groups. For the purpose of this paper only a few of the main divisions will be considered.

As the basis for classification is an embryological one, a word or two must be devoted to developmental matters. The interstitial tissues of the central nervous system consist of three main elements—namely, the astroglia, the oligodendroglia, and the microglia. The microglia is mesodermal in origin, and is therefore not truly a part of the neuroglia. So far, no tumours have been recognized as arising from this tissue. Tumours may arise from the oligodendroglia, but very few have been recognized, and as I have no experience of them they will not be discussed here. We are left, therefore, with the astroglia and the cells from which it originates.

The epithelium of the medullary groove is the starting-point of the entire central nervous system. From this there arise two very different sets of cells: (1) spongioblasts, elongated cells which form the sponge-work or interstitial tissue of the nervous system, and (2) neuroblasts, rounded cells which develop into neurones. In addition, there is a third group of "undifferentiated cells" regarding which little definite is known. They may remain undifferentiated, being known as medulloblasts, or they may become differentiated into neuroblasts or spongioblasts. It may be that the oligodendroglia arises from some of these cells. We are concerned here only with the undifferentiated form, the *medulloblast*. To return to the other two main branches of the parent stem, the primitive spongioblast develops first into a bipolar spongioblast and then into a unipolar spongioblast. This in turn gives rise to an astroblast. The astroblast is distinguished from the spongioblast by the development of numerous processes, one of which becomes attached to a vessel wall and is known as the "sucker-foot." Fibrils appear in the protoplasmic processes, and the cell now becomes an astrocyte, which is the adult classical neuroglial cell. Some astrocytes do not develop fibrils. These are called protoplasmic astrocytes, in distinction to the ordinary or fibrillary astrocytes. The change from the astroblast to the astrocyte take place about the fourth month of foetal life. Some of the primitive spongioblasts remain attached to the ventricular wall, and are then called ependymal spongioblasts. When these lose their peripheral processes they become changed into the cuboidal cells of the ependyma. Both ependymal cells and ependymal spongioblasts contain tiny rods, known as blepharoplasten, by which they can be recognized.

Any one of the cells just enumerated may form the principal constituent of a glioma, so that there have been described spongioblastoma multiforme, spongioblastoma unipolare, astroblastoma, astrocytoma protoplasmaticum, astrocytoma fibrillare, ependymoblastoma, ependymoma, etc. It must be kept in mind that many of these are *but slight variations of the same theme, and, as Laing* remarks, it appears premature to urge the full adoption of this very complex classification. It seems better to wait until general usage has made its selection of terms and classes. Further, these types are not always pure. In my own experience I have found a spongioblastoma combined with an astrocytoma, an ependymoma with an astroblastoma, and an astroblastoma with a spongioblastoma. These transitions can be more readily examined in autopsy material, where the whole tumour is available, than in fragments removed at operation. Moreover, a slowly growing astrocytoma may become changed by irritation into a rapidly growing spongioblastoma.

The fundamental contribution of Bailey and Cushing is not a mass of names, but the demonstration that variations in histological structure correspond to variations in malignancy. At one end of their list of 492 gliomas there are the medullo-epitheliomas, in which the average survival period was eight months, while at the other end are the fibrillary astrocytomas, in which the average survival period was eighty-six months, some of the patients living for many years. Removal of such a tumour may be followed by a complete and lasting cure. Speaking generally, the more primitive the cell type, the more malignant is the tumour. Thus the medulloblastoma and the spongioblastoma are highly malignant, while the astrocytoma and the ependymoma are relatively benign.

This paper is based on a study of 31 gliomas obtained in the post-mortem room. All the principal types are represented, and these alone will be considered. The grouping is as follows:

Astrocytoma	16	Ependymoma	1
Spongioblastoma	9	Astroblastoma	1
Medulloblastoma	3	Unclassified	1

Most gliomas can be placed in one of the three main groups of astrocytoma, spongioblastoma, and medulloblastoma. The ependymoma is rarer, and the astroblastoma still more rare. In Bailey and Cushing's series the astrocytomas and spongioblastomas were present in equal number, while in my own material there were twice as many of the former as the latter.

Astrocytoma

This tumour, in its fully developed form, may be regarded as innocent in type. Many of Cushing's patients were alive years after removal of the tumour, the average survival period was over six years. Growth is slow, so that even without operation the course may be a prolonged one. Its benign character is explained by the adult type of cell of which it is composed. It is not suggested by the gross appearance, *for the tumour is even less well demarcated* than the spongioblastoma from the surrounding tissue, and merges insensibly with the normal brain. Moreover, it may attain a great size. In one of my cases the entire frontal lobe was occupied by the tumour. It occurs in the hemispheres both of the cerebrum and cerebellum—the former usually in adults, the latter in children. Cyst formation is common, although the reason is obscure. The cyst fluid is often under distinct pressure, which

* Read in the Section of Bacteriology, Pathology, Physiology and Biochemistry at the Annual Meeting of the British Medical Association, Winnipeg 1930.

would not be expected if the process was merely a degeneration. The only alternative seems to be that the fluid is produced by the tumour tissue. Many cerebellar cysts are of this nature. The tumour may disappear, except for a small nubbin attached to the wall of the cyst. In one of my cases even this could hardly be detected.

The microscopic picture in a typical case is very characteristic and can be recognized at a glance. Excellent examples may be seen in Tooth's paper. The cells as a rule are few in number and are separated by a dense network of glia fibril which are well stained by phosphotungstic acid haematoxylin, and which supply the chief diagnostic feature. In other cases the tumour may be much more cellular and occasionally I have found it difficult to draw with certainty the line of distinction between astrocytoma and spongioblastoma. The cells (astrocytes) and their nuclei are usually spherical but may be elongated. There is a complete absence of mitotic figures. Nerve cells may remain intact surrounded by tumour tissue. Although this is occasionally seen in other gliomas I have found it very suggestive of astrocytoma. The surrounding tissue does not show any gliosis, thus *differing from the more* malignant forms of glioma. It is therefore difficult to determine with certainty the limits of the tumour. Calcification is fairly common and may be detected clinically by means of x rays. It is best marked in the walls of the vessels but it is not confined to this position. In one case lime salts were present in the brain tissue surrounding the tumour.

By means of gold impregnation it is possible to show that some tumours are composed mainly of fibrillary astrocytes, while others consist of protoplasmic astrocytes. Bailey therefore *speaks of astrocytoma fibrillare* and astrocytoma *protoplasmaticum*. It is difficult to make this distinction in *phosphotungstic acid haematoxylin* preparations and as nothing seems to be gained by doing so, I have not attempted to separate these subgroups.

Spongioblastoma Multiforme

The spongioblastoma is the most common tumour in Bailey and Cushing's series, although not in my own. It is perhaps the most malignant of all the gliomas, and correspond to the glioarcoma of the *older literature*. The onset is rapid and the course brief. In addition to the *ordinary form*, named spongioblastoma multiforme by Globus and Strauss[2] in 1925 because of the variety of the cells which compose it a more rare type known as spongioblastoma unipolare has been described. This is composed mainly of unipolar spongioblasts. The tumour is widely invasive and recurs after removal. It may give a false impression of encapsulation because degeneration and softening may cause the central part to become separated from the firmer peripheral part of the tumour. As a rule it is softer than the astrocytoma being cellular rather than fibrillar in structure. It also differs from that tumour in being usually confined to the cerebral hemispheres. In one case it grew from the septum lucidum and separated the lateral ventricles. Not infrequently it is multiple. The several tumours should be regarded as an expression of multiple centres of origin rather than as metastases.

The microscopic appearance is very different from that of the astrocytoma, although borderline cases occur in which a distinction is very difficult. The chief characteristics of the tumour are its cellularity and the multiform character of the cells. Three main types of cells may be distinguished (1) oval, pear-shaped or elongated cells (2) undifferentiated round cells and (3) giant cells with numerous nuclei, often bizarre in arrangement. Mitotic figures are numerous and often atypical. Indeed, there is no tumour in which cell division can be more readily studied. There are no glia fibrils—in sharp distinction to what is seen in an astrocytoma. The tumour is very vascular, and haemorrhages are frequent. *Proliferation* of the vascular endothelium is a very characteristic feature, and large masses of these cells may be formed. In one case seven or eight mitotic figures could be seen in the endothelial cells in one field. As a result the lumen of the vessel may be closed and this may partly account for the frequency of degenerative changes. In some of the cases this change was observed in the surrounding brain tissue as if the endothelial hyperplasia were preceding the *spongioblastic proliferation*. There may also be proliferation of the adventitial cells. Outside the tumour there is often a proliferation of astrocytes. These may assume the form of giant glial cells but these irritation forms are never multi-nucleated, and are totally different from the *giant cells* of the tumour.

It is not so easy to be certain of the origin of the *spongioblastoma* as in the case of the other forms of glioma. The elongated and pyriform cells *appear to be spongioblasts* but the giant cells present a problem which has not yet been solved. Globus and Strauss consider that the giant cells are unripe and highly atypical spongioblasts *but this appears very doubtful*. According to Bailey, the *multiplicity of structure* is largely due to degenerative and reparative processes. More study is needed of this group and it may be that the proliferation of the vascular endothelium may prove to play a more fundamental part than has hitherto been suspected.

Medulloblastoma

As this tumour arises from one of the most undifferentiated of cells, the *medulloblast*, it is one of the most highly malignant of the gliomas. It usually occurs in children, but one of my two patients was an adult. In a child it is likely to be in the roof of the fourth ventricle, usually in the vermis of the cerebellum while in the adult it is more likely to grow from the cerebrum. The tumour is soft and reddish-grey *in colour*. It may invade the subarachnoid space *giving rise to one form* of the condition known in the literature as diffuse sarcomatosis of the meninges.

The microscopic picture shows an almost complete lack of differentiation, and suggests a round-cell sarcoma. The fibrils of the astrocytoma and the cellular variety of the *spongioblastoma* are *both lacking*. *The cells* are for the most part round, but some may have a tail like a carrot. *In places* there may be a pseudo-rosette arrangement, the cells being *collected in groups* often around a small vessel. The tails of the cells are directed towards the centre and as these tails stain poorly it may *appear as if the nuclei* were arranged round a clear space but there is *no true* lumen. In addition to the undifferentiated cells, both spongioblasts and neuroblasts may be seen in silver carbonate preparations. It is this *indirection that the cells* are bipotential which justifies the assumption that the tumour arises from the medulloblast a cell which *cannot* of itself be recognized morphologically.

Ependymoma

Bailey describes two types of tumour the ependymoma consisting of adult ependymal cells and the ependymoblastoma composed of ependymal spongioblasts. These will be considered together. Like the medulloblastoma this tumour also usually arises in relation to the roof or the floor of the fourth ventricle but it may grow from the wall of the lateral ventricle the aqueduct of Sylvius or the central canal of the cord. It is considerably firmer than the medulloblastoma. The cells of which it is composed are usually well differentiated and the tumour is of slow growth and low malignancy. Calcification is common.

Microscopically the tumour is composed of cells which are tadpole-shaped, with a single heavy tail. These cells may be grouped around a small lumen just as normally they are grouped around the ventricular cavity. To this arrangement the rather misleading name of *true rosette* is applied. The presence of these little canals is very characteristic of an ependymoma and is not seen in any other *form of glioma*. The tiny rods (blepharoplasts) are seen between the nucleus and the lumen and are quite characteristic of ependymal cell.

Astroblastoma

This is a rare tumour but it is included here because its appearance is so characteristic. It occurs in the same situations as the astrocytoma but is composed of a more primitive cell the astroblast. This cell is characterized by the possession of one large sucker foot, which is attached

to a blood vessel, it is not sufficiently developed to form fibrils The tumour cells are for the most part grouped around vessels to which they are attached by the sucker-foot, so that the condition can be recognized at a glance Although normal astrocytes are attached to the vessel wall, in the astrocytoma this arrangement is not at all evident, whereas in the astroblastoma it is the chief feature of the tumour

Conclusion

It has been shown that the gliomas can be divided into a number of distinct groups by the aid of ordinary histological methods This subdivision is of real importance, because the tumours differ not only in their microscopic structure but also in their clinical behaviour At the same time it is well to realize that this classification is in no way final It is based upon the resemblance which the tumour cells bear to certain of the more embryonic glial cells When the histological picture is typical, the recognition of the group to which the tumour belongs is very easy In other cases it is difficult or even impossible to decide how to classify the tumour It is in such cases that the special gold and silver methods of staining place so powerful a weapon in the hands of the pathologist, for by means of them the minute morphology, and in particular the processes and fibrils of the cells, are brought into prominence In the majority of the gliomas, however, the ordinary methods of histology are sufficient for diagnosis and classification

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THE VALUE OF X RAY DIAGNOSIS IN MEDICO-LEGAL CASES *

BY

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THE use of *x* rays in medico-legal cases began shortly after their discovery Unfortunately the first legal cases that occurred were due to burns caused by the rays Later on, *x*-ray evidence was called in to help in legal cases where the patient had suffered a fracture, and the *x*-ray plate was allowed as evidence of the fracture A time came when the operator who made the actual roentgenogram was haled to court to swear that the radiograph shown as evidence was really the one he had taken During this phase of the law I spent a whole day in court to give evidence, and though I would swear that the roentgenogram was that of the patient and that it had been made in my department, I had not actually pressed the button when the *x* rays were used, and therefore the judge would not allow me to give evidence

It is seldom now that the radiologist is called upon to testify that he made the picture In a large department with several technicians making several dozen films a day it would not be possible to be certain that a technician would remember the actual making of the radiograph in question, and frequently after he has made the exposure he does not even see the finished film, and cannot therefore swear that it was made by him Such technicalities are now waived, and the word of a responsible doctor is accepted that the film under consideration is the film of the patient required

As already mentioned, the first medico-legal aspect of *x* rays was due to the burns caused by *x* rays The earliest reference I have been able to find is a report in the *British Medical Journal* of April 8th, 1899, of a case in Paris, where Madame Mockert had her hip examined by *x* rays The first "sitting" lasted forty minutes, the second forty-five minutes, and the third an hour and a quarter The court decreed that a medical commission be appointed to decide the duration of the examination considered safe Two years later the *Lancet* reported the continuation of this case When it came up for trial, the defence was that the method of application of radiography was not yet formulated, that no one knew the conditions which gave rise to burns in some people and not in others, and that consequently the radiographer was not responsible The court gave the full amount of damages asked for (5,000 francs) and found that the radiographer had acted imprudently, more like a workman than a medical man, and that his apparatus was defective The judgement was subject to appeal

It is interesting nowadays to think of exposures of forty to fifty and seventy-five minutes in order to make a roentgenogram The dose of *x* rays which will cause a burn is pretty exactly known now, and, though there may be a slight difference in the reaction of one person compared to another, it is not sufficient to justify a statement that a dose which will have no effect on one person will cause a serious burn on another

Again, the London *Daily News* of May 1st, 1899, records that in Chicago a patient was awarded 10,000 dollars for injury caused by the *x* rays These are the earliest medico-legal cases I have found

In June, 1901, Mr Golding Bird wrote in the *British Medical Journal* on the medico-legal aspect of *x* rays in regard to fractures, and pointed out the necessity of employing an expert to make the roentgenogram and an expert to interpret it There is no need to dilate on the fact that this advice, given thirty years ago, is as sound to-day Mr Golding Bird cites instances in which a skiagram has shown what appeared to be a fracture where none exists, others in which a fracture has been missed altogether, and others again in which, owing to the well known translucency of young callus to the *x* rays, it is possible to show a fracture as still existing which has united sufficiently to bear weight, and he arrives at the conclusion that skiagraphy should be employed only as a subsidiary agent in diagnosis, and that even in this secondary capacity its evidence in cases of difficulty and doubt should be received with caution and only after due interpretation by someone whose experience warrants him to speak with authority

X-ray films can be used to great advantage in medico-legal cases without ever reaching a court I remember one such case in which a woman fell from a moving street car and claimed compensation for a fractured femur above the knee She was carried to her home, where she lay for six weeks under the care of a doctor, and was then transferred to the Royal Victoria Hospital, where an *x* ray of her knee was made It showed a fracture above the knee in poor position, and callus was present I formed the opinion that the fracture was much older than six weeks Shortly after this, a representative of the street railway company, the claims adjuster, came to see me and said "We admit the accident and the fracture, and wish to settle for it without going into court" In the interests of justice I felt bound to express my opinion that the street railway company was not responsible, and that the fracture might have happened ten years earlier The agent was dumbfounded, and asked me what he was to do I told him to investigate the accidents brought to hospitals in the city for the last twenty years, and look out for the name of the patient He did so, and at the third hospital he found the name of the woman and the fracture described six and a half years previously With full information on the case he charged the woman with intent to defraud, and she admitted it and withdrew her claim The company had been willing to settle for 2,000 dollars

The occurrence of a pathological fracture, due to negligence of the same street railway company, again brought the same claims adjuster to me, and once more he told me his company admitted responsibility and wished to settle out of court *X* rays showed a recent fracture of the femur The surgeon in charge of the case was surprised when I pointed out that the fracture was a pathological one The case went to court as an ununited fracture, and it was admitted in court that it was a pathological fracture,

* Read in the Section of Radiology at the Annual Meeting of the British Medical Association at Winnipeg, 1930

but nevertheless the patient was awarded 2,000 dollars compensation The judge took the view that the company should have left the road clear so that a person suffering from metastatic carcinoma would not trip and so suffer a pathological fracture The patient died from metastatic carcinoma about six months after the accident

Medical men who have no right to express an opinion on a radiograph may be heard in court making beginners' mistakes, calling epiphyseal lines fractures, and normal extra bones broken pieces of bone A thorough knowledge of epiphyses and their times of union is not all that is required of an expert He must also know the unusual epiphyses and the epiphyses that do not unite even in middle life

I shall give two instances of epiphyses of medico-legal importance At the proximal end of the second metacarpal bone there is a rare epiphysis It is found constantly in certain lower animals, I have seen it in the seal In one case of this sort I heard it described as a fracture, and legal action was proposed till I persuaded the patient to allow me to radiograph the bone on the other side, where exactly the same condition was seen—namely an extra epiphysis (which I call the "seal" epiphysis) that had not united The legal aspect was not considered further and no court case followed

Another epiphysis I have seen mistaken for a fracture is the one which occurs at the outer end of the acromion Such a case was sent to me for examination for compensation as a fractured scapula It is the only case I have seen in which the epiphysis at the outer end of the acromion remained as a separate bone The man was 38 years of age and a pension depended upon whether or not he had sustained a fractured scapula Knowing that it was on record that the epiphysis sometimes may not unite, I x rayed the other scapula and found exactly the same condition present in it The question of pension for fractured scapula was then dropped, and the condition was considered a normal one

The divided scaphoid bone is frequently found I believe this always follows a fracture I have never seen a case which I considered was a scaphoid bone developed in two parts When the scaphoid fractures one half may degenerate while the other half remains normal Sometimes it is the distal half which degenerates and sometimes it is the proximal This phenomenon is due to the blood supply which enters by the interosseous ligament between the navicular and the capitate If the fracture is proximal to this ligament the proximal half of the bone stands still and remains as a sequestrum, while if the fracture is distal to the ligament the distal half stands still while the proximal half with the good blood supply loses its calcium from disuse

Fracture of the semilunar bone is a rare injury When therefore a patient claims that a recent injury say seven days ago has crushed his semilunar, and the x rays show a crushed semilunar one has to be able to distinguish between a recent and an old fracture A thorough knowledge of the formation of callus is necessary Callus may be present that can be felt clinically, but it may not appear in a film because calcium has not been deposited in sufficient quantity to make itself evident Certain bones form much callus, like the tibia, femur radius and ulna, while the bones of the scalp show usually no callus after fracture

It is important to know the rare bones of the foot and wrist as these may be called *fractured pieces* by those who know anatomy as taught to the medical student I shall mention a few of these as possible pitfalls in medico-legal cases

1 The os trigonum is a separate part of the astragalus in about 10 per cent of normal feet

2 The os peroneum is a sesamoid bone in the tendon of the peroneus longus It is found in 10 per cent of feet examined and may be single double triple or multiple in appearance

3 The extranavicular lies between the astragalus and the navicular I have seen this bone in over thirty cases during the last thirteen years

4 The internal sesamoid bone of the great toe may be in two or three parts and yet be normal I have never found the external sesamoid of the great toe other than single

5 The tibiale externum is fairly common It occurs in about 10 per cent of cases examined.

6 Other bones of the foot seen more rarely by x rays are the secondary os calcis, the intermetatarseum and the os vesalianum The latter I have seen as an epiphysis and only once in an adult The fact that fracture occurs so frequently at the base of the fifth metatarsal bone makes it important to distinguish an os vesalianum from this fracture

7 Fracture of the os calcis should be examined in three directions only one of the three may show the fracture The lateral view may show fracture only by the want of proper arrangement of the trabeculae

In regard to diagnosis of certain fractures it is well to bear in mind these points

1 A Potts fracture and other fractures may be easily seen in one view and not in another, therefore at least two views at right angles should be made of every fracture

2 Fractured ribs may be invisible in one view and visible in another The perfect examination for fractured ribs is three stereoscopic views of the chest on 14 x 17 inch films one view antero-posterior, one at the half left position, and one at the half right position

3 The patella may develop in several parts, and this condition simulates a fracture I have seen three cases of this, and in each case the condition was present in both patellae

4 Fractured skull may similarly be only visible at certain angles My routine examination for fractured skull is stereo right and stereo left views, an antero-posterior and a postero-anterior view—six in all Other views are made at times, such as a stereo of the foramen magnum and the surrounding bones I have seen a fracture of the right parietal bone visible in the right stereo film, and invisible in the left stereo film Meningeal artery grooves and diploic sinuses are so irregular in position and appearance that much experience is required to diagnose these from a fracture

A few practical points of differentiation are as follows

(*a*) Meningeal grooves have white edges and fractures have not This is of value only when the white edge is seen

(*b*) Fractures may branch like meningeal grooves

(*c*) A 'meningeal groove" which does not begin at the base should be suspected as a fracture

(*d*) A diploic sinus may run in any direction as may a fracture

(*e*) Fracture of the base of the skull is seldom seen by x-ray examination It may be seen in a postero-anterior view in the base of the orbit or in a stereo view of the foramen magnum

(*f*) A fracture line may be narrower than a meningeal groove and it may be wider than a diploic sinus

(*g*) A depressed fracture causes a white line, or a black and-white line, while a simple fracture causes only a black line

Anomalies of the spine are very common As pointed out by Cushway and Maier[1] in an analysis of 916 symptomless spines, anomalies were found in 45 per cent No symptoms were present in cases of scoliosis old fractured ribs old fractured pelvis old fractured vertebrae spondylolisthesis and acralization

Some other points of medico-legal interest may be referred to here Other condition may be found along with a fracture such as osteo-arthritis, Paget's disease, calcareous vessels periosteal thickening or line and these delay the return of function A negative ray may be as important as that of a positive fracture Severe and permanent injury may occur in which x rays show nothing

Both shoulders knees hands feet and hip joints should be taken as a routine, it involves little extra work and expense, and proves of great value in some cases.

Before giving an opinion in a medico-legal case the following points should be considered

1 X-ray evidence is only part evidence The complete physical and symptomatic evidence and history make up the whole evidence

2 The roentgenologist has as much right to know the history of the case as the physician has Even a pathologist demands information before giving an opinion

3 The roentgenologist should be familiar with the clinical aspect of the case, and read or know the literature on the subject before giving evidence

4 An x-ray serves to prevent a malpraxis suit, and the want of an x-ray in a fracture case is considered malpraxis

5 It is not the duty of a roentgenologist to express an opinion on the amount of disability likely to follow a fracture by simply examining the roentgenogram

An instructive table showing the average number of days of disability following 3,254 fractures is given by Davis[2] This is a useful table, as an example from it, let me ask you How long do you consider is the average disability following a fractured os calcis? Davis gives it as 118 days He gives a fractured femur 208 days, a Colles fracture 48 days, and so on throughout the series of common fractures

Dr M H Todd[3] has analysed 551 fractures at the Lynch Kentucky mines, where the fractures have been followed to the final result He concludes that return to light work is the best form of treatment, and is better than massage and diathermy He found a remarkable difference in the speed of recovery, depending upon whether or not the injured patient was a compensation case In his experience really serious disability following a fracture is very rare The only exception is compression fracture of the spine, where a little disability persists He reports 47 fractures of the spine, of which 19 were compression fractures of the twelfth, or first or second lumbar vertebra, from the patient being bent violently double

Pitfalls will be laid for you, but with good training and experience, a thorough study of the case, and an honest opinion, no pitfall should catch you so long as you testify honestly in accordance with the facts You should know not only the normal anatomy but also the normal variations

I remember a pitfall being prepared for me It concerned a fracture of the cervical vertebra in a railway accident The x-ray showed a small piece of bone detached from the fifth cervical vertebra It measured 1/16 inch in the roentgenogram The opposing counsel asked me if this was a small fracture, and I answered that it appeared to be so He then cast doubt on my reply, and asked me how small it was I then saw his line of defence and that his object was to make me belittle the fracture But I was on familiar ground and he was not, and I determined to lead him on instead of him leading me, so I answered "It seems to be about 1/8 inch long" He asked, "Could it be any longer?" and I said, "Yes, 1/4 inch" He led me on "Any longer?" I said, "Yes, it might be 1/2 inch long" During this time he had been looking down towards his feet, as though he did not care about the case, but at this point he pulled his gown around his shoulders and turning on me he asked, "How long *could* it be, doctor?" I said, "about 3/4 inch, but no longer" Triumphantly he asked me to tell the court how a broken piece of bone 1/16 inch long could be 3/4 inch long I had seen what was coming and had a match ready in my hand I broke off 3/4 inch and held it up to the light showing how its shadow was 3/4 inch in one direction and 1/16 inch when seen end-wise I was asked to step down out of the box at once I mention this merely to show how familiarity with your subject can give you confidence

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TUBERCULOSIS AND PUBLIC HEALTH*

BY

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In a general discussion on tuberculosis and public health two subjects will naturally receive prominence—the progress and efficiency of current preventive measures and the behaviour of the death rate, which, in many countries, is falling with greater or less rapidity Antituberculosis campaigns, however, apart from such direct results as may be attributed to them, must be credited with having accomplished much more than their immediate purpose—the creation of machinery for the control of a particular affection They have assisted and stimulated general public health measures for the common welfare, and have helped to direct the broad policy of preventive medicine along its present channels For instance, studies of the incidence of tuberculosis, particularly of the conditions which facilitate the spread of gross infection in the home and in the workplace, have lent powerful support to higher standards of housing and of environmental hygiene, and even to the promotion of social legislation They have also been fruitful in driving home lessons of great educative value in personal and domestic hygiene, such as the benefits of fresh air and ventilation Again, the rationale of tuberculosis schemes in endeavouring to secure for individual patients early diagnosis, prompt treatment, and suitable after-care is applicable with equal force to many other affections Thus the problems raised by tuberculosis are also fundamental problems of public health There is no doubt that the prevention of disease and ill-health generally has been greatly furthered by the tuberculosis campaign, which, by holding out the prospect of controlling tuberculosis, took a firm hold on the imagination of the public a generation ago

The tactics adopted in attacking tuberculosis follow the model scheme laid down by Sir Robert Philip, which is now applied more or less fully in most countries Tuberculosis schemes have retained their well-known classical features with little alteration since they were evolved and expounded by their author That they have stood the test of time and experience is a tribute to his acumen and foresight, and it may be remarked that he clearly perceived the intimate connexion between tuberculosis and public health when he presented his work and ideals to the nation for incorporation in the public health system of the country

In a brief introductory survey it will be convenient if I limit my remarks to a few observations on some of the administrative measures in operation for reducing sickness and death due to tuberculosis I have hesitated to use the common expression "eradication of tuberculosis," a term which is frowned upon by students of immunity as connoting an impossible or even dangerous ideal

The Tuberculosis Dispensary

The broad functions of the dispensary or clinic are well known and clearly defined as an educative centre and "clearing-house," related on the one hand to the homes of the people and on the other to the institution for treatment It performs with minute care every possible social, medical, and preventive service on behalf of its patients, and is most efficient when closely related to, or forms an outpost of, a public health organization As a centre for diagnosis it must have free access to an up-to-date x-ray department, and, if need be, to observation beds In cities such as Glasgow, where much chronic respiratory disease exists, the differential diagnosis of chest affections becomes an important and often difficult duty, and tuberculosis dispensaries tend to become centres for the diagnosis and treatment of a variety of chronic diseases of the lungs They are often criticized for this tendency, but I am not sure that this is a bad thing, provided the physician maintains a due sense of perspective and does not, as sometimes happens, indulge in a riot of over-diagnosis, especially in dealing with children This raises

*A paper read in opening a discussion at a joint meeting of the Sections of Tuberculosis and Preventive Medicine at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

the question whether these dispensaries have not tended to develop, as regards their medical functions too much as "*ad hoc*" centres and rather too little along the main current of general medicine As effective instruments of detection these clinics are confronted with great difficulties in tracking down incipient tuberculosis Protection of the contact is not so simple a matter as it seemed at one time, while it must be confessed that in the more acute type of phthisis prevailing among young adults the results as regards early diagnosis and treatment have been disappointing This type of affection still tends to be advanced when detected, and efforts to control it are defeated by its natural history In fact, phthisis at this age period has remained with undiminished volume and unabated severity, although it has markedly declined as an affection of middle life and of younger ages The Tuberculosis Society has devoted much consideration to studying and perfecting the machinery of detection Those who are carrying on field work realize that the problem is one of extraordinary difficulty, created in great part by the epidemiological characters of the disease itself The persistence of young adult phthisis is a disquieting feature, and constitutes a problem for special investigation

Institutional Provision

This takes the form of the sanatorium and hospital, or of both combined They are administered on the same principles, except that the former makes a braver attempt to effect radical cure From a preventive standpoint it is very important that the latter type of institution should be ample for the adequate and prompt isolation of the infectious sick No scheme is complete without this necessary provision which should take precedence over all other considerations The relative proportion of purely sanatorium and hospital provision will vary according to the circumstances of the area, especially its housing conditions In Glasgow, for instance, approximately 12 per cent of the population live in one apartment houses and 48 per cent in two apartments Phthisis being an infectious disease, domiciliary treatment of advanced cases becomes an impossibility under these conditions, and the preventive problem has to be faced on lines of generous provision for highly infective patients By this is meant institutions run on "sanatorium hospital" lines where moderately advanced and advanced cases can be treated within easy access of their homes, and on a large enough scale to prevent them from being stigmatized as homes for the dying The nature and extent of institutional provision is also arrived at by studying the stage of the disease at notification and the after-history of the patients In a series of 2 500 cases in a large industrial area of the city 55 per cent were advanced cases on notification Following these to a conclusion, 87 per cent were dead within two years of notification Facts like these give the keynote to the type of accommodation required, when considered along with the average housing conditions The policy pursued has therefore taken the form of providing some 800 beds of this type and 200 for the more definite sanatorium patients for a population of 1,125,000 persons —a proportion of beds to population which, though high is not yet quite sufficient to meet the demand for hospital beds This is rather reversing the usual practice, but, besides being a humanitarian measure, it is essential in order to minimize the risk of gross infection at close quarters in small houses

The death rate from phthisis in Glasgow is now a quarter of what it reached about the year 1870 and its present rate of 0 9 per 1,000 compares favourably with that of many other large cities much better circumstanced as regards their housing conditions Further, in contrast with many other areas, the descent began from a much higher level of incidence Scotland s death rate was then almost twice that of England I mention these facts because Glasgow appears to afford a very suitable environment for an infection which is presumed to spread by close contact It is a closely packed "tenemented" city, the houses of the poorer classes being small and overcrowded presenting in a high degree features of propinquity favourable to tuberculosis The behaviour of phthisis under these conditions illustrates the powerful nature of the protective forces at work As to what these may be, there is no unanimity The epidemiological facts fit a number of theories, and the administrator finds himself operating a large and somewhat unwieldy machine with no very clear notion of its precise relationship to the natural history of the disease, although aware that he is being assisted by some unknown agency or agencies A generally accepted view is that progressive urbanization means progressive tuberculization resulting in a gradual acquisition of resistance, unless this is delayed by unduly low hygienic standards of life The position of a community on the tuberculosis curve is probably the resultant of a complex series of forces, including a tendency to relatively high rates of incidence among susceptible country stocks from outside in proportion to their number and rate of influx The older-established urbanized and well housed elements develop an increasing degree of resistance, a process which, on the other hand, is definitely retarded among the inhabitants of slum areas Administration, broadly speaking proceeds on the principle of (*a*) providing suitable care and treatment for the affected individual, (*b*) preventing as far as possible massive infection of contacts, and (*c*) improving housing and other environment until medical science has succeeded in evolving some specific method of making individual resistance more secure Something of the same differential process is at work in Canada, where Dr D A Stewart tells us that the death rate among the Anglo-Saxon population has been halved, while the Indian populations of Manitoba and Saskatchewan are literally sodden in tuberculosis

Looking at the large decline in Glasgow a little more closely there are two very striking epidemiological features Practically no impression is being made on the death rate from phthisis affecting young adults of either sex between 15 and 25 years of age This type appears to have remained unaffected in both incidence and severity On the other hand, a remarkable fall in phthisis at later ages has taken place in both sexes, most markedly among women These conclusions are evident from the charts prepared by Dr J A Wilson for the large industrial district of the eastern area of the city with a population of 200 000 persons in which the deaths due to pulmonary tuberculosis since 1910 have been plotted according to the age at which symptoms of the disease first developed They show the relative immobility of phthisis at ages 15 to 25, in contrast to the speedy reduction at younger and later ages the rate for 35 to 45 years in women having fallen by over 50 per cent in twenty years Among the male population the trend in the same direction is very decided, though for older ages the rate was increased during the war years, but is now approximating to the low level for females It would appear as if tuberculosis were rapidly declining as a chronic affection of the middle aged, but remaining unaffected as an acute affection of young adults, possibly subject to different epidemiological laws

Non pulmonary tuberculosis is on a somewhat different footing as it is derived from two sources human and bovine Its prevention depends, as far as our present knowledge goes, on (*a*) the control and diminution of human sources of infection, (*b*) the elimination of bovine infection, (*c*) adequate and suitable means of treating the individual, so as to reduce the incidence of crippling deformities In this last respect the pioneer work of Sir Henry Gauvain at Alton has afforded a very clear idea of what is involved in the treatment of tuberculous lesions Sufficient provision of institutional facilities for special treatment should be an essential part of a tuberculosis scheme to allow of prompt treatment at the earliest stages The attainment of this ideal should almost entirely eradicate crippling due to tuberculosis This is the policy pursued in Glasgow, where, with the recent opening of Mearnskirk Hospital for children, it will be possible to increase the existing provision of 350 beds to a total of approximately 750 beds for this purpose

Till within recent years Scotland has had a relatively high incidence of non pulmonary tuberculosis For one thing it is said that dairy herds in this country have ten times as much tuberculosis as those in America Whatever be the reason, however, the death rates from these forms of the disease have, since the first decade of

the century, declined at a more accelerated pace than we have with the rate of fall for the pulmonary form. The regards been, in fact, two concurrent movements. As abdominal mortality, tuberculous meningitis is one-third, of the tuberculosis one-fifth, and other forms two-fifths rates then prevailing. Along with this, there has been noticeable a decided diminution in the severity assumed by the various forms of tuberculosis at the younger ages of life, applying particularly to glandular and abdominal disease, but also to bone and joint affections, which are showing less tendency to rapid abscess formation, while amyloid disease is now seldom encountered. It is, of course, impossible to disentangle the factors influencing these epidemiological results, but no doubt the contracting sources of human infection have contributed. It will be observed that the greatest fall has taken place in abdominal tuberculosis—a fact of considerable significance, as this affection is mostly bovine in origin. Although something has been accomplished under the Tuberculosis Order in eliminating grosser disease from among dairy herds, such a wholesale improvement can scarcely be credited to this cause. It appears much more likely that the greatly increased practice of pasteurization of ordinary city milk, to which 80 to 90 per cent. of the supply has been subjected for some years, has interposed a degree of protection against transmission of this form of tuberculous infection. This is a subject which is worthy of the fullest investigation as part of the very vital question of the relation of pasteurization of milk to the public welfare.

PERSONAL EXPERIENCES IN MIDWIFERY

BY

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THE publication of individual hospital statistics is occasionally somewhat misleading, particularly with regard to midwifery, for selection of cases almost always takes place to some extent.

For instance, one of the best-known maternity hospitals in London has recently published a statement that there have been no maternal deaths in three years out of many thousands of cases. It is doubtful whether mentally unsound persons, or those suffering from advanced tuberculosis of any kind, or those with active septic infections are freely admitted, but these patients must be treated somewhere, and the series reported below is offered for consideration as entirely unselected.

This analysis represents some 1,300 cases, forming a *consecutive series in an institution*. The majority of the patients were private bookings, the remainder being made up from a county council, a county borough council, and a Poor Law authority. Almost all of them were drawn from labouring classes, though other social classes are also represented. A large proportion of the patients worked, chiefly in mills, till shortly before confinement. Though all of them were officially under my personal care, a certain number were under the charge of other medical officers during my absence, from 1926 to 1930.

It should be explained that the institution in question has no *x*-ray apparatus, and has not hitherto been able to obtain *x*-ray reports as to presentations, etc., also that it has no suitable arrangements for infants, and no incubator.

Ante-natal attendances have been very satisfactory, though instructions have by no means always been followed. In thirty-seven cases attendances were very bad. In seventy-six cases the patients were seen for the first time on their admission to hospital. Patients still sometimes prefer their own treatment for constipation, etc., and fear dental treatment; sometimes dentists have declined to extract when I wished it.

More than half the patients were primigravidae. One point brought out very clearly, though not sufficiently for statistical purposes, was that in a large number of cases pregnancy preceded marriage. The ages of the patients concerned have varied as would be expected, the youngest being 15 and the oldest 45. The oldest primigravida was 13. The longest duration of marriage before pregnancy occurred was seven years.

The average diagonal conjugate measurements, taken over part of the series only, come to 4·7 inches. Though this is very near the 4¾ inches usually considered normal, a surprisingly large number of patients were encountered in which this diameter lay between 4 and 4¼ inches. A very definite impression was gained that pelves affected by a slight degree of contraction are definitely on the increase. On the other hand, flat pelves were rarely met with. One instance of Naegele pelvis occurred.

With regard to presentations, there were no instances of face or brow presentation apart from anencephali. There were twenty-six breech deliveries, three following failure of external version. External version was performed fifty-six times, of which fourteen were successful only under an anaesthetic. The number of occipito-posterior presentations treated by Ballantyne's padded binder has not been recorded, a large number of cases were also successfully treated by this means during labour.

ANTE-NATAL CONDITIONS

There were forty-five admissions for ante-natal treatment; ante-natally a large variety of conditions were encountered.

Various forms of established heart diseases	24
Active pulmonary tuberculosis	7
Non-tuberculous diseases of lungs	6
Active tuberculosis of glands of neck	2
Tuberculosis of elbow	1
Venereal diseases	12
Bartholinitis	2
Glycosuria	4
Epilepsy	3
Pyelitis (pyelonephritis)	4
Erysipelas	1
Otorrhoea	3
Breast abscess	2
Salpingitis	2
Subacute rheumatoid arthritis	1
Chorea	2
Pernicious anaemia	1
Splenomedullary leukaemia	1
Fibroids	2
Procidentia	1
Pelvic ovarian cyst	1
Pelvic dermoid cyst	1

One patient, sent in as a case of ante-partum haemorrhage, was not pregnant, but had a large haemoprosalpinx.

Of maternal deformities, retracted nipples were the commonest but in only two cases was an extreme condition seen early enough for operation. Supernumerary nipples were uncommon, appearing about five times. Septate vagina was seen twice. One patient suffering from progressive muscular atrophy was admitted twice. Rigid cervix was encountered once. During labour eighteen patients became unmanageable, but only once was the condition definitely diagnosed as insanity of labour. Reproductive insanity occurred on five occasions—once in pregnancy, once in labour, and three times after delivery. After delivery one patient developed chorea, two developed pleurisy (one of whom later became frankly tuberculous), and two developed apparently aseptic phlebitis.

Albuminuria was met with frequently, and has been classified as slight, moderate, and severe, the severe type being that found in pre-eclamptic toxaemia. The number in each group was: slight 126, moderate 52, severe 52, in addition, eclampsia occurred four times. In slight cases regulation of the bowels and increase of fluid intake were usually sufficient treatment. Moderate cases frequently responded to a mixture of the mist. buchu co. type. These patients were often placed on a meat- and salt-free diet. Severe cases were admitted whenever possible. Colonic lavage, barley and lemon water by the mouth, and the same mixture usually sufficed to bring about rapid improvement. In eclampsia a veratrine preparation is given at the first sign of a fit, and morphine and hyoscine may be used later, with an anaesthetic for delivery. Hot packs have been used.

Vomiting sufficient to be called hyperemesis occurred twice in this series. As signs of ketosis were appearing, the patients were admitted and confined to bed. Gastric and colonic lavage were carried out, and the patients were fed by the rectum. In no case did this treatment suffice,

but rapid improvement followed the administration of ox bile per rectum

Latterly efforts have been made to find a reasonable analgesic which could safely be used by nurses as a routine, at all events in an institution After various trials the hypodermic injection of 1/100 gram of hyoscine hydrobromide in 2 c cm of sterile 50 per cent magnesium sulphate solution has been adopted Though patients occasionally need further injections, one dose usually suffices If given at the end of the first stage of labour the second has almost invariably been more rapid and much less distressing to the patient This procedure has now been employed in about 200 cases, apparently with considerable benefit

Caesarean section was performed twenty times for conditions varying from disproportion to pulmonary tuberculosis and heart diseases In these cases the operation has usually taken place under spinal analgesia Episiotomy was employed fifty-five times in order to avoid lacerations, and in some cases no other assistance was required Placenta praevia was encountered on seven occasions, being four times accompanied by albuminuria Accidental haemorrhage also occurred—four times with albuminuria and three times without Post-partum haemorrhage occurred nineteen times, on three of which it accompanied marked albuminuria, and was usually associated with delayed separation of the placenta

Induction of labour was performed thirty six times The original method employed was the insertion of an oesophageal tube into the uterus, latterly, however, in a few cases a warm solution of mercurochrome in glycerin (about 0 5 per cent) has been injected through a catheter into the uterus This method was first tried because of the presence of pus around the cervix It has not been uniformly successful in the induction of labour, but has succeeded on about two-thirds of the occasions on which it was used The labours have been uniformly free from the very mildest suggestion of morbidity

Forceps were employed ninety-six times (7 38 per cent) On three occasions bipolar version was performed successfully instead of high forceps Craniotomy was performed once in this series, the child being already dead The placenta was removed manually fifteen times, always followed by hot intrauterine acriflavine douches, none of these cases became morbid

Notifiable sepsis occurred sixty-five times as follows:

Following intervention	..	16
No intervention etc.	..	34
Admitted as puerperal sepsis	..	13
Admitted as puerperal insanity	..	2

An inquiry into the relation between intervention and morbidity of even the very mildest degree gives twenty-nine cases in which some form of intervention was followed by some presumably infective reaction, and 117 cases in which no sign of morbidity followed In a few instances, patients exhibited conditions ante-natally which might have influenced the subsequent development of morbidity Among these patients were those who were attending the local venereal disease clinic (unknown to me till later), others with forms of vaginitis and leucorrhoea, subjects of severer forms of albuminuria, and those whose gums and persons were filthy

An attempt has been made to classify the cases of notifiable sepsis in terms of associated pathological conditions, with the following result

Local uterine (and vaginal) infections	..	36
Pelvic infections (parametritis etc.)	... ...	7
General abdominal infection (peritonitis)		7
Blood infections		8
Breast abscess	... ...	3
Uncertain		1

Included in the above were two patients who developed mental symptoms Two are omitted from the above list, both suffering from pulmonary tuberculosis without any evidence of pelvic infection Another who was also suffering from pulmonary tuberculosis has been included as a case of uterine infection One case is noted as a case of "uncertain," the patient exhibiting mild pyrexia on the thirteenth and fourteenth days only, with no physical signs or treatment whatever

Post-natal work does not seem to appeal to the imagination of patients so much as ante-natal work There were only about 360 post-natal attendances, compared with about 6,700 ante-natal

TREATMENT

An attempt has been made gradually to standardize the treatment given according to the clinical type met with A patient who shows a rise in temperature above normal, or an increase in pulse rate to 90 or more, is considered as demanding close attention As soon as both conditions occur together the cervix is inspected and an intrauterine injection of glycerin containing 1 per cent mercurochrome is made

Uterine Sepsis —Intrauterine injection of glycerin and mercurochrome is given as above This treatment, repeated usually once but sometimes twice a day suffices almost invariably to cure the condition It should be mentioned, however, that occasionally offensive lochia are drained away from the uterine cavity through the catheter before the glycerin is injected If the rise in temperature and the increase in pulse are marked, an intramuscular injection of 2 to 5 c cm of sterile milk is administered for non-specific shock This also is often repeated daily

Pelvic Conditions —The above treatment is usually suspended when pelvic cellulitis or peritonitis appears to be developing Hot vaginal douches are substituted, and latterly hot tampons of cataplasma kaolini (*B P C*) with the addition of 5 per cent extract belladonnae viride have been found very useful indeed Drainage is naturally afforded at the earliest indication It has been found that spontaneous diarrhoea may indicate the commencement of a pelvic abscess before any definite physical signs can be elicited A polyvalent serum is usually employed

General Peritonitis —Drainage and continuous rectal saline with glucose and brandy have proved the only useful remedy in my experience I would comment, however, upon the extreme difficulty of early diagnosis Slight distension relieved by pressure was the only sign obtained in two of my cases A polyvalent serum is also employed for this condition

Blood Infections —Local treatment was always given as for uterine sepsis, and a polyvalent serum administered Remarkable benefit has followed the intravenous injection of 20 c cm of a colloidal silver preparation This has been given twice a day, but usually only once daily

Among other remedies which have been employed from time to time are colloidal calcium given intramuscularly with apparent benefit on several occasions and vaccines of different kinds, none of which has been markedly beneficial

In one case in which very mild pyrexia accompanied an apparently metastatic arthritis of the knee, aspiration of the joint was performed and was immediately followed by injection of 1 per cent mercurochrome in glycerin the condition then cleared up without further trouble

In addition, radiostoleum was given as routine in the latter part of the series While we did not obtain any results comparable with those originally published by Mellanby and Green, yet it was felt that its administration was followed by definite benefit. Ovarian residue by hypodermic injection was also employed, this was found definitely active in the induction of labour, but its use was abandoned owing to the tendency to increased haemorrhage after delivery Liver extract was used systematically for anaemia, whether primary or secondary In some instances it was administered by hypodermic injection as it was not very well taken by the mouth One case of pernicious anaemia was admitted as puerperal pyrexia, and naturally did very well In one further instance at least this measure was followed by very remarkable improvement When used, however, in toxaemias of pregnancy no benefit was observed to follow

CAUSES OF DEATH

There are twenty-six deaths in this series including those dying within a few minutes of admission Of these twenty six two were ante-partum, nine occurred in patients sent in as cases of puerperal sepsis, and two in patients admitted as cases of puerperal insanity One of the ante-partum deaths was caused by eclampsia the other by heart failure The eclamptic was not quite thirty six weeks

pregnant, and had given no evidence of albuminuria until immediately before admission. A cardiac case had a bad history of alcoholism and strangeness of manner. She was sent in for heart failure, and was improving when labour came on. She then became very excited and violent, and died in a few minutes. In both of these cases post-mortem Cæsarean section was performed unsuccessfully. The remaining deaths are attributed to a variety of conditions. It should perhaps be mentioned that as far as possible diagnoses were verified pathologically. The following is a table of causes:

General peritonitis following spontaneous delivery	5
General peritonitis following assisted delivery	1
Septicæmia following spontaneous delivery	2
Septicæmia following assisted delivery	1
Shock	2
Pulmonary embolism	2
Pelvic abscess	2
Influenzal broncho pneumonia	4
Abscess of lung	1
Pneumonia developing during puerperal insanity	1
Cerebellar glioma	1
Aplastic anæmia with suppurative pyelonephritis	1
Generalized tuberculosis	1
Acute dilatation of the stomach	1
Exhaustion following acute mania	1

Some of the cases recorded in the above table merit further notice. In one of the cases of shock death followed manual removal of the placenta for hæmorrhage in the third stage in a woman with marked albuminuria, in the other the patient was a very fat woman with chronic bronchitis and albuminuria, who died very soon after an easy forceps delivery. One case of pulmonary embolism followed white leg, the other mitral stenosis. Of the patients with pelvic abscess, one was admitted five weeks after she had had her baby at home, the other had arrived very ill from West Africa suffering from pyelonephritis. The albuminuria cleared up, but the urine remained offensive and infected. Two days after the labour rigors returned, and pelvic abscess gradually developed. This was drained, but the patient died in five weeks.

Of the twenty-six patients who died, only seven had received any assistance in labour; one of the remaining nineteen was attended by her doctor in a normal labour, sixteen were midwives' cases, two were "B.B.A.'s."

An analysis was made of the infantile deaths, of which there were ninety-one in this series. In the following table the word "uncertain" refers to cases in which no post-mortem examination was made, or syphilis was suspected but not proved, etc.

	Stillbirths	Neo-natal Deaths	Total	Proportion per cent
Prematurity	5	19	24	26·3
Albuminuria	10	5	15	16·5
Fatal deformities	6	6	12	13·2
Ante partum hæmorrhage ..	3	1	4	4·4
Pneumonia ..	—	1	1	1·1
Syphilis	1	1	2	2·2
Specific injuries	5	5	10	11·0
Following difficult labour	10	—	10	11·0
Uncertain	10	3	13	14·3
Totals	50 (3·81 %)	41 (3·15 %)	91 (7·0 %)	100

The fatal deformities were extremely varied, as the following list shows. Minor deformities have not been classified.

Anencephaly	4
Exomphalos	1
Multiple deformities (all different)	3
Patent interventricular septum	1
Meningocele (occipital)	1
Meningocele (frontal)	1
Duodenal stenosis	1

As regards injuries, lumbar puncture appeared successful in saving two or three infants. The fatal injuries were as follows:

Ruptured liver	3
Torn tentorium	6
Cerebellar hæmorrhage without tear	1

Most of these occurred in cases of spontaneous delivery.

It is perhaps worthy of mention that many infants of apparently very feeble vitality (excluding birth shock) responded remarkably to the administration of one to two drops of adrenaline in a small quantity of saline by the mouth every hour.

Remarks

1. A somewhat incomplete summary is here presented of a series of maternity cases showing a deplorably high rate of mortality of 2 per cent. If, however, patients admitted for puerperal complications whose deaths were due to other diseases are omitted, a figure is reached of 0·4 per cent. This is still very high, and yet not high enough to represent the true mortality, since some of the other diseases would not have proved fatal apart from pregnancy and labour.

2. After five years' experience with mercurochrome in glycerin it is considered that this is a reliable, harmless, and absolutely efficacious antiseptic as far as the endometrium is concerned, and, possibly, for all mucous membranes.

3. The suggestion is made that 1/100 grain of hyoscine in 2 c.cm. sterile 50 per cent. magnesium sulphate solution is a safe and fairly effective analgesic for labour, though admittedly it has not yet received sufficient trial here.

SOME OBSERVATIONS ON SYPHILIS OF THE NERVOUS PARENCHYMA

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"Nature does not deal in schemes and diagrams every separate individual and each case has its own peculiarity." It is now generally recognized that dementia paralytica and tabes dorsalis are affections separated from each other by no distinct line, and that it is the individuality alone which determines on what part of the central nervous system the lesion shall fall, but it does not appear to be acknowledged that the same relation exists between tabes and syphilitic myelitis, the former being classed as quaternary syphilis and the latter as tertiary syphilis.

In some races in Malaya syphilitic myelitis is very much more common than in Europe, while in the same races tabes and dementia paralytica are proportionally rarer. In England Williamson[2] records only 32 cases as compared with 118 cases of tabes seen during the same period, and the opinion of many neurologists in Europe is that it is a rare disease. On the other hand, Mon Fah Chung[3] in Peking puts its incidence at 39 per cent. of all cases of spinal disease.

I record here the findings in a series of consecutive cases of parenchymatous spinal syphilis in one race—namely, the Chinese—admitted to the Singapore General Hospital during a period of eighteen months. One case of transverse myelitis with a negative Wassermann reaction and two of gummatous pachymeningitis are omitted from the series. It has been impossible in all cases to get a history of the time that elapsed between infection and the onset of nervous manifestations owing to the low intelligence of many of the patients, the frequency of multiple chancres at different times, and the fact that a true Hunterian chancre without secondary infection is rare, if present, it often passes unnoticed in consequence of being painless. Similar series have been made at the great pauper hospital of Tan Tock Seng, but as they only show the same features they are not recorded.

The series consists of two clerks aged 56 and 45, one house-boy, aged 40, one cook, aged 33 one mortuary priest, aged 52, one sailor, aged 40, one fireman, aged 26, and ten coolies average age 39 years—17 cases in all All these patients had positive Wassermann reactions both in the spinal fluid and in the blood I have divided them into groups commencing with those that can be classified as tabes dorsalis and ending with those that approached Erb's syphilitic paraplegia

The first group consisted of the clerks, the house-boy, and the mortuary priest, and were definite cases of tabes dorsalis All had Argyll Robertson pupils absence of the knee- and ankle-jerks, Romberg's sign, ataxic gait, and paraesthesia in the legs, one clerk had lightning pains, but none showed any signs of pyramidal tract involvement The second group, consisting of three coolies, aged 48, 35 and 30, begins to show involvement of the pyramidal tracts All had Argyll Robertson pupils and Romberg's sign, but the first had both knee- and ankle-jerks present, with a bilateral Babinski sign, and the second had increased knee- and ankle-jerks with slight spasticity of limbs, but the plantar reflex was flexor and there was commencing optic atrophy The third coolie, whose loss of pupil light reflex showed only on the right side, had lost both knee- and ankle jerks, yet gave a shortening reflex in the left leg and a normal plantar reflex The third group, consisting of two coolies, both aged 35 is only separated from the above because neither exhibited any alteration of the pupil reflexes, both showed Romberg's sign and had absent knee- and ankle-jerks, yet one had a bilateral Babinski sign with girdle pains and the other no Babinski sign, but paraesthesia and paresis of both legs The fourth group is composed of the fireman, aged 26, and two coolies, aged 52 and 49, all exhibiting normal pupil reflexes, a positive Romberg sign, and greatly increased knee- and ankle-jerks The fireman had also retention of urine, a Babinski sign, and shortening reflex on the left side, with hypotonia in both legs The elder coolie had complete loss of pain sense to the level of the iliac crests, and no plantar reflex could be elicited, although he showed a shortening reflex in both legs, the younger had optic atrophy, difficulty in micturition, with shortening reflex, but no Babinski sign The final group is composed of five cases one cook aged 33, one sailor, aged 40 and three coolies, aged 42, 39, and 34 The symptoms varied from those suggesting transverse myelitis, exhibited by the cook and the sailor, with complete paralysis of both legs, anaesthesia to the waist, a bilateral Babinski sign, and increased knee- and ankle-jerks (with, in the former complete incontinence of urine and faeces, and in the latter retention of urine), to those of incomplete transverse myelitis in the coolies aged 39 and 34, and to the coolie aged 42 who showed extreme spasticity in both legs, difficult micturition, and whose sole sensory change was some tingling with diminution of localization sense in the legs

This is a small series, but for the purpose of this note it is sufficient, since other series collected in Singapore show exactly the same features, the cases are therefore a representative consecutive series of what we are accustomed to see The noticeable features are (1) that the grading from pure posterior root and tract lesions to almost pure pyramidal tract lesions is too gradual to warrant the assumption of differing etiologies, (2) that the lesions of tabes dorsalis are shown most characteristically in the first group containing those patients who had not spent their life in hard manual labour—namely, the two clerks, the house-boy, and the mortuary priest, and (3) that some improvement often occurs in those cases with paralysis of the legs (which is usually of sudden onset) with the enforced rest alone and before the commencement of specific treatment. To explain these features we can, of course invoke the usual hypothetical toxins which, being hypothetical will do whatever is required of them to explain difficulties—toxins of that extraordinary biological conception of a neurotropic strain of *Treponema pallidum* truly extraordinary since impotence being the rule in the large majority of the cases, the strain must be one with a suicidal tendency

Considering now the pathology of the disease, with a view to confirmation or otherwise of the suggestion that bodily activity has an important influence on the consequences of infection, it may be recalled that 'the type of the soil in which *Treponema pallidum* is sown in more important in determining the type of syphilis than is the strain of the organism"[4] Buzzard and Symonds note that syphilitic myelitis is more common in England among soldiers, and suggest that great fatigue, exposure, and alcohol may be the determining cause[5]

The changes which are present in all types of syphilis and are common to all, are the vascular changes Beatty and Dickson write "We regard the internal change as the result of a chronic inflammation caused by the poison of syphilis acting directly on the inner coat of the vessel, the *Spirochaeta pallida* being found in this coat, though it is also present, as already stated, in the degenerated areas of the media The narrowing of the vessels may give rise to nutritional changes and overgrowth of fibrous tissue in the various structures to which they are distributed or it may cause thrombosis in the vessel itself, just as do the changes in atheroma"[6] In dementia paralytica we find the main changes in the capillaries which show a perivascular infiltration in the Virchow-Robin adventitial spaces These spaces are packed with lymphocytes and plasma cells, and occasionally there may be seen elongated cells resembling collapsed capillaries[7] The vessel walls are thicker than normal, and the tissue is highly vascular, owing partly to the dilatation of vessels and partly to the sprouting of new capillaries, which are themselves soon surrounded with a perivascular infiltration

The change that occurs in the vessels after malarial treatment is merely a lessening of the amount of infiltration of the adventitia and diminution of the number of plasma cells, causing them then to resemble the capillaries seen in lesions of tertiary syphilis Similar changes are seen in myelitis, the perivascular infiltration, or rather infiltration of the adventitia, being sometimes combined with a capillary thrombosis[8] As Mon Fah Chung notes, the thrombosis of vessels occurs without signs of inflammation[2]

Considering these changes we should expect to find that, owing to the general involvement of the capillaries, the nervous tissue must show signs of a chronic slowly evolving condition of undernutrition There is ample confirmation of this view first in juvenile paresis and tabes there is a characteristic hypoplasia of both brain and cord and in acquired dementia paralytica and tabes dorsalis there is an atrophy of both the brain and the cord

Microscopically we find that (1) the degeneration is not dependent upon any inflammatory process, (2) there is no correlation between the number of spirochaetes present and the changes found in the tissues, (3) the characteristic multiplication of the nuclei of the Purkinje cells in juvenile paresis suggests more an incomplete development than any poisoning by toxins, (4) the lesion in both is chiefly manifest in parts with a small blood supply—the cortex and dorsal region of the cord, (5) the condition of miliary necrosis in dementia paralytica, the only time where the number of spirochaetes and findings correspond is a necrosis accompanied by no inflammatory reaction and (6) the growth of fresh capillaries indicates an attempt to supply the deficiency in nutriment The history also seems to show interesting points, the long incubation period in both juvenile and adult cases suggesting a slowly acting cause

The rarity of a noticeable primary sore, and the mildness or absence of early symptoms, both suggest an individual who has a high resistance to the infection and is not likely to be suddenly overwhelmed by hypothetical toxins, which are often even incapable of producing the typical syphilitic inflammations—as witness the rarity of the usual tertiary lesions other than aortitis in these complaints

If then we picture the patient suffering from a very slowly increasing state of malnutrition of both the brain and cord it must follow that those parts which are called upon most frequently are likely to suffer the most provided that the blood supply or rather the density of the capillary bed is the same However, since the blood supply is no by any means equal throughout the different parts of brain and cord the final picture will depend upon both factors—the blood supply, and the mental and bodily activities of the

infected individual We might instance in this connexion the practical arrest of the disease which so often follows tabetic optic atrophy, as the result of this lesion all the activities are so severely affected and so much less is required of the nervous tissues that it can continue to function at this lower level in spite of the decreased blood supply W M Malamud and K Lowenberg[7] state that an affection of the meningeal capillaries may lead to meningitis, and of the cortical capillaries to general paresis

It is now clear why the soldier, the fireman, the rickshaw puller, and the coolie are so liable to suffer from involvement of the pyramidal tracts In these cases the motor functions of the nervous tissue are so often called upon for such a tremendous output, since they must continue to function in spite of exhaustion, that the individual often becomes an almost senseless automaton, marching, running or working oblivious to pain and all the finer senses, but still calling upon the motor system, including its arterial supply, for a full output of energy The symptoms in these cases appear usually earlier than the sensory symptoms of tabes dorsalis, and it is hardly to be wondered at, considering what strain is put on the system

Buzzard and Greenfield note in syphilitic myelitis that in some cases there is disease, or diminution, or complete occlusion of the lumen of the vessel, in others there is excessive perivascular infiltration with suggestion of slowing of the circulation and blood stasis, and in further cases paralytic vaso-dilatation ensues with very moderate perivascular infiltration and capillary thrombosis In all cases there is, again, interference with the normal blood supply to the cells

We have, further, a striking confirmation of this view in the more modern treatment with malaria of dementia paralytica Malaria is supposed to increase the amount of antibodies and spirocides present in the blood and cerebro spinal fluid To those who know malaria as the disease above all others that reduces the resistance of an individual to an infection, and renders him more liable to fall a victim to any contagious or infectious disease, the hypothesis that induced malaria has the opposite effect in syphilis appears to be a totally unjustifiable assumption The real effect malaria or other infections have in these cases is to give what might be termed a histamine shock effect—an action that causes dilatation of the capillaries, increasing the blood flow through them, and at the same time bringing more nutrition to the starved nerve cells as well as to the walls of the capillaries and tissues surrounding them Only in this way can the effect of malaria without chemotherapy be explained, and also the fact that, although in some cases of late quaternary syphilis the spirochaetes appear to have died out the degeneration of the nervous tissue progresses progresses in proportion to the strain thrown upon it Again, one can note that the actual fever present has no relation to the ultimate curative effect of the procedure, except that if it is too severe the secondary debilitating effect damages the patient irretrievably A similar effect can also often be seen in tabes after an irritant dose of *x* rays to the spinal cord, where a temporary amelioration of the symptoms frequently occurs as the blood flow increases in the irritated tissues

In conclusion, I have brought forward evidence that the later manifestations of neurosyphilis must be regarded as only a result of the general vascular disease They appear to be due to a slow starvation of all the nervous tissue, as well as of the tissues of the body, all through the body those tissues will first show signs of degeneration, which, having a small capillary bed, are yet required to do most work under conditions which render them unable to replace sufficiently the broken-down products of their activity The areas with the least blood supply stand the least strain, and the more vital centres, being supplied better with blood, hold out the longest

The *Treponema pallidum* is an organism which, through the centuries, has almost learned to live in symbiosis with man Although possibly emitting, continuing, or manufacturing some toxin, this toxin usually has no very virulent and rapid effect upon the tissues

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TORSION AND GANGRENE OF TUBE COMPLICATING UTERINE PROLAPSE

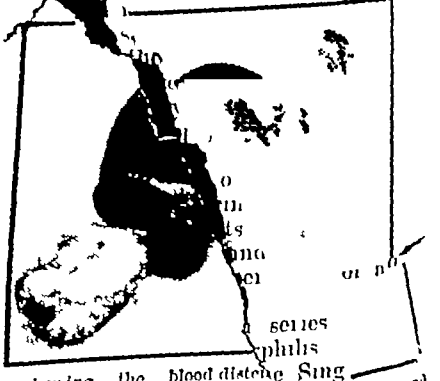
THE following case seems sufficiently rare to merit publication

A multipara aged 51, had suffered from complete uterine prolapse since the birth of her last child eighteen years previously The condition was controlled by means of a large "watch spring" pessary Recently, while on holiday in America, the patient consulted a doctor for attacks of slight pain in the right hypogastric region from which she had been suffering for a few months, and he advised removal of the pessary When this had been done she was very pleased to find that the prolapse did not recur, though the occasional attacks of pain persisted.

Some months after her return to China she attended a social function, where she danced, and several hours later she was seized with acute abdominal pain exactly in the locality of the former attacks I saw her an hour or so later, and found considerable tenderness and some resistance over the right hypogastric region Her pulse and temperature were both normal but a pelvic examination revealed a tense and painful swelling in the region of the right vaginal fornix

A laparotomy was performed shortly afterwards, and on opening the peritoneum some blood stained fluid was seen welling up into the pelvis On investigating, I found a black, tense swelling which proved to be a twisted, swollen, and completely gangrenous right Fallopian tube The twist, which was very tight, had occurred across the isthmus of the tube and the adjacent portion of the broad ligament forming the mesosalpinx A few adhesions of coils of intestine were easily separated, and the right tube and ovary excised The uterus, which had been drawn over towards the affected side, now proved to be extremely mobile the broad ligament and round ligaments being very lax The uterus was ventrofixed and the abdomen closed The patient made an uninterrupted convalescence

This rather unusual condition appears to have been caused by the stretching of the broad ligament and mesosalpinx, resulting in its turn from the movements of the



Photograph showing the blood distende Singapore gangrenous right Fallopian tube removed, months ted and compared with the right ovary

prolapsed uterus I think it probable that ingitis a had been present for some time, causing all cast a partial for of pain, and anchoring the prolapsing uter n infect the slight and unusual exertion made the twist ac ng to this Some strangulating the vessels in the mesosalpinx frequently, effecting the tube gangrenous There was no evidence of x and cedent pelvic inflammation, as will be seen from the photograph of the specimen, the tube was greatly distended by blood, but the ovary seemed normal

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ATYPICAL FORMS OF CEREBRO SPINAL FEVER

Cerebro-spinal fever, as is well known may run its course entirely without meningeal involvement or with late involvement of the meninges, the disease remaining in the septicaemic stage Such cases, however may easily be overlooked so notes on a series may be of interest

Last year as a result of three or four cases of meningitis having been admitted and diagnosed as cerebro-spinal meningitis a careful look-out was kept for further cases, with the result that 59 others were admitted to hospital The ages of the patients ranged from 3 months to 35 years, the majority were, however, under the age of 20 Of these cases, 2 were proved to be of tuberculous origin 1 was pneumococcal, and 1 anterior poliomyelitis, 1 was admitted as enteric fever, and 2 as tuberculous meningitis, while 1 case thought to be puerperal pyrexia proved to be cerebro-spinal fever The remaining 55 were diagnosed as cerebro-spinal fever clinically

The cases varied very considerably in severity, in many there was only a few days' illness with some pyrexia, a positive Kernig's sign, and some stiffness of the neck the mental condition was unimpaired, and rapid improvement followed serum therapy In other cases there were two or three days of illness with intervening periods of apparent good health, *about 50 per cent of the patients eventually* recovering or passing into a stage of meningeal involvement One such case showed a relapsing septicaemic stage lasting just over two months before signs of meningitis occurred and death supervened, another ran an indefinite course for four months, the patient being admitted to a tuberculosis sanatorium for observation, where the disease was finally diagnosed Several cases in which diplococci had been found were followed by paralysis, simulating infantile paralysis, usually in a lower limb but twice affecting the upper, I think as a complication of the cerebro-spinal fever, but since cases of anterior poliomyelitis were occurring a possible association of the two diseases could not be definitely excluded

Deafness was seen as an early symptom in two instances, and as a later condition in one Relapses were common Kernig's sign frequently remained for several weeks after the patient was otherwise well, in all cases it was very gradual in onset As an early sign the stiffness of the neck in pulling the head forward was most valuable in diagnosis, and pain in the neck was commonly complained of Conjunctivitis was very frequent as an early sign herpes labialis was frequently seen in even the mildest cases A purpuric rash was only twice noted, and then as a very early sign The 'elbow sign" was observed in 16 cases The headache was frequently distressing and early delirium was usually present The neck sign" (Brudzinski) was demonstrable in many of the more severe cases

The spinal fluid was under pressure in all cases, and in infants the fontanelles were tense In most cases it remained clear, and only in three did it become frankly purulent, it was definitely turbid in three Very few meningococci were found, usually, after repeated specimens had been thoroughly investigated, one or two diplococci were demonstrated in about 50 per cent of the cases, the prognosis being very adversely affected, only two or three "positive" cases recovering The finding of diplococci was extremely difficult and required long and patient search, two or four specimens frequently being required before they could be demonstrated, indeed, in one case eight specimens were examined before confirmation of the clinical symptoms was possible In some fluids very rapid changes occurred from day to day they were negative as a rule during the first, second, and third days of illness and from the fourth day onwards "positives" were possible

The average stay of the patients in hospital was three weeks

The mortality rate was 44 per cent Among the relatively few complications observed were jaundice 1, anaemia 3, haematemesis 2 ulcerative endocarditis 2 arthritis 2, panophthalmitis 2 and parotitis 1.

The difficulty in obtaining bacteriological confirmation is interesting and instructive lumbar puncture clearing the matter up only occasionally and blood culture seldom affording any evidence In the first case probably the cord was rarely affected at all such meningococci as were found in small numbers were accidentally there as part of the general condition, any involvement of the central nervous system being possibly of the posterior basic type No increase in the bacteriological findings resulted from fluid obtained from cistern puncture, except in the case of tuberculosis Again, many of these cases were undoubtedly admitted when suffering from relapse, the primary attack having been missed or no doctor having been called in, these relapses probably accounted for some of the difficulty at least, and the failure of the blood cultures

Sunderland EUSTACE THOPP, M B , B Ch , D P H

Reports of Societies.

OBSTETRICS AND GYNAECOLOGY

A meeting of the Obstetrical and Gynaecological Section of the Royal Society of Medicine was held on October 17th, with the president, Sir EWEN MACLEAN, in the chair

Vaginal Metastases

Dr GILBERT STRACHAN gave a paper on vaginal metastases in uterine carcinoma In a series of thirty cases of carcinoma of the body of the uterus he had found these metastases to be present in 16 7 of his cases One case belonging to Sir Ewen Maclean was added These cases fell into three categories In the first category were the two cases in which vaginal metastases were present before operation, and when the patients were first seen In one of these, curettage had been performed two weeks previously In the second category were three cases in which metastases were discovered for the first time at varying intervals after hysterectomy The intervals were six months, five months and nine years In the last case while the original condition of "cancer of the womb" could not be verified, the presence of the adenocarcinomatous nodule lent support to the history In the third category was the single case in which adenocarcinoma was found, first in the vagina, and only eight months later in the uterus with very rapid development and spread In none of these cases was there any submucous vaginal infiltration extending downwards from the uterus Three main methods of metastatic formation occurred by direct implantation, by lymphatic extension, or by blood stream transference Dr Strachan discussed at some length the various types of metastatic extension and their influence upon prognosis and treatment In cases of metastatic deposit with an early carcinoma of the body, consideration had to be given whether hysterectomy is justified, followed by radiation or excision of the vaginal nodule or even by removal of the vagina Dr Strachan's inclination was rather in the negative direction He stressed the necessity for carrying out a careful examination of the vaginal mucosa in all cases of corporeal carcinoma of the uterus The occurrence of metastatic nodules in the vagina in cases of carcinoma of the body of the uterus constituted not only an interesting pathological problem but is at the same time an important clinical factor, as it represented a prognostic *feature of grave omen in what might otherwise* be a favourable case

The PRESIDENT said that the facts of his case included in Dr Strachan's series were as stated He would add a further one in which the patient was a woman aged 68, a one para, who was seen by him, giving a history of blood-stained vaginal discharge for four months and practically no other symptoms Hysterectomy was not permitted although the exploratory curettage revealed typical adenocarcinoma of the body of the uterus Forty five millicuries of radon were inserted into the cavity for twenty four hours One month later nodules were found in the lower part of the vagina which, on microscopical examination, were found to reproduce the histology of the uterine scrapings Three months after the original investigation, subcuticular nodules appeared in the calf of the left leg the anterior margin of the left axilla, and in the left

suprasacral region These again were found under the microscope to show the same appearances as the vaginal nodules and uterine scrapings—the vaginal and skin nodules showing additionally, of course, the dermal tissues Dr ROY described a case of carcinoma of the body of the uterus with vaginal implantations, also two cases of cervical cancer with recurrent vaginal growths He suggested that curettage might disseminate cancer cells Dr FAIRBAIRN discussed the mode of dissemination in cases of cancer of the body of the uterus, and considered the blood stream as the most common method Dr STRACHAN replied that lymphatic spread was the generally accepted view, but that the proof of this was not very definite

Practice of the East End Maternity Hospital

DR W H F OAKLEY read a paper on the organization and methods of practice of the East End Maternity Hospital Since its establishment in 1884, this institute had attended 51,487 cases, with a maternal death rate of 1 35 The present paper dealt with the last five years' work, comprising 10,376 cases, with a death rate of 0 48 from puerperal causes, or of 0 67, including incidental deaths The hospital differed from many in that the routine work was done by midwives, and the general practitioners who formed the staff were called to abnormalities only Married women of the working classes were attended without any selection on medical grounds Very few emergencies from outside sources were admitted, so that the patients formed a true sample of the child-bearing population of the district All pathological conditions occurring in its patients were attended by the hospital Ante-natal selection of abnormal conditions was made by the midwife in charge of that department Occipito-posterior positions were considered to be serious abnormalities, and they were the commonest indications for forceps Attempts to rotate them ante-natally met with a qualified degree of success only Ante-natal version was successful in about one-half of the cases of breech presentation Great care in delivery was practised, with the result that the special dangers to the child—namely, birth trauma and asphyxia—were very much diminished, and it was therefore suggested that cases should be left as breech in teaching hospitals, in order to give the pupils as much experience as possible in breech emergencies The induction rate was only 1 2 per cent , and the forceps rate only 2 9 per cent , no craniotomies were performed, and only one Caesarean section It was considered that in many hospitals an unnecessary number of obstetric operations were performed There were 121 consecutive cases of ante-partum haemorrhage treated, without a maternal death The success was put down largely to the routine use of saline injections The incidence of sepsis was low, and the means taken to guard against it were described Treatment of local sepsis was in many cases by curetting The operation was successful, and appeared to be free from danger There were five deaths among in-patients, two on the district, and three in emergencies There were no deaths from eclampsia, haemorrhage in booked cases, or sepsis in the following normal labour The two deaths on the district were due to incidental and not puerperal causes Comparison of the maternal death rate with that of the two metropolitan boroughs from which the bulk of the cases were drawn, showed that the expected death rate had been reduced by 75 per cent The stillbirth and neo-natal death rate had been reduced, but not by the same amount, and it was shown that the unknown causes of these two events accounted for at least 3 per cent of births The successful work of the hospital was stated to be chiefly due to sympathetic co-operation between doctors, midwives and patients, together with carefully thought-out organization

The PRESIDENT offered congratulations to Dr Oxley on his excellently compiled paper, dealing with the records of a veritable obstetrical oasis The paper would attract wide attention, and might tend to modify the insistence on some of the obstetrical methods and equipment which, as teachers, they were wont to set forth He was interested to note that Dr Oxley, with scientific candour, said that in a neighbouring institution, where the methods in vogue were substantially different from those employed by himself and his colleagues, the results in terms of mortality and morbidity were almost as satisfactory He gathered that whilst reference was made to benefit accruing from blunt curettage in certain of his cases with early puerperal pyrexia, Dr Oxley would regard anything like routine curettage in puerperal infection as a dangerous procedure He was sure that the paper would evoke a most helpful discussion

Dr FAIRBAIRN said that the successful methods were those which encouraged natural function Mr Rivett thought that the continuity of the methods of the medical and nursing staff, and the tradition of the work, had much to do with the success of the hospital The early exploration of the uterus in cases of sepsis might probably give better results than when performed several days after the onset of the symptoms Mr WYATT congratulated Dr Oxley on his paper, but with regard to the curetting of the uterus for cases of local uterine infection, he thought it a dangerous procedure unless in very skilled hands He himself had had over 500 cases of local uterine infection to treat in the North-Western and South-Western Fever Hospitals, and no intrauterine manipulations had been done with the exception of injecting sterile glycerin All these had done well, some had taken some days to settle, but were not seen until the infection had been present some days With regard to the cause of death when the foetus was born macerated, at St Thomas's Hospital in over 50 per cent of cases signs of syphilis were found either in the foetus or in the parents Dr THEOBALD did not agree that local interference with the uterus in sepsis was advisable Dr OXLEY, in his reply, defended the use of the blunt curette, but did not wish to press this, in view of the opinion expressed against its employment

PUBLIC HEALTH EDUCATION

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on October 24th, Professor MAJOR GREENWOOD, F R S , delivered his presidential address, taking for his subject some aspects of public health education, more particularly from the point of view of epidemiology

Professor Greenwood defined epidemiology as the study of disease as a mass phenomenon, a way of looking at illness by focusing attention, not upon the sick individual, but upon the group into which, conceptually, the set of sick individuals could be merged The majority of pupils at the London School of Hygiene and Tropical Medicine, where he taught, were recently qualified medical men and women It was regarded as axiomatic that epidemiologists must be medically trained, and a suggestion that, for example, a medical officer of health might be admirably efficient without having had any formal medical training would be regarded by most people as a bad joke As one who had been brought up in the atmosphere of general practice, the speaker remarked that he was not likely to underestimate the value of medical experience Anybody who had had that upbringing and had passed through the ordinary undergraduate medical course without having had burned into him an impression of certain human realities which he would carry to his grave must be unteachable Such a man's conviction that there were myriads of facts vitally important in the art of healthy living, which the mere statistician or the mere office epidemiologist could not consider, was never to be shaken, such an experience and training would save many statistical and epidemiological blunders But few of those who had grafted hospital training on to intimate medical experience came to learn epidemiology, and a mere undergraduate training in medicine was very far from being an ideal form of preparation for the study of that subject So far as the future of epidemiological research or the provision of competent teachers of the subject was concerned, it was a matter of relatively minor importance whether qualified medical men and women were attracted to this branch or not If it could attract able young people who had had any sort of scientific education, he would have no doubt about its

scientific future Nevertheless, the pupils must be in the majority of instances young medical graduates, because the evolution of the public health service imposed more and more upon its junior members duties which were essentially clinical Nobody would maintain that the most intelligent of laymen could acquire the technical clinical knowledge requisite for the discharge of these duties save by following the *via dolorosa* of the complete hospital curriculum

Virtues and Vices of Medical Training

Most pupils would have the virtues and vices inculcated by their particular system of medical training While no emphasizing was needed for the virtues—the schooling in exact observation of particular facts and the subduing of the most thumby fingers to the precise execution of delicate manipulations—he must call attention to the vices John Stuart Mill said he had never heard an argument from the eminent Cambridge men of his time which was worth anything Whether that was just to the Cambridge men of a century ago, he could not say, it was true enough of young medical graduates now As a class they were as helpless as children in conducting an argument in general terms No doubt this was partly due to mere illiteracy", to be unable to write one's own language correctly was a drawback when the discussion must be conducted in ordinary words and not in well-defined symbols and as Professor Dean had pointed out in an admirable article in the *British Medical Journal* (September 6th, p 341) a premium was placed upon illiteracy But this was not the whole explanation, for very good arguments had been presented in very bad English More of the explanation was to be looked for in the consideration that emphasis in medical teaching was laid upon the practice of an art The student's interest was concentrated upon mastering the intricate details of how to descry the signs of a condition and carry out the prescribed treatment Undergraduate medical training was essentially technical, and there was a sound reason why it should be so A system of dogmatic technical instruction led to a certain gain which was obvious to every practitioner and a problematical loss which was not obvious Give a young man plain rules as to when to resort to appendicectomy make sure that he can operate (or, if not can telephone to somebody else who can) and it is odds on that he will save some lives that would have been sacrificed by a practitioner without that knowledge That he may, as a set-off, be manufacturing a number of incurable psychoneurotics is a remote consideration He has not to strike the balance, the epidemiologist has The teacher of epidemiology has to explain to young practical men, contemptuous of and wholly untrained in abstract reasoning that all epidemiological conclusions are based upon a weighing of probabilities"

Epidemiological Science a Balance of Probabilities

After instancing the epidemiological history of typhoid fever in this country as an illustration of his thesis Professor Greenwood went on to say that it was the duty of a teacher to inculcate in the epidemiological field the method of a judge in equity, the technique was different but the principle was the same There was however, a danger which he himself had not escaped It was not difficult for a moderately competent teacher to convince his students that much that was believed and used as the justification for acts in sanitary administration had no secure logical basis, and that many of the great pioneers whose names adorned the façade of the London School of Hygiene and Tropical Medicine often reasoned ill A youth who had been brought to that point was in imminent peril of being changed from an irrational dogmatist into an ignorant sceptic It must be made equally clear that, while for all men conscious logical reason was a principal instrument of finding truth, and for most men the only trustworthy instrument, great men attained great truths by other means The Newtons and Einsteins divined truth by an intuition, or perhaps by the unconscious synthesis of many intimations Men less great but whose mental powers far surpassed the common stature—the Chadwicks the Simons, and Freuds—divined truths, but could not test their convictions by a conscious process of reasoning, and might often deceive themselves with ham intellectual tests Chadwick's statistical blunders and Simon's scientific opportunism were faults but these men were very great because they were penetrated by a sense of the mysterious incorporation of the human race" (Burke's words), which was a wisdom more valuable to the officers of a public health service than even the calculus of correlations He pleaded that an outline of social history should be given to public health students When they understood its examples of right things done for wrong reasons, and wrong things done for what seemed to be right reasons, they would understand why very good reasoners, who were also wise men, had not always been convinced by crucial experiments in the laboratory In his own work in the division of epidemiology and vital statistics at the London School he did not set himself to make mathematical statisticians or medical historians of his pupils, but he did try to arouse in them such interest and give them such technical first aid as to fit those who cared to do so to study statistical methodology and medical history for themselves

The Aim of University Teaching

It was common in England to muddle up education and technical instruction in university teaching Those who were to spend their lives in the public health service needed both, and unfortunately they had to be acquired in the same school The technical knowledge which was at once essential and capable of being learned in a university school was not very extensive Some knowledge of administration, law, and routine duties must be thoroughly acquired and also such a knowledge of chemical bacteriological, and statistical methods was essential as would save an ordinarily intelligent man from being wholly at the mercy of experts But the present curriculum was more ambitious A great deal more bacteriology, chemistry, and statistical epidemiology was being taught than would suffice to enable a man to ask "experts" intelligent questions but not nearly enough to give him a real command of any one of the techniques The notion that the young diplomates in public health were expert bacteriologists, chemists or epidemiologists in the technical sense was absurd Most of what was taught had institutional value in the proper sense of university teaching He believed the primary duty of university teachers was institutional, not technical, teaching, and the present legal requirements made it hard to perform that duty well He gave some reasons for thinking that now and for a generation to come students trained for the public health service would not intellectually be the pick of the undergraduate schools For the ambitious man without any inner sense of a "call," the public health service offered few temptations, and for the man with a "call" the attraction of the public health service was still but faint in comparison with that of the laboratory branches On the other hand, it was necessary to attract those who, in an insecure world, were looking for something relatively safe Some men could be imbued with the scientific spirit only in a bacteriological laboratory Others, having had a glimpse of the pageant of history, or having tasted the odd pleasure of numerical analysis made cultural progress, in a bacteriological laboratory they were mere destroyers of apparatus" Both these group might leave their school with a fair measure of scientific culture if they were allowed to follow their natural bent but all were stretched alike on the Procrustes bed of the curriculum

The Exceptional Student

Professor Greenwood then pictured what would happen if a quite low minimum of technical knowledge was defined as that which an entrant to the public health service must possess and a qualifying examination were instituted on such minimum requirements Those who had passed this preliminary test could then devote a year to studying one of a series of branches of science such as chemistry and physics or bacteriology or epidemiology and statistics, or public administration and submit to a final examination confined to the chosen group But everyone could guess

what would happen if such a scheme came up for real consideration Various influential persons would insist that certain groups of facts—a different group with each of them—must be known by all public health officers, the spirit of compromise would prevail, and in the end the qualifying examination would be pretty much what the D P H examination was now, and Part II—the only part of real educational importance—would be made optional or dropped altogether No legal reform held out promise of improvement The fact was that the proportion of highly educable persons was small, that the qualities which fitted a man to rise above the common level were the undemocratic privilege of not one in a thousand, and that the system of university training apt to make that one in a thousand conscious of his powers, and help him to use them, was in the nine hundred and ninety-nine other cases largely waste of time and money Yet there was a valid answer to this pessimism—namely, that the one in a thousand was the salt of the earth, and to encourage and foster him it was wise to permit much waste The task was to devise a curriculum which would benefit the many ordinary men and not stunt the growth of the exceptionally gifted The time might come when university departments of any size would have as their administrative head a man with a sufficiently creditable scientific record not to be hostile to research, but not himself a research worker Conjoined with him would be a genuine poetic worker, free to come and go as the spirit moved him, free to teach or not to teach, as he thought fit If such a scheme was financially impossible, the department should be ruthlessly closed down In the meantime they must struggle on as best they could It could not be many years, in the present state of national impoverishment, before a halt was called, and people asked themselves whether the present expenditure on university education and research could be justified Then they might discover that a good deal which went on in universities had nothing in the world to do with university education, and almost as little to do with real research, the result would be a very drastic reconstruction

A vote of thanks to the president was proposed by Dr F E FREMANTLE, M P, and seconded by Sir WILLIAM HAMER Dr Fremantle remarked that he had never realized that a statistician could be such a guide to truth His own study of statistics had led him to infer the opposite!

HEAT STROKE

AT a meeting of the Royal Society of Tropical Medicine and Hygiene, on October 16th, Dr FRANK MARSH, pathologist to the Anglo-Persian Oil Company, read a paper on the etiology of heat stroke and sun traumatism

Dr Marsh gave a description of his company's medical organization, which included a central hospital at each of the three towns in South Persia on the company's 160 miles length of pipe-line These hospitals had a total of 439 beds, and served 26,000 of the company's employees, as well as the very much larger populations of the native towns, they were all equipped with operating theatres, pathological laboratories, and x-ray apparatus The medical staff comprised seventeen doctors and twenty-six European nursing sisters During last year 131,925 persons were treated in the hospitals or as out-patients In the Persian Gulf littoral the atmospheric temperature for two or three months of the year ranged between a day maximum of 125° F and a night minimum of 85° The European had to sweat continuously to keep his skin temperature at such a level that the circulating blood could be efficiently cooled, urine was passed perhaps only once a day, and usurpation of the kidney function by the sweat glands might occur Maladies due to exposure to heat in the absence of sunlight were common among workers in deep mines and stokers on coal-burning steamships Illness following exposure to the sun might simulate the heat exhaustion and heat hyperpyrexia of miners and stokers, and occasionally even heat cramps had been observed in manual workers under a hot sun who had access to ample water In addition to these well-known phenomena, symptom-complexes known variously as "sun traumatism," "sunstroke," and "solarism" were described in medical textbooks, where they were attributed to the rays of the blue-violet end of the spectrum—elements in sunshine rather than heat During the summer of 1929 in South Persia an endeavour had been made to discover and establish some of the factors principally involved in "sun traumatism", forty experiments performed on rabbits were described by Dr Marsh Evidence was obtained indicating that the heating rays of the sun were the sole cause of the symptoms of "heat stroke" in exposed experimental animals, and probably also in "heat stroke" occurring naturally in man Sunstroke did not ensue in a series of rabbits with shaven heads left exposed to the sun for long periods of time, the animals only suffered when the blood heated by circulation through the hot skin of the rabbit's head had raised the temperature of the whole body to "heat stroke" level The symptoms of this condition produced in experimental dogs in the absence of sunlight, in the experimental rabbit fully exposed to tropical sunlight, in the rabbit exposed to shade temperature above 115° F, and when it occurred sporadically in a human case (after making all due allowance for the difference between a sweating and a non sweating animal) were shown to be identical The conclusion was that "sunstroke," "heat stroke," "heat exhaustion," "insolation," "sun traumatism," and all the host of diseases with varied symptomatology associated with "touches of the sun," could be replaced by the one disease, "hyperpyrexia due to heat," as originally suggested by Sir William Willcox[1] It was true that hyperpyrexia due to heat was complicated in man by the effect of sweating on the concentration of salts in the blood, but, none the less, the essential phenomena of hyperpyrexia due to heat were independent of this alteration of the salt concentration in the body, since they occurred in the non sweating dog and rabbit with no salt depletion Dr Marsh added that the company's medical service had evolved an original and comprehensive scheme for the prophylaxis and treatment of heat stroke At each of the hospitals there was a specially cooled ward in which the air was kept dry and at a temperature of about 65°, even when the shade temperature outside was 130° Heat-stroke cases and all cases of fever in outlying stations were kept during the heat of the day until the cool hours between midnight and 5 a m in a cold storage chamber attached to the local ice plant During the coolest part of the night they were placed in a fast and comfortable ambulance and taken to the nearest central heat stroke ward, where they remained until complete recovery had occurred As a result of these measures the incidence of heat stroke had been greatly reduced, and it had almost ceased to count as a cause of invalidism

THE PROPHYLACTIC AND THERAPEUTIC VALUE OF VACCINES

AT a meeting of the Medical Society of London, on October 27th, with Dr R A YOUNG in the chair, Sir ALMROTH WRIGHT opened a discussion on the prophylactic and therapeutic value of vaccines

Sir Almroth Wright said that about twenty-eight years ago he first wrote a paper on vaccine therapy in which he suggested that the physician of the future would be an immunizer—he meant by that, a vaccine therapist. To-day the position had to be reconsidered, and he recalled the state of the medical world when vaccine therapy arrived Four methods of treating bacterial disease had been considered (1) the expectant method, in which nothing was done at all, (2) surgical extirpation, as in the removal of tuberculous glands, (3) serum therapy, the injection of blood derived from animals, and (4) antiseptics Expectant treatment, whether due to callousness or defeatism, was an unsatisfactory method Extirpation was a procedure introduced by the surgeon, and it was assumed that the whole of the bacterial infection could be excised, when it was found that a second operation came quickly after the first, and that the first operation seemed to have favoured the growth of the glands, the method was discarded by the surgeon himself Serum therapy had justified itself in connexion with diphtheria antitoxin, and it was assumed, as a result of one of the o

[1] *British Medical Journal*, 1920, i, 392.

generalizations due to ignorance, that what happened with regard to that organism would occur with every kind of microbe With regard to antiseptics, the laboratory study of these was, he thought, initiated when he was in South Africa People began treating pneumonia, which produced a heavy mortality, by giving creosote or other antiseptics by the mouth The ordinary use of antiseptics was applied very largely in the great war The conditions at the base in the early part of the war were that every wound was foul, and that the treatment of foul wounds with antiseptics did not make them any better That was *due to the fact that* in these foul wounds the fluid was corrupted, trypsin had passed into it, and in trypsin-corrupted lymph or serum every micro-organism would grow enormously There were two methods of treating wounds which gave good results in the sense that they got rid of, or restricted, this infection One method introduced salt solution into the wound, this produced a great flow of lymph or serum, and killed every micro-organism except a few, such as the staphylococcus and streptococcus The other method was that of Carrel, which was successful in keeping a wound clean, but, he believed, never made a wound clean These two methods he bracketed together because both were productive of a flow of serum into the wound, when the wound was in that condition it could be closed Then Professor Fleming devised certain methods, which ought to be taught in every medical school, to demonstrate that the introduction of antiseptics into a wound, *or into body fluids or lymph itself*, only made the condition worse One of these methods was the culture of living pus, and another illustrated the effect of carbolic acid on leucocytes in a lined tube

Since the period of which he was speaking the method of chemotherapy and that of bacteriophage had come forward Chemotherapy was an improved form of antiseptic treatment Ehrlich believed that the agent "606" entering the body would kill the spirochaete of syphilis and nothing else It was found that "606" exerted a lethal action in serum upon the staphylococcus and the streptococcus, and since then Dr Colebrook had worked a great deal on the matter with regard to haemolytic streptococci in connexion with puerperal fever It was found that "606" and other arsenicals did kill the haemolytic streptococcus in the blood, but here came in the difficulties of the chemotherapist It was not a mere question of finding an agent which put into the serum, would kill the micro-organism one had to find whether, when in the blood, it killed the white corpuscles at the same time as it killed the staphylococci and the streptococci Upon this depended how high the dosage could be carried It turned out that this drug would kill streptococci, but only after three hours, and a percentage of arsenicals was wanted which was just short of what would kill the blood corpuscles In practice all one could say was that the results were doubtful There was no drug which would kill the micro-organism only without poisoning the white blood corpuscles During the war Carl Browning proposed to use flavine in killing micro-organisms in wounds, stating that it was a drug which acted in the serum It did not kill the white blood corpuscles instantaneously, but it inflicted on them a certain amount of damage it was found that when flavine was put into a wound it was absorbed by the muscle, which was stained yellow, and picked up by the dressings and combined with a great number of tissues, so losing its power

From this story of failure they were thrown back upon the *method of immunization* Sir Almroth Wright said that when he introduced vaccine therapy he had it in mind that the tissues which were infected in the case of local infections were doing their best to kill the micro-organisms, but that other tissues in the body were idle, he had thought that if vaccines were injected into some of these idle and healthy tissues they might produce some *particular substance not* wanted there which would go round and help where it was wanted He had the greatest objection to applying any method until he knew by laboratory experiments that it was going to do some good Therefore, the method of the opsonic index was developed One valuable lesson learned was that with too large a dose of vaccine a negative phase occurred This question of a negative and a positive phase had rather moved people to mirth, but it was a very serious factor Further it was learned that when the infection reached a certain period bacterial products entered the blood stream from the local lesion, such auto-inoculation caused pyrexia, and again gave rise to negative and positive phases All this worked up into the formulation of some definite rules of dosage A man with few micro-organisms could be given a very large dose, but when the micro-organisms were present in large numbers the dose must be restricted very considerably The smaller the infection the larger the dose, the bigger the infection the smaller the dose When a man was auto-inoculated, like a tuberculous patient with high temperatures, very little good would probably be gained by vaccine therapy One of the most important papers on vaccine therapy had been written by Shattock and Dudgeon, who found that leucocytic efficiency had to be taken into consideration as well as the power of the serum The white blood corpuscles, if the microbes were accessible and the wound was healthy, could kill both the streptococcus and the staphylococcus But the conditions *prevailing in infections were not of this kind*, and one could not trust to phagocytosis being complete Sir Almroth Wright indicated with the aid of diagrams the results of experiments made on his own blood. He showed that when there were minimal numbers of organisms in the blood the white blood corpuscles which were controlling them might miss them and the organisms survive, when more microbes were put in, the process of killing began In addition to the organisms being killed by the white blood corpuscles, they were killed also by the serum, when inside the blood the killing was very nearly complete he thought it must have been effected by the fluids and not by the white blood corpuscles, because the latter amounted only to 2½ per cent of the blood volume

In conclusion, he addressed himself to the question as to when vaccine therapy ought to be employed Obviously it ought to be applied in incipient infections and localized infections At present, people with septic fingers and septic wounds went to the casualty department, where surgical methods were employed of opening up the wound and antiseptics were used So far as he knew, there was no casualty department using *vaccine therapy and he* humorously suggested that a decree should be issued by the Ministry of Health that vaccines be used in such case Another kind of case which awaited vaccine therapy was that of long and grave infections, these cases were treated so far as he knew only by the expectant method Those in charge did not want the responsibility of testing *vaccine therapy or immunotherapy but they were cases* which required all the skill that could possibly be brought to bear upon them

Discussion

Professor John Eyre thought that Sir Almroth Wright had placed rather too much stress on the action of the wandering leucocytes The antibodies in the serum still had their work to do in spite of the prominence now given to leucocytic action, and many of Sir Almroth Wright's experiments were explicable only on the ground of an excess of bacteriolysin as well as an excess of leucocytes In pneumonia, although the phagocytic power of leucocytes was increased, the large volume of antibody (pneumolysin) occurred in the blood stream after the leucocytes had *apparently been destroyed, the crisis then ensued* and the condition improved

Dr H H Mills, speaking as a general physician said that an increased number of people came in the autumn or beginning of winter for a dose of anticatarrhal vaccine Questions of minute pathology were, of course impossible for a general physician, but the method he had adopted was one which was suggested to him by Lord Balfour who took a very great interest in medicine—namely to use a mixed vaccine, so that one or other constituent might possibly hit the "bull's eye" The fact that people came regularly for this anticatarrhal vaccine was he thought some evidence that it had value The question of localizing the particular organism was often very difficult but from the clinical point of view this work was only in its beginning, and a therapeutic agent most valuable from the general physician's point of view might emerge

Dr Geoffrey Marshall remarked that vaccines had come to be used on an enormous scale, there was no doubt that the absence of enteric fever must be attributed to vaccine inoculation Most clinicians believed in their use not only in prophylaxis, but in combating localized infections, such as boils Vaccines had also been used largely in the treatment of toxaemic disease Their employment in such a condition as pulmonary tuberculosis had waxed and waned, on the whole, the evidence of the value of tuberculin in this regard was very dubious, and he believed the same could be said of vaccine treatment in all toxaemic diseases He personally thought that tuberculin had been tried, and had failed, this was borne out by the fact that there were, he believed, something like fifty-seven different varieties of tuberculin, but in prophylaxis the value of vaccines was unquestionable

Mr Harold Dodd asked for an opinion as to what help could be afforded by vaccine therapy in such an anxious and frequent case as that of a pricked finger with septicaemia following He had found difficulty in knowing when to apply the different agents He had seen mercurochrome give very good results in some cases of infection

Dr C W Buckley said he had used an anticatarrhal vaccine, prepared in St Mary's Hospital laboratories, it had seemed to him in a given patient to yield at first a good result The patient came back for another inoculation the second winter, which was perhaps less effective, but on the third occasion the inoculation seemed to set up a negative phase, and the vaccine appeared to be valueless The same experience had occurred in the case of boils, some patients were specially susceptible to that kind of infection, and he had treated them by inoculation with good results On the second outbreak the inoculation was less effective, and on the third, which might occur five or six years after the first, the vaccine appeared to have no value He had found the same order of results follow the injection of manganese He had been using vaccines for infective arthritis, the custom, when he started this treatment, was to give very large initial doses, 5,000,000 or more, and the results were variable, and not very convincing But after watching these cases in hospital, he gradually got to the stage at which he started with quite a small dose of 500,000, and found the results much better

Sir William Willcox maintained that the work which Sir Almroth Wright had done had opened up a new field in medicine Largely in consequence of it, a number of diseases had come to be looked upon really as symptoms—as evidence of some toxic condition in the body It was very largely due to Wright's work that the view of medicine in this country had changed so enormously during the past twenty years There were certain conditions in which the body was sensitized, and in which vaccines should not be used One of these was exophthalmic goitre, where serious results might follow from the giving of vaccines Gout was another example The utmost care should be taken with regard to the use of vaccines in asthma He thought it might be accepted that vaccines had a profoundly beneficial value in prophylaxis, the statistics for typhoid fever, plague, and cholera proved that One very important thing to remember before using vaccines in any case of illness was to discover any focus of infection in the body where organisms might be lying, which focus was not readily accessible to these bactericidal fluids If there was such a focus present, the vaccines would do no good at all He never attempted to use a vaccine in arthritis unless a most complete routine examination had been made for the presence of any focus of infection in the body He required to be satisfied, not only by laboratory experiments, but by the experience of his colleagues in charge of nose and throat cases, or dental cases, or gynaecological cases, that there was no localized focus After any focus of infection had been dealt with, vaccines did good He began generally with a small dose (250,000) until he found whether the patient could tolerate bigger doses It was very easy to overdose patients and make them worse

Mr E B Waggett asked whether in a case of chronic focal infection there was any value in using vaccines before operation His own feeling was that it was better to get rid of the focal sepsis first He had seen a serious case of dental sepsis, with certain mental effects, in which a minute dose of vaccine precipitated a great mental disturbance That was before the extraction of the teeth; three or four weeks later the teeth were extracted without any ill effect

Professor A Fleming discussed the subject of vaccines against colds A large group of people did not catch colds except once in a while, these were very well immunized as it was, and it seemed a pity to give them vaccines The second group, not an inconsiderable one, consisted of people with chronic infections of the respiratory tract, sometimes what they called a cold was merely an exacerbation of the existing infection, and that type of patient might be inoculated There was a third group in whom no chronic infection could be found, but who were still subject to colds, there again it was possible to increase their immunity so that colds occurred less frequently Naturally, complete immunity was not forthcoming There was considerable evidence indicating that the common cold was caused by a filter-passing organism, and that the organisms found in colds were secondary, so that vaccination was being conducted only against the secondary infection

Dr Walter Broadbent said that he never gave these vaccines against colds to patients before 5 o'clock in the afternoon, because he hoped that thus the negative phase would develop when the patient was in bed Some disasters had occurred when the vaccines were given in the morning and the patients had gone out in the evening

Mr Zachary Cope commented on the use of vaccines from the point of view of the surgeon, an incision was one of the most valuable methods of getting rid of an infection In very many parts of the body the products of bacterial infection accumulated, and very frequently, if they were let out, the greatest good resulted He asked what vaccine should be given in a particular case It was bound to be a method of trial and error when there were many micro-organisms at work He did not think Sir Almroth Wright would countenance trial and error by the clinician who was not at work in the laboratory, but since there was a non-specific immunization as well as a specific immunization, it would be interesting to know whether they were justified in giving any vaccine for any disease, and to know also what amount was specific and what amount non-specific Many practitioners used protein therapy to cure various conditions The question of antiseptics which Sir Almroth Wright had raised was a very big one Surgeons never injected carbolic acid into the blood, nor would dream of doing it, but there were many now who said that mercurochrome and other substances were really valuable in some of these diseases If they were valuable, they ought to be used, he himself had not employed them because he was awaiting Sir Almroth Wright's opinion

The President (Dr R A Young) shared Dr Geoffrey Marshall's fear of tuberculin in medical cases, yet he was impressed with the fact that tuberculin was used by surgical colleagues in the localized forms of tuberculosis He had noted the failure of vaccines in certain respiratory infections, especially bronchial infections, and also in cases of lung abscess only incompletely drained

Sir Almroth Wright said, in reply to the point made by Dr Buckley about patients being well the first year and less well subsequently, that he could conceive of a man developing the power of dissolving microbes The sensitiveness must obviously depend in part on whether the microbe was dissolved He again laid stress on the necessity for laboratory experiment Was there any laboratory experiment in favour of mercurochrome, the virtues of which had been mentioned by one or two speakers? He thought not One speaker had said that the use of vaccines in prophylaxis was excellent, but in treatment was valueless But there were all grades between a septicaemia and a small local infection it would seem that if a vaccine was good for prophylaxis it must be good for small local infections also A remark about Koch led Sir Almroth Wright to observe that "Koch was a very great man, but about the worst clinician—the worst doctor—it was possible to conceive"

TREATMENT OF APPENDICITIS

At the opening meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland the president, Mr R Atkinson Stoney, read a paper on appendicitis and its treatment based on a series of 209 cases operated on during the last 6½ years

Mr Stoney said that these cases were consecutive and unchosen, all the patients seen being operated on The conditions were as follows chronic or clapping 64 (30 per cent) simple acute, 84 (40 per cent), gangrenous 17 (8 per cent), abscess, 19 (9 per cent) perforation or abscess with peritonitis, 7 (3 per cent) very acute (frequently gangrenous) with peritonitis 18 (9 per cent) In the last two categories, by peritonitis was meant generalized peritonitis This did not imply necessarily pus present throughout the whole peritoneal cavity fortunately a rare condition but pus or turbid and usually foul smelling fluid lying free in the peritoneal cavity without adhesions or localization Four patients had died two having very acute peritonitis and one a perforation or abscess with peritonitis These three patients were extremely ill with high temperature rapid pulse, and cyanosis they were moribund at the time of operation and died within a few hours The fourth patient, with an abscess did well for a few days but died on the seventh day owing to *broncho-pneumonia By incision through* the outer border of the rectus the use of tube drainage and of modified bipp (iodoform 2 bismuth 1, and soft vaseline 15 parts), danger of spreading the infection is prevented in all cases where there is infection outside the appendix, these procedures being associated with careful packing off of the general peritoneal cavity as the first step after opening the peritoneum Abdominal complications such as paralytic ileus mechanical obstruction, pylephlebitis, subphrenic abscess, and haemorrhage were avoided The only complications in this series comprised a case of pelvic abscess where a pelvic drain was not used and another of persistent sinus where the appendix could not be removed In only six other cases was the appendix left behind, these were all abscess cases The occurrence of enlarged superficial veins in the right iliac fossa was noticed several times, they were always accompanied by the presence of pus either forming or having formed in the neighbourhood of the appendix

Sir William Wheeler thanked the president for having presented definite figures with regard to results Authors had often claimed good results but on close inquiry it was frequently found that the cases had not been accurately followed up He emphasized the pitfalls surrounding acute appendicitis in young children Subacute appendicitis had arisen in one of his cases recently in a young child with threadworms and it should be recollected that thread worms predisposed to definite attacks of catarrhal appendicitis Sir William Wheeler referred to a case of typical cyclical vomiting in a boy aged 10, in whom removal of the appendix brought about a cure He pointed out that in acute cases complicating pregnancy there was a mortality of 77 per cent, according to J B Murphy He had operated on several such cases, and found that the omentum and coils of small intestine were pushed away by the uterus, and there was little chance of suppuration becoming localized The distended veins appeared to invite thrombophlebitis For some time past he had been using the transverse incision for appendicectomy but the incision was dictated by the individual case He recommended a thorough understanding of what Murphy described as offensive and non-offensive pus this, in his opinion, assisted in deciding the question of drainage or non-drainage

Mr Seton Pringle expressed himself as strongly in favour of immediate operation in almost all cases of acute appendicitis He did not consider that the statistics put forward in favour of procrastination were conclusive Some years ago he had analysed the results of 121 acute cases operated on during a period of four years Of these, nine or four were drained so that in the number at least, there was infection not confined to the appendix Of these patients only four had died and the average stay in hospital of the survivors was twenty-eight days Mr Pringle objected strongly to a "time-table" for appendicitis It was not right, in his view, to talk of first second third, and fourth day appendicitis, since the pathological process varied so greatly He classified his cases as early middle and late, he operated on all early cases and on all middle cases immediately, except in those rare instances in which the condition was obviously subsiding As regards late cases, he advocated immediate operation in peritonitis, but frequently postponed operation for a few hours in cases of localized abscess He believed all children should be operated on immediately the diagnosis was made

Mr J L Keegan thought that in difficult cases the most satisfactory incision was a vertical one on the outer side of the rectus, drainage could be reduced to a minimum by a careful toilet of the peritoneum The president's results following the use of bipp were very satisfactory but he personally felt that the use of iodoform in the abdomen was questionable

Dr T G Moorhead said he had been present at many operations in which chronic appendicitis had been diagnosed Sometimes adhesions or other signs of inflammation were present, but not infrequently the appendix appeared normal except that it was either longer or shorter than the average Was an appendix abnormal merely because of unusual length or because it contained faecal matter? If any advance in diagnosis was to be made, it would be necessary to have a definite statement as to what was abnormal in the appendix The symptoms should be carefully correlated with the condition found *and if this was done in a large series of cases, fewer* operations would be performed merely for mild recurrent pain in the right iliac fossa

Mr W Doolin declared that he would never introduce bipp into the abdominal cavity, since he was convinced of the defensive power of the peritoneum if left to itself He thought the Ochsner treatment an extremely dangerous one to teach to students He referred to the difficulty of operating in cases of pregnancy, especially during the last two months, the operative mortality in such cases was about 30 per cent and the foetal mortality over 50 per cent In cases of bad suppurative appendicitis he had recently been injecting a 10 per cent solution of mercurochrome into the bowel in none of these had it been necessary to perform a subsequent entero tomy

Mr C J Macauley remarked that apart from paralytic ileus the mortality from acute appendicitis would be almost negligible Some patients survived enterostomy and some did not, but so many got well spontaneously that it was hard to know whether to employ entero tomy or not Secondary enterostomy was often undertaken too late Mr A A McConnell stated that in a series of 100 cases most of which were emergencies the mortality was 7 per cent this was considerably higher than that which the president had reported In these 100 cases there had not been one in which infection of the abdominal wall had occurred and he believed that such infection was extremely rare He thought that some so-called residual abscesses were really pelvic abscesses which had been overlooked

Mr F J Henry referred to the importance of excluding the *small intestine from the operative field and* said he always made a gridiron incision when operating on male patients Appendicitis in the aged was a very insidious disease He had recently seen two patients in whom a condition was found which rendered it difficult to say whether one was dealing with a leaking carcinoma or an appendix abscess Both made uneventful recovery and he had no doubt, were cases of quiet appendicitis He thought that patients with chronic pain in the right iliac fossa should not be operated on without great reluctance, and only after a complete examination Chronic appendicitis *per se* was an extremely rare disease when an operation for it was undertaken a complete laparotomy should be performed

The President, in reply agreed that the difficulty of diagnosis in children was very great the danger of operation was also great, chiefly owing to the fact that children had little omentum In his series he had not had one case of paralytic ileus He did not like injecting fluid into the abdomen unless it came out and therefore never used a syringe till a week after an operation

Reviews.

SURGICAL DIAGNOSIS

IN his introduction to the three volumes on *Surgical Diagnosis*[1] by American authors, of which he is the editor, Dr EVARTS GRAHAM strikes a note of truth when he says, "The remarkable developments in the art of operative surgery have not been an unalloyed blessing to humanity, for, because of the very fact that much of the danger and fear has been removed from surgical operations, the new spectre of unnecessary and unwise operations has appeared." This, combined with the general decentralization of surgery, has resulted in the unfortunate fact that often patients are operated upon with too little preliminary study. Dr Graham adopts these arguments as a justification for the appearance of a set of new and comprehensive volumes dealing with a subject that has already, in this country at least, been rather adequately covered. Nevertheless, we feel that these particular books are welcome, although their appeal lies much more in their general excellence and thoroughness of presentation than in the nature of their subject matter.

The list of contributors is an imposing one, containing as it does the names of the leading American surgeons in each branch of the subject, the opinions expressed can therefore be accepted without hesitation as authoritative. In the general scheme a very large amount of attention has been paid to pathology, and, indeed, surgical applied pathology more nearly describes the scope of the work than its actual title. This is all to the good, for, if skilfully handled, pathology should be capable of explaining the symptomatology, and so lead to the diagnosis. As a whole, the books are very informative, "up to the minute," and well written, and the balance between the sections is properly preserved.

Of the individual sections, that on diseases of the liver and gall-bladder has, very appropriately, been written by Dr Graham himself, and, despite the fact that his great reputation upon this subject might have led to an excusable overweighting, it is particularly noticeable that here, as elsewhere, a due concentration, albeit combined with thoroughness, has been maintained, this section, indeed, forms one of the best summaries of the present state of our knowledge of liver function and its tests, and of gall-bladder pathology, that we have yet seen. The section upon infections of the hand is by Kanavel, than whom no better exponent of the subject could be found. Lesions of the spinal column are in the capable hands of Hibbs. Adson of the Mayo Clinic writes on diseases of the spinal cord, a section that is, if such a thing be possible, even better illustrated than the rest of the book. The chapter on the skull, and the brain and its membranes is by Dandy, here again no undue prominence is given to the problems of hydrocephalus, which the author's well-known work upon the subject might have led us to anticipate. One very stimulating chapter is devoted to a discussion of the uses of surgery in conditions involving the sympathetic nervous system, and, strangely enough, another small one to osteopsathyrosis.

It is impossible, however, in a short review, to take each section separately, they are of a uniform excellence, and there is little to criticize in any of them. A bibliography at the end of each chapter is sufficiently extensive to guide those who wish to refer to particular articles, while in addition to the usual index at the end of each volume there is a separate small index volume, which should save much annoyance when references have to be searched for. The publishers have also very wisely placed a small contents table on the covers, a plan which might well be adopted in all multi-volume works. We are used to copious illustrations in books of American origin, and these volumes are no exception, photographs and radiograms, as well as the simple line drawings, have reproduced well, and despite their profusion there are few, if any, redundant or meaningless illustrations. The paper is good, and the type pleasant, while the binding has the strength necessary in a book of reference. Altogether this work can be very heartily recommended, since it presents the state of modern surgical knowledge in a very fair an unbiased manner, it will especially appeal to those who believe that surgery is a science as well as an art.

[1] *Surgical Diagnosis.* By American Authors. Edited by Evarts Ambrose Graham, M.D. Vols. i., ii., iii., and General Index. Philadelphia and London: W. B. Saunders Company. 1930. (6 × 9½; vol. i., pp. lv + 919, 668 figures; vol. ii., pp. viii + 871, 834 figures; vol. iii., pp. viii + 1014, 446 figures; Index, pp. 155. Set of three volumes and index, £7 10s.)

HAEMATOLOGY

MOST haematologists are familiar with Arneth's counts and pictures, and it is generally accepted that a "shift" to the right or left is fairly constant in different diseased states, though it cannot be regarded as specific for any one, the type of picture may supply an interesting and useful confirmatory sign, but cannot itself be regarded in any way as of special value in diagnosis. The present book is the second volume of Dr ARNETH'S *Die speziellen Blutkrankheiten*[2], the first volume has not been received. Here the author has extended his principle of qualitative analysis and classification of white corpuscles to lymphocytes, and has considered the reactions of this widely varying class of cells to different forms of leukaemia. With this, as with Arneth's previous work, it is impossible to avoid the conclusion that an arbitrary classification of cells much influenced by the personal bias of the observer must be open to serious criticism, its appearance of mathematical accuracy has no significance and may be misleading. Certainly it is a procedure that could not be usefully employed in general routine blood examination. With the best of intentions, the author has used an extensive system of abbreviations, of which the glossary is unfortunately incomplete, so that interpretation of the text and tables is often impossible. Abbreviation and elision could have been directed with advantage to the clinical histories and discussions, which are generally prolix and frequently irrelevant.

In an interesting monograph on *The Volume of the Blood and Plasma*,[3] Drs L. G. ROWNTREE and G. E. BROWN attempt to show the value of the study of the blood volume in clinical medicine, and present the results obtained by the "dye method" which they have used for over six years on more than 1,000 examinations. They claim that "by this method it is possible without injury or harm to the patient to determine the nature and extent of the changes in the volume of the plasma and blood in various diseases, and to ascertain the rôle that these changes play in the symptoms and signs of various diseases and in their course and outcome." The first part of the book is concerned with the technique of the method, and discusses impartially the nature and value and sources of errors, and the various objections which have been raised by other workers in the same field of inquiry. The authors aim at a constant routine method. They use Congo red for the dye, examinations are made in the morning following sleep, the patient supine and fasting, they make an interval of three to six minutes between injection of the dye and collection of the blood, using the same centrifuge, and spinning the same quantity of blood for thirty minutes at 3,000 revolutions a minute, they found in one series of 133 quadruplicate estimations a mean variation from the average value was only 1·5 per cent. of the total blood in the haematocrit tube. They find the method absolutely safe, and after discussing the results obtained by other methods, especially the CO method, they believe that "the dye method is the method of choice and it alone should be used." Protocols are given of estimations of blood and plasma volumes in forty-nine normal men and twenty-five normal women, the subjects are grouped as underweight, standard, and overweight, variations from the standard by more than 10 per cent. not being regarded as abnormal. The mean blood volume per kilo of body weight for all the subjects was 88·6 c.cm., in standard men the mean amount of blood

[2] *Die speziellen Blutkrankheiten.* Band II. Von Dr. Joseph Arneth. Münster i. Westf.: H. Stenderhoff. 1930. (Sup. roy. 8vo, pp. xv + 422, 2 figures. R.M.30.)

[3] *The Volume of the Blood and Plasma.* By Leonard G. Rowntree, M.D., and George E. Brown, M.D. With the technical assistance of Grace M. Roth. Mayo Clinic Monographs. Philadelphia and London: W. B. Saunders Company. 1929. (Post 8vo, pp. 219, 47 tables. 14s. net.)

per square metre of body surface was 3,410 c cm Men have 19 per cent more blood than women, but only 13 per cent more plasma—that is, the cell volume is 6 per cent larger in men than in women Estimations in children are also discussed, generally it is found that infants seem to have blood volumes too large for their weight but too small *for their body surface* The greater portion of the book deals with the application of the dye method to estimation of the blood volume and plasma volume in disease The results are interesting in themselves, and help to explain the pathological conditions and symptom observed As might be expected, wide variations of value are obtained even by the authors employing their own established method, and it is evident that much more work will be needed before sufficiently constant estimations can be made to warrant the universal adoption of the method as a routine clinical procedure

APHASIA IN CHILDREN

An interesting inquiry into the problems of aphasia is recorded by Dr A W G Ewing in a monograph entitled *Aphasia in Children*[1] Such limitation of the field of investigation has very definite advantages for, as Dr E D Adrian points out in an introduction, there are significant differences between the aphasia of adults and *children the former being due usually to a breakdown of* the machinery set up in infancy for "symbolic thinking and expression," the latter to a failure to set up this machinery In one group of congenitally aphasic children Dr Ewing was able to show, by a series of ingenious tests, that though otherwise normal in their hearing these children were unable to hear some of the higher frequencies, or to distinguish, except when specially trained to do so, one speech sound from another Other patients classed as deaf and dumb were found by these tests to have normal hearing, and with some patients having aphasia not accompanied by deafness, the data elicited by the tests indicated incomplete or arrested development of the central mechanism in the brain but apart from the use of words, normal intelligence Dr Ewing's description of the methods by which he tested these children deserves the close attention of otologists The rest of the work in which together with his own conclusions he presents a critical survey of the literature on aphasia—a remarkable achievement on the part of a non medical man—contains material of fundamental importance to neurologists and those interested in the training of children

MECHANICS OF THE CARDIOVASCULAR SYSTEM

It is difficult to understand why Dr Hauffe in his book on The Heart Pulsation and Movement of the Blood[2] should be so discursive, for his theme is simple and can be expressed in very few words His conception of cardiac rhythmicity has the merit of originality but it is possible that the present-day retreat from materialistic views on biological phenomena may suffice to hurry his theory into obscurity He thinks that we have no grounds for postulating an independent property of rhythmicity in the heart muscle the walls of the primitive vascular tubes are elastic and can be set in rhythmic pulsatile movement given certain conditions of convection currents in the yolk-sac the pulsatile movement originated in this purely mechanical way is continued in that part of the early vascular system which develops into the heart the stimuli to contraction and relaxation being furnished by the vascular pulsations This is the original contribution he makes to the mechanics of the vascular system The rest of his book describes pulsation under purely mechanical conditions and in various parts of the circulatory system The author is most interesting in his treatment of wave motion in liquids and the majority of his readers will be surprised to learn that the waves on the sea depend for their propagation on the changes of air pressure above them, he is less impressive in his treatment of the vascular system on these lines, asserting pulsation to be conditioned by certain relations of the rate of flow through elastic tubes to their diameter The most readily accessible criticism of this theory is supplied by its improbability To obtain the initial rate of flow from the yolk-sac to the embryo necessary to induce pulsation in the vascular spaces implies such a fortuitous combination of circumstances that one would be justified in congratulating a hen which hatched one chicken in her lifetime Again, if the pulsation is at any moment temporarily arrested, as by experimental vagal stimulation, how can it reappear?

In the past too much attention has been focused on the central part of the vascular system to the neglect of peripheral mechanisms, which might be in operation, but Dr Hauffe has gone to the other extreme and ascribed to the heart an inconspicuous though worthy function It would seem difficult to understand how a mechanical system of this kind could be sufficiently adaptable to the fundamental changes in working conditions which obtain when the human body has suddenly to work in the horizontal instead of the normal erect posture for it is utterly opposed to the conception we are accustomed to hold of the heart, as a pump, forcing forward more or less efficiently what blood it receives from the periphery through a variety of agents, not least of which is muscular movement, and suiting itself, by the force and the rate of its contractions, to the constantly varying conditions prevailing

RADIOLOGICAL TECHNIQUE

X-Ray Technology,[3] by H M Terrill and C T Ulrey, is a treatise on the production, measurement, and application of x rays In parts this work is highly technical but even to the reader who is not a physicist it offers a considerable amount of useful information on x-ray apparatus and its uses, and to those practising deep x ray therapy who desire to attain scientific accuracy in the measurement of the quality and quantity of the x ray stream it should prove invaluable

The eleven chapters deal in order with the properties of moving electrons x ray tubes and their practical application high voltage generation, the measurement of voltage current ionization total energy and wave length biological measurement radiography, and x ray analysis In a preface the authors state that their aim has been to present not so much the theoretical as the practical aspects of x ray measurement as encountered by all workers in the x ray laboratory This end they have attained with considerable success on practically every page the x ray worker will find useful information on everyday problem and any difficulties in the text are mitigated for him by the large number of explanatory diagrams A considerable amount of space is allotted to instrumentation and the descriptions of various pieces of apparatus are good especially those in the chapter on x ray tubes

NOTES ON BOOKS

Possession Demoniacal and Other, among Primitive Races in Antiquity the Middle Ages and Modern Times is a translation of Professor Oesterreich's work published in 1921 which is a veritable store of information on this interesting subject from the dawn of history until the present time The first of the two parts of the volume deals with the nature of the state of possession and the second and much the longer with its geographical distribution throughout the world and the age and its importance from the standpoint of religious psychology The history of religion provides many examples of possession but these fade away before the advance of a high standard of civilization The subjective state of those regarded as possessed may be one of somnambulism or on the other hand may be lucid—namely with consciousness of their condition. With the passing of belief in demoniacal possession by the souls of the dead who are no longer ha

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[1] *Aphasia in Children* By Alex W G Ewing M.A. Ph.D. With an introduction by E D Adrian M.D. F.R.C.P. F.R.S. Oxford Medical Publications London Milford Oxford University Press 1930. (Demy 8vo pp xi + 152 10s 6d net)

[2] *Herz Pulsation und Blutbewegung* Von Dr C Hauffe Mit einem Geleitwort von Geheimrat Friedr Kraus Munich and J F Lehmann 1930 (6 × 9 pp 228 6 figures M 14)

[3] *X Ray Technology The Production Measurement and Application of X Rays* By H M Terrill Ph.D. and C T Ulrey Ph.D. London Chapman and Hall 1930. (8 × 5½ pp xii + 256 173 figures 21s net)

[4] *Possession Demoniacal and Other among Primitive Races in Antiquity the Middle Ages and Modern Times* By T K Oesterreich Professor in the University of Tübingen Authorized translation by D Ibberson M.A. London Kegan Paul Trench Trubner and Co. Ltd 1930 (Med. 8vo pp x + 370 net)

become more usual The chapter on the genesis and extinction of possession shows what an important part played by belief in the devil combined with auto and hetero suggestion, and that this is why there are hardly any examples of possession among the highly educated The second part enters in great detail into the occurrence of spontaneous and of artificial possession among the different races of mankind in past and present times Among primitive peoples possession has always been a prominent feature, but it declines where Christian missions have gained such considerable influence as to free the natives from the fear of demons and their attacks on the souls of the living The section, fully annotated as elsewhere on voluntary possession among the higher civilizations, covers the ground from Graeco Roman times onwards, and ends with an account of Mrs Piper, the famous American medium, who, *simultaneously with a state of possession, presented* parapsychic phenomena and appeared to be able not only to penetrate the actual state of consciousness of others, but to reveal their past A séance which Sir Oliver Lodge held with Mrs Piper on Christmas day, 1889 is reproduced in full from the *Proceedings* of the Society for Psychical Research This valuable collection of data and source of reference closes with a short appendix on parapsychology

The Road to Buenos Ayres,[8] by M Albert Londres, a well known Paris journalist and the author of remarkable revelations on French convict settlements and penal battalions in North Africa, contains an account of the white slave traffic which no one interested in social hygiene and the history of prostitution should fail to read The book is well translated, and contains an introduction by Thomas Dreiser, who pays it the high compliment of comparing it with *Candide*, *Tartuffe*, and the *Tale of a Tub*, in "its critical, sardonic revealing and side splitting commentary on life and its meaning"

[8] *The Road to Buenos Ayres* By Albert Londres. With an Introduction by Theodore Dreiser Translated by Eric Sutton London Constable and Co, Ltd 1930 (Cr 8vo, pp xx+175 3s 6d net)

PREPARATIONS AND APPLIANCES

A NEW BED DESK

Sir Arnold Lawson, F R C S, writes

It is common knowledge that the usual methods adopted by those who wish to read and write in bed are scientifically bad and often injurious to the eyes Further, it is generally appreciated that the discomfort engendered after a time, even when well propped up by pillows, makes both reading and writing, and especially the latter, only possible for a very limited period So far as I am aware nobody has hitherto found a means of dealing effectively with the trouble In both reading and writing the chief difficulty lies in securing a steady support for the book or writing pad at a convenient angle, which must be varied according to the position of the head and shoulders when propped up on cushions or pillows In addition, so far as writing is concerned, a support is required for the right arm and hand, for writing without such support is very difficult and soon becomes extremely fatiguing

With the help of Messrs Theodore Hamblin, Ltd, of 15, Wigmore Street, I have designed a bed reading and writing desk, which does away with faulty and uncomfortable attitudes, and makes reading and writing in bed as easy as when sitting in an armchair or at a table

I hope that this desk will prove to be a very great comfort not only to invalids and to those who are of necessity confined for a period to bed, but also to that very large section of the community which habitually "reads itself to sleep"

The main feature of the design (which is simple enough) is a stout light board of suitable height and breadth, which is shaped elliptically below in order to fit into the body, the right side of the ellipse being lengthened to form a slightly curved tail, which runs away behind the body and rests with its lower edge on the bed The board thus fits the body as the patient reclines propped up by pillows, the tail of the board forming a support for the right arm of the patient This is shown quite clearly in the illustrations (Figs 1 and 2), which are from drawings of the desk in actual use The necessary support for the board is furnished in an equally simple fashion in two ways On the right side there is a double sliding arrangement, which is clamped by a screw easy to reach and to manipulate This slide regulates the angle at which the board is supported, and at the same time affords a horizontal bearing along the bed, no matter at what angle the board may be clamped, keeping the board absolutely secure and fixed On the opposite side of the board there is a non sliding support, also clamped by a screw This support projects from the board at an angle easily regulated by the patient, so that its lower end rests comfortably on the left side of the bed The object of this second support is to counteract the tendency of the board to be pushed over to the left by the pressure of the right arm when writing and to give extra stability to the board when it is supporting a book

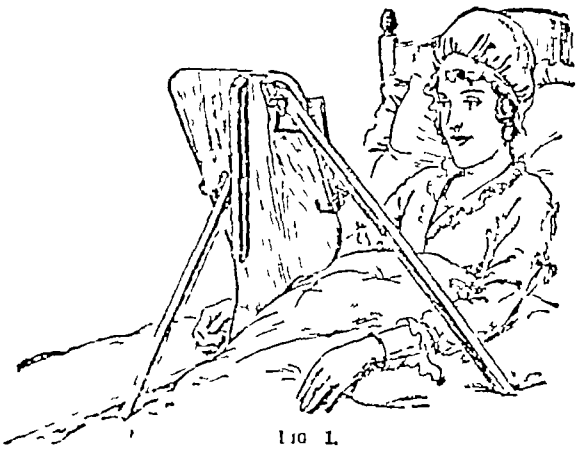


Fig 1.

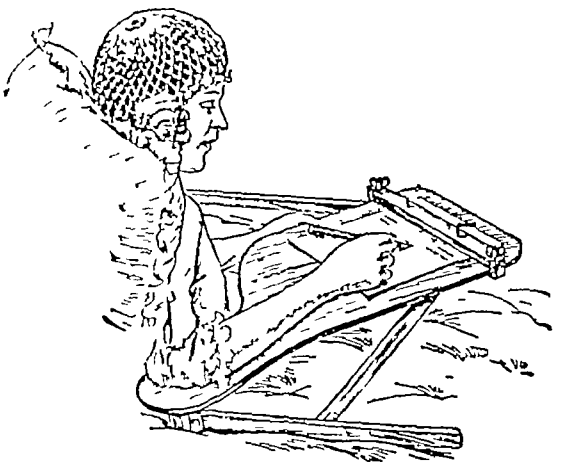


Fig 2.

An important feature is the portability of the bed desk The fact that it can be folded up flat and put away after use is a great convenience in a sick room where space is valuable, and the whole thing can be erected and folded up again by the patient with little effort Figure 3 shows the back of the desk when folded up

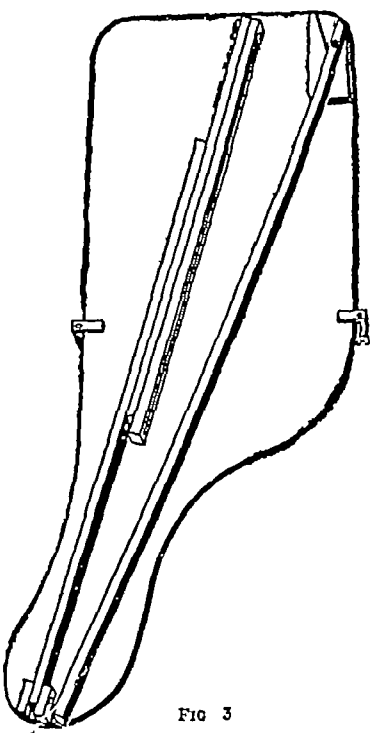


Fig 3

The bed desk has been very well made by Messrs Hamblin, who have patented it, and have registered for it the name of "The Kangaroo" Bed Desk, because it "supports itself by its tail"

*** We have tried this simple and ingenious appliance, in bed and on a couch, and in our opinion it fulfils the claims made by the inventor Both for reading and for writing Sir Arnold Lawson's bed desk should prove a boon to invalids The price, we understand, is 18s 6d.—Ed, *B M J*

WOODSIDE NERVE HOSPITAL

THE NEW ST LUKE'S

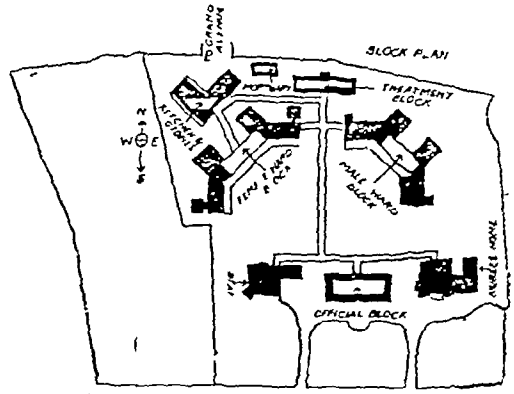
Some of the old foundations, established for the care and shelter of the mentally disordered, are showing in these days a ready adaptability to the modern spirit in psychiatric medicine. Only a few months ago we described the removal of Bethlem Hospital into rural Kent where its new buildings incorporate the most humane and progressive ideas, and now it is the turn of St Luke's, which was founded in the middle of the eighteenth century to take in some of the poor wretches for whom Bethlem, then standing on the other side of Moorfields, could not find accommodation. Later on St Luke's removed into Old Street, a site which it had to relinquish in 1916, and since then its work has been in effect suspended until certain new developments should be complete, one in Buckinghamshire and another in Highgate, whereby this charity, still maintaining its traditions and ideals, could re-interpret them in the light of modern ideas of care and treatment. One of these developments is the planning on the northern heights of London of a nursing home and clinic for functional nervous and kindred disorders. During the past two years there has been quietly building on Muswell Hill, overlooking Highgate Wood, and not more than half an hour from the city, a private hospital where it is intended to apply the most rational and scientific treatment, in the hands of a specially trained medical and nursing staff. The Woodside Nerve Hospital has been completed without any blare of trumpets or public appeal. The committee of governors of St Luke's, headed by Lord Blanesburgh have proceeded on the unusual lines of "no publicity until there is something to show."

Development of the Scheme

It will be recalled that it was under the auspices of St Luke's seven years ago that two small wards for the treatment of functional disorders of the nervous system were established in the Neurological Department of the Middlesex Hospital. The patients in these wards have been treated by the medical staff of St Luke's and attended by St Luke's nurses. This departure was viewed at first doubtfully in some quarters and many looked askance at any association of cases which might be mental or borderline with a general hospital. But although the experiment has been amply justified, the inadequacy, or, indeed, the absence, of facilities for treatment has, however, remained, and there must be very many cases, beginning as perfectly curable nervous disorder, which, in the absence of appropriate treatment, have gone on gradually to a hopeless condition. The new hospital, accommodating 50 patients, is to be devoted exclusively to treatment of these disorders as far as possible in their early stages, and it is felt that patients of the educated class will especially appreciate the value of the rest and recreation here procurable. It is not intended to admit cases of insanity or mental deficiency or cases of a kind likely to cause annoyance to other patients.

Structure of the New Hospital

Our representative was taken round the new hospital by Dr R. Withers Gilmour, physician in charge and lecturer in psychiatry at Middlesex Hospital, whose influence is shown in the many original details of design and arrangement. Privacy, a pleasant situation, and spacious grounds have been provided, and although London building is creeping up these northern hills hardly anywhere is the institution overlooked by neighbouring houses. The institution consists, in the first place of an administrative block, a charming piece of modern architecture having on one side an older house which is to serve as a nurses' home and on the other a house which will furnish quarters for the matron, for the deputy physician in charge and for the domestic staff. The administrative block consists of several offices, a handsome committee room and also the nucleus of an out-patient department. Beyond are the male and female ward blocks arranged so as to form almost a semicircle facing south and beyond these again is the treatment block, a two-floor building, and another block serving as kitchen and stores. The chief architectural feature which catches the eye in the general view is the long covered ways connecting the buildings. These with their red tiles are very cheerful cloisters indeed. Each ward block consists of two floors, and each floor, on the women's side, comprises two four-bed wards and seven single-bed wards, and on the men's side, two three-bed wards and four single-bed wards. Thus thirty women patients and twenty men can be accommodated. On each floor there is a private and a general sitting room, a dining room, and other apartments including examination and isolation rooms. Every ward, upstairs and down, opens directly on to covered verandahs, wide enough to leave ample space for walking even when the beds have all been wheeled out into the sunshine. Hot and cold water is laid on to every room, the provision of baths is abundant, and many little devices with regard to furnishing, lighting, and fitment have been thought out in a way to add to the patients' comfort and to the convenient running of the institution.



WOODSIDE NERVE HOSPITAL, MUSWELL HILL.

The treatment block contains provision for hydrotherapy, massage, light treatment, and electrotherapy, including diathermy. All the appliances are of the latest type. In this block also is a dispensary, a room for dental surgery, an x-ray room, with dark room attached and a room which could be used for "occupation therapy." Here also are three laboratories, well lighted and with good bench accommodation, where routine pathological testing is done, and where a certain amount of original research may be carried out. The kitchen block, again is spacious and adequate and underneath are the boilers which operate the low pressure hot-water heating system and the domestic supply to all the buildings.

Financial Provision

St Luke's Foundation has borne the capital expenditure of building and equipment, but the current expenses of running the institution must be met by the patients themselves according to their means. The average charge cannot yet be precisely estimated. A weekly minimum of 5½ guineas is tentatively mentioned (apart from special charges for private rooms) to be paid by those whose circumstances appear to warrant it, but at the same time every effort will be made, by means of reductions granted at the discretion of the committee of governors, to make the hospital available to the less fortunate and any information or expression of opinion on this point by the patient's doctor will strengthen the application and avoid delay. Practitioners will be welcomed if they desire to visit their patients at the hospital and carry on their treatment there in consultation with the physician in charge, the fees for such attendance being a matter of private arrangement between the doctor and the patient. In addition to the physician in charge (Dr Gilmour) and the deputy physician (Dr Lawrie), there are a dental surgeon and a radiologist and the institution has a distinguished honorary consulting and visiting staff.

The hospital is to have the honour of a royal opening by H.H. Princess Helena Victoria, on November 6th.

British Medical Journal.

SATURDAY, NOVEMBER 1ST, 1930

THE PANEL CONFERENCE

The annual conference of Local Medical and Panel Committees was held last week in the Great Hall of the British Medical Association, and a full account of the proceedings will be found in the *Supplement* to our present issue. These proceedings were shorter than usual, and the agenda comprised a much smaller number of items relating to what may be regarded as minor technical matters than has generally been the case. Two questions of very great importance, however, came under discussion—namely, the method by which insured persons are to be permitted to change their doctor, and the suggested extension of the national health insurance system to include the dependants of insured persons. Both these questions are, of course, of great interest to most members of the medical profession, and not merely to those who are engaged in the present insurance service. They should therefore be understood and considered by all.

In the earlier years of national health insurance, apart from the death, retirement, or removal of a practitioner, or the departure of the insured person to another district, the insured person could change his doctor only at fixed dates, and then only by giving a month's notice. If change at any other time were desired the consent of the practitioner on whose list the patient's name appeared had to be obtained. Later, on strong representations from the Insurance Acts Committee on behalf of the profession, these restrictions were abolished, and free choice of doctor at any time was allowed by the simple process of presenting the insured person's "medical card" to another practitioner for acceptance. Some three years ago, again, this method was modified by the interposition of a fortnight's delay. The insured person has now to give that short notice to the Insurance Committee of his intention to make a change. The notice may be given at any time, and the change may be made without notice if the consent of the attending practitioner be obtained. It is not clear that this modification has effected any marked alteration in the number of changes of doctor made by insured persons, or that it has had any other practical advantage. The Minister of Health is now suggesting, at the behest of the Consultative Council of Approved Societies, and of certain administrative departments, that there should be a return to the earliest method, the fixed dates being the first day of each quarter, and the notice required being one month.

The ostensible reasons leading up to this suggestion are that the approved societies have been naturally anxious about the greatly increased claims for cash sickness benefit which have been made over the last four or five years, that they have formed the opinion (erroneously, we believe) that a material element in bringing about this increase has been a certain slackness of certification on the part of doctors who feared lest by refusing certificates of incapacity they might lose their patients, and the families of such patients, to other practitioners who would view the position less strictly, and that a considerable restriction of the patient's right to make a change would remedy this state of affairs. The Insurance Acts Committee and the Panel Conference, while wishing to give full consideration and weight to the Minister's suggestion, are quite unable to accept either the premisses or the conclusion of this argument. They reply that it is of great importance, in the interest of insured persons, that the relation between doctor and patient in insurance practice should be differentiated as little as possible from that which obtains in private practice, that a return to something like the old conditions would tend to create a vested interest in patients and to make less easy the establishment of younger practitioners in practice, and that it would fail of its object in that practitioners led into any slackness of certification by the alleged motive form but an insignificant element in connexion with claims for sickness benefit, and that in so far as they are a factor at all their conduct would not be likely to change because the consummation of their fears would be made slightly less imminent. In this discussion logic appears to be entirely on the one side. It is stated, moreover, that there are definite signs, at least in some areas, that the prevalence of incapacitating illness leading to sickness benefit claims is now less than it has been for some years. This would seem to indicate the desirability for a pause before the panic imposition of a more than doubtful and possibly dangerous remedy.

With regard to the other question—the inclusion of the dependants of insured persons in a national health insurance scheme—it is important that this should be viewed in its right perspective and proportions. What the Conference and other bodies of the profession have stated is not that "the time is now ripe for the inclusion of the dependants of insured persons," but that the time is ripe for the medical profession to ask for such inclusion. The appropriate time for such extention of medical benefit must naturally be conditioned by the exigencies of politics and of finance, and therefore does not at present seem likely to be immediate. This cannot be for the medical profession to determine, but what is at once opportune and significant is that the profession should now draw attention to the need for the fuller provision of medical advice and treatment for these persons, and should urge that this provision ought to be made through the machinery of a compulsory contributory insurance scheme, and not by any other and less satisfactory method, and that it should take its appropriate place as part of a carefully considered plan for giving a complete medical service on a national scale to those members of the community who are not in a position to provide independently what is needed. Suggestions for a general medical service for the nation on these lines have recently been made by the British Medical Association, and, with few exceptions, have been received very favourably by those who are interested in the matter. It is important to note that all the really representative bodies of the organized medical profession have now emphatically endorsed the opinion that the need is real, that the principles on which action should proceed are clear, and that, by whatever steps and in whatever order such action is taken, the final plan of full provision should be always in mind, so that nothing of a tentative or temporary nature should be done in such a way as to militate against or make more difficult the proper ultimate development.

"TONSILS AND ADENOIDS"

An elaborate survey of two large groups of children has been made by Dr Albert Kaiser, and the results were published a few weeks ago in the *Journal of the American Medical Association*.[1] The children in one group had been submitted to tonsillectomy and in the other the operation had been recommended but not performed. The second group therefore affords a fairly reliable control for comparing the late effects, and the numbers are large enough to give accurate percentages and eliminate the errors due to chance in a small series of cases. Each group contained 2 200 children. The paper is interesting not merely on account of the statistical results obtained, which reveal nothing very startling, but more because it shows a realization that when no less than 50 per cent of the children in some communities have been submitted to this operation it is time to pause and take stock of the position. The point which the craze for this operation has reached is shown by the number of perfectly healthy persons who present themselves at hospital because they are unable to obtain employment with their tonsils *in situ*. It appears from the remarks of Dr Kaiser in closing the discussion which followed his paper that this manifestation of officious zeal is common also in the United States. It would not be disputed by any unprejudiced judge that in individual cases, well selected, there is no minor operation which confers more benefit by improving the general health and by relieving the child from such recurrent infections such as tonsillitis, cervical adenitis and otitis media. Such an admission, however, implies that these operations are performed only when really necessary, and are based on reasonable indications.

If statistics have any value at all, the figures of Dr Kaiser show that over a period of ten years, some of the benefits of the operation become less evident after the lapse of a few years from the date of its performance. They show however that during these ten years the children who have had their tonsils removed are less liable to sore throats, to scarlet fever, to diphtheria, to cervical adenitis and to first attacks of rheumatism. Acute coryza and otitis media are lessened in incidence for the first three years after the operation, but over a period of ten years are not much influenced, and recurrent attacks of rheumatism are not improved. These results show that in a large group of well selected cases the benefits which are familiar in individual cases maintain a fair average and although the indications are not definitely stated it may be assumed that they are fairly well known. There is however a group of cases in which the operation in children does not yield the satisfactory result expected and there is another point which the investigations of Dr Kaiser touch upon but leave unsettled. They do not show how much of the good resulting from the operation is due to removal of adenoids and how much to removal of tonsils, though they do show that incomplete tonsillectomies do not offer the same protection as complete removal. It is a frequent observation that when tonsils and adenoids are removed in small children under 5 years of age there is a tendency for the adenoids to recur during the next few years, and a secondary removal may be required. In these children the symptoms of nasal obstruction, the recurrent colds and otitis media are chiefly due to adenoids and whatever the function of this lymphoid tissue may be at this period of life, there can be no doubt that the child has need of it. In consequence, if there is a complete tonsillectomy as well as removal of adenoids, the lack of this tissue leads to a recurrence of adenoids, whereas if harmless tonsils are left they protect the child against this deficiency and against the regrowth of adenoids.

The conclusion seems to be that the pendulum is swinging towards a stricter selection of cases on the lines indicated by Dr Kaiser and that in small children removal of adenoids alone is usually sufficient. In a good proportion of such children the tonsils will not require to be removed at all, but when it is necessary a better result is obtained by postponing tonsillectomy until the child is bigger. The evil resulting from incomplete tonsillectomies performed in young children has been conspicuous in recent years, and difficult secondary dissections are frequent. Such patients would have been better served by a simple removal of adenoids in the first instance and saved from some slight hazard.

[1] *Journ. Amer. Med. Assoc.* September 20th 1930. Results of Tonsillectomy. A Comparative Study of Twenty-two Hundred Tonsillectomized Children with an Equal Number of Controls Three and Ten Years after Operation. By Albert D. Kaiser, M.D.

THE SLEEP HABIT IN INFANCY

DR H. C. CAMERON'S admirable paper on the disorders of sleep in childhood, delivered at the Winnipeg Annual Meeting, is printed in our opening pages this week. Nowadays, the value of training in the development of the placid infant is fully appreciated but often a conscientious mother fails in the management of her child, while a more casual or stupid woman will get better results. The reason is, of course, that the more intelligent type of woman who has attempted to qualify herself for motherhood by assimilating modern theories of child management, is apt to be over anxious in her efforts to apply them as Dr Cameron points out her agitation, transmitted to the child, may react unfavourably upon it and a vicious circle is rapidly established, which may persist indefinitely. His suggestion that the best place for the infant is in contact with the mother's back, so that her face and eyes are directed away from the child, and her hands can be occupied with other activities, has unfortunately a limited application. The hours during which a badly trained infant may indulge in crying and insomnia are often in the early evening, when the mother has turned her attention to other aspects of her life. To retire to the nursery to sit in close proximity to the child is to teach him never to sleep unless his mother is present. It would seem that a better plan lies in training the mother. It is surprising how few are the women who can treat their first child with tranquillity yet the mother is presumably an intelligent and reasonable person, and can be trained much more rapidly than a previously mismanaged infant. Schools of motherhood are sometimes advocated and if they ever come into existence their motto should be "Æquanimitas." Dr Cameron comments on the absence of restlessness among infants in institutions here they receive all the care necessary without the constant stimulation of maternal anxiety. He insists that it is through the mother and the nurse that influence can be brought to bear on the restless child, the responsibility of course must lie primarily with the maternity nurse. It is not enough that she should inspire confidence in her own work. She must be capable of transmitting self-confidence to the mother, or her very efficiency will make her departure at the end of the puerperium a more serious break. For mothers appreciate the essential robustness of a baby the mere process of being born—of being thrust forcibly through a narrow bony channel—is one to which few would care to subject a small infant. Yet Nature does not

hesitate to enforce it, and the child, far from being injured, in the majority of cases is not even ill If a mother can be made to realize that a normal infant is surprisingly difficult to kill, she will enter on the experiment of rearing one with fewer misgivings The need of drugs for the well-managed infant is rare, but where a habit of restlessness has been formed Dr Cameron advises the use of chloral until the sleep rhythm has been restored He reminds us, however, that persistent crying may have a foundation in physical discomfort It is not at all easy for the inexperienced mother to distinguish between colic and choler in her child Here again the nurse is the important tutor, she must teach her patient to look for signs of illness in the infant, other than crying, to observe the stools, to be on the watch for aerophagy, and to notice catarrhal obstruction of the nose, which may interfere with suction while taking the breast The few cases in which unrest is the result of persistent pain from such conditions as otitis media syphilitic periostitis, and the subperiosteal haemorrhages of scurvy call for the early intervention of the doctor, but if the mother has trained herself to habitual calmness she is more likely to detect a serious condition early, and less liable to set up the cry of "wolf" when the child is in no danger

A "SCHOOL OF HEALTH'

In speaking to a vote of thanks to Professor A W Sheen for his address from the chair of the Hunterian Society last week, Dr W Langdon Brown conjectured that somewhere about 2030 A D a diligent student of the past would discover that the "school of health," a creation of the early twenty-first century, had been forecast a hundred years earlier by an eminent surgeon of Cardiff The "school of health," as Professor Sheen described it in his forward-looking address, would be an entirely new feature in the life of the community, a great self-contained organization devoting itself to research and practice in all matters pertaining to health, demonstrating every measure for the promotion of fitness and disease prevention, and creating by the evidence of its work a health conscience in the community He first pointed out the dire toll taken by disease and unfitness The general lowering of infant mortality had involved the survival of defectives, no steps were taken to prevent their propagation, and this class did not practise birth control There was an enormous increase in poor relief, itself an index of unfitness Unfortunately, morbidity statistics which might be compiled from national health insurance records were not available, but there was undoubtedly a great increase in claims for sickness benefit Proceeding to describe in greater particularity the "school of health," Professor Sheen said that it would be a voluntary institution, free from outside control He saw it situated in a great health park on the uplands of some southern county, its buildings perfectly designed for its purpose, but allowing of ready expansion and convertibility The staff would be chiefly whole-time people, including not only members of the medical profession, but eugenists, sociologists, anthropologists, chemists, physicists, architects, engineers, experts in child study and education, all working for human welfare in their several provinces The work of the school he discussed under several headings One of the departments, as he saw it, would be entrusted with the furtherance of eugenic marriage by way of education of the individual Part of the school's work would be to look after expectant mothers and furnish the necessary education in infant care and welfare Child life and education would be one of the great interests of the school, for in the speaker's view measures of health and education were never to be dissociated, and the two Ministries might well be rolled into one A directed child education would be one of the functions of the school, and he strongly maintained that such education could be directed to vocation without any sacrifice of its value in forming character The school would contain a health clinic, as distinct from a clinic for disease, but curative medicine would also have its place, and there would be an associated hospital, but a hospital of a new kind In selecting some of its patients preference would be given to those in the early stages of a malady—that is to say, those who were dealt with in the out-patient rooms of the ordinary hospital would be in-patients here The hospital also would be a research institution, and the first question asked about each case would be, "Why is it, and how can it be prevented?" A psychiatric clinic would form another branch He gave an impressive list of subjects which the school would study environmental conditions, the distribution of population, the lay-out of estates urban and rural life, clothing, climate, and air, sanitary services, food, drink, and drugs, occupational and recreational activities, psychology, and many more The school would be a kind of health clearing-house, a place where health information would be received from every source, new things sifted, proved, accepted, or rejected It would have the greatest health library in the world Members of its staff would travel far and wide to give and receive information The school would receive students, again eugenically selected, none being able to claim admission by any right Some of them would pay their way, others would pay nothing, and yet others would be paid The first students would be graduates, but later he hoped that ordinary medical students would learn here the great lessons of preventive medicine It was almost pathetic to reflect to how small an extent the resolution of the General Medical Council that training in preventive medicine should permeate the whole curriculum had been fulfilled His school would involve no interference with present-day medical training in this country, which he regarded as the best in the world But he gave an outline of the ideal curriculum, in which, for one thing, the study of structure and function in health would go on side by side with their study in disease Human physiology and anatomy would be studied as applied subjects, and their teachers would be men with a high degree of clinical and pathological knowledge, keeping in touch with modern advances Discussion was called for at the close of the address, but little or none was forthcoming, the members present probably feeling that after Professor Sheen's eloquence any small talk would be an anticlimax

IMMUNIZATION AGAINST SNAKE VENOMS

The report for 1929–30 of the Walter and Eliza Hall Institute of Research in Pathology and Medicine, Melbourne, records further progress in the investigation of Australian snake venoms, of which we gave some account on December 7th, 1929 (p 1071) In the experimental production of passive immunity to snake venoms it has been found that monovalent antivenenes are strictly specific, except with the venoms of species closely allied to those used in the preparation of the antivenenes, though even here the degree of non-specificity is very slight With regard to active immunity it has seemed probable that specificity would be less strict, and work has been carried out at the Institute to throw light on this question Six groups of guinea-pigs were immunized each against one of six different venoms, and after some months' treatment the survivors were tested by subcutaneous injection of lethal doses of other venoms It was found that animals immunized by means of a venom of the tiger snake that they were able to withstand subcutaneous injection of fourteen lethal doses of this venom *without* symptoms were also immune to twelve lethal doses of copperhead venom and eighteen lethal doses of grant brown snake venom On the other hand, this treatment afforded no

appreciable protection against the venom of the cobra or of the black snake, and only slight protection against the venom of the common brown snake Guinea pigs immunized to withstand nine lethal doses of copperhead venom showed no appreciable immunity to the venom of the cobra, death adder, black snake, or giant brown snake, but were immune to four lethal doses of tiger snake venom By contrast, guinea pigs immune to only two lethal doses of death adder venom could withstand ten lethal doses of copperhead venom or eight of the venom of the tiger snake Immunity to cobra venom, however, conferred no appreciable immunity to the venom of copperhead, death adder, or tiger snake Finally, animals immunized with daboia venom have no immunity to the venom of cobra, copperhead, death adder, or tiger snake It is worth noting in interpreting these results that the tiger snake and copperhead are more closely allied zoologically than the other elapines studied, though each of the six snakes whose venoms were used for testing represents a separate genus Cobra venom is more akin to that of the Australian elapines, its action being mainly haemorrhagic and neurotoxic, daboia venom is totally different, being viperine in general character It appears, then, that in active immunity against snake venoms specificity is less strict than in passive immunity with univalent serums The degree of specificity seems to be determined by the zoological relation of the reptiles producing the venoms, which may or may not be paralleled by similarity in the toxic constitution" of the venoms, and by that particular toxic action of the venom which is dominant in the species of animal used for the experiments According to this report close species relationship between the reptile supplying the venom used for immunization and the reptile whose venom is used for testing seems to be even more important in determining non specific protection than close similarity of the venoms in their toxic behaviour

METHYL ALCOHOL FOR HOUSEHOLD USE

One of the chief characteristics of the present century is the rapid advance of applied chemistry New compounds are being continuously introduced for commercial and domestic service, and new uses found for substances already known Unfortunately, this rapid progress sometimes results in the risks of wholesale poisoning, for there is a tendency for substances to be introduced for popular use without much attention being paid to their possible, or even their known, toxic properties A recent example of this is reported from America [1] It has been found possible to produce methyl alcohol (CH_3OH) at a very low price from water gas ($CO + H_2$) and hydrogen, and this alcohol is now being introduced as an antifreeze mixture for radiators Methyl alcohol is, however, a volatile cumulative poison The minimal toxic dose undoubtedly varies very greatly for different individuals, and one of its effects is incurable blindness This effect has been reported as having followed doses as small as a teaspoonful, and moreover, both death and blindness have been produced by inhalation of the fumes of methyl alcohol The course taken by the law in attempting to safeguard the health of the community is remarkably erratic The presence of a trace of arsenic in a foodstuff is punished with severity, even in cases where it is nearly impossible for anyone to receive thereby a single therapeutic dose on the other hand, there is remarkably little attention paid to protecting the public from the hazards of the widespread distribution of volatile toxic substances It would appear reasonable to demand that before introducing into household use substances that are probably or certainly toxic, some tests should be made to ascertain the extent of the possible danger

[1] *Journ Amer Med Ass* August 30th p 663

FORMULAE FOR THE NEW PHARMACOPOEIA

The Pharmacy Subcommittee of the Pharmacopoeia Commission has issued a report on certain aspects of the work carried out since its formation in September, 1929 [1] The subcommittee has had under review the pharmacy of certain preparations in the *British Pharmacopoeia*, 1914, referred to it by the Commission, and now presents recommendations relating to some formulae which need alteration While it has not yet completed its work on all the proposed additions to the *Pharmacopoeia*, it suggests some new formulae and will include others in a later report It recommends that in making solid extracts and certain other preparations, the use of industrial methylated spirit should be permitted subject to the regulations of the Board of Customs and Excise In each case the formula should be drawn up for the use of rectified spirit and a note appended stating that "in making this preparation the alcohol may be replaced by industrial methylated spirit diluted so as to be of equivalent alcoholic strength, provided that the statutory regulations governing the use of industrial methylated spirit are observed" In regard to glycerins, the subcommittee recommends that for convenience in manufacture the quantities in the formulae for these preparations should be expressed by weight It recommends the inclusion in the *Pharmacopoeia* of concentrated infusions which, when diluted with seven times their volume of water, represent the fresh infusions In the absence of an instruction to supply the fresh infusion (by adding the word "recens") it should be left to the discretion of the pharmacist to dispense either the fresh infusion or the product obtained by diluting the concentrated preparation No concentrated infusion of digitalis should, however, be included, and the dispensing of fresh infusion should be required A general process for the preparation of a uniform basis for lozenges is given in the report A formula under the name of "unguentum simplex" is recommended as a base for certain of the official ointments which are now made with lard and are accordingly liable to become rancid Wool fat 50 grams, hard paraffin, 100 grams soft paraffin 850 grams Melt together, stir until cold" Recommendations are also made in regard to the formulae for a number of liniments, mixtures, plasters powders, resins, solutions, spirits, syrups and tinctures new formulae are proposed for pilula hydrargyri and oxymel of squill and a general process is described for the preparation of aromatic waters A tincture of ipecacuanha is suggested to take the place of vinum ipecacuanhae, anticipating the deletion of all "wines" from the next edition of the *Pharmacopoeia* In the nature of things many of the subcommittee's recommendations concern pharmacists more than prescribers but the hope is expressed that this report will receive wide circulation among members of the medical profession in order to secure criticisms of the statements made and suggestions for improving the proposed formulae The Pharmacopoeia Commission therefore invites discussion of the report by medical practitioners and welcomes their comments

The Bradshaw Lecture before the Royal College of Surgeons of England will be given by Mr J Herbert Fisher on Thursday, November 13th at 5 p m His subject is 'Ocular muscles movements and judgement'

We regret to record the sudden death at Jerusalem on October 25th of Dr Waldemar M Haffkine C I E, whose work in connexion with the prevention of plague and cholera is well known We hope to publish a biographical notice in an early issue

[1] General Medical Council Pharmacopoeia Commission Report of Subcommittee I Report of Pharmacy Subcommittee August 1930 London 44 Hallam Street W 1 (1s)

THE GENESIS OF THE PHYSICIAN'S IDEAL *

BY

THE RIGHT REV HERBERT HENSLEY HENSON, D D,
LORD BISHOP OF DURHAM

WHEN I received the invitation to address you to-day at the beginning of a new session of academic work, I was so sensible of the honour which was done to me that I could not refuse what had been so courteously asked, but when I faced the practical question, What shall be the subject of my address? I found it nowise easy to give a satisfactory answer It was obviously out of my power to speak of anything which lay within the ambit of medical science, for my ignorance would be apparent, and might be even ludicrous The occasion hardly lent itself to a sermon, a form of composition with which indeed I am not wholly unfamiliar, but which might not be as welcome to my audience as it would be convenient to myself Finally I decided to select a subject which could not be wholly without interest to medical students, and which might fairly and even usefully be discussed by one who could not himself lay claim to that description I am going to speak to you on the Genesis of the Physician's Ideal Whether that rather pompous title carries to your minds the meaning which it carries to mine is not certain In any case it will suffice for my purpose, and whatever dubiety belongs to it will be cleared away by the address itself With so much of personal explanation, I betake myself to my duty

Every man's career is mainly determined by *three* factors—his natural capacity, his education, and the circumstances in which he has to play his part in the drama of life To these, which are universally recognized, I propose to add a fourth—namely, the ideal of his employment, which is established, and which perforce he has accepted It is of the last only that I shall speak, though of course it is inseparably linked with the rest When, however, we speak of a professional ideal we are at once arrested by the difficulty that such an ideal is hardly ever authoritatively defined There are professional rules which must be obeyed, professional customs which may not safely be departed from, a professional casuistry which may not wisely be ignored The Ideal inheres in these, and may be inferred from them, but they do not clearly define it We may supplement their witness by changing our point of view, and regarding the profession not from within, but from without What is the expectation with respect to professional conduct which reigns in the public mind, which determines the measure of social consequence which the members of the profession possess, and which forms the standard by which individuals are judged? Men's behaviour is shaped by the expectations which they evoke in the minds of their fellows hardly less than by the conscious intentions which fill their own *Noblesse oblige* really means that public expectation has coercive power even over private conduct

THE HIPPOCRATIC OATH

The physician in modern society holds a very high place He is generally regarded with respect It is not merely that his distinctive service is indispensable, and is universally required, but also that he commands the public confidence in a very notable degree, and has behind him a tradition of professional behaviour which is generally admired It is assumed that he will be adequately trained, that he will be entirely honourable, that he will be patient, considerate, and assiduous, that he will be generous and even-minded, giving his service as frankly and fully to the poorest as to the richest of his patients, that he will be, in a quite astonishing measure, disinterested We expect the doctor to be something more than a scientific specialist, skilled in his specific branch of work We look for education and good manners He must be welcome in society for his own sake No doubt there is a measure of idealizing sentiment in this conception of the physician, but it is near enough to general experience to maintain itself in the teeth of all individual contradictions, and its existence is not only a remarkable evidence of the high level of medical professional habit in the modern world, but also a precious possession of the medical profession itself The Ideal has, of course, never been realized fully in any individual If it had been so realized it would have ceased to be the ideal Like all ideals, it is a composite of which the component elements have been separately expressed But the combination in a single picture sets before every medical student a goal which he must strive to reach That picture was upheld to the physicians of ancient Hellas in the so-called "Hippocratic Oath" It was natural to link it with the name of Hippocrates, for he "will ever remain the type of the perfect physician" Let me quote a few sentences which I take from Dr Charles Singer's charming article on "Medicine" in the volume entitled *The Legacy of Greece* The ancient Greek physician accepted the following version of his professional duty

"I will follow that system of regimen which, according to my ability and judgement, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous I will give no deadly medicine to anyone if asked, nor suggest any such counsel, nor will I aid a woman to produce abortion With purity and holiness I will pass my life and practise my Art Into whatsoever houses I enter, I will go there for the benefit of the sick, and will abstain from every evil of mischief and corruption, and above all from seduction Whatever in my professional practice—or in connexion with it—I see or hear in the lives of men which ought not to be spoken of abroad, I will not divulge, deeming that on such matters we should be silent"

"Respected equally throughout the ages by Arab, Jew, and Christian," comments Dr Singer, "the oath remains the watchword of the profession of medicine" It is only, however, in modern times that society generally has acknowledged in the medical profession such a standard of professional behaviour as the Hippocratic Oath demands. The brilliant dawn of Greek medical science was soon over cast, and succeeded by the "cloudy and dark day" of superstition and barbarism It was not until comparatively recent times that the Greek tradition was recovered, and medicine became genuinely scientific in method

THE PRE-SCIENTIFIC ERA

The physicians of the past were the victims of their circumstances In the pre-scientific era, which may perhaps be defined as the entire period *before Harvey* (ob 1657), they were so badly handicapped by ignorance that their meagre successes in the curative art generated more suspicion than confidence They were known to be often the heralds of death, they were seen to be often powerless to preserve life Moreover, their services were sometimes sought for the purpose which they were so plainly able to serve The death of individuals might be desirable for a variety of reasons, and the doctor's professional skill might be invoked by jealousy, hatred, and ambition, as well as by duty and pity The popular imagination, which ever inclines to be morbid, magnified the facts, and on a very slight foundation raised a truly formidable fabric of suspicion It is difficult to imagine a more damaging professional recommendation than that which the Roman people bestowed on the physician of the unpopular Pope Adrian VI, when they hastened to his house, on hearing the welcome intelligence of the Pontiff's decease, and hanged a wreath on the doctor's door inscribed "*To the deliverer of his country*" It was an inevitable association of ideas which led them to connect Adrian's sudden demise with his physician's professional attentions The suspicions of ignorance are as cruel as they are often unwarranted Thus when Austregild, the queen of Guntram, knew that she was dying, she wreaked her indignation on the doctors who had failed to cure her Summoning her royal husband to her bedside, she made him swear to have them slain as soon as she expired I follow the chronicler

"So saying she gave up her unhappy soul But the King, the funeral rites duly performed, was constrained by the oath sworn to his unjust queen, and fulfilled her wicked behest For he ordered the two doctors who had served her well to be slain by the sword It stood plain in the judgement of thinking men that such fulfilment might not be without sin"

* Introductory address to the University of Durham College of Medicine Newcastle-upon Tyne October 1930

The profound pessimism which governed mediæval thinking invested the very notion of curing diseases and thus cheating death with a doubtful if not actually irreligious character Sorcery, magic, and witchcraft were closely connected with medicine, and these created a certain shrinking in orthodox minds Moreover, it is certain that many disreputable quacks pretended to curative skill, and the circumstance that the best medical knowledge of the time was to be found among Jews, Mohammedans, and heretics did not tend to reassure the public Then the sinister connexion between the patient's misery and the physician's fees was never forgotten Even so amiable and intelligent a writer as John Earle, writing in 1638, harps on this string In his *Microcosmography* he includes a description of what he calls "a meer dull physician" as both hard and covetous

> Anatomies and other spectacles of mortality have hardened him and he is no more struck with a funeral than a grave-maker
>
> In conclusion he is a sucking consumptive and a very brother to the worms, for they are both engendered out of man's corruption

Similarly of "a surgeon" we are told

> He deals with broken commodities as a broken head or a mangled face and his gains are very ill got for he lives by the *hurts of the commonwealth*

These are, of course, very ancient gibes Pliny tells us that in his day they were hurled at the medical profession The considerate casuistry by which doctors may rightly conceal from their patients the gloomy view which they may have formed of their patients' prospects, passed into the ill-sounding proverb, *Mentiris ut medicus*—"You lie like a doctor" And as late as the nineteenth century Byron repeats the hackneyed jeer with a characteristic touch of satire

> This is the way physicians mend or end us
> *Secundum artem* but although we sneer
> *In health—when ill* we *call them to attend us*,
> Without the least propensity to jeer
> While that *hiatus maxime deflendus*,
> To be fill'd up by spade or mattock's near
> Instead of gliding graciously down Lethe
> We tease mild Baillie or soft Abernethy

Doctors in the seventeenth century, and indeed for long after, were suspected of learning by experiment on their patients, a half-truth which easily passed into the grossest injury Jeremy Taylor, in his well known treatise *Ductor Dubitantium*, quotes Pliny as complaining that physicians grow learned at our risks, and make their experiments at the cost of our deaths, so that they alone can kill a man with impunity, and he adds the plaintive comment that it is hard that the physician should grow wiser at no cheaper rate than the deaths of many patients Fuller, writing about the middle of the seventeenth century, in his picture of the "Good Physician," lays down the maxim

> *He handseth not his new experiments on the bodies of his patients*—Letting loose mad receipts into the sick man's body to try how well nature in him will fight against them whilst himself stands by and sees the battle except it be in desperate cases when death must be expelled by death

Science and Humaneness

The remarkable confidence with which the medical profession is now universally regarded has its root in the fact that there is now truly a Science of Medicine, and that the patient is no longer the victim of arbitrary empiricism or an unintelligent following of tradition An essential element in our ideal of a doctor is scientific training, and (what is by no means the same thing) the scientific temper

Humaneness hardly less than Science is integral to our conception of the ideal physician, and this too, is a very recent acquisition Surgery was long handicapped by the horror inspired in the popular mind by the indispensable methods of surgical training Sentiment allied itself with the crudest religious beliefs to oppose the practice or dissecting dead bodies, which yet was essential to anatomical study The surgeons were as insistent as the public was reluctant Visitors to Scotland will have noticed the large iron cages, or railings placed over graves which give so sinister an aspect to Scottish graveyards They were devices to hinder the persistent efforts of the "resurrectionists," as they were grimly styled, who sought to supply, at large profit to themselves, the professors of anatomy with bodies for dissection by robbing the graves of freshly buried corpses It is barely more than a century since the whole country was thrilled by the revolting story of Burke and Hare, two miscreants who had pursued for years a business of lucrative crime by selling to the surgeons the bodies of those whom they murdered Such revelations of callousness and criminal greed created a great volume of repugnance in the public mind, and this could not but extend to the profession which was in some measure interested in such horrifying procedures We know how, even at the present time, an irrational opposition to the practice of what is loosely called "vivisection" can sweep educated and normally reasonable people into extraordinary violations of equity and good sense If, then, humaneness has come to be conspicuously associated with the popular conception of a physician it is because the conditions of scientific research are more generally understood, and the processes of medical training are apparently related to the requirements of science

The experimental method, which is the normal procedure of physical science, and the very condition of that marvellous development of medicine which is the conspicuous glory of the modern epoch, lent itself to the crudest misunderstanding in minds clouded by barbarous superstition and filled with ignorant suspicions They did not see in experiment that patient interrogation of Nature which is the law of scientific advance, but only the expression of an irreligious curiosity or the indulgence of a fiendish cruelty As the scientific atmosphere was created, and even the humblest ranks of society acquired a vague understanding of the scientific point of view, above all as the curative triumphs of medical science became generally known, this association of the physician with harshness and callousness to pain died in the popular mind, and was replaced by the more natural association with physical rescue and relief Science and humaneness blended in the popular conception of the physician, and became so inseparable that in the common view the doctor was the symbol of beneficence Few things are, in my judgement more honourable to the medical profession than the note of trust and something like affection which marks the language of the poor when they speak of the doctor

Some of you will have read an admirable novel *My Brother Jonathan*, by Francis Brett Young, in which a charming picture, which is also true to life, of a general practitioner working among an industrial population is drawn by a master's hand The doctor is shown in circumstances of exceptional difficulty winning by sheer generosity of service the trust and affection of the poorest people In this connexion we may mention the influence of the medical officers, who within recent years have come to hold so important a place in the hierarchy of local government They have thrown themselves with so much enthusiasm into the work of hygienic improvement that in many cases they have felt and spoken as the apostles of social reform We may not unfitly call them the Tribunes of the People The element of professional ambition was of course not absent Medical officers also "magnified their office" and personal interest is never entirely separable from professional ambition Nevertheless, it is certain that a higher motive entered, and that in many cases it carried men to great heights of unselfish and sometimes unpopular toil and filled them with a generous enthusiasm for public service I think our medical officers have made no mean contribution to the shaping of the Physician's Ideal

Let us pass from the professional to the more personal aspects of our subject I said that the modern physician is expected to be a cultivated and well mannered man acceptable in society, which assigns to him an assured and dignified position In antiquity it was generally otherwise Nor is this surprising when we remember that physicians were largely slaves and freedmen and generally quite uneducated I borrow from Friedländer the following account of the physicians of imperial Rome

> Medicine was up to the last largely in the hands of freedmen and slaves Justinian authorized the maximum price (sixty gold pieces) for a slave thus trained eunuchs fetching only five Jurists constantly speak of the services due from physicians'

trained freedmen thus they had to visit their patrons friends gratuitously Patrons could also prevent their freedmen from setting up a competing practice, and with this object, compel them to accompany them on their own visits

"Free born physicians at Rome were mostly foreigners If permanent residents, Julius Caesar enfranchised them, as also teachers Augustus extended this by conferring civic immunity Romans, according to Pliny, rarely learned this profession

"In antiquity there were no examinations and little responsibility hence many unqualified practitioners thrust themselves into a lucrative profession, such as shoemakers, carpenters, dyers or smiths, just as unsuccessful doctors became corpse bearers or professional gladiators, at any rate Martial scoffs at such, who in their new occupation practised the old one still Amongst these quacks, makers of salves and official wares rank high Galen says that most so-called physicians of his day could hardly read, and warns his colleagues of the necessity of good grammar in addressing patients such physicians also would know nothing whatsoever of rhetoric and philosophy Thessalus, an apprentice of his father, a weaver, as a doctor under Nero gained great vogue, and said all his knowledge had been won in six months

"Galen gives very definite counsel as to medical relations with the patient. His visits should be long or short as his patient wished, whom he must not irk Some doctors clumsily awake and irritate a patient by long speeches or noisy tread such things must be avoided

"Some patients must be enlivened with anecdotes The doctor must deport himself properly, not be pompous, affected, or cringing Many doctors acceded to their patients every wish, giving them cold water, snow-cooled wine, baths, whenever requested True, they thus found a ready key to many doors They grew rich had much power, and often had pages given them as pupils The rich were the *most rebellious patients* best avoided altogether, says Galen but doctors had willy nilly to put up with their whims Whilst disapproving of mere submissiveness, in special circumstances the physician might, against his better knowledge, indulge the patient in some comparatively harmless trifle doctors, if loathed, are not obeyed"

It is sufficiently apparent that we have travelled a long way from the professional standard of the Hippocratic Oath, but the Romans were a coarse-minded and practical people, which vulgarized and degraded the intellectual treasure which they received from the Greeks whom they conquered, and medicine was no exception to the general rule

The professional behaviour of the fashionable physician has been the mark of hostile criticism in modern literature, where "a good bedside manner" is often associated with insincerity and toadyism You will remember how Anthony Trollope has drawn the portrait of the honourable physician in the plain-spoken Dr Thorne, and set it in sharp contrast with that of his accommodating but insincere professional rival, Dr Fillgrave Bluntness of speech may, indeed, be prompted by something less respectable than honesty I borrow an instance from the fascinating pages of Professor Trevelyan's latest historical publication He is speaking of the drunkenness which disgraced English society in the reign of Queen Anne

"The leading physician in the capital, Dr Radcliffe, whose highly rewarded skill and generous disposition stand commemorated in one of the noblest buildings of his old University, was once sent for at an unseasonable moment to attend the Princess Anne He blurted out over the bottle that 'Her Highness's distemper was nothing but the vapours' This piece of truthfulness in wine, being reported at Court, had, his biographer tells us, the effect of permanently consigning the future queen and her family to other and less skilful hands—possibly with important consequences to the history of England"

Dr Radcliffe's tongue was at all times more clever than well guided In 1697 he was summoned to attend William III "When he saw the King's swollen ankles, he said that he would not have the King's two legs for his three kingdoms" This gave such offence that William never saw him again Of the famous Dr Abernethy (1764–1831) it is recorded that he had a serious purpose in his notorious rudeness and even brutality of speech Not only did he thus indicate his horror of "humbug," but he found, or thought that he found, that a masterly roughness commanded the confidence of his patients even better than an amiability, possibly suggestive of weakness, would have conciliated it Happily most modern physicians have discovered a middle way between the toady's insincerity and the boor's rudeness Certainly the Physician's Ideal includes culture and the courtesy which culture requires

Francis Bacon's counsel is marked by the shrewd wisdom which was characteristic of that famous man

"Physicians are some of them so pleasing and conformable to the humour of the patient as they press not the true cure of the disease and some other are so regular in proceeding according to art for the disease as they respect not sufficiently the condition of the patient Take one of a middle temper or, if it may not be found in one man, combine two of either sort, and forget not to call as well the best acquainted with your body as the best reputed of for his faculty"

Mind and Body

The ideal physician unites technical knowledge and a just understanding of the specific circumstances of his patient's case Within the last generation the range of the physician's professional concern has been greatly extended The sharp dividing line between the psychical and the physical has grown fainter, and tends to vanish and Psychotherapy has attained a settled place in the procedure of medical science, and it has emphasized those aspects of the physician's task which are least technical and academic The physical ills of men are seen in a larger context Behind the familiar symptoms of physical disease he forces and factors which are not physical, which can often but be guessed at, and which none the less condition the potency of the appropriate remedies There is a disastrous reciprocity between mind and body Disease may occasion such a depression of mind as may aggravate it, and even go far to make it incurable The causes of mental depression may be ultimately moral and religious—a bad conscience or a superstitious belief Shakespeare, in *Macbeth*, has pictured a doctor confessing his powerlessness in front of such morally conditioned physical distress Must the pathetic appeal remain for ever unanswered?—

> Canst thou not minister to a mind diseased,
> Pluck from the memory a rooted sorrow,
> Raze out the written troubles of the brain,
> And, with some sweet oblivious antidote,
> Cleanse the stuff'd bosom of that perilous stuff,
> Which weighs upon the heart?

In this situation, where the physician *qua* physician is helpless, the clergyman may find the opportunity of exercising his distinctive ministry, and the two great curative professions find themselves in an alliance which is exalting to both You will perhaps be familiar with that brilliant volume of the late Dr Rivers, *Medicine, Magic, and Religion* There that keen and honest thinker envisaged in the future a great reconciliation, which would reproduce with a difference the primitive harmony which specialization had broken up

"If medicine," he says, 'is to maintain its hold on certain aspects of disease which should come properly within its sphere, it must find that it has much to learn from the priest, if, indeed, some kind of collaboration between the two is not often desirable"

The Lambeth Conference set on record its conviction that "there is urgent need for co-operation between clergy and doctors, since spiritual and physical treatment are complementary, and equally necessary for true well being" I think the Physician's Ideal includes a freedom from traditional prejudice which welcomes such an honest acceptance of scientific truth as will not exclude any new departure which it may require in professional habit

The Labour and the Hire

But I must not ignore the protest which may well be taking shape in some of your minds It may be stated in this way "When all is said about the Physician's Ideal it remains the case that men become doctors primarily in order to earn their living They look to be paid for their services, and their professional success is measured by their professional income In the coarse phrase of the market place, Fine words butter no parsnips The doctor, like other wage-earners, has 'got to live'" It must be frankly acknowledged that this protest expresses truth but certainly not the whole truth And the truth which it omits is so important that its omission may transform even the truth which it states into perilous falsehood In all the higher human employments there is a certain incongruity between their true end and their immediate purpose "Those three noble Professions which all civi

Commonwealths do honour," says Sir Thomas Browne in his quaint fashion "are raised upon the fall of Adam and are not any way exempt from their infirmities" The lawyer is ordained to secure justice, but litigation is the source of his wealth The clergyman is ordained to promote goodness, but his benefice provides his income The physician is ordained to promote health, but it is sickness that fills his purse Lawyer clergymen, and physicians are all tempted so to pursue the lower immediate purposes of their professional work as to forget its supreme and ultimate end Just as they yield to this temptation, they lower the levels of their actual achievement, and become even professionally inefficient For it is always true, and never so true as in the case of the nobler employments of men, that the higher the mark aimed at the higher is the mark actually reached Aim lower, and you will hit lower You cannot place a money value on the services of the lawyer, the clergyman, and the physician, for their distinctive service demands over and above the professional duty, something personal which defies calculation I suppose that is the reason why their remuneration is generally determined by conventional payments or fees, and is not left wholly to 'the higgling of the market" The really great lawyer has a passion for justice, the really great clergyman has a passion for goodness the really great physician has a passion for health—although it is *true that, if all men were just good, and healthy*, there would be no demand for lawyers clergymen, and physicians. They are all to that extent conspirators against their own professional importance

You will have noticed that Sir Thomas Browne makes no mention of that great profession which holds so large a place in our modern world, and has its unchallenged supremacy in our universities—I mean the teaching profession The reason is not doubtful In that relatively simple age, teachers were generally also clergymen, and Sir Thomas Browne tacitly includes them under that description The twentieth century is not as the seventeenth It is familiar with a range of studies vastly greater, so that perforce the teaching profession has become independent, organized, and increasingly powerful But teachers do not stand outside the general law They also have to work with both a nearer and a more distant objective *Examinations* have to be passed, and the teacher has to aim at securing his pupils' success, but always he has a higher end He has to set forth the truth and so to teach as to make his pupils also lovers and servants of the truth If it shall so fall out that these ends are conflicting so that to advocate current errors, dominant in the schools, will condition success in examinations by treason to the truth, then loyalty to his Ideal will require that the teacher should accept unpopularity, and even professional failure Do undergraduates still read Browning? When I was at Oxford we were fond of his poem *A Grammarian's Funeral*, which illustrates wonderfully what I am now insisting upon Here is the contrast between loyalty and treason

> That low man seeks a little thing to do
> Sees it and does it
> This high man with a great thing to pursue
> Dies ere he knows it
> That low man goes on adding one to one
> His hundred's soon hit
> This high man aiming at a million
> Misses an unit
> That has the world here—should he need the next
> Let the world mind him'
> This throwing himself on God and unperplexed,
> Seeking shall find *him*

Let me quote again from the *Religio Medici* of Sir Thomas Browne which, though written as long ago as 1635, is eminently worth reading by the modern physician, and which I beg heartily to commend to you

> I feel not in me those sordid and unchristian desires of my profession I do not secretly implore and wish for Plagues rejoice at Famines revolve Ephemerids and Almanacks in expectation of malignant Aspects fatal Conjunctions and Eclipses I rejoice not at unwholesome Springs, nor unseasonable Winters My Prayer goes with the Husbandman's I desire everything in its proper season that neither men nor the times be put out of temper Let me be sick my self if sometimes the malady of my patient be not a disease unto me I desire rather to cure his infirmities than my own necessities Where I do him no good methinks it is scarce honest gain though I confess 'tis but the worthy alarm of our well intended endeavours I am not only ashamed but heartily sorry that, besides death there are diseases incurable yet not for my own sake or that they be beyond my art, but for the general cause and sake of humanity whose common cause I apprehend as my own

Loyalty to the Ideal

The Physician's Ideal has been slowly and painfully gained in the teeth of many hostile forces, and if it is to be maintained and transmitted, it will only be by strenuous and high minded effort To-day, if I mistake not it is threatened by some of the characteristic developments of our time Specialization in medical study and practice may be indispensable, but it endangers none the less that largeness of interest and culture which has marked the greater physicians of the past Contemporary politics cast their own shadows on the progress of medical science Socialism is not friendly to the highest individual achievement The democratic tendency to bring physicians into the category of State officials, and to organize their professional activities on conventional Civil Service lines, is not wholly favourable to the highest view of their work, and may lower that personal relation with their patients which has often been highly *beneficial to both* 'The years teach much which the days never knew," says a wise proverb, and we must not be hasty to condemn the untried It is always easy to be unfair to the distinctive features of one's own time, very easy in the case of a man whose own experiences of society belong to the past At least I am on safe ground when I insist—and this is the moral of my present address—that, whether as a State servant or as a private practitioner, the physician's efficiency will continue to be conditioned by his resolute loyalty to the Physician's Ideal

'SCIENCE DISCIPLINE"

LECTURE BY SIR DAVID PRAIN

Lieut.-Colonel Sir David Prain, LL.D M.B., F.R.S., I.M.S (ret.), delivered the second annual Alexander Pedler Lecture on October 22nd, in the University of Liverpool under the joint auspices of the British Science Guild and the University The subject of the lecture was 'Science discipline"

Huxley he said held that in an ideal university a man should be able to obtain instruction in all forms of knowledge, and discipline in the use of all methods by which knowledge might be obtained For him there were three forms of knowledge the limits of one's individual powers the rules to which these powers may be put and the conditions under which these powers can be used These forms of knowledge were the same for literature as for science for science and literature were but two sides of the same shield Science, however no longer connoted all knowledge but meant more particularly natural knowledge Science discipline therefore implied cultural exercise of every method by which natural knowledge could be obtained as contrasted with science training which implied technical exercise in any method by which natural knowledge might be employed

The Purpose of Discipline

The older object of science training was to make an adequate number of scholars already disciplined in the requisite natural knowledge competent to give the general community effective scientific help and confusion should be impossible between training and discipline in this sense The purpose of discipline was twofold on the one hand to furnish those who studied to serve the community scientifically with the kind of natural knowledge that would enable them to profit by training for technical efficiency and on the other hand to render all scholars in an ideal university competent to appreciate the scientific help afforded the community by those specially trained to give it This second object was nothing less important than the first And while the first of these ends had now

been largely attained, perhaps in due course the need for securing the second might come to be appreciated by those responsible for the organization of science discipline

Technical and Cultural Faculties

The fourteenth century faculties of Theology, Law, and Medicine were technical faculties where everything about God, or Man or Nature was taught to clerks who already knew something about everything But it was found difficult to man the medical faculty and the cultural faculty of arts was often deprived of a valuable "ingredient in education" by assigning to the technical faculty all suitably equipped teachers The Church approved, eager to secure control of ethics and philosophy In the next two centuries universities 'complete with all the faculties" came into existence under ecclesiastical patronage and a new spirit of criticism spread from the cultural to the technical faculties If disputation led to confusion there was compensation in the improvement in science discipline Controlled experiment was substituted for empirical test But, teachers who were prepared to abandon scholastic controversy could not resume instruction in a technical faculty for lack of the experimental discipline in themselves There was cleavage While Catholic Faith tolerated the "rule of man's estate," Reformed Faith could see in precaut[illegible] against plague proof of "distrust in Providence" M[illegible]ous, science formed an 'invisible college" outside the univ[illegible]ents where they could talk in safety The sciences became [illegible]bitists, and the arts the sciences In the eighteenth centu[illegible]many when the English 'common people" were "constant [illegible]reconcilable enemies of science," natural philosophers were thus led to leave application to the initiative of the arts and crafts, and the old distinction between an art and a science appeared in a new form contrasting what "they were melined to" with "what they had a mind to"

Association with a technical faculty enabled teachers of natural history to avoid this error for nearly a generation, and soon, as Huxley said, scholars who wished to obtain a training in physical science had to attend the instruction of the medical schools Universities came to regard the teachers of the medical faculties as responsible for science discipline as well as training Botany, by its return to the study of function, had made itself the first academic science to realize that "what people call applied science is nothing but the application of pure science to particular problems" It needed the lesson of the great war to convince our legislators of the truth of this remark, and an Association for the Advancement of Science had to reach its hundredth year before it found a president courageous enough to say that between pure and applied science there was no real distinction

The Two Kinds of Science Discipline

There was room for hope that academic opinion might now cease to consider second rate advancement more important than first rate application of natural knowledge General cultural science discipline was the proper business of faculties of arts, not of science A special scientific discipline, preparatory to technical training, also had its place within the universities and demanded recognition and special organization Sound practical instruction in the elementary facts and broad principles of biology should form part of the arts curriculum The discipline in physiology that a prospective scholar of medicine must undergo might in itself provide a better education than much that was accepted under that name With anatomy, it had its place in the science faculty Huxley had been aware that with the necessity for direct practical perception of facts there arose the need for an amount of personal labour and a development of means and appliances and he knew that these needs created difficulties that would not be removed until years of patient study had organized scientific teaching as well as or better than, classical teaching The absence of any serious attempt on the part of those entrusted with university organization to devote themselves to the "patient study of scientific teaching" in their faculties of arts was directly responsible for much of the justifiable disquietude felt by both teachers and students of natural knowledge to day

The failure to follow Huxley's advice, Sir David Prain said in conclusion, had been due not to disbelief in his judgement, but to the national propensity, which made neighbouring nations dislike us, for doing one thing when we imagined we were doing something else It was of less consequence for teachers of science to fail to distinguish between the functions of a technical and a cultural faculty than to fail to make their universities understand the difference in method between the science discipline for culture and the science discipline that prepared for training Teachers of literature, with a like problem before them, experienced no such difficulty in persuading their universities to do what they required

SOCIETY OF MEDICAL OFFICERS OF HEALTH

Annual Meeting and Presidential Address

At the annual general meeting of the Society of Medical Officers of Health Professor Harold Kerr of Newcastle-upon-Tyne was installed president in succession to Dr J J Buchan Occasion was taken, on the retirement of Mr George Elliston, for many years executive secretary of the society, to express the indebtedness which members felt to him for his services Dr G F Buchan, the treasurer, said that no man could have worked more carefully or skilfully in the financial interests of the society Mr Elliston became secretary when the financial position was very uncertain, but his careful administration of the society's affairs had achieved the best possible financial results, and the society found itself to-day in a sound and comfortable position No society ever had a better secretary, and no treasurer a more active or capable or courteous colleague Dr Charles Porter, honorary editor of *Public Health*, paid an equally warm tribute to Mr. Elliston's services

The Municipal Hospital.

The brief presidential address by Professor Kerr took the form of a statement of the position in Newcastle-upon-Tyne, in view of the changes brought about by the Local Government Act, 1929 The past year, said Professor Kerr, had been a most important epoch in the history of public health administration, and it was very fitting that at a time of such change the chair of the society should have been occupied by Dr J J Buchan, whose authority (Bradford), ten years ago, gave a lead to the country by transforming the Poor Law hospital into a municipal institution The pioneer work done in Bradford, and also in Aberdeen and (under Dr Buchan's brother, Dr G F Buchan, another past-president) in Willesden, should never be forgotten Only those intimately concerned could appreciate the difficulties which were encountered in bringing about this now well recognized piece of social reform It was upon the medical officers of health that the first responsibility rested of guiding their respective authorities wisely so far as health administration was concerned Hitherto, for the most part, the Poor Law hospitals, however acute the hospital shortage in the locality might be, had served only the destitute cases In London there had been a measure of co-operation between the two classes of hospitals, and the same was true to a certain extent in a few of the larger towns, but in most areas there had been no co operation at all The guardians in the majority of places had done their utmost to popularize their services, but the Poor Law stigma remained a permanent objection Newcastle was one of the areas where the guardians did everything in their power to attract private patients, but with comparatively little success Their wards and equipment were excellent and up to date, there was also available a part time consulting staff But invariably there were plenty of empty beds in the Poor Law hospital, although the Royal Victoria Infirmary in the same city had an average of 2,000 on its waiting list

Professor Kerr went on to describe in detail the equipping and staffing of the renamed Newcastle General Hospital, and the allocation of beds For the present at least no out patient department would be established other than for cases which had been discharged from the wards, and which it was desirable should be followed up Nor would there be any special departments created giving similar facilities to those existing either at the Royal Victoria Infirmary or at a special hospital The guardians had favoured whole time appointments, although they were not prepared to pay attractive salaries The policy of

part time appointments had been decided on in the case of the municipal hospital. He mentioned the various salaries for these posts and said that there had been no lack of applicants. In the case of the two directors, one on the medical and the other on the surgical side, Newcastle had been exceptionally fortunate in securing the services of a senior physician and surgeon both of whom had recently retired under the age limit from the staff of the Royal Victoria Infirmary and who had been closely associated with the medical school. For teaching purposes the wards of the municipal hospital would be affiliated with those of the Royal Victoria Infirmary. The medical superintendent, a whole time officer, would remain, but he would act only as an administrative officer being relieved of clinical work except in regard to mental cases in which field he happened to be an expert. A shortage of nursing staff had also been made good.

Another rearrangement did away with one great objection to the old Poor Law hospital from the point of view of prospective patients—namely, the interposition of the relieving officer in all cases. With certain excepted cases admission would now be arranged for by direct communication between the private doctor and the medical superintendent. Ultimately it was proposed to set up a kind of bureau or clearing house which should allocate patients to an appropriate institution and avoid overlapping. It was anticipated that a gradually increasing admission rate would follow upon this reorganization, and that the municipal hospital would be availed of by people belonging to the lower middle class and working class who could not afford nursing home fees, and had an objection to accepting charity. At first the accommodation would be the same for all, ultimately it might be possible to provide private wards for people who could afford to pay for them, but as the Royal Victoria Infirmary had already provided private wards it seemed undesirable that the municipal hospital should do so. What would be the effect of all this upon the finances of the voluntary hospitals? Many opinions had been expressed, but there was only too good reason to expect a diminution of the smaller voluntary contributions. The larger voluntary contributions, he thought were not so likely to disappear, and the attraction of having a bed or ward named after the donor would still appeal to many. As it was extremely undesirable that the voluntary hospitals should be weakened contributory schemes, like that organized on Merseyside should by all means be supported. Such schemes should solve the question of the financial position of the voluntary hospital. One matter to which his authority had given a good deal of attention was the establishment of a central record office, where all assistance given from public or from voluntary sources should be noted so that abuse and overlapping were checked. One urgent need was general hospital treatment of mental breakdown not amounting to insanity or certifiable. It was estimated by the medical superintendent of Newcastle General Hospital, who as already stated was an expert in mental disorders that no fewer than 150 beds would be necessary for these pre-mental cases.

The Problem in London

Dr WILLIAM BRANDER, principal medical officer of the General Hospitals Division of the London County Council explained that owing to the magnitude and enormous complexity of the London hospital service, the problem in London was extremely difficult and the organization which might prove the most suitable for London was by no means necessarily the best for any other town in England and Wales. As a result of the Local Government Act, the General Hospitals Division of the London County Council now had under its administration twenty-nine separate hospitals containing upwards of 16,000 beds and fourteen other institutions containing roughly 11,500 beds together with thirty-four special hospitals and institutions with nearly 15,000 beds transferred from the Metropolitan Asylums Board. The number of mental hospitals now under the control of the London County Council including those transferred from the Metropolitan Asylums Board was twenty with accommodation for upwards of 31,000 cases. The transferred Poor Law infirmaries were speaking generally well built, well equipped and well staffed; some of them could fairly be described as first-class hospitals while others were below standard. With regard to the out patient departments at present such departments were already provided at nine of the Council's general hospitals, and undoubtedly resulted in an economy in beds. It was desired to avoid duplicating the out patient system of the voluntary hospitals, and therefore it was proposed to limit out patient departments to the following: casualties continuation and after treatment of discharged surgical patients; consultations on patients referred by the district medical officers, and ante natal clinical work. With regard to the appropriation of hospital accommodation, there was very little surplus accommodation in London, and what existed would be required to meet the statutory obligation with regard to the destitute sick. On the question of the lines on which whole-time or part-time staffs should be maintained, he thought that matters were not yet ripe enough for dogmatism. Like Professor Kerr, he paid a tribute to the work of boards of guardians handicapped as they had been by limited powers.

Dr J. J. BUCHAN confessed himself unable to see how the voluntary hospitals of the country could go on in the future as they had done in the past holding themselves out as charitable institutions, and providing the same accommodation for the poor as the local authorities were going to provide.

CONFERENCE ON MATERNAL MORTALITY

THE MINISTER OF HEALTH ON NATIONAL MATERNITY SCHEMES

THE fifth Conference on Maternal Mortality, organized by the Maternal Mortality Committee, a voluntary organization, and consisting of delegates from about 300 bodies voluntary and municipal, from all parts of England, was held at the Friends House, Euston Road, on October 27th.

The DUCHESS OF ATHOLL, M.P., who presided, congratulated those concerned on the organization of the successive conferences (the moving spirits of which had been Mr. H. J. Tennant and Miss Gertrude Tuckwell member of the Royal Commission on National Health Insurance) in that the actual facts of the excessive mortality among mothers, for which the conference had pressed from the beginning had now been brought out in the interim report of the Departmental Committee. She went on to point out that an admirable foundation had already been laid for a complete national service. Over 80 per cent of the population in the rural areas were now within reach of a trained midwife, and more than 70 per cent of that provision had been made by district nursing associations. There were only five counties (and these included such small ones as Rutland and the Isle of Ely) which were without a nursing association or federation of associations covering the whole area. In the towns there were now 440 municipal ante-natal clinics and 166 such clinics conducted by voluntary societies, exclusive of some 400 infant welfare centres where a measure of ante-natal advice could be obtained.

Mr ARTHUR GREENWOOD, Minister of Health, began with a reference to the stubbornness of the problem. Maternal mortality remained one of the black marks against the health service of this country. Infant mortality and the general death rate had been lowered and some diseases stamped out, yet deaths from the normal process of maternity were as numerous as ever. It was clear, from the information recently received that some 50 per cent. of maternal deaths were avoidable. The maternity and child welfare service and the national health insurance system had done something to relieve the situation, but had produced as yet no effective remedy. If the best that obtained in certain localities were put in operation in all localities a different tale might be told. Unfortunately, all local authorities were not equally good. If every local authority employed to the full extent the powers it now possessed there would be a marked impression on the maternal death rate. Sometimes," said Mr. Greenwood, "I wish I were a Mussolini but fortunately or unfortunately we do our permanent work in this country on the basis of maximum agreement. I am going shortly to appeal to all local authorities to try to live up to the standard of the best." Behind the powers which might be exercised by local authorities lay another problem. He knew of areas where ante-natal provision was made

and only a minority of pregnant women took advantage of it It was of no use badgering local authorities if in the end women did not use these facilities But that was not all He always believed in war on the widest possible front Committee after committee had stated that it was essential to establish a national maternity service Schemes had been brought forward for mobilizing on a national scale all the forces concerned directly and indirectly with this problem The education of the doctor and of the midwife had an important bearing on the question It was clear that a number of deaths were due to the fact that those who handled the cases were lacking in knowledge and, it might be here and there, were lacking in care He hoped it would be possible to do something in the very near future to ensure better education for those who were concerned strictly in the maternity service, and to keep them abreast of the results of most recent research It was most important to give practitioners facilities for "refreshing themselves in that new tide of knowledge which has come forth since they bathed in the stream," and with the improvement in medical education which he thought it would be possible to bring about with the good will of all concerned, must go post-graduate study He had read with the greatest interest every proposal made of recent years for a national maternity service, though he was not sure that he had yet met a person who quite understood what it meant It was the easiest thing to invent phrases, but behind that phrase, which represented an ideal and an objective, lay a good many difficulties He was satisfied that the best was not to be obtained from the available resources unless the good will of the people most concerned in the problem was secured Therefore he had not got a national maternity scheme cut and dried to place before the conference that day But the Government was committed to a national maternity scheme which should fulfil all the principles laid down in the successive reports and embody the principles of the resolution presently to be moved The scheme could only be framed in detail when those of them who would have to work it in the long run sat down and tried to come to a general understanding "If we are to utilize all that is good in the various agencies now operating—the medical profession, the approved societies, and the local authorities—it is not going to be an easy task I should like to bring the administration of the national health insurance scheme and the local health authorities under one great national umbrella, so as to arrive at a really effective maternity scheme on a national basis That I believe to be the only effective way of dealing with this problem But I should not be fair to the voluntary agencies on the one hand, and the medical profession and approved societies on the other, if I pretended I could do it without their whole-hearted co-operation" He would do everything in his power to bring into being a national maternity scheme which would stamp out the disgrace of unnecessary maternal deaths, believing as he did that, by a proper mobilization of all the forces, many of the so-called "inevitable" accidents of maternity could be avoided It was difficult during a stage of negotiation to talk freely, he did not want to suggest that any of the agencies concerned in this problem were likely to be obstructive, but he did not think he would be doing the cause a service if he were to be too specific before he had taken common counsel as to the proposals which had come forward in the various reports He wanted a general laying together of heads for the production of the best practical scheme for a national maternity service

Terms of Resolution

Viscountess Erleigh moved, and Dr Marion Phillips, M.P., seconded, the following resolution

> This conference declares its agreement with the recommendations of the report which supports its previous demands for an effective national maternity service based on (1) an increase in the length and content of the training of medical students in obstetrics, and on (2) essential services to be provided as follows
>
> (*a*) The provision in every case of the services of a qualified midwife to act either as midwife or as maternity nurse
>
> (*b*) The provision of a doctor to carry out ante-natal and post-natal examination in every case, and to attend during pregnancy, labour, and the puerperium, as may prove necessary, all cases showing any abnormality
>
> (*c*) The provision of a consultant, when desired by the doctor in attendance, during pregnancy, labour, and the puerperium
>
> (*d*) The provision of hospital beds for such cases as need institutional care
>
> (*e*) The provision of certain ancillary services—for example, transport, sterilized equipment, laboratory facilities
>
> The conference recognizes that some of the services now in operation have been due to voluntary effort It urges the co-ordination of such voluntary effort with the work of public authorities in order to enlist the widest possible interest and support in solving this problem, and expresses its conviction that the departmental committee is right in its conclusion that full success in reducing maternal death and morbidity can only be obtained by the co-ordination and extension of the various services in a national maternity service

British Medical Association Support

Dr H B Brackenbury, Chairman of Council of the British Medical Association, said that the resolution had the emphatic support of the organized medical profession It would be strange if it were not so, and he might be forgiven for calling attention to the fact that, just as was the case with the school medical service, so with regard to this matter, it was the medical profession which first urged on the attention of the public the necessity for it, and the British Medical Association which first formulated a concrete scheme It was a welcome and somewhat astonishing thing that the schemes which had been proposed by responsible bodies like the British Medical Association, the Medical Women's Federation, and the two Departmental Committees were in substantial agreement as to all the principles required for the establishment of such a service Only administrative questions remained to be dealt with, but this was a region of greater difficulty, because of the various interests which had to be considered From the fact that there was a great measure of unanimity in demanding that certain action be taken, it did not follow that the politicians and administrators would immediately, or at an early date, take that action There was need for a continuance of the education and propaganda which had been undertaken by the conference, so that whatever Government might be in power the necessity for giving prompt and careful attention to this question would not be overlooked The conference contained representatives of the three chief political parties, and all parties had been made to realize the importance of this question and had expressed their willingness at the proper moment to deal with it It was necessary to keep it to the forefront, so that, whatever the vicissitudes of political life, it might have a prominent place in the programme for the immediate future Dr Brackenbury pointed out also that although the Ministry of Health and others might at present be quite wise in urging that all the existing powers which the Legislature had given to local authorities should be put into effect and although it might be true that the time was not immediately favourable to a very large expenditure of public money on the establishment of a new social service, yet anything which was done as a temporary or tentative measure must have the complete national maternity service idea in view, and must not be such as to place any obstacles in the way, or materially to delay, the development of such a service There was sometimes a danger of provisional methods of tackling problems leading to postponement of the one complete thing without which success was unattainable

General Discussion

Dr Rhoda Adamson of Leeds, speaking as a teacher of midwifery, said that in her hospital 1,500 deliveries were dealt with annually, and last year there were 27 maternal deaths, 21 of these, however, occurred among the 246 cases which came in late on in labour There were six deaths in the "booked" cases which had had ante-natal care Of these six, one was a true accident of midwifery, another was the case of a woman who was a bed-ridden paralytic suffering from severe disease, and ought never to have been a mother This left four maternal deaths unexplained

out of more than 1,200 deliveries She complained that ante-natal care was not sufficient The women were not seen until they were actually expectant mothers She felt that women should be examined beforehand to ascertain whether they were fit to become mothers and that a great deal was to be said for requiring every girl to undergo a medical examination before marriage there were some women who should not be subjected to the risk of maternity She described the system at Leeds whereby ante-natal care was arranged for the expectant mother There was a "black list" of patients who were not allowed to be booked by a midwife because something had gone wrong in a previous labour these must book a doctor or go to the maternity hospital If any abnormality was found on which a second opinion was desired, the patient was sent to the ante-natal department of the local maternity hospital, where proper examination was made Any general practitioner in Leeds in charge of a maternity case could call in a consultant from a panel—the panel consisting of members of the honorary surgical obstetric staff of the maternity hospital—during pregnancy, labour, or the lying-in period The account for the consultant's services went to the maternity and child welfare committee, which took the economic circumstances of the patient into account and decided whether the fee should be recovered in whole or in part from her There was never any argument about the payment of the consultant

Lady Selborne urged that medical men should not think of midwifery as a minor part of their training She desired to see a special degree of "Doctor of Midwifery," without which no doctor should be allowed to undertake a confinement Mrs L'Estrange Malone regretted the absence of any reference in the resolution to the need for home helps for the mother, and also to the provision of milk for expectant and nursing mothers It was within the power of local authorities to make this provision, but the power was not much used She also pleaded that the permission given by the Minister should be taken advantage of by local authorities and information on birth control be given at infant welfare centres to married women who needed it on medical grounds Another speaker reminded the conference that sepsis following induced abortion was a very frequent cause of maternal death she had taken a secret ballot of some women attending a health lecture, and out of twenty-one of those who had been pregnant, sixteen confessed that they had themselves terminated a pregnancy without medical advice The remedy said this lady was birth control On the other hand another speaker a member of the Buckinghamshire County Council ascribed a great deal of maternal mortality to the unskilled and unaseptic use of contraceptive methods One other lady made an attack on the medical profession doctors she said sided each other through thick and thin, she urged that there ought to be a coroner's inquest on every woman who died in childbirth

With the addition of "home helps" to the ancillary services which should be provided in a maternity service, the resolution was carried unanimously

Scotland.

Radiology Department of Glasgow Western Infirmary

The new radiological department of Glasgow Western Infirmary was formally opened on October 24th by Mrs R D MacGregor, in the presence of a large and representative company Colonel J A Roxburgh, chairman of the board of governors, presided, and an address on the advancement of medicine, with special reference to radiology, was delivered by Dr C O Hawthorne, chairman of the Representative Body of the British Medical Association The new department, which is situated in Dumbarton Road, is equipped both for diagnostic work and for x-ray and radium therapy In his address Dr Hawthorne said that clinical study was being aided and reinforced to an increasing extent by laboratory studies, and the relations between these two methods was a matter of theoretical interest and of practical policy Most of the knowledge of medicine and surgery they possessed had been created by bedside observations and experience, and by the suggestions and conclusions to which these observations had given rise The notion that a patient's ills and requirements could be determined by some form of scientific test made in a laboratory by an observer who had never seen the sick man was only less fantastic than the claim that, given a film of blood on a piece of blotting-paper and some form of magical or electric box, there would be promptly revealed all the pathological disturbances of which the patient was a victim, and even his opinions The fundamental proposition as he saw it, was that no diagnostic conclusion could be safely reached, and no treatment wisely undertaken unless a complete knowledge of the individual had been acquired at the bedside, where he was regarded both as a patient and as a man Scientific discoveries and tests might contribute useful information relating to the prevention recognition, and treatment of disease but they could not take the place of bedside medicine With regard to x-ray examination the delicate, complicated, and costly machines that were now available gave greatly improved and more clearly defined pictures they shortened the period of exposure, and they gave complete protection to the operator so that never again would the pathetic story be heard of doctors losing their lives or limbs as the result of working with an x-ray apparatus Just as the discovery of x-rays in a physical laboratory had given them a radiological institute with all its possibilities, so discoveries in electricity, chemistry, and biochemistry had made their contributions to the knowledge of disease and the treatment of patients Conspicuous at the present day was the institute for the study of radium, and knowledge was gradually being gained both of its uses and its dangers The uses of radium were not yet by any means fully defined, and were apt to be rather exaggerated in the newspapers It was an element that was safe only in the hands of a specially trained and highly competent expert The work done in all these departments was linked with the efficient treatment of patients Such institutes required space equipment and maintenance, and therefore made a heavy charge upon the Infirmary fund Against this cost, however, had to be placed the efficient treatment of patients the development in the community of a body of highly trained physicians and surgeons opportunities for research and new discoveries the adequate training of medical students and the training of nurses It was in the results and services that justification could be found for the liberal policy of which the new radiological institute and its companion organizations were an expression

Combe Trust Health Lectures.

The first of a series of health lectures arranged by the Combe Trust was delivered in Edinburgh on October 22nd by Dr Chalmers Watson who took as his subject "The newer outlook on medicine" Dr J Parlane Kinloch chief medical officer of the Department of Health for Scotland who presided said they were passing through a very significant period for a great new health charter had just been formulated in the Local Government Act of 1929 In Edinburgh all the wide-spread services dealing with health with the single exception of national health insurance had been brought under the town council this afforded a unique opportunity He thought it was only a matter of time before national health insurance would also come directly within the province of town council They had the finest possible medical personnel but about a fifth of the patients of the family doctor could not be properly diagnosed or treated without the support of a sufficient institutional service It would be the duty of the health administration to make this provision for every practitioner although a great field had yet to be explored Such a service however implied that the individual was sufficiently educated to take advantage of it

Dr Chalmers Watson said that the practice of medicine might be fairly correctly regarded as medical engineering

On this analogy a modern motor show provided a revelation of what could be done in the short period of thirty or forty years by a judicious combination of sustained thought and high technical skill If even a fraction of the thinking power that had been expended on the development of the motor car were directed by the community towards securing the efficiency of the human machine, there could be no doubt that in a few decades the physique and health of the nation would be transformed The newer outlook on medicine implied consideration of two points—namely, how much of disease was preventable, and what steps were to be taken to prevent it Great improvements had been recorded in the past thirty years in tuberculosis, child welfare, schemes for venereal disease, and so forth, but the present hospital services were admittedly defective in meeting the growing requirements of the community Progress in preventive medicine, in his opinion, lay in two important directions one might be summed up in housing, and the second in nutrition He considered that nutrition was the basis of health, and that the propagation of knowledge of this subject among all sections of the community was essential

Edinburgh Royal Infirmary Appeal

The managers of the Royal Infirmary of Edinburgh have now issued an appeal for £500,000 in support of the bicentenary extension, referred to in the *British Medical Journal* of May 24th (p 971) The appeal points out that the Infirmary was founded, and has been maintained for two centuries, by voluntary effort, and that during this time it has brought fame to the city of Edinburgh through its school of medicine In the middle of the eighteenth century the system of teaching pursued at this medical school was an inspiration and example to pioneer schools of the New World, which were founded on the methods practised in Edinburgh It was in the wards of the old Royal Infirmary that James Young Simpson in 1847 successfully introduced the use of chloroform anæsthesia, and where Joseph Lister in the succeeding decade laid the foundations of a new era in the art of surgery During the two hundred years that have elapsed since 1729—when the Infirmary was founded with six beds—continuous development and extension have taken place The present institution in Lauriston Place has 1,000 beds, and nearly 20,000 patients are treated annually in its wards This hospital centre ministers to a large area of Scotland, as well as more distant places It is also an integral part of the Edinburgh School of Medicine in providing facilities for the education of medical students and the training of nurses The immediate requirements of the Infirmary are threefold The first is to provide extra accommodation for a waiting list, which has on an average between 2,000 and 3,000 names In the second place, a combined obstetrical and gynæcological department of 240 beds, with antenatal and out-patient departments, is to be erected as the result of co-operation with the Royal Maternity and Simpson Memorial Hospital In the third place, a new home for nurses, capable of making provision for 400 nurses, forms a definite part of the scheme The acquisition of the grounds and buildings of George Watson's College situated immediately to the west of the institution, in the autumn of 1931, will provide the site for the contemplated extension The site is estimated to cost approximately £100,000, the remaining £400,000 being required for the building and equipment of the maternity and gynæcological hospital, the nurses' home, and for other arrangements

Scottish Asylums' Pathological Scheme

In the thirty-third annual report of the Scottish Asylums' Pathological Scheme the Board points out that, in addition to the routine work done by the laboratory for contributing hospitals, a considerable amount of research has been carried out during the year by Dr F E Reynolds and his staff The most important contribution embodies the results of investigations into the pathways of infection to the brain from neighbouring foci of infection, for which Dr Reynolds was awarded a gold medal on graduating at the University of Edinburgh Other publications included pathological studies of cerebral tumours, published in *Brain*, and of the later manifestations of encephalitis lethargica, which appeared in the *Journal of Neurology and Psychopathology* The Board notes with appreciation the considerable extension of Dr Reynolds's teaching work in the University of Edinburgh, and especially his co-operation with Professor Edwin Bramwell on the clinical side, and with Professor W T Ritchie in systematic medicine Acknowledgements are made of grants from the Medical Research Council, the Carnegie Trust, and the Moray Fund (University of Edinburgh)

Bequest to Glasgow Royal Infirmary

Intimation has been received by the managers of the Glasgow Royal Infirmary of a bequest by the late Miss Margaret Clarke of Glasgow, who left the residue of her estate, estimated to be about £20,000, to be applied to the convalescent home of the Infirmary to be erected at Cammesburn This sum is in addition to a gift of £10,000 made to the Infirmary for this purpose in 1925 The donations are intended to commemorate her father, Dr Samuel Clarke, a well-known physician in Glasgow about seventy years ago, who took much interest in the Royal Infirmary, and of his father, Dr Andrew Clarke, who practised as a physician in Glasgow in the eighteenth century The Infirmary possesses a site for this auxiliary hospital, for which £43,000 has already been subscribed Further support, however, is required in order that the scheme may proceed, and so greatly relieve the pressure at the Royal Infirmary

England and Wales.

"Rheumatismus Specificus"

A Chadwick Public Lecture on the significance of rheumatism in youth and middle age was given by Dr Frances Bach in the Hastings Hall of the British Medical Association's House on October 23rd, with Sir William J Collins in the chair Dr Bach emphasized the importance of rheumatism as a national and international problem "It cripples the leg of the labourer on the soil and the arm of the toiler on the bench, and starts a life of cardiac invalidism for his child" Of every 1,000 persons insured, 28 were suffering from some form of chronic rheumatism, and of every 100 school children, 10 were suffering from some form of juvenile rheumatism He described his work in London, and the impression he had gained from recent studies in North America, Germany, and Scandinavia He regarded "rheumatic fever" as a manifestation of specific infectious disease for which he used the term "rheumatismus specificus" to differentiate it from other forms of so-called rheumatism It damaged in particular the heart, blood vessels, joints, and nervous system Eight out of every ten cases of organic heart disease recognized in persons under 40 years of age were due to this infection It was the cause of nearly every case of heart disease in childhood, and in the first years of industrial life or complicating pregnancy and childbirth, and two out of three cases of heart failure in middle life were due to it In England and Wales 20,000 persons died each year from the effects of "rheumatismus specificus"—in other words, from rheumatic fever and the manifestations of rheumatic heart disease It was therefore an important public health problem The disease was equally common in America and Germany, but the picture differed Whereas in this country the joint manifestations were common, in North America and Scandinavia environmental conditions tended to modify them, but the essential features—infection of the heart and blood vessels—were found in children and young men and women in those countries as commonly as in England Dr Bach then described the organized effort in North America to fight this disease He emphasized the value of a common classification, such as that in use in the majority of American clinics, and of organized statistical work The importance of rheumatic heart disease as a cause of maternal mortality justified the place of the heart specialist in the ante-natal clinic After referring to the value of vocational guidance and workshops for cardiac cripples, the lecturer ended with a plea for further research in the

laboratory and insisted that the essential lines of progress to-day were those preached a hundred years ago by Chadwick—namely, elimination of poverty and overcrowding and improvement of the dwellings of the poor

Guy's Hospital Annual Report

During the past six years the tale of those treated as in patients at Guy's Hospital has shown a steady increase. In 1924 the number reached 10,017, while the annual report for 1929 gives a total of 11,800. The inevitable increase in expenditure has not unfortunately, been balanced by the income although the deficit for 1929 was little more than half that of the preceding year. The governors are not inclined to take too gloomy a view of hospital finance, feeling that it is creditable that a charity only about a third of whose expenses are met by endowments should be able to meet 95 per cent. of its liabilities through a period of high taxation and falling trade. They feel little doubt that an increase in national prosperity will mean an equal rise in the fortunes of the voluntary hospitals. Although the number of available beds remains unchanged at 646, admissions increased during the year by about 250 more than the number for 1928 and the average stay of each patient decreased from 18½ to 18 days. The mortality rate maintains the level of the previous year—namely, 5·2 per cent. Some remarkable statistics showing the falling off in the consumption of stimulants, notable of beer, are included in the report. Even the quantity of brandy used has fallen from 250 gallons in 1859 to 71 during the past year, while the number of patients under treatment has increased from 4,658 to 11,245 in the same interval. Nearly 400 patients were sent to convalescent homes during 1929, and although there was a slight decline in the individual numbers of out-patients the total number of attendances exceeded those of the previous year. There has been a steady decline in the applications for maternity cards, which have fallen from 3,818 in 1908 to 1,639 in 1929. In the dental department a record has been established in the number of dentures authorized, 1,417 having been supplied during the year at a cost to each patient of £2 10s. There has also been an increase in the attendances at the Massage Department and thirty-nine pupils completed their training as masseuses during the year. In the Nurses' School the period of preliminary training has been increased from seven to fifteen weeks in order that a probationer may cover the entire syllabus for the Preliminary State Examination with the exception of lectures on the theory and practice of nursing before she enters the wards. This should have the desirable result of diminishing the strain under which a nurse lives during her first few weeks of ward work, while still in the preliminary training school pupils will be drafted into the wards for two hours daily during which time a corresponding number of the senior nurses will be released from duty and at liberty to study for examinations.

Tuberculosis in Hertford.

Dr. A. P. Ford, deputy medical officer of health and tuberculosis officer for the county of Hertford contributes to the report on tuberculosis in the county of Hertford for the year 1929 an interesting account of the value of certain forms of special treatment for tuberculosis which have been employed by him both in the sanatorium and at the dispensary during the year. Although for most early cases rest in suitable surroundings combined later with graduated exercise, suffices to restore the patient to working capacity, in some instances a course of tuberculin injections is given either in the sanatorium or after the patient's discharge with the object of making the repair more durable. When the disease is advanced the induction of artificial pneumothorax is recommended provided that the better lung is not too much damaged. In advanced febrile cases a course of sanocrysin is given in the hope of rendering hospital patients suitable for treatment at the sanatorium. At the beginning of the year there were fifty-six patients undergoing tuberculin treatment at the dispensaries in the eastern side of the county and during the year fifty-four other patients started the course. Of these 110 patients, 28 were still under treatment at the end of the year, 37 of the 1928 cases and 18 of the 1929 cases had completed the course, and in the remaining patients the injections were stopped either because the patient was not responding satisfactorily or because for some reason or other the patient was unable to attend for treatment. According to Dr. Ford the results on the whole have been decidedly satisfactory. He records similarly good results from the induction of artificial pneumothorax: seven patients have now had a full course of treatment—namely, three years or more of collapse followed by expansion of the lung. In two of these only partial collapse was secured but they are both well and able to work. Of the remaining five, four are apparently cured while the other is well and at work. During the year eight out of twenty-two patients in whom it was attempted to induce artificial pneumothorax were found to be unsuitable on account of adhesions. In seven patients the treatment has been discontinued: in four of these the course had been completed, in the remaining three the space became obliterated. One patient who had shown marked improvement while receiving the treatment for two years died owing to spread of the disease to the other lung. Dr. Ford's experience with sanocrysin has, on the whole, been encouraging. In seventeen out of twenty-six advanced febrile cases in which the treatment was tried the injections were discontinued before the course could be completed, either because no improvement was being obtained or because some complication had arisen. Of the nine who completed the course seven were benefited, three to a marked extent. Dr. Ford concludes that treatment by sanocrysin should be tried in all febrile cases that do not respond to ordinary treatment.

Courses at the Maudsley Hospital

A course of lectures and demonstrations, in two parts, for the diploma in psychological medicine will be held at the Maudsley Hospital, Denmark Hill, during the first five months of next year. The first part, which covers the first two months and begins on January 6th, comprises the following instruction: twelve lectures on the physiology of the nervous system, by Dr. F. Golla, at 2.30 p.m., on Tuesdays, January 6th and 13th, and at 4 on the remaining Tuesdays in January and February; also at 2.30 on the Fridays in these two months. Four lectures on biochemistry in relation to the nervous system by Dr. S. A. Mann at 4 p.m. on Fridays in January, beginning January 9th. Twelve lectures on the anatomy of the nervous system by Professor Le Gros Clark at 2.30 p.m. on Wednesdays in January and February, beginning January 7th, and also at 4 on Wednesday in February. Eight lectures in psychology by Dr. Henry Devine at 2.30 p.m. on Thursdays in January and February, beginning January 8th; these will be followed by a course of practical instruction. Six lectures on mental mechanisms by Dr. Edward Mapother, at 2.30 p.m. on Tuesdays in January and February, beginning January 20th. Four lectures and demonstrations on physiological psychology by Dr. Golla at 4 p.m. on Tuesdays and 2.30 on Fridays in February, beginning February 17th. There will also be a concurrent series of clinical lectures on nervous disorder in children: the origin and significance of symptoms and the neuroses; members of the course may attend these clinical lectures without paying an additional fee; a time table will be issued later. The second part of the course, covering the months March to May inclusive, will comprise lectures and demonstrations on morbid psychology and psychiatry by Dr. Edward Mapother; eight lectures on treatment by Sir Hubert Bond, Dr. Golla, and Dr. J. S. Harris; twelve clinical demonstrations in neurology by Drs. Golla and James Collier; eight lectures on the psychoneuroses by Dr. Bernard Hart; two demonstrations on abnormalities of the fundus oculi by Mr. Foster Moore; four lectures on mental abnormalities of children by Dr. W. Moodie; six lectures on the practical aspects of mental deficiency by Dr. F. C. Shrubsall; four lectures on the legal relationships of insanity by Sir Hubert Bond; six lectures on crime and insanity by Dr. Norwood East; and demonstrations on laboratory methods and the pathology of the central nervous system. The fee for the whole course is fifteen guineas or ten guineas for either part separately. Appointments as voluntary clinical assistants

at the Maudsley Hospital are obtainable without fee by practitioners specializing in psychological medicine, and can be held in conjunction with attendance at either part of the course for the diploma. Inquiries about the lectures should be addressed to the director of the Central Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E.5.

Clinic for Downham Housing Estate

The London County Council has completed negotiations for the provision of a special clinic building on its new housing estate at Downham in the south-eastern district. The Downham estate now consists of over 6,000 houses. Since 1927 a temporary school treatment centre has been provided here, to serve also the adjoining estate of Bellingham, with over 2,000 houses. Details have now been provisionally agreed for the erection by the Council as housing authority on a site in Downham of a clinic building to be let for use as a school treatment centre for the London Education Service, and sublet for use by the Lewisham Metropolitan Borough Council as a maternity and child welfare centre. The building is to comprise a lecture hall, seating 130 persons, and which can also be used as the main waiting room; also a vision room, with dark room attached, a minor ailments room, cubicles for use in ante-natal cases, a doctors' room, a dispensary, two dental surgeries, and a recovery room, together with all needful accessory accommodation. The estimated cost is £8,135.

Correspondence.

PYREXIA OF UNCERTAIN ORIGIN

SIR,—Dr. Chalmers's observations on this subject (October 25th, p. 711) seem to be as important and as accurate as his interpretations are shrewd. Cases such as those described by him have been familiar to me since 1917, and seem to constitute one link in experience between those diagnosed, on the one hand, as cases of "influenza" and, on the other, as cases of "poliomyelitis," "polioencephalitis," "encephalitis lethargica," and what not. Such cases made up a very large part of the epidemics of "poliomyelitis" in the United States during the great war, very many such were to be seen in London during the winter of 1917–18, just before, and during, the epidemics which were officially called epidemics of (1) encephalitis lethargica, and (2) influenza.

It is through the careful observation, in the field, of such cases, that we come to see the almost ludicrous nature of the insistence by systematists on the points of distinction between what they call certain "specific" diseases, each *sui generis*. Dr. Chalmers's cases represent, or stand for, an *abdominal* type of illness in which there is visceral as well as cerebro-spinal disturbance. The type in which the visceral disturbance is thoracic rather than abdominal is, of course, better recognized.—I am, etc.,

London, W.1, Oct. 25th. F. G. CROOKSHANK.

AVERTIN ANAESTHESIA

SIR,—Tribromethylalcohol, known under the proprietary name of avertin, was introduced as a general anaesthetic having advantages over many others because it could be administered by the rectum. It must be perfectly obvious that, if a general anaesthetic could be administered per rectum with safety and comfort to the patient, it would constitute an enormous advantage to the practitioner of medicine called upon in an emergency to undertake operative procedures. The doctor could administer the anaesthetic, satisfy himself that the patient was properly anaesthetized, and then proceed at his leisure to perform the necessary operation without having to trouble about an anaesthetist, very unfortunately, avertin is not such an anaesthetic.

In your issue of October 18th (p. 663) Sir Francis Shipway says that my paper on avertin at the Winnipeg Meeting of the British Medical Association is sombre and disappointing, and not a true representation of the facts as he sees them. It must remain a misfortune to everyone interested in the subject that Sir Francis was not present at the discussion of the paper so that he might have replied, not only to my views, but to those of other speakers, *more particularly* Americans, with large and varied experiences of the drug.

Sir Francis Shipway suggests in his letter that avertin anaesthesia may be valuable in combination with other anaesthetics, and in this respect I agree with him, but it is necessary to point out that, *if avertin has to be* given along with other anaesthetics, the principal object of its use for routine work has disappeared. An anaesthetic which can be given by the rectum *is invaluable*, but if it has to be given in conjunction with another anaesthetic it ceases to be of primary importance. Even as *an adjuvant* to other anaesthetics, avertin is now being rapidly superseded—in America and on the Continent, at all events—by sodium amytal and other synthetic drugs. If, as Sir Francis states, "it is premature to draw any comparison between the death rates of ether, chloroform, and avertin," it is also premature to regard avertin, even in combination with local anaesthesia or gas and oxygen, as the ideal anaesthetic.—I am, etc.,

Cambridge, Oct. 25th. F. B. PARSONS.

HYPERTONIC SALINE IN THE TOXAEMIAS OF LATER PREGNANCY

SIR,—The statement of Drs. Harding and Van Wyck, made four years ago and repeated this summer, that in the toxaemias of pregnancy protein is innocuous and that the salt in the food does the harm (*British Medical Journal*, October 11th, p. 589), is sufficiently interesting. It seems to me a dangerous statement, and should not pass unchallenged. It does not seem proved by the feeding *of eclamptics with high protein diet, even though* no aggravation of the symptoms, but, on the contrary, improvement, was noted. The patients were admitted after recovery from eclampsia for further observation—that is, after an interval had elapsed between the convulsions and the giving of the protein. During this interval a change of some sort, permitting such feeding—for instance, a restoration of an adequate blood flow through the liver and kidneys—must have occurred.

Even Drs. Harding and Van Wyck—judging from their case of eclampsia reported (Case IV)—do not give their high protein diet immediately after the fits have ceased. They allow an interval to elapse. In this case at least three whole days elapsed, on the day after the outbreak of convulsions water only was given, and on the next two days a "milk diet." Thus, Harding and Van Wyck apparently act on the assumption that immediately after the fits a high protein diet, even though salt-poor, cannot be borne, they must believe that immediately after the fits the viscera are inefficient—a view for which there are many good reasons. After some days, however, they found that such a diet could be tolerated, and indeed might be associated with clinical improvement. But clinical improvement with heavy meals postulates eliminating organs vigorous enough to cope with the absorption of the digestion products, and these authors suggest as much. "Portal lobular liver degeneration" in these cases, they say, is "not always present." We can reply that even if it were, provided the blood flowed adequately through the other parts of the lobules, and the cells in these parts were sufficiently numerous and healthy, no bad effects from ingestion of protein would occur. But if the intestinal blood surcharged with such products rushes through the liver, and the liver cannot deal with them—because either too many cells are rendered *effete*, or the blood rushes through too quickly even for healthy liver cells to catch and thus change these products—a clinical state comparable with that of a dog with an Eck's *fistula and fed with meat* is produced. That in the latter the associated convulsions are due to an increased absorption of salt will, I think, be difficult to demonstrate.

The patients who had recovered from eclampsia and who were given high protein diet were, moreover, kept in bed. Drs. Harding and Van Wyck point out *the highly* beneficial effect of rest in bed. So important do they regard this, with the general attention to hygiene, that they say they cannot legitimately ascribe the

improvement to the protein or fat in the diet Rest in bed can only act by reducing the work of the viscera and in facilitating that work The tone of all the muscles is reduced, and the blood flow through the viscera rendered less difficult The abnormal distribution and retention of water—the phenomenon associated with the toxaemia of pregnancy on which Drs Harding and Van Wyck lay the most stress, and which is only explained by a visceral impediment—tend to pass away with rest in bed because rest in bed markedly and especially affects the circulatory mechanism, facilitating the visceral work by removing to some extent the hindrance to the blood flow through visceral capillaries

There is another factor of moment—the state of the child As long as the child is intrauterine and alive, the portal blood flow, to meet the foetal demands, must continue increased compared with the non pregnant state, and as the child develops so must this portal blood flow progressively increase to meet these growing demands If the child dies in utero, this increased demand on the portal blood flow (the source of nutrition) and the associated increment of hepatic work immediately stop If the uterus is emptied the same result occurs If the toxaemia of pregnancy is due to maternal viscera having become impaired (as a result of the pregnancy), it is not surprising that with foetal death or emptying the uterus maternal improvement should occur if in pre-eclampsia the patient be fed well and foetal death should occur, a maternal improvement should not astonish us In this respect it is interesting to find that in their 1926 paper[1] Drs Harding and Van Wyck, speaking of their high protein feeding, say "The results are undoubtedly beneficial to the mother, though the child does not always escape death" That the eclamptic woman in whom labour rapidly supervened (Case IV) should have been "feeling well" and perhaps feeding well on the fourth day is not very remarkable

Drs Harding and Van Wyck's main contention that the taking of salt with food in a developing toxaemia will make the patient worse, and even produce eclampsia, is doubtless sound, but it only shows that the primary change in the toxaemia of pregnancy is a visceral change Thinking to dehydrate the oedematous patient or the one whose weight had unduly increased, they tried the effect of injecting intravenously hypertonic saline But this can only dehydrate the patient if the kidneys be efficient The kidneys are the especial organs concerned in this mechanism If the kidneys are sufficiently obstructed such an injection can only have as its effect an increase in the volume of the blood and a rise in blood pressure Thus, in a case of normal pregnancy, these authors found no rise in blood pressure and no albuminuria the patient simply complained of thirst and passed two fluid stools In a patient with a mild toxaemia, the blood pressure fell and the albuminuria decreased, but the patient felt sick and had headache and was given milk diet for three days In the third case, also one of "mild toxaemia," the blood pressure rose, the albuminuria increased, and the patient vomited She was given milk diet for three days when labour supervened The fourth case, a primigravida, "admitted one convulsion" with marked albuminuria was injected ten days later, the blood pressure rising and the albuminuria increasing The very next day she was injected again The blood pressure rose greatly headache and epigastric pain appeared, and the patient vomited apparently several times In the evening convulsions appeared and labour

If Drs Harding and Van Wyck's interpretation of their facts is sound, some sign indicative of a toxaemic state should have been induced in the case of normal pregnancy—a primigravida, eight months pregnant—by injecting hypertonic saline It did not do so The evidence on their facts thus is that salt per se is not the cause of the toxaemia of pregnancy, it does not induce it, though it may increase it Inquiry may show that during the war the food in Germany was prepared with more salt than usual On the other hand it does not seem that food per se is the cause of this disease Many women as Whitridge Williams has pointed out eat largely when pregnant, and the only effect is a large child He makes no note that these individuals restrict their salt, but he emphasizes that many of them lead idle or easy lives

The more one reflects on this matter and examines it testing it in the light of new observations, the more certain does one become that the toxaemia of pregnancy has a physical basis It is activity which produces this disease and eclampsia—acting, as I have urged, by obstructing the blood flow through the viscera Just in so far as food is necessary for general activity, and is taken for this, does it come into play The relative starvation of the German women during the war produced a weakness which has been commented on, and which itself explains the fall in the incidence of eclampsia among them The teaching that the pre-eclamptic woman—often remarkable for her physique and obvious strength—should be starved, promulgated by many noted obstetricians and especially of the Dublin school, weakening her as it does (and as do morphine, chloroform, and bleeding in eclampsia), must be considered unsound, and the only safe course to adopt—I am, etc

Rugby Oct 16th R H PARAMORE, F R C S Eng

[1] Dis in the Treatment of Pre-eclampsia. Journ. Obst. and Gyn. Brit. Emp. 1926 xxxiii 17

PERSONNEL OF A RADIUM CLINIC

SIR,—From Mr Fitzwilliams's letter in the *Journal* of October 11th (p 621), some of your readers may have drawn the conclusion that surgeons have made a thorough trial of x ray treatment in cancer, and that the results of these detailed and extensive observations "have been disappointing to surgeons" This is far from being the case

Dr Russell Green has shown (October 25th, p 710) that there is statistical evidence strongly supporting the combined use of x rays and radium in cervix cancer, and the combined use of x rays and operation in breast cancer But—for example, in the case of breast cancer—there are as yet available very few observations which tend to show the relative value of operation as compared with x rays or radium, or a combination of the two, in point of fact the thorough trial of radiation methods in surgical (apart from skin or gynaecological) cancer implied in Mr Fitzwilliams's disparaging reference to x rays has nowhere yet taken place

Surgery and radiation are both local methods of treatment As such they are likely to be most beneficial when applied to patients with early localized growths, I have shown this in respect of operable breast cancer when treated with x rays or surface radium[1] Since surgeons hardly ever send on to the radiologist early cases of cancer for x-ray or surface radium treatment, but as a rule the inoperable or recurrent patients, the only way in which these methods can be truly evaluated is for the patients to have access directly to the radiologist (radiotherapist) This is customary in some centres such as Stockholm where radiology has won for itself an autonomous position In Great Britain, however, it is possible only where the radiologist has beds of his own, as is the case at the Middlesex Hospital where the generosity of an anonymous donor has allowed six beds to be set aside for the non-operative treatment of cancer, the special intention of this benefaction is that early cases where there is a wish to avoid operation or there is a contraindication to operation, will be able to have purely radiological treatment, by x rays or by surface radium, or by both combined—I am, etc,

London W1, Oct 20th J H DOUGLAS WEBSTER

[1] *Lancet*, 1928 i 1 1000 ii 1 6

IONIZATION FOR COLITIS

SIR,—I have been much interested to read in your issue of October 18th the article by Dr Julius Burnford on the treatment of ulcerative colitis by ionization As long ago as November 4th, 1905, I published a letter in the *Lancet* on the treatment of a single case of colitis by ionization, and in the *Lancet* of April 22nd 1911 a paper of mine on further cases was published dealing fully with the question of technique, results, etc Dr Burnford's results confirm my own experiences, and I have seen no reason to alter the technique which I described in 1911.

[1] *Lancet*, 1928 i 1 1000 ii 1 6

I merely write this letter to congratulate Dr. Burnford on developing a treatment which I believe I was the first to describe twenty-five years, and subsequently nineteen years, ago. It has always appeared to be difficult to understand why the ionization treatment of both mucous and ulcerative colitis has not been adopted as part of the routine therapy of this disease.—I am, etc.

Cheltenham, Oct. 22nd. J. CURTIS WEBB.

ANAESTHESIA FOR THROAT OPERATIONS

SIR,—I, too, am interested in the recent correspondence on anaesthesia for throat operations, for in 1923 I was adopting almost the same procedure as recommended by your correspondents for anaesthetizing patients for dissection of tonsils.

Using a Boyle's apparatus—after a preliminary injection of morphine and atropine—I induced with gas and oxygen, supplemented with ether or a mixture of ether and chloroform as required. As soon as the patient was fully anaesthetized, I passed a soft, fairly large-bored rubber catheter through the nose into the trachea, and continued the anaesthetic with the same apparatus. The surgeon's dresser followed the knife with a fine tube attached to a suction apparatus, so there was never any bleeding into the mouth or throat. With the correct mixture the method was automatic: the patient's colour remained healthy, the respirations, as shown by the rise and fall of the bag, were quiet and regular. These operations were always performed in a darkened theatre, except for the light of the surgeon's head-lamp.

I have always considered the method ideal for many dental operations, but I have never had the opportunity of using it in this field of work. The usual advantages of gas and oxygen—quick recovery and no after-symptoms—were the rule.—I am, etc.,

WRIGHT LAMBERT, M.R.C.S., L.D.S.

Brentwood, Essex, Oct. 25th.

MEMBERS OF THE ROYAL COLLEGE OF SURGEONS

SIR,—A resolution advocating some representation of the Members on the Council of the Royal College of Surgeons of England has been passed by large majorities at forty-one consecutive annual meetings of Fellows and Members. On November 21st, 1929, a resolution of this character was passed almost unanimously, and the Council replied:

"No evidence has been submitted to the Council that the change in the constitution of the College advocated in the resolution is desired by any considerable number of the Members of the College and the Council is therefore not prepared to reopen the question at present."

In order to elicit their desires a poll of Members resident in the United Kingdom and the Irish Free State is being taken by the Society of Members. Lack of financial support prohibits a total poll. Some 12,500 cards have been issued and nearly 7,000 replies received. May I ask all those who have not returned their cards to do so promptly, since it will be necessary to close the poll on or about November 7th. These should be sent to Dr. Pinto Leite, 25, Fellows Road, London, N.W.3. It is hoped that all Members will respond, and thus show an interest in their College and afford to the Council the evidence desired.—I am, etc.,

ERNEST F. WARE,
President of the Society of Members.

London, W.1, Oct. 27th.

TRAINING OF PUBLIC HEALTH WORKERS

SIR,—The leader on the training of public health workers in your issue of October 18th appears to me to require in the last paragraph a considerable amount of explanation. Whilst the whole world appears to be unanimous in the opinion that examinations are a very poor means of discovering ability, it is so far the only practicable method, except lengthy and perhaps disastrous trial. This being so, I fail to understand the writer's point when he says that posts as sanitary inspectors should be open to men and women who, though of good education, cannot pass examinations. Who is to assure the engaging authorities that a man who cannot pass an examination is in fact of good education? Good education in the required subjects is not apparent except upon long and intimate acquaintanceship. A sanitary inspectorship is no longer considered an admirable post for the mayor's gardener or coachman.

In my opinion, so far from it being good business to lower the educational standard of sanitary inspectors it should be the aim of the governing authorities to raise it considerably. With every day that passes a sanitary inspector's work is rapidly becoming a work which demands a more scientific training, and the standard which should be aimed at should be the possession of the B.Sc. of recognized universities covering the necessary subjects. This would necessarily imply a good general elementary education. If you weaken one stone of the edifice of public health, as it is shaping to-day you weaken the whole structure, and the sanitary inspector's work, dealing with questions of food, housing, water supply, and infectious diseases is the foundation of all public health work. The better that foundation, the better the building.—I am, etc.,

V. F. SOOTHILL,
Medical Officer of Health and School Medical Officer.

Norwich, Oct. 24th.

WORKERS' HEALTH EDUCATION

SIR,—The *British Medical Journal* of October 18th publishes five original articles on health training, and the first is by Professor J. G. Fitzgerald of Toronto, who includes under health workers "university graduates in medicine, arts, science, engineering, agriculture, public health nursing, social science, and those who have received training in the duties of a sanitary inspector." Professor Fitzgerald and your editorial rightly emphasize the importance of this vocational aspect of modern health training. May I as a past public hospital and health officer stress the even greater importance of mass health training of the minds of the workers? Without an educated people, health workers cannot apply efficiently a thousandth part of what is known of hygiene, and medical science generally, to personal and communal health. One attractive method I have seen on the Continent and in the Soviet Union of obtaining the interest of apathetic workers is that of free daily demonstrations to the public, in health museums, by experts of all branches of preventive and social medicine, supplemented by exhibits, etc. The socialist workers' health movement, of which I enclose a circular, aims at interesting the workers personally in their own health until a health conscience and reasonable knowledge is common property.—I am, etc.,

F. G. BUSHNELL,
Honorary Organizing Secretary Plymouth Workers' Health Committee.

October 20th.

NECROPSIES BY GENERAL PRACTITIONERS

SIR,—Some years ago a Manchester coroner, on taking office, decided to ask the practitioner in charge of the case under investigation to perform the post-mortem examination. This practice was carried out for a few months. In a busy practice at the time, I must say I did not welcome the prospect of these necropsies, chiefly because of the short notice that had to be given to the practitioner. To perform my first post-mortem for the coroner I had to drag myself out of bed before 7 A.M. in order that the evidence should be in his hands before 10 A.M. My first post-mortem was held one Sunday at midnight in a draughty ill-lit police mortuary, with temperature well below freezing point. I was not altogether ill pleased when I learnt that it had come to the ears of the coroner that one general practitioner, who had sent in a full report of his necropsy, including a dissection of the brain, had performed the whole operation with his pocket knife. The coroner discontinued the practice, and selected a rota of young specialists.—I am, etc.,

ALFT. PRIEST.

Manchester, Oct. 22nd.

PHYSIOLOGICAL RESEARCH AND CLINICAL MEDICINE

SIR,—In your issue of October 11th Lord Moynihan rebukes physiologists for making journeys into countries far from the realm of clinical medicine, in particular, he holds them blameworthy for having failed to bring any help to the treatment of Raynaud's disease and other allied conditions Since in acetyl choline the physiologists have only recently brought back from that same "far country" the very remedy for which Lord Moynihan asks, the reproach appears to be untimely, to say the least It is difficult to foretell of even the most academic piece of physiological research that it may not in the long run become as "nominal" as even Lord Moynihan could wish —I am etc,

Wolverhampton Oct 24th. S C DYKE

STAFFING OF MATERNITY AND INFANT WELFARE CENTRES

SIR —In to-day's issue of the *British Medical Journal* the maternity and child welfare committee of the city of Birmingham invites applications from medical women for the post of assistant medical officer for maternity and child welfare *The appointment will automatically terminate in* the event of the medical officer's marriage If this condition is made consistently the medical direction of maternity and infant welfare will be confined to men, spinsters, and unmarried mothers Is it advantageous that married mothers should be excluded from maternity and infant welfare work?—I am, etc,

Birmingham Oct 27th CRANSTON WILKER

Obituary

THE LATE DR E D WHITEHEAD REID

SIR CHARLES GORDON-WATSON writes

The tragic death of Whitehead Reid at the early age of 47 is a terrible blow to a very wide circle of devoted friends It was my good fortune to teach Reid as a student, to serve with him in France, to be associated with him from time to time in surgical practice, and to claim him as a friend

He succeeded his father in general practice in Canterbury Had he chosen, he might have made a big mark in surgery He gave to general practice exceptional ability, intense enthusiasm, and an amazing capacity for work. In all branches of his work he kept right up to date, and found time to study at the fountain head new lines of treatment Recently he had made an intensive study of radium therapy, and had obtained a gift of radium for his hospital Whatever Reid undertook to do *he did thoroughly* His clinical notes on cases were a joy to the consultant No likely line of investigation was omitted or unrecorded, though his time was too seldom his own As a surgeon he was in great demand over a wide area, and his attractive and modest personality made him beloved wherever he went Despite a busy practice and numerous public appointments, he found time to master the technique of radiography and electrotherapy, and to lecture regularly to the St John Ambulance Brigade

Reid had a fine athletic figure, and was a good all-round athlete At Tonbridge School he shot in the Bisley eight At Cambridge he was secretary of Christ's Athletic Club He rowed in the College eight, and as a sculler was noted for his style Though he just failed to get a *blue*, he was a beautiful high jumper, and often competed in high jump hurdles, and sprints at the London Athletic Club where he won many prizes At Bart's his enthusiastic efforts as secretary (and later as captain) of the athletic club brought the shield back to the hospital in 1908 In 1919, after four years' war service abroad Reid took up flying, and was quick to realize the importance of civil aviation *and the value of civil pilots* as auxiliaries to the Air Force He was a pioneer in private ownership, and was known to everybody in aviation He became an expert pilot and as flight lieutenant to a London bombing squadron trained annually with the Air Force, and took part in bombing raids on London Recently he had become a gliding enthusiast, and was returning from a gliding exhibition when he met his death

Reid's energetic and crowded life, which came to a tragic end on Trafalgar Day, stands out at a time when enterprise and effort are too often lacking and Nelson's *famous* signal is seldom remembered A master pilot may meet misfortune in the air Those who knew Reid's record in the air, and knew the man, know well that no lack of foresight no want of skill or care, contributed to the cruel crash that closed the young life of his passenger and cut short his own versatile career The sun shone its brightest as Douglas Reid passed to his rest, escorted by his brother officers of the Royal Air Force, and followed, between the rows of respectful citizens, by some two thousand friends who had filled the cathedral to the full to pay a tribute to his memory A last tribute, a last post, that could not fail to soften a widow's grief

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We have just received news of the death of ALFRED WITHERS GREEN, M R C S, L R C P, at Hobart, on the eve of his seventy seventh birthday He had suffered about Christmas time last year from coronary thrombosis, since when he had lived more quietly, and was not troubled The son of Mr Abbott Green, at one time Inspector-General of Hospitals, Bengal, he was born at Dacca, and came to England as an infant before the Suez Canal was completed Educated at Bedford Grammar School, where he excelled at Rugby football and cricket, he went on to Guy's Hospital, but had to begin practice in 1876 before completing his M B, B S For over forty years he conducted a busy practice in the City of London, and experienced the changes that occurred as London expanded and the city became non-residential In early years his leisure time was spent in connexion with the London Medical Mission, and to medical missionaries he was always ready to offer hospitality and assistance Dr Withers Green *did valuable work for the Poor Law Medical Officers'* Association, and on committees in connexion with the Insurance Act For several years prior to the war he would conduct parties round the haunts in the City of Dr Samuel *Johnson, Goldsmith, and Garrick, and thereby formed a* wide circle of friends both *in and out of the profession* In 1915 when London hospitals were depleted of their staff on active service, he took up anaesthetics and ably assisted them Not until after the war did he retire and join one of his sons in Tasmania

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With the death, on October 26th, of Dr FREDERICK WILLIAM SPURGIN, in his ninety fourth year, London has lost its oldest medical practitioner Born at Harlow, Essex, in 1837, he was educated at the Mercers' School, after leaving which he was apprenticed, as was then the custom to his uncle, Dr Charles Spurgin a practitioner of great repute in East Anglia, and a close friend of Sir Astley Cooper Frederick Spurgin entered the Middlesex Hospital, and after a brilliant career as a student, during which he carried off most of the prizes, he obtained the diplomas L S A and M R C S in 1861, adding later the L R C P of Edinburgh He served as resident surgeon (now house surgeon) at the Middlesex Hospital, and was then appointed resident casualty surgeon at the Poplar Hospital, where his skill in surgery was much appreciated Commencing private practice in Hammersmith he rapidly built up a successful practice He removed to Henrietta Street, Cavendish Square, in 1869, when he purchased succession to an old-established practice and o began his long association with Marylebone He was appointed divisional surgeon to the local police and held the position *for forty-seven years—a record in police* service With numerous appointments and a large and busy private practice, Dr Spurgin was for sixty years one of the best known practitioners in the West End He was a witness in his time in many well-known cases including those known as the Harley Street mystery in 1880 and the George Street murder in 1883 When about to retire from active practice in 1914, the great war and his son's absence on military duties caused him to continue in harness until 1919 Active and vigorous to within a few months of his death, Dr Spurgin was a well known

figure in Marylebone, and his passing will leave many regrets among the older inhabitants, by whom he was much respected and loved He was endowed with very sound judgement and a keen diagnostic sense, and his opinion was much valued by his colleagues He was a celebrated angler and a zealous Freemason being by some years the oldest member of his lodge, which he joined in 1869 Of his family of five children a daughter and a son survive him, the latter is still carrying on the practice established more than a century ago

Medical Notes in Parliament.

Opening of New Session

A NEW session of Parliament was opened by the King on October 28th The Speech from the Throne announced that bills will be submitted for raising the age of compulsory school attendance, for modifying and extending the law relating to town planning and the preservation of rural amenities, and for the amendment and consolidation of the Factory Acts Other important bills were also promised The House of Commons began the debate on the Address, which will continue next week

Universities and Colleges.

UNIVERSITY OF LONDON

FOUR lectures on the respiratory functions of the blood will be given by Dr L E Barlow at University College, Gower Street, W C, on November 10th, 17th, 24th and December 1st, at 5 p m Dr W Robson will give a course of four lectures on protein metabolism at King's College, Strand, W C, on November 13th, 20th, 27th and December 4th, at 5 p m Admission to the lectures is free, without ticket

The Graham scholarship in pathology has been awarded for two years to C L Oakley M B, B S, on the recommendation of the School Committee of University College Hospital Medical School

UNIVERSITY OF ABERDEEN

DR WILLIAM G EVANS, senior resident medical officer, Mount Vernon Hospital for Cancer, Northwood has been appointed McRobert lecturer in malignant disease and radium officer at the Aberdeen Royal Infirmary

UNIVERSITY OF EDINBURGH

ON the occasion of his installation as Chancellor, Sir James Barrie delivered a characteristic address to the students and conferred honorary and other degrees, as well as diplomas upon the successful candidates The Diploma in Public Health was conferred upon the following

Katharine H Aitchison I M Davidson Martha Keith R J A Lavoipierre D Lees I F Macleod Barbara K Nicholson Jean Suther land Helen A Wright

UNIVERSITY OF BOMBAY

DR ABRAHAM S ERUKAR honorary physician to King Edward Memorial Hospital Bombay has been elected dean of the Medical Faculty of Bombay University

The Services

HONORARY PHYSICIANS TO THE KING

COLONEL G I THORNTON V C T A (A D M S 43rd Wessex Division) and Lieut Colonel (temporary Colonel) W P MacArthur D S O R A M C promoted to Brevet Colonel, have been appointed honorary physicians to the King in the place of Colonel A B Soltau T D deceased, and Lieut Colonel (Brevet Colonel) E Ryan C M G, D S O, R A M C (retired)

No 14 STATIONARY HOSPITAL

The eighth annual dinner of the medical officers of No 14 Stationary Hospital will be held on Friday December 12th at the Trocadero Restaurant Piccadilly at 7 15 for 7 45 p m Colonel J C P Ryan D S O will be in the chair The price (including wines) Dr H Letheby Tidy 2 Devonshire Place W 1, is again acting as honorary secretary

DEATHS IN THE SERVICES

Lieut Colonel Arthur Samuel Arthur O B E R A M C (ret), died at Blackhall Wood, Carlisle on September 9th aged 53 He was born on March 16th 1877 and was educated at the Newcastle School of Medicine graduating as M B and B S of Durham University in 1898. He served as a civil surgeon in the South African war for over two years and was for some time in charge of the native refugee depot in the Orange River Colony He entered the R A M C as lieutenant on January 30th, 1904, becoming major on July 1st 1915 and retired on account of ill health with a step of promotion on May 23rd 1921

Lieut Colonel Hugh Watts I M S (ret) died in June last aged 50 He was born on September 18th 1879 was educated at St George's and Guy's and took the M R C S and L R C P Lond in 1903, also graduating in the same year as M B and B S Lond After serving as resident obstetric surgeon and assistant house surgeon at Guy's Hospital and as clinical assistant at the Evelina Hospital for Sick Children he entered the I M S as lieutenant on January 30th 1904 became lieutenant colonel on July 30th 1923 and retired on May 10th, 1928 When he entered the Service he gained the Montefiore prize and medal for military surgery at the Army Medical School

Medical News.

THE Lloyd Roberts Lecture at Manchester University will be delivered on Friday, November 7th, at 4 15 p m, by the Right Rev E W Barnes, D D, Bishop of Birmingham, the subject will be heredity and predestination

"SCIENCE and modern industry" is the subject of the Norman Lockyer Lecture, 1930, which will be given by Professor Sir William Pope, D Sc, F R S, in the Gold with Hall, Foster Lane, E C, on Thursday, November 13th, at 4 30 p m The Rt Hon Sir Samuel Hoare, Bart, President of the British Science Guild, will take the chair at the lecture, for admission to which there will be no charge Tickets may be obtained on application to the British Science Guild, 6, John Street, Adelphi, London, W C 2.

AT a meeting of the Pharmaceutical Society of Great Britain, to be held in the lecture theatre at 17, Bloomsbury Square, W C, on Tuesday, November 18th, at 8 30 p m a lecture will be given by Mr Wilfred H Linnell, Ph D, M Sc on the purity, standards, and tests of medicinal substances Scientific friends of members will be welcomed

AT a meeting of the Royal Sanitary Institute on Saturday November 15th, a demonstration will be given at the Field Laboratories, Milton Road, Cambridge, on recent research in connexion with animal tuberculosis, by Professor J Lissell Buxton, and the staff of the Department of Animal Pathology of the University of Cambridge The chair will be taken at 10 30 a m by Dr James Fenton

THE Fellowship of Medicine announces that the following two lectures for the M R C P course will be given at 8 30 p m at the Medical Society, 11, Chandos Street, Cavendish Square on November 4th Dr Maurice Cassidy will speak on auricular fibrillation, and on November 7th Dr O L V de Wesselow will discuss anaemia Tickets may be obtained at the lecture room On Monday, November 3rd a free lecture will be delivered at 4 p m by Dr B T Parkes Smith on recent advances in the diagnosis and treatment of coronary thrombosis A course of free lecture demonstrations on diseases of infancy and childhood will be given at St John's Hospital, Lewisham, by Dr J Gibbons on Monday at [illegible] at 4 30, commencing on November 3rd and continuing at fortnightly intervals thereafter until February 16th Free clinical demonstrations will be given during the week as follows at St John's Hospital Leicester Square, on November 3rd, at 2 p m, by Dr W Griffith at the Metropolitan Hospital, Kingsland Road, E, on November 4th at 2 p m, by Dr J W Linnell and by Mr L J Jefferiss The subjects of special courses in November are as follows venereal disease (November 3rd to 29th), medicine [illegible] and gynaecology (November 10th to 29th) neurology (November 10th to December 13th), proctology (November 24th to 29th), ante natal (November 5th, 12th, 19th 27th) diseases of the chest (November 17th to 23th [illegible] and tickets for all courses may be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W 1

DR F E FREMANTLE, M P and Dr Marion Phillips [illegible] have been appointed members of the committee appointed by the Minister of Health and Secretary of State for Scotland to inquire into and report upon the present working of the Rent Restriction Acts (excluding the special provisions relating to agricultural cottages) and whether any, and if so what, additions or amendments should be made to them

THE post graduate courses at the Royal Northern Hospital, Holloway Road, N 9, will be resumed on Tuesday November 4th at 3 15 p m when Mr L E Barrington Ward will give a demonstration of surgical cases The course will be continued till December 16th when there will be a break for the Christmas vacation and will recommence on January 20th, 1931, and continue weekly till March 17th From Monday December 1st, till Friday December 5th, an intensive course will be held daily The lectures and demonstrations are open to all practitioners free of charge Full particulars can be obtained on application to Dr L G B Calvert at the hospital

THE Minister of Health received a deputation on October 24th from the Standing Joint Committee of the National Women s Organization The deputation was introduced by Dr Marion Phillips M P , and urged the importance of early steps being taken by the Government to set up a national maternity service stressing the desirability of full control of such a service by the health authorities The Minister said in reply that he proposed to approach local authorities immediately and urge upon them the importance of an improvement and extension of their present maternity services He also said that he intended to discuss with the local and other authorities affected including the doctors and those concerned with health insurance the question of a national scheme but it had to be realized that these discussions would inevitably take time

THE Nursing Sisters of St John have recently set aside their home at Deptford for the establishment of a specialized maternity centre, from which midwives attend mothers in their own homes act as maternity nurses under local medical men and train students in practical midwifery Ante natal and post natal clinics are held regularly with an obstetric consultant in attendance A group, representative of the medical profession, midwives and friends were present on October 25th when the Bishop of Woolwich visited this centre for the purpose of dedicating a new altar which had been given for the chapel, in memory of Sir Francis Champneys, whose great work for midwives is so widely known

THE annual St Luke s Day service arranged by the Portsmouth Division of the British Medical Association was held on October 17th in All Saints Church Landport, the lessons being read by two members of the medical profession The Bishop of Portsmouth delivered an address in which he emphasized the importance of character in connexion with the ministration of the sick The St Luke s Day service, he said, was a recognition of the contact between the creative healing force and the practical activities of the medical servants of God

HEALTH week was observed in Port of Spain, Trinidad, from October 11th to 18th The Governor opened an exhibition illustrating the nutritive values of various kinds of food the production of clean milk the rearing of healthy children and the campaigns against malaria tuberculosis enteric fever and other diseases Dr G H Masson, medical officer of health delivered an address in which he commented on the remarkable decline in recent years in tuberculosis and enteric fever He appealed for the establishment of a permanent health and hygiene museum

A CONFERENCE on Mental Welfare will be held in the Great Hall of the British Medical Association House, Tavistock Square W C on Thursday Friday and Saturday, December 11th 12th, and 13th An opening address will be given by the Right Hon Arthur Greenwood M.P , Minister of Health and subjects for discussion will include matters relating to the Mental Treatment Act, the Mental Deficiency Acts, and school reorganization in connexion with the education of defective or retarded children Further information may be obtained from the secretary, Central Association for Mental Welfare 24, Buckingham Palace Road, S W 1

THE third International Congress of Radiology will be held in Paris at the end of July, 1931, the sections being roentgen diagnosis roentgen and curie therapy radio biology radiophysics natural and artificial heliotherapy and medical electrology

THE second Congress of the Federation of the Latin Medical Press was recently held at Brussels under the presidency of Professor Maurice Loeper of Paris on the occasion of the celebration of the centenary of the independence of Belgium

THE report of the Queen Alexandra Sanatorium Fund for the year 1929–30 shows that the number of grants allotted to assist patients receiving treatment for tuberculosis at Davos was forty four a decrease of nine on the exceptional total in the previous year Of the patients so assisted eleven resided in sanatoriums thirty one in small hotels or pensions, and two in private families Grants were paid at the rate of £2 a week and the average stay during the year was twenty two weeks Further information can be obtained from the honorary secretary of the Fund, Mr D Vesey, 97, Warwick Road, Earl s Court, S W 5

ACCORDING to the *Canadian Colonizer*, published by the Canadian National Railways, a new plan of co-operative health services is being operated in the Province of Saskatchewan under Provincial Government direction About three quarters of the population of Saskatchewan is rural, and not a small proportion live in outlying districts The problem of bringing health services to these people is a considerable one Recently the Government by legislation made provision whereby communities could obtain the services of doctors under a co-operative plan One scheme empowers a rural municipality to make a grant to a medical practitioner as an inducement to him to take up his residence and practise his profession in the community, a grant of money up to $1,500 being made to him for this purpose The other plan is that which makes it possible for rural municipalities, by vote of the residents of the area, to engage a full time practitioner at a salary not exceeding $5 000 yearly In this case the doctor acts as the community doctor giving free medical service to all ratepayers and their families Thirteen municipalities are trying out the first scheme and nineteen districts the second

WE have received the first part of *Fisiologia e Patologia della pelle* which contains five papers on various aspects of dermatology read before the second medical congress of S Pellegrino on June 29th and 30th by Professors C Foà, A Valenti M Truffi, M Ascoli and L Devoto respectively

A CANCER institute, consisting of a laboratory and a hospital of 40 beds has recently been founded at Tokyo

PROFESSORS HENRI FRÉDÉRICQ of Liège and J Varnieuwe of Ghent have been nominated members of the Royal Academy of Medicine of Belgium

DR FÜLLEBORN has succeeded Professor Nocht as director of the Institute for Tropical Diseases at Hamburg

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR British Medical Journal, British Medical Association House, Tavistock Square, W C.1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager British Medical Association House Tavistock Square W C.1 on receipt of proofs

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9361 9362 3353* and *3354* (internal exchange four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL* *Articulate Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westcent London*

MEDICAL SECRETARY *Mediocra Westcent London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin) and of the Scottish Office 7 Drumsheugh Gardens Edinburgh (telegrams *Associate Edinburgh* telephone 24351 Edinburgh)

QUERIES AND ANSWERS.

ADMINISTRATION OF MALE FERN

"C W B" would be glad of suggestions for the best mode of administration of male fern to a child of 3 years

PREMATURE GREYNESS

"G E McC" asks for advice on the treatment of a girl of 22 years whose hair for some years has gradually turned quite grey Formerly it was jet black Her mother had a similar experience

CONSTIPATION IN A CHILD

"K A" writes I should be glad of suggestions for the treatment of constipation in a boy of 6 years He is an active child always on the go an irrepressible chatterbox and sometimes has restless nights The condition has been present since birth and ten is to become more trouble some All the usual methods have been followed—that is inculcation of a regular habit and the eating of fruit and vegetable In addition daily doses of paraffin or petrolagar have been necessary and at intervals occasional doses of cascara evacuant or other aperient The child never passes a motion without some such artificial aid and has occasionally missed two or three days even when taking them

EPONYMY

"J G B" asks what is the technical expression for naming a disease after the person who first describes it—for example, Bright's disease?

*** The *Concise Oxford Dictionary* defines "eponym" as 'one who gives his name to a people, place, or institution. So 'eponymous.'' In the *New English Dictionary* under examples of the use of the word "eponymy,' we find—'The tendency of rude races to eponymy,' and again, "after the fashion of eponymy so prevalent among Asiatic nomads." It appears, therefore, that the troublesome practice of calling symptoms and diseases after people's surnames should be described as "eponymy." A longer, but perhaps more exact, term would be "eponymous nomenclature."

ALUMINIUM COOKING VESSELS

"L S" writes in reply to the query under this heading published on October 11th (p. 626) "W S M's" belief that sodium bicarbonate has a bad influence on aluminium utensils is correct. It should, however, be kept in mind that aluminium cooking utensils are invariably cleaned with soda or a material containing soda, such as soap, special cleaning powders, etc., and that that is at least as bad as the shocking habit of adding sodium bicarbonate in the process of cooking in aluminium utensils. On buying vessels made of aluminium the public is sometimes told not to have them cleaned with soda, but is invited to use a "special" soap. It seems obvious, however, that this, too, contains soda.

INCOME TAX

Removal to other Premises

"W A J" removed from a smaller house into the house of a neighbouring practitioner, which had fallen vacant. His claim to deduct as a professional expense the cost (£40) of repairing and redecorating the professional part of the new premises has been refused.

*** A similar question was discussed in the case of the Granite Supply Association, Ltd., v. Kitton, and it was held that the expense of removing to more commodious premises is not deductible. The expenses in question seem to have arisen out of the removal, and therefore to fall within that ruling. Possibly the inspector of taxes may feel able to allow—the equitable grounds are strong—an amount equal to the cost of redecorating the professional portion of the *old* premises, after making a reasonable allowance for any further 'life' in those decorations.

Double Assessment

"SCOTEX" has received a notice of assessment, showing him to be charged on £67 under Schedule E and £119 under Schedule D—in fact, his earnings have been £52 from practice and £67 as locumtenent.

*** It seems clear that an error has been made and that the £67 has been assessed twice—that is, as a separate amount and also as part of the £119 assessed under Schedule D. If "Scotex" writes to the inspector of taxes whose address is given on the notice no doubt the assessment will be amended. On the facts he is not yet liable to payment of tax.

LETTERS NOTES ETC

PYLORIC CANCER: REMISSION OF SYMPTOMS

DR H. LAWRIE (Ramsbottom) writes: With further reference to the question of Wicklow (September 13th, p. 455), the following case *may be of interest*. *An unmarried woman, now aged 70,* consulted me early in 1924 about epigastric pain coming on one to two hours after meals and relieved by food, duodenal spasm and possibly ulcer were suspected. In the middle of March that year five or six nodules the largest about the size of a large horse bean were detected in the angle between the left clavicle and sterno-mastoid tendon. These were not painful, but hard and well anchored in the surrounding tissues, and were strongly suggestive of lymphatic gland infection by malignant disease elsewhere. The gastric symptoms pointed to the seat of the primary growth being near the pylorus. The patient's mother had died of cancer of the throat. I dissected out the largest of the nodules which was reported to be a carcinomatous lymphatic gland the position of the primary growth not being determinable. At six weekly intervals she attended the Radium Institute for one year and thereafter at less and less frequent intervals until a year ago the nodules disappeared under treatment. In December 1925 the gastric symptoms which had meanwhile been more or less chronic were somewhat exacerbated and early in January 1926 the patient developed a large cold abscess on the inner aspect of the right arm just above the elbow joint. After evacuation it healed quickly and the gastric symptoms diminished steadily disappearing by the middle of the following month. In December 1927 she had an attack of bronchitis, following influenza again in December 1928 an attack of bronchitis and in February and March 1929 bronchitis, following influenza once when she has enjoyed uninterrupted good health. On October 5th 1930 she was in excellent health and there was no trace of any nodule in the neck. No treatment beyond radium and the ordinary measures to circumvent symptoms was adopted. In view of the transient notoriety of Coley's fluid in the treatment of cancer, and since the patient became rapidly well after the septicæmic abscess, I regret very much not having had cultures made from the pus.

TENNIS-ELBOW

DR RODERIC O'CONNOR (San Francisco) recalls Mr W. H. Trethowan's letter on tennis elbow in the *Journal* of December 28th, 1929 (p. 1218), and describes a procedure which he adopted in his own case with prompt relief. He writes: Inasmuch as *the condition is the result of an overworking of the muscles* involved in gripping, it seemed to me that a procedure calculated to lessen that strain was in order. Therefore I taped with adhesive the grip of my racket till it was so large that my finger tips failed to meet by more than a half inch. The condition *which had* been present eight or nine months, disappeared in less than two weeks, never to return, although I did not stop playing. In my own case the grip was evidently too small, calling for too tight a muscle action to prevent slipping.

PREVENTION OF BLINDNESS

A VOLUME of the *Proceedings* for 1929 of the Annual Conference of the National Society for the Prevention of Blindness gives an account of the organizations and policies which various States in America have adopted to safeguard the eyesight of their citizens. Among the subjects discussed at the conference were educational propaganda by the distribution of literature and by the establishment of diagnostic and advisory clinics, eye testing for the school and pre-school child, safety codes in industries harmful to vision, and the co-ordination of the work of the society with that of official and voluntary agencies. In the section of social hygiene the necessity for the early diagnosis of syphilis was frequently emphasized, and the subsequent discussion proved of some decided expressions of opinion in favour of compulsory attendance for adequate treatment. Other papers included addresses on ophthalmia neonatorum and on the etiology and prevalence of trachoma, which was stated to be a serious public health problem throughout the United States. In contributing to this discussion Dr. Ernst Fuchs referred briefly to the successful treatment of trachoma in England, and advocated the introduction of effective measures in several of the southern countries, such as Abyssinia, where, he said, perhaps a half or a third of the population was affected. His own paper on the subjective symptomatology of ocular disorders is published elsewhere.

MEMORIAL TO DR JANET HOARE

THE South Harrow Baptist Church has issued a public appeal for £240 to endow a bed at the Rahimatpur Women's Hospital, Palwal, India, as a memorial to Dr. Janet Hoare, who died at the hospital a few months ago at the outset of a promising missionary career. Dr. Hoare, who was 27, graduated M.B., B.S. *in* 1927 and became a Fellow of the Royal College of Surgeons in the same year. In 1929 she took the degree of M.D. at London University, being awarded a gold medal for gynæcology. Before proceeding to India at the beginning of this year she was house-surgeon at the Royal Free Hospital and at the General Hospital, Ashton-under-Lyne, and was associated with the Islington Medical Mission. The appeal contains many spontaneous tributes to her strength of character and generous disposition. Palwal is a small country town to the south of Delhi. In the absence of a Government medical service the Baptist Mission has provided treatment for the women of the town and district for nearly thirty years. Its work is now centred at the Rahimatpur Hospital, which has forty-two beds, and maternity and child welfare departments.

TO MEDICAL BOOK BUYERS

ANY medical practitioners who have recently bought books from an elderly book traveller (called Mr. Harris or Matthews) are asked to communicate with either Dr. Shalman, 57, Walsgrave Road, Coventry, or Dr. Hawley, Hazelbeech, Eaton Road, Coventry.

CORRECTION

MESSRS. BAILLIÈRE, TINDALL AND COX have asked us to point out that Dr. Ernest Nicole's book on psychopathology was erroneously described in their advertisement in the *Journal* of October 25th as intended to fill the gap *between the two* books of physiology and psychopathology. Physiology should have been *psychology*.

THE *Appointments Diary* for 1931 issued by the Dental Manufacturing Company, Ltd., Brecl House, Great Portland Street, W., is a handy and well produced desk companion intended for dentists but equally useful in medical consulting practice. The price is 6s. 6d. postage 6d. extra.

VACANCIES

NOTIFICATIONS of offices vacant in universities medical colleges and of vacant resident and other appointments at hospitals will be found at pages 49, 50, 51, 52, 53, 57 and 58 of the advertisement columns, and advertisements relating to partnerships assistantships and locumtenencies at pages 54, 55 and 56.

A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 22.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

287 Heart Disease in Middle Life.

Discussing heart disease in middle life, A J Mackenzie (*Canadian Med Assoc Journ*, September, 1930 p 370) ignores cases of late rheumatic endocarditis, syphilitic sclerosis of the aorta, and toxic adenoma, he deals only with those cases of sudden death or physical break-down occurring in apparently healthy, robust individuals Degenerative heart disease manifests in the early period symptoms of four types respiratory, digestive, painful, or oppressive The most frequent symptom is a slight shortness of breath on exertion which gradually becomes more marked and more easily induced. In many cases some discomfort after meals is noted early, this discomfort may pass into actual pain The anginal type merges into that described above commencing with indefinite precordial pain brought on at first by exertion, but which in the early period tends to disappear with exercise. Later on violent or even terminal seizures are likely to occur According to Mackenzie breathlessness is produced by an insufficient output of blood from the heart Pain, on the other hand is due to an insufficient supply of blood to an active part of the heart muscle Its pathogenesis is reviewed The patient s history affords the chief diagnostic aids, since the clinical examination is often disappointing The heart is usually enlarged, but murmurs are not heard in the absence of endocarditis or advanced changes The sounds are liable to be normal reduplication is a serious sign The rhythm is usually regular but extrasystoles are frequently found. Electrocardiograms are of most value in determining the existing state of the cardiac mechanism In most cases the blood pressure is raised Arterio-sclerosis as apparent in the radial and temporal arteries is significant The ill defined pathological changes responsible for the symptoms are briefly described As the disease progresses the symptoms which are enumerated, may be classified under one of three groups definite angina pectoris coronary thrombosis with instantaneous death, or death in a few hours or days, or with life prolonged for months or years and heart *failure, as ordinarily understood Early diagnosis is essential* Rest and an adjustment of the patient's activities are important therapeutic measures, and the removal of foci of infection is advisable Medical treatment will be limited to the correction of disorders of bodily function the assurance of restful sleep and possibly small doses of digitalis Five cases are recorded

338 Intrauterine Transmission of Typhoid Fever

According to E S Wing and D V Troppoli (*Journ Amer Med Assoc* 1930, p 405) although numerous examples have been reported of intrauterine transmission of typhoid, the present is the only case on record in which a mother convalescing from typhoid fever gave birth to a convalescent baby with a positive Widal reaction and typhoid bacilli in the stools Cultures of the mother s breast milk were repeatedly negative In a paper on typhoid fever and pregnancy Hicks and French collected 11 cases in which the infant gave a negative Widal reaction although the maternal blood in each case was positive In another two cases quoted by them typhoid bacilli were found in the foetal tissues and positive reactions were found in the foetal blood, and in yet another case the foetus delivered at necropsy gave a positive serum reaction, but showed no typhoid bacilli The writers maintain that their case supports the view that the foetus produces its own agglutinins

339 Quinsy in Diphtheria.

J F Cordon and D C Young (*Arch Int Med* September, 1930 p 408) draw attention to the danger of incising an apparent quinsy in diphtheria the resulting mortality being extremely high An open lesion favours the absorption of toxin and consequently local applications are avoided because of the importance of preventing any minimal injury to the relatively intact mucous membrane a surgical incision consequently thus a real danger In the differential diagnosis between faucial diphtheria and quinsy antitoxin should be given to any case in which a supposed peritonsillar abscess has been incised without finding any pus and the necessity for incision in a doubtful case is rarely so urgent that the operation cannot be delayed until the results of a culture have been obtained Quinsy occurs in adults more frequently than diphtheria, it is usually associated with a high temperature, which is a valuable diagnostic sign in distinguishing between a pyogenic and diphtheral sore throat Peritonsillar abscess is usually unilateral, whereas a bilateral swelling of the fauces is suggestive of diphtheria Although diphtheria may be accompanied by a concurrent pyogenic infection, incision of the quinsy is not justifiable *without the administration of* antitoxin, and delay beyond twenty four hours in giving antitoxin is almost invariably fatal In spite of the frequency of such secondary infections, the authors record only one case of associated peritonsillar abscess in 3,260 cases of acute diphtheria In this instance the abscess subsided without surgical intervention, which was also not required in three cases in which convalescence from diphtheria was complicated by abscess

340. The Prognosis in Coronary Thrombosis

L A Conner and E Holt (*Amer Heart Journ*, August, 1930 p 705) have attempted to assess the prognosis in coronary thrombosis from the standpoint of those patients who survive the first attack. An analysis has been made of 287 such patients, in all of whom the diagnosis was unquestionable, and who were collected from both hospital and private practice Of this number 85 per cent were males and the incidence according to five year age groups rose steadily from the 30–35 to the 56–60 period It was found, however, that the incidence between the ages of 41 and 45 was higher than in corresponding periods between 61 and 70, and that one-third of all patients had their first attack before the fifty first year Among women a distinctly greater proportion of cases occurred in the later years of life Pre-existing arterial hypertension was recorded in 34 per cent of the patients syphilis in 14 per cent, and diabetes in 10 per cent. Analysis of these groups showed that patients previously suffering from hypertension had the first attack of coronary thrombosis generally at a rather later age while those with evidence of pre existing syphilis were usually affected at a rather earlier age The common belief that the precocious cases of coronary thrombosis frequently have a syphilitic basis was shown to be no longer tenable, since most of the early cases in the authors series showed no evidence whatever of luetic infection Patients previously suffering from diabetes were somewhat concentrated in the age groups between 50 and 60, suggesting visceral arterio-sclerosis as the single underlying cause of both diseases *The immediate mortality in the first* attack was 16 2 per cent *Of the 287 patients studied 117 are still alive and of these 75 per cent were in good health at the end of one year, 56 per cent at the end of two years,* and 21 per cent at five years With regard to antecedent circulatory symptoms, 62 per cent of the patients had had none Two-thirds of the patients had one attack of thrombosis while about a quarter had two three attacks were recorded in 4 per cent, and four to seven attacks in 5 per cent Signs of arterial embolism occurred forty nine times in 42 patients rather more than half of these attacks involving the systemic arteries In general the greater the severity of the initial symptoms the higher was the immediate mortality

Surgery.

391 Hernial Appendicitis

L S Austin (*Med Journ and Record* August 20 h 1930 p 189) reports a case of acute gangrenous hernial appendicitis independent of strangulation occurring in a woman aged 60, with a history of operation for procidentia ten years earlier followed by eight normal pregnancies Two years previously she had noticed a painless irreducible swelling in the right groin which twelve months later became tender and intermittently painful increasing in size during the last six months On examination there was a mass in the right groin lying over Poupart s ligament and extending from about two inches below the anterior superior iliac spine to the pubes It was hard and tender especially in the region of the femoral opening A diagnosis of *strangulated right inguinal hernia was made and an* operation under local anaesthesia was performed On incising the sac a small amount of pus was evacuated this was found to originate in an abscess containing the appendix in the sac of an indirect inguinal hernia. The appendix was adherent to the wall of the abscess cavity from which it was freed its proximal end being adherent to the neck of the sac An appendectomy was performed the

stump being tied and carbolized but not inverted, care was taken not to detach the adhesions at the internal ring A tube between two layers of gauze packings was inserted up to the adhesions at the neck, resection of the redundant tissues of the sac and false membranes was performed The appendix was very thickened and kinked, with a gangrenous area and perforation at its tip The wound closed in nineteen days, and three weeks after discharge from hospital it was completely healed, considerable fibrosis and partial closure of the hernial orifice necessitated a radical cure later Auster remarks that the differential diagnosis rests between an enlarged vas, a lymph node, a strangulated appendix, epiploica a Meckel's diverticulum, an endemic form of inflammation of the vas deferens which is common in Egypt, or an incompletely descended testis In the presence of suppuration any attempt at radical cure of the hernia should be postponed to a later secondary operation The use of packing results in a considerable fibrosis and scar tissue which partially closes the hernia as in the case reported

392 Acute Suppurative Arthritis of the Knee

L PAPIN (*Bordeaux Chirurgical*, October, 1930, p 283) describes acute suppurative arthritis of the knee as a difficult disease to treat successfully on account of the problem of adequate drainage of this joint When anterior and posterior incisions are made to evacuate the pus, adhesions are quickly formed which prevent proper drainage resection or even amputation may be a necessary sequel In a child resection leaves a marked shortening of the limb, and for that reason should be avoided A case is reported of a boy, aged 10 who was treated by means of temporary disarticulation of the knee for suppurative arthritis following osteomyelitis of the knee cap This disarticulation consisted of the division of the patella ligament and sufficient of the lateral ligaments to allow the joint to be fully flexed, in this way free drainage, the exposure of the infected surfaces, and the institution of adequate disinfection were ensured. When the infection subsided rearticulation by extension was carried out Considering the gravity of the condition, the result was successful, although the patient was left with a stiffness of the knee joint which was inevitable after acute suppurative arthritis An autogenous vaccine was found to be of little use

393 Ureterocele

W A DAWLEY (*Arch of Surg*, Sept, 1930, p 458) describes ureterocele as the intravesical bulging of the mucosa of the lower end of the ureter Opinions differ as to whether or not the condition is congenital, but agree in considering that the significant factor is the existence of obstruction at the ureteral meatus Ureterocele may be present at any age, it is rather more common in females than in males Although usually unilateral, it may be present on both sides In early cases the tumour is small and rounded, with a broad base, but in more advanced cases it becomes elongated Urinary calculi, or some degree of cystitis, hydronephrosis, or pyonephrosis, may be associated with it The symptoms vary with the size and position of the tumour, and may be slight or severe according to whether infection is present or not In acute cases there may be severe colicky pain with pyrexia and leucocytosis Diagnosis must be made by cystoscopy or surgical exploration, since there are no pathognomonic symptoms The tumour may be seen at the usual site of the ureteral orifice extending into the bladder cavity Treatment, which must be surgical, ranges from the simple slitting of the cyst with suture of the two mucous layers to complete resection and circular suture of the mucosa In many cases the suprapubic route is chosen for male patients

394 Reduction of Fractures with the Aid of X Rays

IN order to avoid moving the limb during reduction of fractures under *x* ray control, C V BRAMANN (*Zentralbl f Chir*, September 20th, 1930, p 2371) uses two *x* ray tubes placed at right angles to one another Simultaneous screening by two tubes is impossible for technical reasons, but is not really necessary, since the tubes can be switched on alternately Originally there was a mirror at an angle of 45 degrees near the lateral screen so that this could be viewed from above, but reduction has then to be induced by the aid of a mirror image in one plane and by direct vision in the other, this is difficult, and the mirror was therefore discarded In fractures of the lower extremity lumbar anaesthesia is used, and local anaesthesia for those of the upper limb Klapp's temporary wire extension is employed, since it gives good extension and facilitates the application of plaster An unpadded plaster bandage is so applied that an area of about a hand's breadth is left free over the site of the fracture Reduction is performed first from the front and then from the side When alignment is satisfactory in both planes the site of the fracture is covered with two short pieces of plaster, which are joined to the rest of the splinting with one or two plaster bandages, the limb is then left undisturbed until the plaster has set If the limb is swollen a new bandage is applied under *x* ray control after the swelling has subsided If the swelling is very marked, reduction is postponed for a period of not more than ten days, perfect results are obtained even after this long interval The method saves the patient much discomfort, frequent corrections and long periods of extension being unnecessary The number of *x* ray pictures required is also small, and thus the cost is reduced The precise indications are as yet not clearly defined, but, in addition to fractures of the leg and forearm, the method is said to give good results in permanent extension cases such as fractures of the femur, since it is possible to employ the technique with the patient in bed

Therapeutics.

395 Desiccated Stomach in Pernicious Anaemia.

CASTLE and Townsend demonstrated in 1929 the fact that the healthy stomach secretes something that has the power of digesting meat in such a way as to produce a specific blood maturing substance This may be stored in the liver, kidneys, and to some extent in other organs This substance is not secreted by patients with pernicious anaemia, and the inference followed that the failure of the red bone marrow cells to mature in this disease was associated with an inability of the patient to develop the blood maturing substance R ISAACS and C C STURGIS (*Journ Amer Med Assoc*, August 23rd, 1930, p 585) have found, as have Sharp and others, that the gastric tissue, when chopped, dried, and defatted, contains a considerable amount of the active material Dried, defatted hog stomach may be used as a therapeutic agent in inducing and maintaining a remission in patients with pernicious anaemia A remission may be induced with 15 grams of the dried material (corresponding to 100 grams of fresh stomach), and may be maintained with 7 gram doses, a safe clinical dosage is 10 grams for each million red blood cell deficit in the count The maintenance dose is 10 grams, administered from five to seven times a week No gross differences have been noted in the clinical features of liver induced remissions and those induced by stomach therapy There appears to be a definite correlation between the daily dosage and the number of days required for the erythrocyte count to reach normal, but variations appear in individual patients, depending on the previous therapy, the degree of the anaemia, and the state of the blood-forming organs at the beginning of the treatment Beef and calf stomach apparently possess some activity in inducing remissions, and the relative potency of material derived from different parts of these stomachs is being studied

396 Flavouring of Expectorant Mixtures

J F JOHNSTON (*Canadian Med Assoc Journ*, September, 1930, p 412) states that expectorants have a definite but limited place in medicine as palliative, though not curative, agents Cough is a reflex, elicited particularly from the bifurcations of the respiratory tree and the true and false vocal chords The cilia of the tract can only function normally when the mucus bathing it is of normal viscosity True expectorant drugs probably all act reflexly The expectorants in common use are ipecacuanha, antimony, ammonium carbonate and chloride, squills, and senega, but only the first three are here dealt with by the author Ammonium carbonate has been found the most efficient, senega is very unpalatable and hard to cover Ammonium chloride is less efficient than the carbonate, and tends to affect the acid base balance of the blood by breaking up into ammonia and chlorine ions, the former is converted into urea, and the chlorine ions are left free to take up any available base The 20 minim expectorant dose of vinum ipecacuanha, when mixed with 1 drachm of water, is palatable, and the addition of 15 minims of syrup of orange, lemon, tolu, or ginger (according to taste) makes a very agreeable mixture The 20 minim dose of vinum antimoniale tastes less pleasantly than ipecacuanha, but this objection is adequately overcome by adding 15 minims of any of the above mentioned syrups Ammonium carbonate has a very ammoniacal odour and a pungent, burning taste, its adequate dose is 5 grains dissolved in a drachm of water, and the taste is only disguised at all well with syrup of tolu To hide the taste completely additional flavouring agents are necessary, the most satisfactory being fluid extract of liquorice, anise water, and the compound tincture of cardamoms Combinations of two of these expectorants are frequently used, and are advisable In children and diabetics the syrup can be replaced by 1/12 grain of saccharine with no loss of palatability Johnston

adds that expectorant mixtures should be used at frequent intervals when the bronchial flow is scanty when this is established and abundant they can be withdrawn He attributes slight expectorant value to syrup of squills, except when used alone in large doses, it offers little more than an agreeable flavour

357 Antitoxin Treatment of Scarlet Fever

T TOYODA, J MORIWAKI I FUTAGI and S HOSHIZAKI (*Brit Journ Child Dis*, July–September, 1930 p 181) record their observations on the treatment of scarlet fever by antitoxin at the Government Isolation Hospital Dairen Manchuria. Their conclusions were as follows Scarlet fever streptococcus antitoxin reduced the mortality of the disease by half It had a remarkable effect on the symptoms due to streptococcus toxin—namely rash fever itching, vomiting convulsions, and cardiac palpitation While the serum seemed to reduce the incidence of complications, it did not appear to have any effect on complications which had already developed

Laryngology and Otology.

358 Collapse Therapy in the Treatment of Tuberculous Laryngitis

H RETTOUEVEY (*Rev de Laryngol d'Otol et de Rhinol*, July 31st 1930 p 469) reviews the history of collapse therapy in the treatment of pulmonary tuberculosis, and recalls that tuberculous laryngitis was at one time considered to be a contraindication to pneumothorax Later, however it was found that the influence of lung collapse on the laryngeal condition was so favourable that in 1925 Hirschfeld held that laryngeal involvement was an indication for the less drastic methods of collapse therapy Involvement of the larynx by the tuberculous process is brought about by direct inoculation by sputum, blood borne bacilli, or by lymphatic involvement It is claimed that the collapse of an involved lung reduces the amount of sputum and in addition removes the lung to a large extent from the circulation The number of bacilli reaching the larynx is in this way greatly reduced The author records an analysis of a series of 56 cases observed by himself All the patients were resident in public sanatoriums, and the series contains a large proportion of advanced cases In addition to collapse of the lung the laryngeal conditions were treated by the usual methods of inhalation, cautery, and ultra violet light Retrouvey mentions that while it would have been more scientific if the figures had been taken from a series treated by collapse alone it is impossible to withhold any method of treatment from these patients The methods of collapse used were pneumothorax in 45 cases pneumothorax with phrenicotomy in 4 pneumothorax with division of adhesions in 1, and phrenicotomy alone in 6 Ten patients were cured, 3 of whom had extensive disease of the larynx with ulceration, 17 were improved 8 remained unaltered (in 2 only of these cases was the collapse satisfactory), and 17 became progressively worse In these last cases the pneumothorax failed, and the laryngeal and pulmonary lesions extended equally In a review of cases of pulmonary tuberculosis without laryngeal involvement treated by lung collapse it was found that in 1 in 400 tuberculous laryngitis ensued

359 Syphilis of the Middle Ear

THE occurrence of syphilitic otitis media has been denied, but R MAYOUX (*Journ de Méd de Lyon*, July 20th 1930 p 427) states that he has seen many cases of congenital syphilis in which suppurative otitis media and oto-sclerosis were present Earlier writers held that purulent otorrhoea was not entirely local, but was often due to constitutional disease such as scrofula and syphilis Mayoux believes that tuberculous otitis media is common and that syphilis of the middle ear (both congenital and acquired) is not rare Apart from otitis media associated with nasopharyngeal syphilis he refers to the frequency of otorrhoea in congenital syphilitics, at least one-third of the patients suffering from interstitial keratitis have otorrhoea or signs of previous ear disease Syphilitic otitis media is characterized by an insidious onset there being usually neither pain nor fever If any pain is present it is dull and suppuration is delayed but the deafness is sometimes greater than that which follows ordinary middle ear disease This is due to early labyrinthine involvement—a characteristic of syphilis In many cases polypi appear early In both syphilis and tuberculosis the mucosa is infiltrated rapidly and spreading perforations occur sometimes destroying the tympanic membrane in a few days Syphilitic otitis is essentially chronic. Spontaneous cure may occur, but thick fibrous scars, with retraction of the tympanic membrane, and whitish calcareous patches remain Ordinary antisyphilitic treatment is as useless as in interstitial keratitis but local treatment of the otorrhoea is more successful A dry form of otitis is frequently associated with interstitial keratitis These children exhibit old damage to the tympanic membrane, which is retracted and thickened with fibrous bands around the handle of the malleus, but no rhinopharyngeal lesions The Eustachian tube is usually patent and inflation improves the condition When inflammation of the labyrinth is present the deafness simulates that of obstruction Bony conduction is good, and the Rinné test is almost always negative Mayoux remarks that there are few records of suppurative syphilitic otitis media in acquired syphilis Gumma of the tympanum has been observed, and one author found spirochaetes in the discharge from a perforation Tympanic suppuration accompanying labyrinth infection has been seen in secondary syphilis, especially when the tympanic cavity is closed by swelling of the Eustachian mucosa Diagnostic errors may be avoided by remembering tuberculosis and syphilis in every unusual case of otorrhoea syphilitic mastoiditis is rare

360. Conservative Treatment of Chronic Maxillary Sinusitis

H A TROTTER (*Arch of Otolaryngol* July 1930 p 18) summarizes the complications of radical operation on the antrum and pleads for more conservative treatment Anaesthesia of the cheek, death of one or more teeth, and intractable infraorbital neuralgia have all been described as sequels of the radical operation The conservative treatment depends in the first instance on accurate diagnosis of the pathological condition while admitting the limited value of all the usual methods of diagnosis Trotter claims that accurate diagnosis is only rendered possible by visual examination of the cavity For this purpose he uses an instrument built on the cystoscope principle which he calls an antroscope For diagnosis the antronasal wall is trephined, a cannula is introduced and the antroscope is passed through the cannula. For treatment the canine fossa approach is used the mucoperiosteum is infiltrated and incised and the cannula is then introduced into the antrum through the canine fossa The cannula should always be used to avoid soiling the antroscope lens with blood or secretion The antrum is irrigated and a diagnosis is duly made A diathermy electrode is introduced subsequently together with the antroscope and all polypoid masses are systematically dried A counter-opening is made into the nose, and the antrum is irrigated daily with boracic lotion Trotter claims that his operation is bloodless, shock is negligible and convalescence rapid In addition, the many unfortunate sequels of radical operation are avoided

Obstetrics and Gynaecology.

361 Intracranial Haemorrhage in the Newborn

SINCE intracranial haemorrhage in the newborn greatly concerns the obstetrician I C IRVING (*New England Journ of Med* September 11th, 1930 p 499) deals with this condition from the obstetrical aspect The cardinal sign of intracranial haemorrhage is a disturbance of respiration, and the failure to establish spontaneous respiration in a reasonable time is strongly suggestive of intracranial vascular damage. The method of resuscitation most frequently used is mouth to mouth insufflation By this simple method the lungs undergo their primary expansion, and at the same time the infant derives benefit from the carbon dioxide in the operator's breath All violent methods of inducing respiration may do great harm Later symptoms are apathy refusal to take the breast, pallor, and a tensity of the anterior fontanelle Spasm and paralysis may or may not be present If present the diagnosis is practically certain Nystagmus often occurs but is not pathognomonic. Sometimes the infant has a peculiar high pitched, insistent cry, which is characteristic and corroborates the diagnosis The frequency of intracranial haemorrhage is shown by the fact that out of 182 necropsies 73 (40 per cent.) revealed this condition as the cause of death Intrauterine asphyxia may be a direct or predetermining factor as may other conditions in neo-natal intracranial haemorrhage It may result from various factors but usually depends on interference with the foetal circulation The prevention of this haemorrhage is by far the most important aspect Irving shows that the risk is less in Caesarean sections and normal deliveries and almost equally small in low forceps operations In the last named instance forceps are applied if the head has been on the perineum for two hours preceding the operation by a free episiotomy Breech deliveries are best avoided by preliminary external version or by Caesarean section If inevitable they should be conducted with the utmost gentleness Mid forceps operations

are decidedly dangerous High forceps deliveries, also dangerous, are rarely performed now D Munro (ibid, p 502) believes that the diagnosis of intracranial haemorrhage of the newborn should be expanded to include cerebral oedema and fracture of the skull In the presence of surgical shock, the symptoms of which are detailed, treatment should be reduced to the absolute minimum A study of 117 cases of cranial and intracranial injury in the newborn is presented.

402 Vesico-abdominal Fistula complicating Labour

H Acosta-Sison (*Amer Journ of Obstet and Gynecol*, August, 1930, p 239) records two cases of vesico abdominal fistula following labour in a primipara The first patient, aged 21, had had pyrexia and frequent micturition for a month before her labour, which was accompanied by impaction of the occipito posterior head on the perineum, and terminated by low forceps extraction of a living child Dysuria followed with persisting fever Catheterization gave small amounts of urine containing pus, and on the fifth day a pear shaped cystic hypogastric tumour was noted The patient urinated spontaneously, and fluid introduced into the bladder was returned, so that at first the diagnosis was obscure, the tumour being taken for the subinvoluted uterus Death ensued on the twenty eighth day, and at the necropsy a large sac, containing pus and urine, and shut off from the general abdominal cavity by fibrinous exudate, was found to communicate with the shrunken bladder by a perforation on the anterior wall near the fundus In the second case the perforation, in the same part of the bladder, had not completely extended through the serosa, and was discovered at necropsy There had been prolonged impaction of the head in the pelvic cavity The cause of the vesico abdominal fistula in both cases was pressure necrosis of the bladder, such a fistula as a sequel to labour is very rare

403 Primary Syphilis of the Vagina

M Kazarowa (*Urol and Cut Rev*, September, 1930, p 591), who records an illustrative case, quotes several authorities testifying to the rarity of primary syphilis of the vagina Fournier, who had seen only one case, attributed the infrequency of vaginal chancre to the anatomical structure of the organ which possesses a thick connective tissue layer with abundantly embedded elastic fibres and a very thick lining epithelium Moreover, owing to its extensibility, it is not liable to be torn during coitus Possibly the vaginal secretion acts also as a mechanically protective mechanism against infection Subsequent authors, however, have drawn attention to the difficulty in diagnosing chancre of the vagina owing to the smallness of the lesion, its slight degree of hardness, and its transient duration Kazarowa's patient was a woman, aged 37, in whom the chancre, which was situated on the right vaginal wall, was of an unusually large size, but of soft consistency Typical spirochaetes were found in the serous exudation from the chancre The vaginal glands were enlarged on both sides, and a fully developed generalized papular rash was present.

404 Causation of Labour

M L Peretz (*Zentralbl f Gynäk*, August 2nd, 1930, p 1937) in a preliminary communication reports that in more than one half of fifty pregnant patients who had passed the calculated term of labour, labour quickly followed the intravenous injection of 50 to 300 c cm of citrated blood taken from other patients towards the culmination of parturition The inference that this effect was due to a hormone is supported by the fact that in a series of twenty five control cases the injection of blood taken from non parturient patients proved ineffective.

Pathology.

405 The Characters of Different Strains of Leptospirae

J. E Dinger and F Virschaffelt (*Ann de l'Inst Past*, September, 1930, p 396) have studied three new strains of leptospirae, and have observed marked differences between them The first strain (Wa Gent) was isolated by Bessemans and Thiry from tap water in Ghent, and was found by them to be pathogenic for mice (see *Epitome*, 1929, vol i, para 145) The present authors, after purifying the strain, found that it was completely avirulent to mice Serologically it was distinct from *icterohaemorrhagiae* and from *hebdomadis* strains, but it showed some relationship to one of the water strains in their possession They concluded that it was an ordinary aquatic strain, and that the results of Bessemans and Thiry were probably falsified by a pre existing latent infection of their mice with a pathogenic leptospira The second strain (Muis Gent) was cultivated from the kidneys of white mice which were naturally infected with leptospirae, these mice had been sent from Ghent This strain proved slightly pathogenic for white mice, after intraperitoneal inoculation the mice excreted the organisms in the urine about a fortnight later, and some of them died It was of *moderate* virulence to guinea pigs, many of which died with typical haemorrhages in the lungs Serologically it proved entirely distinct The third strain was recovered from an *epidemic* at Moscow of so called "mud fever"—an epidemic disease occurring in the flooded areas of Silesia It was slightly virulent for guinea pigs and avirulent for mice, serologically it was distinct. This strain is of particular interest, because it is the first pathogenic strain for man which has been recovered in Europe and which differs from *L. icterohaemorrhagiae* A study made of a strain of this latter organism from Weil's disease proved it to be highly pathogenic for guinea pigs, and fairly pathogenic for mice The comparative fixity of the strains of leptospirae studied by the authors is regarded by them as rendering unlikely the hypothesis that the common aquatic types are able to become virulent for man by progressive adaptation

406 Bacteriology of Chronic Epidemic Encephalitis

W B Stewart and M J Evans (*Amer Journ Med Sci*, August, 1930, p 256) examined the nasopharyngeal cultures of 114 cases of chronic epidemic encephalitis and 37 controls, and found the Pfeiffer bacillus in 100 per cent of the former and in only 46 per cent of the latter The serums of the chronic encephalitis patients agglutinated the Hammett strain of the Pfeiffer bacillus in 100 per cent of 165 cases studied, the agglutination titres ranging from 1 in 20 to 1 in 640 Flocculation tests were also invariably positive with these serums, the titres ranging from 1 in 20 to 1 in 160. No other organism tested was consistently agglutinated by chronic encephalitis serums Of 20 cases of chronic encephalitic Parkinsonism examined for sinus disease 18 gave positive results either by x rays or clinical examination, and 13 of these had definite disease of the ethmoids. Of 46 cases of chronic Parkinsonism treated for a month or more by a soluble antigen of a virulent strain of the Pfeiffer bacillus, 78 per cent showed some improvement, as indicated by a definite decrease in extrapyramidal rigidity

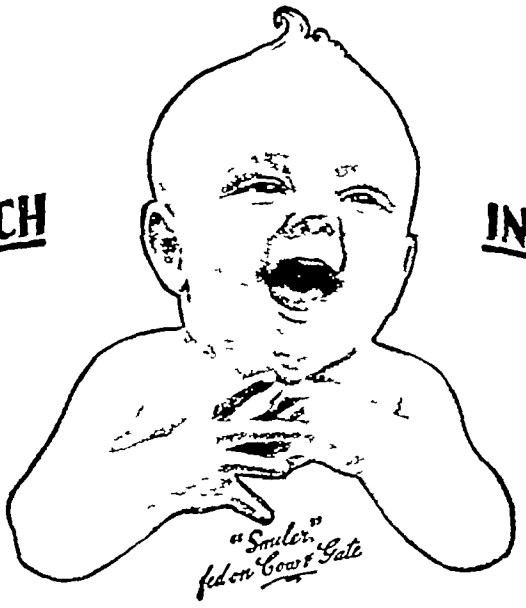
407 Ultra violet Radiation and Loss of Weight.

A R Harris (*Journ Exper Med*, August 1st, 1930, p 253), using six comparable groups each containing ten rabbits, exposed three of the groups for an hour each day to the unfiltered radiations of a quartz mercury arc lamp (80 volts, 4 2 amperes) at a distance of 4 5 metres, the other rabbits being kept in total darkness, the irradiated rabbits showed at first a more rapid rate of gain in weight than the non irradiated ones, but after this initial period of rapid increase the irradiated animals maintained a lower body weight than the others In groups inoculated with *Trep pallidum* the irradiated animals maintained a lower weight than those living in total darkness The mortality rate from pneumonic infection was found to be greater in animals exposed to ultra violet radiation than in the controls The author concludes that, under the conditions given, ultra violet radiation was detrimental rather than beneficial

408 Production of Typhoid Agglutinins in Rabbits.

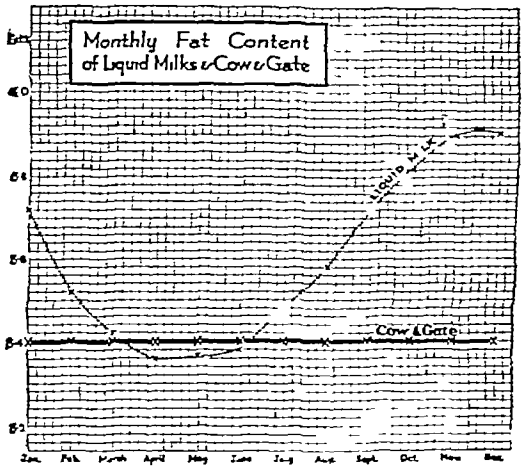
C. A Behrens and C H Kimpler (*Journ Immunol*, September, 1930, p 321) have endeavoured to ascertain the best method of producing typhoid agglutinins in rabbits. Working with a suspension of typhoid bacilli killed by heat at 58° C for one hour, and standardized to 2,000 million per c cm, they varied as far as was practicable the size of the individual dose, the frequency of injections, and the total dosage. All inoculations were made intravenously, and the rabbits were bled on the ninth or tenth day following the last injection Generally speaking a close relation was found between the size of the individual dose and the frequency of injection, the total dosage had much less effect For example, good results were obtained by ten inoculations on a single day of 0 1 c cm at hourly intervals, by one inoculation on alternate days of 1 c cm on six to ten occasions, and by one inoculation every eight to ten days of 5 c cm on eight to ten occasions The first method gave an average titre of about 1 in 5,000, the second 1 in 6,000, and the third 1 in 18,000 It is noteworthy that the highest titres were obtained with the largest doses, but on the other hand these required a long time (two to four months) for their production The conclusion appears to be that if a serum of moderate titre is required rapidly, the most expeditious method is to give ten doses of 0 1 c cm on a single day, while if a high titre is required 5 c cm doses should be given every eight or ten days for about twelve weeks Incidentally it may be noted that, whatever the methods used, non specific agglutinin formation was negligible.

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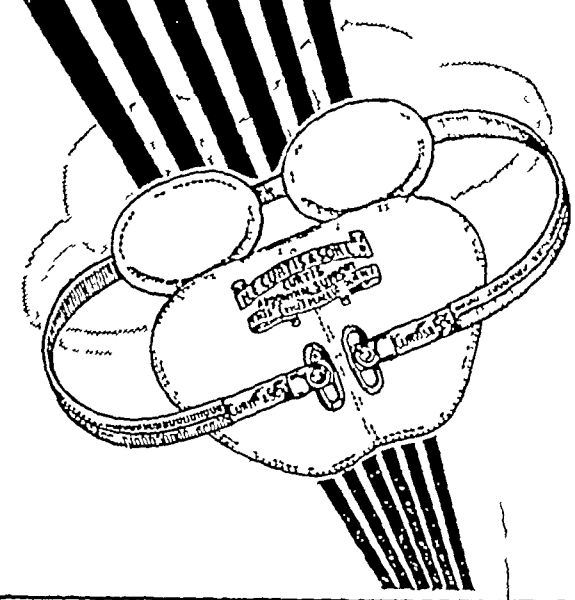
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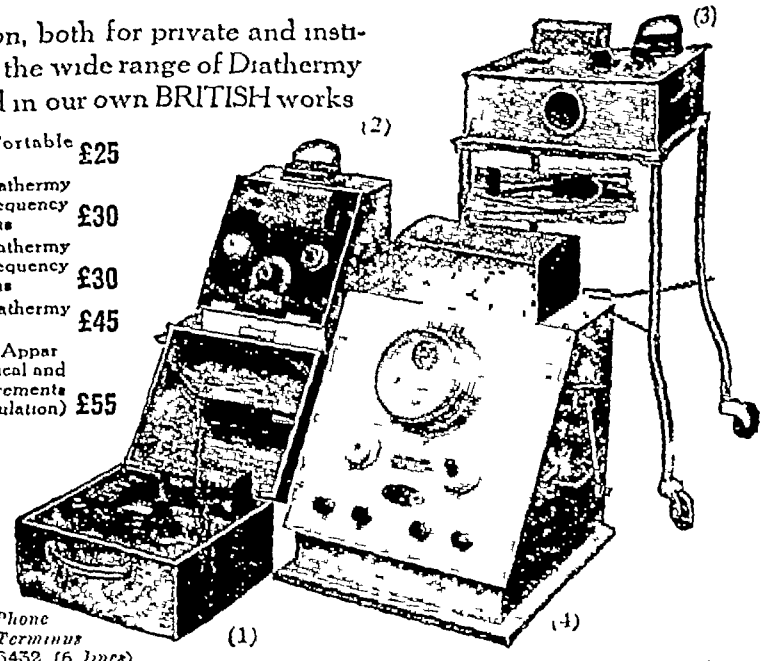
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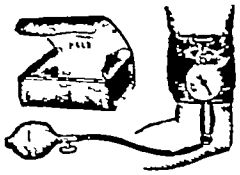
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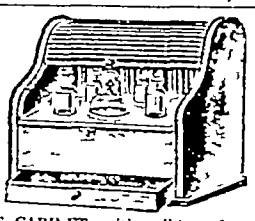
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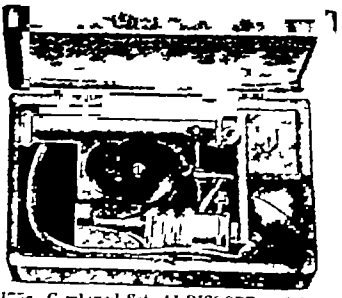
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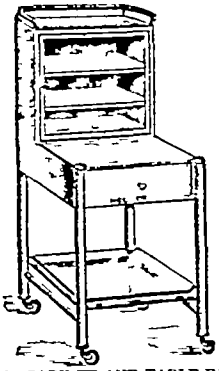


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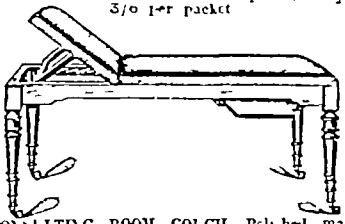
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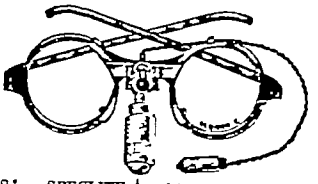
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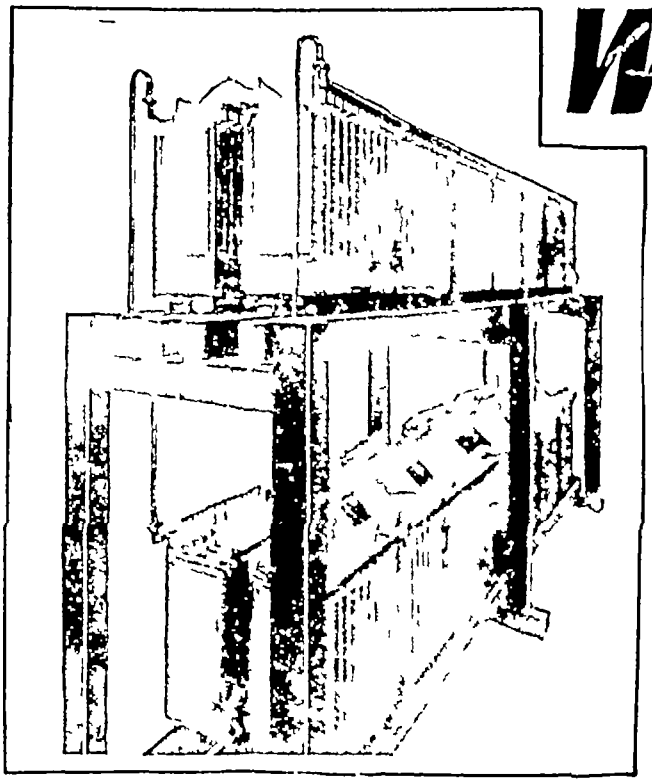
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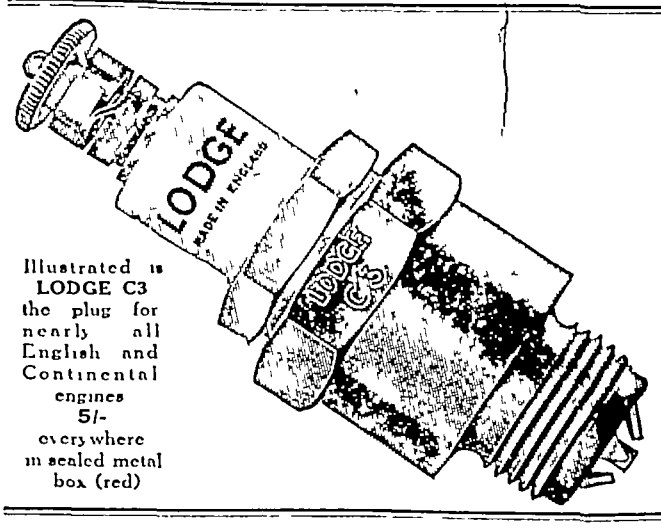
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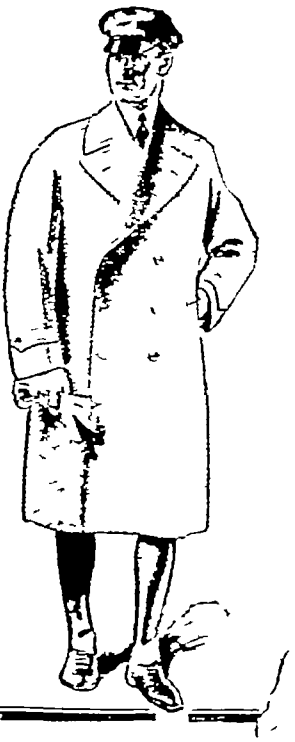
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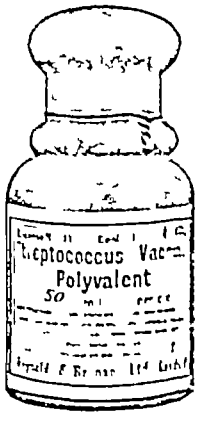
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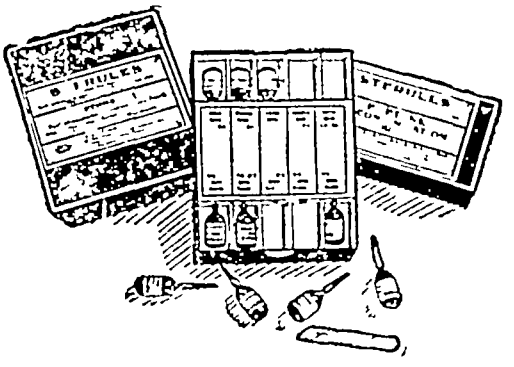
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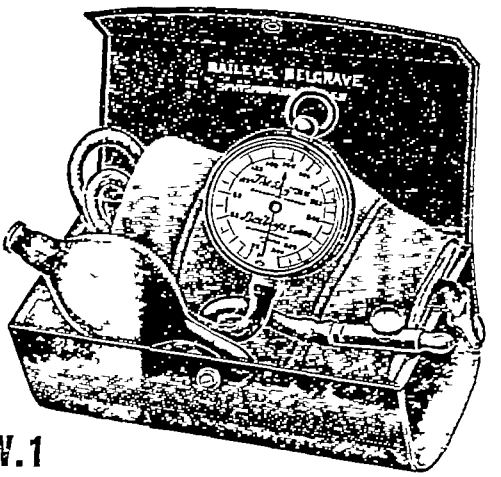
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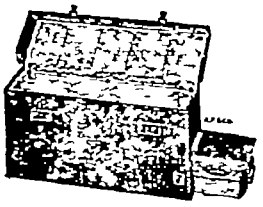
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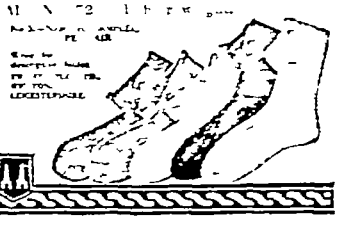
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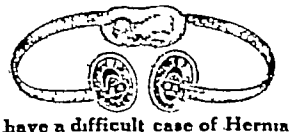
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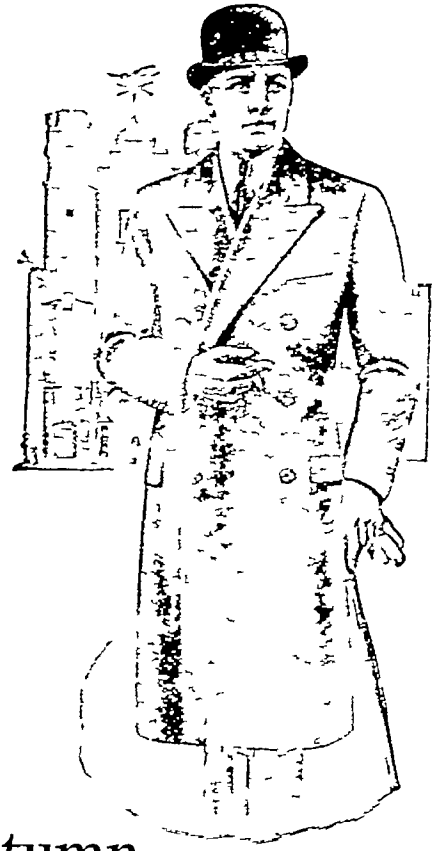
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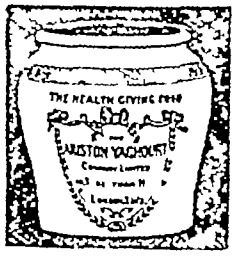
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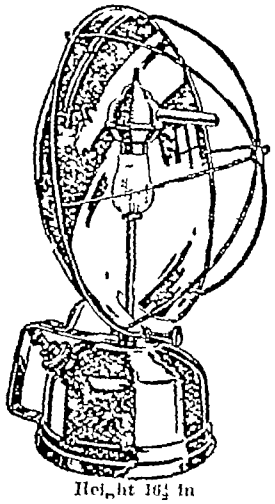
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The Committee of the above Hospital have accommodation for the reception of PRIVATE PATIENTS of both sexes in special wards, which are healthily situated with extensive views of the Exe Valley and surrounding scenery The Hospital is fully equipped with Operating Theatre and X-ray departments and has facilities for Ultra violet Light treatment and modern Hydrotherapy

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PRIVATE HOSPITAL for Ladies and Gentlemen suffering from Mental and Nervous Disorders The hospital is situated in nine acres of pleasure grounds Both voluntary and certified patients under certificates received For further particulars apply Dr GERALD IDRIS DAVIES and Dr ERNEST ROLLINS Resident Physicians.

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Magnificent situation overlooking Firth of Forth Stress laid on re-education of will and intelligent re-adaptation to environment

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THE RESIDENTIAL TREATMENT OF ALCOHOLISM & DRUG ADDICTION

RENDLESHAM HALL

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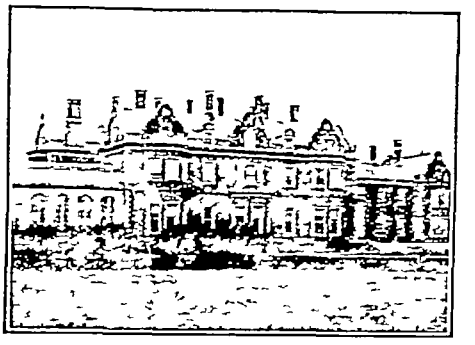
Rendlesham Hall, which is open to receive patients, is essentially a Sanatorium Its daily life and routine are that of an ordinary comfortable holiday or health resort, or of a large country house Each patient has all the privileges of a guest consistent with the prescribed medical treatment

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A Private Home for Ladies Terms from three guineas a week. Apply THE MATRON

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Situated in 3½ acres of secluded gardens

HOME FOR TWELVE MENTAL PATIENTS (LADIES)

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As founded and established by the late Dr. FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium and author of Alcoholism etc for the treatment of ALCOHOLISM other Drug Habits Insomnia Neurasthenia Functional Nervous Disorders TROPICAL Ailments etc

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Voluntary Boarders received in the Villa. Large Mansion on outskirts of Bath with 20 acres of grounds (see *Medical Directory* page 1104)

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FOR THE UPPER AND MIDDLE CLASSES ONLY

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This is a Reception Hospital in detached grounds with a separate entrance, to which patients and voluntary boarders can be admitted It is equipped with all the apparatus for the most modern treatment of Mental and Nervous Disorders It contains special departments for hydrotherapy by various methods including Turkish and Russian baths the prolonged immersion bath Vichy Douche Scotch Douche Electrical bath Plombieres treatment etc There is an Operating Theatre a Dental Surgery an X ray Room, an Ultra violet Apparatus and a Department for Diathermy and High Frequency treatment It also contains Laboratories for biochemical, bacteriological and pathological research

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Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres Milk meat fruit and vegetables are supplied to the Hospital from the farm gardens and orchards of Moulton Park Occupation therapy is a feature of this branch and patients are given every facility for occupying themselves in farming gardening and fruit growing

BRYN-Y-NEUADD HALL.

The seaside house of St Andrew's Hospital is beautifully situated in a Park of 330 acres at Llanfairfechan amidst the finest scenery in North Wales On the North West side of the Estate a mile of sea coast forms the boundary Voluntary Boarders or Patients may visit this branch for a short seaside change or for longer periods The Hospital has its own private bathing house on the seashore There is trout fishing in the park

At all the branches of the Hospital there are cricket grounds football and hockey grounds, lawn tennis courts (grass and hard courts) croquet grounds golf courses and bowling greens Ladies and gentlemen have their own gardens and facilities are provided for handicrafts, such as carpentry etc

For terms and further particulars apply to the Medical Superintendent (Telephone No 56, Northampton) who can be seen in London by appointment

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HOSPITAL FOR MENTAL DISEASES

This Institution is exclusively for the reception of a limited number of Private Patients of both sexes of the Upper and Middle Classes at moderate rates of payment It is beautifully situated in its own grounds on an eminence a short distance from Nottingham, and from its singularly healthy position and comfortable arrangements affords every facility for the relief and cure of those mentally afflicted Voluntary Boarders received without Certificates

Tel 64117 *For terms, etc, apply to the Medical Superintendent*

HAYDOCK LODGE,
NEWTON-LE-WILLOWS, LANCASHIRE.

'Phone 11 Ashton in Makerfield

For the reception and treatment of PRIVATE PATIENTS of both sexes of the UPPER AND MIDDLE CLASSES either voluntarily or under Certificate. Patients are classified in separate buildings according to their mental condition

Situated in park and grounds of 400 acres Self supported by its own farm and gardens in which patients are encouraged to occupy themselves Every facility for indoor and out door recreation For terms, prospectus, etc apply MEDICAL SUPERINTENDENT

COURT HALL, KENTON, EXETER,
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For the care and treatment of Ladies suffering from Mental Diseases Limited to eight patients Telephone Starcross 19

CLIFFDEN, TEIGNMOUTH, in connection with Court Hall, for early and convalescent cases Cliffden is a large well appointed house, with lovely views of the South Devon Coast. It is beautifully situated in grounds of 19 acres The gardens are very attractive, and there is a private road to the beach

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Telephone Teignmouth 289

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Formerly Belvoir Nursing Home, Aston on-Trent

FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES.

The Home is a Mansion of Historical interest standing in 9 acres of garden and grounds, and is situated 14 miles from Northampton and 12 miles from Bedford on the main London to Northampton Road fifty miles from London Both sexes are accommodated Psychotherapeutic treatment is used extensively In suitable cases Radiant Heat, X Ray and Ultra violet Light Billiards tennis etc Fees from five guineas per week

Apply Dr D E M DOUGLAS MORRIS *Telephone* Newport Pagnell 121

The MAUDSLEY HOSPITAL
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A CLINIC instituted by the London County Council for Treatment of NERVOUS and CURABLE MENTAL DISORDER. Voluntary patients ONLY RECEIVED

OUT PATIENTS—2 p m. MEN—Mondays and Thursdays. WOMEN—Tuesdays and Fridays

IN PATIENTS (*a*) 164 beds (both sexes) in wards or separate rooms (*b*) 13 private rooms (for ladies) with special sitting room garden, and dietary

TERMS

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Terms include (with rare exceptions) all forms of treatment for which exceptional facilities exist—there being a staff of consultant specialists and the central laboratory of London County Mental Hospitals being attached to the hospital Inquiries of EDWARD MAPOTHER, M D, M R C P F R C S Medical Superintendent

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A REGISTERED HOSPITAL for the CARE and TREATMENT of LADIES and GENTLEMEN suffering from NERVOUS and MENTAL DISORDERS Within two miles of the G W Railway and L M & S Railway Stations at Gloucester, the Hospital is easily accessible by rail from London and all parts of the United Kingdom It is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of over 280 acres Voluntary boarders of both sexes are also received for treatment.

Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE, which has its own private grounds and is entirely separate from the main Hospital

For particulars as to terms, etc, apply to—
ARTHUR TOWNSEND, M D, Resident Supt.
Telephone No 7 Barnwood

THE LAWN, LINCOLN.

A registered Hospital situated in large grounds near the Cathedral receives VOLUNTARY BOARDERS and PRIVATE PATIENTS of both sexes for treatment of Mental and Nervous Disorders including Post Encephalitic conditions in adults Special facilities for Psychotherapy in co-operative cases

All particulars may be obtained from the Resident Medical Superintendent,
Dr MARY R BARKAS M D., D P M

FUNCTIONAL NERVOUS DISORDERS

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RESIDENTIAL TREATMENT of the most modern kind is carried out under the personal direction of the Resident Medical Superintendent in this beautiful Country Mansion. Fees are moderate *Full particulars from the Resident Medical Superintendent*
A F CARVER M D, D P M.
Telephone Nuneaton 241

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Telephone 481 GATLEY

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A HOUSE Licensed for the reception of a limited number of ladies suffering from Nervous and Mental disorders Both certified and voluntary patients received This is a large country house park 5 miles grounds and Grange Lane, L & N Telephone No 40030
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The first Private Hospital in the United Kingdom to be fully provided with a whole-time specially qualified Staff of Doctors Analytical Chemists, Bacteriologists, Radiologists, Nurses, Dietists, Masseurs, and Masseuses, and a full equipment of Laboratories, X rays, Electrocardiographs, Artificial Sunlight, and Medical Baths.

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Telegrams Castle Ruthin Telephone 66, Ruthin Ruthin Castle North Wales

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No cases under certificate Thorough clinical and pathological examinations Psychotherapeutic treatment, occupation and recreation as suited to the individual case

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Telegrams "Alleviated London" Telephone Rodney 4741—4742.

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Telegrams SUBSIDIARY LONDON" *Telephone* NORTH 0888

A PRIVATE HOME for the treatment of patients of both sexes suffering from Mental Illnesses.
Conveniently situated four miles from Charing Cross Easy of access from all parts
Six acres of ground, highly situated facing Finsbury Park.
Voluntary Boarders received without certificates. Private suites. Convalescent Home Kearsney Court, Dover
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A Private Hospital for the Care and Treatment of those of both sexes suffering from MENTAL DISORDERS

Extensive grounds Detached Villas Chapel Garden and dairy produce from own farm. Terms very moderate.

CONVALESCENT HOME at BOURNEMOUTH, standing in 12 acres of ornamental grounds with tennis courts etc., which Patients or Boarders may visit by arrangement, for long or short periods

Illustrated Brochure on application to the Medical Superintendent, The Old Manor Salisbury Telephone 51

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FOR MENTAL DEFECTIVES REDHILL, SURREY

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FOR THOSE REQUIRING CONTROL with EXPERT SUPERVISION and needing SPECIAL TRAINING in useful Occupations SCHOOLS FARMING and various TRADE WORKSHOPS

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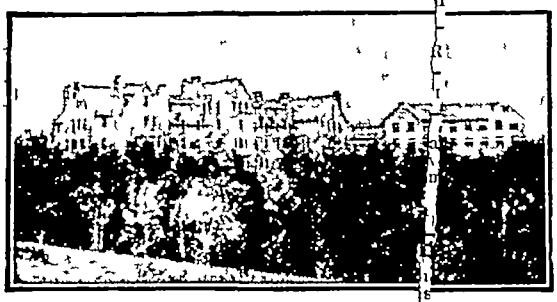
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BOX near BATH

For the CARE and TREATMENT of NERVOUS and MENTAL DISORDERS in BOTH SEXES

Separate accommodation for Voluntary Boarders and Patients of the Female Sex Application required at the above address to Dr H C MacBRYAN or Medical Superintendent.

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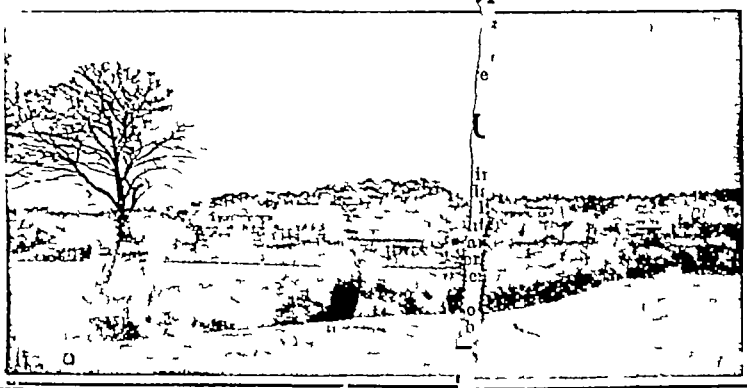
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Established 1898 for the treatment of Tuberculosis Radiators and Electric Light throughout Hot and cold water and shower bath in nearly all rooms Powerful X-ray Plant Ultra-violet Rays Full Nursing Staff All forms of treatment available Farm of 120 acres, including 40 acres of wood Herd of Tuberculin tested Guernsey cows kept Resident Physicians—Arthur de W Snowden, M D, B Ch (Cantab), A G E Wilcock, M R C S, L R C P, Colin Cassidy, M B, B Ch (Cantab)

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WAS OPENED IN JANUARY, 1899

Patients are received for open-air, inoculation, or operative treatment. There are X-ray and ultra violet ray installations Full nursing staff The Sanatorium stands in gardens and private grounds of 65 acres, at an elevation of 862 feet above sea-level, surrounded by woods and moorland The patients' rooms are heated by hot-water pipes and electrically lighted Fees 4, 5, and 6 guineas per week

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For full particulars apply to *The Secretary* Nordrach upon Mendip Blagdon Bristol *Telegrams* Nordrach Blagdon *Telephone* Blagdon 23

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Established 1900 for the treatment of Tuberculosis Miles of carefully graduated walks through pine clad hills, with sea and mountain views Modern treatment, including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc X-ray plant, electric light, central heating, wireless Special milk supply from tuberculin-tested herd Full day and night nursing staff On L M S Main Line to Holyhead, 4½ hours from London Resident Physicians Dennison Pickering, M D (Cantab) J L Faull, M R C S, L R C P, Matron Miss S A Eddy, S R N

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Full day and night Nursing Staff.

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For Mental Disorders with or without certificates

Resident Physician: CEDRIC V. BOWER.

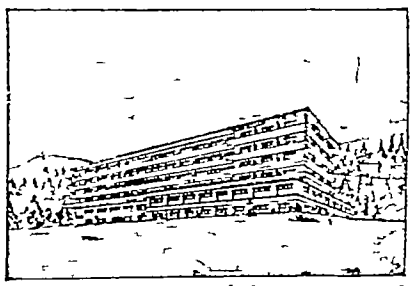
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For the treatment of TUBERCULOSIS Diseases of the Chest, Asthma for patients requiring rest in the Open under strict medical supervision and for medical conditions in which sun and air bathing are indicated. Many miles of graduated walks. Large roof solarium. Private balconies. Running water, wireless (headphones), and light signals throughout. Spacious public rooms.

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Telegrams: Montall, Montana, Vermala.

Resident Medical Superintendent
HILARY ROCHE, M.D. Melb., M.R.C.P. Lond., Tuberculous Dis. Diploma (Wales), formerly House Physician Brompton Hosp., London, Medical Supt. Palace Sanatorium, Montana.

Resident Consulting Physician
A. M. GOSSAGE, C.B.E., M.D. (Oxon.), F.R.C.P., Consulting Physician to the Westminster Hospital and to the East London Hosp. Children, late D.M.S. Min. of Pens.

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Unrivalled suites of Baths for Ladies and Gentlemen including Turkish and Russian Baths, Air and Vichy Douches, Massage and Plombières Treatment an Electric Installation for Baths and other Medical purposes. Dowsing Radiant Heat, D'Arsonval High Frequency, Diathermy, Nauheim Baths, New Soapless Foam Bath, etc. Special provision for invalids. Milk from our farm of 500 acres. Large Winter Garden. Night Attendance. Rooms well ventilated and all bedrooms warmed in Winter. A large Staff (upwards of 60) of trained Male and Female Nurses, Masseurs and Attendants.

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MATLOCK

CITY OF LONDON MENTAL HOSPITAL, DARTFORD, KENT

PRIVATE PATIENTS under certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards.—Apply MEDICAL SUPERINTENDENT.

Telegrams: "Haynes, Brentwood, 45"

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Large grounds, 400 feet above sea. HOME for Ladies Mentally afflicted. Voluntary Boarders received. Stations: Brentwood and Shenfield, 1 mile; Liverpool St. 20 min.—Apply Dr. HAYNES.

HOME FOR DELICATE CHILDREN

"THE LOG HOUSE," KLOSTERS

[illegible] SWITZERLAND [illegible]

[illegible] from £[illegible] weekly.

[illegible] Infectious cases taken. All particulars from Mrs. or Dr. [illegible] (same address).

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CHAPMAN ROAD, CLACTON-ON-SEA

Convalescent, permanent case or light Mental. Term from 3½ guineas per week. Nurses Rowley and Bailey, R.M.P.A.

EPILEPSY.

Owing to extensions there are at present a few Vacancies at the

DAVID LEWIS COLONY

for Ladies and Gentlemen who have Epilepsy, but are of good intelligence and sound mind

Colony life gives to most people who have epilepsy the best chance of happiness and contentment

Apply to the Medical Superintendent,

The David Lewis Colony, Warford, Alderley Edge.

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Beautifully situated 600 feet above sea level Facing south completely sheltered from north and east 21 miles from Edinburgh
All modern Baths Douches Massag and Electrical Treatment Ultra Violet Radiation Physician in attendance
IDEAL HEALTH RESORT
Electric Light Central Heating Electric Lift three Billiard Tables Ball Room, Winter Garden Swimming Bath Hard and Grass Tennis Courts Badminton, Croquet Lawn, Golf Course Prospectus from Manager 'Phone Peebles 2

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KINGUSSIE, INVERNESS-SHIRE

Specially built for the Open air Treatment of Tuberculosis and opened in 1901 Bracing mountain air Elevation 860 ft above sea level Sheltered situation in pine wood Graduated walks Electric light throughout building, and in shelters Central heating Fully equipped X-ray Plant Inoculation Treatment available for patients—24 beds Trained Nurse on duty all night Terms £4 6s 8d to £6 6s *inclusive per* Med Supt—FELIX SAVY M D For particulars apply to the Secretary

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Every kind of Bath Plombiere Lavage
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Society of Apothecaries of LONDON

MASTERY OF MIDWIFERY EXAMINATION

The next Examination will take place on Monday November 17th 1930, and following days For regulations apply to—
FRANK HAYDON Secretary

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CLASSES with Museum and Anatomical Demonstrations for next Exam, will commence shortly Correspondence work at any time Particulars from CHAS WHITTAKER, F R C S, Surgeons Hall Edinburgh

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Special Classes for Pre-Medical and Dental Exams, Matric, and Prelims
Chemistry, Physics and Biology Labs
MANCHESTER TUTORIAL COLLEGE
327 Oxford Road Manchester

Grove House, All Stretton,

Church Stretton Shropshire

A Private Home for the care of and treatment of a limited number of ladies mentally afflicted. Climate healthy and bracing
Medical Superintendent Dr McCLINTOCK

Home for Invalids requiring

REST CARE or SUPERVISION Large house and beautiful garden of nearly 8 acres own produce gravel soil Car etc Special care to Chronic Patients—'Duncroft' Staines Middlesex

Small registered Nursing Home,

comfortable and refined—5, Broadhurst Gardens Hampstead, N W 6 Telephone Maida Vale 7102

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POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS
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D P H	(Various) 1906-29 (Completed Exam)	286
F R C S (Edin),	1918-29	43
M R C S, L R C P	*Final* 1910-29 (Completed Exam)	433
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Preparation for Medical Preliminary, and in Chemistry Physics Anatomy Physiology and final subjects for the Conjoint Board M B (Cantab, etc), also D P M D O M S, D T M & H, D L O, I M S & A, etc Numerous successes

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Medical Prospectus gratis along with list of Tutors, etc, on application to the Principal, Mr L S WEYMOUTH, M A, 17, Red Lion Sq London, W C 1 (Telephone HOLBORN 6315)

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION

A SERIES OF WEEKLY DEMONSTRATIONS for medical practitioners has been arranged in the various hospitals of Glasgow from the beginning of November till the end of May Some SPECIAL COURSES are also offered and CLINICAL ASSISTANTSHIPS are available in several of the hospitals The syllabus may be had on application to the Secretary, Post-Graduate Medical Association, The University Glasgow

STAMMERING, SPEECH DEFECTS

BEHNKE METHOD Estab 1882 Cases non-resident treated at 39 Earl's Court Square, S W 5, and in residence in the Summer holidays, at Miss BEHNKE'S house on the Chilterns

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Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W 6

QUEEN CHARLOTTE'S MATERNITY HOSPITAL

MARYLEBONE ROAD, N.W.1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital. Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases). Over 2,500 patients are admitted to the Wards annually, and in the Ante-natal Department there are over 18,000 attendances per annum.

Certificates awarded as required by the various Examining Bodies.

For rules, fees, etc., apply ARTHUR WATTS, Secretary.

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SIR,—*Please send me a copy of your Guide to Medical Examinations by return.*

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University of London

A Course of Four Lectures on "The Respiratory Functions of the Blood" will be given by Dr. L. E. BAYLISS at UNIVERSITY COLLEGE, LONDON (*Gower Street, W.C.1*) on MONDAYS NOVEMBER 10th, 17th, 24th and DECEMBER 1st at 5 p.m.

A Course of Four Lectures on *Fat in Metabolism* will be given by Dr. W. PORSON, D.Sc., Ph.D. at KING'S COLLEGE, LONDON (Strand, W.C.) on THURSDAYS, NOVEMBER 13th, 20th, 27th and DECEMBER 4th at 5 p.m.

Admission free without ticket.

S. J. WORSLEY,
Academic Registrar.

University of Leeds

POST-GRADUATE COURSES IN OBSTETRICS AND ANTE-NATAL WORK AT THE LEEDS MATERNITY HOSPITAL.
(108 Beds.)

Registered Medical Practitioners are admitted to the Hospital Practice comprising Ante-natal, Labour and Isolation Departments for periods of 2—4 weeks.

For particulars as to vacancies at the University Obstetrics Students' Hostel adjoining the Hospital apply to the DEAN, School of Medicine, Leeds.

June 21st, 1930.

Lancashire County Council

APPOINTMENT OF DENTAL SURGEON.

Manchester Royal Infirmary

Applications are invited for the DICKINSON RESEARCH TRAVELLING SCHOLARSHIP IN MEDICINE, value £300, tenable for one year. Candidates must be University Graduates who have taken on the full course of Clinical Instruction in the Manchester Royal Infirmary and have earned distinction in so doing.

A copy of the regulations governing the Scholarship can be obtained from the undersigned, to whom six copies of application should be sent not later than Saturday, November 15th.

FRANK G. HAZELL,
Secretary to the Trustees.

Manchester Royal Infirmary.
October 18th, 1930.

Willesden Urban District Council.

APPOINTMENT OF MEDICAL OFFICER (ASSISTANT, Male).

A Whole-time Medical Officer (Assistant, male) holding a registrable qualification in Public Health, is required in the Health Department of the Willesden Urban District Council.

The salary will be £600 per annum, rising after three years' satisfactory service by increments of £30 per annum to £750 per annum. No bonus will be paid.

The appointment is subject to the Local Government and Other Officers' Superannuation Act 1922 and no candidate over 40 years of age will be appointed.

Applicants should have had experience in Ante-natal and Maternity work, Diseases of Children, Refraction work and Infectious Diseases.

Application form, with full particulars of the appointment, may be obtained from the Medical Officer of Health, Health Department, 54 Winchester Avenue, Kilburn, N.W.6, and must be returned to him not later than 9 a.m. on Friday, November 7th.

Envelopes containing communications relative to this appointment must have "Medical Officer" written on the top left-hand corner.

Town Hall,
Dene Road,
Kilburn, N.W.6.

E. V. PRATT,
Clerk of the Council.

Administrative County of LONDON

HOSPITALS SERVICE

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the under mentioned position The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the Council

ST LUKE'S HOSPITAL, LOWESTOFT (Non Pulmonary Tuberculosis)—JUNIOR ASSISTANT MEDICAL OFFICER Salary £500 a year Board lodging, and laundry will be provided for which a charge (at present £130 a year) is made. Candidates must have held a resident appointment in a General Hospital There is no accommodation for a married man, or for a woman

Candidates must be under 30 years of age. Previous tuberculosis experience not essential

The salary and conditions of appointment are provisional and subject to review by the Council

Forms of application may be obtained from the Medical Officer of Health (Staff Division 4a) The County Hall Westminster Bridge S E.1 A stamped addressed envelope should be enclosed and forms must be returned by November 14th Canvassing disqualifies Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent of the Hospital

MONTAGU H COX,
Clerk of the London County Council.

County Council of the West RIDING OF YORKSHIRE.

PUBLIC HEALTH LABORATORY

ASSISTANT BACTERIOLOGIST

The County Council of the West Riding of Yorkshire invite applications for the appointment of Assistant Bacteriologist.

Applicants must be registered Medical Practitioners with experience of Public Health Bacteriology and Clinical Pathology

The salary will be £500 per annum, rising by increments of £25 in accordance with the County Council's scale of salaries to £700 per annum

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act, 1922 and the person appointed will be required to pass a medical examination by a person nominated by the County Council

Form of application and further particulars may be obtained from the undersigned by whom all applications, together with copies of not more than three recent testimonials, must be received not later than November 17th

J CHARLES McGRATH,
County Hall Clerk of the County
Wakefield Council.
October 1930

City and County of Kingston-UPON HULL.

ASSISTANT MEDICAL OFFICER.

BEVERLEY ROAD INSTITUTION (HOSPITAL)

The Corporation of Hull invite applications from Medical Practitioners for the appointment of an Assistant Medical Officer (single) at the above named Hospital.

Commencing salary at the rate of £300 per annum for a probationary period of one year together with an allowance of £150 for board and residence outside the Hospital.

The Hospital Section contains 400 beds and is equipped with modern X ray and Ultra violet Light Departments

Applicants must be under the age of 40 years

A form of application, together with conditions of appointment and a list of duties, may be obtained from the undersigned, to whom completed applications should be returned not later than Thursday, November 20th

Guildhall, W M FRAZER M D,
Hull Medical Officer of Health.
October 27th, 1930

Northampton County Mental HOSPITAL BERRYWOOD, NORTHAMPTON

JUNIOR ASSISTANT MEDICAL OFFICER required male single. Salary £350, rising £25 annually to £450 (£50 extra to holder of D P M) with board lodging, washing, and attendance Subject to provisions of Asylum Officers Superannuation Act.

Applications stating age and experience together with copies of recent testimonials to be sent to the Medical Superintendent not later than November 12th next.

City of Birmingham

SELLY OAK HOSPITAL.

SURGEON

Applications are invited from fully qualified registered Medical Practitioners for the above whole-time appointment.

The present Hospital accommodation is 550 beds, divided into General Medical General Surgical, Gynaecological Obstetrical and Children's Diseases sections There are completely equipped Pathological and Biochemical laboratories, X ray, Electro therapeutic, Massage Ultra violet Ray and Electro-cardiographic departments Over 3 000 operations are performed annually

Candidates for the appointment must have had good Surgical experience, and be Fellows of the Royal College of Surgeons (England)

The scale of salary will be £700 rising by annual increments of £50 to a maximum of £1 000 per annum

Furnished quarters, rations, laundry, and attendance will be provided Alternatively, a cash allowance will be paid if the officer appointed is non resident. The officer appointed will be required to account to the Council for all fees, allowances, and emoluments (other than the foregoing) received by him

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination, and will be subject to three months notice on either side.

Further particulars of the appointment may be obtained from the Medical Superintendent, R. P STANLEY KELMAN, Esq, M B, F R.C S. (Eng and Edin), at the Selly Oak Hospital.

Applications, stating age, experience, and qualifications accompanied by copies of recent testimonials and endorsed "Surgeon," should be addressed to me and delivered at my office not later than 10 a.m. on Wednesday, November 12th

F H. C. WILTSHIRE,
The Council House, Town Clerk
Birmingham October, 1930

City of Birmingham

ERDINGTON HOUSE.

RESIDENT ASSISTANT MEDICAL OFFICER (Female)

The Public Assistance Committee invite applications from fully qualified Medical Practitioners for the above appointment at the Erdington House. The Institution accommodates 1,800 inmates, of whom approximately 800 are mental patients of varying types and 250 are sick the remainder being aged and infirm ordinary House cases, etc. Parts of the Institution are certified under the provisions of the Mental Deficiency Acts, 1913 to 1927

The officer appointed will be required to assist in the general medical work of the Institution and to undertake such other duties as may be assigned to her, and, should occasion arise, to assist at other Institutions under the control of the Committee. The salary will be at the rate of £350 per annum, together with full residential emoluments (rations apartments laundry, and attendance) Any other payments received by the officer for duties performed in connection with the appointment must be paid into the Corporation funds The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination, and will be the subject of one month's notice on either side The appointment will automatically terminate in the event of the Medical Officer's marriage.

Applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials should be forwarded so as to reach me not later than Wednesday, November 12th and be endorsed 'Assistant Medical Officer Erdington House."

Council House, F H C. WILTSHIRE,
Birmingham. Town Clerk.
October 27th 1930

County Borough of Stockport

CONSULTANT OBSTETRICIAN

Applications are invited from duly qualified Medical Practitioners for the appointment of Consultant Obstetrician to the Stockport Corporation's Maternity Hospitals—viz., MILE END HALL HOSPITAL and STEPPING HILL HOSPITAL.

Forms of application and full particulars of the conditions of the appointment can be obtained on application to the Medical Officer of Health, Town Hall, Stockport

Applications, endorsed Consultant Obstetrician ' should reach me not later than Monday November 17th

Town Clerk's Office, ROBERT HYDE
Town Hall, Town Clerk
Stockport. October 27th, 1930

City of Birmingham

DUDLEY ROAD AND SELLY OAK HOSPITALS SERVICES

ASSISTANT PATHOLOGIST

Applications are invited from fully qualified registered Medical Practitioners for the whole time non resident appointment of Assistant Pathologist to the above Hospitals The officer appointed will work at either Hospital under the Pathologist.

It is anticipated that the officer's services will be more required at Selly Oak Hospital

The scale of salary will be £500, rising, subject to satisfactory service, by annual increments of £25 per annum to £700 per annum

The officer appointed will be required to refund to the Council all other fees and allowances received

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination, and will be subject to three months notice on either side.

Further particulars of the appointment may be obtained from the Medical Officer of Health, The Council House, Birmingham

Applications, stating age, experience, and qualifications, accompanied by copies of recent testimonials, and endorsed Assistant Pathologist," should be addressed to me and delivered at my office not later than Wednesday, November 12th

F H. C. WILTSHIRE,
The Council House, Town Clerk.
Birmingham October, 1930

Borough of Margate

Applications are invited from duly qualified and registered Medical Practitioners for the post of MEDICAL OFFICER OF HEALTH, SCHOOL MEDICAL OFFICER, and POLICE SURGEON for the Borough of Margate.

Candidates must be registered in the *Medical Register* as holding a Diploma in Sanitary Science, a Diploma of Public Health or of State Medicine and have had previous experience in the duties of a Medical Officer of Health, and be not less than 30 nor more than 40 years of age.

The appointment will be subject to the approval of the Minister of Health and the Board of Education

Salary will be at the rate of £900 p.a., rising by two annual increments of £50 to £1,000 p.a.

Applications must be made on the prescribed form, which can be obtained from my office, and must be sent to me under cover, endorsed, Medical Officer of Health ' not later than 1 p.m. on Monday, November 17th

Town Clerk's Office, EDWARD BROOKE,
Margate Town Clerk
October, 1930

Middlesbrough Education Committee.

APPOINTMENT OF SENIOR ASSISTANT SCHOOL MEDICAL OFFICER

Applications are invited from duly qualified men for the post of Senior Assistant School Medical Officer, to act under the School Medical Officer in connection with the Medical Inspection and Treatment of School Children

Applicants must have had experience in the work of the School Medical Service, and the successful candidate will be required to devote his whole time to the duties of the office

Commencing salary £500 per annum

Applications, stating age, together with particulars of qualifications and experience, and accompanied by copies of three recent testimonials, to be forwarded to the undersigned not later than Saturday, November 8th.

Education Offices, STANLEY MOFFETT,
Middlesbrough Director of Education
October 20th, 1930

Liverpool and District Hospital FOR DISEASES OF THE HEART

HOUSE PHYSICIAN (male or female) required for period of six months from January 1st, 1931 Salary at the rate of £100 per annum with board, residence, and laundry

Applications not later than November 17th, to Miss LEWIS, Secretary, 14, Cook Street, Liverpool

Southampton Children's Hospital AND DISPENSARY FOR WOMEN

Another HONORARY SURGEON is required at the above Hospital Applications for this appointment accompanied by copies of testimonials should be sent to the undersigned not later than November 10th

ELLA L. MATTHEWS, Secretary

London Jewish Hospital,
St Peter's Green E.1
(General Hospital—168 Beds)

Applications are invited for the following posts:

RESIDENT MEDICAL OFFICER. Salary at the rate of £150 per annum with board and residence; appointment for six months.

JUNIOR RESIDENT MEDICAL OFFICER. Salary at the rate of £100 per annum with board and residence; appointment for six months.

CASUALTY OFFICER (non-resident). Salary at the rate of £150 per annum with lunch on and tea; appointment for six months. The holder will be required to attend the Out-patient Department daily from Monday to Friday at 9 a.m.

Application with copies of three recent testimonials to be sent to the Secretary on or before Friday November 14th. The successful candidates will be required to take up their duties on December 1st.

Royal Devon & Exeter Hospital,
EXETER. (220 Beds.)

HOUSE PHYSICIAN (Male).

Applications are invited for the post of HOUSE PHYSICIAN at the Hospital vacant on December 3rd next. The appointment is for six months but can be later by mutual arrangement.

Salary at the rate of £150 per annum with board, apartments and washing.

Applications giving particulars as to age and qualifications together with copies of three recent testimonials should be sent to the undersigned on or before Wednesday, November 12th next.

By Order of the Committee,
S. S. COLE,
Oct. 23rd 1930 Secretary & Manager.

Addenbrooke's Hospital,
CAMBRIDGE.

Applications are invited for the post of RESIDENT ANÆSTHETIST and EMERGENCY OFFICER (male). The appointment will be for six months and may be renewed for a further period of six months, but is terminable at any time by one month's written notice on either side. Salary at the rate of £150 per annum with board, residence and laundry. Candidates who must be unmarried and duly registered are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four recent testimonials to the undersigned as soon as possible.

W. H. HEAD,
Secretary Superintendent.

St Bartholomew's Hospital
CHIEF ASSISTANT TO THE DENTAL DEPT.

Vacancies occur for Two Chief Assistants to the Dental Department (unpaid).

Candidates must hold a registrable British Dental qualification. A Medical qualification in addition is *desirable but not essential*. Appointment will be made for a period expiring on December 31st 1931 with eligibility for re-election.

Applications must be left with the undersigned on or before Wednesday, November 19th.

THOMAS HAYES,
Clerk to the Governors.
October 21st 1930

St Bartholomew's Hospital
APPOINTMENT OF DENTAL HOUSE SURGEON.

Application are invited for the office of House Surgeon to the Dental Department.

Candidates must hold a registrable Dental qualification. A Medical qualification in addition is *desirable but not essential*. Appointment will be made for six or twelve months from December 1st. The salary attaching to the office is £60 per annum non-resident.

Applications must be left with the undersigned on or before Wednesday, November 19th.

THOMAS HAYES,
Clerk to the Governors.
October 21st 1930

Tiverton Hospital, Devon

HOUSE SURGEON required immediately. Salary £100 per annum with board, residence and laundry.

The appointment to be held for six months.

Applications with testimonials to be sent to the undersigned.

C. H. DEEKS, Hon. Secretary.

The Royal Hospital,
WOLVERHAMPTON
(Incorporated under Charter)

HOUSE SURGEON (male) required. Duties to commence December 1st.

The Hospital contains 240 beds, includes the usual special department, and is recognized by the various Examining Bodies for a part of the requisite attendance on Medical and Surgical Practice.

Candidates must be registered under the Medical Act, *and unmarried*.

The appointment is for six months. Salary at the rate of £150 per annum. Board, furnished room, and laundry provided.

Applications, with copies of testimonials to be forwarded to the undersigned.

W. H. HARPER,
Wolverhampton. Hon. Governor.
October 27th 1930 & Secretary.

Woolwich and District War
MEMORIAL HOSPITAL
Shooter's Hill, London, S.E.18
(General Hospital—112 Beds.)

The Board of Management invites application from suitably qualified male candidates for immediate appointment as HOUSE SURGEON. In addition to his surgical duties he will have care of the Maternity Unit (8 beds).

An honorarium of £100 per annum will be paid in respect of this appointment, plus board, residence and laundry.

Application, accompanied by copies of not more than three recent testimonials, should be addressed to the undersigned, to reach him not later than first post on Wednesday, Nov. 12th.

EDWIN RADFORD,
Secretary Superintendent.

Hospital for Women at Leeds
APPOINTMENT OF HONORARY ASSISTANT SURGEON.

Notice is hereby given that the Special Election Committee will proceed to the election of an Honorary Assistant Surgeon (Gynæcological and Obstetrical) on Thursday, November 20th next. Candidates for the post must hold the Degree of Master of Surgery or be a Fellow of the Royal College of Surgeons, England. Further information regarding the appointment may be obtained from the Secretary. Application, accompanied by copies of testimonials, should be addressed to the Chairman at the Hospital and must be received not later than November 14th next.

(Signed) S. C. HILL,
Secretary.

Charing Cross Hospital
RESIDENT MEDICAL OFFICER.

Applications are invited for the post of Resident Medical Officer from male candidates (unmarried) who must be registered Medical Practitioners. Salary £350 per annum, plus additional fees amounting to approximately £75 per annum. The rules of the office may be obtained from the undersigned, to whom applications accompanied by copies of three recent testimonials must be delivered not later than Tuesday, November 4th.

Charing Cross Hospital, London, W.C.2. PHILIP INMAN, House Governor.

Hull Royal Infirmary
(270 Beds.)

Application are invited for the post of ASSISTANT HOUSE PHYSICIAN (male) vacant November 23rd.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Salary at the rate of £130 per annum, plus board, residence and laundry.

Applications should be sent to the undersigned not later than November 11th.

R. J. CAPLESS,
Oct. 25th 1930 House Governor.

The Children's Hospital,
SUNDERLAND (70 Beds.)

Wanted immediately HOUSE SURGEON (*if male*). Candidates must possess double qualifications (registered).

Salary £100 per annum, with board, residence and laundry. The appointment is for six months. Application, stating age, with copies of three recent testimonials, to be sent to the undersigned.

S. C. PETERS,
House Governor and Secretary.

West Bromwich and District
GENERAL HOSPITAL.

Appointment of (1) HONORARY ANÆSTHETIST (2) HONORARY ASSISTANT to Ear, Nose and Throat Department.

The Committee of Selection will on Monday, November 17th proceed to the appointment of (1) an Honorary Anæsthetist and (2) an Honorary Assistant for the Ear, Nose and Throat Department.

Candidates are requested to send their application and testimonials and evidence of their degrees and diplomas to ERIC BACHE, Esq., LL.B., Lowland House, West Bromwich on or before November 14th.

The Bye-laws provide: That every honorary surgeon shall be a Fellow or Member of a Royal College of Surgeons in the United Kingdom or a Graduate in Surgery of a British University and that appointments shall be for a period not exceeding five years.

By Order,
FRANK L. HANCOCK,
Secretary & Superintendent.

Elizabeth Garrett Anderson
HOSPITAL, Euston Road.

Wanted fully qualified Medical Women for the following posts: HOUSE PHYSICIAN, OBSTETRIC ASSISTANT, THREE HOUSE SURGEONS. Appointments for six months from January 1 next. Salary at the rate of £50 per annum, with board, residence and laundry.

CLINICAL ASSISTANTS (Senior for two years, Junior for one year) are also wanted in the Out-patient and Special Departments. Application with three copies of testimonials should be sent to the Secretary by Tuesday, November 25th.

JEAN B. MURRAY, Secretary.

East Suffolk & Ipswich Hospital,
IPSWICH
(265 Beds—7 Resident.)

Applications are invited for the post of HOUSE SURGEON. Salary £120 per annum, Board, residence and laundry. Previous experience essential.

Applications from British (male) candidates stating age, qualifications and experience, and accompanied by three recent testimonials to be sent to the undersigned.

The Hospital, Ipswich. ARTHUR GRIFFITHS, Secretary.
August 18th 1930

North Riding Infirmary,
MIDDLESBROUGH
General Hospital. (150 Beds.)

Wanted, THIRD HOUSE SURGEON (male) to take up duties as early as possible. Salary at the rate of £125 per annum with board, residence and laundry. Six months' appointment. Candidates will be eligible for the higher appointments as they become vacant.

Applications, stating age, nationality and previous experience with references (copies) should be sent forthwith to the undersigned.

CHARLES POSTGATE,
Secretary Superintendent.

Edinburgh Hospital for Women
AND CHILDREN,
Wheatfield Road, EDINBURGH. (50 Beds.)

Applications are invited from qualified Medical Women for the post of SENIOR HOUSE SURGEON and HOUSE PHYSICIAN at Children's Hospital. The appointments are for six months from January 1st, 1931, with board, residence and laundry.

Applications, with copies of testimonials, to be received by the Secretary, 2 Charlotte Square, Edinburgh, not later than Tuesday, November 25th.

JAS. A. LOVE, Secretary.

Greenock Royal Infirmary

Wanted, a HOUSE SURGEON. Salary £100 per annum, board, residence and laundry. Other Resident Staff. 150 beds. Candidates must be registered with temporary registration. Applications to the Secretary, 2 Union Street, Greenock.

JAS. A. LOVE, Secretary.

Lowestoft and North Suffolk
HOSPITAL, LOWESTOFT.

JUNIOR HOUSE SURGEON (male) required. Salary £120 per annum with board, residence and laundry.

Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

Metropolitan Hospital,
Kingsland Road, London, E 8

The Committee of Management are prepared to receive applications for the appointment of a SURGEON to the Ear, Nose, and Throat Department (male)

Candidates must be Fellows of the Royal College of Surgeons of England, and not engaged in general practice

Candidates will be required to call upon Members of the Staff

Twenty applications complete with copies of recent testimonials must reach the undersigned from whom further particulars may be obtained not later than first post on Monday, November 17th

HERBERT F RUTHERFORD
Secretary & House Governor

Royal East Sussex Hospital,
HASTINGS (114 Beds)

Applications are invited for the posts of SENIOR HOUSE SURGEON and JUNIOR HOUSE SURGEON (females)

Salary at the rate of £150 per annum and £100 per annum respectively

The appointments are to date as from November 14th for a period of six months

Candidates must be duly registered Medical Practitioners.

Applications, stating age and qualifications, with copies of recent testimonials, should be sent immediately

WILFRID G KEMSLEY
Secretary

The Willesden General Hospital
(Incorporated) N W 10 (106 Beds)

APPOINTMENT OF HOUSE PHYSICIAN

Applications are invited from fully qualified and registered candidates male or female, for the appointment of House Physician

Candidates must be unmarried

Salary at the rate of £100 per annum

Detailed applications with copies of testimonials should be sent at once, addressed to the Secretary, Willesden General Hospital, N W 10

October 20th 1930

Manchester and Salford Hospital
FOR SKIN DISEASES

HOUSE SURGEON

Applications are invited for the post of House Surgeon Must be registered The appointment is for six months. Salary at the rate of £100 per annum, with board and residence

Applications with copies of three testimonials, to be sent to the undersigned, Quay Street, Manchester

JOHN HALL, Secretary

Tunbridge Wells and Counties
GENERAL HOSPITAL
(100 Beds—Two Residents.)

Applications are invited for the post of HOUSE SURGEON (male) Salary £160 per annum, with board, residence, and laundry The appointment is for twelve months

Applications, stating age, qualifications, and experience and accompanied by three recent testimonials should be sent to the undersigned on or before November 10th

(Signed) P E WINDO, Secretary

Royal Free Hospital,
Cray's Inn Road, W C 1

Applications are invited for the post of ASSISTANT MEDICAL OFFICERS (Three) in the V D Department (female) Salary at the rate of £350 per annum (part time) Intending candidates should submit applications stating age and experience to the undersigned on or before November 15th accompanied by copies of three recent testimonials

REGINALD R GARRATT,
Secretary

The Stockport Infirmary

HOUSE PHYSICIAN (male) required

Salary £175 with board, residence, and laundry

Application with copies of three recent testi*monials stating age, University and experience,* to be delivered to the undersigned as soon as possible

EDWIN J PEARCE,
Oct 31st, 1930 Secretary Supt

Seamen's Hospital Society

The Committee of Management invite application for the appointment of ASSISTANT SURGEON at the ALBERT DOCK HOSPITAL, Connaught Road, E Candidates must be Fellows of the Royal College of Surgeons of England, or Masters of Surgery of a University in the United Kingdom

Applications to be sent in on or before November 18th to the undersigned from whom further particulars can be obtained

By Order,
Greenwich R E V BAX,
October 27th, 1930 Secretary

Royal Northern Hospital,
Holloway, London, N

Applications are invited for the post of HOUSE SURGEON (male) The appointment is for nine months (six months as House Surgeon and three months as Casualty Officer) from December 15th Salary at the rate of £70 per annum, with board, residence, and laundry

Applications, with copies of testimonials, should be sent by November 8th to the undersigned, from whom forms of application and rules can be obtained

GILBERT G PAINTER, Secretary

Stockton & Thornaby Hospital,
STOCKTON ON TEES
(140 Beds)

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER (male) for a period of at least six months Duties to commence on or about Nov 17th. Salary £150 with board, residence, and laundry Candidates must be duly qualified and unmarried Applications, stating age, nationality, and experience, together with copies of three recent testimonials, to be sent to the undersigned.

JOHN WILKINSON, Secretary

Shropshire Orthopaedic Hospital
AND AGNES HUNT SURGICAL HOME, OSWESTRY

Two HOUSE SURGEONS (male) required in January, 1931 Appointment for six months, with possibility of extension Salary at the rate of £200 per annum with board, residence, and laundry Two weeks holiday for each six months service.

Applications stating age with copies of three recent testimonials should be received by the Secretary Superintendent on or before Nov 30th

The Royal Eye and Ear Hospital,
BRADFORD

Wanted, JUNIOR HOUSE SURGEON, male. Salary £150 with board residence, and laundry Applications, stating qualifications age, etc., with copies of recent testimonials, to be forwarded to the undersigned on or before November 11th

T BRIGGS,
Secretary Superintendent

The Sheffield Royal Hospital

Required, OPHTHALMIC HOUSE SURGEON at once (male) Salary for the first six months at the rate of £80 per annum, afterwards £100, with board, residence, and laundry There are twelve Resident Medical Officers

Applications should be forwarded immediately to—

W H BOOTH
Superintendent and Secretary

Connaught Hospital,
Orford Road, E.17 (100 Beds)

RESIDENT HOUSE SURGEON (male) required Salary £100 per annum Appointment for six months with board, quarters, and laundry Applications, stating age, nationality, qualifi*cations, and experience, accompanied by copies* of not more than three recent testimonials, should be sent immediately to the Secretary

Ear and Throat Hospital,
Edmund Street, BIRMINGHAM.

HOUSE SURGEON (FOURTH) wanted at once, to assist in Out-patient Department, experienced in administering anaesthetics Salary at the rate of £150 per annum with residence, board and laundry Appointment in the first instance for six months Full particulars may be obtained on application to the undersigned.

S G GREW,
October, 1930 Secretary

Victoria Hospital, Burnley
(120 Beds)

Applications are invited for the post of *HOUSE PHYSICIAN (male)* The appointment is for six months in the first instance and carries a salary of £150 per annum, with board etc.

This Hospital is approved by the London University for the purpose of the M B and M S examinations

Applications, with testimonials should be addressed to the undersigned forthwith

GEO W COOLING
Sept 26th 1930 Secretary Supt.

Nuneaton General Hospital
(74 Beds)

HOUSE SURGEON (male or female) required to commence duty on December 1st In the first place the period of appointment will be six months, with board and lodgings, etc. Salary at the rate of £120 per annum, and in addition there are certain emoluments. In the event of a second period of service being entered upon the salary will be raised to £160 per annum for the second six months

Apply at once, with copies of testimonials, to the Secretary, Medical Staff Committee, at the Hospital.

Royal Infirmary, Wigan
(180 Beds)

HOUSE SURGEON (male) required to commence duty on November 22nd for a period of six months Salary £150 per annum with board apartments, and washing Applications, stating age and qualifications, with copies of three recent testimonials, should be addressed to the undersigned as soon as possible.

A STANLEY BRUNT,
Oct. 27th, 1930 Gen Supt & Secretary

Darlington General Hospital
(120 Beds.)

Wanted, HOUSE SURGEON, male or female, fully qualified, British. Salary £150 per annum, with board, residence and laundry Special Departments—Eye, Ear, Nose and Throat, Orthopaedic, Maternity, Ultra violet rays. Applications, stating age, experience, qualifications, together with copies of two recent testimonials to be addressed to me forthwith.

A. RIDDLE, Secretary

The Lady Chichester Hospital,
FOR EARLY NERVOUS BREAKDOWNS
(50 Beds)

Two Medical Women required as JUNIOR and SENIOR HOUSE PHYSICIANS Honorarium at the rate of £50 and £100 per annum, with board lodging, and laundry

Applications must be made in writing and accompanied with testimonials and sent to the Secretary, A. F GRAVES, 117, North Street, Brighton

The Hospital for Sick Children,
NEWCASTLE UPON TYNE (92 Beds)

Applications are invited for a RESIDENT *SENIOR HOUSE SURGEON (male or female)* for a period of six months as from November 1st. Salary at the rate of £95 per annum, together with board residence, and laundry

Applications, stating age and qualifications with copies of testimonials, to be sent to the Secretary, Mr NEIL BRODIE, 18, City Road, Newcastle.

The Hospital for Sick Children,
NEWCASTLE-UPON TYNE. (92 Beds)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female), non resident for a period of six months as from November 1st Salary at the rate of £100 per annum

Applications, stating age and qualifications with copies of testimonials, to be sent to the Secretary, Mr NEIL BRODIE, 18 City Road, Newcastle.

The Hartlepools Hospital
(100 Beds.)

HOUSE SURGEON (male or female) required at once. Must be doubly qualified Salary £150 with board, residence, and laundry

Applicatio[illegible] copies of not more than t[illegible] should be sent to the [illegible] 10th

[illegible] Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
CILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DIST[RICT] *(Medical Aid Association)*	PORTSMOUTH EDUCATION COMMITTEE. *(Male Assistant School Medical Officer)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE MON *(Medical Officer for Medical Aid Association.)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme.)*		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch Savings Bank Building 21 Elizabeth St. Sydney N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch B.M.A. House 207, North Terrace, Adelaide.	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch, British Medical Association P.O. Box 156 Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec., Queensland Branch) British Medical Association B.M.A. Building Adelaide St. Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr. J. P. Major (Hon. Sec. Victorian Branch), British Medical Association Medical Society Hall East Melbourne, Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon. Sec. Western Australian Branch, British Medical Association No. 6 Bank of N.S.W. Chambers St. George's Terr., Perth Western Australia.

October 29th 1930 By Order of the Council ALFRED COX Medical Secretary

The Hospital for Sick Children,
Great Ormond Street London W.C.1.

There will be a meeting of the Joint Committee on Wednesday November 5th to elect a DENTAL SURGEON.

Candidates shall be registered and qualified Dental Practitioners and in addition shall be Fellows or Members of the Royal College of Surgeons of England or a Graduate in Medicine of a University of the United Kingdom.

Candidates are invited to send in their application addressed to the Secretary with copies of not more than three testimonials written specially for the purpose on or before 12 o'clock, on Monday November 3rd.

All candidates will be required to appear before the Joint Committee on Wednesday November 5th at 4.45 p.m. precisely.

Forms of application and copies of the rules can be obtained from the Secretary.

By Order of the Board of Management
JAMES McKAY
October 1930 Secretary.

Carnarvonshire and Anglesey
INFIRMARY BANGOR
(General Hospital)

HOUSE SURGEON (male) wanted. Salary £200 per annum with residence board and laundry. Duties to commence early in December. Hospital contains Orthopaedic Ear Nose and Throat X-ray and V.D. Departments.

Applications stating age nationality and experience with copies of three recent testimonials to reach the Secretary not later than November 6th.

Coventry and Warwickshire
HOSPITAL, COVENTRY
(300 Beds)

RESIDENT ASSISTANT HOUSE SURGEON (male) wanted. Salary £125 per annum Board laundry and attendance provided. Candidates must be duly qualified and registered.

Applications stating age and enclosing copies of recent testimonial should be sent to the undersigned on or before November 6th.

(Miss) R. HOOPER
Secretary.

Royal United Hospital, Bath

The Managing Board invite applications for the appointment of TWO HONORARY SURGEONS one of whom will be in charge of the Gynaecological Department.

Candidates must be Fellows of a British or Irish College of Surgeons and state for which appointment they apply.

The appointment will be made by the Election Committee and selected candidates shall if required present themselves before the Board or Election Committee.

Applications stating age qualifications and experience to be addressed to and reach the undersigned by November 5th.

The names and address of the Electron Committee to whom copies of testimonials may be sent will be supplied on application to the Secretary Superintendent.

Canvassing will be deemed a disqualification.

J. LAWRENCE MEARS
Oct. 20th 1930 Secretary Supt.

East London Hospital for
CHILDREN & DISPENSARY FOR WOMEN Shadwell E.1

Applications are invited for the post of ASSISTANT PHYSICIAN to the Out-patient Department of the Hospital every Assistant Physician shall hold a degree in Medicine from a University and shall be a Fellow or Member of the Royal College of Physicians of London.

Applicants with testimonials should be addressed to the undersigned and delivered at the Hospital on or before Saturday Nov. 8th.

By order of the Board of Management
W. M. WILCOX Secretary.

Great Yarmouth General
HOSPITAL. (72 Beds.)

Required to commence duties immediately a JUNIOR HOUSE SURGEON.

Salary at the rate of £140 per annum together with board residence and laundry.

Applications, together with copies of three recent testimonials to be submitted to the undersigned.

FRANK JENNINGS Secretary.

Royal Sussex County Hospital,
BRIGHTON

AN ASSISTANT PATHOLOGIST to the Pathological Bacteriological and Clinical Research Department of the above Institution required. Commencing salary £400 per annum (non-resident). Candidates must have had experience in Clinical Laboratory work.

Application with copies of testimonials must reach the undersigned at the Hospital not later than November 10th.

The successful candidate will be required to commence his duties as soon as possible after election.

Particulars of duties and rules will be forwarded on application to the Secretary Superintendent.

L. L. W. LANCASTER-CAVE,
Secretary Superintendent.

The Children's Hospital,
HAMPSTEAD (65 Beds)

RESIDENT MEDICAL OFFICER required for the above on December 1st. Salary £100 per annum, with board, bedroom, and washing provided. Applicants must be registered under the Medical Act. Successful candidate will be required to sign a contract for six months' engagement. Applications stating age nationality and qualifications together with copies of three recent testimonials should be submitted to the undersigned on or before November 15th.

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE
TAVISTOCK SQ., LONDON W.C.1
T/A ARTICULATE WESTCENT LONDON
Tel MUSEUM 9861 (4 lines).

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All advertisements should reach the above address by not later than first post TUESDAY preceding publication

ASSISTANCIES

Wanted — Assistantship with view Partnership or Succession, in good middle-class Practice, not much panel Scope for E N T work M B B Ch, T O D (1919) Indoor or outdoor Good exp G P and Speciality Interview Own car London or Home Counties N W, W, S W —Address No 7566, B M A House, Tavistock Square, W C 1

Wanted — Assistantship by Indian Doctor, M B, D T M, L M, Lieut A I R O, 6 yrs charge small hosp, India 3½ yrs P C, F R C S L M, Lond. Edin, Dub Exp Surg Mid, Trop Dis £180/£200 p a —No 7356 B M A House, Tavistock Sq, W C 1

Wanted — Assistantship, with definite view to Partnership, by M B, Ch B 28 years single, Scotch and Protestant, ex H S and H P, Post graduate midwifery 2½ years G P experience.—Address, No. 7570, B M A House, Tavistock Square, W C 1

Wanted by M B, M R C P, set 27 ASSISTANTSHIP, with or without view in Scotland or N England non-dispensing Practice Hosp experience also G P Capital available — Address No 7595, B M A House, Tavistock Square W C 1

Wanted — Elderly Assistant (unqualified), competent Bacteriologist and Biochemist required for private Laboratory, situated on the Riviera Might suit semi invalid — Address, No 7571 B M A House, Tavistock Square W C 1

Wanted —Indoor male Assistant, suburb of Midland City Ample time for reading Ultimate Partnership to suitable man References and photograph Salary according to experience.—Address No 7574 B M A House, Tavistock Square W C.1

Wanted —Part-time outdoor ASSISTANT (man or woman) in East London Panel Practice A few mornings a week only Salary £100 to £150 State age and experience —Address No 7593 B M A House Tavistock Square, W C 1

Wanted — Part-time Assistant (outdoor) in South Manchester Panel and private Practice Suit man studying for higher degree or with part-time Hospital work —Address No 7581, B M A House, Tavistock Square, W C 1

Wanted —Young Assistant, preferably married, for busy East End working class panel Practice Dispenser kept. Salary £300 per annum and unfurnished house. Essential particulars in first letter please. —No 7576 B M A House, Tavistock Sq, W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices, with and without view State full particulars.— BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

Wanted —Part-time Assistant few hours daily Half hour Waterloo Suit young man doing higher exams clin assist or as first job Willing to stay six months preferred State nationality age etc —Address No 7625, B M A House Tavistock Square W C 1

Wanted — Lady Assistant for private and panel Practice in a Midland city Commencing salary £250 p a, all found State essential particulars —Address No 7627, B M A House, Tavistock Square W C 1

Wanted, an indoor Assistant, in mixed Practice English Irish, or Scotch Pleasant district Work light. Prospects State full particulars —Address No 7584, B M A House, Tavistock Square, W C 1

Wanted —Indoor or outdoor (latter preferred) ASSISTANT for panel and private Practice in East London Suburb Usual bond Write giving particulars —Address, No 7590 B M A. House, Tavistock Square, W C 1

Wanted —Indoor male Assistant English Protestant General Practice W Riding City Work light Essential particulars and copies of testimonials —Address, No 7564, B M A. House, Tavistock Sq, W C 1

Wanted — Lady Assistant, suburban panel and private Practice Midlands Drive car or cycle. Particulars — Address No 7559, B.M.A. House, Tavistock Square, W C 1

Wanted — Outdoor Assistant, with some experience for Colliery Practice 9 miles from Newcastle-on Tyne Salary £365 p a Usual bond State age —Address, No 7620 B M A House Tavistock Square W C 1

Wanted — Young male Assistant for good general Practice in London Small panel, dispenser kept.—Address No 7622 B M A House Tavistock Square W C 1

Assistant wanted immediately (male), outdoor, in mixed Practice, Birmingham district. Salary to commence £400 —Address stating age, nationality, and essential particulars, No 7585, B.M.A House, Tavistock Square, W C 1

Assistant wanted for panel and private Practice in Manchester district. Applicants must be young, single, temperate Dispenser kept. View to Partnership —Address, No 7355, B M A House, Tavistock Sq, W C 1

Assistant, outdoor, lady or gent, for private and panel Practice in Midlands No car available. £400 per annum Usual bond —Address No 7567, B M A. House, Tavistock Square, W C 1

Assistantship, part-time, out- door in London area wanted by M B B Ch male 30 married 4½ years G P Hospital appointments —Address, No 7600, B M A House, Tavistock Square W C 1

Assistant, indoor, male, required for general Practice in Newport Mon Salary £300 usual bond —Address No 7588 B M A House Tavistock Square, W C 1

Assistant under 35 required for six months twelve miles from London —Address, No 7582 B.M.A. House, Tavistock Square, W C 1

Indoor Lady Assistant required immediately for private and panel Practice in London —Address, stating age, together with copies of testimonials, No 7382, B M A House, Tavistock Square, W C 1

M.B, Ch B, requires Assist- ANTSHIP, preferably with view to succession or partnership Aged 28 single Ex H S, R M O Experience private and panel Good anæsthetist and obstetrician —Address, No 7626, B M.A. House Tavistock Square W C 1

M.R C S, 1926, lady, free to ASSIST Doctor with surgeries and visits daily London or West Middlesex —Address No 7575 B M.A. House, Tavistock Square, W C 1

LOCUMS

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER, Ltd The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals
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Wanted —Locums or outdoor ASSISTANTSHIP by Woman Doctor L R C P S L M (Rotunda) D P H, accustomed sole charge and dispensing Good personality Free Nov 1st London or near pref Interview arr — No 7573 B M.A House Tavistock Square, W C 1

Locum —Part-time or Temporary WORK desired Experienced reliable Good references — Address No. 7556, B M A. House, Tavistock Square, W C 1

Spa Hospitality, Locum or Assistant —ANTSHIP —A Doctor with twenty years experience of good health resort work desires Treatment for Mild Alimentary Disorder Would give his services whilst undergoing treatment —Address No 7557, B M A House, Tavistock Square, W C 1

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM H GRANT)
WATERGATE HOUSE, 15 YORK BUILDINGS, ADELPHI W C 2 — *Tel* TEMPLE BAR 1054, RIVERSIDE 1254 (*Night Calls*)
Telegrams REASIDE, TUBERCLE, WESTRAND LONDON

MEDICAL POSTS DISPENSERS etc.

Wanted by London M B, B S, reading for D P H PART TIME POST Aged 28 Coast or Country Town preferred, near London 3 years C P Free November — Address No 7565, B.M.A House, Tavistock Square, W C 1

Wanted, by retired Medical Officer PART TIME WORK in London Experienced clinical and administrative work — Address, No 7599, B M A House, Tavistock Square, W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write, wire or phone (Park 0969), Secretary 7 Westbourne Park Road W 2

Dispenser requires whole or part time ENGAGEMENT, son of a doctor, late student 10 years first-class experience dispensing and bookkeeping — BETA, 60 Florence Road Wimbledon S W 19

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers Secretary Dispensers, Nurse Dispensers and Chauffeuse Dispensers.—Write, wire or phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS 12, Holborn Viaduct E.C 1

Doctor required for post in large Town in Middle East Good climate. Must be well qualified and experienced, Ophthalmic and Surgical experience desirable Married man preferred Salary £900, with prospects of increase in near future. Free house. Furniture at nominal rent. Private practice allowed Plenty of scope for good man especially surgic
with copies of
No 7597, B M A

Doctors requiring qualified Dispensers Nurse-Dispensers, Secretary Dispensers or Chauffeuse Dispensers, are invited to write wire, or phone Temple Bar 5858, THE DISPENSERS BUREAU, 15, Lindsay House, 171, Shaftesbury Avenue London, W C 2.

Experienced Dispenser Book- keeper (woman) requires POST in November with Doctor or firm of Doctors In or near London preferred — Address No 7580 B.M.A. House Tavistock Square W.C.1

Lady Dispenser - Bookkeeper (Hall) young six years good experience in private and panel practices care of instruments etc requires PERMANENT or LOCUM POST with Doctor disengaged Interview — W 16 The Uplands Loughton Essex.

Lady Secretary-Receptionist daily whole or part time Shorthand typist knowledge of German French and bookkeeping good personality and tactful interviewer Excellent references — If 4 Winchester Road N.W.3 Hampstead 1 rimrose 1120

Lady Dispenser - Bookkeeper required shortly age about 30 Must have had experience of good-class general practice knowledge of shorthand and typewriting advantageous—Apply stating age salary required experience etc to Dr TEASDALE West Retford House, Retford Notts

Lady Dispenser, own car, Secretarial training experienced seeks POST with Doctor part or whole time Small salary — Address No 7552 B.M.A. House Tavistock Square W.C.1

MPS, male, desires Post with firm of Doctors or Institution Young extensive training and experience all branches — Address No 7623 B.M.A. House Tavistock Square W.C.1

Opportunity, salary, prospects, time for study and comfortable home offered to young ambitious male Graduate by Country Doctor in return for HELP in Practice — Address No 7562 B.M.A. House Tavistock Square W.C.1

Secretary seeks Re-engagement with Medical Man Seven years experience with general consultant shorthand typewriting proof reading correspondence telephone, etc. Age 31 Free now—Miss D H ROBINSON Darbys Cookham Dean Berks.

The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work—Dispensers (capable of undertaking returns clerical work, etc. connected with Ministry of Health) Clerks Laboratory Assistants general hospital duties Porters Caretakers etc.—Apply Secretary 65 Eccleston Square S.W.1

Testimonials Duplicated per return of post. Prices per testimonial—12 copies 1/6 50 2/6 100 4/ —Miss NANCY McFARLANE (B.M.J.) — Elderton Road West Clifton Sea.

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PARTNERSHIPS

Woman's Practice —Partnership South Midlands 5/12 share of £1,000 at 2 years purchase. Short preliminary assistantship — Address, No. 7558 B.M.A. House Tavistock Square W.C.1.

Liverpool — Partnership, with succession in old-established Practice. Cash receipts last year £2,959 Panel 2,536. House to rent. Premium—1/4 or 1/2 share—1½ years purchase — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

London, E —Exceptional chance to acquire HALF SHARE of an old established cash and panel PRACTICE Receipts of share £1,250 Nice flat available rent 28/ per week Premium 2 years purchase payable only £1 000 rest at interest—Apply PEACOCK & HADLEY Ltd. 19 Craven Street Strand W.C.2

Manchester — Half Share old- established PRACTICE in nice residential suburb Receipts £2,000 with excellent scope Panel more than 1,500 Price 2 year purchase part deferred Golf tennis etc — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Partnership for Disposal —A THIRD SHARE in an old-established mixed practice in a growing residential Watering Place in the Home Counties Average cash receipts for past three years £3,517 including panel Fees 3 6 to 10 6 Midwifery from 6 gns Good house accommodation with garage Prem 2 yrs purchase House £1,800 — No 7598 B.M.A. House Tavistock Square W.C.1

Partnership — Wanted, Third PARTNER in Midland County Practice good panel and appointments close to three good towns ex H.S. or H.P. and well qualified Oxford, Cambridge or London Graduate preferred. Suitable for man fond of country life Modern house with nice garden at rental 2/7 share worth about £1,000 gross at 2 years purchase Capital essential. — Address No 7553 B.M.A. House Tavistock Square W.C.1

Riverside Suburb — Partner wanted for rapidly increasing Practice. Receipts for current year should reach nearly £1,800 Panel 900 increasing Half share for sale Premium to be arranged.—Apply PEACOCK & HADLEY Ltd. 19 Craven Street Strand W.C.2

South Coast Health Resort — PRACTICE Modern Well-to-do Residential House garden rent—Address No 7586 B.M.A. House Tavistock Square W.C.1

Yorkshire (W.R.) —Partnership in good Practice Income £2,235 p.a. Panel 2,841 Good house to rent at £52 p.a. Premium—1/4 share—£1,150 for quick sale. —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

PRACTICES

Wanted, London preferred, a mixed PRACTICE Income not less than £1,800 with large panel Medium-sized house to rent (would purchase if necessary) District immaterial providing living accommodation is suitable Lock up considered if district well available within easy distance Premium up to £5,000 cash —Apply THE MEDICAL AGENCY Watergate House Adelphi W.C.2

Wanted early in New Year, PRACTICE £700—£1,200 in country town or village agricultural district Good house with at least 6 bedrooms and large garden for sale or rent. Photos if possible. Ample capital. Full details in confidence — No 7555 B.M.A. House Tavistock Sq. W.C.1

Wanted —Practice in South of England. Income £800 to £1,200 Preferably in one of the following towns Winchester Chichester Worthing or Eastbourne Ample capital Confidential —Address No 7583 B.M.A. House Tavistock Square W.C.1

Wanted immediately — PRACTICE with a large panel in Hammersmith Fulham Earls Court or Chelsea or alternatively a good NUCLEUS in one of the same neighbourhood —Address No 7592 B.M.A. House Tavistock Square W.C.1

Wanted —Practice or PARTNERSHIP Income about £1,000 in or near country town in South of England for preference by late C.O. H.S. H.P. Capital available —Address No. 7588 B.M.A. House Tavistock Square W.C.1

Wanted —Practice, Midlands or North Lancashire preferred Income about £1,400 Panel scope Capital available House with garden to rent no essential.—Address No 7589 B.M.A. House Tavistock Square W.C.1

Branch for Sale in a rapidly increasing neighbourhood between Manchester and Liverpool £400 Searching inquiries invited —Address No 7578 B.M.A. House Tavistock Square W.C.1

Cash available immediately for purchase in Leeds or District a suitable and working class PRACTICE with large panel Income £1,500 or thereabouts —Address No 7587 B.M.A. House Tavistock Square W.C.1

Co Durham —Seaport Town — Death Vacancy with good introduction Private and panel PRACTICE, established 70 years Gross receipts per annum £1,200 House and garage to let. Excellent opportunity for energetic man —Address No 7551 B.M.A. House Tavistock Square W.C.1

Death Vacancy —West Riding PRACTICE. Audited receipts for the last three years available Panel about 1,100 Excellent house £80 p.a. Premium on application. Locum Tenens in charge —Apply 2580 REYNOLDS & BRAN'S LTD Medical Transfer Agents 18 Briggate Leeds

Essex — Seaside Town —Well- established mixed-class PRACTICE. Receipts average £560 p.a. including panel 250 Nice house on lease, rent £65 p.a. Premium £700 for quick sale — Apply PEACOCK & HADLEY Ltd. 19 Craven St. Strand W.C.2.

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised. Inform free on applic —4 Adam St W.C.2

For Disposal — An old-estab- lished PRACTICE in charming residential district near Guildford. Average income over £1,400 Unusually attractive freehold house in perfect condition —Address No 7554 B.M.A. House Tavistock Square W.C.1.

For immediate Sale — PRACTICE London (twenty minutes from West End) Receipts £720 including panel 450 rapidly increasing an appointment value £150 p.a. Premium small payable out of income.—Address No 7624 B.M.A. House Tavistock Square W.C.1

For Sale —Yorkshire University town. — Old-established panel and private PRACTICE Average over £1,250 p.a. Panel 1,057 Price £2,700 This Practice has a house in its own ground with trees also a double garage Near to but quite separate from a thickly populated area. Price for house £2,000 £1,250 may stand over — Address No 7590 B.M.A. House Tavistock Square W.C.1

For Sale —North of England market town Panel club private Average receipts last 3 years £850 Partly about £50 Good house with garden and garage for sale or rent £60 per annum. Ill health reason for sale Educational facilities and all ports Price for quick sale 1½ years purchase.—Address No 7621, B.M.A. House Tavistock Square W.C.1

For Sale —Medical Woman's PRACTICE in West Ham Established 22 years House on lease Premium 1½ years purchase —Address No 7577 B.M.A. House Tavistock Square W.C.1

Glos — Old-established mainly working class PRACTICE. Receipts £1,250 p.a. including panel about 1,200 Good house rent £75 Premium £1,850 payable £1,000 down balance spread over 4 years. —Apply PEACOCK & HADLEY Ltd. 19 Craven Street Strand W.C.2

Hants — A desirable general mixed PRACTICE in a growing locality is for sale on exceptionally reasonable terms owing to ill health of present practitioner's wife. Gross receipts average nearly £1,000 Panel 252. Attractive detached house with aeroplane surgery and waiting room pretty gardens tennis court garage etc Good educational facilities near —Further particulars can be obtained in confidence from Mr C. S. MOORES Incorporated Accountant 15 Bedford Circus Exeter

Isle of Man —Seaside Town — Genteel PRACTICE Receipts average £945 including £350 from panel Nice detached house 3 reception 4 bedrooms Garage Good schools Premium—Practically nominal reasonable offer — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Lancs — Unopposed Practice in lovely country town Large detached house garden garage Receipts over £1,000 Appointments £100 Price —Practice and house (freehold)—£2,000 part may remain — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street

Lancs Town — Old-established Receipts £2 500 Panel 1,850 Two excellent houses each with garden and garage rents £90 and £80 Appointments £120 Price 1½ years purchase part deferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street

Lancs Town —Near Manchester —Old estab PRACTICE. Cash receipts 1929 £1 200 Panel 1,100 Good house to rent 2 reception 4 bedrooms Garage and garden Premium 1½ years purchase—BRITISH MEDICAL BUREAU, 33 Cross St, Manchester

Lincolnshire —Country Practice Cash receipts 1929 £990 Panel 777 Excellent detached house, 2 reception, 5 bed rooms Garage and large garden Rent £50 p a Premium—Practice—£1 600 — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Liverpool (near) — Residential Const Town — Middle and upper class PRACTICE Average cash receipts £1 249 p a Scope Excellent house 2 reception, 6 bedrooms Garage and garden Prem 1½ years purchase Vendor retiring — BRITISH MEDICAL BUREAU, 33 Cross Street Manchester

London, E —Old-established cash PRACTICE, with small panel Receipts last year nearly £600 Living accommodation and surgery rent £85 Vendor retiring Premium £875 Suit Lady Doctor — Apply, PEACOCK & HADLEY, Ltd, 19, Craven Street, Strand W C 2

Manchester — Nice residential Suburb —PRACTICE capable of increase Average cash receipts £906 Panel 650 Excellent house in main road 2 reception, 5 bed rooms Garage and garden Premium 1½ years purchase — BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

Near Chester —Industrial Town PRACTICE Receipts 1929 £1 677 Panel 1 250 Accounts audited Excellent house garden and garage rent £150 p a Fishing golf shooting and tennis available Price for whole Practice £2 500 — Address No 7561 B M A House Tavistock Square, W C 1

Near Leeds — Industrial Town PRACTICE Average cash receipts £1 280 Panel 1 350 Hospital appointments £80 Good house 2 reception 3 bedrooms Premium—Practice—1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

North-West Coast — Old-estab mixed PRACTICE Cash receipts 1929 £1 129 Panel 580 Good scope Easily worked Good house 3 reception, 5 bedrooms Garage and garden Premium—Practice—1 years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

North-West Coast —Good middle-class PRACTICE Average cash receipts £1 700 Excellent modern house for sale Garage and garden —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Nucleus wanted with panel and scope or small PRACTICE country or suburban within 100 miles London Would rent house Fullest particulars in confidence —Address No 7591 B M A House Tavistock Square W C 1

Nucleus (growing), estab- lished (by woman) 5 years County town S W Scotland Panel 600 Good midwifery Suitable house for sale — Address No 7570, B M A House Tavistock Square W C 1

South Coast —Seaside Resort — Average cash receipts £745 Panel [illegible] Excellent house for sale 3 reception 5 rooms Premium—Practice—2 years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Surrey 35 miles from London Old established practically unopposed Country PRACTICE. Average income £[illegible] including panel and appts about £[illegible] Modern house every convenience 1/2 acre garden Price freehold £1 800 part cash Premium ½ years purchase —W[illegible] No 7160 B M A House Tavistock Sq

To Purchasers — Do not buy without expert assistance With 40 yrs experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam St Strand W C 2. Telephone Temple Bar 9011 Telegrams Epsomian London

Well-established Practice with Branch in suburbs of City in North of England Large panel Suitable houses in excellent positions for Doctor and Assistant Branch portion of Practice may be sold separately Short Partnership if desired Price for whole Practice £3,850 —CORMACK & BYERS, W S Lockerbie

Woman Doctor's Practice, main road N W London, established two years doing over £300 p a panel over 100 increasing ample scope. Shop fronted surg with flat above £300 to include drugs and fittings —No 7569 B M A House Tavistock Sq W C 1

Yorkshire (N R) — Unopposed Country PRACTICE in pretty district Average cash receipts £750 p a Panel 450 Excellent modern house, 12 rooms Garage and large garden with tennis court Rent £42 p a Premium 1½ years purchase —BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

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Colwyn Bay — For Sale — First-class Doctor's HOUSE main road General Practitioner's residence for last 15 years Best residential district. Freehold Garage — Address, No 7417 B M A House Tavistock Square, W C 1

Consulting Rooms to be Let — Harley Street, £250 p a Wimpole Street, £150 p a Queen Anne Street, £250 p a, Portland Place, £200 p a Park Lane, £250 p a Lists sent on application —ELGOOD & Co, 10, Henrietta Street, Cavendish Square, W 1 Langham 2601

Exceptional opportunity for Medical Man —Attractive Corner HOUSE in rapidly growing neighbourhood 8½ miles West End London, on main road Well known as Doctor's house No premium Perfect condition well laid-out garden Reasonable offer — No 7554, B M A House, Tavistock Sq, W C 1

Freehold semi-detached Resi- DENCE, new progressive Kentish suburb Two garages Office suitable for surgery All modern conveniences. Price £1 000 Substantial mortgage arranged Good opportunity and suitable for Doctor — Apply, NICOLL, Auctioneer, East Ham

Harewood Chambers, 74 to 80, Cower Street W C near Marylebone Euston St Pancras and King's Cross Quiet comfortable rooms h and c Bedroom bath, table d'hote breakfast 7/6 dinner 4/ From 2 gns p w — Phone Museum 3941—2

Harley Street (near) —Charming Bachelor SERVICE FLAT well furnished in beautiful house 3½ gns also one partly furnished or unfurnished £4 Both for long let —BM/BOI 4 London

Harley Street —Part-time large CONSULTING ROOM to Let plate, telephone usual attendance electric fires good waiting room — Address No 7535 B M A House Tavistock Square W C 1

Part-time Consulting Room to Let Harley Street afternoons other times by arrangement Plate available — Address No 7594 B M A House Tavistock Square, W C 1

Part-time use of Consulting- Room, bedroom or bed sitting room also if required — Address No 7383 B M A House Tavistock Square W C 1

M.R.C.S. ASSISTANT [illegible] daily London or One Street, W 1 —Only No 7575 B.M.A. Hour secures PART TIME USE of CONSULTING ROOM attend convenience — Address No House Tavistock Square, W C 1

Suite of Consulting Rooms in Upper Brook Street to be LET with service Resident Housekeeper Suitable Doctor —Apply by telephone Mayfair 1171

FOR SALE

To Doctors and Dentists —A pro- minent Detached Corner HOUSE near tube station Hall 2 reception rooms and 4 bedrooms Very light rooms Freehold £1 850 Cash £250 balance on mortgage — Apply, Quality Houses Gloucester Gardens Estate Golders Green Rd N W 11 —SPEEDWELL 4895

To Let — Furnished Sitting ROOM and BEDROOM (communicating) Use of bathroom same floor Service, breakfast Doctor's house West Central area best part Four gns —Address No 7560, B M A House, Tavistock Square W C 1

To Let —Queen Anne Street, W —Part time CONSULTING ROOM usual services £40 per annum Also double bedroom small sitting room furnished 3½ gns per week — Address No 7388 B M A House Tavistock Square W C 1

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Notice is hereby given that a Meeting of Medical Men and Women under the Chairmanship of Sir LEONARD HILL, M.B., F.R.S., for the purpose of FORMING A SOCIETY OF PHYSIOTHERAPY will be held on Friday, November 14th. Those who desire to be present at this meeting are invited to apply for invitation to the Acting Hon. Sec. Dr. P. KYLE BROWN 17 Feather stone Bldgs., London, W.1.

It should be noted that Radiography and Radiology are not deemed to be branches of Physiotherapy.

APPOINTMENTS—Contd.

Staffordshire, Wolverhampton, & DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS

TUBERCULOSIS OFFICER.

The Joint Committee invite applications for the post of *Tuberculosis Officer* for the Dudley and Wednesbury Dispensary Areas at a commencing salary of £750 per annum rising to £850 per annum together with travelling expenses.

Candidates should either have held a previous appointment as Tuberculosis Officer with the approval of the Ministry of Health or should since qualification

(1) have had at least three years experience in the practise of their profession,
(2) have spent in general clinical work a period of not less than eighteen months of which not less than six months have been spent in a hospital as resident officer in charge of beds occupied by general medical or surgical cases, and
(3) have received special training for a period of not less than six months in the diagnosis and treatment of tuberculosis.

The successful applicant will be required to act as Visiting Medical Officer of The Limes Sanatorium for Children, Himley, and will work under the administrative control of the Medical Officer of the Joint Committee.

Applications stating age, with copies of three recent testimonials, must be forwarded to the undersigned not later than November 6th.

County Buildings, Stafford. EUSTACE JOY, Clerk of the Joint Committee.

Hospital for Consumption and DISEASES OF THE CHEST, Brompton, S.W.3

The Committee of Management invite applications for the post of *whole-time qualified* ASSISTANT in the Department of Pathology. Duly qualified women are eligible for appointment. Further particulars may be obtained at the Hospital. Salary £350 per annum. Applications with copies of testimonials must reach the undersigned not later than Saturday, November 22nd. Candidates will be required to attend the Meeting of the Medical Committee on Wednesday, November 26th, at 4.30 p.m.

Brompton, S.W.3. FREDERICK WOOD, Secretary.
October 1930

The Mount Vernon Hospital, NORTHWOOD, MIDDLESEX (National Centre for the Study and Treatment of Cancer)

There is a vacancy for a RESIDENT MEDICAL OFFICER. Candidates must be fully qualified and registered. Salary at the rate of £300 per annum with board, lodging, etc.

Applications with copies of three recent testimonials to be sent to the undersigned not later than November 12th.

Offices, Fitzroy Square, W.1. W. J. MORTON, Secretary.

Redlands Hospital for Women, GLASGOW, W.2

Required Medical Woman for the post of HOUSE OBSTETRICIAN for six months. Salary at rate of £50 per annum. Applications with copies of three testimonials to be sent to JANET F. STEEL, Medical Secretary.

Warrington Infirmary and DISPENSARY

ANÆSTHETIST

The Board of Management invite applications for the above post.

Attendance at the Hospital is required on six days per week in the mornings up to noon.

The Board are prepared to form a rota of two or three Medical Practitioners if it is impossible for them to secure a candidate for the full six days.

An honorarium of £150 will be paid or if the rota is made this sum will be proportionately divided.

As this is a part time post the position may appeal to those Practitioners who are holding other part time posts or studying for higher degrees.

Applications should be sent in to the undersigned at once stating qualifications and also the number of days they wish to attend.

By Order,
HENRY L. BOOT,
October 28th 1930. Supt. & Secretary.

Northamptonshire County COUNCIL

EDUCATION COMMITTEE

ASSISTANT SCHOOL MEDICAL OFFICER

The Committee invite applications for the appointment of Assistant School Medical Officer (*male*) from registered Medical Practitioners of not less than three years standing. The possession of a D.P.H. will be considered an *additional qualification*.

The salary of the post will be £500 per annum rising by £25 per annum to £700 per annum *subject to satisfactory service, together with* expenses in accordance with the County scale.

A full statement of the duties and conditions attached to the appointment can be obtained from the undersigned.

Applications together with copies of no more than three recent testimonials must be lodged not later than Friday, November 28th.

County Education Offices, Northampton. J. L. HOLLAND, Secretary for Education.

Hampstead General and North-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3

APPOINTMENT OF CASUALTY MEDICAL OFFICER.

Applications are invited from unmarried registered Medical Women for the post of Casualty Medical Officer, vacant on December 1st next at the Out-patient Department of the Hospital, Bayham Street, Camden Town. The salary will be at the rate of £100 per annum together with board residence et and the term will be for six months.

Application to be made on a form which will be supplied by the Secretary together with copies of no more than three testimonials should reach the Secretary not later than noon on November 15th next.

South London Hospital for WOMEN, Clapham Common, S.W.4

The Board of Management invite applications from qualified Medical Women as CLINICAL ASSISTANTS for

(a) Medical and Surgical Out-patient Departments respectively.
(b) *Ophthalmic Department. In-patients and* Out-patients.
(c) Ear, Nose and Throat Out-patient Department.

Each appointment to be for a period of one year from January 1st 1931.

Further particulars may be obtained of the Secretary to whom applications with testimonials should be forwarded.

Princess Louise Kensington HOSPITAL FOR CHILDREN, St. Quintin Avenue, North Kensington, W.10 (50 Beds.)

HOUSE PHYSICIAN (*male or female*) required for six months from December 1st. Salary for the first month at the rate of £100 a year, after which, *should he or she be appointed* Senior Resident (of two) the salary would be at the rate of £125 a year with board residence and laundry in each case. It is desirable that applicants should have held a responsible Hospital post. Application with copies of three testimonials must be submitted on a form to be obtained from the Secretary. Applications must reach the Secretary not later than first post on Monday, November 24th.

County Borough of Preston.

APPOINTMENT OF ASSISTANT *SCHOOL* MEDICAL OFFICER.

The Council invite applications from registered Medical Practitioners (male) for the position of Assistant School Medical Officer at a salary of £600 per annum.

Candidates must have not less than three years Post-graduate experience including Resident Hospital appointment.

The holding of a Diploma in Public Health and experience in the diseases of children will be considered an additional advantage.

The selected candidate will be expected to undertake other duties in the Public Health Department under the direction of the Medical *Officer of Health*.

The person appointed will be required to pass a medical examination and to contribute to the Council's *Superannuation Scheme*.

Applications on forms to be obtained from the undersigned and endorsed "School Medical Officer" must be delivered on or before November 15th.

Town Hall, Preston. ALFRED HOWARTH, Town Clerk.
October 24th 1930

County Borough of Huddersfield

PUBLIC HEALTH DEPARTMENT

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH

The Corporation of Huddersfield invite applications from *registered Medical Practitioners* for the above appointment.

Candidates should be ladies who have had special experience in ante-natal work, and in the care of infants.

The salary will be at the rate of £500 for the first year, rising by annual increments of £25 to a maximum of £700 per annum.

Candidates should set out their qualifications and experience and furnish three recent testimonials and/or two references.

Applications should be addressed to JOHN M. GIBSON, B.A., M.D., D.P.H., Medical Officer of Health, Huddersfield, so as to reach him not later than November 15th.

Forms of application are not provided.

Town Hall, Huddersfield. SAMUEL PROCTOR, Town Clerk.
October 1930

Royal Surrey County Hospital, GUILDFORD

ASSISTANT *PATHOLOGIST*

Applications are invited from fully qualified registered *Medical Practitioners* for the *whole-time* non-resident appointment of Assistant Pathologist at the above Hospital.

Salary £300 per annum.

Applications stating age, experience and qualifications, accompanied by copies of recent testimonials, should be addressed to the undersigned as early as possible.

W. T. PATRICK,
General Superintendent.

Liverpool Maternity Hospital, *OXFORD STREET*

HOUSE SURGEON required for six months *commencing* January 1st next. Salary at the rate of £90 per annum with board, residence and laundry. Previous experience as House Surgeon essential. Membership of a Medical Defence Society is a condition of appointment.

Applications stating age, qualifications and experience, together with copies of testimonials, to be sent to the Hon. Secretary of the Medical Board on or before November 22nd.

The Hospital for Sick Children, NEWCASTLE-UPON-TYNE. (92 Beds.)

Applications are invited for a RESIDENT HOUSE PHYSICIAN (male or female) for a period of six months as from December 1st. Salary at the rate of £90 per annum, together with board, residence and laundry. Applications, stating age and qualifications, with copies of testimonials to be sent to the Secretary, Mr. NEIL BOURN, 18, Clayton Road, Newcastle.

Horton General Hospital, BANBURY, OXON. (60 Beds.)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male or female). The appointment is for six months.

Salary £100 per annum with board and laundry.

Applications with references must reach the undersigned not later than November 7th.

RICHARD H. PRESCOTT,
Secretary.

The Queen's Hospital for CHILDREN
Hackney Road London, E 2

RESIDENT MEDICAL OFFICER required on November 30th
The appointment is made for six months and may be extended for further periods of six months, but cannot be held for more than two years
The Resident Medical Staff consists of the Resident Medical Officer as above Two Casualty Officers, Two House Physicians and One House Surgeon
Salary (inclusive of panel fees) £200 per annum with board residence and washing Candidates must have held a responsible Resident appointment at a recognized Hospital and should apply as soon as possible for forms of application, which must be filled in and returned to the undersigned on or before November 10th
CHARLES H BESSELL
Acting Secretary
Telephone Clissold 6305 and 2534

Queen's Hospital for Children,
Hackney Road London, E 2

CASUALTY OFFICER required on December 1st Six months appointment Salary at the rate of £100 a year with board, lodging, and washing
Applications must be made on forms to be obtained from the undersigned and must be sent in, with copies of not more than four testimonials on or before November 14th
CHARLES H BESSELL
Oct 22nd 1930 Acting Secretary

Queen's Hospital for Children,
Hackney Road, London, E 2

HOUSE PHYSICIAN (male) required on December 15th Six months appointment Salary at the rate of £100 a year, with board, lodging and washing
Applications must be made on forms to be obtained from the undersigned and must be sent in with copies of not more than four testimonials on or before November 29th
CHARLES H BESSELL
October 25th 1930 Acting Secretary

Queen's Hospital for Children,
Hackney Road, London, E 2

HOUSE SURGEON (male) required on December 1st Six months appointment Salary at the rate of £100 a year, with board lodging, and washing
Applications must be made on forms to be obtained from the undersigned, and must be sent in with copies of not more than four testimonials on or before November 14th
CHARLES H BESSELL
Oct 22nd 1930 Acting Secretary

East Ham Memorial Hospital,
E 7 (100 Beds)

The Committee of Management invite applications for the post of HONORARY PHYSICIAN Candidates must be Fellows or Members of the Royal College of Physicians of London and Graduates of a University recognized by the General Medical Council and not engaged in general practice
Applications in triplicate should reach the undersigned on or before November 12th
REGINALD PERRY, Secretary

East Ham Memorial Hospital,
E 7 (100 Beds)

The Committee of Management invite applications for the post of HONORARY SURGEON
Candidates must be Fellows of one of the Royal Colleges of Surgeons, and not engaged in general practice
Applications in triplicate should reach the undersigned on or before November 12th
REGINALD PERRY Secretary

East Ham Memorial Hospital,
E 7 (100 Beds)

The Committee of Management invite applications for the post of HONORARY RADIOLOGIST
Applications in triplicate should reach the undersigned on or before November 12th
REGINALD PERRY Secretary

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Oxon —Country Practice nearly £1,200 p a Panel over 1 000 Visits 3/6 to 10/6 House, 4 bed, surgery etc —No 8753

Home County — £2,800 p a Half share Old-estab Panel over 1 500 Fees 5/ to 31/6 Good house Graduate over 35 preferred —No 8751

S. Midlands —Average £756 p a Town of 45 000 Small panel Fees 3/6 to £1 1s Large house and garden Smaller ones available —No. 8750

London S E —Over £800 Cash and panel of 880 Visits 2/6 to 3/6 Shop front surgery, with living accommodation —No 8749

Salop — Country —£1,030 p a Panel and appts £460 Visiting fees 5/ up Modern house 5 bed, etc, large garden, to rent. Easy terms —No 8747

Hants (15 miles from sea) — Nearly £1,000 p a Panel 240 Scope Fees 3/6 to 15/ House, 2 reception, 6 bed, surgy, and large garden —No. 8744

Brighton —£1,300 1/2 share, early succession Panel 7—800 Fees 3/6 to 10/6 Flat to rent Suit middle aged man —No 7843

South Coast — Within 60 miles Over £1 000, increasing rapidly Panel 500 Clinic £50 Fees 3/6 to 12/6 Good house, 4 bed., etc —No 8742

Surrey — Rapidly increasing NUCLEUS Receipts over £830 Panel 580 Excellent house, 8 bed, with large garden, to rent —No 8741

Glos — Country —Over £1,250 p a Panel nearly 1,100 Fees 3/6 to 5/ Detached house, 1/4 acre £1,000 down, balance over 4 years —No 8740

Ulster — Seaside Town, about £750 great scope Panel over 600 increasing Fees 2/6 to 7/6 and up House 5 bed, etc —No 8738

S. Wales — Average £3,360 1/2 share for sale Panel 3 000 Visits 3/6 Good house, 4 bed. 1 remium only £1 500 —No 8736

London, S W — £630 p a increasing Panel 400 Visits 3/6 Midwifery 3 gns up Small house on main road —No 8730

Devon —Dispensing Practice in large village averaging £940 p a Fees 5/ to 2 gns Surgery 2/6 to 7/6 Large house with an acre and cottage for £3 000 of which £2 500 could remain, or for sale without house —No 8727

S. W County near Coast —Dispensing PRACTICE over £2 000 p a, chiefly agricultural Visits 5/ up Surgery 2/6 up 1,100 panel —No 8728

North Wales —Old-established —About £900 p a Panel £292 Agricl. Cottage Hosp Scope surgery Good house Garage and garden —No 8692

NE Wales, near Border — Three-tenths share producing over £700 p a Fees £5/ up Panel 2 600 Large house and garden at £78 p a £1,300, or £1,000 and £350 spread —No 8725

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BEDS—PARTNERSHIP in old-established Country Town Practice (firm of four) situated under 50 miles from London Receipts over £5 200 Beautiful house (14 rooms) tennis court garden garage etc for sale £2 000 or to hold or to rent at £100 p.a. Panel over 4 000 Premium for 1/4 share £2 500 for 1/3 share £3 000

BEDS—NUCLEUS middle-class Country Practice 14 roomed house garden garage etc Receipts nearly £500 p.a Fees 3/6 up Premium £500 for Practice or £1 000 with house House could be rented at £68 p.a. Scope

DEVON (SOUTH)—PARTNERSHIP in Country Town Practice Suitable house available Receipts nearly £3 500 Panel 2 262 Fees 3/ up Several appointments Hospital Nursing for surgery Good school Premium for 1/3 share £2 030 Terms considered to the right man

GLOS—Mixed Town PRACTICE Receipts over £1 800 p.a Panel 2 146 Fees 2/6 up Three Hospital Good schools Scope for increase Alternative accommodation available Premium for Practice £3 640 or near offer PARTNERSHIP considered

LANCS—Middle-class Town PRACTICE Surgical scope especially E N T Suitable house available for rental at £78 p.a or for sale Leasehold. Receipts over £1 500 Fees 7/6 up Midwifery no one urged Modern Hospital, fully equipped Good educational facilities Premium £1,200 cash

EAST MIDLANDS—PARTNERSHIP in better middle-class Practice Ten roomed house available Receipts nearly £2 000 Fees 3/ up Up-to-date Hospital Scope for increase Premium 1/3 share with view to larger share £1 500 Opportunity offered

MIDDLESEX—RIVERSIDE SUBURB PARTNERSHIP in rapidly growing Practice Receipts £1 500 Two appointments worth £660 Panel nearly 1 000 Premium for 1/3 share with view to larger share £700 Suitable accommodation available

MIDDLESEX (W.)—Middle-class Family PRACTICE in rapidly growing residential locality Fees up House (9 rooms) freehold property of the Vendor) garden garage etc Receipts nearly £800 Panel 500 Scope for surgery Cottage Hospital Premium for Practice £1,100 House £1 500 mortgage to remain

LIVERPOOL (Near).—Mixed Gen Medium-sized house with large garden Branch Surgery Receipts £2 500 Panel 2 600 Fees 2/6 up Scope for surgery if desired Premium 14 years purchase

SURREY (near Windsor).—Well-established middle-class PRACTICE. Detached fronted detached house with charming garden to rent on lease at £120 p.a or may be purchased freehold Receipts over £700 p.a Panel 220 Fees 2/6 up Cottage Hospital. Good social life. Good schools Premium for Practice £900

KENT—Under 50 miles from London—Well-established rural PRACTICE. Receipts over £2 200 p.a Panel 1 200 Hospital within easy distance Fees 3/ up Half share PARTNERSHIP entertained at 2 yrs purchase, or whole Practice may be bought on terms to be agreed.

LONDON (N.)—Lady Doctor's PRACTICE Middle and working-class locality Ground floor flat to rent Receipts £260 p.a. Panel 170 increasing Fees 2/ up Excellent scope Premium £300

BUCKS—Under 25 miles from London—Middle-class G P Good-class residential locality Modern house to rent on lease Receipts over £400 p.a Fees 3/6 up Increasing pop Good schools Prem. £600 Suitable for semi-retired Practitioner or one with private means

LONDON W 10—Cash and Panel PRACTICE situated in middle and working-class locality Suitable accommodation available to rent at £76 p.a. inclusive. Fees 2 6 up Midwifery 2 gns up Panel 300 Books audited Receipts £385 Premium £600

SOUTH COAST—Favourite Holiday Resort—PARTNERSHIP with view to Succession in 12 months time in well-established middle-class Practice Suitable flat available at reasonable rent Receipt £1 500 Panel 800 Appointments £100 No midwifery or night work. Premium for half share with view 2 years purchase Excellent opportunity Suitable for English or Scotch Practitioner

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MIDDLESEX—NUCLEUS private non-dispensing PRACTICE with small panel situated in recently developed residential locality Detached corner house, 9 rooms Receipts £432. Panel 132 Visits 7 6 up Consultations 5/ up Midwifery £5 5s. up Premium £600 House £2,00, part may remain on mortgage.

SHROPSHIRE—Country Town PRACTICE, unopposed Modern house with every convenience to rent at £100 p.a. (11 rooms) Large garden (3 acres) Receipts over £1 000 p.a Panel 500 Visits 8 6 up Consultations 5 up Midwifery £2 2s. up Three appointment Premium 14 years purchase

S W COAST—Well-established General PRACTICE. Excellent house with all modern conveniences Fruit and vegetable garden, garage Receipts nearly £2, 00 Panel over 1,600 Visits up Consultation 3/6 up Scope for surgery if desired. Premium for Practice £ 600.

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5 LANCS—For Sale at £1 500 a middle-class PRACTICE of £1,200 in a ocean and well-to-do town of about 40 000 Panel 900 Fees 3/6 to 7/6. The house is well situated and very convenient, with garage. Lease can be had at £75

6 LONDON—In a growing residential district within 10 miles (West) a well-estab PRACTICE averaging for past 4 years £1 450 p.a Panel 860 Fees 3/6 upwd. House well situate (corner) with garden and garage Premium £2,250

7 S WALES—PRACTICE of £2,500—£3 000 in mining area. Panel £2 000 Premium £2 000 cash Details on application

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2 MIDLANDS—Panel and Private PRACTICE. Established 5 years Receipts £700 panel 650 both increasing Appointments worth about £70 p.a. House to rent Garage etc

3 BIRMINGHAM—PRACTICE for Sale or PARTNERSHIP (1/2 share) with early Succession in old-estab Industrial and Panel Practice. Receipts nearly £1 800 Panel about 3,000 Appts worth abou £50 transferable. Good house garage etc

4 LANCASHIRE. — Well-estab middle and better-class PRACTICE. Receipts £939 panel 900 both incr Appt. £30 p.a trans Good house garage and all conveniences

5 WEST MIDLANDS—Well-estab PRACTICE in market town and agricultural district Receipts £1 572. Panel 600 Appts. worth £118 Good house garage etc

6 LANCASHIRE (Large Town)—Non-dispensing non panel largely Surgical PRACTICE Receipts average £1 179 p.a. and unlimited scope Good house etc

LANCASHIRE—Old-estab Panel and Industrial PRACTICE. Receipts £2,242 and increasing Panel 1 450 Appointments worth about £95 Good house to rent.

8 MIDLANDS — COUNTY BOROUGH — Well-estab. better middle-class PRACTICE. Receipts average over £2 700 p.a. Panel recently started increasing rapidly Good house etc

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TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau Vendors may depend upon receiving introductions only to eligible and bona fide purchasers All information is treated in strictest confidence Full and trustworthy information regarding Practices, Partnerships, etc, for disposal, supplied gratis to Purchasers

ASSISTANTS AND LOCUMTENENTS

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Practices and Partnerships for Disposal **Full particulars sent free.**

1 S W OF ENGLAND — Non-dispensing PRACTICE of between £1,750 and £1,800, in a flourishing seaside resort Centrally situated house to rent Good society Excellent Cottage Hospital and scope for surgery

2 BORDERS OF SURREY AND HANTS — Steadily increasing non-dispensing PRACTICE averaging £1,590 p a in residential district Panel 1 550 Nicely situated house (8 bedrooms) with garage, etc and garden, for sale Premium 1½ years purchase

3 LONDON, E —Cash Practice over £2,000 p a Panel 1 860 House (4 bedrooms) to rent (part sub let) Premium 1½ years purchase

4 LONDON, E C —Practice of about £650 p a in the City No panel or midwifery Consultations up to £1 1s Excellent and nicely furnished consulting and waiting rooms to rent on lease Good scope for increase Premium £750

5 S OF ENGLAND —Partnership in Practice averaging over £2 700 p a, in pleasant country town under 150 miles from London Partner must be young and should have held Hospital appointments Premium for a two fifths share 2 years purchase

6 LONDON, S W —Practice (carried on by two Medical Men) averaging £5 000 p a in suburban district Panel 1 400 rapidly increasing Two houses to rent Or a share up to one half would be sold

7 HOME COUNTY —Practice of £540 p a in small town under 45 miles from London Panel 150 Centrally situated house (4 bedrooms) for sale Scope Premium 1 years purchase

8 SOUTH AFRICA — Practice in growing seaport and popular Health and Pleasure Resort Net takings about £1 500 p a Practically no night work or midwifery Nice house (3 bedrooms) with garage and about 1/2 acre of grounds for sale or rent Equable climate Premium £1,600, to include consulting room furniture drugs etc

9 MIDLANDS — Partnership in Practice nearly £1 900 p a in good Town Panel 1 100 Suitable house Plenty of sport Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment One half share at 2 years purchase with ultimate succession

10 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedroom) garage garden etc for sale or rent Very good trout fishing Premium £1 250

11 MIDDLESEX — Partnership in Practice nearly £3 500 p a in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi detached corner residence (6 bedrooms) garage and garden, for sale Premium one-half share 2 years purchase

12 MIDLANDS —Practice, over £1,700 p a, in important City Panel 1,670 Centrally situated house (7 bed and dressing rooms), with garage and garden, for sale Scope for increase Premium £2 250

13 WITHIN 50 MILES OF LONDON — PARTNERSHIP in Practice averaging over £3 500 p a. in first rate county town Panel over 1 100 Good house (7 bed and dressing rooms) to purchase or rent One third share at 2 years purchase Partner should be aged 28 35 and have held H S and H P appointments Preliminary assistantship

14 CHESHIRE —Partnership in increasing better class non panel Practice over £4,500 p a, in first rate residential district One fourth share at 2 years purchase Partner should be University Graduate who must have held Resident appointments

15 LANCASHIRE — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort Receipts last year nearly £1 200 Panel 260 Very nice compact house (4 bedrooms) garage and garden, etc, for sale Golf Premium £1 000

16 S DEVON — Partnership in Country Practice about £1 500 p a in beautiful part easy distance of coast Panel over 950 House, containing 5/6 bedrooms for sale Premium one-half share £1,320, to include drugs etc Work very light

17 MIDLANDS —Partnership in steadily increasing Practice of nearly £3 500 p a in country town amidst picturesque scenery Panel 1 700 Nice house (5 bedrooms) with garage etc Premium one fourth share 2 years purchase Short preliminary Assistantship

18 S MIDLANDS —Practice averaging over £1 200 p a in Market Town Panel over 900 Pleasantly situated house (5 bed and dressing rooms and attics) garage and half acre of garden, for sale Scope. Premium 1½ years purchase

19 HOME COUNTIES — Increasing Country PRACTICE of nearly £900 p a within 30 miles of London Panel 500 Detached house (5 bedrooms) in quarter acre of ground with garage, to rent Scope Premium 1½ years purchase

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
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Practices and Partnerships for Disposal (continued)

20 YORKSHIRE (N.R.) — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district Panel 450 Visits 3/6 to 10/6 Modern house 12 rooms Garage and good garden Rent £42 p.a. Premium 1½ years purchase.

21 SURREY — Steadily increasing Practice, averaging £1 355 p.a. in a first rate Country Town Panel nearly 1 300 Large attractive old fashioned house (7 bedrooms) for sale. Cottage Hospital. Premium 1½ years purchase.

22 S. MIDLANDS — Practice averaging £1 180 p.a. in residential country district Panel 1 000 Detached house (4 bedrooms) garage and good garden for sale Good society Premium 1¼ years purchase.

23 SUSSEX — Partnership in Practice about £3 000 p.a. in delightful residential country district Panel 1 550 Nice house (8 bedrooms) with garage and about acre garden etc. to purchase if desired Good society and educational facilities Premium one-half share 2 years purchase. Partner must be experienced preferably aged 35—40

24 S.W. OF ENGLAND —Middle and better-class non-dispensing PRACTICE over £1 750 p.a. in first rate town No panel. Well-situated non basement house (7 bed and dressing rooms) garage and garden for sale or rent Good introduction Premium 1½ years purchase

25 MIDDLESEX — Steadily increasing non-dispensing PRACTICE in growing district Receipts past 12 months £420 Panel about 30 Well situated corner house (4 bedrooms) garage and garden for sale Good reasons for rapid increase Premium £500

26 LONDON, N.W. —Practice of about £1,450 p.a. in suburban district Panel 1 150 Corner house (4 bedrooms) for sale Scope.

27 S. MIDLANDS —Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1 600 Suitable house available Cottage Hospital. Premium one-third share 2 years purchase

28 N.W. COAST — Partnership in Practice nearly £3 000 p.a. in suburb of seaport town Panel over 2,500 House (4 bedrooms) for sale or rent Share up to one-half at 1½ years purchase

29 WILTSHIRE —Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part (good house (company's water main drainage) for sale or rent. Premium £750

30 NORTHANTS —Practice about £500 p.a. in beautiful country district in hunting centre. Panel about 400 Specially built house (5 bed and dressing rooms), with electric light. Garage and acre garden Premium one year's purchase

31 LONDON, E. —Practice (carried on by Medical Woman) in populous area. Receipts last year £580 Small panel No midwifery Six roomed house to rent. Premium £750 to include drugs etc

32 DEATH VACANCY — CORNWALL — Compact Country PRACTICE. Receipts last year £900 Panel 230 House (4 bedrooms) with 1/2 acre garden for sale or rent.

33 SURREY —Partnership in Practice about £3 500 p.a. in desirable residential town Small select panel House (6 bedrooms) to rent Premium—one-third share—2 years purchase

34 ESSEX —Assistantship (with view to Partnership and Succession) in Country Practice of £1 500 p.a. Panel 1 200

35 LONDON, W. — Old-established Practice over £850 p.a. in outlying residential suburb. Visits mainly 5s., some 7s 6d. and 10s 6d Practically no midwifery Nice compact house (2 reception rooms consulting and waiting room 4 bedrooms etc.). Rent £65 p.a. Premium £1 100

36 W. MIDLANDS — Practice over £1,500 p.a. Market Town. Attractive agricultural district. Panel 500 (Good house (7 bedrooms etc.). Electric light and gas Scope for increase. Premium £2,100.

37 LONDON, N. —Partnership in Practice of £2 300 p.a. Growing residential district. Panel 1,100 Scope for increase Hospital Premium one-third share 2 years purchase.

38 S. DEVON —Partnership in non-dispensing Practice about £2 400 p.a. in favourite watering place. Panel 950 Good hospital. One-third share at 2 years purchase. Preliminary Assistantship

39 W. MIDLANDS —Practice of £2,400 p.a. in small residential country town Panel about 1 000 Excellent non basement house (6 bedrooms) in about 3 acres of grounds for sale Very good sport. Premium 1½ years purchase.

40 LONDON, N. —Increasing Practice of over £500 in pleasant residential district. Panel over 100 Well situated house (4 bedrooms) for sale or rent. Ample scope. Premium 1½ years purchase

41 S.W. OF ENGLAND — Practice over £2 000 p.a. in small country town near coast. Panel 1 086. House (5 bedrooms) with electric light, for sale. Premium 1½ years purchase

42 S. WALES — Non-dispensing Practice of £760 p.a. in one of the Principal Towns. Panel 620 Corner house in residential part for sale. Good scope. Premium £750

43 S.W. OF ENGLAND —Practice averaging £1 665 p.a. in seaport town Panel over 2 000 House, with 5 or more bedrooms for sale. Premium £2 500

44 S. OF ENGLAND —Practice of £960 p.a. in Market Town under 100 miles from London Panel 287 House (5/6 bedrooms) garage and good garden for sale or rent Cottage Hospital. Premium 1½ years purchase.

45 ITALY — Season Practice (March to October) in famous City Receipt from £200/£700 p.a. according to Season Up-to-date Hospital. Premium £250

46 MIDLANDS — Practice over £800 p.a. in first rate Town Panel 500 Suitable house to rent. Premium 1½ years purchase.

47 MIDDLESEX —Rapidly increasing Practice in new developing district about 12 miles from London. Earnings past year £767 Panel 200 Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Premium 1½ years' purchase.

48 SOUTH AFRICA —Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre Purchaser should be able to do Surgery Prem. £2 200 part by instalments.

49 S.W. OF ENGLAND — Partnership in increasing middle-class Practice of about £2,500 in a sport town. Panel 1 870 One-fourth or one-third share at 2 years purchase. Preliminary Assistantship

50 SURREY — Partnership in good mixed-class Practice about £3 000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable Excellent scope. Premium one-third share 2 years purchase.

51 LONDON, S.E. —Practice about £3,000 p.a. carried on by two Medical Men in outlying suburban district. Panel 1 1 350 Two houses available Premium 1½ years purchase Or one-half share would be sold with early succession

52 ESSEX —Partnership in increasing Practice about £1 800 p.a. in rapidly developing neighbourhood. Panel about 800 Choice of two houses One-half share at 1½ years purchase.

53 KENT and SUSSEX BORDER —Practice averaging £1 100 p.a. (including over £300 from panel) in beautiful country district. Very convenient hours (6 before mail to rent Sport. Premium as years purchase

54 S. DEVON — Practice nearly £950 p.a. in small country town at entrance of the county Panel 340 Good house and garage in large garden for sale. All kinds of sport. Premium £1 500

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1 KENT—LARGE TOWN, within easy reach of London—Good middle and working class PRACTICE in well populated district, offering large scope Cash receipts average £2 888 p a including panel of 1,200 Fees from 2/6 Small compact house with 1 reception 4 bedrooms, etc and very good professional accommodation Price £1,000 Premium 1½ years purchase

2 PARTNERSHIP — LONDON SOUTH EAST — Outlying Residential Suburb—Owing to the retirement of one of three partners the fifth share of an old estab Practice is for disposal Cash receipts average over £5 300 p a (last year £5 540) including panel of upwards of 2 000 Visits 3/6 to 10/6 Good house can be rented at £80 p a Premium 2 years purchase.

3 LONDON, NORTH—PARTNERSHIP—A one-half share in an exceptionally sound mixed general Practice, producing £5,500 p a Panel of over 5 000 Fees from 2/6 Not much midwifery from 3 gns Particularly nice house in good repair with 2 reception, 5 bedrooms etc Large garden Rent on lease £130 p a Premium 2 years purchase Ingoing partner should be between 30 and 40, and pref Scotch

4 GLOS — COUNTRY PRACTICE — Old-established PRACTICE in picturesque surroundings averaging about £1,250 p a, including panel of over 1 100 Visits from 3/ Commodious house, with 3 reception 6 bedrooms etc Garden Garage Price for freehold £1 500 £1 000 on mortgage Premium £1,850

5 DEATH VACANCY—SUSSEX—Very attractive country district within 35 miles of London—PARTNERSHIP—A one half share in an old established good mixed class Practice averaging over £2 800 (last year £3 046) Panel of 1 550 Fees 3/6 to 31/6 Midwifery from 3 gns (about 8 cases yearly) Appts worth about £240 p a Very good house with 4 reception 6 to 8 bedrooms, etc One acre of garden For sale Premium 2 years purchase

6 LONDON WEST—Chiefly better class non panel and non dispensing PRACTICE offering large scope Average gross cash receipts for past 3 years £1,284 Fees 7/6 to 2 gns Midwifery 10 to 30 gns only few cases Well situated house in excellent repair, with 2 reception 5 bedrooms etc Very nice garden Can be rented on lease at very low rental Premium to include valuable lease £2 500

7 LONDON S E—Outlying Residential Suburb—Very old established PRACTICE (hitherto carried on by two men in partnership) is for disposal, or half share would be sold with succession to the whole in 12 months time Receipts average about £3 000 p a, including appts worth £330 and panel over 1,500 Two houses available Premium 1½ years purchase Eminently suitable for two friends

8 WEST MIDLANDS—In a clean and thriving industrial town (pop about 20 000), very old established mixed class PRACTICE averaging nearly £2 500 p a., including Union and Vaccination £350 and panel (increasing) about 1,000 House contains 3 reception, 6 bedrooms bathroom, etc Small garden Would be rented at £65 p a with view to purchase for £1,500, payable by yearly instalments Premium 1½ years purchase

9 HANTS—Delightful residential district within easy reach of Coast—Old established good mixed PRACTICE averaging £970 p a and offering large scope as district rapidly developing Panel of 230 Fees 5/6 to 15/ Well built well situated house with 2 reception, 6 bedrooms, etc Garden, with tennis lawn Price for freehold £2,100 good part on mortgage Premium £1,400 Sport of all kinds and good social facilities

10 X RAY AND ELECTRO THERAPEUTIC PRACTICE—Large Hospital Town within 80 miles of London Well established connection averaging £975 p a and offering excellent prospects Patients mostly better class at good fees House is exceptionally well situated with ample accommodation professional and otherwise Price freehold, £1,500 Premium only £900 to include valuable plant furniture etc

11 LONDON SOUTH WEST—Very sound old-established PRACTICE, in thickly populated area averaging over £5,000 p a, including panel of 1 500 but large scope for more. Fees 2/6 upwards Choice of houses Rent of surgery on long lease £100 p a Prem 1½ years pur

12 GLOUCESTERSHIRE—Old established PRACTICE in good residential town in the midst of the Cotswold Hills, averaging over £1 300 p a, including panel of about 1 200 Fees from 2/6 Very little midwifery Good detached house in own grounds, with 2 reception, 6 bedrooms etc Separate entrance to professional rooms Gas and electric light Price, freehold £2,000, half on mortgage. Premium 1½ years purchase

13 AYRSHIRE COAST—Village PRACTICE, unopposed and situated in very beautiful district within easy reach of large town Cash receipts last year £740 Panel of 303 Fees 2/6 to 21/ House faces sea in own grounds and contains sitting room, 4 bedrooms, etc Rent £40 p a Premium £1 000 part by arrangement

14 NORTH WALES—Unopposed PRACTICE in beautiful agricultural district within 4 miles of Coast Average gross cash receipts for past 3 years £853 Panel of 734 which, together with appts and clubs brings in £750 p a. Fees 2/6 to 21/ Small house, with 1 reception 3 bedrooms bathroom, etc Garden Rent £39 p a. Larger house available if desired Premium 1½ years purchase

15 OXON—UNDER 45 MILES FROM LONDON—Old-established practically unopposed Country PRACTICE, within 4 miles of the River Average income £1 180, including panel of over 1,000 Fees 2/ to 10/ Good house with two reception, 4 bedrooms, bathroom, etc Electric light One acre of garden Garage for 2 cars Price for freehold £1 600 £1 000 on mortgage Premium £1,750

16 MANCHESTER DISTRICT—Old established middle and working-class PRACTICE worth last year about £700 p a., including panel of 614 and capable of increase. Expenses small Well situated house with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted

17 PARTNERSHIP—HOME COUNTY—Within 40 miles—In very pleasant district (with large surrounding population), the third share (with increase later) of old-estab mixed class Practice offering large scope Present income £3,000 p a., with panel producing over £1,200 p a and appt worth £160 Visits 3/6 to 2 gns Good house at moderate rental Good society and sport Ingoing partner should be about 30, pref married and English or Scotch.

18 NEAR HARROGATE.—Country PRACTICE.—Well estab and rapidly increasing chiefly middle and working class Practice in delightful district, producing for last 12 months nearly £1 450 Panel of 537 Fees 3/6 to 12/6 Mid 2 to 5 gns (about 40 cases yearly) Suitable house, with 2 recep, 3 bedrooms etc and professional rooms Rent £50 p a Very good sport Prem £1,800, part by instals

19 LINCOLNSHIRE COAST — Well established mixed-class PRACTICE averaging £2 749 p a (last year £2,868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly) Newly built modern house, with special professional accommodation, central heating, etc Garden Garage Price freehold, £2 300 part on mortgage Good sport and schools within reach Premium 1½ years purchase

20 WEST MIDLANDS—Very old-established mixed class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2 367 p a., with panel over 1 000 Opposition not strong Very fine house (3 reception, 6 bed rooms, bathroom, etc) standing in nearly 3 acres of ground Beautiful garden tennis lawn, and productive orchard. Price, freehold £2,000 Premium 1½ years purchase.

21 LONDON S E.—Pleasant residential suburb—Very old established non panel (but scope for this) PRACTICE held over 30 years by Vendor, who is retiring Receipts last year over £900 Patients mixed but mostly good class Large house (part could be let off for flat) Rent £98 p a Premium 1½ years purchase

22 PARTNERSHIP—WITHIN 100 MILES NORTH OF LONDON—A one-sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better class Practice, in a large town at present worked by three partners who now require further assistance Gross cash receipts average about £8,000 p a Selected panel of 700—800 Fees 5/ to 21/, average 7/ Suitable small house with sitting room 3 bedrooms, etc. Rent £90 p a. Premium 2 years purchase

23 MIDDLESEX—Rapidly developing district, within 20 miles—PARTNERSHIP—A one half share in an old-estab good middle-class Practice averaging for the past two years over £3 500 p a Panel of 1 100 and appts bring in £100 p a. Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms, etc. Garden Price for freehold £2,100 Premium 2 years purchase

24 BORDERS OF NORFOLK AND SUFFOLK—PARTNERSHIP—A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village near two good towns Income for last 12 months £1 992 including panel of 1,000, and appts. worth about £150 Fees 2/6 to 10/6 House contains 3 reception, 6 bedrooms etc Sport of all kinds Premium 2 years purchase.

25 KENT—Country PRACTICE, near Coast—Old established mixed-class Practice averaging about £1,100 p a Panel of nearly 400 Fees 3/6 upwards Convenient house, with 3 reception 6 bedrooms, etc. Good garden Rent on lease £75 p a Good sport and schools within reach Premium 1½ years purchase

26 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed-class PRACTICE averaging £1 600 p a including £800 from panel and over £100 from clubs Visits 5/ upwards (occasionally 2 gns) Very little midwifery, from 2 to 5 gns. Large attractive house, with garden Rent £80 Prem 1½ yrs pur

27 MANCHESTER—Chiefly working class PRACTICE Average income £1 000 including panel of 1 000 Moderate expenses Corner house, with 3 reception 8 bedrooms etc Garage Rent on lease £65 p a. Premium £1 500 or near offer

28 NEAR HUDDERSFIELD—PARTNERSHIP—A half share in an old established mixed class Practice Income for immediate past year over £4 250 Panel of 3 500 Fees 3/6 to 7/6 Very good house, with 4 reception, 6 bedrooms etc. 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

29 PARTNERSHIP—COUNTRY TOWN, within 130 miles North of London—Two one fifth shares are offered in an exceptionally sound good mixed-class Practice, averaging for past 3 years over £6 000 p a Panel of 3 400 Fees from 4/ Not much midwifery House can be rented at £50 p a Premium 2 years purchase Very suitable for two friends

30 LANCS—LARGE TOWN—Old established good working class PRACTICE, averaging about £2 500 p a Panel of over 1 800 Fees from 2/6 Suitable house available Premium 1½ years purchase

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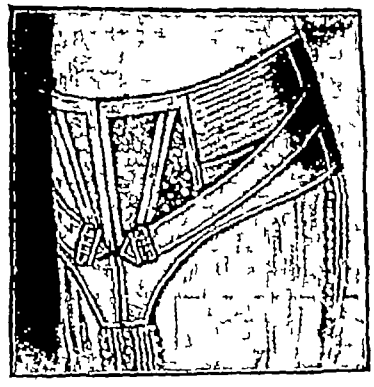
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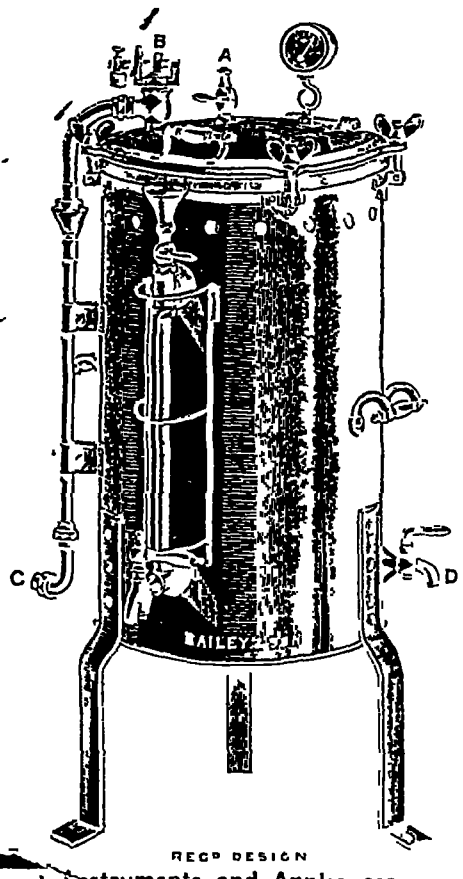
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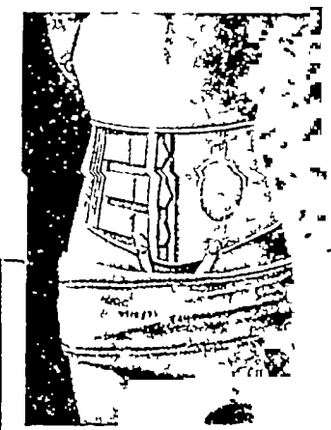
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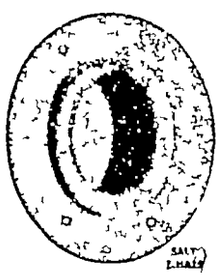
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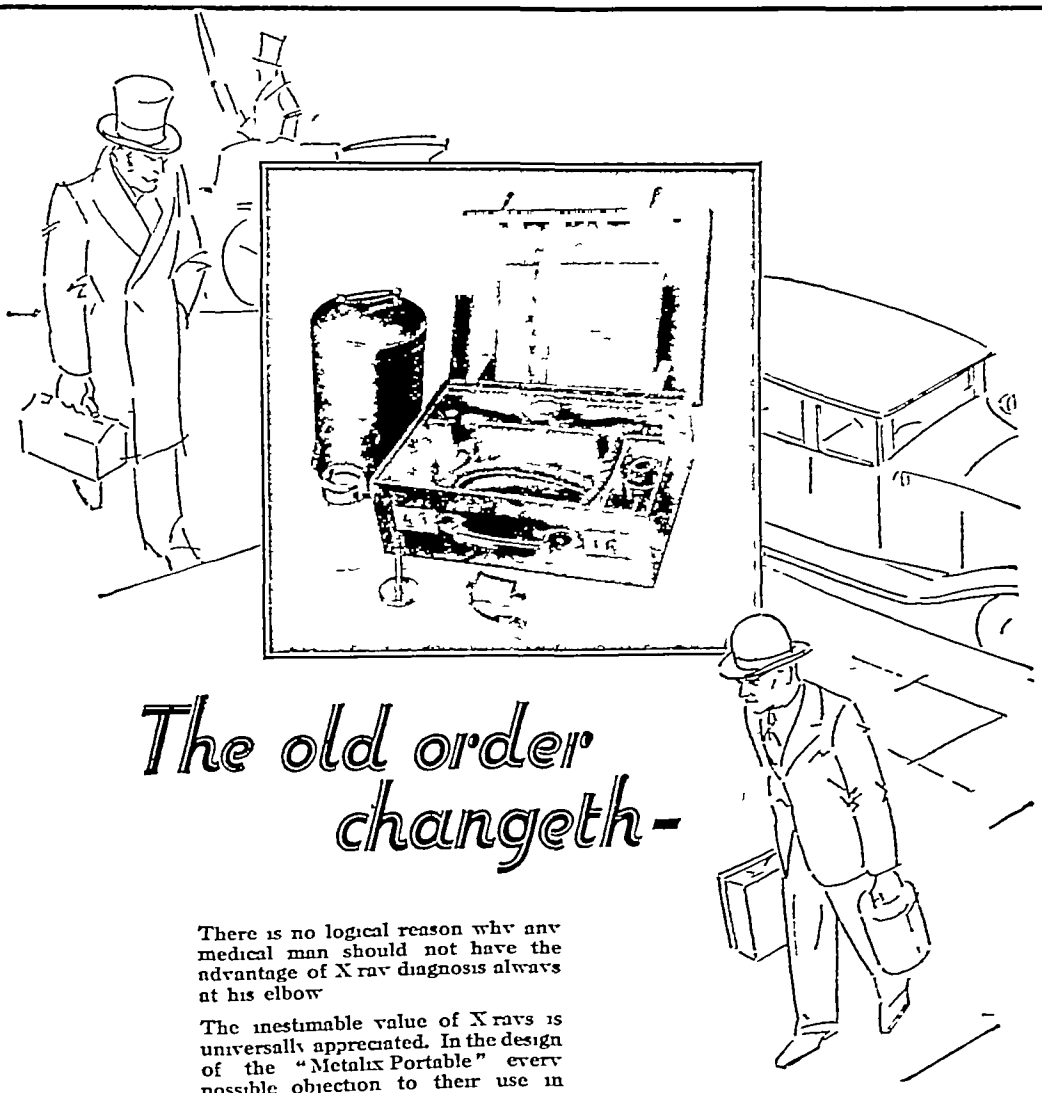
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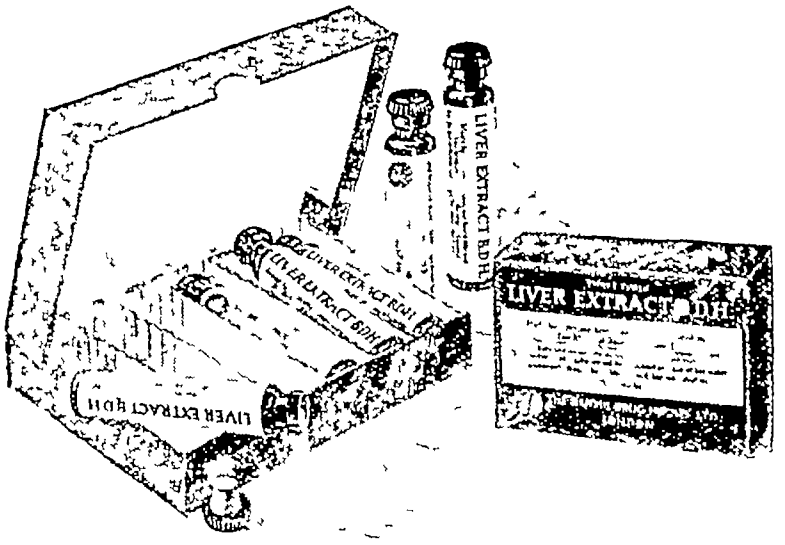
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ELIXIR BROMO-VALERIAN CO.

Free from any disagreeable taste or odour
Each fluid drachm (4 c.c.) contains

Strontii Bromidi - -	5 gr	Tinct. Adonis Vernalis - -	5 m.
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Useful for functional nervous affections, particularly in controlling epileptic seizures.

Price 5/- lb

FULL LISTS ON APPLICATION



EVANS' THROAT Pastilles

MADE BY

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EVANS' THROAT PASTILLES

are prepared to a formula of the Liverpool Throat Hospital They can be taken freely during inclement weather, they contain no narcotic or harmful ingredient Evans' Pastilles cause no digestive disturbance

Sold in 1/- tins or in bulk for dispensing

A physician's sample will be sent on request.

The Medical Profession when prescribing "Liquor Carbonis Detergens" SHOULD ADD THE WORD

Wright's

On receipt of your professional card a package will be sent containing a sample of each of the following—

Wright's Coal Tar Soap
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Although there is no secrecy as to the composition of Liquor Carbonis Detergens (it is described as "an alcoholic solution of coal tar"), the method of manufacture is unique Imitations will be found to be produced by simple digestion, usually accompanied by some primitive, perfunctory, and inadequate stirring, whereas, in the case of the genuine product, the intimate contact required, for the complete extraction of all the soluble antiseptic constituents, is attained by a series of complicated processes, involving the use of highly specialized machinery

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ALIMENTARY TOXAEMIAS

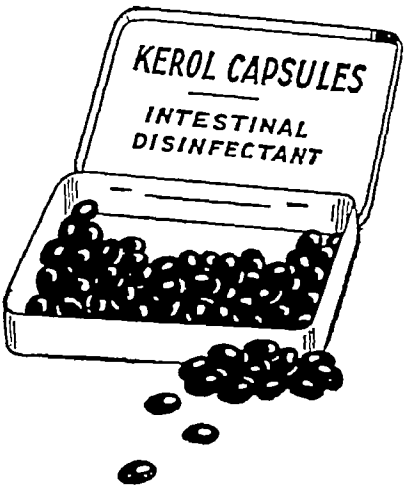
IN our last advertisement the subject of Alimentary Toxæmia was briefly discussed, and intestinal disinfection by means of Kerol Capsules was held to be the first line of treatment

The reason for this may be stated as follows —None of the ordinary so-called intestinal antiseptics, such as Salol and Beta Naphthol, are found experimentally to exert any disinfection of the contents of the bowel

On the other hand, the high boiling hydroxyl compounds of the coal tar series are potent germicides, and, being unabsorbed, are non toxic. They can therefore be administered freely without harm, and are found to prevent the multiplication of the toxæmic intestinal bacteria and to reduce them considerably

The active principle of Kerol is a complex mixture of these compounds The administration of two 3-minim capsules thrice daily after meals has been repeatedly shown to reduce the coli content of the stools of individuals taking them by 99 per cent

For intestinal disinfection, use KEROL CAPSULES (keratin-coated), they contain 3 minims of Kerol One to three capsules may be given three or four times a day after meals



Kerol Capsules

Please send for Literature and Samples, which will be sent free to any member of the Medical Profession

KEROL LTD , Ravens Lane, Berkhamsted, Eng

Beefex

The SUPERIOR STIMULANT



May we send you a sample bottle of this superior and valuable Beef concentrate? Medical Men should apply to

HIGH Medical Authority after an independent test, reports that Beefex is a genuine Beef Extract of high quality and purity and is superior to others. It is invaluable in cases of weakness, exhaustion or malnutrition and appeals to invalids of all ages by reason of its delicate flavour

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Purity, Activity and Stability

INSULIN 'A.B.'

TRADE A B MARK Brand

The world-wide supremacy of Insulin 'A B' is due to its unequivocal purity no less than to its well-known potency and stability under all conditions

20 units per c.c. Packed in bottles containing
5 c.c. (100 units or 10 doses) 2/- each
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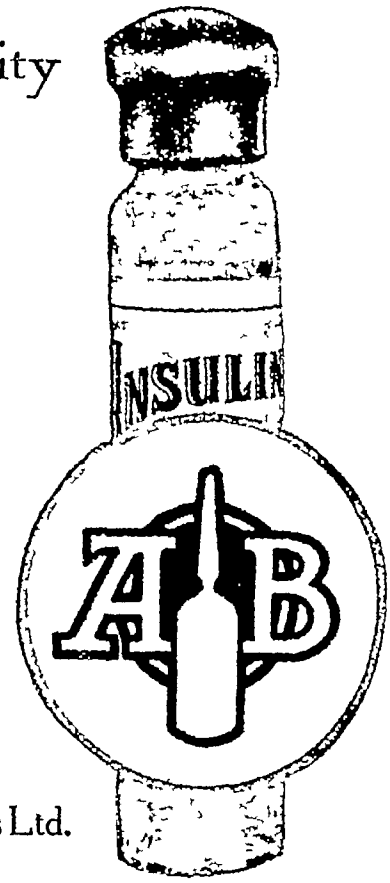
40 units per c.c. Packed in bottles containing
5 c.c. (200 units or 20 doses) 4/- each

Full particulars and the latest literature will be sent free to members of the Medical Profession

Joint Licencees and Manufacturers

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A safe and simple antacid which is also a gentle laxative must necessarily be of great value to medical practitioners when administering to ladies and children and all who are constitutionally delicate
May we, therefore, venture to remind you of

DINNEFORD'S PURE FLUID MAGNESIA



which has been extensively prescribed and used by the Medical Profession for a Century, and is still the best and safest means of administering Magnesia

When prescribed for the nursery, too, Dinneford's Magnesia has always proved immensely useful as a corrective, and when mixed with infant's food it prevents many of the troubles which are due to acidity, flatulence, etc

We are confident that you will find in Dinneford's Fluid Magnesia a reliable and safe solution which may be freely used for many ailments, and we would request your kind consideration of its use as occasion offers

Dinneford's Pure Fluid Magnesia possesses antacid and laxative qualities which are incomparably better than those of any of the various preparations of Magnesia, in powder, now being introduced
It cannot harm the most delicate constitution and is at all times a safe and effective laxative
Manufactured in London for the past 100 years.

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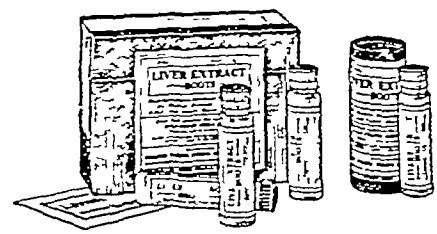
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Liver Extract (BOOTS)

A HIGHLY concentrated EXTRACT OF FRESH LIVER specially prepared for the treatment of PERNICIOUS ANÆMIA Liver Extract (Boots) is made by a process tested and proved efficient by the Medical Research Council
—(*See B M J and Lan et, March 10th, 1926*)
Supplied in vials each equivalent to ½-lb Fresh Liver

SINGLE VIAL 3/-
BOX OF TEN 30/-



COMPOUND SYRUP OF HYPOPHOSPHITES

"FELLOWS"
Trade Mark



ITS FORMULA
Combines Mineral Foods and Synergistic Agents

ITS POSOLOGY
One to two teaspoonfuls after meals

ITS EFFICACY
Is such that under its influence one observes a rapid increase of appetite and a marked elevation of tone.

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MEDULLA RUBRA

BONE-MARROW IN ANAEMIA FROM HAEMORRHAGE

W Borchardt (*Deut med Woch* March 28th 1930 p 521) records the results of his experiments on young dogs in which anaemia had been artificially produced by the removal of about half their blood In the first series some of the animals were fed with rib marrow, others with marrow from the long bones Control animals received a corresponding amount either of fat or of liver extract The basal diet in each case contained a sufficiency of iron (5 mg per cent) Only the animals receiving the red rib marrow showed a definite increase of weight and their haemoglobin formation was more rapid than that of the others In the next series the experiment was repeated, but the iron content of the diet was reduced to 1 4 mg per cent The result was similar but more striking the dogs receiving the rib-marrow regaining their haemoglobin far more quickly than the others

THIS extract from the "Epitome of Literature," published in the "BRITISH MEDICAL JOURNAL," dated May 3rd last, is important as representing, in 1930, a complete justification of the formula upon which

Roboleine

THE FOOD THAT BUILDS THE BODY

has been produced without variation during the past twenty-five years

The success of ROBOLEINE is thus due to intelligent anticipation and to consistently maintaining the highest possible standard of manufacture

Medical Practitioners are asked to satisfy themselves of the merits of ROBOLEINE, for which purpose testing samples will be gladly sent upon request.

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CREAM OF MAGNESIA with LIQUID PARAFFIN

(Contains 30% Liquid Paraffin)

A stable well-balanced combination containing 30% Liquid Paraffin held in suspension in a finely divided state Its consistency is such that the tendency to leak exhibited by Liquid Paraffin is eliminated

Regesan Cream of Magnesia with Liquid Paraffin provides suitable treatment for all digestive troubles with which constipation and hæmorrhoids are associated It is certainly the ideal laxative during pregnancy and lactation, and most suitable for infants and children

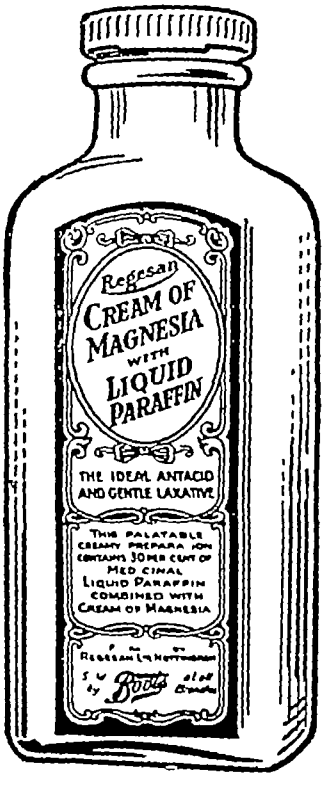
Price 1/6 per bottle.

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OBTAINABLE FROM

The Boots Chemists

NEARLY 900 BRANCHES IN GREAT BRITAIN



Boots Pure Drug Co. Ltd., Nottingham

CAVENDISH "A" BRAND

Liver Extract (Bell)

Liver Extract Arseniated

Two highly concentrated preparations of Liver Extract Standardised to equal 8 oz of Fresh Liver in one fluid ounce.

THE treatment of pernicious anaemia by means of introducing in a patient's diet a given equivalent of Fresh Liver is now a recognised practice That only standardised preparations of full activity should be prescribed need not be stressed The preparations offered above are the result of patient Laboratory Research supported by extensive clinical test in which the most pronounced results have been achieved

Liver Extract (Bell)
An active preparation of Liver indicated in cases of Anaemia and similar conditions
Easily assimilated

Liver Extract Arseniated)
A combination of Liver Extract with Phosphoglycerates Increases the production and resistance of the red corpuscles Effective in the treatment of many tropical diseases

In 4-oz 8-oz and 16-oz bottles

Full particulars on application

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LONDON, W 1

Balanced Vitamin feeding essential to Health

DISAPPOINTMENTS arising from a too ready acceptance of the exaggerated claims made for certain vitamin treatments should not be allowed to obscure the important part that vitamins fulfil in a properly balanced diet.

Such disappointments are due to a false conception of the function of vitamins as a cure for all human ills, whereas what has been definitely ascertained is that the vitamins are one of several important factors in a diet, which if it is to fulfil all the requirements of health must be of correct physiological balance and suited to the powers of assimilation.

The influence of Virol on health and development is due to the manner in which the vitamin foods together with the all important mineral salts, are in properly balanced proportions to the needs of perfect bodily health and to the remarkable ease with which Virol is assimilated. There is no other food that contains all the ingredients of Virol in the same scientifically balanced proportions

VIROL

Natural Vitamins—Balance—Digestibility

IN JARS, 1/3 2/ & 3/9

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For Building up Resistance

The problem of dealing with patients who are especially liable to attacks of every prevailing infection is one that frequently faces the practising physician In such cases of subnormal health and lowered resistance a scientifically-standardised product of the nature of Radio-Malt is of particular value at this season

Radio-Malt is a potent anti-infective agent, and its routine administration during the autumn safeguards against infection during the winter

RADIO-MALT

Vitamins A B_1 B_2 and D

Physician's sample for clinical trial on request

THE BRITISH DRUG HOUSES LTD LONDON N-1

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The "Common Cold" and Nasal Catarrh.

In the fluctuating temperature of the English winter disinfection of the naso-pharynx is regularly required to avoid the insidious settlement and development of infecting germs on

Mucous Membranes of Weakened Resistance

A preparation which can prevent infection of such an important area should appeal to every practising physician—and such a preparation is available in

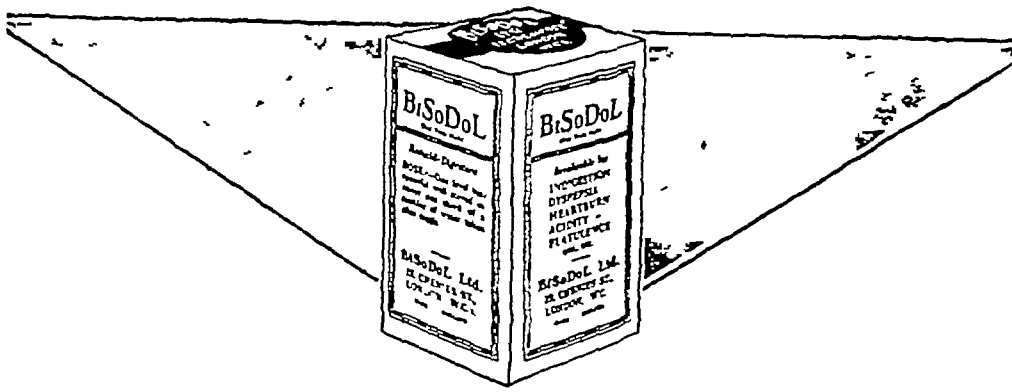
DIMOL SNUFF

whose high bactericidal potency and freedom from deleterious action make it an ideal preventive

Children can be easily taught to take it in small pinches.

Prices and particulars will be sent on application to

DIMOL LABORATORIES, LTD, 40, LUDGATE HILL, LONDON, E C 4



An Effective Antacid and Digestant

The Physician is constantly called upon to prescribe for digestive disturbances In the treatment of such cases, BiSoDoL will be found a reliable preparation

BiSoDoL is a balanced formula presenting in suitable proportions the bases Sodium and Magnesium, with Bismuth Subnitrate, Carica Papaya, Malt Diastase and Mentha Piperita

BiSoDoL is agreeable to the Patient and no unpleasant symptoms follow its administration

BiSoDoL is quickly effective. Beneficial results have been especially marked in cases of impaired digestion, and in the control of cyclic vomiting, and the morning sickness of pregnancy

BiSoDoL

Samples will be gladly sent to Physicians on request.

BiSoDoL Limited,
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SEASONABLE PREPARATIONS

ELIXIR
RIBES NIG. CO.
(DUNCAN)
A combination of Codeina Ipecac, Menthol, etc, flavoured with Syrup Ribes Nig, which is prepared from the finest fresh fruit

Duncan

ELIXIR
TERPO-CODEIN. CO.
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A pleasantly flavoured elixir, containing Codeina Phosphate and Terpin Hydrate in a suitable basis

THESE ELIXIRS ARE MOST SUITABLE FOR THE TREATMENT OF COUGHS IN CASES OF PHTHISIS, CHRONIC BRONCHITIS, CATARRH, ETC

SAMPLES AND PRICES ON APPLICATION

DUNCAN, FLOCKHART & CO.
EDINBURGH & LONDON (155/7, Farringdon Road, E.C.1).

PHYSIOLOGICAL TREATMENT OF CONSTIPATION

AXOL

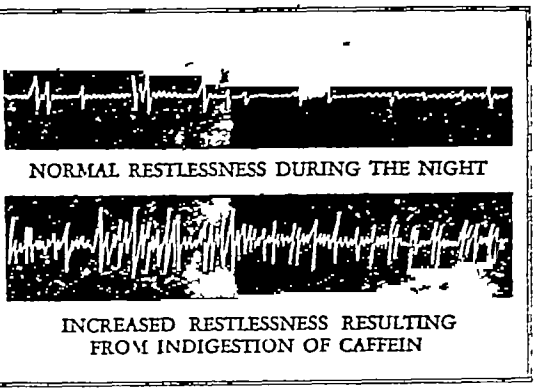
COMPOSED OF
EXTRACT OF THE INTESTINAL GLANDS, which strengthens the glandular secretions of the organ
BILIARY EXTRACT, which regulates the secretion of the bile
AGAR-AGAR, which rehydrates the contents of the intestines
LACTIC FERMENTS, anti microbian and anti poisonous action

IN TABLET FORM *ITS USE DOES NOT LEAD TO HABIT*

Laboratories · LOBICA, *46, Avenue des Ternes, PARIS (17e)*

For neural patients

DELICIOUS H.A.G. COFFEE — 97% DECAFFEINIZED

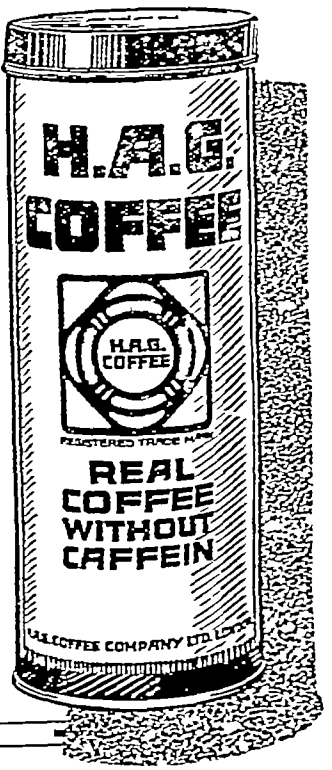


CAFFEIN is never prescribed for neurasthenia, hysterical, insomnious or psychopathic patients It is too well known how this drug shortens reaction time, excites the reflex arch of the spinal cord, and stimulates the nervous system generally, as shown on the chart at the right.

This is why coffee is forbidden is such cases But it is not necessary to make this usually vain attempt to change the habits of coffee drinkers Instead of saying "Stop coffee simply say "Drink H A G Coffee H.A G Coffee causes practically no increase in nervous stimulation, as the illustration above indicates

Sold in 1/6 tins packed under vacuum

Special 5 lb tin for Medical Profession 13/6



NOT A SUBSTITUTE

H.A.G COFFEE, although 97% decaffeinized is not a substitute It is blend of the choicest Central American and South American coffee berries, combined in just the right proportion to give that tasty fragrance and flavour found only in coffees of the highest grade Its taste is not impaired in the slightest because the caffein is extracted from the raw beans—before they are roasted

H.A G Coffee is the same coffee as the coffee known on the Continent as Kaffee HAG and in America as 'SANKA COFFEE. It is very highly recommended by the Medical Profession abroad and practically no other coffee is consumed in such health resorts as Bad Nauheim, Carlsbad, etc., etc.

A TRIAL TIN WILL ALSO CONVINCE YOU

Obtain a liberal sample by sending in the attached coupon to-day

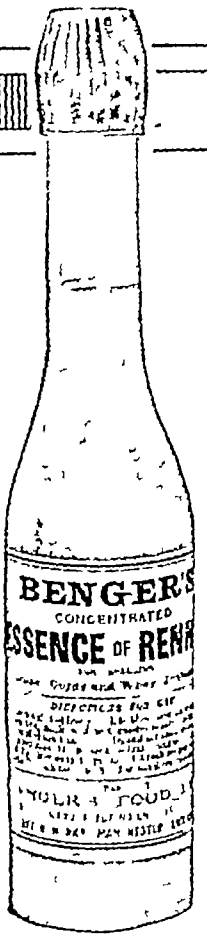
H A G COFFEE COMPANY Ltd
40 Theobald's Road London W C 1

Please send me free of charge a liberal sample of H A G Coffee—also the booklet Some Observations of the Action of Caffeine.

Name

Address

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ESSENCE of RENNET

CONCENTRATED (BENGER).

(Curdling Fluid)

Originally prepared at the request of a prominent physician, this highly concentrated essence is of especial value in Infant and Invalid Feeding As it is concentrated it is much quicker in its effect than most other preparations of Rennet Whey prepared with Benger s Essence of Rennet is of the greatest value in the treatment of diarrhœa, vomiting, etc , it can be employed with confidence and will yield good results Junket can be made more quickly and at a lower cost by using Benger's Essence of Rennet than by any other method.

In 1/- and 1/9 bottles

Larger sizes for hospitals, etc , use.



LIQUOR PEPTICUS

(BENGER)

"A digestive agent of extraordinary power."

Sir William Roberts, M D , F R S

Benger's Liquor Pepticus, is a concentrated and highly active fluid pepsin in acid solution which acts particularly upon meat, eggs and other proteid foods

The best results from the use of Liquor Pepticus are obtained when it is prescribed alone Should the prescriber wish to combine medicaments of a tonic nature, it will be recollected that those which are free from astringency and alkalinity should be selected

In 4, 8 and 16-oz. bottles

Prices: 3/6, 6/6 and 12/6

BENGER'S FOOD, LTD , — Otter Works, - — MANCHESTER.

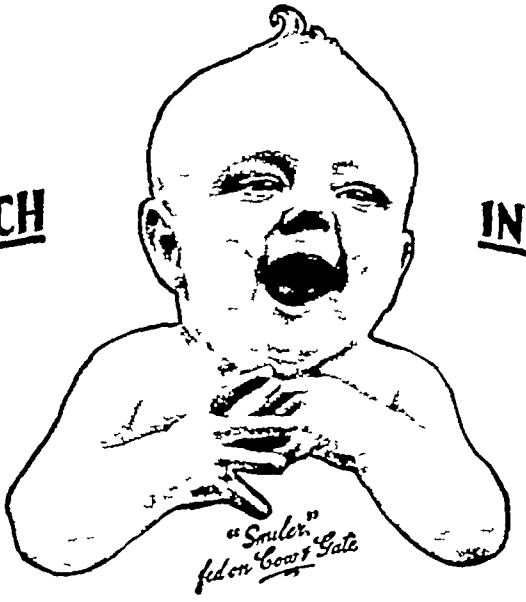
NEW YORK (U S A) 30 Beekman Street

SYDNEY (N S W) 350 George Street

CAPE TOWN (S A) P O Box 573

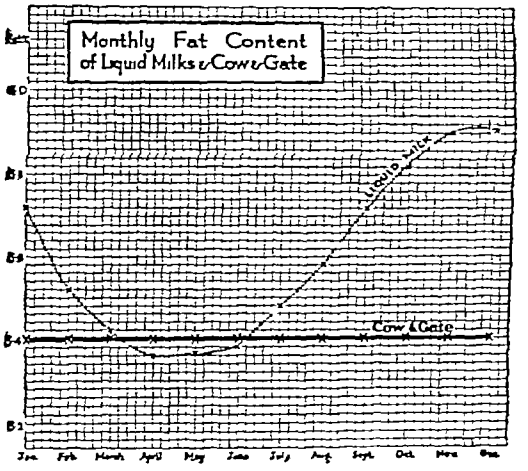
BENGER'S Food

NATURALLY RICH



IN VITAMIN "D"

A RELIABLE BASIS





THE above chart shows the large fluctuations in the fat content of liquid milks throughout the year, as compared with the unvarying fat content of "Cow & Gate," which is based on the fat content of average healthy Breast Milk.

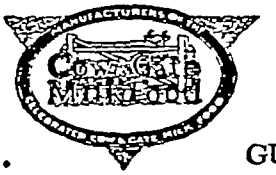
Fat content in "Cow & Gate" reconstituted (1 in 8), 3.4 per cent.

Fat content in average Breast Milk 3.3 per cent. to 3.5 per cent.

The fat content of raw milk also varies greatly from day to day. The time of day at which milking takes place also causes considerable variations.

This is in striking contradistinction to the standardized fat content of "Cow & Gate" and affords one of the many reasons why this food is the safest and most reliable alternative when breast feeding fails, and why it affords the most reliable basis for Infant Feeding Modifications.

Write for literature and clinical samples of Lacidac and Brestol



Support HOME Agriculture. Cow & Gate Products are all made from ENGLISH MILK

COW & GATE LTD. GUILDFORD, SURREY ©

What is "BEMAX"?

"BEMAX" is a natural vitamin tonic food prepared under the direct supervision of members of the medical profession, from the embryo or germ of cereals specially selected for their vitamin content—such cereals as wheat, rye, or barley

It has sometimes been stated that "BEMAX" consists chiefly of bran This emphatically is not so, since every possible precaution is taken to eliminate bran completely from "BEMAX" The cellulose content is kept down to approximately 1%

The analysis of "BEMAX":

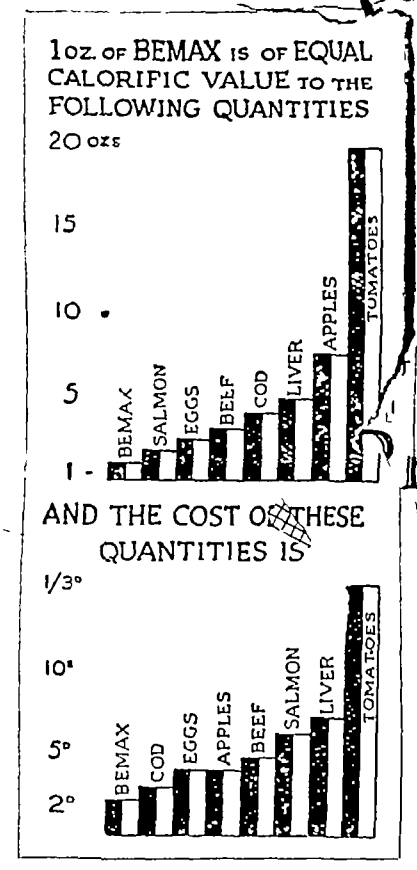
Protein - -	37.2%
Fat - - -	9.0 "
Ash - - -	4.51 "
Moisture - -	6.0 "
Fibre - - -	1.5 "
Carbohydrate -	41.79 "

It will be noted that the carbohydrate content of "BEMAX" is slightly more than 41%, and it has often been asked if, because of this, "BEMAX" could be given to diabetics Since only one tablespoonful of "BEMAX" is taken daily the carbohydrate intake is so small that "BEMAX" can confidently be given in such cases

The Ash on analysis gave the following

CaO - - - -	0.12%
MgO - - - -	0.65 "
P_2O_5 - - - -	2.70 "
K_2O, Na_2O - -	1.04 "
Fe_2O_3 - -	Trace
Total Ash -	4.51 "

An interesting feature of this analysis is the high percentage of P_2O_5, which undoubtedly accounts for the fact that in experiments on rickets we could not produce rickets in animals fed on a rickets-producing diet plus "BEMAX"



The food value of "BEMAX" is probably best demonstrated by comparing its calorific value with that of other foods.

The upper chart shows the amount of different foodstuffs required to give the same calorific value as 1 oz of "BEMAX" and comparative costs are shown in lower chart. It will be noted that "BEMAX" is one of the cheapest foods.

In spite of the fact that the protein in "BEMAX" is vegetable protein, prolonged tests on birds proved that this protein is equal in every way to that of meat or fish This property makes "BEMAX" a suitable addition to the food of those subject to great strain or arduous work.

In our opinion, however, the most important result of these experiments is that when "BEMAX" is added to the diet more nourishment is absorbed from other foods than when "BEMAX" is not included.

We maintain that "BEMAX" has a greater proportion of vitamins B_1, B_2, B_3 than has any other product of its kind

Next in importance is the E vitamin We believe that no other food is as rich as "BEMAX" in this important vitamin "BEMAX" also contains vitamin A

Detailed reports of further research work will be sent on request

BEMAX

Max-imum Natural Vitamin B.

Samples of Bemax for personal test and full reports of the laboratory experiments outlined above will be sent on application to any Medical Practitioner on request to

THE BEMAX LABORATORIES,
38, DANEMERE STREET, LONDON, S.W.15.

HEWLETT'S
ORIGINAL PREPARATIONS.

HORMONIGEN
(HEWLETT'S)

Hormonigen Tablets (Hewlett's) contain the hormones of the thyroid pituitary ovary and testes

Useful in Neurasthenia and all asthenic conditions obesity chronic cardiac cases aplasias of the pluriglandular system and in anæmia In Amenorrhœa Dysmenorrhœa and at the Menopause Hormonigen is particularly effective and even in chlorosis

If there is high blood pressure Hormonigen Sine Pituitary is indicated

PRICE HORMONIGEN OR HORMONIGEN SINE PITUITARY

3/3 PER 100, 30/- PER 1,000

UNG. IODERMIOL

An ointment of IODERMIOL that contains about 5 per cent of Iodine and is therefore stronger than the B P Ointment whilst it does not harden or discolour the skin

It has been found most useful for Enlarged Glands Rheumatic and Gouty Affections Lumbago Sciatica Swollen and Stiff Joints Skin Diseases Ringworm etc Ung Iodermiol has also been used in cases of burns and scalds and in the treatment of Chronic Lymphadenitis Simple Bronchocele and Atrophic Rhinitis, and in Purulent Ulcerative Otitis

PRICE 6/- PER LB

UNGUENTUM IODERMIOL et METHYL SALICYL (HEWLETT'S)

Useful in the treatment of Enlarged Joints, Synovitis Rheumatoid Affections etc.

PRICE 7/6 PER LB

LIN. BETULAE CO.
(HEWLETT'S)

Therapeutically equivalent to several times its weight of Sodium Salicylate without causing headache, tinnitus, etc Has proved most useful in the external treatment of pure Rheumatism, Sciatica, Lumbago, etc The external dose is about one drachm rubbed over the affected parts

In 5, 10, 22, 40, and 90-oz Bottles

PRICE 10/6 PER LB

VERONIGEN
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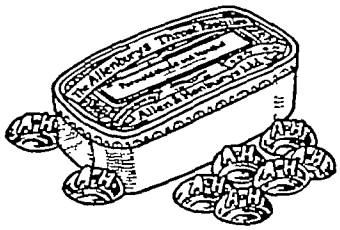
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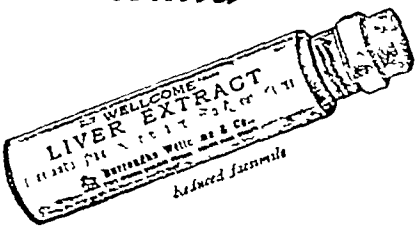
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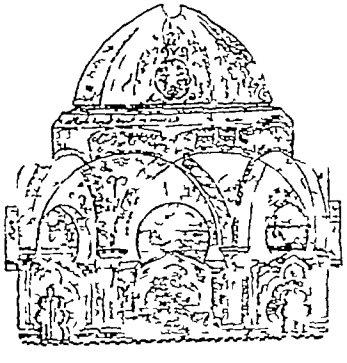
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Remarks on THE MEDICAL ASPECTS OF THORACIC SURGERY *

BY

R. A. YOUNG, C.B.E., M.D., F.R.C.P.

SENIOR PHYSICIAN TO THE MIDDLESEX HOSPITAL; PHYSICIAN TO THE BROMPTON HOSPITAL, LONDON

Thoracic surgery at the present time is a medical subject of absorbing interest. Although drainage of empyema is perhaps one of the earliest of surgical procedures, and although a few pioneer efforts, both experimental in animals and clinical in man, served to point the way, the real advance in thoracic surgery have occurred in the period of a generation—in fact within this century. They have not however been slow in developing. Thoracic surgery has emerged from the tentative, experimental, and groping stage into one of well-established technique and of great achievement. Surgeons, physicians, radiologists, and anæsthetists may well be proud of the advances which their co-operation has achieved. It needs no great gifts of prophecy to foresee even greater triumphs in the future.

Application of Surgery to Thoracic Disease

The physician appeals to the surgeon for assistance when his own efforts have failed or when he is almost helpless *often owing to the difficulties* of access to the affected structure or organ. Medical failures are too often tragedies leaving *the patient maimed, suffering* and uneconomic. In no special department is this more true than in thoracic disease. The intrathoracic organs are literally of such vital importance that their disease or damage often results in severe and even dangerous consequences. Fortunately, as Meltzer pointed out, nature is generally lavish in providing "spares" or at any rate compensatory mechanisms.

It is perhaps not yet recognized as widely as it should be by practitioners or by patients, at least in Great Britain, how much help surgery can give in some of these grave intrathoracic conditions where medicine is impotent or confined to palliation. Thoracic surgery is now capable of yielding, and is *indeed daily giving results* without prohibitive risk comparable in their usefulness with those of abdominal surgery.

Consider a case of chronic pulmonary abscess failing to drain effectively into a bronchus, accompanied by copious offensive sputum and slowly progressing to incurable bronchiectasis, making the patient a misery to himself and a continual source of distress to his relatives. He who has seen such a patient restored to sound, robust health, and full working capacity will surely approve, admire, and recommend this beneficent application of surgery.

A successful thoracoplasty in a case of pulmonary tuberculosis is another medico-surgical triumph which cannot fail to impress. To restore a patient suffering from chronic and progressive ill-health, and faced with the prospect of diminishing comfort and ever increasing limitation to active and even full economic life, is a gratifying achievement which is daily becoming more common.

Such instances can be multiplied many times. They serve to emphasize the importance of a discussion of this kind, for the benefits of surgery should not now be withheld from suitable cases on the grounds that the procedures are experimental or associated with undue risk. They are now well established, and have universal or international sanction and approval, and a statistical warranty calculated to give confidence.

The medical aspects of this important development of the surgical art are very wide and are difficult to define and to delimit. They involve:

1. The diagnosis of the condition requiring operation.
2. The assessment of the patient's suitability for operation, notably his capacity to bear successfully all that it may involve.
3. The choice of surgeon.
4. *The discussion* of the operative measures proposed and their adaptation to the condition present—for example, the question of operation in stages.
5. The preparation for operation and the after-care of the patient, both immediate and remote.
6. The decision as to the time for surgery.

Diagnosis of Condition

The diagnosis of intrathoracic disease, especially of morbid condition at the bases of the lungs or of the mediastinum, may be a matter of great difficulty. Fortunately these conditions rarely involve emergency operation. There is usually time for full investigation, and the experienced thoracic surgeon naturally demands that this should be done. Careful consideration of the history, symptoms, physical signs, and course of the patient's condition may suggest a diagnosis but, where practicable, every investigation likely to help in establishing its accuracy should be undertaken.

The improvements in radiological technique have contributed in very large measure to the advances in the diagnosis and surgical treatment of intrathoracic disease. Complete radioscopic and radiographic investigations including lateral and oblique views are now essential in almost every case. The lateral and oblique radiograms, especially the former, may give crucial information. Investigation of the bronchial tree by means of lipiodol in suitable cases may determine the diagnosis and give extremely valuable information in regard to the suitability for operation. Bacteriological, haematological, and other *clinical laboratory methods may contribute to the solution* of the problem of diagnosis. Even exploratory procedures varying from the puncture to artificial pneumothorax and exploratory thoracotomy may be necessary. As a physician I should like to deprecate exploratory puncture at random, where intrapulmonary suppuration is suspected. It may be the cause of disaster if the pleura in the region of the puncture is not adherent. In case of any exploratory puncture or thoracotomy the surgeon should if possible have permission to proceed to full operative treatment and be prepared to do so. Bronchoscopy comes into the same category, *since it may not only establish the diagnosis* but may be the means of operative cure.

Assessment of the Patient's Suitability and Capacity

This is a much more difficult matter and depends upon less ponderable factors. Urologists have set physicians an excellent example and a high standard of attainment in their methods of investigation of renal function before operation. I think that there is scope for research in the measurement of respiratory efficiency. The estimation of 'vital capacity' may be helpful. The normal is enormously greater than is necessary for the bare maintenance of life, the *minimum being in effect the* tidal air which is obviously enough to provide adequate respiratory exchange at rest, provided that there is sufficient lung area undamaged for aeration purposes. A very low vital capacity may be a bar to operation. At present we have to rely more upon a careful clinical review of the patient's general condition, taking into consideration factors like age, physique, temperament, blood pressure, and the general nutrition. The sedimentation rate of the erythrocytes may prove to be of some value in this connexion, but at present its significance is debatable. The ultimate decision rests rather upon "clinical instinct"—that is an almost intuitive assessment of the patient's condition and capabilities. Personally I now find myself advising surgical intervention in cases where a short time ago I should have hesitated. None the less some more explicit criteria are desirable.

Choice of Surgeon

A great responsibility rests upon the physician or practitioner in choosing a surgeon. The more difficult operations in this field of surgery should be entrusted in my opinion to those with special experience. Time in operations involving extensive rib removal may be of vital importance. A few minutes may make the difference between success and failure. Moreover there is more than

* Made to a joint meeting of the Section of Surgery and Tuberculosis at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

operative technique to be considered There is the necessity for great judgement in deciding what should be done and how much should be attempted Thoracic conditions often require several operations or several stages in one operative scheme Fortunately, there are now teaching centres in almost, if not all, English-speaking countries where thoracic surgery of the best type can be studied and where experience can be gained

The physician recommending surgery is well advised to observe the surgeon at work in order to learn what the procedure he advises may entail It is also desirable—indeed necessary—that the surgeon should have a good and practical knowledge of the medical aspects of thoracic disease, including the significance of physical signs I am bound to say that every thoracic surgeon I have known has amply fulfilled this condition It is always stimulating and instructive to discuss cases with them, since they have the experience of what has been so aptly called "the pathology of the living"

This question raises an interesting speculation whether this branch of medical work is likely to develop a type of specialist worker who will deal with thoracic disease from all aspects—that is, both diagnostic and therapeutic—by regimen, medicine, or operation Some of the pioneers in this field have conformed to these conditions, like Brauer, Sauerman, Graysesen, and Morriston Davies, and their names stand high in the roll of achievement It is probable that the developments will vary in different countries In England, at any rate at the present time, properly organized and co-ordinated team work seems likely to give the best results

Discussion of Measures Proposed

The physician discusses with the surgeon the morbid conditions and the measures most likely to yield good and permanent results Although the surgeon from his experience is the best judge of what he is likely to achieve, yet the physician knows what he desires to attain, and free and friendly discussion and criticism have in my experience been very helpful The physician has to bear the responsibility of advising operation, and he should take his share in deciding what is to be done At the same time it is obvious that the ultimate decisions may be influenced by what is found at the operation, and the surgeon should have a free hand to proceed as may seem best

Preparation for Operation and After-care

It is important to recognize that in thoracic surgery the patient should be in the optimum condition Some days occupied in preparation may be time well spent, and practitioners should recognize this and warn patients and their friends when advising recourse to surgery Similarly, skilled after-care and nursing are of the utmost importance, and may contribute not only to the comfort of the patient but also to the success of the result, particularly in conditions like thoracoplasty, abscess, and empyema These are matters of which the physician and the practitioner should have knowledge, though the responsibility is the surgeon's Strict attention to details may be of the utmost importance to the patient

Time for Surgical Intervention

Emergency operations are few, and are confined practically to

(*a*) Relief of positive pressure in valvular pneumothorax

(*b*) Immediate artificial pneumothorax in cases of severe or recurrent haemoptysis

(*c*) Partial aspiration of a large effusion causing oedema of the opposite lung or dangerous mediastinal displacement, impeding its respiratory activity

(*d*) Aspiration of empyema in a seriously ill patient, as a preliminary to effective drainage

( ) Tracheotomy in bilateral abductor paralysis from pressure on both recurrent laryngeal nerves

On this occasion I can only refer briefly to the time when the surgeon should be invited to help in medical diseases of the thoracic organs In regard to pulmonary tuberculosis, artificial pneumothorax has established itself as a therapeutic method of the highest importance, and the indications are well recognized Where this fails, or is impracticable, the question of the cause of failure has to be considered—local adhesion, large apical cavities, or general adhesion

I have an open mind on the subject of cutting adhesions, I hope that the more recent methods may render this procedure of greater usefulness Except in very small and localized adhesions I am somewhat chary of its employment Apicolysis, in my experience, has been disappointing, but I still hope that some improved method may yet be evolved, since the principle seems to be attractive and admirably adapted to the purpose in view Thoracoplasty in its modern forms has proved so valuable that it should always be considered in cases suitable for artificial pneumothorax when that form of treatment has proved impracticable The contraindications, however, are more definite and more emphatic than those of artificial pneumothorax

Phrenic evulsion is proving of great value, especially in preparation for, and in addition to, artificial pneumothorax in some cases where this procedure by itself is unsatisfactory I find it useful in some patients with unilateral disease where the localization is predominantly basal, though it is less often completely successful than might be expected

In abscess of the lung I wait till the abscess is definitely localized and then, if rupture does not occur, I call in the surgeon If rupture occurs, I try medical treatment, but if in six weeks it is clear that complete healing is not likely to occur, or if there are recrudescences of fever or expectoration, I recommend surgery A chronic abscess involves serious risks, notably those of secondary bronchiectasis, of cerebral abscess, and of progressive ill-health The longer operation is postponed the greater the risks I have been much impressed with phrenic evulsion as a means of effecting complete cure after thoracotomy and drainage, if residual cough and sputum are present

I have little experience of washing out the cavity through a bronchoscope, and I favour thoracotomy where possible

Bronchiectasis is a depressing and disappointing problem just now, both medically and surgically I hope that more may be done in the future to prevent it, since at present I am not too sanguine as to surgical procedures in this condition when it is fully established Phrenic evulsion in the early stage of unilateral cases certainly seems of value, and, if this fails, artificial pneumothorax or thoracoplasty is worth a trial Lobectomy seems to offer the greatest promise, but its risks are still serious

In malignant disease lobectomy is giving encouraging results in a small proportion of cases where the growth is localized in the lung parenchyma away from the hilum This should stimulate us to earlier diagnosis in these cases Improved means of applying radium may also shed more light on this dark corner of our work

Of empyema I should hesitate to speak were it not that the work of the American Empyema Commission does not even yet seem to have received general recognition, either by surgeons or by physicians Too early drainage of a streptococcal effusion leads usually to tragedy, which still too often occurs It cannot be too strongly affirmed that such an effusion should not be drained until frank pus is obtained on aspiration On the other hand, chronic empyema resulting from delayed or ineffective drainage is a serious reflection on medicine and surgery alike, and should be a rarity, which unfortunately it is not

Conclusion

In conclusion, I venture to hope that the present discussion will do much to stimulate a wider recognition of the achievements of thoracic surgery and of its benefits, but do nothing to stereotype surgical procedure or technique There is always scope for advance The surgeon is sometimes satisfied—the physician never We look to the surgeons to give us more and more effective help, and, judged by the rapid progress of the last ten years, I feel sure that the future is very hopeful

RADIUM IN CANCER THERAPY*

BY

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THE decade just passed, during which radium has come into a prominent position, has been an extremely active and interesting one in the cancer field. This has been due in part at least to the fact that radium and its allied physical agent the *x* rays, produce rapidly and readily demonstrable effects on neoplastic tissue. Cancer investigators have not previously had such a stimulus. In spite of the amount of investigation carried on for generations, improvement in cancer therapy was dependent almost entirely on technical surgical advances. Flurries of excitement have continued to centre transiently about alleged curative agents, usually of the constitutional type, but always with the same final result. The experience with radium and *x* rays on the other hand, has been one of increasing confidence over a period of years. New tissue changes have been produced, the study of which continues to throw light on the intricate and complicated reactions both histological and biological within that maze of allied disease covered by the term "cancer." Since most of the material for investigation has come through the treatment of patients scientific investigators have been brought out from the dark recesses of the laboratory and nearer, both figuratively and literally, to the practical clinical problems of cancer therapy. Even though the period of radium usage has been short, a great deal has been accomplished in very orderly sequence. The beginnings were made with small supplies of radium salt (frequently more of mesothorium than radium), meagre physical data and no single treatment factor standardized. An empirical technique was established largely by application of the law of trial and error. Filtered applicators for surface use and for introduction within body cavities were developed. The need for guidance by the physicist was recognized in this formative period, and that assistance has been most generously given. Fortunately for the general problem the physicist's contributions, although becoming increasingly complicated, have nevertheless remained extremely practical. A serious effort has been made to meet the clinical necessities.

As standards of filter and dosage became established for surface contact applications it was evident from both clinical and histological observations that greater quantitative effect at depth was essential. For superficial lesions this was obtained by increasing the distance between the source of energy and the treated part and by increasing correspondingly the quantity of energy delivered, according to the rule of the inverse square law. The quantities of radium available for use in most clinics at that time, however, were not sufficient to produce any marked effects at depth in bulky tumours of adult type or fully differentiated growth histologically.

In 1911 Stevenson of Dublin introduced an entirely different principle of radium therapy—one which has contributed largely toward the control of cancer as a local process since that time. By introducing a Dominici tube containing radium salt through a surgical incision as nearly as possible at the central point of the tumour he initiated the principle of interstitial irradiation. The method was sound both physically and economically. Technical improvement in the method, designed to accomplish interstitial irradiation with a minimum of surgical trauma, found expressions in various ways. For the many small radium supplies the radium element needle of varying strength, size, and filter was the most practical solution. In some clinics, particularly on the Continent and notably at the Curie Institute in Paris a larger type of needle with heavier filter and low radium salt content to permit of prolonged irradiation was preferred.

In America the clinics with sufficient radium supply to permit of a radium emanation collecting plant followed the suggestion made by Duane and initiated by Janeway at the Memorial Hospital in 1916—namely the interstitial implantation of glass capillary seeds containing radon. The practical collection and preparation of these seed was made possible by the work of Failla[1] who in 1924 replaced the unfiltered radon seeds by substituting a gold capillary tube. The filtered radon seed thus produced (0·3 mm. wall thickness of gold) had all the advantages claimed for the filtered radium element needles in addition to the extremely practical advantage of a wider range of applicability. It is the opinion of those who have had experience in the use of filtered radon seeds that they offer several advantage over element needles. The radon content of the individual seed may be varied to meet the peculiar requirements of the individual case. It can be inserted in many locations where element needles could not be retained with sufficient accuracy to permit of the desired prolonged irradiation. The accuracy of distribution in irregular tumour bearing areas is greater than with the larger needles. The trauma of introduction is less on account of their smaller size. Since they are left *in situ* the trauma of withdrawal is eliminated. Their reaction as a foreign body is negligible. The period of active irradiation—approximately a fortnight—is sufficiently prolonged on the basis of our present conception of the efficiency of continuous irradiation. The advantages in conjunction with operative surgery and primary wound closure are obvious since the seeds do not have to be removed.

With means available for more uniform and more intensive irradiation the earlier influence of *x* ray experience began to wane. The skin erythema, which had come to be regarded as an evidence of maximum irradiation intensity consistent with preservation of the normal tissue has gradually assumed the status of a unit of radiation. Over a period of years there has been a gradual trend away from the skin erythema as a dosage limitation. It has come to be a measure of quantity provided only that the factors of the exposure are known.

The steady increase in the relative *quantities* of irradiation employed has been accompanied and encouraged by the improved clinical results. These advances must, of course be shared with improvements in the quality of radiation used as well as the factors of time (period of exposure) and distance between the source of radiant energy and the part treated.

In more recent years the intensive histological study of tumour tissue before and after irradiation has contributed largely towards the advancement of radiation therapy. From the beginning very definite changes were noted but these centred mainly about effects on blood supply and the supporting structure of the neoplasm. The observations were sufficient to give some conception of the growth restraint produced. They explained the variation in response between widely differing type of tumours. They did not however explain the variations in response to comparable quantities of radiation in tumours of the same histological types. It remained for further studies in cellular pathology to clarify this.

Broder's work on the relative degrees of cellular differentiation in tumour of the same clinical and histological group not only explained the reason for many surgical failures but incidentally many unusual reactions to radiation as well. While the histological grading of tumour on the basis of relative degree of cellular differentiation must vary in different clinics it is nevertheless of considerable practical assistance. Each group of workers must have its own conception of what is meant by a certain grade one shades into the other. It is a piece of work which is scarcely capable of translation exactly from one clinic to another. Nevertheless the principle is the same and the differences in relative appraisal are not great. Information of this kind guide the clinician in determining the general character of the treatment to be given. Surgery is more apt to be resorted to in the fully differentiated tumour and avoided in the undifferentiated. The relative intensity of irradiation required varies inversely. The possibility or probability of metastases to be anticipated and the ultimate prognosis are judged to a considerable degree on the same basis.

The intensive histological study stimulated by radiation changes has made other contributions in the field of tumour pathology. New types definite clinical entities,

* A paper read in the Section of Radiology at the Annual Meeting of the British Medical Association Winnipeg 1930.

have been recognized The transitional cell carcinoma which Ewing[2] has described (and the lympho-epithelioma of Schmincke[3] and Regaud[4]) was formerly grouped with epidermoid carcinoma in general, or occasionally classed as a reticulum cell sarcoma until its peculiar radio-sensitivity resulted in its recognition as a type of epithelial tumour distinct both histologically and clinically Endothelial myeloma of bone—Ewing's tumour—was recognized in the same way after the study of a bone tumour which showed a peculiarly rapid regression, followed by regeneration of bone after moderate external radiation The large and varied group of soft part tumours of connective tissue origin formerly passed over as fibrosarcomas, or spindle-cell sarcomas is much better understood, owing to careful histological study in conjunction with irradiation They present a wide variation in cellular structure, and a corresponding variation in radio sensitivity All gradations in relative radio-sensitivity and radio-resistance are recognized, and must be used as a guide in selection of type and intensity of treatment The origin of the majority of this group of tumours from the nerve sheath has been one of the notable contributions of the study

With the accumulation of reasonably accurate and suggestive information about radio-sensitivity from histological study and clinical observations it was natural to inquire further into the factors of quality and intensity of radiation necessary to produce the desired changes

It is true that some of the most spectacular early results in radiation therapy were obtained by irradiation of low intensity with radium or *x* rays, and in such unstable tumours as lymphosarcoma and teratomas of the testis or ovary The most impressive histological changes, however, were in the more adult types of growth, and in order to produce these changes interstitial irradiation with radium or radon was the agent used When external radiation effects were studied, there appeared to be some difference in the reaction to comparable quantities of radium and *x*-radiation The fragments of evidence available suggested the possibility of more desirable effects from external irradiation if radium in sufficient quantity was employed

Observations at clinics, such as Kelly and Burnam's in Baltimore, and the Memorial Hospital, where radon packs have been employed for several years, lent support to this view Regaud's[4] method of prolonged distance radiation of low intensity also favoured radium as superior on account of the shorter wave-length of gamma radiation Economic factors have, unfortunately, made it impossible to provide a sufficient number of large radium element packs, in order that adequate external distance radiation may be carried on without regard for the expenditure of energy or funds in large numbers of patients

In those instances where adequate quantitative external radium radiation of maximum intensity has been possible, there is no doubt in the minds of the clinical observers of the superiority of radium over the most efficient *x*-radiation available to date This has been the experience of the Memorial Hospital staff during fifteen years' use of a large radon pack, an experience decidedly strengthened during the past three and a half years with a 4-gram radium element pack The total time of exposure undoubtedly contributed something toward this balance in favour of radium, but beyond this the main factor lies in the difference in *quality* of the radiation employed When the economic difficulties have been overcome, or when shorter wave-lengths of *x* rays equalling the gamma rays of radium in quality are produced for practical use, a tremendous improvement in practical radiation therapy will result The possibilities attendant upon total quantity per individual case, optimum period of total exposure, distance from source of energy to treated surface, and daily ratio of delivery of the radiation have not as yet been touched

It is only in this one field of external distance radiation that there has been any appreciable overlapping of radium and *x* rays Unfortunately, the number of cancer sufferers who have had the advantage of a superior quality of radiation, made possible by the extravagant use of large quantities of radium, represents only a negligible percentage of cancer patients in general In large measure the immediate advantages of this form of radium usage are academic rather than real The experience, however, points the way to more efficient radiation for the future It is hoped that means will be found to provide large quantities of radium for more general use It is hoped, also, that the experience already accumulated in favour of shorter wave-length gamma radiation will stimulate the engineers engaged in *x*-ray research and manufacture to provide equipment for *x*-radiation which will approach in quality the gamma rays of radium All of the available radium is needed for the type of application to which it is physically best adapted—namely, for interstitial implantation, and for use in various applicators within body cavities X-radiation should be the agent for external long-distance application—as it now is—but it ought to be of greater efficiency

Viewed in this light it is apparent that there is very little practical overstepping or duplication in the fields of radium and *x* rays, the two forms of radiant energy are very similar physically except for a difference in quality The character of the source of that energy in each instance governs the adaptability Radium is an agent for use over or within localized tumour-bearing areas, *x* rays are for use over large surfaces The two agents are complementary and not competitive Further, there is evidence in favour of the combined use of these two agents beyond that of simple physical adaptability Clinical and histological observations have been made on the difference in reaction with comparable quantities of the two types of radiation Clinical observations have been made on the improved therapeutic reactions where the two have been combined The experimental work of Quimby and Pack[5] has shown that when the two types of radiation are employed together and in equal quantitative ratio the skin tolerance, as judged by threshold erythema, is increased by 20 per cent or more

It is only recently that serious consideration has been given to the accurate study of the quantities of radiation delivered within the tumour-bearing area necessary to produce complete regression of tumour tissue Accuracy and standardization at every turn is essential if we are to develop a technique and dosage which may be depended upon to control a given type of growth and with a minimum of damage to adjacent normal structures Preliminary dosage was of necessity empiric Many factors enter into every dosage computation the character and quantity of energy in the applicator employed, the time of exposure, the filter, the distance from source to area treated, the relative distance of points on the periphery of the tumour from the radiation source, the character of the tumour bed, the type of tumour and its degree of relative cellular differentiation

With variations in each of the factors it was evident that any efforts toward greater accuracy and standardization must begin with one only At the Memorial Hospital, Martin and Quimby[6] undertook a study of the quantity of radiation necessary to produce complete regression of various types of epidermoid carcinoma A series of cases of intra-oral epidermoid carcinoma, in which complete regression of growth had been produced, was selected The histology of the growths was carefully re-checked for type and relative degree of radio sensitivity, the size of primary growth and metastatic nodes, if any, and the relative relationship of one to the other were noted The component parts of the radiation dose—*x*-radiation, external radium, and interstitial radon—were calculated physically in terms of threshold skin erythema doses within the tumour-bearing area In order to do this, for irregular-shaped growths particularly, it was necessary to translate the volumes into spheres or a series of smaller spheres, depending upon the shape of the growth, to get the dosage intensity at the most remote point of the tumour The intensity recorded was the minimum intensity at this most remote point Obviously a considerable portion of the growth received a good deal more than the recorded dose From a study of this series of cases it was found that an intensity of seven to ten skin erythema doses at all points within the tumour-bearing area was necessary to produce complete regression

of adult epidermoid carcinoma Cases showing a lesser degree of differentiation, such as transitional cell carcinoma and lympho-epithelioma, required a much lesser intensity —three to five skin erythemas

The tendency in these doses, selected empirically and on an experience basis only, was to overdose the smaller growth and to underdose the larger When a series of failures were measured in the same way the reason for failure in most instances was only too apparent The failure to provide dosage of sufficient intensity in the more bulky growths or in outlying areas accounted for most of the losses The next step was the application of the data thus obtained to the treatment of cases A series of cases of varied histological type were treated by calculating the dosage to begin with in terms of a certain number of skin erythema doses This intensity was determined on the basis of the histology and the experience gained from the studied series The method of delivery of this dosage was directed by the physicist on the most economic basis—*x rays, radium externally, or by interstitial implantation* The results in this series corresponded with the findings in the cases studied in retrospect It was found possible to depend on the result of treating a given area by this means of dosage calculation providing the measurements and clinical evaluation were correct and the technique of treatment, especially radon implantation was accurate It might well be added that control of local infection on ulcerating surfaces is essential if this or any other type of irradiation therapy is to be counted upon Doses for these cases in the last series, determined empirically and on an experience basis did not vary more than 10 per cent from the doses found necessary on the basis of measurement and physical and mathematical calculation

The work has demonstrated very conclusively that adult type epidermoid carcinoma requires seven to ten erythema doses throughout the tumour in order to ensure its complete control and that the undifferentiated types require at least one-half of this intensity This is of the utmost practical importance It not only explains the failures in bulky growths of this type where interstitial radiation was used, but too sparingly, but it indicates the futility of expecting complete control of epidermoid carcinoma by external irradiation alone in all except the most anaplastic growths at least with the present facilities and methods for external irradiation

The maximum dosage that can be delivered by external radiation within the oral cavity during a two- or three-week interval with our present equipment either *x* ray or radium and consistent with the tolerance of the patient, is at most, three skin erythemas of the intensities to which reference has been made Very few of the epidermoid carcinomas fall in the group sufficiently radio-sensitive as to be completely cleared up by three erythemas Consequently interstitial implantation in some form is imperative if clinical cure is to be accomplished by irradiation

With such data available it is unfortunate to see so many radiologists continuing to treat epidermoid carcinoma of the mucous membrane—*the most common* type of epithelial tumour—with *x* rays alone or, worse, with *x* rays and small plaques of *radium on the surface*

The most effective treatment of cancer by radiation methods is too complicated a problem for the radiologist to shoulder alone The same is true of the relationship of the clinician to the general management of the cancer patient The assistance of the pathologist and physicist is necessary in determining the treatment rather than when the therapeutic procedure whatever it may be, has been carried out The problem is one for group study throughout The best interests of the patient are served where the surgeon, *working in co-operation* with the pathologist and physicist, is thoroughly familiar with radiation, and thus combines the necessary operative surgery with the radiation therapy A more orderly and conservative co-ordination is thus attained than by transferring the patient from one department to another If this is not possible there should at least be the maximum of contact and co-operation between surgeon and radiologist The majority of cancer cases require in their total round of treatment, surgery radium and *x* radiation The more closely this is correlated the better

With the information—clinical, physical, and histological —accumulated to date to guide us, it seems proper to inquire into its practical application in radium therapy At least the limitations of radium application are better understood From a physical standpoint the intensity of irradiation is limited by tissue necrosis as a cauterizing agent radium is not justifiable Technically, the anatomical and physiological problems which limit operative surgery apply also in large measure to radium Damage to large blood vessels and nerves must be avoided In the upper abdomen physiological problems attendant upon intensive local irradiation require study before anything may be hoped for through the combination of operative surgery and direct radium radiation In spite of the benefits to be derived from radium therapy it must not be forgotten that it is a *local agent* The constitutional character of the later stages of cancer limits its use For the most part palliation in such cases is a medical and an *x* ray problem

In the major group of neoplastic disease the specific value of radium varies widely and its usefulness is dependent upon many factors Discretion must be made between efforts at cure and palliative relief only If a reasonable hope for clinical cure can be entertained, the maximum of intensity even though painful for a period is justifiable and desirable If palliation only is the object the patient's comfort from day to day demands first consideration, and the type and intensity of irradiation should be governed accordingly Radium may represent the sole therapeutic agent in certain instances or it may be only an associated aid in others Even within the individual groups the adaptability varies with the degree of growth advancement and the accumulated experience of radio-sensitivity or radio-resistance

The distinction between relative radio-sensitivity and curability should be clearly understood The most radio-sensitive tumours are those showing the minimum of cellular differentiation they melt away rapidly under heavy or even moderate external irradiation They also are of the type which disseminate early widely and usually through both lymphatics and blood stream While the local process may be readily controlled the tendency to generalization is such that the percentage of ultimate curability is very low It is also of interest that subsequent and repeated metastases show a progressive lessening in the degree of response to irradiation The patient's general physical resistance is of course deteriorated but added to this, the later metastatic processes show a tendency toward differentiation and are hence more radio-resistant While the primary fully differentiated epidermoid carcinoma is most difficult of all epidermoids to control the result, once attained is assured of a far greater permanence than in the more radio-sensitive undifferentiated types Real curability is greater in the more radio-resistant types

Rules for guidance in making the finer distinctions in choice of therapeutic procedures cannot be laid down Appraisal of the many factors entering into the decision is in the final analysis a matter of experience preferably co-operative group experience Whether that group represents a special clinic or simply a cancer service within a larger organization depends upon the local and individual circumstance

Skin cancer, unless extremely advanced or altered in its tumour bed by repeated recurrences is by choice a radium problem In all except the most superficial lesions heavily filtered radium at distances of one to three centimetres gives best results The wider zone of tissue radiated prevents recurrence at the border The penetration at depth is greater the scar is much better because of the lesser amount of fibrosis It is more adaptable to localized application than *x* ray and superior to thermic or electro-cauterization because of the wider zone of tumour bed affected

With carcinoma involving the mucous membrane of the mouth nose and throat the problem is much more complicated The growths are predominantly epidermoid carcinoma—a metastasizing tumour involving chiefly cervical nodes A variety of anatomical structures may become involved Infection may play a major part by

discounting the normal reaction to irradiation, and by contributing to secondary necrosis of tissue Problems of surgical drainage arise Invasion of bone or cartilage by tumour tissue or infection, or both, may add to the complications Interference with the taking of food or with breathing may arise Procedures for treating cancer under such varying circumstances differ, of course, in the various clinics These variations in procedure may depend upon the basic premisses accepted in the individual clinic, or be governed by the treatment facilities available

At the Memorial Hospital external radiation—radium or x rays, or both—is employed over both primary growth and cervical lymph nodes in all cases Radium, in the form of filtered radon by interstitial implantation, is depended upon for control of the primary growth Infection and tumour invasion of bone within the mouth or sinuses is a surgical problem The cervical nodes are left to external radiation unless palpably involved The palpably involved node of adult type epidermoid carcinoma, unilateral and with intact capsule, is treated by complete unilateral neck dissection, plus radon implantation within the wound in such fashion as to irradiate heavily any suspicious areas Bilateral involvements or nodes with perforation of the capsule by growth are treated by a combination of operative surgery with radium—surgical exposure under local anaesthesia and filtered radon implantation The metastatic nodes of undifferentiated growths are treated by irradiation entirely, even though technically operable Direct radon implantation is usually indicated, and to facilitate this surgical exposure is resorted to The treatment of intra-oral cancer affords the best and most varied example of the value of combining operative surgery and radiation in meeting the needs of the individual case

In some clinics with a limited radium supply, the practice of removing the primary growth surgically, usually by one of the cautery methods, and following this by radium needle applications, is prevalent From experience with radon implantation plus surgical removal in certain instances to overcome deep-seated infection, it would seem desirable to reverse the order of that procedure The condemned area might well be utilized as a radium needle holder, the growth devitalized before operation, and the adjacent tissues substantially irradiated preliminary to surgical traumatization

With extrinsic laryngeal cancer, treatment by irradiation, external and interstitial, is the only resource, except for the few highly radio-sensitive growths where x rays alone in maximum dosage may be sufficient to produce complete regression If broad surgical principles are adhered to, all of these growths are inoperable Intrinsic laryngeal cancer presents a different picture A certain percentage of these growths are surgically operable The anatomy of the parts facilitates removal by total extirpation of the larynx Metastasis rarely occurs until late in the course of the disease Under such circumstances the selection of treatment procedure becomes a matter of *preference In our clinic radium is employed through* choice In the majority of cases direct radon implantation, following heavy external irradiation, is carried out through the exposure by laryngotomy—again an example of combining a conservative operative procedure with irradiation for the purpose of greater technical accuracy

Continuing, the mucous-membrane-lined tract downward into the bronchial tree, oesophagus, and upper gastro-intestinal tract, leaves much to be desired from all forms of treatment, especially radium Few growths lend themselves to interstitial implantation anatomically, and the hazards of infection are great A considerable degree of palliative relief has been produced in these areas through the growth restraint induced by external radium or irradiation Further benefit lies probably in technical improvement of the methods of external radiation, except possibly in cancer of the upper gastro-intestinal tract This field ought to claim the sympathies and ingenuity of a master gastro-intestinal surgeon, willing to forgo some of his preconceived ideas, inform himself of the fundamentals of irradiation therapy, and thus combine forces in a new approach

In the rectum and lower bowel much has already been accomplished both curatively and palliatively by intensive irradiation with and without surgical co-operation, and is indicated by the special features of the individual case

Cancer of the female pelvic organs is extremely interesting radiologically In the treatment of cancer of the cervix uteri radium has achieved its most notable success It is the agent of choice The involved part is extremely tolerant of heavy irradiation, it is relatively insensitive to pain it is accessible Histologically, more than half of the growths are of the plexiform epidermoid type, showing a relative lack of cellular differentiation and hence radio-sensitive Historically, it is interesting to note that the gynaecological field was one of the first to employ radium, and this vision and courage on the part of a few pioneer gynaecologists did much to advance radium therapy to the position which it now occupies

Carcinoma of the corpus uteri differs from the cervix growth in histological type, in anatomical relationships, in accessibility, and in its mode of extension and dissemination Radium undoubtedly fills a useful place in early questionally malignant lesions and in advanced questionably operable cases In the intermediate, well-established group, however, hysterectomy is the method of choice

These two types of growth in the same organ afford a clear-cut and nice distinction in the choice of a treatment method

Growths of the external genitals, male or female, are for the most part epidermoid carcinomas, and hence are subject to the same general principles of treatment as epidermoid carcinoma elsewhere The same is true of bladder cancer, except for its inaccessibility The papillary type of epidermoid carcinoma predominating in the bladder is relatively radio-resistant, so that heavy irradiation dosage is necessary for its control In spite of this, direct exposure by suprapubic cystotomy and direct filtered radon implantation is preferable in most cases to the various operative procedures advanced

Cancer of the prostate may yield completely to interstitial irradiation, in any event a variable degree of growth restraint may be brought about Radium is, in general, the agent of choice, not because of the brilliance of the results, but because it accomplishes at least as much and affords greater palliation with less hazard than operative measures

Cancer of the breast represents one of the largest groups of malignant disease The histological types and variations are numerous Fat predominance in the tumour bed is not duplicated elsewhere Metastasis, whether by direct permeation of lymphatics or by showers of vascular tumour emboli, is early The tendency toward generalization of metastatic involvement is much greater than is ordinarily thought to be the case Metastatic extension beyond the axilla is not only surgically inoperable, but is so deep seated, as well as generalized, that it is radiologically inaccessible Breast growths, as a group, are relatively radio-resistant, not only on account of their histological *structure, but because they tend to infiltrate adjacent fat* tissue An active radiation reaction is difficult to produce in fat tissue, probably because of the limited blood supply and the tendency toward fat necrosis under the influence of heavy irradiation In spite of these discouraging factors, radiation has contributed much to the treatment of the breast group For widespread irradiation x rays are obviously the agent of choice For localized applications externally or for implantation, radium has its place

Pre-operative and post-operative irradiation is accepted as of distinct value, the former is preferred Questionably operable cases and breast cancer in the aged are better treated by irradiation than by operative measures The strictly operable group is thus sharply limited The palliative benefits of irradiation in breast cancer are probably greater than in most other groups The benefits of radiation are not limited, however, to palliation only The group of clinically cured cases, treated by irradiation only, is steadily increasing In certain instances this has been accomplished by heavy, prolonged external treatment For the most part, however, it has been in conjunction with some form of interstitial irradiation The measure-

ment of dosage intensities by Lee and Pack following the plan employed by Martin and Quimby in their dosage intensity calculations for intra oral cancer suggests the need for greater relative intensities in breast cancer than in mouth cancer They have demonstrated at the same time that these required doses of intensities, well beyond ten erythemas can be carried through practically Their minimum standards of intensity have not yet been determined, and it may be found that a very considerable percentage of the cases respond to a much lower relative quantity of irradiation

In the lymphatic, glandular neoplastic, and pseudo-malignant diseases—lymphosarcoma Hodgkin's disease and leukaemia—radium may be useful and is occasionally of real value for some specific reason In general, however, the widespread character of the involvement lends itself best to treatment by x radiation The treatment is palliative only

The bone tumour problem is as discouraging as it is fascinating Radiation has made but two distinct contributions attributable alike to either x rays or radium, or both Giant-cell tumours of bone are curable by external irradiation The peculiar response of endothelial myeloma of bone to radiation led originally to its recognition as a definite clinical entity, and irradiation has remained the treatment of choice The tendency to early and widespread dissemination of this growth however, renders cure extremely doubtful The true osteogenic tumours of bone are extremely radio-resistant and radium has done nothing more than afford a moderate degree of palliative relief and growth restraint

Summary

1 Radium has made a notable contribution and has added stimulus to the general problem of cancer investigation

2 Since it is an agent for local application only, it must not be regarded as an ideal cancer cure

3 It has, however, increased the curability of cancer

4 It has reduced the limits and the severity of many operative surgical procedures

5 It has supplanted some surgical operations entirely

6 It has relieved operative surgery of the responsibility for attempting the unreasonable or impossible, as a frantic effort in a large and varied group of cases

7 It has made possible a larger measure of palliative relief in advanced cancer

8 Advancement in radium therapy depends upon the intensive co-operation of pathologist clinician and physicist

9 The technical problems of application and dosage intensity must be calculated and made with the greatest possible care and precision

10 The combination of radium emanation, x radiation and operative surgery offers far more in the average case of cancer than adherence to any one agent alone they are complementary, and not competitive

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"DECEREBRATE RIGIDITY" IN MAN

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At the outset we wish to point out that although the title of "Decerebrate Rigidity" in Man" has been given to this short paper we have made the publication rather to encourage interest and observation in this subject and to relate a very interesting clinical case than to record a detailed clinico-pathological study for from this latter point of view, our records are incomplete

As Walshe[2] points out the variety of clinical features already included under this designation indicate that there has been no clear guiding conception of what a very definite condition true decerebrate rigidity is, and the term bids fair to become a vague label including all obscure forms of tonic spasm in a category which has a thoroughly false air of scientific precision

Experimental Decerebrate Rigidity

Since Sherrington[1] detailed his experimental results of transection of the brain stem of animals and described the resulting picture of "decerebrate rigidity" or "reflex standing" there has been considerable difference of opinion as to what clinical picture constitutes its counterpart in man

Experimental decerebrate rigidity occurs when the greater part of the anterior portion of the brain is removed by a coronal section through the hinder part of the mid brain, in a plane bounded dorsally by the posterior limit of the superior corpora quadrigemina and ventrally by the region immediately caudad to the corpora mammillaria This section cut off the greater part of the red nucleus from the body if the transection passes above the red nucleus the muscle tone remains normal Rigidity persists as the plane of the transection passes caudally through the pons and medulla to the level of entry of the acoustic nerves and Deiters's nucleus Thus the brain stem centres responsible for decerebrate rigidity clearly lie in the pons and medulla

In this experimental decerebrate rigidity there is a great increase of tonus in the extensor group of muscles with reflex inhibition of tonus in the antagonistic flexors in accordance with the laws of reciprocal innervation On being suspended the animal hangs with its fore limbs thrust backward with retraction at the shoulder-joint, straightened elbow, and some flexion at the wrist The hand of the monkey is turned with its palmar aspect somewhat inward The hind limbs are straightened and thrust backward the hip is extended the knee very stiffly extended and the ankle somewhat extended The tail is straight horizontal or stiffly curved upward There is a little opisthotonos of the lumbo-sacral region and the head is kept lifted up against gravity Sherrington regards this rigidity as reflex standing—the result of release or removal of inhibition of the postural reflex it can be abolished by section of the appropriate afferent posterior nerve roots

Decerebrate Rigidity in Disease

The problem is to ascertain what is the counterpart in man in a physiological sense, of this experimentally produced rigidity

Kinnier Wilson[12] has carefully analysed and recorded conditions—the results of cerebral haemorrhage meningeal inflammation or intracranial tumour—in which there has been coupled with the impairment of consciousness tonic rigidity of the trunk and limbs He considers that these clinical pictures minutely resemble experimental decerebrate rigidity In many of these cases frequent exacerbations are superadded in the form of tonic or postural fits accentuating and exaggerating the background of tonic posture The cases fall into three groups (1) decerebrate rigidity (or attitude) and tonic fits combined (2) cases of decerebrate attitude without tonic fits (3) cases of tonic fits without persisting decerebrate attitude Hughlings Jackson[3] described attacks of rigidity in cases of cerebellar tumour Many of these cases showed also tetanus-like seizures in which the patient exhibited opisthotonos with extension of the lower extremities and flexion of the upper extremities but he considered that the causation of the two conditions was different In Wilson's opinion the involuntary posture of a limb or segment of a limb in many forms of nervous disease as well as the transient positions assumed in involuntary movements such as chorea and athetosis are in reality simply parts of the complete decerebrate attitude

Walshe,[11] on the other hand, carefully studied the problem of Sherrington's decerebrate rigidity from the point of view of its occurrence and recognition in the human subject, and concluded that, while in the spasticity of hemiplegia and the paraplegia in extension, there is a clear example of hypertonus physiologically identical with that observed in the decerebrate animal, for the most part, the cases recorded as decerebrate rigidity in man are examples of different varieties of extrapyramidal syndromes or tonic fits, none of which can be identified with Sherrington's decerebrate rigidity. He recorded a case,[10] which he considered a closer approximation to the experimentally produced condition than any previously encountered. The patient lay motionless and unconscious on her back, with the head in the median position. There was no trace of head retraction. The arms lay across the chest, semiflexed at the elbows, with the forearms slightly pronated and the wrists and digits flexed. The legs lay extended and adducted, with the feet plantar flexed. There was spasticity of moderate degree in all four limbs, definitely more pronounced in the arms than in the legs. The tonus was plastic and "clasp-knife" in character. The tendon-jerks were all very brisk, the abdominal reflexes absent, and the plantar responses extensor. The tonic neck reflexes of Magnus and de Kleijn were also obtained.

There are two points of defect from the complete picture of decerebrate rigidity: the first, the flexion posture of the upper limbs, and the second, the retention of temperature control. The flexed position of the upper limbs may be traced to the fact that in man the fore limbs are no longer simple locomotor props, but have taken on new and highly complex functions under the influence of the cerebral cortex. In consequence, they would not be expected to take up the extensor attitude of standing. In this case, it was at the stage of failing reflex activity, when the phenomena of decerebrate rigidity were finally disappearing, that tonic fits and the accompanying respiratory and cardiac irregularities appeared. This was regarded as demonstrating the fundamental difference between tonic fits and true reflex decerebrate rigidity, and as showing that there was no correlation between experimental decerebrate rigidity and the types of muscular spasm seen in extrapyramidal syndromes. Post-mortem examination revealed a suprapituitary cystic tumour and a well-marked secondary hydrocephalus, pressure from these on the structures in the anterior part of the brain stem produced the effect of decerebration by cutting off the cerebral hemispheres from functional connexion with lower levels.

The anatomical site of the lesions in Wilson's cases, with extended neck and spine, adduction at the shoulder, extended elbow, internal rotation, hyperpronation and flexion of the wrist and fingers, was similar to that of experimental decerebrate rigidity. Wilson regards the two states as physiologically equivalent, whereas other observers regard the hemiplegic posture in man—that is, flexion of the upper and extension of the lower limb—as the equivalent of decerebration in animals. Brain[1] considers that these views are not mutually irreconcilable. He has observed, although it is not always easy to demonstrate, that an extensor attitude of the upper limb, which exactly reproduces the posture of this limb in a "tonic fit," can be reflexly evoked in a hemiplegia by making the patient assume a quadrupedal attitude. This posture is the normal quadrupedal standing attitude of the anthropoid ape when on all fours. On the other hand, the "hemiplegic" attitude of flexion of the upper with extension of the lower limb is the primitive erect standing attitude of our subhuman ancestors. Man has passed through two stages in evolution, the more primitive characterized by quadrupedal standing, the later by erect standing. Thus, if by decerebrate rigidity is understood the posture or reflex standing, man may exhibit two decerebrate attitudes—quadrupedal and erect—the former of which (the attitude of "tonic fits") is the pathological equivalent of decerebrate rigidity in animals.

It will thus be seen that the cases appearing under the heading of decerebrate rigidity in the literature present considerable variation in the type of tone in the posture assumed, and in the reflexes. Cobb,[2] Weisenburg and Alpers,[12] Zand,[14] and recently Epstein and Yakovlev,[4] have contributed, among others, to the literature on this difficult subject. In clinical practice, especially in children, cases are not rare in which the child is in such a fixed rigid attitude that it may be lifted into the vertical from the horizontal posture by placing one hand under the head. The actual position of the arms and legs in these cases varies considerably, but the type of tone increase appears to be more frequently extrapyramidal than pyramidal.

Notes on a Case

The following case was under the care of one of us (J. S. M.) for a period of ten years, and during the greater part of the time he lay motionless and speechless, like a log, with his arms adducted and flexed at the elbows and wrists, and his legs rigidly extended—in the position regarded by Walshe and others as the physiological counterpart of experimental decerebrate rigidity.

A. B., male, was observed in November, 1918, at the age of 67, to incline to the right when out walking. Early in 1919 he complained of stiffness in his left shoulder and pain in the left leg, so that he had great difficulty in dressing. He was treated at Buxton for rheumatism, but returned unrelieved. About this time he lost all interest in his business and in his surroundings, he was frequently disorientated as to time and place, and would hold the newspaper upside down, although apparently reading it. He slept readily, and did not now complain of pain. Early in 1920 he exhibited great emotional distress at the death of his son, aged 24. A neurologist saw him in April, 1920, and noted a peculiar stiffness and slight weakness of the left side of the body, with ankle-clonus and an extensor plantar response. He considered the condition to be due to cerebral arterio-sclerosis, with softening in the right internal capsule. A. B. became gradually worse, the right arm became stiff, and he was only able to walk about the room with great difficulty.

In 1921 he became bed-ridden, and his apathy to his surroundings was more pronounced. The lower limbs were rigidly extended, with marked exaggeration of the tendon reflexes, bilateral extensor plantar responses, and ankle-clonus; incontinence of urine and faeces supervened. He could still use his arms for feeding himself.

During 1922 his condition altered but little, he recognized his attendants, but seldom spoke. In 1923 he was unconscious for three days, and it was thought that he was going to die. Towards the end of the year his wife had a cholecystectomy performed, when she returned home early in 1924 and explained where she had been, he remarked, "You look as if you had had your wings clipped." He made no further remark, and lapsed into his usual silence and apathy. In June, 1924, the family moved to a house in a brighter and sunnier situation, but he made no comment, he was utterly indifferent and apathetic, the increase in tone in the upper limbs now became so marked that he had to be fed.

The years 1925 and 1926 passed without much change, except the increasing rigidity of all four limbs. The upper limbs were strongly adducted at the shoulders, semiflexed at the elbows, with pronation of the forearms and semiflexion of the fingers. The rigidity in the lower limbs was so marked that it was impossible to flex the limbs, and when an attempt was made to abduct one leg, the other followed in the same direction. There was some retraction of the head, swallowing was fairly good with slow feeding, and the ocular movements were apparently full. Trophic sores appeared on the left leg and foot in 1927, the pulse, at times, thin and thready, at times full and strong, varied in rate from 68 to 110. In 1928 his general condition deteriorated and his muscles wasted. He lay like a log, not speaking and apparently not recognizing any of those in attendance. His wife used to hear him mumbling in his sleep, but she could never understand what he said. It is interesting to note that in June, 1928, when one of his sons brought his 3-year-old twin daughters to see their grandfather, seeing one and not the other, A. B. said, quite clearly, "Where is the other?" He had not spoken since 1924, when he made the cryptic remark about the clipping of his wife's wings. He died on September 17th, 1928, at the age of 77, ten years after the onset of the first symptoms, and after having been bed-ridden and practically speechless for seven years.

In the post-mortem, permission was granted for the examination of the brain only. On removing the calvarium it was seen that the dura mater was thickened and excessively vascular in the right pre-Rolandic area, it covered, and was adherent to, a firm, rounded tumour, about two inches in diameter. The tumour had all the appearances of an endothelioma (growing from the falx cerebri). As is usual with these tumours, the surrounding brain tissue gave the appearance of having been hollowed out by the tumour. Beneath the tumour there was a softening extending into the basal ganglia, the medial surface of the oppo-ite

hemisphere showed the imprint of pressure from the tumour but the anterior cerebral artery was not occluded The ventricle in the left hemisphere was somewhat dilated there was no obvious softening in the left hemisphere and the pons and medulla appeared normal The cerebral vessels showed only a slight degree of atheroma The specimen was sent to Sir Arthur Keith and is now in the Royal College of Surgeons Museum (5918.2)

Microscopical examination confirmed the endotheliomatous nature of the tumour and showed *some degeneration in the pyramidal tracts* in the mid-brain and pons but not in the medulla oblongata

We regret that we have no notes of careful observations on the type of tone increase or of the tonic reflexes of Magnus and de Kleijn and other observations, which correlated with a complete pathological examination, would have made a very valuable record In view of the incompleteness of the clinical details, a complete serial sectioning of the mid-brain and pontine regions was not considered warranted

The early rapid progressive dementia and other unusual features encountered in this case in contrast with those usually found in a frontal endothelioma make it probable that a considerable portion of the symptomatology was due to cerebral vascular disturbances Jefferson,[6] in recording states of bilateral rigidity—which were accompanied by *'tonic seizures" consisting of sudden accesses of rigidity —in middle meningeal haemorrhage, regarded the generalized rigidity as the result of disturbance of a very fine* circulatory balance or a relative anoxaemia sufficient to suppress cortical control, but not great enough to render inactive the causal mechanism in the mid- and hind-brain

We would call attention again to the two apposite utterances in 1924 and 1928, which contrasted very strongly with his otherwise complete silence and apathy for about seven years It seemed that when an external stimulus was powerful *enough to revive a thought or idea to a certain* degree of intensity it could be expressed in spoken words It is interesting to speculate whether these gleams of comprehension could be explained by Spearman's theory of the two factors 'g" and 's'— 'g' representing the *'general mental energy, and "s" the special group of* neurones activated by that energy In A B the 'g" factor was too feeble as a general rule to activate any special group of neurones 's' to such an intensity that *utterance was possible*

Attention has been called again to the divergent views which are held as to what constitutes clinical decerebrate rigidity Can these views be reconciled Can we explain why these cases, which broadly might be described as being characterized by generalized rigidity, present such differences in the posture assumed and the type of increase of tone? In contrast to the case of A B recorded above one of us (F R F) has under his care at the present time a boy aged 12, *with the 'decerebrate attitude" picture* of Kinnier Wilson, probably the result of encephalitis He came under medical observation two years ago for attacks of falling backwards which were regarded as petit mal There was no loss of consciousness and his general and mental states were quite good At the present time (as he lies in bed) his head is lifted forward his lower back is slightly arched forward, his arms are extended adducted and pronated with slight rapid rhythmical tremor of the left hand The legs are rigid extended and the feet are markedly plantar flexed He moves very little voluntarily but can be lifted and turned like a 'plank of wood When placed erect he stands on tip-toes and would fall backwards if not supported His smile is slow stiff and spastic intelligence is practically normal There is *generalized muscular rigidity* The tone increase is of the typical cogwheel type and the limb assumes the posture *into which it is* placed for a few minutes before returning to the original position There is no reflex evidence of involvement of the pyramidal tract—the abdominal reflexes are brisk knee-jerks normal and plantar response flexor He shows the tonic neck reflexes of Magnus and de Kleijn From time to time he has "tonic fits" in which the abnormal posture is exaggerated

Wilson says "In the condition which has been regarded as decerebrate rigidity in man—that is one of complete interruption of function both cortico-spinal and strio-spinal produced by lesions of various kinds, roughly speaking at the level of the mesencephalon—what do we find? Since the striatal system is out of action, we might expect the universal rigidity of the post-encephalitic Parkinsonian but it does not develop Instead we get an attitude in extension which may fairly be regarded as indicative of an attempt at 'reflex standing' In other words the posture produced by release of function when both old and *new systems cease to act on the spinal neurones* simultaneously is that of release neither from the one nor from the other" From clinical data he has argued that the results of complete single release (hemiplegia and paraplegia) are not identical with those of complete double release (decerebrate rigidity) where both cortical and striatal efferent systems are affected It would appear that the resulting picture depends on the degree to which these two systems are affected and their relative importance in a particular subject—*animal or human, young* or old

It is hoped that the recording of this undoubtedly interesting clinical case will stimulate interest in the problem of 'generalized rigidity," and will lead to more complete examinations which in turn will help to solve the problem of the motor pathways and the lesions which result from disease of them In the current number of the *Journal of Neurology and Psychopathology* Carmichael has given *an excellent short account of a human mid-brain preparation*—the type of case to which generally little or no attention is paid from the point of view of scientific interest

Practitioners frequently have not the opportunity of reading the works of experimental physiologists and of studying posture in detail but it is hoped that by calling attention to clinical decerebrate rigidity we will give neuropathologists a better opportunity for studying the problems of the motor system in the light of accurate, full clinical histories and neurological examination

It is a pleasure to acknowledge our thanks to Dr E E. Bowden for his assistance in making the post-mortem examination and to Dr Cecil Beadles for his interest in the specimen and the accompanying illustration

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CYST OF THE URACHUS

BY

ARCHIBALD RONALD MD F R C S Ed

(*With Special Plate*)

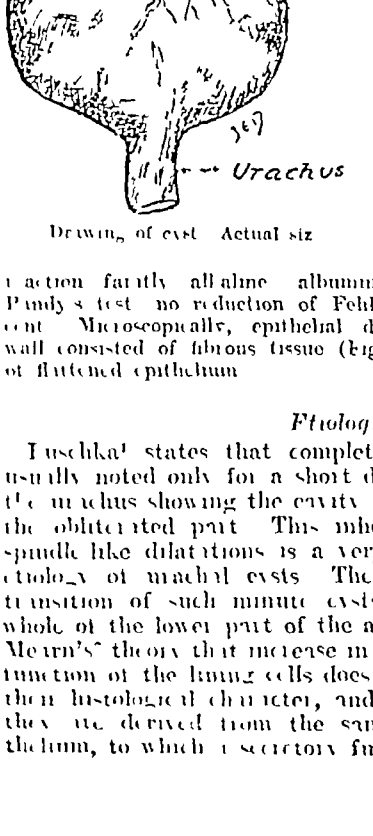
Complexity of development in the lower urinary tract affords ample opportunity for the occurrence of congenital abnormalities Persistence of the intra-abdominal part of the allantois from the bladder to the umbilicus as a patent urachus or the imperfect obliteration thereof with cystic formation are among the less common varieties Urachal cysts attract attention either from their increasing size or from the advent of infection Some cases are discovered accidentally either at operation or at autopsy The case reported below was unsuspected prior to operation The patient a young adult male, aged 26, had not suffered from any previous illness

Report of Case

About one year before admission the patient experienced attacks of 'sharp' pain in the right iliac fossa. The pain persisted for three to four hours. After an interval of five or six months the attacks recurred and were of greater severity. Local applications of counter-irritants failed to relieve his symptoms, and he was referred to the out-patient department of the Royal Albert Edward Infirmary, Wigan. At that time examination revealed slight tenderness on deep pressure in the right iliac fossa, and a diagnosis of mild appendicitis was made. A radiographical examination after a barium meal showed some delay in the ileo-caecal region.

The patient was admitted two weeks later. He then had pain before or after meals, the appetite was good, and the bowels slightly constipated. The anterior abdominal wall moved freely on respiration. There was no irregularity of contour. Palpation revealed slight deep-seated tenderness in the right iliac fossa. No abnormal mass was detected. No pain was associated with micturition. There was no haematuria, but slight frequency by day was present. Urine: sp. gr. 1024, reaction acid, albumin and sugar absent.

Operation.—May 9th, 1929. The appendix was delivered through a gridiron incision, and showed a sharp kink about one inch from its base. At the angle it was unduly firm to the touch. The appendix was removed. Exploring further, the examining finger came into contact with a soft rounded swelling fixed to the anterior abdominal wall midway between the umbilicus and the pubis. The tumour was pulled into the wound and was found to be lying extraperitoneally. By dissecting the peritoneum off the anterior abdominal wall, the tumour was mobilized and delivered. The cystic character of the tumour was at once apparent, and its position suggested its urachal origin. Attached to and blending with the poles of the cyst were two rounded fibrous cords. The lower could be traced to the apex of the urinary bladder, and traction on the upper demonstrated its attachment to the umbilicus, and at the same time brought into view the two obliterated hypogastric arteries converging on the urachus as it passed towards the umbilicus. The urachus was ligated above and below the cyst and divided. Recovery was uneventful.



Drawing of cyst. Actual size.

Further questioning after the operation failed to elicit any additional urinary symptoms, and cystoscopic examination did not reveal any abnormality of the bladder.

Specimen.—The cyst was of the shape shown in the drawing reproduced herewith, and measured 5·5 by 3·5 cm., 24 c.cm. of colourless, slightly opalescent fluid were withdrawn from the cyst, and the tests showed the following: sp. gr., 1014, reaction faintly alkaline, albumin, trace; globulin, trace; to Pandy's test no reduction of Fehling's solution; urea, 0·25 per cent. Microscopically, epithelial debris was found. The cyst wall consisted of fibrous tissue (fig. 1), lined by a single layer of flattened epithelium.

Etiology

Luschka[1] states that complete closure of the canal is usually noted only for a short distance above the bladder, the urachus showing the cavity again for 5 to 7 cm. above the obliterated part. This inherent tendency to develop spindle-like dilatations is a very important factor in the etiology of urachal cysts. The exact mechanism of the transition of such minute cysts into tumours filling the whole of the lower part of the abdomen is not quite clear. Mearn's[2] theory that increase in size is due to the secretory function of the lining cells does not seem in keeping with their histological character, and from the knowledge that they are derived from the same source as bladder epithelium, to which a secretory function is never attributed, Binnie[3] has given an explanation which might hold good in a few cases—namely, persistence of communication with the bladder associated with some obstruction to the outflow of urine causing dilatation of the lumen of the urachus. Later, from pressure and inflammation around the neck of the patent urachus, stenosis occurs and a permanent tumour is produced.

The condition is usually detected between the ages of 20 and 40 years, females are affected in the ratio of 3 to 1, but under the age of 15 years the sexes are equally affected.[4]

Pathological Anatomy

The urachus lies pre-peritoneally, and cysts arising from it have a similar relationship to the peritoneum. Cysts of the urachus vary in size from a few millimetres in length to cysts of enormous size, filling the whole of the lower abdomen and pelvis. The smaller cysts show remains of the longitudinal muscular coat of the normal urachus and are lined by transitional epithelium. In the larger cysts the wall is mainly fibrous tissue, and the lining a single layer of flattened epithelial cells. The foetal urachus is lined by several layers of epithelium, and in sections the lumen appears occluded with cells (Fig. 2).

Diagnosis

Urachal cysts are of little surgical importance except when very large or in the presence of secondary infection. Davis[6] pointed out that small cysts will elude the ordinary clinical examination. Cysts of moderate size are palpable below the umbilicus, sometimes slightly to one side of the mid-line, as rounded tumours which move freely from side to side more than up and down. In a patient with a lax abdominal wall a fluid thrill may be detected. Large cysts closely resemble ovarian cysts, and in the majority of cases will be indistinguishable from them. Movement of the tumour from side to side is likely to produce indrawing of the umbilicus in urachal cysts. The differential diagnosis must be made from distended bladder, ascites, ovarian cyst, and localized tuberculous peritonitis. At operation the extraperitoneal situation and connexion with the bladder make the diagnosis obvious.[5]

There are no symptoms referable to the cyst except when it is very large, or from the presence of complications. Pain arises from associated peritonitis. Slowness of micturition has been noted,[7] and also gastro-intestinal disturbances (Ulitz).

Complications

Sepsis is of frequent occurrence in the larger cysts. Haemorrhage into a cyst may bring about a sudden and rapid increase in size, with pain and tenderness. Peritonitis seems to be the rule when a urachal cyst has reached proportions sufficient to give rise to symptoms leading to its detection.

Treatment

Complete removal of urachal cysts can usually be accomplished without opening into the peritoneal cavity; in the infected cysts, however, the peritoneum may be so adherent to the posterior aspect that this cannot be accomplished, and some difficulty may be experienced in closing the resulting gap in the peritoneum. Marsupialization has proved very unsatisfactory. A paramedian incision lessens the risk of opening into the cyst. In view of the possible presence of a lumen in the lower urachal segment, simple ligation and touching of the stump with pure carbolic acid is indicated.

I am indebted to Mr. Fraser for permission to publish this case, and to Dr. W. E. Cooke and Miss Dyson for their assistance in the preparation of sections and diagrams.

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ORGANIC GASTRIC SYPHILIS

BY

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(*With Special Plate*)

Organic gastric syphilis has received very little study or attention in Great Britain. This is due in no small degree to the rarity of the condition and to the difficulty of obtaining confirmatory pathological evidence. The sceptic is apt to say that the lesion is a coincidence *and is simply* some recognized condition occurring in a syphilitic patient. *On this account it is all the more necessary* for a definite diagnosis to be established between gastric symptoms occurring in a syphilitic subject and actual syphilis of the *stomach. It does not necessarily follow that every patient* with gastric symptoms and a positive Wassermann reaction *is suffering from organic gastric syphilis, even if an organic lesion can be demonstrated. It must be remembered that* both ulcer and neoplasm occur in syphilitic patients far more frequently than gumma does. Reference to the work of Chiari[1] and of Crohn[2] proves this.

History of the Disease

In previous cases which have been recorded the diagnosis was made from the fact that other specific lesions were present along with gastric symptoms, and because these cleared up under antisyphilitic treatment the diagnosis of "syphilis of the stomach" was made. I do not dispute the probability of the diagnosis being correct, but it is at *least controversial.* Into this category I put such cases as those described by Andral[3] as early as 1834 and which Monad[4] considers indisputable. The cases may have been syphilitic, but I *cannot hold the opinion expressed by* Monad that they are indisputable because there are no data *beyond the clinical history and the results of treatment to* warrant the diagnosis. I admit that at that time no further data such as x-ray examination and Wassermann reaction could be given, but without such investigation no case can be considered indisputable.

Up till 1907 several cases of gastric syphilis were recorded by Continental authors, but proof is lacking that these cases actually showed syphilitic gastric lesions. At this date Pater,[5] in a thesis, reviewed the then existing data, and also discussed 122 cases, rejecting those which did not present microscopical evidence of syphilis. He thus established the fact that cases with gastric symptoms sometimes have syphilitic lesions of the stomach. Since 1907 much has been written regarding syphilis of the stomach, but these contributions to medical literature have been made *mostly by American and* Continental writers. The majority of these records are based on radiography, the presence of syphilitic lesions elsewhere, a positive Wassermann reaction, or the results found at autopsy or operation. In 1912 Meyers[6] reviewed fifty-eight cases and the American literature has been added to by McNeil,[7] Morgan,[8] Downes and Le Wald,[9] Smithies,[10] Niles,[11] Easterman,[12] and others. Easterman's contribution is on twenty-three cases, and he reviews the literature. He establishes a sound case from the clinical standpoint. From the literature and the cases I have seen I consider that syphilitic lesions of the stomach can and do exist. This is confirmed beyond all doubt, and with a certainty that should dispel all doubts by McNee[13] who demonstrated the spirochaete in the lesion. Apart from this British literature contains nothing but adverse criticism of the subject, with the exception of the cases referred to by Hurst[14] Fenwick,[15] and Sherren.[16] Muir[1] states that 'syphilitic lesions, though rare, occur both in the congenital and acquired forms of the disease.' Bennett[17] admits that gastric syphilis does occur and urges that "whenever one is confronted with a case of organic gastric disease the possibility of syphilis must be remembered." Weir[18] reluctantly accepts the possible diagnosis and in spite of a degree of scepticism he states the case convincingly from the clinical standpoint. I cannot agree with his concluding remarks however that "the treatment of this disease is far from satisfactory, and that it may properly be argued that its almost uniform refractoriness to recognized antisyphilitic methods is evidence of some weight that many or most of the cases so diagnosed are not in fact, specific." The cases about to be described are in striking contrast to this statement.

Clinical Aspect

I wish to focus attention on the clinical aspect accepting the fact that pathologically and bacteriologically syphilis of the stomach is proved beyond all doubt, and therefore a clinical diagnosis should be possible and should be looked for oftener than it is. I do not hold the view that this diagnosis should be made because the Wassermann reaction is positive in a gastric case and because symptoms clear up under antispecific treatment. It is a well-known clinical fact that diseases which cause a general constitutional disturbance frequently give rise to gastric symptoms, and these improve or get well with the increasing well-being of the patient. I do not propose to deal with the cases discovered at operation or at autopsy, because, strictly speaking, such are not in the province of the physician. I wish, however, by recording six cases which in my opinion, are indisputable, to draw attention to the fact that syphilis of the stomach does occur, and that it can be cured by medical means, thus saving the life of the patient or averting operation.

Essentials of Diagnosis

Before deciding that a patient is suffering from organic syphilis of the stomach the following points have to be satisfied:

1. Symptoms definitely pointing to disease of the stomach or duodenum must be given.
2. X-ray examination must show evidence of such disease.
3. The Wassermann reaction must be positive.
4. The symptoms must not yield at all to a "try-out" of recognized treatment for peptic ulcer.

Proof of the cases being genuine is furnished if:

1. Symptoms clear up rapidly under light or ordinary diet in conjunction with intensive antisyphilitic treatment.
2. X-ray examination shows improvement or recovery.
3. The Wassermann reaction becomes negative or less positive.

It will be observed that confirmation of the diagnosis in the cases is obtained by assuming that the lesions are probably neoplastic, inflammatory, or ulcerative conditions in otherwise syphilitic subjects.

Review of the Cases

The cases I describe were put on strict treatment in bed and the results were observed. No improvement took place after four weeks of treatment, *and further x-ray examinations* show the conditions unchanged. The patients were, with two exceptions, allowed up on full diet and treated with neokharsivan, potassium iodide *and mercurial inunction*. In periods varying from seven to twenty-one days symptoms had disappeared and improvement in their general condition had begun. Treatment was continued and the final x-ray photographs were taken as an indication of cure or very marked improvement. The patients are still well at the end of periods varying from one and a half to five years, and no further treatment has been given. Case 1 died of pneumonia three years after. During that time he remained well. Unfortunately no autopsy was allowed.

I am going to consider six cases only because in these no other lesion due to syphilis was *found after thorough investigation*. Five were males and one was a female. This corresponds roughly with the incidence in the sexes noted by *American authors*. The youngest patient was a man aged 36, and the oldest a woman aged 60. Mauri[1] records a case in a lad, aged 19. Two of the male patients admitted infection, one twenty years and the other two years previously. According to Meyers[6] the alimentary lesion may appear as early as *ten months after infection* or as late as twenty-five years. None of the other patients admitted syphilitic infection and no history could be obtained of a *definite primary sore*, except in the

two patients who admitted infection, no secondary or tertiary symptoms or signs were admitted All six patients had + + or + + + Wassermann reaction The shortest duration of symptoms was six months, and the longest eighteen months The symptoms were progressive from the onset

Symptoms

The most frequent symptom is constant pain referred to the upper abdomen The character of the pain varies from a mild discomfort to agonizing cramp-like seizures, which are superimposed on the general distress in the upper abdomen and come on some hours after food These seizures are not relieved by taking food, but are somewhat relieved by vomiting The underlying general distress is not at all alleviated by vomiting In all cases the pain, whatever its character may be, is progressive, and the periodic remissions so frequently met with in gastric and duodenal ulceration are absent In character, therefore, it more closely simulates the distress of gastric carcinoma Nausea and vomiting are frequent symptoms The vomitus does not contain blood so often as it does in carcinoma and only one of the cases showed melaena Rehfus[21] records four cases where blood was present more or less persistently in the gastric contents Other observers have recorded fatal haemorrhages Anorexia is common, and this, with the constant vomiting, leads to loss of weight, marked anaemia, and some degree of cachexia The anaemia is often extreme, although there is no apparent loss of blood Cachexia is not so marked as in cases of carcinoma Jaundice occurs, but although I have seen several cases of this type I have not included them in this series

Physical Signs and Gastric Analysis

Physical examination of the abdomen may disclose a distinct mass caused by gummatous tumour formation in the intra-or pyloric regions This was well marked in two of the cases here recorded There are, however, no physical signs peculiar to organic gastric syphilis

Achlorhydria was demonstrated in five out of the six cases The lesion in the case which showed free hydrochloric acid was a gummatous mass causing pyloric obstruction This is in agreement with the findings of Downes and Le Wald[9] In this case there was almost complete retention of the gastric contents and it was in marked contrast to the other cases, where the gastric contents left the stomach rapidly There was no excess of mucus in any of the cases Blood and lactic acid were absent, the analysis depends to a great extent on the situation and type of the lesion, and may be influenced by the general debility and anaemia due to the syphilitic infection, for syphilitic anaemia generally shows an achlorhydria Some authors contend that the syphilitic virus in addition to the localized lesion may produce a general gastritis which is more responsible for the achlorhydria than is the lesion itself This is rather negatived in the cases here recorded by the fact that no excess mucus was demonstrated Crohn[2] thinks it is unlikely that any particular form of gastritis exists in these cases to a degree sufficient to cause an atrophy of the mucous membrane and a resultant anacidity or achylia gastrica Section of the mucosa away from the actual gummatous area fails to show any unusual form of gastritis The cells and membrana propria are not materially altered

X-ray Appearances

There is no definitely diagnostic x-ray picture of gastric syphilis The situation and character of the lesion in the individual case resembles a stenosis, an ulcer, a filling defect, or an infiltration

Diagnosis

The diagnosis must be arrived at by careful consideration of all the available data A purely clinical diagnosis is almost impossible, but in patients who give a history of definite gastric symptoms, especially when combined with achlorhydria, a careful examination of the blood, and if necessary the cerebro-spinal fluid, should be carried out with a view to ascertaining the Wassermann reaction As previously pointed out, we must not accept that organic syphilis exists even when x-ray deformities are found combined with achlorhydria and a positive Wassermann, for cancer and ulcer are far more likely to be present, the final word rests with the result of treatment Anaemia and cachexia are rarely so marked as in carcinoma showing somewhat similar lesions Sometimes syphilitic stigmata elsewhere will help in forming an opinion, although in the present series no such stigmata occurred, the absence of metastasis may help in differentiating syphilis from carcinoma

Owing to lack of space the x-ray plates before and after treatment have been omitted in Cases II and III They were easy of description, and this has been made in the text

Summary of Cases

Case I

Male, aged 57, ex soldier For one year complained of a constant gnawing pain in the epigastrium and left hypochondrium The pain was not much affected by taking food, and was not aggravated by a change from a light to a heavy diet He frequently vomited after meals, but without relief of pain The pain was severe at night, but was not helped by taking food His appetite was poor, and he lost 3 st in weight during the year He never noticed any blood in the vomitus, or darkening of the stools No previous serious illnesses, and denied syphilis Social condition good He took no alcohol, and smoked in moderation

On examination he was cachectic Cheeks were sunken, and he looked emaciated, abdominal wall sunken, no tumour palpable, no tenderness, recti tense, especially on the *left side*, *slight* discomfort on palpating the left hypochondriac region, tongue clean, teeth bad, constipated, no enlargement of liver or spleen, all other systems healthy No free hydrochloric acid was present, no lactic acid, no blood, no excess of mucus Wassermann reaction + + +, after treatment + − X ray examination showed filling defect and infiltration of the stomach wall, especially the greater curvature

Figure 1 (see Plate) shows the condition *before* and *Figure 2* after treatment

Case II

Male, aged 38, miner For eight months the patient complained of constant discomfort in the epigastric region The discomfort became actual pain about one and a half hours after food At irregular intervals he was seized with agonizing pain, which required morphine to relieve it, and the distribution of the pain suggested a gastric crisis Vomiting frequently followed this agony and gave relief, but the epigastric discomfort still remained There was no marked difference between night and day symptoms His appetite was poor, and he lost 2 st in weight during eight months No blood in vomitus and no melaena, no previous serious illnesses, and denied syphilis Social condition good He took no alcohol, and smoked in moderation

On examination he was *pale and emaciated* Abdominal wall tense, palpable tumour in the pyloric region, marked tenderness over upper right rectus in the area of the palpable mass, succussion five hours after food, tongue clean, teeth good, no constipation, no enlargement of liver or spleen, all other systems healthy Excessive resting juice, moderate mucus, high free hydrochloric acid, no blood, no lactic acid Wassermann reaction + + +, after treatment − X ray examination showed almost complete pyloric stenosis Practically no barium *had left the* stomach in five hours One month after treatment was begun x-ray examination showed that much of the barium had left the stomach in five hours, and there was only a small residue Unfortunately this man had to go abroad, and further plates could not be obtained The tumour could not be palpated when he left, and he had no symptoms The stomach was emptying better, and showed greater motility Treatment was continued, and he is still well at the present date, five years afterwards

Case III

Male, aged 53, steel worker For one and a half years complained of flatulence three hours after food The flatulence was relieved by taking food, but he was left with a feeling of weight in the epigastrium and right hypochondrium At times he had acute pain, which was confined to the upper abdomen The pain did not seem to have any relation to food, and sometimes came on during the night He vomited now and again, and sometimes this gave partial relief There was never any blood in the vomitus On more than one occasion he had melaena His appetite was poor, and he lost weight to the extent of 2½ st No previous serious illnesses Admitted having had syphilis twenty years previously Social condition good At one time took alcohol to excess, but for five years had been teetotal Smoked in moderation

On examination he looked pale and ill he appeared to have lost weight although not definitely emaciated abdominal wall tense no palpable tumour marked tenderness over right rectus from the costal margin to the level of the umbilicus no succussion tongue clean edentulous very constipated no enlargement of liver or spleen all other systems healthy No free hydrochloric acid mucus normal no blood, no lactic acid Wassermann reaction ++ after treatment – X ray examination showed marked duodenal deformity which entirely disappeared after six months treatment

CASE IV

Male aged 35 sailor For six months complained of pain three to four hours after food Relieved by taking food Nocturnal pain frequently present and relieved by taking food Pain was agonizing and sometimes required morphine to relieve it There was in addition to this pain a constant aching in the epigastrium and right hypochondrium He vomited frequently without relief No melaena and no blood in vomitus Appetite poor and he lost 2 st in weight No previous serious illness He admitted having had syphilis one and a half years previously for which he had some medical treatment but no injections Took no alcohol but smoked heavily

On examination he was cachectic He was very weak and appeared ill The condition of the skin pointed to marked loss of weight Abdominal wall tense no palpable tumour marked tenderness over right rectus from the costal margin to the umbilicus no succussion tongue clean very constipated liver and spleen not enlarged all other symptoms healthy No free hydrochloric acid mucus moderate no blood no lactic acid Wassermann reaction +++ after treatment – X ray examination showed irregularity of filling of lower part of the body of the stomach and duodenal deformity

Figure 3 shows condition before and Figure 4 after two and a half months treatment

CASE V

Female aged 60 housewife For one year complained of increasing pain in the epigastrium The pain was constantly present and was not affected by taking food She frequently vomited but without relief of pain At times she had agonizing cramp-like seizures in the right epigastrium and hypochondrium suggestive of gall bladder colic Appetite poor and she became bed ridden on account of weakness due to emaciation She was literally skin and bone She did not know how much weight she had lost but it must have been considerable No blood present in the vomitus no melaena no previous serious illnesses denied having had syphilis Social condition fair took no alcohol and did not smoke

On examination she was markedly cachectic-looking and very emaciated. Abdominal wall lax and sunken There was a visible tumour extending from the middle line well into the right hypochondrium. It moved slightly with respiration It was slightly movable on palpation and not particularly tender Tongue clean edentulous constipated no enlargement of liver or spleen all other systems healthy No free hydrochloric acid mucus scanty no blood no lactic acid Wassermann reaction ++ after treatment +– X ray examination showed filling defect in the antrum. Surgeon's opinion inoperable carcinoma

Figure 5 shows condition before and Figure 6 after treatment

CASE VI

Male aged 54 labourer For one and a half years complained of constant dull pain in the left epigastric region and left hypochondrium The pain frequently became acute almost immediately after taking food Vomiting occasionally took place The vomitus never contained blood and there was no melaena Sometimes the acute pain lasted for a day or two at a time Appetite poor and he generally felt weak He lost 2½ st in weight in a year He had had no previous serious illnesses and denied having had syphilis Social condition poor Moderate drinker and smoker

On examination he was cachectic and emaciated There was definite tenderness in the epigastrium one inch above the umbilicus and diffuse tenderness into the left hypochondrium Tongue clean teeth bad no constipation no enlargement of liver or spleen otherwise healthy No free hydrochloric acid moderate amount of mucus no blood no lactic acid Wassermann reaction +++ after treatment – X ray examination showed definite ulcer on the lesser curvature

Figure 7 shows condition before and Figure 8 after treatment.

Prognosis

The prospect of cure in cases of gastric syphilis is good, provided intensive treatment is employed This is true of all the cases recorded here even where a palpable mass has been present Improvement takes place almost at once, and within six months the most obstinate case failed to show physical or x ray evidence of disease Most of the cases were negative on examination at the end of two to two and a half months In this I agree with Einhorn[23] who records a case with a palpable tumour which yielded to treatment in six weeks Le Wald[24] on the other hand, thinks that beneficial end results are slow, and records a case which took nine years to bring about return to excellent health The general opinion is that the condition is capable of cure or marked improvement Eusterman[12] states that the total cured and improved is 69 per cent and that treatment instituted during the exudative stages gives brilliant results

Treatment

Treatment can be ambulatory, unless the physical condition of the patient is too low Food should be given in a manner that will not irritate the stomach but almost any kind of food can be taken Meat should be minced fish and fowl creamed fruit and vegetables given as purees and bread, etc, should be toasted so as to be crisp and require mastication If these points are attended to I do not think the nature of the diet requires any further attention Neokharsivan in doses varying from 0·3 gram to 0·9 gram is given in one, two, or more courses, as the individual case requires Potassium iodide has a marked effect and doses up to 30 grams three times a day should be administered Mercurial inunction should also be freely used Patients appear to stand the intensive treatment well, and no trouble of any kind was met with Iodide and mercury should be given, with short periodic rests, even after physical signs and symptoms have disappeared

Summary and Conclusions

1 Syphilis of the stomach, though rare, does exist and in searching for a diagnosis should be considered oftener than it is

2 Six cases are recorded of which four denied having had syphilis, so that denial of a primary infection should not exclude the possibility of the diagnosis

3 In most cases the disease is characterized by continuous pain, which is progressive, and has superimposed on it other pains of varying type

4 Vomiting is frequent and haemorrhage rare

5 A palpable tumour is sometimes felt and there is marked loss of weight and moderate cachexia

6 Definite x ray deformity is seen and gastric analysis shows an achlorhydria, except where there is pyloric stenosis

7 Syphilis should be considered in all atypical cases of gastric disease, or where ordinary methods of treatment fail

8 Prognosis is good

9 Treatment should be intensive

10 The diagnosis is confirmed by the results of treatment

I should like to thank Dr John Henderson in whose ward some of the cases were treated and Dr A Bruce MacLean to whom I am indebted for the x ray photographs

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A LARGE CYSTIC TUMOUR OF THE SOFT PALATE

BY

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(*With Special Plate*)

The following notes describe a large unilocular cystic tumour which was removed from the soft palate. Microscopically this tumour had the appearance of an angio-endothelioma, *but clinically the findings suggested a mixed-cell tumour.*

The patient, a man aged 57, was sent to the laryngological department of the Liverpool Eye and Ear Infirmary complaining of a lump in his throat. He stated that he had noticed a small swelling in the left side of his throat when on active service in 1915. The swelling had been constantly present since that date and had increased gradually in size during the past fourteen years. The lump had never been painful until it was punctured at another hospital four weeks previously.

On examination there was a large swelling about the size and shape of a hen's egg, almost completely filling the oropharynx. This tumour appeared to occupy the left half of the soft palate, pushing forward and to the right, and to extend from the junction of the hard and soft palates above to the level of the base of the tongue below. There was a small chink between the right tonsil and the tumour into which was crowded the uvula. *The mass was fixed firm, and painless on palpation, and the covering mucous membrane was normal.* His nose appeared healthy and the accessory sinuses clear. *It was mechanically impossible to examine the larynx or nasopharynx, the latter however was not seriously encroached upon, as nasal respiration was quite free.* The neighbouring lymphatic glands were not palpable.

X-ray examination by Mr. Thurstan Holland showed no bony involvement, the Wassermann reaction was negative. The provisional *diagnosis was mixed-cell tumour of the palate.*

The tumour was removed under open ether anaesthesia by blunt dissection. A good approach was afforded by the Boyle-Davis gag. Incision over the tumour exposed a bluish capsule which was *planted* without difficulty except at the post-rior and inferior poles. During the later stages of the dissection the capsule was ruptured accidentally and about two and a half ounces of straw-*coloured fluid* escaped. Haemorrhage was only slight. The wound was sutured and drained at its lower end. The left tonsil became *apparent then for the first time as a small flattened plaque.* The tumour when excised was seen to consist of a large cyst with solid tumour formation at its lower and posterior parts, and to contain numerous large friable intracystic papilloma-like structures. The patient made an uneventful recovery, and two months later the soft palate appeared symmetrical, was of good mobility, and functioned normally.

Dr. Hugh Smith, pathologist to the hospital, reported as follows:

Macroscopic

A cystic tumour about the size of a large tangerine orange. *Upon section it shows a wall of a uniform thickness of about a quarter of an inch and filled with intracystic growths which are very friable.* About two drachms of straw-coloured fluid was also present, but more of this was lost in rupture of the cyst during enucleation. The outer wall is smooth, except at one small area, at which point it had been adherent to surrounding tissues.

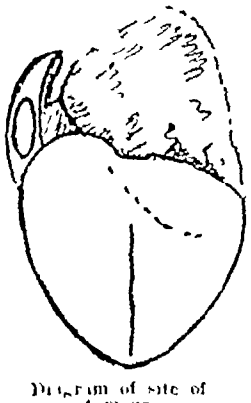


Diagram of site of tumour.

Microscopic

Cyst Wall.—The sections show that the wall consists of hyaline fibrous tissue in which are interstitial spaces, *mainly small and containing* isolated red blood corpuscles. In other parts *larger spaces resembling cholesterol* clefts are seen with foreign body giant cells in this region. A further feature is a considerable amount of apparent blood pigment, golden brown in colour, lying free in places and in others within the cytoplasm of typical and atypical epithelial cells of a *squamous type. The inner part of* the wall is non-cellular and homogeneous. There is a moderate amount of leucocytic infiltration, *mainly of the round-celled type.*

Intracystic Growths.—The sections of the solid intracystic growths show what might well be termed an angio-endothelioma, the bulk of the growth being composed of endothelial cell with a tendency in parts to an alveolar arrangement. The blood spaces are numerous, varying in size, some showing a flattened single endothelial cell lining others no lining cells. Red blood corpuscles are present in most spaces, with occasional leucocyte. The first impression of the microscopic section suggested a similar picture to that seen in a 'mixed' tumour, but the section examined show a *uniform appearance*, which I have termed an angio-endothelioma.

Mixed-cell tumours are of comparatively common frequency in the oro-facial region, where they are grouped around the upper alimentary and respiratory tracts. The usual situation of such tumours is in the salivary glands, but they are found also in the palate, lip, orbit, molar glands, and, very rarely, in the nasopharynx,[1] nasal fossa,[2] and, as recently described, growing from the posterior aspect of the thyroid cartilage.[3]

The situation where these neoplasms are found next in order of frequency to the salivary glands is in the palate. In the latter location, however, they are regarded as *rare* tumours. Eggers,[4] in 1928, reported that there were published accounts to be found in the literature of over one hundred mixed-cell tumours of the palate, but only about one-third of these had occurred in the *soft* palate. Sonnenschein,[5] in a more recent contribution, states that the number of mixed-cell tumours of the soft palate recorded up to date (1930) is under fifty, and he describes two personal cases. Stuigis[6] in tabulating a series of fourteen cases of mixed-cell tumour of the soft palate, states that these tumours usually occur on one or the other side of the soft palate, and very rarely in the mid-line. The most important clinical facts connected with mixed-cell tumours are their *long duration, slow development*, and absence of metastases, malignancy of such palatal neoplasms is much rarer than that of similar growths *occurring* in the salivary glands. Stuigis is of the opinion that the duration of the tumour depends on the susceptibility of the patient to one or more of the following factors in order of frequency: (1) interference with phonation, (2) interference with deglutition, (3) interference with respiration.

In the case reported above the tumour had been present in the left side of the soft palate for at least fourteen years, and there was no clinical evidence of any metastases. Probably owing to the very slow growth of the tumour the patient became accustomed to the gradual diminution of the air and swallowing space and he made no complaint of dysphagia, and could eat ordinary food until the "lump had been needled." His speech was altered, but respiration was unaffected.

Histologically the neoplasm described consists of epithelial cells, *endothelial cells, and blood spaces.* Fry,[7] in his account of mixed salivary tumours, describes one type of mixed-cell tumour in which the cells are abundant, are closely packed in irregular masses without any definite arrangement, and in which it is impossible to demonstrate any stroma. Eggers also, in his histologic analysis of four cases of mixed-cell tumour of the soft palate, reports that they consisted mostly of dense masses of epithelial cells, *cartilage being very rarely found.*

The majority of mixed-cell tumours are characterized by a scanty blood supply, the vessels being few in number and very thin-walled, often consisting merely of an endothelial lining. Nevertheless authentic examples of mixed cell tumours have been described in which *there has been* an abundant vascular network.

Eggers describes a tumour (Case III) which "consisted almost wholly of *massed* epithelial cells, within the masses were cavities lined by flattened cells, cartilage or squamous epithelium were not found." Fry also records a *case of* a tumour entirely encapsulated, a large part of which consisted of a solid mass of cells of irregular shape, with no definite arrangement, a prominent feature was *its* extreme vascularity.

Small cysts due to degenerative changes are of frequent occurrence in mixed salivary tumours, and it is probable that in the case recorded above there had been a periodical ooze of blood from such an extremely vascular tumour into a small cyst, thereby increasing its size, and giving rise to the straw-coloured fluid contents and the deposit of blood pigment.

The above features lead the writer to conclude that the tumour was a mixed-cell tumour of the soft palate with an exceptionally abundant blood supply and containing a cyst of unusual size

No attempt is made to discuss the etiology of this tumour as there are numerous and excellent contributions by many authors available for consultation and as McFarland says "Whenever in the face of these excellent contributions undertakes to add to the literature might well be called upon to apologize"

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DELAYED OPERATION FOR TRAUMATIC INTRA CEREBRAL HAEMORRHAGE

BY

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(*With Special Plate*)

THE mortality after operations for traumatic intra-cerebral haemorrhage is sufficiently high that it may be worth while considering whether delayed operation is more likely to be beneficial in such cases

The following particulars of a case of head injury I recently operated on will, I think, be of general interest During a quarrel a man, aged 30, received a blow on the left side of the head with a bamboo stick, at about 7 P.M. on April 20th, 1930 He was brought to the hospital at 8.30 o'clock the following morning in an unconscious state He had a large contusion over the left side of the forehead involving the eyebrows, eyelid, and the temple Both pupils were contracted and equal and there was no haemorrhage or cerebro-spinal fluid from the ear, nose, or mouth His pulse was 62, small in volume, respirations 20 and shallow, and he was having involuntary micturition and defaecation He remained in this state till April 24th, when he recovered consciousness but was unable to speak, and was completely paralysed on the right side (face and limbs) He was still having involuntary micturition and defaecation His pulse was 68, respirations 18, pupils both reacting to light but left a little sluggish, and deep reflexes completely abolished on the right side He was advised an operation which he refused He continued to be in the same state, and in spite of careful nursing he developed a small bedsore over the sacrum On May 6th he started getting evening rise of temperature, and he was complaining of persistent headache On May 17th he consented to be operated on When under chloroform a U-shaped flap with apex upwards was turned down from the temporal region, a longitudinal fissured fracture, running from the supraorbital margin upwards, backwards, and outwards across the frontal and parietal bones as far as the parieto-squamous suture was seen The skull was trephined over the middle of this and a disc of bone removed The anterior branch of the middle meningeal artery was exposed under the trephine circle and was found not to be damaged There was a little oozing of dark venous blood from the anterior edge of this opening, and the circle was enlarged in this direction, the underlying surface being digitally explored a few clots were expressed from the antero-inferior angle of this opening As there was not sufficient evidence of extradural pressure to account for his symptoms the opening was further enlarged towards the postero-superior angle and the underlying surface explored with the finger There was no evidence of accumulated blood-clot in this area The dura was then opened by a crucial incision (after ligating the middle meningeal artery as it was in the way) and the cortex was exposed The surface was dull and bulging through the opening in the dura A closed pair of artery forceps was thrust into the substance of the brain in the direction of the pre-central convolution and on opening the blades a large quantity of altered blood-clot and degenerated and softened brain matter was evacuated The cavity was subsequently irrigated with saline and at this stage the brain regained its colour and began to pulsate The dura was then stitched up, and the wound was closed with a sterile gauze drain He was put on regular doses of bromides His temperature came down to normal the next day and when the gauze drain was removed a little pus-stained fluid was evacuated On May 22nd slight finger-movements were noticed on the right hand His limbs were now supported on splints, the shoulder being kept abducted and the wrist dorsiflexed On May 25th slight movements of the right leg were noticed Sutures were removed on this day and the wound was found to have healed by first intention The patient by now had gained control over micturition and defaecation and he was given daily massage to his paralysed limbs, morning and evening On May 30th he spoke a few words On June 8th he could walk with the help of a stick, although with jerks Movements at his ankle could move the fingers of his hand slightly and was able to speak a few words but he was absolutely unable to move his forearm or hand independent of support On June 12th he was able to move his wrist and elbow, but his power was still very weak On June 14th he was able to flex his elbow-joint voluntarily and when the arm was raised up and supported his efforts to raise the arm above the level of the shoulder were noticed by slight contractions of the deltoid and spinati On June 20th he was discharged from hospital when he was able to walk well and speak though slowly and with deliberation He had completely recovered function in his lower limbs, and was able to use his upper limb with a slight weakness of the abductors and external rotator of the upper arm and with inability to approximate his little and ring fingers On August 1st he appeared in court and argued his own case His movements in the shoulder-joint are still restricted and weak There is slight wasting of the muscles of the hypothenar eminence and inability to oppose his ring and little fingers completely His speech is slow and there is a little hesitation in it

The photograph reproduced in the Plate shows the state of operation and demonstrates the patient's ability to raise the arm to the level of the shoulder, and also shows his inability to approximate the little and ring finger

Memoranda.

MEDICAL, SURGICAL, OBSTETRICAL

AN UNUSUAL CASE OF STIFF KNEE

(*With Special Plate*)

THE following case appears to be a unique example of stiff knee and there is so far as I am aware no record of a similar case in the literature of the subject The rarity of the condition places it in the category of a museum specimen rather than in the more valuable and more useful sphere of everyday work Nevertheless it is worthy of being put on record and therefore I venture to publish it as a radiological contribution to the study of stiff knee

Rather less than a year ago I was asked to make an x-ray examination of a left knee-joint which had become practically immobile in a slightly flexed position and by the courtesy of the patient's doctor I was able to obtain the following history

Mr. H., aged 53, stated that the early stiffening of the joint in her left knee was experienced about the beginning of the year 1926 and took the form of a stiffness rather than of pain Up to March 1927 she was able to walk quite well with a stick and flex her knee without any great discomfort and range of flexion at the knee-joint In March 1927 she underwent an operation for internal cartilage and [illegible] that she was able to walk into the operating theatre in quite a normal manner but on awakening up in bed from the anæsthetic she experienced an acute pain in the knee This was the first occasion on which really acute pain had occurred She remained

in hospital about a month and the knee did not improve At this time it was still possible to flex and extend the joint passively, but active movement could not be carried out The condition of the knee was considered to be due to rheumatism, and was treated accordingly

When she left the hospital she was unable to walk Some months later her leg was put into a long splint, and was kept thus for a period of about seven weeks, with the knee joint extended When this splint was taken off, another one was applied with a foot piece, and kept on for 'weeks and weeks" When the second splint was removed she lay in bed for months, and was afraid to move her knee on account of pain About April, 1928, the knee was x rayed at another hospital, but apparently nothing definite was discovered However, a diagnosis of rheumatoid arthritis was made It appears that only an antero posterior and a postero anterior view of both knees had been taken For a month or two before I x rayed the knee, on November 28th, 1929, she had been able to walk about a little without experiencing much pain

Clinically the knee presented no abnormal appearance, but any attempt to extend or to flex it further was frustrated by reason of its rigidity and on account of the discomfort caused to the patient A slight degree of lateral movement could be obtained by placing a hand on each side of the knee while the foot was held between the manipulator's knees (This movement can be obtained in a normal knee when the limb is slightly flexed and the thigh muscles relaxed) A small amount of rotation could be produced by grasping the thigh just above the knee with one hand and rotating the tibia by gripping the ankle with the other These movements, though limited in extent, indicated that no osseous ankylosis was present, and, as there was no marked evidence of contracture of the muscles, it was difficult to imagine what factor or factors could be held responsible for the stiffness of the joint It was on these grounds that the masseur who had been engaged to attend to the patient decided to ask for an x ray examination before proceeding in his endeavour to loosen the joint by manipulations Fortunately for the patient she had been placed in the hands of a competent masseur of the modern school, whose training included an adequate knowledge of anatomy, physiology, and some pathology, as well as the methods of manipulation, she was thus spared forcible measures, which would have caused great subsequent pain without improving the movement of the joint, and which possibly might have been productive of considerable damage to it

The radiograph revealed a condition which gave rise to great astonishment Proceeding from the anterior surface of the external condyle of the femur a large sessile cone-shaped exostosis was seen, which had invaded almost the whole depth of the patella The patella was, in fact, transfixed, and it was now easy to understand why the knee-joint was incapable of flexion and extension The quadriceps could no longer pull the patella upwards, and flexion could only have been obtained by forcibly stretching the ligamentum patellae

As it was a stereoscopic radiograph that had been taken, it was possible to say definitely from which condyle the exostosis arose, and it was also possible to see that the exostosis had actually entered the patella

I made prints from two diapositives of the radiograph, one to show the actual size of the parts (Fig 1) and the other to show the relationship of the bones (Fig 2) In preparing the diapositives I have been able by carefully grading the light transmitted through the x-ray film to produce diapositives from which bromide prints have been obtained, which show up the details of the exostosis and the patella without sacrificing the visibility of the details of the rest of the joint

At the present time (September, 1930) clinical examination reveals no difference in the appearance of both knees The left one measures 18 inches in circumference as against 17 inches in the right The left calf measures 17½ inches, and the right 17 inches The patient walks with fair comfort, but in an attempt to make up for the shortening due to the slight flexion of the knee she is developing a talipes equinus, as the heel is raised up and the tendo Achillis is becoming retracted

There is no doubt that there is some degree of contracture of the flexor muscles otherwise it should be possible to extend the joint passively, as the fixed patella would scarcely prevent that Since she is unable actively to flex or extend the joint, it appears that contracture of the flexor muscles is the cause of the slightly flexed position now assumed by the joint, and I think it is evident that the ultimate degree of flexion will depend on the extent to which the ligamentum patellae is able to resist being stretched

I desire to express my indebtedness to Dr D R Reid of Milngavie, the patient's present doctor, and to Mr Thomas Kerr, the masseur But for the acumen and assistance of these two gentlemen this interesting case would probably have gone unrecorded to the limbo of lost cases

Glasgow DAVID KAIF, M A , M B , Ch B

SUICIDE IN POST-ENCEPHALITIS EPIDEMICA

WHILE it is recognized that suicide is liable to take place in encephalitis epidemica, examples are fortunately uncommon P K McCowan indicated, in the *Lancet* in 1925, that "suicide is regarded as an extremely rare occurrence in epidemic encephalitis" He described in his article, however, three cases showing sequels of encephalitis in which attempted suicide was a feature of the psychosis Frederick Roques has quoted a series of cases investigated by Professor A J Hall Two of these patients threatened suicide, and a third made two unsuccessful attempts on her life The case I here record was the last of a group of six or seven which were diagnosed in the district

Mrs H , aged 27, had an acute attack of encephalitis epidemica in March, 1924 The initial phase of her illness lasted for about five weeks Diplopia, headache, lethargy, vomiting, and delirium were prominently marked About a year afterwards the use of her left arm was impaired, and spasticity slowly advanced A few months after her marriage in 1926 she gave birth to a healthy child, and sixteen months later a second well developed baby was born Both children have maintained their good health. Paralysis agitans appeared in the left hand, but the patient was capable of doing some housework Salivation was extreme, and speech was slurring Although her mental activity was slow there was no history of delusions or hallucinations Depression was unusual The post-encephalitic stage was aggravated at each pregnancy Seven months ago the typical Parkinsonian syndrome developed There was mask like immobility of the facies and stiffness of the limbs She committed suicide on July 7th by drinking a quantity of some disinfectant fluid

The special interest of this case lies in suicide occurring in advanced Parkinsonism where there had been no earlier manifestations of great mental disturbance

My thanks are due to Dr V N Harcourt for the details of the original attack of epidemic encephalitis

Castle Donington, Derby T McCOWATT MONTFORD

RAYNAUD'S DISEASE

A LADY, aged 45, came to me early in August with all her fingers and her thumbs of a waxy pallor, swollen, and very painful A gangrenous patch was present at the end of the middle finger of the right hand, at the bottom of which bone could be felt There were also small sores on the ends of all the other fingers except the little ones She had very little power of movement of any of the finger-joints There was the same waxy pallor and pain in the front half of both feet, but no sores Her blood pressure was low, 120 mm , and the artery at the wrist soft It was a typical case of Raynaud's disease

I ordered her parathyroid (P , D and Co) 1/10 grain first thing in the morning on an empty stomach an hour and a half before breakfast, and 15 grains of calcium lactate with 7 minims of tincture of digitalis three times a day after meals

Pain in the hands ceased after a fortnight, and the small sores at the ends of the fingers had healed The swelling was also subsiding in the hands and feet, and the gangrenous patch was looking much more healthy An ichthyol and zinc ointment was used for this After five weeks the hands and feet were of a normal pink colour, the swelling had all gone, except in the right middle finger, and the patch had filled up and was covered with healthy granulations Movements of the finger-joints were free, except for some stiffness in the terminal ones After two months' treatment the gangrenous patch had completely healed

The important part of the treatment has I believe been in giving the parathyroid on an empty stomach well away from food In other cases, such as psoriasis I have found parathyroid quite useless if given after meals, but very effective if given on an empty stomach

Brighton WALTER BROADBENT, M D , F R C P

GLANDULAR FEVER

THE following case is illustrative of the recent epidemic of glandular fever and shows many departures from the typical textbook case

A very fat girl aged 16 years came under my care on April 5th When I saw her for the first time her symptoms were as follows temperature was 103 4° F there were red pimples plaque varying in size up to a shilling on the right side of the face neck and shoulder the tongue was coated the pulse rapid and the skin was dry A week's history of illness was given During the period she appeared to have had some constipation slight cough headache and nose bleeding There had been some abdominal pain but this was not very definite On examination there was an entire absence of physical signs except some doubtful rigidity of the right half of the abdomen A tentative diagnosis of an illness of the typhoid group was made and the temperature fell slowly within the next four days to 99 Coincident with the fall a few rose spots appeared on the abdomen The original plaques also disappeared about this time A Widal reaction was negative and the stool and urine showed no typhoid bacilli From now the temperature fluctuated between 98° and 99 5° for a fortnight during which the patient complained only of debility The pulse was very rapid but it fluctuated considerably with excitement About this time he was also seen by Dr Stewart of the Hendon Health Department and Dr Mack of Highbury who agreed with the diagnosis of a mild enteric attack At this period in the illness a swelling appeared in the right posterior triangle of the neck of the size of a walnut tender freely movable and non-fluctuating This subsided under fomentation but was soon followed by a similar though smaller lump under the left sterno-mastoid On April 30th the temperature rose suddenly to 103° accompanied by pain at the right base but with no cough Examination revealed impaired note and fine crepitation Respiration were now increased Thus new condition subsided only to reappear ten days later with increased pyrexia Seen by Dr C M Wilson a diagnosis of glandular fever was made and this was borne out by a blood count which showed a leucocytosis of 12 000 In the second week of May since the pyrexia had not yet subsided it was decided to give six injections of S U P An injection daily was followed by rapid disappearance of all symptoms and on May 20th the patient was apparently quite well The spleen was never palpable and the liver was not enlarged

Although the patient was feeling ill she never lost her appetite and it was difficult to believe when the temperature subsided that she had had a protracted febrile illness The points of interest in this case are the similarity to enteric infection the absence of severe symptoms, the possible effect of S U P and the congestion at the right base with pleuritic pain but no cough The cases that have been reported conform more or less to the above type and are different from those described in the modern textbook, where prominence is given to the following characteristics transitory and mild fever general and early glandular enlargement, absence of rashes and rarity of complications

Golders Green. L STUART WOOLL, M R C P

Reports of Societies.

DUST AND INFECTION

AT a meeting on October 21st of the Section of Pathology of the Royal Society of Medicine, Professor E H KETTLE delivered his presidential address, taking for his subject the relation of dust to infection

Professor Kettle said that the pneumonoconioses had received less attention than they deserved, for they played an important part in the life of mining populations The disease in its most concentrated form was best seen in South Africa where in the last twenty years £12 000 000 had been paid in compensation to silicotics and their widows and children Since 1911 ten select committees of legislature and five commissions had considered the matter and nine Miners Phthisis Acts had passed through Parliament The would-be miner now had to undergo a rigorous medical examination none but picked men were accepted for employment, and these were subjected to medical examinations at regular intervals

The Position in Great Britain

In Great Britain, excluding coal miners 35,000 workers were employed in the refractories industry tin mining the pottery industry metal grinding sandstone working sand blasting and other trades in which dust was a prominent feature In these scattered industries it was difficult to arrive at comprehensive morbidity and mortality figures It had been common knowledge for many years that these trades were dangerous but the first scheme of compensation for silicosis only came into operation in 1919 There could be no doubt that the industrial pulmonary disease would bulk much more largely in our social and medical legislation in the near future In these different occupations the composition of the dust would vary but all dangerous dusts contained free silica the dioxide of silicon the degree of harmfulness of a dust depended on the amount of free silica in it Although the pulmonary disability induced by the different dusts had various names such as "miners phthisis" and potters asthma the terminal pathological condition was always the same death ensued from advanced pulmonary tuberculosis Dust alone had produced disability and death in the past but under modern industrial conditions dust disease really spelt tuberculosis Pathologists were therefore required to decide, first, how silica affected the lung and how its action might be prevented or modified, and secondly how it influenced the development of pulmonary tuberculosis

Action of Silica on the Lung

The characteristic feature of pulmonary silicosis was the presence in the lung substance of isolated nodules of fibrous tissue varying in size number, and distribution Massive fibrosis was rarely seen nowadays and usually tuberculosis supervened as a frank or modified infection Until recently it was generally held that silicosis owed its harmful properties to its physical characters, the hard sharp particles were supposed to damage the pulmonary tissue For some years now however the view that silica became soluble in the tissues and that its action was chemical rather than physical had become generally accepted It was also generally accepted that dust inhaled into the terminal alveoli underwent phagocytosis by the pulmonary macrophages and was transported to various parts of the lung Presumably the silica gradually became dissolved and in its soluble state was able to stimulate the growth of fibrous tissue It was probable that fibrosis could only occur if silica was brought into direct contact with fibrous tissue or with cells capable of forming it Experimental investigations had for the most part done little to elucidate the process L V Cardner had exposed animals to dusty atmosphere for eight hours a day over periods of two to three years and had obtained important results but other workers had not produced anything comparable with what occurred in man Silica in harmful dusts was always associated with other substances and the way in which these adulterant dusts might modify the main process could only be studied experimentally Statistics were misleading it had been stated that there was no silicosis in the mines of Cripple Creek U S A and it had been thought that adulterant dusts in that region prevented the accumulation of silica in the lungs As a matter of fact it had emerged at the recent International Silicosis Conference that there was plenty of silicosis at Cripple Creek Again since the incidence of tuberculosis in coal miners was actually less than that in the general population it had been held that no silicosis occurred among them and it had been assumed that coal dust removed silica from the lung But it was now known that silicosis did occur among coal miners if the relative immunity of coal miners to

tuberculosis really existed, could it be because carbon was antagonistic to the tubercle bacillus? Professor Kettle said he had been unable to demonstrate any difference from the *normal in their reaction to the tubercle bacillus* in the case of animals saturated with carbon in attempts to block the reticulo-endothelial system. Dr. J. S. Haldane had considered that the elimination of dust particles by the phagocytes could be stimulated by non-crystalline dusts such as carbon, but experiments by Carleton and Mavrogordato did not really answer the question, and provided no evidence that coal either helped or hindered the action of silica.

Experiments by Intratracheal Injection

During the past year Professor Kettle, working in conjunction with Dr. Hilton, had introduced suspensions of dust directly into the lungs of rabbits and guinea-pigs by way of the trachea. So far they had not been able to produce the typical fibrosis, and since an adequate quantity of dust must have been introduced into the lung it was clear that the time factor was of the first importance. *Great stress had been laid on the immobilization of phagocytes* by silica, but in their experiments there appeared to be no difference between the initial reaction and the subsequent behaviour of the phagocytes when carbon was used instead of mine dust. In variations of these experiments, using mixtures of amorphous silica and carbon, and mine dust and carbon, no sign was seen of the characteristic cleansing which had been described. Coal dust was the adulterant dust most often quoted, but the speaker had no reason to believe that other dusts played any specific part in protecting the individual from the effects of inhaled silica. The base-line for experiments on this point must be the production of characteristic silicosis in animals. It was possible that adulterant dusts might actually assist the action of silica in some cases. In one factory in which an abrasive powder, consisting of 75 per cent. of silica and 25 per cent. of sodium carbonate and powdered soap, was prepared, several cases of acute silicosis had been described following comparatively brief exposure to the dust. It was known that silica was soluble in alkaline solutions, and the explanation given for the rapid onset of the disease was that the inhaled alkali increased the solubility of the silica and enabled it to act more rapidly than usual. Professor Kettle had had the privilege of examining portions of the lung in two of the fatal cases occurring in this factory, and had found advanced tuberculosis in both, he regarded this as the basis of the whole condition, though it was more than likely that the infection was enhanced by the inhaled silica.

The Effect of Silica on Pulmonary Tuberculosis

Nowadays industrial workers were seldom "choked," as it were, with dust, but they inhaled a certain amount of silica, which *might produce a fairly advanced fibrosis* of the lung. The chief danger, however, lay in the influence dust exercised on microbic infection, and especially on the tubercle bacillus. It was formerly supposed that it was the fibrosis induced by the silica which in some way predisposed the lung to tuberculosis, presumably from interference with lymphatic drainage. No experiments had been carried out in this country on the infection of the fibrotic lung, but fairly extensive observations had been made on the effects exercised by silica on tuberculosis in laboratory animals. Some years ago, working with W. J. Cye, Professor Kettle had demonstrated that interstitial inoculation of different forms of silica produced characteristic necrotic lesions, and that tubercle bacilli proliferated readily in these lesions in such unsusceptible animals as mice. Later he had been able to show that the active growth of bacilli did not depend merely on the necrosis of tissue, but was due to the actual presence of silica, and further experiments had confirmed this view. He did not wish to lay too much stress on his experiments, but they all pointed in the same direction, and he thought they were significant. In another series of experiments carried out with Dr. Hilton he had given intratracheal injections of silica to rabbits and guinea-pigs, and some weeks later had inoculated them intratracheally with living tubercle bacilli, arranging for an adequate number of controls. All the animals had died with pulmonary tuberculosis, but the silica animals had died weeks, or even months, before the controls. These experiments were also suggestive, but he was *not prepared to say more than that*. L. V. Gardner, however, had performed an experiment which appeared to him to be crucial. At Saranac there was a strain of tubercle bacilli ("R 1") which produced in guinea-pigs infected by inhalation, isolated subpleural nodules in the lung, and massive involvement of the tracheo-bronchial glands. Macroscopic tubercles in other viscera practically never occurred. Resolution and healing ensued in eighteen months to two years, and the infection was practically never fatal. Animals inoculated with this bacillus were dusted with quartz for eight hours a day over a period of two to three years. After three to five months the bacilli in the pulmonary lesions took on a new capacity for growth, massive ulceration occurred in the lung, and the infection spread to the abdomen. This change was not attributable to an exaltation of the virulence of the bacilli, for subinoculations from the animals produced merely the form of tuberculosis characteristic of the "R 1" strain. It appeared to be due to an alteration of environment, depending on the presence of silica. How silica acted was still doubtful. Cummins had suggested that it destroyed complement, but to Professor Kettle the phenomenon appeared to be a cellular rather than a humoral one. Either the intracellular defensive mechanism of the phagocyte was injured by the silica, or the nutritional value of the cell protoplasm for the bacillus was enhanced. Working with cultures *in vitro* he had found that, although the total growth of the bacillus was unaffected, the lag period seemed to be shortened, so that an abundant growth was obtained in a much shorter time when silica was added to the medium. The experiments, however, were irregular, and so far he was not prepared to say that any success he had had was more that accidental. As regards the *in vivo* investigations, he did not think there could be any doubt about the main facts, although the explanation was still unknown.

Infective Silicosis

In South Africa a simple silicosis and a silicosis with tuberculosis, or tuberculo-silicosis, were recognized. In addition, they described another condition—infective silicosis—in which infection was believed to produce changes in the reaction of the tissues to dust. The nature of the infection had not been determined in every case, but the tubercle bacillus was thought to be the most important organism. Radiographic examinations revealed larger and more irregular nodules of fibrosis than those found in typical simple silicosis, and on microscopical examination there appeared to be a greater tendency to necrosis. The lesions showed no histological evidence of tuberculosis, even when the nodules developed as the result of the combined action of the bacillus and the dust, but nodules from these cases inoculated into guinea-pigs gave rise to tuberculosis, although the bacillus appeared to be of an attenuated type. The opinion of South African workers at the recent conference was that silica might actually damage the bacillus so as to lower its virulence. It was difficult to reconcile this view with experimental data, which all went to show that the influence of silica was always favourable to the bacillus, but Professor Kettle felt that the experience of South African workers was so great that considerable weight must be given to their views.

RESEARCH IN CLINICAL MEDICINE

At a meeting of the Section of Medicine of the Royal Society of Medicine, on October 28th, with Dr. R. A. Young in the chair, a discussion on research in clinical medicine was opened by Dr. J. A. Ryle.

Dr. Ryle said there was a prevailing *dissatisfaction* in this country with achievements in clinical medicine and the conditions on which they depended. The extension of laboratory tests had led to an uncritical attitude in diagnosis, while prognosis had not advanced greatly owing to neglect of the study of the natural course of disease. A reawakening of the philosophical attitude in medicine was needed. In a paper in the *British Medical Journal*

(March 15th p 479) Sir Thomas Lewis had pointed out that the work of the great clinicians was carried out upon actual sick persons Research in clinical medicine should depend on the study of the behaviourism of man in disease The method might be observational or experimental Harvey and Darwin had used both methods Clinical scientists had realized the value of coupling the two but the developments of pathology and physiology had led to a division of labour The busy life of the clinician left him little time for experiment Both Sir Thomas Lewis and Mr Wilfred Trotter[1] in their papers on this subject had seemed to imply that the observational method was at an end, but this was not the case There were now better opportunities than ever before for accurate observation the use of instruments of precision, such as the stethoscope and the electrocardiograph was not an extension of the experimental method Radiology and biochemistry merely offered improved means of observation But the trial of new drugs and the invention of a new operation were experimental methods of research The modern trend was the study of the personal, vital, and genetic factors, and the idiosyncrasies of man to disease The older physicians had studied the phenomena of disease and had made comparison with the findings in the cadaver they had also paid superficial attention to temperament heredity, and environment They were limited by their ignorance of physiology, and by the absence of accurate methods of observation A more minute analysis of morbid phenomena was now possible, but symptomatology was still largely unexplored, more accurate observation was required to determine the cause of nausea heartburn and vague abdominal pain leading to fruitless operation In therapeutics the value of vaccines and endocrine therapy still required assessment Psychology was a science founded on observation alone, and neurology had advanced by science and surgical experiment At present as Sir Thomas Lewis had pointed out, there was no adequate provision or encouragement for any young man to undertake research He was seldom in a position to devote his entire time to it, and general practice left little leisure or energy for other pursuits A research grant gave no security for the future No one could study patients other than his own, but while so engaged a man should be relieved of financial anxiety Sir Thomas Lewis had suggested that young men without experience of general practice should be encouraged to undertake research, but in the speaker's opinion it should be allocated to men who had practised he would like to see a post created at the general hospitals for a man having access to all the patients in the wards and with a few beds of his own The appointment should be for five years, and be either renewable or leading to a post on the staff A man with a wide early experience, and preferably with a grounding in philosophy and psychology should be chosen The Medical Research Council was prepared it seemed, to help to solve the problem

Professor H Moore of the University of Dublin remarked that, until recent times clinical research had depended on bedside observations and simple tests, which were correlated with post-mortem findings Later, clinicians had come to think of disease in terms of physiology—that is, in terms of the living organism more precise methods involving laboratory technique and the use of experimental animals were introduced, and training in the interpretation of results became necessary to the physician As knowledge progressed problems could no longer be settled by observation alone and the laboratory became a necessary adjunct the physician was the person to pursue the study of disease provided he had access to both the patient and the laboratory Acidosis, ketosis, and diabetic coma were conditions which had been elucidated by combining the work of laboratory and clinic The discovery of insulin and of the liver treatment of anaemia were the work of the laboratory but their value was tested and proved in the clinic The majority of advances made in recent years had depended on the collaboration of the clinic and the laboratory Research was most productive when it was carried out on the patient by men competent to use both clinical and laboratory methods, and where the clinic and the laboratory formed one synergic unit The simple mode of approach was no longer effective because of the increasing complexity of medicine If funds were available to build new hospitals he would suggest that buildings should be constructed for the following purposes first, the care of the sick secondly the study of disease in the patient by the co-ordination of all possible means thirdly the instruction of students research workers and nurses and, finally, for the after-care and after-study of the sick Whether a research worker should hold a whole-time or a part-time appointment was a matter for debate There was much to be said for giving a man a reasonable tenure of a whole-time post with obligation to deliver a few lectures and arrange demonstrations in his own subject, provided he had facilities for keeping his view wide and general The purpose of medicine was to cure disease, and a man should not be allowed to make the means the end by devoting himself entirely to the scientific aspect Those general practitioners who wished to pursue a definite line of research should also have opportunity to do so The training of a research worker should include clinical and laboratory experience He might begin with simple research under supervision doing his own laboratory work and using animals later he would be competent to advise on complex research A body to organize and allocate research would be valuable Appointments might be for a period of five years, and would in any case enhance the ability of the worker to diagnose and treat disease Wherever possible a research unit should be organized in hospital where the clinic and the laboratory might work in close co-operation

Dr Helen M Mackay said there was no lack of ability among clinical research workers in the country but there was an absence of facilities we were advancing slowly but undoubtedly there was much talent awaiting better opportunities The needs of the clinical research worker were adequate material, assistance and sympathy from his fellows and time—with the inevitable corollary of money—for thought, reading and correlation of facts Material was best investigated in institutions for the general practitioner controlled work was almost impossible The worker must have experience and standing sufficient to make him a suitable person to hold a post with beds allocated to him The voluntary hospitals had done little in the past to further clinical research and even looked unfavourably on a man who pressed for improvements in equipment and apparatus The sympathy and assistance of colleagues, alone was not enough a research worker should have the support of the nursing and managing staff of the hospital The lay public not realizing the importance of research were inclined to put obstacles in its way much could be done by the press to educate public opinion on this point The demands made by research on time and energy rendered few ready to undertake it at a disproportionately small income The leisure of a young man was small and whether he aimed at consultant or general practice all thought of research must be eliminated A few scholarships were obtainable at £50 per annum for half time and £350 for full time service and these were only given to men or women with post-graduate experience, many of whom had held a university lectureship This should be contrasted with the minimum of £600 a year which had been laid down for the public health service Moreover there was no security at the end of the appointment As in other fields the first work done was seldom the best and workers required opportunity for experience In Austria research was an integral part of every university hospital conducted by a full-time staff In a town the size of Reading research of a high order was being conducted at a kinder klinik equipped with excellent facilities including opportunities for animal experiment in the same building In the speaker's opinion clinical research workers should receive an initial scholarship to determine their suitability but some permanency of tenure should be offered and there should be hope of ultimate advancement Whether the post was a full- or part-time one might depend on the conditions under which the candidate produced the best work Where the value of research was appreciated such a scheme might become a reality

[1] *British Medical Journal*, July 26th, 1930 p. 129

Dr F Parkes Weber thought that until the medical profession in England set the example in research they had no right to call on the lay public for large donations He advised the production of fewer textbooks on general medicine and the publication of more monographs, which would encourage research He also advocated the organization of a library of pathological slides for the use of those who wished to make comparison of sections of disease taken from their patients Dr C M Wilson was strongly in favour of an extension of the unit system to clinical research It was a mistake to regard the laboratory and clinic as divorced from one another So long as an accurate answer could be given it mattered little where that answer was obtained Dr A Eidinow put in a plea for the man who wished to do original research Much work grouped under the heading of research was pure scientific investigation—such as the standardization of drugs—carried on by men who, whatever their training, were scientists, and not medical men at heart He asked that some scheme might be devised to encourage the man who wished to do original medical research

Dr L Findlay doubted whether the suggestions made by any of the speakers would have any effect Every new invention opened a new field of research, and there was plenty to see if there were the men to see it Research workers were born, not made, and genius flourished in adversity No man was *entitled to be put in the lap* of luxury simply because he could perform accurate tests Dr C W Theobald thought it was ridiculous to expect British research workers to hold their own while the present system obtained By the time a man had an opportunity for research he had lost the taste for it A fundamental change was needed Dr J Kingston Barton said that the object of medicine was to treat disease, it was impossible for a man to devote himself to clinical research to the exclusion of the practice of medicine Dr W R F Collins remarked that the clinical researcher was faced with the problem of whether to go into practice or go into debt It was impossible to dissociate the clinician and the laboratory worker The clinician must have some idea of laboratory tests, but at present, if he spent half his time in the wards and half in the laboratory, he was looked at askance by his colleagues in both quarters He would prefer that the system should develop along those lines, however

In replying, Dr Mackay said she would like to see people pressing for increased facilities for research at their own hospitals Dr Moore urged that some of the funds obtained by hospital sweepstakes should be dedicated to research Dr Ralf regretted that he had found the meeting as unproductive as he had feared it would be If bacteriology, pathology, and physiology were to be endowed, clinical research should be given equal opportunities

REGULATION OF THE OVARIAN CYCLE

At a meeting of the Sheffield Medico-Chirurgical Society, held at the University on October 22nd, with the president, Professor Graham Simpson, in the chair, Dr A S Parkes, Beit Memorial Research Fellow, University College, London, read a paper on the regulation of the ovarian cycle

Dr Parkes said that various lines of work had all tended to show that the activity of the ovary was regulated from some external source It was found many years ago that the ovary of an immature animal grafted into an ovariectomized adult female immediately underwent development and began its morphological and endocrine cycle long before it would have done so in its original environment This and similar observations demonstrated quite clearly that the functional age of the ovary was regulated by that of the soma It was now well known that the number of follicles ovulating at a time was governed, not by the amount of ovarian tissue present, but by the amount available of some substance in the circulating blood Periodic action of the oestrus-producing hormone could also be demonstrated after complete elimination of the cyclic structures of the ovary by exposure to x rays The periodic mechanism, whatever it might be, was thus probably located elsewhere than in the ovary Uterine experimental work carried out during the last few years had revealed an amazing mechanism whereby substances elaborated by the anterior lobe of the pituitary body activated the ovary One of the anterior lobe substances was concerned with the maturation of the Graafian follicle and ovulation, while another was responsible for causing the formation of the corpus luteum from the shell of the ruptured follicle The "lutemizing" substance administered to an animal with a quiescent ovary caused the follicular granulosa to undergo lutemization without the intermediate act of ovulation The other substance caused the quiescent ovary to enter on a phase of follicular maturation, culminating in ovulation and the formation of the corpora lutea In each case changes were observed in the accessory organs corresponding to the phase induced in the ovary and resulting from the stimulation of ovarian endocrine activity The action of the substances was exerted solely on the ovary and thence on the accessory organs Anterior lobe preparations had no effect in the ovariectomized animal The discovery of the anterior pituitary substance had explained the nature of the stimuli responsible for evoking the different phases of ovarian morphological and endocrine activity, but little progress had been made in elucidating the means whereby the periodic activity of the anterior lobe hormones was organized Presumably some kind of endocrine cycle existed in the anterior lobe, but attempts to obtain histological evidence of this had so far been abortive In any case, whatever the cycle mechanism in the anterior lobe might be, it was necessary to suppose that it could be modified by such events in the accessory organs as pregnancy, during which prolonged luteal activity was found

The paper was discussed by the President, Professor Leathes, Professor Phillips, Dr Elizabeth Eayrs, Mr W W King, and Mr H Blacow Yates

ENURESIS

The opening meeting of the London Jewish Hospital Medical Society was held in this hospital on October 9th, when Dr Leopold Mandel delivered his presidential address on enuresis

After reviewing and discussing the various theories with regard to the etiology of this condition, he put forward a plea for closer co-operation between the practitioner, the paediatrist, the urino-genital surgeon, and the psychologist, with a view to solving a problem which he considered to be one of the most troublesome in medicine He hoped that more attention would be paid to the relationship between the vegetative nervous system and the bladder, and advanced the view that the enuretic patient was an individual whose neuro-muscular micturition mechanism was not normally stabilized Many factors which did not affect the normal child acted as adverse stimuli in the susceptible incontinent child He suggested the following classification into five groups with a view to making the types more easily recognized clinically, and enabling approved therapeutic measures to be adopted (1) Those in which some palpable physical irritating stimuli existed, such as worms, over-distension of bladder, or cystitis Their treatment was obvious (2) The hypersensitive, neuropathic, or nervy type, in which the instability was a symptom which might be regarded in the same light as other symptoms, such as cyclic vomiting, ketonuria, and vagotonia, etc., which were more commonly found in the nervy child They responded to dietetic and medicinal measures, combined with readjustment of environment and gentle re-education (3) The so-called psychopathic child, in whom the enuresis was more a behaviour complex, and the treatment required was for the most part psychological (4) Endocrine dysharmony, particularly hypothyroidism, leading to a loss of inhibition Thyroid in small doses was indicated, while pituitrin by its tonic effect on unstriped muscle, was a good adjuvant (5) The debilitated child, often convalescent from some illness General tonic treatment was indicated In all cases atropine or belladonna was the specific drug of choice, while in the management of the case patience and the closest co-operation between the doctor, the child, the parent, and the teacher were essential.

Reviews.

THE SCIENCE OF CHEMOTHERAPY

The fact that *Recent Advances in Chemotherapy*,[1] by Dr C M Findlay, is the first work published in this country dealing generally with chemotherapeutic agents and their application, may serve to indicate the scant attention British workers have paid to the development of this science Not only does the number of chemotherapeutic agents discovered in this country compare unfavourably with the number discovered in Germany or in the United States but the general ignorance about chemotherapy is so great that the term is often used as it it meant merely the study of antisyphilitic remedies It is interesting to note, therefore, that these latter substances are disposed of in less than one-fifth of the volume under review, nearly the whole of the remainder dealing with the treatment of tropical and subtropical diseases caused by animal parasites The importance of chemotherapy to our nation is obvious when it is realized that the prevalence of these diseases in the British Empire creates serious economic problems, and that the development of tropical and subtropical countries is largely dependent on their eradication or successful treatment

The introduction of organic arsenicals in the treatment of syphilis still remains the most sensational discovery made in chemotherapy, but many of the recent advances in the chemotherapy of tropical diseases, though not so sensational, have equal if not greater importance on account of the enormous number of sufferers concerned For example, so great a part of the world's population is afflicted with hookworm disease that a campaign against this infection may demand the treatment of hundreds of thousands of patients When drugs are used on such a scale any advance is important whether it is towards a reduction in toxicity or an increase in potency, or a price reduction, or a greater stability Judged by these criteria the application of carbon tetrachloride to the treatment of hookworm disease represents a very important advance for this agent seems to be better in several respects than any drug previously used Similarly, the pentavalent antimony compounds recently introduced for the treatment of kala azar are effecting a considerable saving of life Intravenous injection of tartar emetic reduced the mortality from over 90 per cent to under 20 per cent, this treatment was liable however to produce toxic sequels and the application of pentavalent antimony compounds has resulted in a further reduction of the mortality to about 4 per cent

In the treatment of malaria any advance, however small, is welcome It is unlikely that the new drug plasmoquine will replace quinine, but it is more effective than quinine in its action on the sexual forms of the malaria parasite, and may therefore prove of great value in the sterilization of malaria carriers Most significant of all is the fact that a method has been discovered by which the antimalarial action of drugs can be estimated experimentally on animals and by its means a number of antimalarial drugs have been synthesized It is reasonable to expect that in the near future drugs may be discovered having even greater potency than plasmoquine

On the whole, the chemotherapy of bacterial infections is still unsatisfactory, and in the volume under review less than one hundred pages are devoted to the subject but even here there have been a few successes particularly in the treatment of leprosy and to some extent in the treatment of tuberculosis certain cases of which respond favourably to injections of sanocrysin

Dr Findlay has produced a readable survey of a difficult subject his work is written from the medical point of view, the material being classified according to diseases, while the actual chemical detail is limited to a description of the structure of the more important products More than two-thirds of the work is devoted to the chemotherapy of protozoal infections the remainder being concerned with helminthic and bacterial infections and cancer

[1] *Recent Advances in Chemotherapy* By C M Findlay M.D D.Sc With a foreword by G. M. Wenyon M.B F.R.S London J. and A. Churchill 1930. (9½×8 pp viii+532 illustrated 25s.)

ORTHOPAEDIC SURGERY

Not three years have passed since we noticed in these pages the eighth edition of Whitman's *Orthopaedic Surgery*[2] and a copy of the ninth edition is now before us As the number of pages has been increased by twenty-four and the number of illustrations by twenty-seven, we may safely assume that care has been taken to keep this standard textbook up to date There have been no revolutionary or even striking innovations in orthopaedics since January 1928 and therefore it is not to be expected that any great change would be noticeable in this work Like some other books of the same kind it has its gaps For instance as we remarked the other day in a leading article on the treatment of fractured patella it contains no reference to that subject This is probably an intentional omission, as the treatment of fractures in general is deliberately excluded It is however not easy to defend this omission from a work which includes the treatment of fractures of the neck of the femur a subject which is so closely associated with the name and reputation of the author Considerations of space have no doubt carried great weight for an adequate presentation of the treatment of all fractures would involve doubling the size of the book Yet if fractures are to be treated on orthopaedic principles their treatment should be taught by orthopaedic surgeons, and Dr Royal Whitman says in his preface to this edition that 'orthopaedic surgery is concerned with bodily mechanics with the prevention and correction of deformity and with the conservation of the locomotive function"

INTERPRETATION OF DIAGNOSTIC AIDS

There is an obvious opportunity for the volume issued by our esteemed contemporary the *Lancet* and entitled *The Clinical Interpretation of Aids to Diagnosis*[3] Laboratory tests and specialized investigations are now definitely established in the scheme of medical diagnosis and everyone allows that they are often an essential part of a clinical inquiry Not a few of them require a skill in technique that can be acquired and maintained only by individual training and continuous practice Hence in these respects the practitioner has largely to rely upon the report he receives from his expert laboratory colleague This report however is necessarily in many instances a highly technical document having shades of meaning rather than a clean-cut affirmative or negative and it is written in the vocabulary created by the new developments Its full and exact significance therefore demands some skill in interpretation The ideal arrangement no doubt is for clinician and laboratory worker to discuss the whole position in consultation and if opportunity offers this is the procedure to be cultivated Unfortunately opportunity does not always offer and the practitioner is left to read the riddle as best he may It is to meet this position that the present volume has been prepared

Each of the forty-five sections included in the book is contributed by an experienced worker and the discussion is by no means a severely technical or limited one On the contrary, each topic means a short and readable chapter in which an attempt is made to show where clinical findings can be enlarged by particular tests and in what measure the results of the tests help the practical situation Not all the sections are of equal value and not all the experts will agree with all the conclusions Yet it may be fairly said that the contributors have kept well in mind the purpose of the series and that they offer substantial help to those who desire to estimate and appreciate the knowledge to be obtained from the various technical tests here discussed Few practitioners nowadays doubt values of the order Indeed the tendency is perhaps to exaggerate them and to conclude that given such and such a laboratory finding the diagnosis is concluded Readers will find no support for any such interpretation in the manual Rather they will recognize that in many instances an absolute answer is not possible and that in any event the laboratory result is a fact to be

[2] *Treatise on Orthopaedic Surgery* By Royal Whitman M.D. F.R.C.S. F.A.C.S Ninth edition thoroughly revised London H. Kimpton 1930 (9×6¼ pp xii+1025 821 figures 25s. net)

[3] *The Clinical Interpretation of Aids to Diagnosis* Vol. I London The Lancet Ltd 1930 (Demy 8vo pp viii+[illegible] 10s 6d net.)

duly weighed in relation to other facts, and not the voice of an overriding and infallible authority There are degrees and probabilities and limitations here as there are in the inquiry at the bedside The one is to aid the other, not to supersede it

We congratulate our contemporary on a scheme happily conceived and efficiently executed Two small practical points deserve a word of recognition—namely, the interleaved blank pages for personal notes and the well-written summaries that precede the several sections, these summaries (by "M H K") are indeed triumphs in the art of combining brevity with lucidity, and they serve well the purpose for which they have been constructed

THE WRONG WAY WITH MOTHERHOOD

There has recently been published a book by Miss Sylvia Pankhurst entitled *Save the Mothers*[1] It deals with the problems of maternal mortality, and to some extent with those of infantile mortality As a contribution to the scientific study of these difficult problems and to practical suggestions towards solving them the book is, however, of no value We regret to say this the more because on page after page of the volume its author manifests a strong prejudice against the British Medical Association, based upon a very minimum of knowledge It would be much pleasanter to disarm prejudice by praise if it could honestly be done The best that can be said is that the book evidences a real zeal for the reform of unsatisfactory conditions, and an indiscriminate reading of much literature on the subjects with which it is concerned The major part of the volume is made up of scattered statements culled from official and unofficial publications, of short tendencious quotations, divorced from their context, from books and articles by writers of greater or lesser importance, of brief records of maternity cases of a distressing character, some of them of considerable antiquity, and of pathetic reminiscences of the writer's childhood Even if every separate statement set down in such a fashion were itself true, the final picture presented must tend to be, and in this case is, essentially false There are, however, statements in the book which never have been, or are no longer, true, and logic is hopelessly lacking As minor, though not unimportant, illustrations of the author's methods we may take two brief, but typical, examples One hundred and ten maternity cases per annum are described as "an average of nearly three labours a week" It is stated that "The British Medical Association proposes that to provide an improved service for maternity the present national health insurance contributions should be increased by sixpence per week, the employer, the worker, and the Government each finding twopence" What the British Medical Association's scheme actually says is that "an additional contribution on behalf of the employer and worker together of 0·4d per week for each insured person, with 0·2d per week by the State, would provide all the money" An inability to do correctly a simple division sum, and a disregard for the significance of a decimal point are disqualifications for dealing with those important statistical aspects of the subject which are essential to its understanding

Miss Pankhurst gives quite a false impression of what the British Medical Association scheme provides and entails Indeed, it may be said in general that there is scarcely a single statement made throughout the book about the Association which is strictly true, and Miss Pankhurst, more in sorrow than in anger, discovers that the Medical Women's Federation is just about as bad It is not worth while to pursue this matter or to expose the mistakes, but the depths of the author's ignorance of the objects and functions of the Association may be shown by one quotation After quoting from one writer that "anyone who knowingly and unnecessarily" does certain things such as those which an entirely unrelated speaker said he had been told had occurred in a "high-class London nursing home" (with no untoward results but this Miss Pankhurst does not mention), she goes on, "One may venture to suggest that the British Medical Association might be better employed in adopting disciplinary action towards such offenders than in striking Dr Axham off its rolls for acting as anaesthetist to the famous manipulative surgeon" It ought not to be necessary to point out the distinction between the Association and the General Medical Council to a writer of whom her publisher says, "no one is better qualified than this author to present the facts" Miss Pankhurst does know of the existence of the latter body, but in the instance in which she mentions it she misstates its powers Apart from such errors and misrepresentations the illogical and inconsequential nature of the book may be seen in that the only possible conclusion from one part is that every mother ought to have her confinement in a hospital, while the conclusion from another must be that the dangers of maternity hospitals are so great that no mother ought to be allowed to submit to them

Miss Pankhurst is, however, not content to be merely contemptuous or critical of the maternity service schemes suggested by two Departmental Committees, by the British Medical Association, and by the Medical Women's Federation, she has constructive proposals of her own Their practical value can be gathered from the following features which they present Each maternity case is to be provided with a hospital bed from two weeks before the confinement till three or four weeks thereafter, and then with accommodation in a convalescent home for a further month, all this without any payment by the mother There are to be sufficient whole-time salaried and pensionable midwives and specialist medical practitioners (preferably women) to allow of each being present throughout every confinement Each midwife is to be trained for four or four and a half years free of cost to herself, and is each year, in addition to holiday, to be allowed a period for post-certification training Each birth is to carry with it a cash maternity bounty of £10 to the mother, who would, in addition, receive during the weeks of her illness an enhanced sickness cash benefit, be provided free with all the nourishment required during pregnancy and suckling and have the services of a home help, trained and paid entirely by the community If the mother be a wage earner she would also have a weekly payment equivalent to her wage when employed, for five months, or longer, before her confinement, and for one year (or, if she apply for it, for five years) thereafter Each doctor as well as each midwife would be subject to meticulous rules with regard to the conduct of their professional work, and would be subject to inspection to see that these were obeyed Need more be said? The scheme is obviously fantastic as regards expense, is directly contrary to many things which both the medical profession and the self-respecting public rightly hold dear, and would involve a disastrous and complete divorce between the medical attendance given during pregnancy and maternity and that provided during every other contingency of life

HUMAN PARASITOLOGY

Although it bears the new name *Introduction to Human Parasitology*,[2] this book by Dr A C Chandler is actually the fourth edition of his *Animal Parasites and Human Diseases* Under its old title the book was intended to appeal to a lay as well as to a professional circle of readers, but sales records showed that the general public did not greatly desire education in this subject, though the work seemed to be in demand as an elementary text book on parasitology for medical schools Much of the present work is taken verbatim from the previous edition, including some which could well have been omitted as being too popular for the circle of readers to whom the text is now addressed Many of the additions, too, could usefully have been omitted as being too specialized for an introductory course in human parasitology There seems to be no need, for example, to describe in detail parasites whose presence in man has only been reported once—and then doubtfully There are now over three

[1] *Save the Mothers* By E Sylvia Pankhurst London A Knopf 1930 (Cr 8vo, pp xiii + 216 6s)

[2] *Introduction to Human Parasitology* By Asa C Chandler, M S Ph D Fourth edition, rewritten and enlarged superseding *Animal Parasites and Human Diseases* New York J Wiley and Sons Inc London Chapman and Hall, Ltd 1930 (Med 8vo, pp xiv + 655 368 figures 25s net)

hundred illustrations, many of them good, but the efficiency of most could be increased by reducing the amount of "stippling" which in some cases is employed to such an extent as to make the figure almost unrecognizable. The work covers the protozoa (including the spirochaetes), the helminths, and the leeches as well as the parasitic and disease-carrying arthropoda. It concludes with a useful list of periodicals and standard books on these subjects. There is an adequate subject index, but several valuable pages are wasted on a list of authors—without any reference to their papers. The text is easily followed, and some chapters—particularly that on hookworms—are very good. The book still remains the most useful introduction to human parasitology in the English language, but future editions could be rendered more useful by a judicious pruning.

NOTES ON BOOKS

Of the eight main articles in the July number of the *Annals of Medical History*[1] so successfully edited by Dr. FRANCIS R. PACKARD there are four which deal with allied subjects. The history of aphrodisiacs from the earliest times to the present day is traced with copious references by Mr. H. S. Denninger of Chicago. Dr. J. L. Miller of the same city writes on the history of syphilis and arrives, in opposition to Karl Sudhoff, at the very definite opinion that there is not any evidence of the existence of syphilis in Europe, Asia, or Africa before 1493, and that there is strong presumptive evidence that it was introduced into Spain by the sailors of Christopher Columbus. Fracastorius and his poem on syphilis are described by Dr. D. W. Montgomery, who shows that this poem, which now might find difficulty in obtaining a publisher, brought affluence and European fame to its author. In his historical survey of gonorrhoea Dr. E. W. Hirsch of Chicago points out that the Jews were well acquainted with this disease, and that their prohibition of intercourse with a menstruating woman has been justified by the recent observation that the virulence of the gonococcus is then increased. The portraits of Neisser of Breslau and Ricord of Paris appear in this article, and are reproduced as the frontispiece and on the cover of this number. A very attractive and scholarly account is given by Professor A. S. Warthin, president of the American Association of the History of Medicine, of the physician in the famous *Dance of Death, which represents the fear of death in the neurotic and psychopathic Middle Ages*. Dr. Howard Jones sketches medical practice among the North American Indians when they first came in contact with white men, as is set out in Edna Kenton's work *The Indians of North America*. What Stephen Girard, mariner and merchant, did for Philadelphia in the great epidemic of yellow fever in 1793, and in subsequent smaller outbreaks, is proudly recorded by Professor Hobart Amory Hare of that city. Dr. Eugene J. Leopold of Baltimore gives an account of Aretaeus the Cappadocian and his original description of diabetes. There are a number of excellent reviews in this generously illustrated instalment.

In preparing the second edition of his textbook on *Vertebrate Embryology*[2] Professor W. SHUMWAY has thoroughly revised the text, eliminated redundant technical terms, and introduced several new diagrams. The four parts of the work are entitled respectively early embryology, organogeny, atlas of sections, and microscopic technique. The author deals with the subject by describing type embryos, choosing for this purpose the frog, chick, pig, and man. At the end of each chapter there is a useful summary and a list of works for further study.

A volume entitled *Psychoanalysis of the Total Personality*[3] is a translation into English of a monograph by Dr. FRANZ ALEXANDER based upon a series of lectures delivered at the Berlin Psychoanalytic Institute. The first part of the book represents an attempt to apply Freud's theory of the ego to the individual neuroses. More speculative are the elements contained in the second part, for here the author endeavours to further elaborate Freud's views in regard to the two classes of instinct—namely, the erotic and death instincts. Dr. A. A. Brill writes a prefatory note.

[1] *Annals of Medical History*. New Series, vol. II, No. 4, July 1930. Edited by Francis R. Packard, M.D. New York: P. B. Hoeber, Inc. London: Baillière, Tindall and Cox. 1930. (8½ × 11, pp. 351–52, illustrated. Subscription in Great Britain 45s. per volume of six numbers.)

[2] *Vertebrate Embryology. A Textbook for Colleges and Universities*. By Waldo Shumway, Ph.D. Second edition, thoroughly revised. New York: J. Wiley and Sons, Inc. London: Chapman and Hall, Ltd. 1930. (Med. 8vo, pp. x + 511, 196 figures, 18s. 6d. net.)

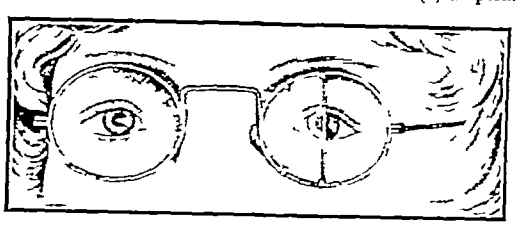
[3] *The Psychoanalysis of the Total Personality*. By Franz Alexander, M.D. Authorized English translation by Bernard Glueck, M.D. and Bertram D. Lewin, M.D. With a Preface by A. A. Brill, M.D. New York and Washington: Nervous and Mental Disease Publishing Company. 1930. (Med. 8vo, pp. xx + 176.)

PREPARATIONS AND APPLIANCES

AN OCCLUDER FOR SQUINT

Mr. A. RUGG-GUNN, M.B., F.R.C.S. (London, W.), writes: In the design illustrated herewith the principle of complete occlusion has been dispensed with. The occluder consists of two parts: a half lens of Chavasse glass which covers rather more than the nasal half of the spectacle lens, behind which it is worn, and a rubber projection which can be trimmed where necessary to fit into the inner aspect of the orbit.

Its advantages may be summed up as follows: (1) The occluder may be said to be practically invisible. (2) It permits

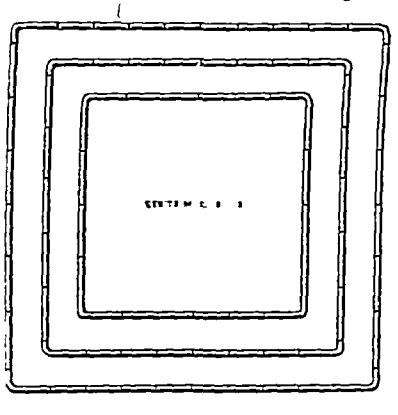


central vision of the occluded eye only in the position of relaxed convergence. (3) It emphasizes the relative equality of peripheral vision in the two eyes, encouraging more reliance on the squinting eye, and thus discourages its desire for suppression and overcomes its relative immobility. (4) It encourages a position of the visual axes in which images fall on relatively corresponding points. (5) By relaxing excessive convergence it may secondarily relieve accommodative spasm.

The makers of the occluder are Messrs. Theodore Hamblin Ltd., 15, Wigmore Street, W., to whom my thanks are due for skilfully carrying out my suggestions.

RADIUM NEEDLE SPACERS

Dr. ROY WARD (Radium Institute, London) writes: The radium needle spacers as shown in the accompanying figures are of great assistance in facilitating the accurate



disposal of radium needles or seeds throughout a tumour area. Squares of various sizes—say 6, 8, or 10 cm.—are made of stout malleable silver wire and calibrated so that two opposite sides are marked off in centimetres and the other two at 1·5 cm. intervals.

The rectangular spacer is designed primarily for inserting needles or seeds at right angles to the skin surface. It will be noted that the markings on the middle limb are straddled. With these instruments a tumour area can be mapped out more quickly and more accurately than with callipers. They are both simple and inexpensive and can be obtained from the Cento-Urinary Manufacturing Company, Devonshire Street, W.1.

SMOKE ABATEMENT.

Since John Evelyn issued his protest against the "Smoke of London" in 1661 numerous attempts have been made to deal effectively with the industrial smoke of cities. In 1853 an Act was passed to regulate the emission of black smoke, and this was incorporated in the Public Health Act of 1875. A few years later a special Act was passed for London which sought to control the emission of smoke from furnaces and from steamboats on the Thames. The last Smoke Abatement Act (1926) removed the necessity for proving *black* smoke, and extended the powers of local authorities. These statutory provisions, however, have failed to achieve their object: smoke is still an intolerable nuisance. Apart from its blighting effect on public health, the annual expenditure in this country due to smoke has been estimated to be over £6,000,000.

Smoke Abatement Act, 1926, Section V

The modern way of dealing with a civic enemy is to found a society and arm it with a journal. In the third number of the *Journal of the Smoke Abatement Society*—a body constituted last year by the amalgamation of the Coal Smoke Abatement Society and the Smoke Abatement League of Great Britain—some shrewd observations are made on the legislative methods of dealing with the problem. Its main theme is the confession of the Minister of Health that Section V of the Public Health (Smoke Abatement) Act 1926 may be almost inoperable on account of the technical difficulty of framing model by-laws for the guidance of local authorities. This deadlock would seem to be worthy of Liputa.

The section referred to requires the provision in new buildings "of such arrangements for heating or cooking as are calculated to prevent or reduce the emission of smoke." No provision is made in the Act—as in the bill of 1924—to secure that the heating or cooking arrangements in new dwelling houses should also be subject to a constructional by-law. This amendment was rejected apparently on the ground that it would be inexpedient, in view of the national shortage of houses, to adopt any measure that might hinder their erection or add to their cost. Moreover, the meaning of "heating" is not precise. The official interpretation would seem to exclude the generation of heat for manufacturing purposes.

How entangled and thwarted the administration of the section must be was indicated by Mr. C. J. Allpass, vice-chairman of the Public Control Committee of the London County Council, in a paper read at a recent conference of the society. In London, he stated, a large number of new buildings are exempt from the constructional by-law made under Section 164 of the London Building Act of 1894; further, the scheme of that Act, in the opinion of the Minister, does not permit local authorities to require the submission of proposed "arrangements" or to decide upon their acceptance. Hence he concluded that the powers conferred on local authorities by Section V of the Act of 1926 are too narrow, especially in regard to the County of London, to enable really effective by-laws to be made.

Another criticism of the Act is that a statutory committee cannot be set up in London since the enabling Act of 1875 does not apply to it. While various regional committees have been established to advise and investigate in different parts of the country, the only statutory committee is the Sheffield, Rotherham and District Smoke Abatement Committee. This consists of eleven members appointed from six constituent authorities, the medical officer of health for Sheffield acting as medical adviser.

Attitude of Industry

Many owners of plant are obviously indifferent to or ignorant of, the devices offered for the purification of their fumes. This impression is substantiated by the replies to a questionary addressed by a member of the society to the surveyors of a leading boiler insurance company whose business is stated to cover the whole of the British Isles. With few exceptions little interest was reported to be shown in the movement, and serious attempts to abate the nuisance were undertaken mainly through fear of prosecution. In very few districts was there any evidence of marked improvement in the knowledge of boiler attendants regarding the principles of smokeless combustion. Imperative demand for fuel economy had led to some improvement in very large plants employing skilled and trained engineers. In the majority of cases, when authorities complained of the emission of black smoke, the responsibility was shifted to the fireman. Since *force majeure*, even to a slight degree, has been found to have a certain effect, the suggestion has been made that persistent negligence should be regarded as a criminal offence, and that protective legislation should be introduced on the lines of the Factory Act, bringing smoke abatement within the jurisdiction of the Home Office.

Smoke Abatement in U.S.A.

It is instructive to consider the effect of the practical measures that have been adopted by certain States in America to deal with smoke abatement. Figures quoted by Mr. H. B. Meller, head of an pollution investigation in the Mellon Institute of Industrial Research, Pittsburg, show that 130 cities with a population of over 30,000 have some ordinance designed to reduce smoke. This usually takes the form of provisions requiring the submission of plans and complete specification to the appropriate authority prior to the erection or construction of furnaces or chimney stacks in buildings used for trade purposes. Greater discrimination is evidently being shown in the selection and use of equipment and fuel; plant owners and operators, recognizing that "smoke means waste," are learning to co-operate in its abatement. In consequence, consistently better results are reported every year. The subject, Mr. Meller states, is largely a matter of education—a necessity referred to in the first annual report of the society for 1930, and in the report on smoke abatement issued by the Royal Institute of British Architects at the beginning of this year. He stresses the fact, however, that *visible* smoke is not the only agent in atmospheric pollution.

Atmospheric Pollution

In this connexion the Department of Scientific and Industrial Research, which has published its fifteenth report[1] for the year ended March 31st, 1929, gives some precise information of deposits of different elements of pollution as recorded at various observation stations in this country. Compared with the average, a reduction of total solids was recorded at nineteen stations, and an increase at nine during the period of its investigation. Half a dozen stations reported increased deposits of sulphates and tar. In the previous report the data referring to these elements were stated to be probably the most reliable as an indication of smoke pollution. The highest mean monthly deposits of tar and sulphates were reported at Newcastle-upon-Tyne, where the heaviest deposits of ash and carbonaceous matter (other than tar) were also recorded. Taking the general average figure of each station as a basis of calculation, the highest deposits of tar and sulphates were recorded at Leeds and Huddersfield respectively. During the year an inquiry was instituted by the Research Committee into the problem of measuring sulphur impurities, and some evidence was obtained that sulphur trioxide may not be a normal constituent of the atmosphere, appearing only during fog. From the results of this investigation it is hoped to design an apparatus suitable for the routine determination of the amount of sulphur in the air.

Medical Aspect

A consideration of the smoke nuisance from legislative and scientific aspects may fittingly conclude with a reference to its deleterious effects on human life, especially in encouraging and aggravating disease, as in tuberculosis. This aspect of the matter is referred to by Dr. W. M. Willoughby in his annual report for 1929 as medical officer of health for the City of London, in which he also emphasizes the danger to health of suspended impurities retarding the evaporation of fog. Much of the damage and discomfort in the City of London he attributes to domestic smoke caused by burning household coal, and he suggests that a remedy may be found in smokeless heating by gas, electricity, gas or a smokeless solid fuel with proper regard to ventilation.

[1] H.M. Stationery Office. 3s. 6d.

J S MANSON & FERGUS R FERGUSON DECEREBRATE RIGIDITY IN MAN



Longitudinal section of Brain of A. B. showing tumour and softening.

A. RONALD CYST OF THE URACHUS

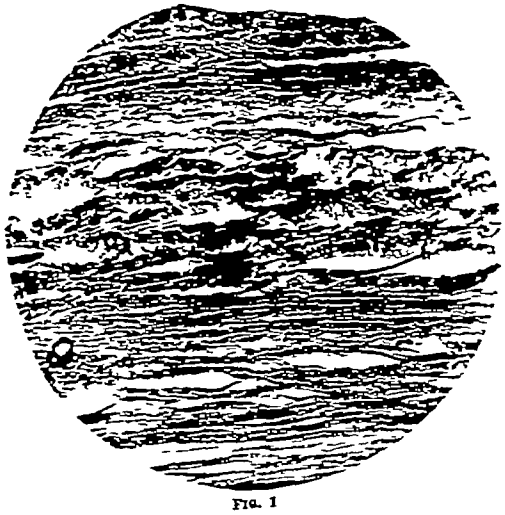


Fig. 1



Fig. 2.

DAVID SMITH ORGANIC GASTRIC SYPHILIS



FIG 1.—The stomach of Case I before treatment.

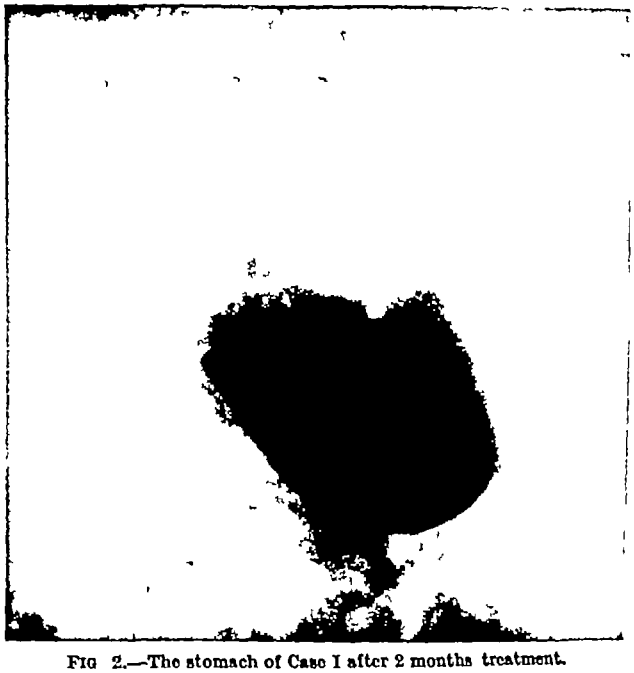


FIG 2.—The stomach of Case I after 2 months treatment.



FIG 3.—The stomach and duodenum of Case IV before treatment showing filling defect of lower part of stomach and duodenum. Palpation failed to make any difference

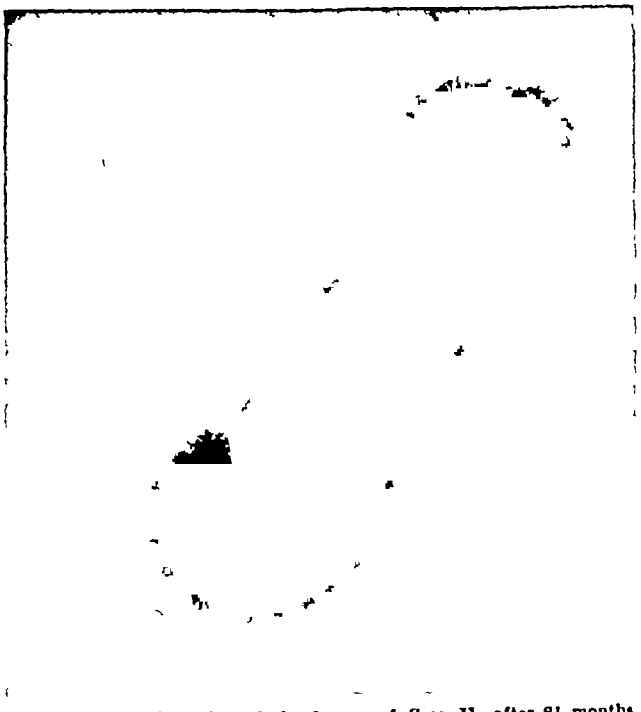


FIG 4.—The stomach and duodenum of Case IV after 2½ months treatment. The stomach and duodenum now fill well



FIG. 5.—*The stomach of Case V before treatment.* Note the antral filling defect in the position where there was a palpable tumour



FIG. 6.—The stomach of Case V after 2 months treatment. Note *the well filled antrum.* No tumour could be palpated.



FIG. 7.—Stomach of Case VI before treatment. Note the lesser curvature ulcer

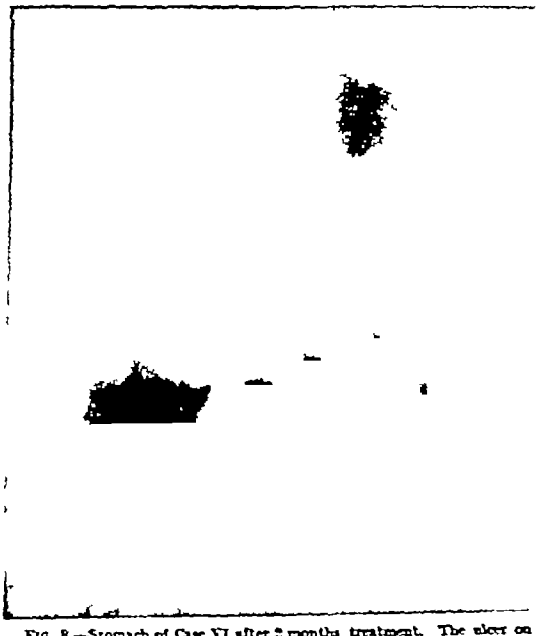
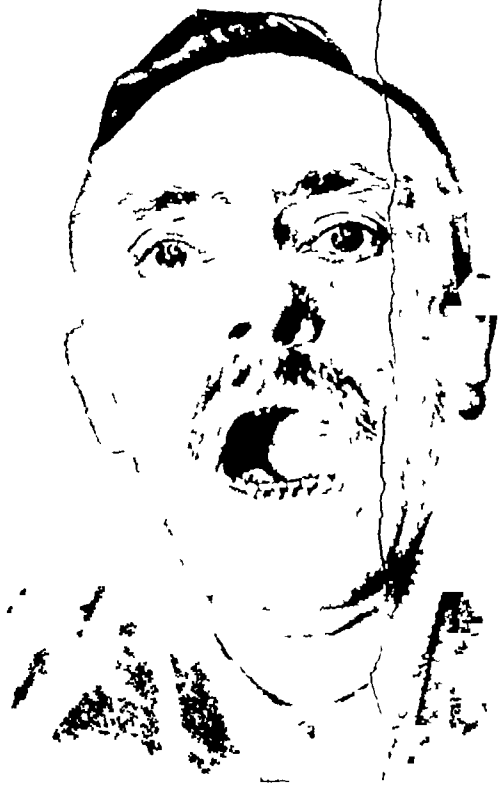


FIG. 8.—Stomach of Case VI after 2 months treatment. The ulcer on the lesser curvature has healed.

J E G McGIBBON CYSTIC TUMOUR OF THE SOFT PALATE



D K SABHESAN TRAUMATIC INTRA CEREBRAL HÆMORRHAGE



DAVID KYLE PATELLA TRANSFIXED BY EXOSTOSIS FROM FEMUR

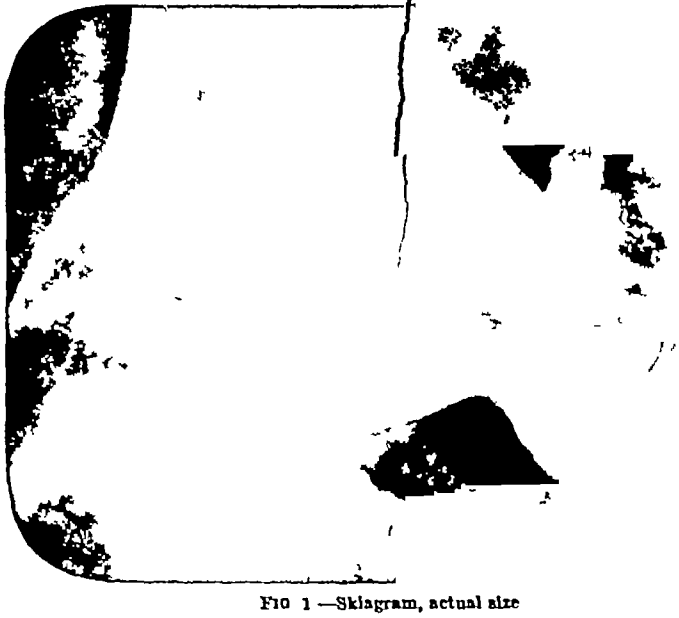


FIG 1.—Skiagram, actual size



FIG 2.—Showing relationship of bones.

British Medical Journal.

SATURDAY NOVEMBER 8TH 1930

THE DEVELOPMENT OF MENTAL HOSPITALS

At the first International Hospital Congress held in Atlantic City last year, Dr George W Henry, director of laboratories Bloomingdale Hospital, gave an interesting account of the development of hospital care and treatment of mental disease in America The text of his address has now appeared in the *Proceedings* of the Congress[1] He points out that in the period in which the early migrations to America were taking place Europe had not yet begun to emerge from psychiatric mediævalism At this period institutional care was provided by gaols workhouses and pesthouses and by abandoned monasteries which had been converted into asylums Such treatment was fast becoming the worst in the history of the civilized world, and it is no wonder that many of the afflicted preferred to wander about the country lured or driven here and there by invisible forces and dependent upon the charitable for sustenance The early colonists brought with them, therefore, the deeply rooted superstitions of the layman as well as the gross misconceptions of physicians regarding the mentally sick They were further handicapped by poverty, the rigours of pioneer life infrequent communication and the necessity of depending upon their own resources They were fortunate however in being less bound by tradition but their subsequent history indicates that they were not so free of the past as might be expected and that they were subject to the same errors and guilty of the same inhumanities as were their European brethren Ideas of demoniacal possession still held sway and near the close of the seventeenth century in the town of Salem fifty five persons were tortured and twenty executed as witches Some of the insane were confined in workhouses or gaols and those who became violent were kept in cages The feeble and helpless were distributed at public auction to the lowest bidder for their care

It is a relief to turn from these barbarous methods of dealing with the insane and defective and to follow Dr Henry in his account of the gradual improvement in the methods of dealing with mental illness It was only in 1751 that the law recognized insanity as an illness, and established the Pennsylvania Hospital for the relief of the sick poor and the reception and cure of the insane Dr Henry pays a generous tribute to the influence of Henry and Samuel Tuke in stimulating the beginning of a new era in the treatment of the mentally sick The kindly human interest which these two men had in their patients and their desire to aid others had a direct influence on the development of hospital care in the United States and led to the establishment of the Friends Asylum for the Insane and Bloomingdale Asylum— two living monuments to the Tukes which have never ceased to adhere to the ideal of moral treatment and have contributed greatly to raising the standards of institutional care in the United States In 1840 there were only eight public and four private hospitals for the care of the insane in the United States, the majority of the mentally sick being in poorhouses or in houses of correction At this time appeared another champion of the cause of the insane a woman of great strength of purpose and of untiring energy Dorothea Dix had been compelled to retire as a school teacher because of recurring attacks of tuberculosis but in 1841 she began to give religious teaching to female prisoners She found the conditions so shocking that she decided to make a personal investigation of other institutions She was peculiarly gifted in being able to discern fundamental defects in being governed by principles of action which were beyond criticism and in not being distracted by local or petty circumstances in attaining her goal During the forty years she devoted to this philanthropic work she was instrumental in founding or enlarging more than thirty State institutions for the proper custody and right treatment of the insane Within a few years after Miss Dix began her investigations signs of awakened interest in the mentally sick began to appear In 1844 the Association for Medical Superintendents of American Institutions for the Insane was established, and the *American Journal of Insanity* first published in that year became its official organ

Similar developments were taking place in this country about the same time In 1841 the Medico-Psychological Association was formed under the chairmanship of Dr Blake of Nottingham and in 1854 Dr A J Sutherland was elected as the first president and the *Journal of Mental Science* made its initial appearance Generally speaking it may be said that psychiatric developments in this country ran an almost parallel course with those in America Thus the establishment of a specially equipped pathological laboratory under the direction of a pathologist of recognized ability, at one of the State hospitals was announced in the year 1895 the same year that Sir Frederick Mott was appointed pathologist to the London County Council asylums and director of the pathological laboratory which had been established at Claybury Asylum for the purpose of research in mental diseases Mott was a great physician as well as pathologist, and his impressive researches exerted a profound influence upon the development of psychiatry in this country His aims were essentially practical and his work in relation to dysentery in asylum patients alone fully justified his appointment The American innovation was not at first very fruitful in results because the investigations carried out were too far removed from clinical problems When failure had become evident the work at the institute was reorganized under the direction of Adolf Meyer and with his advent in 1901 began a new era in institutional care and a new orientation to the problem of mental disease His teaching which requires that all factors —hereditary environmental constitutional physical social and economic conscious and unconscious—that have contributed to the life situation should be evaluated for the purpose of ascertaining the extent to which any or all of these factors may be modified and of rendering assistance in a better adaptation to the environment undoubtedly suggested many useful ideas on mental disease

Psychiatry no longer deals with fanciful abstractions but with very real human problems During the last few years Dr Henry observes psychiatry has become greatly stimulated through practical applications of knowledge acquired through the study of mental illness Psychiatric training and the habit clinics of the progressive child guidance

[1] Transactions of the First International Hospital Congress Atlantic City New Jersey June 1929 Paris 2 Avenue Velasquez. (Pp. 300.)

clinics in schools and industry, in the study of criminals and epileptics and the feeble minded, as advisers of the courts, and as consultants in general medical and surgical practice This wider recognition of the field of mental disorder has led to a realization of a need for increased flexibility of arrangements for dealing with it In addition to the public institutions for the psychotic patients, there is a need in the future for the development of psychopathic hospitals for patients suffering from transient, though perhaps severe and acute, psychotic episodes We have in mind the kind of patients now admitted to the observation wards of infirmaries where the facilities for treatment are generally recognized as falling short of modern ideals Overcrowding and the vision of prophylactic therapy have been potent factors in the remarkable psychiatric developments of recent years in America Dr Henry states that at the present time it would be impossible to care for the large numbers of mentally sick persons if it were not for the modern psychopathic hospitals and clinics in the cities, and no doubt the future will show similar developments in this country Equally important are the social service organizations, such as the After-Care Association in this country, for the guidance of the large number of patients who are being discharged from public institutions

It is undoubtedly both interesting and encouraging to trace the gradual development of our conceptions of mental disease and its treatment The progress made in recent years should act as a stimulus for increasing endeavours in the spheres of research, treatment, and care, for it cannot yet be said that psychiatric knowledge is sufficiently precise and clear-cut to enable suggestions to be made which are capable of effecting any striking diminution in the already considerable incidence of mental disorder in the community The problems of the psychiatrist are probably the most obscure—and possibly the most important—in the whole of medicine, and for this reason no efforts should be spared in seeking their solution

THE STUDY OF EPIDEMIOLOGY

At the annual meeting of the American Medical Association, held in Detroit last summer, an instructive address on "Neglected opportunities for epidemiologic study" was given by Dr E L. Bishop, State Health Commissioner of Tennessee [1] Dr Bishop's contention is that golden opportunities of study are wasted because, on the one hand, the connotation of epidemiology is so often limited to the control of acute diseases in epidemic form, and, on the other, it is thought that only specialists with awe-inspiring knowledge can hope to discover anything Hence, little of epidemiological importance is expected from field workers in local health services Dr Bishop points out that in fact some of the most important of epidemiological researches were carried out by practising physicians Budd, one of the great pioneers, was a provincial physician (like his master Bretonneau), and rightly pointed out that a country physician might have better opportunities for epidemiological observation than his town colleague, who living—epidemiologically speaking—in a dense wood, could hardly see the trees Similarly, local health officers are in a better position to undertake natural history studies of herd sickness than officials of a central authority, who may be forced so to spend their time that the sheer occasionally directed against them that they are mere "office epidemiologists," has a point

Dr Bishop has remedies, such as raising the status and increasing the financial resources of local health departments, which are excellent in their way, but the problem is rather more complex than he suggests He remarks that epidemiology "has for its major weapon specific items of information which it obtains from other distinct specialties, notably bacteriology, immunology, pathology, and statistics, and its function is the collection and analysis of these various specialized items of information, and finally the correlation of these items in such a way as to offer the broadest possible perspective with regard to the nature of the disease" We are by no means prepared to agree that this is a complete statement Such men as Snow and Budd, whom Dr Bishop holds up as exemplars, were primarily clinicians, and his specification omits what to them was of the essence of the matter in hand Still, what he does demand is a rare endowment—namely, the ability to co-ordinate, to set out in proper perspective, data gathered in various ways by experts, and described by them in what Mr H G Wells has called "the muffled and highly technical language of the really careful 'scientist'" This implies not only some knowledge of the several processes of technical investigation, but that kind of mental attitude which characterizes a really competent judge Does the current medical education of either America or this country encourage the judicial frame of mind? Professor H R Dean, in his valuable address which we printed in our Educational Number on September 6th, and some of our correspondents on the subject, are not altogether satisfied with the general education of the medical student Professor Major Greenwood, in his recent address to the Section of Epidemiology and State Medicine of the Royal Society of Medicine, is still more pessimistic The gravamen of the critics is that we are turning out young people with much special knowledge but little culture, technicians, not educated men It looks as though Dr Bishop were stimulating demand for a supply which is small and perhaps decreasing This defect is not peculiar to medicine "Our present difficulty," wrote Professor Watson in his life of Bishop John Wordsworth, "is that our students often attain to technical dexterity without acquiring the mass of knowledge which is needed if their skill is to be profitably employed" In other words, they are technicians, not men of liberal education

It is easy to point out a weakness, very hard to find a remedy Technical proficiency can be tested with reasonable ease If one demands that the student shall know "something about eyes," one can make reasonable sure that he *does* know "something about eyes," but it is not so easy to distinguish, by an examination test, between the cultivated intellect and the clever word spinner We might, like the French, profitably insist upon a higher standard of literary attainment in professional examinations, indeed, it is our duty to do so, but many men, medical and lay, who write well, reason ill However it is all to the good that attention should be directed to the fact that there is a demand for educated men rather than technicians in our profession, for nothing could be more disastrous than the belief, not confined to the field of epidemiology, that intellectual salvation is to be found in narrow specialization, and that the apocryphal surgeon of the last century, who, on seeing a physician enter his wards, said to his dressers, "Thank God, gentlemen, I know nothing of medicine," was a really wise man

[1] Journ Amer Med Assoc August 23rd, 1930.

THE EDUCATION OF MYOPES

One of the signs of the times is the care taken by statutory educational authorities of the children committed to their charge. It is no longer thought sufficient to provide one standard form of education applicable to all children, long and short, bright and dull. As a result of the lifelong efforts of Miss Charlotte Mason, founder of the Parents' National Educational Union, there is a growing appreciation of the fact that the child is an individual. Our forefathers recognized this, so they picked out those they judged fit to be educated. The risk of mass production in educational method came only when it was recognized that all children benefited by education, and the decision was made that all should receive that benefit. Nowadays, educational and physical grading is provided for. Special attention is paid to vision and its defects. There are admirable schools for blind children throughout the country with adequate accommodation, owing to the reduction of the incidence of blindness among the children. For over twenty years provision has been made by some of the larger educational authorities for children who are not blind but whose sight is too bad for them to be allowed to risk their following the normal curriculum. Most of such children are myopes. For them myopic or sight-saving classes have been established in many countries. The purpose of these classes is twofold (*a*) to provide a suitable form of education with a minimum of risk of eyestrain, (*b*) to endeavour to stay the progress of the myopia by improved conditions. The variations in the state of myopia over periods of time in young patients have been the subject of several records. A collection of 100 cases was made by Mr Priestley Smith[1] and reported to the Annual Meeting of the British Medical Association in 1901. In his paper is a remarkable graph showing the variations of the myopia over periods of five years these were taken from his private cases. In 1913 Mr Bishop Harman published[2] an analysis of 300 cases of high myopia in children in the London County Council myope classes. He gave a graph on the lines of that of Priestley Smith, which he thought showed that the average increase of the myopia was rather less in the London cases. There has lately been published, by the school medical officer of the East Ham Education Committee, a report on myopia by Mr C. L. Gimblett, based upon 170 cases treated in the ophthalmic clinic of that authority from 1923 to 1929. After giving an account of the conditions attending myopia, he considers its incidence as affected by sex, age, heredity, general sickness, school conditions, scholarship work, and the degree of defect. Among his conclusions the following may be cited. Myopia never gets better. All our efforts are directed to stop its getting worse, which tendency is at best only partially arrested, as is seen by the upward tendency of the curves of fourteen cases followed up for some years. Only one case of "congenital myopia" remained stationary, and that was true to type. In seven cases it was specially recorded that the onset of the myopia was preceded by a period of poor health and rapid growth. Mr Gimblett discusses the education of these children, and pays tribute to the myope classes initiated by Mr Bishop Harman. He states that the first of these was established in London in 1915, but the correct date is 1908. Mr Harman gave an account of the experimental working of the first of these classes at the London meeting of the Association in 1910.[4] West Ham started one of the classes for twenty children in 1923. A description is given of the working of the class. Mr Gimblett records that the myopes under his observation in the elementary schools even when given "easy treatment," or "oral teaching" under constant supervision, showed an increase of 0·4 dioptre a year, whereas a careful analysis of 150 cases in the London County Council myope classes showed a rate of progress of 0·2 dioptre a year. The paper is issued in official foolscap form, and with a wealth of charts and tabular matter that will make the editors of scientific journals covet the resources of a borough council.

[1] *Ophth. Review*, 1901.
[2] *Trans. Ophthal. Soc. U.K.* 1913, p. 202.
[3] *County Borough of East Ham Education Committee. Appendix to the Report of the School Medical Officer for the year 1929. (Report upon Myopia.* By Charles Leonard Gimblett, M.D., M.R.C.P., F.R.C.S., Ophthalmic Surgeon to the East Ham Education Committee. 1923-1929.)
[4] *British Medical Journal*, 1910, ii, p. 1330.

READMISSION OF WOMEN STUDENTS TO KING'S COLLEGE HOSPITAL

On the recommendation of the medical board, and by a unanimous vote of the general committee, King's College Hospital, London, has decided to readmit women students to its medical school. They will be admitted, in limited numbers, from October next, the beginning of the school year. Mr C. E. Bedwell, the house governor, states that the action taken by King's College Hospital in 1928, whereby women students were excluded, was simply a protective measure, because it was feared that the closing of other hospital doors to women might result in an undue invasion of women at Denmark Hill, it was never regarded as an irrevocable step, but only as temporary and experimental. The objections to co-education which have been urged in some quarters, such as the supposed embarrassment felt by professors in teaching certain aspects of medicine to mixed classes, or the distraction of men students by the introduction of the feminine element have not been experienced at King's College. This action brings the number of London hospitals which admit women medical students up to three. The Royal Free Hospital (London School of Medicine for Women) admits women only, and in addition University College Hospital admits women to a limited number of vacancies not more than twelve each year, making between thirty-six and forty-eight women studying there at any one time. Some of the great teaching hospitals of London have always barred women students; in others the ban has been recently imposed, and in some of these a few women students who joined earlier are still working out their time. London is more conservative in this respect than the provinces, where co-education is the general rule. From statements made in the press by those entitled to speak for other teaching hospitals it does not appear that the example of King's College Hospital is likely to be followed immediately, but the action of King's gives point to a remark in our recent Educational Number that such a state of affairs as the ban upon women in the London medical schools can only be temporary.

NATIONAL INSTITUTE FOR THE DEAF

The National Institute for the Deaf (*formerly the National Bureau for Promoting the General Welfare of the Deaf*) has issued its sixth annual report, which gives an illuminating description of the efforts that are being made in this country, by propaganda and practice, to promote the welfare and interests of the deaf, including those whose sense of hearing has become deficient through accident or disease. Under the direction of the committee of the institute a number of regional associations have been established with the object of ascertaining the medical, educational and industrial requirements of deaf persons within their areas, so that the services of existing agencies may be made as complete and effective as possible. Associations have been organized in the northern, midland, eastern and western counties of England and in Scotland, and associations for London and the Home Counties are expected to be formed at an early date. Besides assisting and co-operating with the various local institutions and societies whose independence is being preserved, these associations take a particular interest in the prevention of deafness in so far as it can be mitigated or cured by early treatment.

prompt treatment—possibilities which the report states are much more frequent than is generally supposed The hardships which confront the deaf in obtaining employment and in adjusting themselves to modern industrial conditions are other problems which the committee intends to investigate more extensively by means of its regional associations Another matter of national importance is the teaching of lip-reading, not only to pupils in schools for the deaf, but to adults who have lost their hearing totally or partially in later life A proposal has been made to found a centre for instruction in this subject which would also be used for the training of teachers While the committee is not directly concerned with the actual work of schools, it supports their claim for adequate educational opportunities Most deaf children at present have no opportunities of receiving further education after they have left school at the age of 16 It has long been recognized by those who are interested in the education of the deaf that no means exist whereby parents, who cannot afford to pay the fees of private schools may obtain secondary education for their deaf children, however qualified they may be to take advantage of it A scheme for a secondary school, which will provide for the deaf the opportunities available to the rest of the population, has been prepared by the committee, and the hope is expressed that financial assistance will be forthcoming to put it into operation This subject is to be considered at a conference to be held at University College, Gower Street, W C, on November 12th, at 2 30 p m, when the report of the committee on the higher education of the deaf will be presented In a speech supporting the aims of the institute, Mr Stanley Baldwin recently deplored the widespread indifference shown towards the feelings of the partially deaf, who were made more sensitive of their infirmity by the ill concealed reluctance of people to speak to them He attributed this lack of sympathy to want of thought and imagination and appealed for that courtesy and consideration which was eagerly and habitually shown by all classes of the community in their behaviour towards the blind

THE PETER BENT BRIGHAM HOSPITAL

Hospital reports are seldom written in so interesting a way as is that of the institution where Professors H A Christian and Harvey Cushing are respectively the physician and the surgeon-in-chief [1] Though the phenomenal activity is shown by statistics and long lists of publications issuing from members of the staff and residents there, the reports of the heads of departments breathe a spirit of humanity, combined with suggestions as to future lines of research, which are rendered specially attractive by the absence of formality in the presentation An example of activity in a special clinic is the attendance in Dr W P Murphy's clinic for anæmia of 388 patients in the year under review, of the cases of Addisonian anæmia followed up two only relapsed, one from financial inability to obtain liver extract and the other from an inadequate dosage In Dr Reginald Fitz's diabetic clinic the effect of liver treatment for long periods of time has been very encouraging, in some cases keeping the urine free from sugar and maintaining the blood sugar at a normal level when previously large quantities of insulin had been necessary Further, the cause of the arterial disease so constantly present in elderly diabetics is under investigation, and it has been shown that angina pectoris and coronary thrombosis are not uncommon complications of diabetes Professor Harvey Cushing gives a list of seventy-eight publications from his department, and raises some questions of special interest, the first being that of the qualifications of future leaders in surgery Shortly before his death Dr R M Pearce of the Rockefeller Foundation asked the surgeon-in-chief of the Peter Bent Brigham Hospital if he would care to give a list of the probable leaders in ten to fifteen years' time, since such a collection in the various branches of medicine would indicate the value or weakness of the present system and be a guide to those who were influencing tendencies at the present time In reply, Professor Cushing declined to prophesy the leaders in the next generation of surgery and neurology, though he said he could easily name five surgeons and as many neurologists who might be expected to fill the part as future leaders any of them, however, might be stricken down by some stroke of ill-luck, or make a fatal *faux pas*, and Lord Haldane's dictum was cited as to the haphazard way by which people arrive at eminence and leadership In conclusion, Professor Cushing quotes his own reply to the frequent questions asked by students whether or not it was worth while to be both a house-physician and a house-surgeon The answer runs as follows "If you are going to be a surgeon it doesn't much matter, for you will have to treat every surgical patient medically as you go along, but if you are going to be a physician, by all means take a surgical house officership first, for you will not only learn what the surgeon can and cannot do, but you will acquire sufficient confidence and judgement to spare yourself from holding a surgical consultation whenever one of your patients gets a belly ache"

[1] The Peter Bent Brigham Hospital Boston Sixteenth Annual Report, for the year 1929 1930 pp 27

TRAINING IN MEDICAL RADIOLOGY

A special feature of the Second International Congress of Radiology in Stockholm two years ago was a meeting held to discuss teaching and training in medical radiology Twenty-three papers on this subject were submitted from as many countries, and these have now been brought together, with interpolated comments into one volume [1] Most of the papers are printed in German, the rest in English or French Dr Stanley Melville is responsible for the British section, and his communication deals largely with the teaching for the diplomas in medical electricity and radiology granted by the Universities of Cambridge, Liverpool, and Edinburgh A point of interest which emerges from these papers is that whilst Great Britain at the time of the congress had no chair of radiology, the United States had twenty-five full professors and nineteen associate or assistant professors and every other country represented had its professor of this subject On the other hand, Britain gives three university diplomas, and is apparently the only country to do this Since the Stockholm congress the University of London has established a chair of radiology, and has appointed Professor Woodburn Morison the first professor There is a good deal of very useful information to be found in many of these papers on the organization of tuition in radiology

A NEW ANTHRAX PRECAUTIONARY CARD

Anthrax, although so well known by name and by inquest reports on its victims, is a rare disease Since statutory notification became obligatory in 1895 only once (in 1916) has the number of cases of industrial anthrax exceeded a hundred in the year Hence its characteristic appearance in the cutaneous form developing about the third day into a central black eschar with a surrounding irregular ring of vesicles, is liable to be neglected by the workman and be wrongly diagnosed by the medical practitioner, unless the latter's attention is arrested by the fact that his patient's occupation is that of dock labourer, wool sorter, or tanner With internal anthrax, the only symptom of which usually resembles a prostrating influenza, the chances are that a diagnosis is only made by bacteriological examination after death Unfortunate happenings of this kind

[1] *Teaching and Training in Medical Radiology Acta Radiologica* Supplementum iv Stockholm 2 Editorial Secretary of the *Acta Radiologica* 1930 (Swedish crowns 20 for orders through booksellers, Swedish crowns 30)

have led the Factory Department of the Home Office to adopt the novel and salutary plan of issuing a card[1] with two coloured illustrations showing the appearance of the so-called malignant pustules on the first or second day, and on the third or fourth day. This the workman can carry about with him, and he is enjoined, if he gets a pimple, to take the card and "show it to the doctor." As in other bacillary infections, serum treatment, combined with physiological rest of the part affected, which is now commonly practised instead of excision, is the more successful the earlier treatment is commenced. The best known of these serums are Sclavo's, Evans Sons Lescher and Webb's, and Mulford's. The illustrations on the precautionary card have a historical interest, as the originals were painted some thirty years ago, at the request of the Factory Department, under the immediate supervision of Dr John Henry Bell of Bradford, who, in 1879, was the first to prove the identity of anthrax in animals with the so-called "wool sorters' disease."

JOINT TUBERCULOSIS COUNCIL.

At a meeting of the Joint Tuberculosis Council, held on October 18th, an announcement was made concerning the transatlantic tour undertaken this summer by fifty-one tuberculosis representatives, and financed by the Sun Life Assurance Company of Canada. In order to make the tour *more useful to participants and non-participants, it had* been decided to allot to various members a special section of the subject for them to observe, reflect upon, and write up on their return, so that when an institution was visited everyone's attention was alert and each visitor full of questions about his particular branch. The subjects chosen and to whom they were allotted are as follows: Dr L. T. S. Burrell, lipiodol and oleothorax; Drs. Dickinson and Clarke, methods of diagnosis; Dr F. H. Coutts, central tuberculosis administration; Drs. Peter Edwards and Goodwin, surgical treatment of pulmonary tuberculosis; Dr Fowler, drug treatment of tuberculosis; Dr Fletcher, methods of recording tuberculosis; Dr G. T. Hebert, pleural effusion; Drs. Jessel and D. A. Powell, local tuberculosis administration, including dispensaries; Drs. Johnstone, McDougall, and Stott, after-care work; Drs. Traill and Lloyd, chest radiography; Dr Martin, the treatment of non-pulmonary tuberculosis; Dr Pugh, the construction of hospitals and sanatoriums; Dr G. P. Price, the treatment of tuberculous pensioners; Drs. Rennie and Thompson, tuberculosis from the *public health viewpoint*; Dr *Stobie*, tuberculin and allied therapy; Dr Tattersall, preventorium work; Drs. Traver and Mayberry, advanced tuberculosis; Dr James Watt, sanatorium administration; Dr Wilson, bacteriology; Dr Wingfield, classification; Dr T. R. Elliott, methods of dealing with tuberculous pregnant women; Dr Dingley, training of nurses in tuberculosis work; Dr Allison, collection of diet, temperature, and other charts; Dr Blackmore, collection of photos; Dr Hefferman, silicosis; Drs. Wood and Holmes, light treatment; Dr Vallow, milk supply; Dr Trimble, haematology and Dr Sutherland, statistics.

FAMILY COUNCIL LAW

THE Eugenics Society has issued a survey[2] of certain measures of protection and control provided by different European countries for those classes of persons who, while neither insane nor feeble-minded, suffer from some degree of mental *instability* which renders them incapable of enjoying the full freedom of ordinary social life. In France, for example, the ancient family council system, consisting of six members of the patient's nearest relatives, is firmly established. The internment of an irresponsible person does not depend on medical certificates, but on the decision of the family council presided over by *the judicial authority*. The strict rules of the Code Civil and the existence of a public prosecutor in each district of France appear to make procedure smooth and effective. The "semi-interdicted," like the irrational spendthrift, may be controlled by the "conseil judiciaire" whose duties are described in detail. Germany considers the State as the prime guardian whenever a guardian is necessary, *although family councils* may be convened for special reasons. The functions of the Court of Wards and the working of the juvenile office are carefully stated. In the Netherlands the family council, as understood in France and elsewhere, does not exist. A system of guardianship, or curatela, supervises borderline cases, being very precise in its attitude to the spendthrift. In Italy the family council exists as a *permanent domestic* board, and its deliberated opinion is required for interdiction. The causes of its assembly, its composition, and its duties are fully described, along with the procedure of interdiction. Another form of guardianship—"inhabilitation"—is applied to the deaf and dumb, the congenitally blind, and where the unsoundness of mind is insufficient to justify interdiction. Scandinavia, here represented by Sweden, deals with its affairs by *Ministries* of State working through the district social and medical boards, assisted by councils of experts. The Temperance *Board gives much attention to dipsomaniacs*, and the marriage code forbids the union of the mentally unfit. The chapter on Scotland takes note of the Scottish practice of voluntary admission to mental hospitals, and the use of observation wards by several of the largest parish councils. The survey concludes with an exposition of the Lunacy Laws of England, a retrospect, and an analysis of the present situation with its difficulties and proposed changes.

MENTAL TREATMENT ACT: APPROVAL OF MEDICAL PRACTITIONERS

MEDICAL practitioners who desire to be approved by the Board of Control for the purpose of making recommendations in respect of voluntary patients under 16 years of age—Section 1 (3) of the Mental Treatment Act—and temporary patients—Section 5 (3)—can obtain the necessary form of application by writing to "The Board of Control, Caxton House West, Tothill Street, London, S.W.," and marking the envelope "M.T.D." in the top left-hand corner. As the Act comes into operation on January 1st next, intending applicants *should write for this form* immediately. The Board cannot entertain applications for approval from medical practitioners of less than five years' standing on the *Medical Register*.

THE next session of the General Medical Council will commence at 2 p.m. on Tuesday, November 25th, when the President, Sir Donald MacAlister, Bt., will take the chair and give an address. The Council will continue to sit from day to day until the termination of its business.

THE *Mitchell Lecture before the Royal College of* Physicians of London will be delivered at the College, Pall Mall East, S.W., by Dr. L. S. T. Burrell, on Thursday, November 13th, at 5 p.m., the subject is 'Indication for treatment in pulmonary tuberculosis."

THE annual dinner of the Society of Medical Officers of Health will be held at the Piccadilly Hotel, London, W., on Thursday next, November 13th, at 7.30 p.m. Reception at 7.10 p.m. The Minister of Health has promised to attend and the occasion will be in the nature of a domestic celebration of distinctions recently conferred on members of the society. The guests of honour will be Sir Eustace Hill, Dr. W. G. Willoughby, President Elect of the British Medical Association, and Mr. G. S. Elliston, M.C., M.A., on his retirement from the post of executive secretary of the society. Owing to absence abroad, Sir Andrew Balfour is unable to attend.

[1] Home Office Form 1893. H.M. Stationery Office. Price 2d. net or 3s. net for 25.

[2] *Family Council Law in Europe*. Issued by the Eugenics Society, 20 Grosvenor Gardens, S.W.1. 3s. 6d.

THE STATE OF THE PUBLIC HEALTH

SIR GEORGE NEWMAN'S REPORT FOR 1929

[FIRST NOTICE]

THE annual report of the Chief Medical Officer of the Ministry of Health[1] is always a vital document, but this year three of its twelve sections are of special importance in view of public agitation about one matter, some ill-informed criticism of another, and changes in public administration affecting the third. The sections are those which deal respectively with maternal mortality and morbidity, the insurance medical service, and the administrative effects of the Local Government Act. We propose in this first notice to deal with these three sections, leaving the other and more statistical parts of the report to a later occasion.

MATERNAL MORTALITY

During 1929 there were 643,673 births registered in England and Wales. The number of deaths classified as due to pregnancy and child-bearing was 2,787, and in addition there were 960 deaths of women not so classified, but returned as associated therewith. The total puerperal mortality (4·33 per thousand births registered) was only slightly below the figure for 1928 (4·42), which was the highest recorded since the classification came into use in 1911. The death rate from puerperal sepsis alone, apart from other puerperal causes, was 1·80, the highest recorded, except in 1920 when it was 1·81. "It is disappointing," says Sir George Newman, "to be unable to report any definite tendency towards reduction, especially as all investigation indicates that these figures might and should be substantially reduced."

An analysis of the figures in relation to locality shows that the northern districts of England have the highest maternal mortality rate. In London the rate is lower than in any other part of the country, a favourable position due in part to the number of maternity hospitals and medical and midwifery schools, but also in part to the smaller proportion of abnormal confinements. Rickets is less familiar in London than in districts of Lancashire and Yorkshire, and therefore there is less risk of pelvic deformity leading to difficult labour; also possibly some forms of toxaemia, causing eclampsia and haemorrhage, are more prevalent in northern industrial districts. The Midlands and South have almost invariably a lower maternal mortality than the North, though a Midland county, Huntingdonshire, has the highest maternal mortality in England, and Radnorshire the same unfortunate pre-eminence in Wales. Puerperal sepsis, as the report points out, is a disease of urban rather than rural life, but the other causes of maternal deaths, such as difficult labour, eclampsia, and haemorrhage, are such as call for prompt and skilled medical aid, which is more readily available in the large towns.

In writing of the interim report by the Departmental Committee on Maternal Mortality and Morbidity, Sir George Newman, who was its chairman, points out that in only 5 per cent of the deaths investigated by the committee was there an absence of reasonable facilities for effective medical care, but in 43 per cent there was an absence of ante-natal care, or errors of judgement by doctor or midwife, or negligence of the patient. "There is, and can be no allocation of blame or culpability, for all the circumstances and conditions are not known, but there is the clearest possible indication of the exact direction and focus of the necessary remedies. They imply amendment in the medical care of the individual mother." Three practical considerations emerge from the report of that committee and of the other departmental committee, on the training and employment of midwives. "First, there is an absolute need for effective ante-natal supervision of every case of pregnancy; secondly, there is a relative need for improved obstetric practice—on the part of doctors and midwives—ante-natal, at childbirth, and post-natal, and lastly, there is a relative need for the fuller completion of local organization to provide, and make available, all the necessary facilities for an effective service." Ante-natal clinics are increasing but as to maternity institutions, although the number is considerably in excess of what it was ten years ago, the bed accommodation is still insufficient to provide for all the women who may desire to be confined in the hospital, partly because there is an increasing demand for the treatment of obstetric complications which were formerly neglected or treated at home, as well as for the treatment of intercurrent diseases associated with pregnancy.

Contraception and the Position of Municipal Clinics

In view of the fact that some local authorities are now being urged by the advocates of contraception to provide facilities for its practice, four pages of the report are devoted to a very clear official statement of the position. It is pointed out that this claim is preferred at a time of falling birth rate, and when the provision for maternity and the treatment of conditions incidental thereto is receiving more skilled attention than formerly, alike in institutions under local authorities, in private medical practice, and in voluntary hospitals. "Birth control" is not a novel idea, it is only the means which have changed. Certain disadvantages attaching to an indiscriminate advocacy of artificial contraception are set down as, for example, that organized public instruction on the subject is liable to become propagandist and pseudo authoritative in presentation and impression, leading to a commercial exploitation of the means, that the effects of artificial contraception may be not only local and physical, but general, organic, and psychological, that the means may be deleterious in their effects, and (apart from sterilization) uncertain in action, and that such methods cannot be a substitute for social amelioration, self-control, or decent conditions of life. Organized instruction in contraceptive methods would be foreign to the purpose of a maternity and child welfare centre established by a local authority for expectant and nursing mothers. It is also considered doubtful whether there is at present a sufficient degree of unanimity in the medical profession or in public opinion *as to contraceptive methods to* justify a local authority supporting out of the rates a centre for systematic instruction. The Ministry's attitude is that the use of maternity and child welfare centres, including ante-natal clinics, for such a purpose would damage their proper work. In particular cases in which there are medical grounds for giving individual advice on contraceptive methods to married women in attendance at the centres, it might be given, but such advice should be limited to cases where further pregnancy would be detrimental to health, and should be offered at a separate session and under conditions such as would not disturb the normal and primary work of the centre.

THE EFFICIENCY OF THE INSURANCE MEDICAL SERVICE

The section on the insurance medical service begins with an assertion of the preventive value of the work of the general practitioner. It is pointed out that the general practitioner, *skilled in diagnosis, who detects tuberculosis* in the early stage and shows the patient how to avoid becoming a source of danger to others, has made an effective contribution to the prevention as well as the cure of disease. The same applies to detection of any infectious condition in the early stage, also to ante-natal care, and to much else in general practice. "The insurance medical service, in active operation every day for some 140,000 patients, has therefore, as I view it, an extremely important place among the agencies which are working for the prevention of disease."

The number of insurance practitioners in England and Wales in 1929 was 15,573, and the average number of insured persons on a practitioner's list was 932. It is estimated that 44 per cent of the men and 33 per cent of the women on the *Medical Register* in this country are engaged in insurance practice. Sir George Newman answers his own question as to how the efficiency of the

[1] *On the State of the Public Health.* Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1929. London: H.M. Stationery Office. 3s. 6d. net.

service is maintained by saying that, first of all reliance is placed on the natural tendency of the doctor to do his best for his patient. As a rule patients are considerate of their doctors and do not make unnecessary demands upon them. As a rule doctors do their best for their patients. There are, of course, exceptions to both rules, but, as I see the position, they are few and far between." Other safeguards are free choice of doctor and the right to lodge complaints with an urgence committees. In 1929 there were 174 complaints against practitioners investigated by medical service subcommittees, and in thirty cases the Minister decided that remuneration should be withheld from the practitioner. Remuneration was also withheld from five practitioners for failure to keep proper medical records, and from eight for failure to furnish information required by the regional medical officer. Two formal representations were made by insurance committees that the continuance of a practitioner on the medical list would be prejudicial to the service, and in one of these cases the Minister removed the name. Sir George Newman recapitulates the procedure with regard to the checking of excessive prescribing. Under this heading in 1929 the number of practitioners interviewed by the regional medical officers was 1,359. In 147 cases a warning letter was sent to the practitioner by the Minister, and thirty cases were referred for investigation by panel committees, in twenty-eight of which it was found by the committee or on appeal by the referees that unnecessary cost had been incurred.

Increased Sickness Claims

The question of increased sickness claims and the controversy with regard to medical certification is again the subject of extended reference. There was a further increase in the number of such claims in 1929. Following on the report by the Government actuary on the examination of the sickness and disablement experience of a group of approved societies[1] two special investigations have been made—the first a scrutiny of the results of reference of insured persons by approved societies to the regional medical staff, and the second (the results of which are not yet available) an investigation of the actual condition of a representative sample of insured persons who were in receipt of sickness or disablement benefit on a given day. The first investigation involved a scrutiny of papers relating to 81,375 persons, being one-sixth of the total number referred during the year. In regard to each person it was ascertained what was the cause of incapacity as certified by the doctor, the duration of the incapacity at the time of reference, and whether, following the reference, the patient was deemed to be capable of work. The causes of illness set out on the medical certificate were grouped in four categories, and the patients were classified as to sex, and in the case of married women, as to age and marital condition. It was found that the proportion of persons who on reference ceased to draw benefit was highest among the married women of 45 and under, single women coming the next highest, and both of these were much higher than the men or the married women of 46 and over. The large proportion of persons who ceased to draw benefit when referred after a relatively short period of incapacity (the cause being set out as catarrh, chill, cold, influenza, neuralgia, and so forth) was also noteworthy. It is admitted—a very important point which seems to need all the emphasis that can be given to it—that in many of these cases if the patient had not been referred, a final certificate would have been issued on the first occasion on which the doctor saw the patient after the date when the reference was, as it happened actually made. But it is added that when full allowance has been made for this probability it is difficult to resist the conclusion that in many of these cases a final certificate ought to have been issued at an earlier date. The societies may be compelled for the protection of their funds to refer cases of this type to the regional medical staff at a much earlier age or illness than has hitherto been the practice of most societies. Whatever new facts may be brought to light it is held that there is room for further effort directed to the reduction of the number of unjustified claims for benefit.

[1] *Supplement* May 10th, p. 213.

Administration of the Local Government Act

Sir George Newman treats at length of the unification of health services under the Local Government Act, 1929. He points out that whilst the new Act calls for the active co-operation of the whole medical profession, and both enlarges and makes more serviceable the clinical applications of the science and art of medicine in many and varied directions, it entails in still higher degree an improvement in the medical and administrative work of the medical officers in the public service. The transfer of institutions to local authorities with ampler resources than the boards of guardians should imply a great improvement in the treatment of both acute and chronic sick. The traditions of British medicine as exemplified in the voluntary hospitals and in the best type of medical practice must become increasingly the routine practice in all these institutions.

With regard to the position and duties of medical officers of health, he thinks that their attention will be absorbed for a considerable time to come in the utilization and development of the transferred functions and institutions. Two fundamental objectives to be borne in mind are that the interest of the patient and the community must be paramount and that the administrative end must be the unification of all the public medical services of the area. The medical officer of health and his medical staff must be the normal responsible and primary advisers of the authority, and they should be so qualified and experienced and in such close touch with the medical practitioners of the area, as to ensure that their advice is safe, sound and competent. He mentions among other matters the appointment of local medical practitioners for outdoor or institutional service as one of the issues on which the medical officer of health should take such counsel as will better qualify him to offer timely and competent advice to his authority.

After some further discussion of the effects of the Act Sir George Newman reiterates the four principal medical points upon which the Act lays emphasis: the transference to 140 larger health authorities of functions hitherto belonging to 650 boards of guardians; the enlargement of the community of interest in State medicine; the change from an annual grant in aid to a "block" grant for health services; and finally the new standard of achievement which the Act sets up.

(To be continued.)

Ireland.

Public Health Reform in the Irish Free State.

THE Irish Free State comprises four county boroughs and twenty-seven administrative county areas with sixty-six urban districts. At the passing of the Local Government Act of 1925, with the exception of Dublin County Borough, there was no whole-time medical officer of health in the Irish Free State; to-day fifteen whole-time county medical officers have been appointed, besides assistant officers in various counties. Some aspects of this rapid progress in public health organization are described by Dr. E. F. Stephenson in a paper recently published in the *Journal of State Medicine* (vol. xxxviii, No. 10).

Central and Local Authorities

The Department of Local Government and Public Health, Dublin—to which Dr. Stephenson is chief medical adviser—was established in 1924 by the Ministers and Secretaries Act, and co-ordinates all the essential health services in the State, preventive and curative. It includes as an integral part of its administration the medical inspection and treatment of school children which is carried out through county boards of health and borough councils—an arrangement that has facilitated the initiation and development of county health schemes. Other circumstances that have simplified the consolidation of the medical services in a single department have been the exclusion, in 1911, of medical benefit under national health insurance and the abolition of insurance committees in 1929.

An effect of the Act of 1925 was to constitute county councils sanitary authorities for the entire rural area of each county. As such, their powers and duties are exercised through boards of health, consisting of ten members elected by proportionate representation. In addition to matters relating to public health, these county boards are charged with the administration of the Medical Charities and other Poor Law Acts—except in Dublin, Cork and Waterford. A board of health is empowered to appoint committees, such as public health, hospital and dispensary, and homes and homes assistance committees. This machinery is stated to promote efficiency and dispatch in the execution of business, while maintaining co-ordination between the services of preventive medicine, treatment, and relief as constituted in the central authority. Local health committees are also appointed at seaside resorts, small towns, and villages to deal with questions of domestic interest.

County Health Scheme

In describing the inauguration of county health schemes—which was assisted by the co-operation of the Rockefeller Foundation—Dr. Stephenson remarks that it is impossible to devise a rigid scheme that can be applied to all parts of the State, each county presents health problems peculiar to itself. Thus in the reorganization of rural health administration, tuberculosis demanded early attention in the counties of Cork, Wicklow, Meath, and Roscommon, where comprehensive schemes under the Tuberculosis Prevention (Ireland) Act were not already in force. Diphtheria immunization campaigns had to be started in Louth (Dundalk) and in certain endemic areas in Cork, where the supervision of meat supplies was also a prominent question. The eradication of typhus fever in Mayo, of enteric fever in Kerry and Galway, and of trachoma on the western seaboard are still outstanding problems. Practical demonstrations on the production of clean milk are contemplated in the principal milk-producing counties, such as Limerick and South Tipperary. Progress, therefore, must depend to a large extent on local conditions—for example, the character and distribution of the population, existing services and institutions, the financial resources available, and the ambition of the local authority. It was early perceived that an enlightened public opinion was essential before advance could be made in public health reform, and much of the success that has now been attained is attributed to preliminary educational propaganda through the press and by direct communications to local authorities dealing with the administrative, epidemiological, and economic problems involved. Statutory sanction was obtained by the Local Authorities (Officers and Employees) Act in 1926 for the appointment of county medical officers of health by selection boards set up by central authorities. This Act, which applies to all professional appointments, has apparently established a virtual State medical service in which local authorities have surrendered their previous patronage. Since the appointment of county medical officers of health, with supervisory powers over all sanitary officers, the responsibilities of district medical officers have been considerably curtailed. Their present duties include the notification of infectious diseases, the reporting of nuisances, etc., and they are employed, as dispensary medical officers, in the domiciliary treatment of tuberculous patients residing in remote places. Tuberculosis officers as such are no longer appointed. Experience has shown that in county areas outside the large centres of population ante-natal supervision and infant and child welfare can generally be carried out most effectively through the part-time service of nurses employed by district nursing associations. These nurses, who are supplied and inspected by the Queen's Institute of District Nursing, act as health visitors and as tuberculosis nurses in their respective districts, and attend to follow-up work in connexion with the school medical service. Excellent work in the prevention of sickness among school children is reported to have been done in Kildare, Louth, Offaly, and Cork, and schemes for a school medical service are coming into operation in other counties where medical officers of health have been appointed. Notable expansion has also taken place in the health services of county boroughs. In Dublin a whole-time medical officer has been appointed in charge of the maternity and child welfare arrangements, and closer co-operation has been instituted with the maternity hospitals of the city, while in the county borough of Cork one part-time official has been replaced by a medical superintendent officer of health, an assistant, and a school medical officer with appropriate staffs.

Food Supplies

Continuity in supervision of food supplies has also been established. By arrangement with the Department of Agriculture veterinary surgeons employed by sanitary authorities to supervise meat and milk supplies also discharge duties under the Diseases of Animals Act and the Bovine Tuberculosis Order over the same area. Arrangements have also been made that veterinary examiners under the Agricultural Produce (Fresh Meat) Act should be officers of the local authority, thus ensuring the soundness of the meat supplies for home consumption as well as for export.

Montgomery Lecture in Ophthalmology

The Montgomery Lecture in Ophthalmology was delivered recently in the Medical School, Trinity College, Dublin, by Dr. Francis S. Lavery, who selected for his subject the distribution and control of trachoma in the Irish Free State. He stated that reliable statistics of the incidence of trachoma in Ireland had not yet been compiled but that he had been engaged in this subject during the last twelve months. His investigations led him to conclude that trachoma was much more widely prevalent than was generally supposed. About a hundred new cases were treated annually in the Royal Victoria Eye and Ear Hospital, Dublin, but this was by no means an indication of the entire number of existing cases. His investigations among children in several institutions revealed that very many children were suffering from the disease. Those in charge of institutions often failed to recognize that there was anything wrong until almost irreparable damage to eyesight had been done. In one orphanage where he had found 23 per cent. of the children suffering from the disease, eleven fresh cases appeared during an investigation conducted eighteen months later. In urging the extension of school inspection and the establishment of special institutions for the segregation and treatment of children suffering from trachoma, he referred to the good work that was being done in the institutions at Swanley, Kent, and expressed the hope that similar institutions on a smaller scale would soon be established in the Free State.

Scotland.

Scientific Committee for Medical Investigation

A scientific advisory committee on medical administration and investigation has been appointed by the Secretary of State for Scotland, with the following reference: "To assist the Department of Health for Scotland in applying the results of scientific research to the details of public health administration and in promoting such medical investigations as come within the sphere of the Department or of the local authorities in Scotland." The members of the committee are as follows:

Alex. Bowman, D.Sc., F.R.S.E., Scientific Superintendent, Marine Laboratory of the Fishery Board for Scotland.

Carl Hamilton Browning, M.D., F.R.S., Professor of Bacteriology, Glasgow University.

E. P. Cathcart, C.B.E., M.D., F.R.S., Professor of Physiology, Glasgow University.

T. A. E. Crew, M.D., D.Sc., Professor of Animal Genetics, Edinburgh University, and Director of Animal Breeding Research Department.

Sir Walter M. Fletcher, K.B.E., M.D., F.R.S., Secretary to the Medical Research Council.

Sir Robert Greig, M.Sc., F.R.S.E., Secretary, Department of Agriculture for Scotland.

John Jeffrey, C.B., Secretary, Department of Health for Scotland.

J. Parlane Kinloch, M.D., Chief Medical Officer, Department of Health for Scotland.

A S M Macgregor, M D, Medical Officer of Health, Glasgow
T J Mackie, M D, Professor of Bacteriology, Edinburgh University
J J R Macleod D Sc., M B, Professor of Physiology, Aberdeen University
Robert Muir, M D F R S, Professor of Pathology, Glasgow University
J B Orr D S O, M D, Director of the Rowett Institute for Research in Animal Nutrition, Aberdeen
W J Tulloch, M D, Professor of Bacteriology, St Andrews University

Dr Parlane Kinloch is chairman, and Mr George Wallace of the Department of Health for Scotland is secretary of the committee The appointment of the committee follows on the conference of research organizations which was held in Edinburgh in November of last year, and at which Mr Johnston, M P, Under Secretary of State, presided A more intensive use of Scottish research material and the correlation of work in the biological sciences, having a bearing on medical as well as on agricultural, fishery, or other fields, were urged at the conference It was also urged at the conference that a scientific advisory committee would secure for community health purposes the application of the most recent results of medical research It will be noted that the personnel of the committee includes representatives of several branches of biological work

Reopening of Bridge of Allan Spa.

The spa buildings at Bridge of Allan were formally reopened by Sir Humphry Rolleston on October 30th The mineral waters of this resort have been known for upwards of 150 years, and in the middle of the last century the town received annually more than 30,000 visitors Gradually, however, the popularity of the spa began to decline, no doubt on account of the fact that the equipment of the wells house was not kept up to date, but a determined effort has now been made to restore its former reputation The town council acquired the property a few years ago, and investigations were made to ascertain whether the waters still retained their properties Among those consulted were Dr Judd Lewis, chairman of the Standard Measurements Committee of the International Society of Medical Hydrology, and Dr R Fortescue Fox chairman of the council of that society The results of analysis were so satisfactory that a scheme for renovation and modernizing was entered upon six months ago The new spa comprises a pump room for the sale of mineral water, a sun lounge fitted with "vita" glass, bathrooms for hydrotherapy, and a department for electrotherapy and inhalation The town council has arranged with the Allan Water and Spa Hotel, whose property adjoins the wells, to administer the establishment Bridge of Allan is situated about thirty miles to the north of Glasgow on one of the spurs of the Ochil Hills Sheltered from north and east winds it has a southerly aspect, and is easy of access from all parts of Scotland The journey by road or rail from Edinburgh, Glasgow, and Perth takes little more than an hour

Sir Humphry Rolleston's Address

The opening ceremony was performed in the sun lounge and the large company was presided over by Provost Dunbar Sir Humphry Rolleston, in the course of his address, said there was no doubt whatever that spa treatment did good, but exactly how this was brought about invited considerable discussion Obviously many factors might play a part, some of these were shared by all health resorts, whether or not they possessed any special waters, and whether or not they made full use of such advantages Thus a division of health resorts might be made into (1) those benefiting their visitors in a general manner on account of change of climate and atmospheric conditions, winds, pure air, sunshine and (2) spas exerting a specific influence in virtue of the internal and external effects of waters containing active principles such as certain salts Factors common to all health resorts included change of scene and all that this meant in mental rest and freedom from routine and worry a new physical as well as mental atmosphere bracing, dry or soothing, instead of the reverse, life in the open in place of an office or study There was much to be learned about the way in which mere change of environment did good or harm, quite apart from the healthy life and wholesome diet that should form part of a holiday The factors peculiar to individual spas were numerous and diverse, some being obvious at the first glance The chemical composition of the water and its temperature must, of course, be taken seriously into consideration The influence of iodine in water in preventing goitre was now well known, but much remained to be learned about the effect of minute quantities of constituents such as arsenic copper, magnesium, strontium, and barium in spa waters, especially when they were in organic combination Bridge of Allan had great natural advantages, its protected position resembled that of Cheltenham in the West of England and Montpellier in the South of France, and therefore its season extended from January 1st to December 31st The town council was to be congratulated on acquiring the wells with a view to restoring Bridge of Allan to its high position among the spas of Scotland An important factor in the permanent success of a spa was knowledge kept up to date by watchful investigation not only of the health promoting characters of the place and its waters, and of the methods of putting them to the best use, but also of the diseases which could with advantage be treated there Further—and this was a difficult problem, perhaps yet to be fully solved—how to recognize the constitutional peculiarities which determined whether or not a patient was likely to benefit from residence in the place, and what kind of treatment was suitable to each visitor These and other questions must be entrusted to medical advisers and on their decisions much must turn in establishing the reputation of a spa Bridge of Allan had a triple qualification for assured success—its climate, scenery and associations, the exceptional composition of its water, and a fine up-to-date equipment

Dr Fortescue Fox said that he had been interested for many years in the waters of Bridge of Allan and in the possibilities of the place as a health resort He did not know any spa which had been more thoroughly reported upon A new classification of waters had just been adopted at the Lisbon meeting of the International Society of Hydrology It was now proposed to group the waters of all countries on an organized method, and one of the examples set forth in a specimen register was the water of Bridge of Allan described therein as a chloride and calcium water

Changes in Scottish Public Health Administration.

Dr A S M Macgregor, medical officer of health for the city of Glasgow, delivered an address in Glasgow, on October 28th, dealing with the effects on public health administration of the Local Government Act 1929 In the new health organization, he said, nothing dramatic or novel was involved, there had been a consolidation of the various authorities, and the health committee of the corporation, for example, now administered a comprehensive service embracing in addition to the special hospitals administered under the Poor Law the mental hospitals and the medical inspection and treatment of school children This implied that such medical functions would in future be dependent on and related to one another and would advance in accordance with a concerted policy The Act went further than this, however, and embraced the institutional treatment of all sick persons whether they were under the Poor Law Acts or not Thus a large question had been opened up, since the local authority was now empowered to take into consideration all the sick within its area This meant that a careful examination must be made of the whole situation in association with the existing facilities provided by voluntary hospitals and other agencies The position of the latter was fully safeguarded under the Act, but there would be improved accommodation and medical service The Act involved a unified effort to place on a sound footing the medical services of the whole country, and it also made the preventive aspect the first consideration The suppression of smaller local authorities would enable health problems to be surveyed and solved in a more efficient manner, especially those concerning hospital accommodation for special purposes, which could best be dealt with by regional co-operation

Retirement of Edinburgh Medical Officer of Health

Dr William Robertson who retired recently from the post of medical officer of health to the city of Edinburgh was entertained at luncheon on October 30th by the Edinburgh Town Council and was presented with a set of the *Encyclopædia Britannica*. Lord Provost Whitson in making the presentation, said that Dr Robertson after acting as medical officer of health for Perth and Auchterarder, went to Paisley in 1898 as whole-time medical officer and thereafter held a similar post in the burgh of Leith for nineteen years. In 1920, after the amalgamation of Leith and Edinburgh he became assistant medical officer of health under Dr Maxwell Williamson, whom he succeeded in 1922. His tenure of office in Edinburgh had been most successful. In addition he had found time to contribute to various journals over fifty articles dealing with hygiene, and had written a number of standard books on health subjects. His lectures on sanitary law in Edinburgh University had been noted for their breadth and clearness of vision. Having now come to the end of his official career with the corporation, the members wished him a long and happy life in his retirement. In returning thanks Dr Robertson said that there were two types of medical officer—the academic official and the non-academic official, he considered that he belonged to the second category, for in his opinion it was necessary to get among the people if one wanted to have things done. He thought that no city in the United Kingdom had done more for public health propaganda than Edinburgh. What could be achieved by public health education was illustrated by the fact that in Edinburgh, with a population of 420,000, out of 24,000 gallons of milk sold daily 16,000 gallons were of high grade quality, while in Glasgow, with its population of over 1,000,000, only 2,000 gallons of high grade milk were sold.

England and Wales.

King Edward's Hospital Fund for London

The financial and vital statistics contained in the annual statistical review of the London hospitals for 1929, which has just been published by the King Edward's Hospital Fund for London, indicate that, so far as London is concerned the voluntary hospitals have never had a larger measure of public confidence since the first report was issued in 1903. At that date the figures related to 16 hospitals, the present report reviews the work of 138. The review opens with a table showing the extension of hospital work during the last five years. Since 1925 the bed complement has increased by 1,810, the average number of beds occupied by 1,550, while the number of new in-patients has increased by 38,000—10,900 in the course of the year. Although a decrease of 4,000 is recorded in the number of new out-patients, compared with the previous year, the number of out-patient attendances increased by 84,000. A reduction in the average period of residence has enabled a larger number of patients to take advantage of the services of the hospitals, which are no longer confined to the indigent sick. This remarkable expansion in volume of work has been accompanied by increasing financial support. Since 1925 the annual receipts from voluntary sources for all purposes, including receipts for building and endowment, have exceeded £2 000 000, while a record sum of £2,852,000 was received in 1929. The total income of all the hospitals dealt with in the review amounted to £3,600,000—an increase of £168,000 on the preceding year. In spite of an advance of £135,000 in the total expenditure, due to progress in various directions, including the addition of 380 new beds, the aggregate surplus of income over expenditure for the year was £50,000 compared with £17 000 in 1928. Income from legacies exceeded the figure of the previous year by £129 000. In the main divisions of ordinary income there was a decrease of £57,000 in donations, but an increase of £78 000 in receipts from patients, while the total ordinary income increased by £40 000. Details of income and expenditure are illustrated, as in the previous report, by coloured graphs and diagrams. The difficulties of the hospitals in recent years have not been caused by diminishing income but by increased expenditure which in 1929 amounted to £3 550 000 compared with £3 415 000 in 1928. Of the increase of £516 000 since 1925 approximately £400,000 has been due to extended service, the remainder being accounted for by the increasing cost of hospital treatment. It should be noted, however, that these rising costs reflect the expense of additional benefits given by the hospitals to their patients as a result of advances in medical and surgical practice. A comparison between the increased expenditure and the increased volume of work shows that the expenditure for 1929 increased by 4 per cent. over the previous year, and by 17 per cent. over that in 1925, the beds occupied by 2·9 per cent. over the previous year and 13 per cent. over 1925, while out-patient attendances rose by 1 per cent. compared with 1928 and 15·5 per cent. compared with 1925. Notwithstanding the fact that a larger number of hospitals had deficits during the year, the aggregate amount of the deficits was smaller, and the total amount of surpluses larger than in 1928. Copies of the statistical summary and review may be obtained from the offices of the Fund, 7, Walbrook, E.C.4, price 1s. each.

Tuberculosis in Lancashire

The importance of having an efficient dispensary organization in a tuberculosis scheme is strongly emphasized by Dr G. Lissant Cox, central tuberculosis officer for Lancashire, in his annual report for 1929. He points out that the objective of the dispensary work comprises early diagnosis and prevention, rather than cure, close co-operation with general practitioners and health officials being essential. A dispensary must be the centre of activity for a town or district in regard to measures for the prevention of the disease, the expert examination and diagnosis of cases, and the supervision and special treatment of all known tuberculous persons. For dispensary purposes the administrative county of Lancashire contains five large areas and two sub-areas. In each large area there is a chief dispensary co-ordinating the whole of the work, and branch dispensaries have been provided, there is also a pulmonary hospital containing about fifty beds for observation cases and the treatment of intermediate and advanced cases of pulmonary tuberculosis near the homes of the patients. The two sub-areas come under the control of the medical superintendents of the High Carley and Elswick Sanatoriums respectively. The report contains a small-scale map showing the arrangements of the dispensary areas in the county, and also a chart indicating the more important items for which the consultant tuberculosis officer of a dispensary area is responsible, the whole of the organization and work of one of these areas can thus be seen at a glance.

A considerable portion of this annual report is devoted to research work and new methods of treatment. The proportion of sanatorium beds for children in the administrative county is less than elsewhere, and the question naturally arose whether the fact that many children examined on suspicion of the disease, and rejected for treatment as being free from it, might result in early cases being overlooked, the beginnings of disease in later life being thus left to progress. A special investigation was therefore undertaken, and it was found that the rejection of 59 per cent. of the children up to the age of 15, who had been suspected of having tuberculosis, appeared to be fully justified. Of 1 084 young adults entered on the dispensary registers as new pulmonary cases, only 0·64 per cent. had been previously rejected in childhood by the tuberculosis officers. This very conservative diagnosis of pulmonary tuberculosis in children has resulted in the saving of public money, owing to the reduction in the number of sanatorium beds that it has entailed. In his previous report (for 1928) Dr Lissant Cox dealt at length with the inquiry into the fate of young children in tuberculous households and reference was made in the *Journal* of November 6th 1929 (p. 827), to the low figure of subsequent infection which was thus obtained. It is now mentioned that confirmation of the Lancashire results has been subsequently reported in the case of Leeds, while

an inquiry undertaken by the research department of the Brompton Hospital led to the finding that the percentage death rate within the first five years of life for children living from birth in contact with a parent whose sputum was positive is 2·6 per cent the corresponding figure for Lancashire is 2·7 per cent A study of the value of sanocrysin treatment has been continued and Dr Jessamine Cox is inclined to advise serious consideration of its use for patients who do not respond to ordinary sanatorium treatment Careful spacing of the intervals between the doses is necessary when reactions occur He find that the most obvious results are the effect on the sputum as regards the disappearance of bacilli and the improvement in the lesions in the lungs made manifest by skiagrams taken before and after treatment Another line of research which was followed was the value of irradiated milk in tuberculosis the results of the trial although limited to a few patients only did not seem to justify the introduction of irradiated milk as a routine part of sanatorium treatment Dr Cox adds, however that it is possible that a similar trial made on tuberculous patients living at home might have yielded different results, since many factors which obtain in the sanatorium regime are absent in home treatment even when coupled with dispensary supervision For example heliotherapy was practised at the institution where this investigation was conducted and it may be that an adequate amount of vitamin D was obtained in any case from that source

Artificial pneumothorax treatment has been proceeding satisfactorily, and is now classed as a most valuable adjunct to sanatorium treatment The special advantages thus gained were the more rapid disappearance of tubercle bacilli from the sputum the relief of symptoms in certain cases of bronchiectasis, and the diagnosis of obscure chest conditions especially new growths Its employment is said to be indicated in 10 to 15 per cent of admissions to a pulmonary hospital, and it was found to be especially useful in young adults who frequently responded poorly to ordinary sanatorium treatment Artificial light treatment at the dispensaries has continued to give satisfactory results, especially as regards patients suffering from tuberculosis of the skin and tuberculous adenitis with abscess formation and skin involvement The average cost of this treatment at twelve centres amounted to 4s 6½d per patient per week very considerable reduction in expenditure was thus effected, since a large proportion of the patients would otherwise have required treatment in residential institutions The cost of the tuberculosis scheme of the county council has amounted to a county rate of 1½d in the £, after making allowance for Government grants

Rheumatism in Childhood.

A Chadwick public lecture on rheumatism in childhood was given by Dr Gerald Slot on October 30th in the Great Hall of the British Medical Association with Sir Thomas Barlow in the chair Dr Slot said that the London County Council had found it necessary to institute a special department to deal with this problem In 1919 20 per cent of the invalidity of school children in London was due to tuberculosis, and 14·5 per cent to rheumatism in 1926 it was 12 per cent due to tuberculosis and 24 per cent to rheumatism and current figures showed lower tuberculosis figures and higher figures for rheumatism At least 25 per cent of the chronic invalidism in children was due to rheumatism and its terrible consequences—heart disease Tonsillectomy was of no proved value as a remedy Almost every case of recurrent rheumatic fever he saw had had tonsillectomy and it was not agreed that there was a higher incidence of inflamed tonsils in rheumatic children Some 15,000 cases of tonsils and adenoids were treated at LCC clinics last year Tonsils should not be removed merely because a child was rheumatic if there were no other signs of throat trouble Up to the present no specific treatment had been found but there were indications that calcium therapy might prove of real value The great step in prevention of rheumatism was the organization of rheumatism supervisory clinics several of which had been established in London and the provinces The clinic acted as a learning house consultative centre and centre for rheumatic research Working in conjunction with these clinics were the physically defective schools which formed an important and necessary link in the treatment of rheumatic children The problem of the after-care of these children was an urgent one various methods were tried by which they were taught trades suitable to their physical needs The ultimate solution of the problem depended upon a realization of the severity of the disease and its crippling effects Arrangements for adequate hospitalization and suitable methods of education proper work for the children on leaving school—all these were essential

Correspondence.

ROYAL MEDICAL BENEVOLENT FUND

Christmas Appeal

SIR,—Next month we shall be preparing to give as is our usual custom a Christmas Gift of £20 to each of our annuitants and to some of the most necessitous of the grantees These gifts are looked forward to by many Some of the regular recipients are blind, others are deaf, and many of them are old and infirm all are facing the hard lips of poverty Each year the number on our books increases and we need no less a sum than £550 this year if no one is to be left out

I appeal in plenty of time before Christmas, because we urgently need the money Will any reader who has not yet contributed please make his first Christmas Gift to this cause and thereby help a fallen colleague, or his widow or orphans? If he cannot give a large donation, may I ask him not to disregard my appeal but to send any sum however small to the Treasurer Royal Medical Benevolent Fund, 11, Chandos Street, Cavendish Square, W1—I am, etc,

London, W1 Nov 3rd THOMAS BARLOW

VACCINATION WITH BCG

SIR,—In the *British Medical Journal* of October 25th an editorial article has been published on Vaccination with BCG which informs your readers inaccurately of the reports read on this subject at the International Conference at Oslo Would you allow me to put things right please?

The ten reports which have been presented to the above-mentioned conference have unanimously asserted the perfect harmlessness of BCG The president of the German delegation Professor Hamel, has declared that BCG cannot be held responsible for the Lübeck disaster which is due to a contamination at Lübeck of the BCG strain sent by the Pasteur Institute in perfect condition not virulent for guinea pigs

On the other hand, Professor Neufeld director of the Robert Koch Institute Berlin has textually declared and published in the *Deutsche medizinische Wochenschrift* of September 19th 1930

If it be true that BCG vaccination can be but partially efficient we must not forget that it is impossible to inoculate more virulent bacilli in man and that is why BCG according to the actual state of our knowledge represent the minimum chance of success in antituberculous vaccination Calmette and Guerin have had the merit of putting such a vaccine at our disposal It is our duty in fighting this frightful disease to use every process based on sufficient scientific research work That is why I proposed that the authorities should introduce BCG vaccination in Germany on a larger scale as a trial especially in particularly exposed areas

When writing of Prof Troff's R and S colonies I failed from BCC the author of the editorial article in the *British Medical Journal* ignores that Professor Neufeld stated, in his report at Oslo that the Robert Koch Institute, having obtained R and S strain from Petroff had established the presence of virulent *Tuberculi bacilli* in R and S cultures and that consequently Petroff's experiments cannot be taken seriously nor Watson Cutler He added that in his opinion BCG is many times innocuous and the publications seeming to be in contradiction with the fact result from experimental errors Finally the writer of the article says to me that the vaccines Bu he forgets that they are the only ones that

immunize in a durable way, dead bacilli being only able to provoke ephemeral immunity Nobody fears Jenner's cow-pox vaccine, or Pasteur's hydrophobia, anthrax, or rouget vaccines, and they are *living* vaccines

Great Britain, Austria, and Portugal are the only European countries where as yet B C G vaccination has not been experimentally tried This is to be regretted, because evidence has been furnished at the Oslo conference that the *general mortality* is considerably lower in *vaccinated* than in *non-vaccinated* children—a striking proof of the innocuousness of B C G —I am, etc ,

Institut Pasteur, Paris, Oct 31st PROFR A CALMETTE

INDICATIONS FOR PERFORMING WILDE'S INCISION

SIR,—As no otologist, or other person interested in the aural complications of infectious diseases, has accepted Mr Burt Hamilton's suggestion (October 11th, p 619) that he or she should express an opinion on the value of Wilde's incision, may I now be allowed to reply to his letter?

First, let us drop the term "Wilde" and call it the "simple" incision, for Sir William told us to make it "at least an inch in length," and now we make it to fit the case, often a mere snick, not more than a quarter of that Next, how does this small operation fit in with the advance of medicine? There are no more corners of the body for surgery to assail, and we know just how much can be cut out We have now to learn how little we must do, and not how much we may do We have to learn the conditions for which a minor operation is enough where now we do a major The substitution of a simple incision for a mastoid operation in certain cases is an advance along these lines, and its possibilities must be closely scrutinized

So now for Mr Burt Hamilton He states that "one operation is better than two" As a surgical principle there must be many exceptions to this Other general principles come before it For instance, that big things should not be done where small are enough Even when the small thing has to be repeated it should still come first Witness washing out the maxillary sinus some half-dozen times And a simple incision for retro-auricular swelling is no bigger than that operation

Take another general principle That in acute illness one should deal with the acute trouble and leave the underlying disease for later This is equivalent to saying that under certain conditions, two operations are better than one I wonder how many persons have lost their lives because the surgeon did a primary resection of the gut in a case of obstruction instead of merely relieving the latter I have been so impressed with the value of this rule in the cases seen at the fever hospitals that I now apply it to those seen elsewhere I incise the swelling and do the mastoid operation about a week later I do this for the reason Mr Burt Hamilton gives—that when an "incomplete operation is performed" you do not get so good a result But it is the completeness of the bone work that matters The incision is but the means of access to this To operate across a mass of oedematous tissue, perhaps an inch in thickness, makes one much less certain of doing good work on the bone

I am sorry Mr Burt Hamilton thinks my two indications for doing the mastoid operation at once—namely, rigidity of the neck, and rigors—"do not materially alter the general proposition" I fear his dictum may prevent medical officers of fever hospitals from sending for otologists when they really are needed I am sure that the main reason why the otologist has been so long in getting foothold in the fever hospital has been the sweeping nature of his statements Medical officers in fever hospitals know that a simple incision does get a certain number of patients well When they meet an otologist who will admit that they may know something about the diseases in which they specialize and who is willing to try this method they reciprocate, and are willing to let him do the mastoid operation later in those cases where the simple incision does not cure, they also help him to sort out those few cases in which the major operation must be done immediately If an aural surgeon will not admit the value of a simple incision they will continue to do it without asking him, and if he adds that neck rigidity and rigors "do not materially alter the general proposition" they will continue to do it in these cases as well

I have only replied to Mr Burt Hamilton on matters of principle, in matters of detail we should probably come to a compromise, or even find ourselves in agreement after a half-hour's talk I have re-read my article, and see no reason to alter my assertion that in all cases of infectious disease in which retro-auricular swelling arises it is best to make a simple incision This is subject to the two exceptions quoted above, and to the fact that it is but rarely likely to be of value in the adult, as mentioned later in my paper Even though it may be a "very sweeping statement" I believe it to be true That it is a "very surprising statement" to one who has experience of ear disease in the infectious fevers is a matter of great interest to me It is also a matter of gratification, for it shows that the service of the council to which I have the honour to belong is in advance of the times in this matter, and has something from which others may learn —I am, etc ,

London, W 1, October 29th T B LAYTON

INVAGINATION OF DUODENAL ULCERS

SIR,—I have recently begun to deal with one variety of duodenal ulcer by invagination, or by raising folds on each side and burying it For the small ulcer, the first procedure is suitable, while for the larger kind, the latter method may be used The more severe operation of gastro-enterostomy is eliminated altogether The type of ulcer to which I refer is that which is non-obstructive, easily accessible, and situated on the anterior surface of the gut, at least half an inch from the pyloric ring, ulcers lying nearer the ring are, when buried, likely to involve or encroach upon the sphincter

This method of treatment is much on a par with that of simple closure of the perforating type of ulcer Very many of these cases are successfully dealt with year after year in surgical practice, in the great majority no further or later treatment is called for My results, so far, have been particularly satisfactory, but the number of cases is small Has any other surgeon adopted this method to any extent, and with what success?—I am, etc ,

Leigh, Lancs, Oct. 24th DONALD MACLEOD, F R C S ED

CONGENITAL RADIO-ULNAR SYNOSTOSIS

SIR,—Mr Bryan McFarland's letter in the *Journal* of October 18th (p 664) recognizes only two types of synostosis of radio-ulnar joint, he states that he cannot find in the literature any reference to the "dislocated head" type mentioned and described in my article I would like to refer Mr McFarland to John Fraser's *Surgery of Childhood*, from which I quote the following "The third type of synostosis is the 'dislocated head' type in which the head of the radius is well developed, but is displaced backwards or forwards" Also Abbott writes in *Surgical Diagnosis* (Graham) "In the latter type, the head of the radius is more or less normally developed, but is dislocated"

Mr McFarland states also that pronation through 90 degrees "completely precludes the possibility of the existence of a radio-ulnar synostosis" In reply I again quote Fraser "Flexion is normal, extension is limited, and pronation varies from 90 to 120 degrees", and this also is in direct contrast with Mr McFarland's statement that in radio-ulnar synostosis "flexion and extension are unimpaired"

Lastly, Mr McFarland suggests that the first case which I described is one of congenital dislocation of the radius, and not a synostosis In congenital dislocation only, supination is possible though an appreciable angle, whereas in the case described supination was not possible at all Abbott, in *Surgical Diagnosis*, states "It should be remembered that in a partial dislocation of the head of the radius, there is often fusion of the upper end of the radius and ulna"—I am, etc ,

Preston, Oct 26th. DAVID J DAVIES

PYREXIA OF UNCERTAIN ORIGIN

SIR,—Now that Dr Crookshank (November 1st, p 756) has entered the arena we may hope, under his guidance, to learn something from the discussion, and I would refer those interested to a more extensive presentation of his theme[1] reproduced in his *Epidemiological Essays*. His gibe against the systematists is a fair one, yet in the same paragraph he condones a systematist fallacy. Surely no toxin postulated by Dr Chalmers (October 25th, p 711) as the primary etiological factor in these epidemics is merely a sequel to pyrexia commonly observed in children, and particularly in the 'acidotic' type.

May those at present observing epidemics bear in mind Dr Crookshank's words—let us hear more from them when the field work is done! In my series the posterior root ganglion was the common cerebro-spinal localization, and no case developed signs associating it at all closely with the Heine-Medin group. I am, however, ready to accept this association, for Schall's[2] cases presented many features in common with those now under discussion. Batten in his Lumleian Lecture (1916), looks upon the inclusion of a neuritic type (VI) in the Heine-Medin group as not proven, but he writes: "The knowledge that a serous meningitis is present may not be of great value, but a serous meningitis of acute onset which rapidly clears up is strongly in favour of poliomyelitis."—I am, etc.

Stratton-on-the-Fosse, Bath, Nov 3rd. W. H. BRADLEY.

AVERTIN ANAESTHESIA

SIR,—In his letter published on November 1st Dr Parsons gives me convincing proof of the correctness of my deduction: his knowledge of avertin is second-hand, and he really does not understand the position. In the first place, no one who has any knowledge of anaesthesia would dream of using avertin for routine work. In the second place, the manufacturers when introducing avertin into this country described it as a basal anaesthetic and stressed the importance of not attempting to produce complete anaesthesia with it, its chief value, according to them, lay in its prevention of psychic shock. It also diminishes the amount of the general anaesthetic which may be given with it. To say therefore that "if avertin has to be given along with other anaesthetics the principal object of its use for routine work has disappeared," and that "if it has to be given in conjunction with another anaesthetic it ceases to be of primary importance" is to display a lack of knowledge of the subject which is startling. The statement about sodium amytal carries no weight as I see that Dr Parsons himself is reported in the *Lancet* (September 27th, p 694) to have said during a discussion on this drug at Winnipeg that the dosage appeared unsatisfactory.—I am, etc.

London, N.W.1, Nov 1st. FRANCIS E. SHIPWAY.

TUBERCULOSIS OF THE TONGUE

SIR,—I am interested in para 328 of the *Epitome* of October 11th, and also in the letter of Dr John R. Gillespie, which appeared in the *Journal* of October 25th (p 710). Lingual tuberculosis appears nowadays to be comparatively rare, and the following case may therefore be of some interest.

When the patient first came under my observation in hospital he had signs of extensive involvement of the lung. It was reported that he had had pleurisy about three months before, and thereafter a troublesome cough and purulent expectoration. The voice was weak, and examination of the larynx showed slight ulceration of the right vocal cord. Investigation of the chest revealed extensive disease in the left lung, with dry pleurisy in the lower part of the left side of the chest; there was also slight involvement of the right upper lobe. Tubercle bacilli were present in the *sputum*. Pain in the left side of the mouth was rapidly followed by the onset of ulceration on the under surface of the tongue within a few weeks; it had extended from the anterior pillar of the fauces along the left side of the tongue, reaching nearly to the *frenum*. The base of the ulcer showed some induration, and the surface was covered by greyish granulations. Slight oedema of the left cheek also developed and was persistent. The Wassermann reaction was negative.

The patient's condition became worse. In attempts to relieve the pain in the tongue several different local applications including orthoform and anaesthesin were tried, but little benefit resulted. Pepsin had ultimately to be made to swallow. Tuberculin therapy was deemed inadvisable owing to the extent and activity of the disease in the lung. After remaining in hospital for two months the patient went home and died there three weeks later.

It would be interesting to know how many of these cases of lingual tuberculosis are associated also with infiltration or ulceration of the larynx.—I am, etc.,

Rotherham, Oct 28th. E. ASHWORTH UNDERWOOD.

SIR,—The recent observations in the *British Medical Journal* regarding lingual tuberculosis have interested me. In an experience of tuberculosis lasting hardly as many months as your correspondent Dr J. R. Gillespie has years of service I have seen two cases of tuberculosis of the tongue.

The first was in a man aged 53 who had an ulcer removed in April 1929. The examination, was found to be tuberculous, and he was referred to the tuberculosis dispensary. He showed involvement of the right upper lobe and left apex, and was sent to a sanatorium where however he stayed only a limited time and made moderate improvement. Later the tongue showed a deep fissure at the tip to the left of the middle line and two superficial ulcerations on either side of the fissure. The condition was very painful at the beginning and the sense of taste was lost. He is now having x-ray treatment and some improvement can be seen. The ulcers look clean and healthy, there is no induration, the pain has been relieved, although the sense of taste is still lacking, and slight closing in of the edges is noted.

The second case came to my notice two weeks ago. This also was in a man aged 42. There is extensive and active disease in both lungs with a positive *sputum*. The larynx is also affected, and there is an elongated deep ulcer of the left side of the dorsum of the tongue. The edges are irregular, there is no induration, and no associated pain or loss of taste. His general condition is extremely poor, and the prognosis is certainly bad.

—I am, etc.,

Maltby, Rotherham, Oct 31st. WILLIAM LEE, M.B.

ABDOMINAL EMERGENCIES WHEN FLYING

SIR,—I was much interested in the report of Surgeon Commander Twigg in your issue of October 25th (p 687) on a case of perforation of duodenal ulcer when flying. Commander Twigg postulates this as the first recorded case of an abdominal emergency when flying. I should like to state, however, that in 1910 an airman was admitted to the Cambridge Hospital, Aldershot, immediately after landing from what was then considered a long flight from the West of England. He had acute abdominal symptoms, and I removed his appendix which had perforated under pinal analgesia. He made an uneventful recovery, and has since become famous. His case was recorded at the time in my annual report as surgical specialist to the Aldershot Command, and was subsequently incorporated in a series of 400 cases of operation under spinal analgesia reported in the *Journal of the Royal Army Medical Corps* for January, 1913.—I am, etc.,

Cheltenham, Nov 2nd. J. W. H. HOUGHTON, Colonel late R.A.M.C. (ret.).

TONSILS AND ADENOIDS

SIR,—Your leading article under this heading (November 1st) is liable to misinterpretation: there would be no so-called problem of tonsils and adenoids if the subject were dealt with on general surgical principles. In any given case if the palatine and pharyngeal tonsils are the site of chronic sepsis they should be removed: there is no question of operation dissemination. But to leave to itself septic untreated on the pleura or meninges is inexcusable.—I am, etc.,

Hove, Nov 2nd. T. S. ALLEN.

[1] *Lancet*, March 15th, 1919, p 609.
[2] Crookshank, *Epidemiology*, Vol. II, Kegan Paul, 1923–24, p 11.

PHYSIOLOGICAL RESEARCH AND CLINICAL MEDICINE

SIR,—In an address published in the *Journal* of October 11th (p 612) Lord Moynihan asserts, quite fairly, that physiology has a true mission "to elucidate the problem of the normal function of man's organs" Of course, it has a still wider range, in both the animal and the vegetable kingdoms, but the real point at issue is that chairs of physiology in this country were largely founded as an integral portion of a medical faculty, the older title of some of these chairs was "institutes of medicine" Since physiology professorships are held in some cases apparently by men who have no interest in the problem of the normal function of man's organs, Lord Moynihan is quite correct in saying "it is time to consider whether we should not now seek to establish chairs in hominal physiology" But Lord Moynihan must surely explain, when these chairs of hominal physiology are created, how hominal physiologists will be elected to them Will the pious founders of hominal physiology chairs be willing to envisage a conversion of their trust, and what safeguards has Lord Moynihan to suggest? Without them physiology chairs may be founded *ad infinitum* without securing his purpose —I am, etc,

Birmingham, Nov 2nd JAMES M MCQUEEN

KOCH AS CLINICIAN

SIR,—It would be difficult to find a more flagrant example of the *argumentum ad hominem* than that reported in your issue of November 1st (p 734) as having been made by Sir Almroth Wright at a meeting of the Medical Society of London on October 27th, when a remark about Koch led him to observe that "Koch was a very great man, but about the worst clinician—the worst doctor—it was possible to conceive"

It is not for the honour or credit of British medicine that this remark should pass unchallenged Anyone who knows intimately the history of Koch's work on tuberculosis, and especially anyone who has attempted to follow the gradual development of the subject in his mind as the successive points unfolded themselves, must feel the most profound admiration for the scientific imagination, inductive reasoning, clinical ability, and matchless endurance and tenacity compressed within the genius of the greatest of all general practitioners These qualities are surely the basic qualities of the best conceivable doctors and clinicians It seems probable that Sir Almroth Wright has sacrificed the canons of scientific criticism, on a subject in which he is keenly interested, for a misleading and damaging epigram —I am, etc,

London, S W, Nov 2nd. ROBERT CARSWELL

MEDICAL REGISTER

SIR —I desire to remind registered medical practitioners that if they wish to have a new address entered in the forthcoming *Medical Register* they should communicate with me without delay I should also like to take the opportunity of pointing out that the *Medical Register* is the statutory publication It is the appearance of a name in this book alone which makes a practitioner legally qualified and it should not be confused with other books of a similar nature, which are purely private publications —I am, etc,

NORMAN C KING,
Registrar General Council of Medical Education and Registration of the United Kingdom

44 Hallam Street Portland Place, W 1, Nov 4th

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE

At a congregation held on November 1st the following medical degrees were conferred

M B B Chir —J H Gibbens G J Gross W R F Wood
M B —H J Heathcote

UNIVERSITY OF LONDON

Professor G F Cask C M G, D S O, has been elected Dean of the Faculty of Medicine

NATIONAL UNIVERSITY OF IRELAND

THE Senate at its meeting on October 30th considered the reports of the examiners upon the results of the autumn examinations and awarded passes, honours, etc, in connexion therewith

The following awards were made Travelling studentship in anatomy E C Amoroso Dr Henry Hutchinson Stewart Medical Scholarships anatomy, M F Headon, physiology E Isaacson

Dr W M Crofton was reappointed lecturer in special pathology at University College, Dublin

The Senate decided that the Dr Henry Hutchinson Stewart Scholarships in arts in medicine and in mental and nervous diseases, should be offered for competition in 1931

ROYAL COLLEGE OF PHYSICIANS OF LONDON

A quarterly comitia of the Royal College of Physicians of London was held on October 30th, when the President, Sir John Rose Bradford, was in the chair.

Membership

The following candidates, having satisfied the Censor's Board, were admitted to the Membership of the College

Joges Chandra Banerjea M B Calcutta L R C P John Robert Blazé M D Lond Harold Ernest Brown M B Toronto Alfred Bramwell Cook M B New Zeal Charles Clifford Davis M B Lond, L R C P, Percival Cholmondeley Chalmers de Silva M B Lond, L R C P, Doris Louise Durie M B Lond L R C P Horace Lyans M B Lond L R C P Raymond Eustace Ford, M D Lond Traugott Ernest Gumpert M B Sheffield Francis Findlay Hellier M B Lond, L R C P Harold Percival Himsworth M B Lond, L R C P Mohamed Ahmed Ibrahim M B Cairo, Louis Philippe Eugène Laurent M B Lond L R C P, John Neil Leitch, M D Lond L R C P, Robert Alexander McCance M D Camb, L R C P, Owen Reginald Melwon L R C P George Osborne Mitchell M B Lond, L R C P, John Henry Mulvany L R C P Thomas Saint Martin Norris, M B Camb L R C P, James Vincent O Sullivan M D N U Irel, L R C P Trevor Kingsley Owen M B Sheffield, James William Reid M D Dalhousie Thomas Robson M D Lond L R C P, Harold Edmund Rykert, M B Toronto, Baldev Singh, M B Punjab William Wood, M D Aberdeen

Appointments

Sir Thomas Horder, Dr Comyns Berkeley, Sir William Willcox, Dr A G Gibson, Dr M A Cassidy, and Dr Carey Coombs were elected Councillors Dr Comyns Berkeley was appointed representative of the College on the Central Midwives Board Dr R A Young was re elected a member of the Committee of Management of the Conjoint Board, and Dr J A Nixon a representative on the Court of the University of Bristol

The President announced that Professor C C Okell had been appointed by the Council to be Milroy lecturer for 1932 and that the Jenks Memorial Scholarship for 1930 had been awarded to Frederick Basil Kiernander, until lately of Epsom College

Licences

Licences to practise were conferred on the following 153 candidates

E F Adams G L Alcock R M Alderton, G H H Ames, M Baillie, G Balasuriya N B Bapat C O Barnes C R G Barrington J H Bartlett A K Basu D S Bateman J H Bellby H H W Bennett J N Bhada Rina B S Bingemann A T Blair D A S Blair W V D Bolt O H Bostock J F Brock W D W Brooks, P Brown, J Carlton G T W Cashell D N Chatterji, H T Chilton, R T V Clarke A I Clift E C Conker Adolina A Collins, W D Coltart L C Crane F J H Crawford K K Dalal, *Achanta L Devi, S B Dimson G W Duncan D Durbach, F C Dymond W S Dyson, M Ellis D G Evans, Monica M M M Fisher L C L Foot H W F Froth G O Gauld, Kamala Ghosh Helen G Gifford A H Grace G I Griffiths L H Griffiths J H Hall Marjorie K Hall E O Halliwell I R T Hancock I O Harrison Lettice P Harrison, Carrie I Hearn I E R Hoppolette, A R C Higham W Hogg U M Hopkins B Horwitz *H R Hovsha, H W Howell A D H Hugo B Isaac, L Jacobson F N Jenkinson W J Johnson A Jokl, C J King Turner G C Knight, F S Krusin, D H Le Good *A H London F Lothom L C Lodge, J Loofe S H Lubner P H Maal J F S MacDonald Henrietta M MacLeod J D McVean F G Maitland Dorothy Makepeace G R Malkin J T Mani I B Marshall F Mattar, A F Merchant, Barbara A Merlin T W Mimpriss D C Mintzman H S Morton, C G Muller, *D K Mulvany Bachoobai B Nanavatty Gladys L Neill, P W Parkes M A Parthasarathy, R O Payne I H Peel, H J Powell D L Pugh Louise Rees V H Riddell S L Rikhye, Anna L M I Ringdahl M A Robertson M W Robinson, A W M Rooke S Ryman Esther Samuel W W Sargant, S Schenkman J B Schofield Margaret W Schreiber J Secker, Peter C Seifert C K Simpson M Singh T Singh I H P Smith, S Smith R H B Snow, N Solomon Cecilia M Susal, R S Taylor, J W P Thompson G M Tickler G I M Turner A W Valsey, C K Vartan Mangladevi G Vatsalya, C Verity C Wall H Walton, J G Warren S I Weinstein Mary J Westall A M Weston, K L Wig A B Williamson, H W Williamson, C Wright, F J Wright, C H Wrigley

* M R C S previously granted

Diplomas

The following diplomas were also conferred, jointly with the Royal College of Surgeons

D P H —M Ahern M Ata Ullah Balkrishna, C L Bhola H P Chaudhuri, Annie F Connan A M Critchley, F M M Fyton Jones, V Freeman D N Ghosh K T Hosain D R Kajuria R G Kenny, B S Khurana J N Leitch J C H Mackenzie Mary M Mackenzie Y B Mangrulkar A H Morley P Singh W H S Wallace, J S Westwater

GYNÆCOLOGY AND OBSTETRICS —Hilda M Lazarus

Obituary

WALDEMAR HAFFKINE C.I.E.,

Formerly Bacteriologist with the Government of India

By the death of Professor Haffkine there has passed away at the age of 70, a great scientist whose researches enabled him to produce first a cholera and later a plague prophylactic vaccine which are now effectively used wherever there is an outbreak of cholera or plague. His name will always be associated with this great achievement.

The history of the cholera prophylactic takes us back to Professor Koch's discovery in Egypt in 1883 when he found comma bacilli in the intestines of patients who had died of cholera, and in the rice water stools of patients suffering from cholera. Like all new discoveries, it was received with suspicion, even after his visit to Calcutta where he found in the patients suffering from cholera the same micro-organisms. It was not until he returned to Germany and an accident occurred in Professor Koch's laboratory in Berlin where a doctor engaged in cultivating the comma bacilli developed an attack of cholera and his discharges were found to contain comma bacilli, although no cholera existed in Germany at that time, that Professor Koch's discovery began to gain some support. Dr. Roux, who had been on the French Commission in Egypt in 1883, but owing to the decline of cholera had few opportunities of investigating the role of the comma bacillus and was somewhat sceptical as to its importance, had the advantage of working with Professor Koch in the epidemic of cholera in Toulon, in France on the part played by the comma bacillus as the causal agent. That investigation satisfied Dr. Roux that the comma bacillus was the causal agent of cholera, and since then it has always been acknowledged at the Pasteur Institute as being its real infective cause. The Pasteur Institute at that time made a special study of the preparation of vaccines and their application as prophylactics. This was due to Pasteur's discovery of vaccines against chicken cholera and against anthrax, a fatal disease affecting the cattle of France, and later a vaccine against rabies. An immense impetus was given to this line of research by Pasteur's great experimental demonstration of the value of his vaccine against anthrax at Pouilly-le-Fort, when before a gathering of scientists, landlords, agriculturists and medical men, out of 60 head of cattle he set aside 10, inoculated 25 with his anthrax vaccine, and left 25 uninoculated. Then he inoculated the 50 cattle with a malignant culture of anthrax with the result that the 25 uninoculated died, while the 25 inoculated remained as healthy as the 10 that had been untouched.



It was in an atmosphere such as this that Haffkine as a young man began his researches to discover a method by which a vaccine could be prepared that would protect the body against the poison elaborated by the comma bacillus. In nature the virus of infectious diseases such as small-pox and malaria is extremely variable, causing at one time a mild and at other times an extremely virulent disease. In small pox inoculations the virus which was obtained from the natural disease did not always give the same results. Sometimes a mild small-pox was produced and sometimes a dangerous kind. The method was abandoned when Jenner discovered a fixed vaccine in the cow pock produced on the cow.

The problem which therefore had to be solved in the preparation of a vaccine against cholera was to find the means of fixing the virus in a well-defined strength. Haffkine solved the problem. He discovered the means of engrafting the cholera microbe on animals and cultivating it indefinitely on such animals. This gave him his vaccine. At the same time he was able to increase the cholera microbe in strength which produced, with certainty, a specific infectious disease in animals and against which he was able to protect them. By this double discovery Haffkine, in addition to obtaining his vaccine, was able to demonstrate with the comma bacillus, as conclusively as Pasteur had done at the great demonstration at Pouilly-le-Fort, that he possessed a vaccine which would protect animals against a fatal disease caused by the cholera bacillus. The harmlessness of the vaccine was established by very careful and patient observations on medical men and scientists who were inoculated after the discovery. That was the first stage of Haffkine's research.

The next stage was to test the value of anticholera vaccination on human beings by observing its effect on communities where cholera existed in an endemic or epidemic form. Lord Dufferin, who was Ambassador in Paris and who had been Viceroy of India, was approached on the possibility of Professor Haffkine visiting India for this purpose. Lord Dufferin took a great interest in the matter and wrote to the Secretary of State for India and to Lord Lansdowne. With several letters of introduction Haffkine visited London, and availed himself of the opportunity of explaining his system to the leaders of the medical profession. His reception was of a most cordial nature. The English Government, through the Secretary of State for India, granted facilities for Haffkine to visit every part of India. I was home on leave at the time, and was asked by the Medical Department of the Local Government Board to give him every assistance possible when he was in Calcutta. Haffkine arrived in Calcutta in March, 1893, and after teaching my laboratory assistants the method of preparing the vaccines, as cholera was not very prevalent in Calcutta he accepted an invitation to Agra, where Hankin the Government bacteriologist, was anxious he should begin inoculations. In Agra 900 persons were inoculated. Once the inoculation were begun invitations from different places in Northern India came in so rapidly that Haffkine was unable to accept them all. Nevertheless, in the course of a year he inoculated about 25,000 persons. They were, however, too scattered except in a few places such as Cawnpore, Dinapore, Lucknow, and Goa, to allow of any careful observations as to their value. It was never theless noted in Lucknow, where a specially malignant cholera prevailed, that, among the East Lancashire and Royal Irish Regiments, who were attacked fourteen months after the inoculations the mortality, though lower among the inoculated, was much smaller than elsewhere. This was attributed to the fact that Lucknow after Agra was one of the first places in which inoculations were carried out and that they were done with great caution with only small doses between one-third and one-half, which were found later to be insufficient for full protection. Some months before the epidemic in Lucknow occurred it was decided that to obtain a thorough test it was better to concentrate at first as much as possible on Calcutta which contained a good bacteriological laboratory and assistants of mine who had been taught by Haffkine the method of preparing the cholera vaccine and the technique of the inoculation and who had prepared a quantity of the vaccine used upcountry. As soon, therefore, as the cholera season began in 1894, Haffkine came down to Calcutta and with the assistance of Dr. Chowdry, Dr. Chose, Dr. Chatterjee and Dr. Dutt, all able and reliable young men whom I placed at his disposal, the work began. The result of two years' inoculation and investigation showed that notwithstanding the incomplete protective effect of the first four days and the gradual disappearance of the resistance in those inoculated with a weak dose of vaccine which a large number of the inoculated people received during the first six months, the mortality among the inoculated compared with that of the uninoculated gave a reduction of over 72 per cent., or, in other words, in houses where inoculations were performed, and which were subsequently visited with cholera there occurred for every eleven deaths among the non-inoculated three deaths among a similar number of inoculated. This ratio improved later to a reduction of 80 per cent.

In addition to the evidence drawn from direct observation on man in epidemics of cholera proving the efficacy of the inoculation, an interesting set of experiments, carried out by Professor Koch, Professor Pfeiffer, and Dr Kolle in 1896, enabled them to prove in another way that the inoculations were protective They inoculated with Haffkine's vaccine a large number of students and doctors, and they found the serum of the inoculated had a rapid and absolutely destructive effect on the comma bacillus, exceeding in this respect by 200 times the power of the serum of ordinary individuals

Turning to Haffkine's work on his plague prophylactic, we now that he was fortunately in Bombay when the plague appeared in that city He was not altogether satisfied with his cholera vaccine, for he found that when an inoculated person was attacked with cholera the vaccine appeared to have little influence in preventing death The problem before him was therefore to prepare a vaccine for plague which should have the double effect—namely to preserve the inoculated person from an attack, and, if in certain circumstances this failed, to secure, if possible, that the attack should be a mild one This he endeavoured to obtain by preparing the plague vaccine differently from that of his cholera vaccine In a paper read before the Royal Society of Medicine in January, 1908 he gives the salient points of a ten years' experience of anti-plague inoculations in India as follows (1) It reduces the liability to attack to less than one-third of what it is among the non-inoculated (2) In the one-fifth of cases there is a reduction of the plague mortality by some 85 per cent of what it is in the non-inoculated Indians (3) That in an inoculated European an attack of plague, if it subsequently occurs, has so far always ended in recovery (4) That the inoculation is of very great value to persons already infected and incubating the plague, and prevents the appearance of symptoms or else mitigates the attack—a fact which disclosed the basis for the bacteriological treatment of the disease (5) That in natives of India the degree of immunity conferred by inoculation, though gradually diminishing, seems to last during several outbreaks of plague (6) In Europeans the effect has not yet been seen to disappear in the space of time since 1897 that this inoculation has been under study

Such is a brief sketch of the work of Haffkine I knew him intimately He stayed with us several times when in Calcutta, and on one occasion when he was ill with malaria, which he had contracted in Assam Whether ill or well, he was very likeable and always the same a courteous and amiable gentleman, even towards those who opposed him and attacked his views and work, very determined, remarkable for his powers of work, full of enthusiasm, and with a dauntless courage which was not to be damped by disappointments He had the supreme satisfaction before he left India of placing on a firm basis his anticholera and antiplague prophylactic We are proud to have elected him an Honorary Fellow of the Ross Institute, and to have his portrait in the library Ross and Haffkine are two outstanding figures in the beneficent work they have done for India, and the saving of lives from malaria, cholera, and plague in different parts of the world

W J Simpson

[The photograph reproduced is by Elliott and Fry.]

HUGH DICKIE, M.A., M.D.,

Chairman, Northumberland Panel Committee

The death of Dr Hugh Dickie, on October 22nd, after only two days' illness, has deprived Northumberland of one of its senior and best-known practitioners He received his medical education in the University of Glasgow, where he graduated M.B., C.M. in 1887, and proceeded M.D. in 1896 He went to Morpeth forty-two years ago as assistant to the late Dr William Clarkson, whose practice he subsequently took over In 1889 he was appointed medical officer of health for the borough, and continued these duties until his death, paying particular attention to the problem of slum areas For very many years he was medical officer to the Poor Law institution and to the parish of Morpeth, a public vaccinator, and referee and examiner for several large insurance companies He was chairman of the Northumberland panel committee, and a member of the county insurance committee A cause with which he had identified himself of late was the establishment of a new cottage hospital, and he himself raised a substantial sum of money for the provision of special equipment for it when erected A week before his death he attended a meeting of the building committee and learned that arrangements were being made for the purchase of the ground on which the hospital is to be built He was an active Freemason, and a past-master and director of ceremonies of the De Ogle and the Morpeth Lodges, being one of the founders of the last-named He was also a P.P.G.D. of the province of Northumberland, a member of the De Percy Chapter, and also of the Morpeth Lodge of Mark Master Masons He was the first Master of the Coquetdale Lodge, Rothbury, and one of its founders, at the time of his death he was I.P.M. For many years he was surgeon captain in the Morpeth Company of the 1st Volunteer Battalion of the Northumberland Fusiliers, and he held a temporary commission as major in the R.A.M.C. from 1915 to 1919 Always a zealous supporter of the British Medical Association, Dr Dickie was chairman of the Morpeth Division from 1922 to 1923, and a regular attendant at all its meetings He proved a stalwart in the various industrial struggles with regard to medical levies and other matters, while his advice in local ethical and other problems, being always sensible and temperate, was highly valued by his colleagues He loved all kinds of outdoor sports, at one time he was a keen lawn tennis player, and a member of the first club formed in the town He did much to encourage cricket locally and for a number of years was president of the Morpeth cricket club, he also took an active part in hockey and badminton He was chairman of the committee of the Morpeth Amateur Dramatic and Operatic Society, and left no stone unturned to make its performances successful A great admirer of Burns, and an enthusiastic supporter of the Morpeth Burns Club, he had on many occasions the privilege of proposing the toast to the "Immortal Memory" At the funeral on October 24th about forty medical practitioners were present, representing almost every district between the Tyne and the Tweed

Dr R A Welsh writes

The panel practitioners of Northumberland would like to put on record in the pages of the *Journal* an appreciation of what the late Dr Hugh Dickie did for them, and also of the affection and high regard they had for him He was chairman of the Panel Committee from the time of the inception of the Insurance Act till his death, except for a period during the war, when he was on military service As a chairman he was *facile princeps* He had a marvellous way with him, he knew when to pull up and to bring to heel an unruly colleague, but he did it with a smile and a humorous remark, without hurting his feelings He knew when a discussion had gone on long enough, though he did not hustle, he wasted no time He practised the *suaviter in modo* with the *fortiter in re* to perfection He was a many-sided man—a man with wide interests, thorough in all his undertakings, and a warm-hearted and loyal friend He was widely read both in English and in classical literature He met his friends and colleagues with a genial smile and a pleasant remark, but he had "an eye like Mars, to threaten and command"

The writer has known him forty years, and has often benefited by his clear vision and sound common sense The work he did for the insurance practitioners in Northumberland can never be told Every type of doctor, be he town or country, had his interests jealously guarded by Dr Dickie During our fight for an adequate mileage grant in 1914–16, it was his idea to have a large-scale map of the county prepared—some twenty-five square feet of canvas—showing every footpath, stream, and hamlet I was with him on a deputation to the Insurance Commissioners in London, and he took the map—the Whitehall officials had never seen such a map, the room was hardly big enough to display it—and I remember Dickie explaining to them that "while Old Gaul was divided into three parts, Northumberland was divided into two—a large industrial

part and a much larger rural one" That map and Dickie's speech on the matter had the most happy results, financially He had a wonderful sense of humour and a charming personality

His funeral was attended by about fifty of his medical colleagues from all parts of the county and Newcastle-on-Tyne There was ample proof of the esteem and regard in which he was held All business was suspended, all shops closed, and flags were at half-mast in the town of his adoption The streets were lined with all kinds of people, even the poorest of the poor, for he was kind and good to these in his time, and when we laid him in the earth we might have said of him, as Mark Antony said of the dead Brutus

> His life was gentle and the elements
> So mixed in him that Nature might stand up
> And say to all the world This was a man!

His passing, so tragic in its suddenness, has been a great shock to us, for he had been our guide, philosopher, and friend "We shall not look upon his like again"

Medico-Legal

OFFENCE AGAINST DANGEROUS DRUGS REGULATIONS £50 FINE.

At Ealing police court on October 29th, Dr Alfred Hugh Bell of Hanwell was fined £25 on each of two summonses charging him with having failed to enter in a register or daybook particulars of quantities of cocaine hydrochloride, contrary to the Dangerous Drugs Consolidation Regulations, 1928 He was also required to pay three guineas costs.

Mr *Vincent Evans on behalf of the Director of Public Prosecutions stated* that the transactions which led to the charge were two purchases *from different chemists in May and* July last one of 12 grains of the drug and the other of 20 grains on national health insurance prescriptions which Dr Bell himself took to the chemists It was alleged that neither of the insured patients in respect to whom the prescriptions were made out had received medicine containing the drug from him One of these patients in evidence said that Dr Bell had from time to time given him prescriptions which he had taken to the chemist but he had not been supplied by Dr Bell directly with medicine for the last two years Last July however the doctor gave him a lamp in which to burn oil to produce a vapour for inhaling he obtained the oil from the chemist. The other patient stated that she had had prescriptions from time to time but no treatment direct. One of the chemists testified that the first patient had been to his shop with prescriptions from Dr Bell for menthol with oil It was not usual for doctors to call and take away drugs themselves though they occasionally did so Dr Bell had handed in a prescription for 12 grains of cocaine alkaloid made out in the name of an insured patient and had himself taken away the drug Occasionally Dr Bell had given him orders for cocaine direct and supplies were given him on ten occasions Dr Bell had told him that he did not want his patients to know that they were taking cocaine The other chemist also stated that he had supplied Dr Bell with cocaine from time to time on his order He, too had been told by Dr Bell that he did not want his patients to know that he was prescribing cocaine He understood that Dr Bell was interested in a special treatment for bronchial troubles and it was quite feasible that he would want a considerable quantity of cocaine for that purpose

A *detective sergeant stated that on requesting* Dr Bell to produce his dangerous drugs register daybook or reference book he replied that he had none of these and had not obtained drugs from wholesalers since 1914 when he gave up dispensing He stated that he got cocaine and other drugs for his patients on signed orders at chemists sometimes on national health insurance prescription forms He obtained the drugs personally in this way so that he might incorporate the drug in a special treatment he was giving them for bronchitis and asthma

Dr Bell in evidence said that he had been a medical practitioner for nearly thirty years Four or five years ago he became interested in a special Continental treatment which involved the use of cocaine and this he obtained personally from the chemist because he did not wish his patients to know he was using the drug The supplies were obtained on written orders and national insurance scrip was used in some instances *because the patients* were insured persons on his list He stated that the first of the patients who had given evidence had had only a small lamp from him and that the other had been given inhalation though she had been ill and worried and had probably forgotten all about it *The witness added that* he had not thought it necessary to keep registers

The chairman of the Bench (Mr *Basil Holmes*) *in imposing the* fine said that the Bench was of opinion that a serious offence had been committed

Two other summonses for being in unlawful possession of 10 grains of cocaine hydrochloride and 12 grains of cocaine alkaloid on certain dates were dismissed

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE debate on the Address in the House of Commons closed on Tuesday, when a Conservative amendment was defeated by 281 to 250 The second reading of the Government's bill for raising the age of compulsory attendance at school was set down for Thursday

Maternity

In reply to Sir Basil Peto on October 30th the Minister of Health Mr GREENWOOD said that his first step to carry into effect the interim report of the departmental committee for the improvement of accommodation and treatment of women in childbirth would be to communicate with local authorities in *regard to certain recommendations* in the report. In cases of tuberculous patients he understood that special arrangements for confinement were not usually made in tuberculosis sanatoriums. It was generally preferable to transfer pregnant women from sanatoriums to maternity homes for the confinement and then to readmit them subsequently to a sanatorium. Asked by Sir Basil Peto to bear in mind the inadvisability of moving such cases from pillar to post Mr *Greenwood said* he was on the point of issuing a circular to local authorities on the whole field and the provisions that could be made Mr Greenwood told Mr Morris that no proposed to communicate with local authorities concerning certain recommendations by the Maternal Mortality Committee, not all of which required legislation

Mr GREENWOOD on October 30th told Mr Muggeridge that the number of midwives practising in a district was not the only consideration in deciding whether the council of the district should be the local supervising authority under the *Midwives Acts*

Experimental Work on Poison Gas

Mr *T Shaw replying to several members* on November 3rd said his attention had been drawn to statements that two *thousand old horses* had been handed over to the *experimental* station at Porton for experiments in poison gas and the cultivation of bacteria for spreading plague The facts were that during the period from 1921 to 1930 only 25 horses had been used for experiments at Porton in connexion with poison gas No horse nor other animal had been used at Porton for experiments in plague bacteria cultivation The experiments carried out were for preventive and curative treatment of horses affected by poison gases Between October 31st 1929 and October 31st 1930 729 animals had been used for experiments at Porton and 366 were killed by the experiments At the Physiological Laboratory at Cambridge from January 1st 1930 to October 31st last 85 animals were used for experiments and all were killed Officers holding vivisection licences for poison gas experiments at the War Department Establishment worked in strict conformity with the provisions of the Cruelty to Animals Act 1876

Animal Experiments

Mr CLYNES replying to Mr Freeman on November 3rd said that each holder of a vivisection licence was made responsible for seeing that any animal which was suffering pain that was either severe or likely to endure was at once killed if the main object of the experiment had been attained and that any animal that was suffering pain both severe and likely to endure was at once killed in any case. The requirement was made a condition of the licence and any infringement of it brought to his notice would be severely dealt with The Home Office inspector informed him that he was satisfied that the condition was scrupulously observed by the holders of licence

On November 4th Mr CLYNES told Sir R Gower that it was not his intention to introduce a bill this session to make painful experiments on dogs illegal

Bills

Bills presented in the House of Commons on October 31st by private members include

Hospitals (Relief from Rating Bill to grant complete or partial relief from rates in the case of certain hospitals

used for the purpose of hospitals infirmaries dispensaries convalescent homes nursing homes sanatoria and other similar uses or in connexion therewith presented by Mr Llewellyn-Jones, second reading February 6th

Slaughter of Animals Bill "to provide for the humane and scientific slaughter of animals and for purposes connected therewith" presented by Colonel Moore second reading December 12th

Advertisements Regulation (Amendment) Bill "to amend the law with respect to the regulation of advertisements," presented by Dr Vernon Davies second reading December 5th

On November 4th Mr Benson presented a bill to provide for the abolition of corporal punishment

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Dental Benefit

Mr GREENWOOD told Mr Freeman on October 30th that he did not contemplate any change in the administration of the national health insurance scheme to include dental treatment for all contributors Approved societies with an aggregate membership exceeding 80 per cent of the total insured population already provide dental treatment for their members as additional benefit

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Foot-and Mouth Disease—Dr ADDISON informed Brigadier General Brown on November 3rd that an outbreak of foot and mouth disease had occurred in connexion with which anti foot and mouth serum had been used The diseased animals and those in immediate contact on the premises on which the outbreak occurred, were slaughtered but cattle and pigs on neighbouring premises which had been exposed to infection received serum treatment None of the animals so treated developed foot and mouth disease

Pensions—Mr T O ROBERTS replying on November 3rd to Captain Wallace, said that independent medical experts had been appointed to advise in a special type of late claim for disablement He could not add any other specific class of case to the scope of their present duties

Health of Bakers—Replying to Mr Thorne on October 30th Mr CLYNES said that safeguards for the health of those engaged in the baking industry were at present regulated by the Bread Acts of 1822 and 1836 but enforcement was outside the power of the Home Office He was willing to consider proposals for fresh legislation but there was little prospect of time for a bill at present

National Insurance—Mr Greenwood expects to make an early statement concerning the position of insured persons who by prolonged unemployment, would cease at the end of the present year to be insurable under health insurance and contributory pension schemes

Physique of Recruits—Mr T SHAW in reply to Major Glynn said that from July 1st to September 30th 1930 10 447 men were served with notice papers for enlistment in the Foot Guards and infantry Of this number 6 506 or 62 per cent were rejected on *medical or physical grounds*

Medical News.

A GENERAL meeting of the Medical Officers of Schools Association will be held at 11, Chandos Street, W 1, to day (Friday, November 7th) at 5 p m Mr L E Barrington Ward, surgeon to the Hospital for Children, Great Ormond Street, W C, will read a paper on appendicitis, acute and chronic, in the schoolboy

THE annual dinner of the Prince of Wales s Hospital Reunion Association will be held at the Trocadero Restaurant, Piccadilly Circus W, on Thursday, November, 27th, at 7 45 for 8 p m, with Mr W E Tanner, F R C S, in the chair Price of dinner (exclusive of wine) 12s 6d, no tickets will be issued Members are asked to notify the secretary, Dr Bruce Williamson, 137, Harley Street, W 1, of their intention to be present, stating number of guests

THE West Riding Association of Graduates of the University of Edinburgh will hold their annual general meeting at 6 45 p m and dinner at 7 30 p m, on Friday, November 21st, at the Great Northern Hotel, Leeds Sir Norman Walker, M D, is to be the guest of the evening Any graduate requiring further information should apply to the honorary secretary, 33, Manor Row, Bradford

THE annual clinical At Home at the Royal Dental Hospital, Leicester Square, W C, will be held on Saturday, November 22nd, at 2 p m Cases of clinical interest illustrating the scope of the work of the hospital, especially the treatment of children and the young will be shown The various departments of the school will also be open for inspection Tea will be provided at 4 p m The annual dinner of the past and present students will take place on the same day at the Trocadero Restaurant, Shaftesbury Avenue, W 1, at 7 p m, when Dr Harvey Hilliard will preside

AT a meeting of the Hunterian Society in Cutlers' Hall, Warwick Lane, E C, on Monday, November 17th, at 9 p m, there will be a discussion on the place of the doctor in industry, in which Sir David Milne Watson, Mr W A Appleton, Professor E L Collis, and Dr Strickland Goodall will take part

THE *fifty fourth* anniversary dinner of the Cambridge Graduates' Club of St Bartholomew's Hospital will take place on Wednesday, November 19th, at 7 30 p m, at the *May Fair Hotel, with* Mr R Lester Moore in the chair The honorary secretaries are Dr H N Burroughes and Mr Reginald M Vick

A CONFERENCE on pollution of rivers and streams, arranged by the Royal Sanitary Institute, will be held at 90, Buckingham Palace Road, S W 1, on Tuesday, November 18th Professor A Bostock Hill, M D, will take the chair at 11 a m

A MEETING of the Illuminating Engineering Society will be held at the house of the Royal Society of Arts, John Street, Adelphi, W C, on Friday, November 14th, at 6 30 p m, when a paper on the lighting of offices and public buildings will be read by Mr J A Macintyre (H M Office of Works)

A COURSE of three public lectures arranged by the National Institute of Industrial Psychology (under the Heath Clark bequest), on modern views of nervous troubles, is being given at the London School of Economics and Political Science, Houghton Street, W C 2, by Dr Millais Culpin, on Wednesdays, at 6 p m Admission to the lectures is free and without ticket

THE Fellowship of Medicine announces that its M R C P course for this week comprises a lecture on November 11th entitled "Present views on renal disease," and another on November 14th, by Dr T Izod Bennett, on the relations of the colon and stomach in medicine, these lectures are delivered at the house of the Medical Society, 11, Chandos Street, Cavendish Square, at 8 30 p m, and tickets, price 10s 6d each lecture, are obtainable at the lecture room On Monday, November 10th, a free lecture, illustrated by lantern slides, will be given at the same place at 4 p m by Mr H P Winsbury White on modern diagnostic methods in surgical diseases of the urinary tract On the morning of November 12th, from 9 30 to 12 30, Mr Melvin McCullagh will give a free demonstration in gynaecology at the Samaritan Hospital for Women An afternoon and evening course in venereal disease at the London Lock Hospital will continue until November 29th From November 10th to 28th a course in medicine, surgery, and gynaecology will be held at the Royal Waterloo Hospital From November 17th to December 13th, at 5 p m, a series of lectures, illustrated by cases, will be delivered at the West End Hospital for Nervous Diseases, and an all day course in diseases of the chest will be given at the Victoria Hospital for Diseases of the Heart and Lungs from November 17th to 29th An all day course in diseases of the rectum will be held at St Mark s Hospital from November 24th to 29th Copies of syllabuses and tickets of admission may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W 1

A SERIES of post graduate clinics arranged by the University of Sheffield on the various manifestations of syphilis commenced at the Royal Infirmary, Sheffield, on October 24th, and will be continued on Fridays till December 12th, at 3 30 p m On November 14th Mr Ferguson will discuss ocular manifestations of syphilis The course is open free to medical practitioners

THE tenth annual conference of the Society for the Health of Women and Children of Victoria was held on September 9th, addresses were contributed by the Minister of Health for the State, the medical officer of health for the city of Melbourne, Dr Vera Scantlebury, Professor R Marshall Allan, and Dr J W Springthorpe, president of the society

A MEETING of medical men interested in physiotherapeutics was held at the rooms of the Medical Society of London on October 24th, with Sir Leonard Hill in the chair, when a resolution to form a society of physiotherapy was adopted Medical men and women specializing in any branch of physiotherapeutics who desire to attend the next meeting on Friday, November 14th, may apply for invitation cards to the acting honorary secretary, Dr R King Brown, 17, Featherstone Buildings, W C 1

THE new Turkish Baths provided by the Eastbourne Corporation in Carlisle Road are being opened to day (Friday, November 7th) at noon by Dr R Fortescue Fox

THE Minister of Health interviewed on October 30th representatives of several metropolitan Labour Parties and Trades Councils who had written to him on the subject of the imposition of test work as a condition of outdoor relief After hearing the general points put to him he promised to consider carefully any specific cases submitted

ON October 29th the National Medical Service Association met in London, with Mr Somerville Hastings M P, in the chair, and discussed the British Medical Association's Proposals for a General Medical Service

THE International Association for the Prevention of Blindness, which opened in Brussels on October 10th, received various national reports dealing particularly with the prevention of diseases and accidents which lead to destruction or impairment of sight

THE annual meeting of the council of the British Red Cross Society was held on November 5th, under the presidency of the Duke of York, when the report was presented by Sir Arthur Stanley In this attention is called to the continued success of the blood transfusion service and also to the health lectures which have been organized throughout the country It is hoped that a comprehensive scheme of co-operation of the various Red Cross clinics will be introduced soon The work of voluntary aid detachments has been steadily increasing, and there is now a total of 722 83 being composed of men and 639 of women British Red Cross detachments number 205 The existing textbooks have been revised and new manuals have been issued, including one on first aid and chemical warfare

THE hospital library of the British Red Cross Society and Order of St John (48, Queen's Gardens, Lancaster Gate W 2) now supplies over 4,000 hospitals of all kinds with books given by the public Development of this work as a permanent national scheme can only be carried out, however, with the co-operation of hospitals and public libraries In order to discuss this question a meeting will be held, at the invitation of the Public Health Congress, on Friday, November 21st, at 3 p m, at the Royal Agricultural Hall, Islington, under the chairmanship of Sir Arthur Stanley The speakers will include Mr L G Brock, chairman of the Board of Control; Mr H L Eason, M S, superintendent of Guy's Hospital, Dr Doris Odlum, of the National Council of Mental Hygiene, and Miss M E Sparshott, president of the College of Nursing

THE Minister of Health received a deputation on October 30th from the British Social Hygiene Council It was introduced by Mr Somerville Hastings, M P, F R C S, and included Sir Basil Blackett, Professor F J Browne Professor Bostock Hill, Mrs Neville Rolfe, and Mr E B Turner F R C S The deputation urged the importance of further propaganda on the subject of venereal disease and asked the Minister to issue a circular to local authorities pressing them to greater activity in this matter The Minister undertook to consider carefully the suggestion made to him

A GIFT of one million dollars has been made by Mr George Eastman, owner of the Kodak factories in America, for the establishment of a large and modern dental clinic for the benefit of the school children of Stockholm up to the age of 16 years The clinic is to be administered by the municipal authorities of Stockholm on the same lines as the corresponding institutes in Rochester (N Y), London, and Rome, established through similar generous donations by Mr Eastman

THE Health and Cleanliness Council (5, Tavistock Square W C 1) has had so many applications for publications dealing with verminous conditions that the Advisory Board has produced two leaflets on the subject These leaflets will be supplied free of charge to medical officers of health sanitary inspectors, health visitors, superintendents of infant welfare centres, and similar public health officials for use in connexion with their work

THE Minister of Health has issued a memorandum—37/T (revised)—describing the amended forms of the annual reports to be furnished by the chief (administrative) tuberculosis officers of local authorities in respect of the year 1931 and subsequently Simplification has been introduced as regards the reporting the work of tuberculosis dispensaries it will now be possible to show more conveniently the results of the observations of doubtful cases and the immediate results of the treatment of definite cases in residential institutions

A REPORT of the proceedings of the conference on the administration of the Mental Treatment Act 1930 convened by the Board of Control in July, has been published by H M Stationery Office, price 2s The principal addresses and discussions at the conference were described in the *British Medical Journal* of August 2nd (p 190)

TWO further series of eight brochures Nos 220 to 227 and 228 to 235, have been issued by the International Labour Office in connexion with its encyclopaedia *Occupation and Health* The brochures relate respectively to pottery industry, feathers, file-cutting, fire lighters (rosin) firemen gardeners and market gardeners, glanders hotels and restaurants hydroxylamine, factory surgeons fatty substances, first aid, fishermen gases and fumes gold gold mines, and homework They are obtainable from the London office of this organization, 12, Victoria Street S W 1

AN appeal for generous subscriptions to maintain and extend the work of the British Dental Hospital is made in its annual report for 1929–30 Since the hospital was established in 1911 its threefold policy has been (*a*) to establish centres for the treatment of persons unable to pay the ordinary charges of dental surgeons (*b*) to educate the public in oral hygiene, and (*c*) to assist associations and public bodies to provide education and dental treatment These services, the committee states will have to be curtailed in the absence of increased public support During the year skilled dental treatment at moderate cost was given at various hospital centres to patients who were not entitled to benefit under the National Health Insurance Acts In addition dental facilities were provided, in conjunction with a number of Metropolitan Borough Councils for the treatment of expectant and nursing mothers and young children At the Lewisham dental clinic over 5,000 attendances of children from the London County Council schools were reported during the year This centre also carries out the inspection of school children suffering from ear and throat affections The committee has continued to develop its welfare work in other directions, particularly in the treatment of adolescents at reduced fees In this connexion proposals are being considered by which special arrangements will be made with firms and businesses for the dental treatment of their employees.

OF the last 6,000 inmates of Sing Sing prison 4 822 of whom were whites and 1,178 negroes 1,061 gave a positive Wassermann reaction in the proportion of 12 per cent for whites and 41 9 per cent for negroes

DR JUAN CARLOS NAVARRO, an eminent Argentine paediatrist, has been elected president of the Academy of Medicine of Buenos Aires

PROFESSOR GUSTAVO PITTALUGA, director of the laboratory of parasitology at Madrid, has been nominated director of the Spanish National School of Hygiene

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR British Medical Journal British Medical Association House, Tavistock Square, W C 1**

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The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin) and of the Scottish Office 7, Drumsheugh Gardens Edinburgh (telegrams *Associate Edinburgh* telephone 24361 Edinburgh)

QUERIES AND ANSWERS

Stainless Steel Cooking Vessels.

"T M" having found objections alike to aluminium and to enamelled pans will be glad to know from anyone having had experience of them whether cooking utensils made of stainless steel are entirely satisfactory from a health standpoint.

Angioneurotic Oedema

H C B asks for advice in the treatment of a case of angioneurotic oedema occurring in a young married woman the attacks having commenced since her marriage Attempts have been made to detect a foreign protein in the food but without avail and there is no reason to suspect sensitization to semen She has been treated with calcium adrenaline, and ephedrine, the last of which has helped slightly She is often unable to leave home, owing to the face and feet being the areas where the swellings occur At present she has one swelling round each eye, and one in the lower lip, and one on the tongue is just disappearing She has had two abortions, the Wassermann reaction is negative

Climate of Madagascar

C R inquires about the suitability of Madagascar for a patient who has no disease but is not robust

*** The climate of Madagascar is very variable There is much rain on the thickly wooded east coast, which is unhealthy The west coast is drier, warmer, and has a smaller annual variation of temperature The south west suffers from drought The climate of the high ground in the interior is generally mild, healthy, and suited to Europeans

Constipation in a Child

MR PAUL BERNARD ROTH (London, W) writes In reply to K A, who wants to know how to treat constipation in a child, I have never found abdominal massage fail to cure this condition in a fortnight

DR E A FREYWIRTH (London, W C) writes In reply to "K A," the complaint is suggestive of congenital megacolon (Hirschsprung's disease), and I suggest an x ray examination before doing anything else The origin of the complaint from birth, with the relative absence of other complaints, makes me think of this somewhat rare condition Has the child meteorismus, or distension of the abdomen?

Iodine in the Treatment of Exophthalmic Goitre

MR CECIL A JOLL writes in answer to the query published on October 25th (p 716) There are very real dangers in the persistent use of iodine in exophthalmic and other toxic goitres The improvement which follows iodine medication is a temporary one, and, after a time, the symptoms reassert themselves with their former severity Meanwhile the thyroid gland becomes harder, and pressure symptoms may become added When this phase is reached further improvement by medical measures becomes almost impossible, and surgical intervention is rendered more hazardous Iodine, in my opinion, should be given purely as a means to preparation for surgical treatment, and if the latter is not contemplated, it is much wiser to avoid this drug altogether

Income Tax

Post Graduate Course

"C D G" last year attended a post graduate course on radium therapy, incurring certain hotel and travelling expenses Can they be deducted for income tax purposes?

*** No The expense of improving the means of earning income has to be regarded as capital outlay, and that principle applies to the improvement of professional knowledge or skill in the same way as it would to the improvement of the material equipment of a business or practice

Cost of Upkeep of Instruments

J A A R' inquires whether a deduction is allowed for wear and tear and depreciation of instruments, or whether only the cost of replacement is allowed

*** It has to be remembered that in no case can depreciation be allowed and also the cost of replacement—the former represents the *anticipation* of the latter The rules of Schedule D provide for the allowance of any sum expended for the supply, repair, or alteration "of any implements, utensils, or articles employed for the purposes of the trade, profession" etc It is clear that the cost of replacement of such articles should be claimed, and therefore that depreciation is not allowable This does not apply necessarily to large items of machinery or plant, including the car used professionally

LETTERS NOTES, ETC.

Addison's Disease

ANY medical practitioner in charge of a severe case of Addison's disease is invited to communicate with the *Medical Registrar, London Hospital, Mile End, E 1*, with a view to trial treatment with a cortical extract

Testimonial to Sir Ronald Ross

WE printed on September 13th (p 456) a list of donations received between May 1st and August 26th in response to the appeal on behalf of the Ross Award Fund Further contributions have been received since then from among others, Mrs Berger, Ceylon per Mrs Kindersley, Mrs. E Robinson, and Dr K B Shroff Bombay, amounting in all to £217 9s 1d The total amount received up to October 31st was £14 329 7s 7d The following analysis of the fund up to the end of October has been furnished by the honorary secretary

	£ s d
Home Fund	7 555 19 7
Singapore Straits Times	3 366 13 7
Government of India	2 000 0 0
Penang Gazette Press Ltd	654 0 0
Government of Rhodesia	262 10 0
Ceylon per Mrs Kindersley Kandy	214 9 1
Government of Cyprus	200 0 0
Malayan Daily Express	75 15 4
	£14 329 7 7

Donations to the Fund should be sent to Lloyds Bank, Ltd 110, High Street, Putney, S W 15

"All Liver and No Legs"

DR HILI AITKEN (Rotherham) writes to say that, although formerly scornful of the above dictum on the motoring doctor, he was rapidly converted when he discovered that he himself was a sufferer As a fortunate coincidence the self starter of his car ceased to function, and the consequent efforts of using the starting handle in the old way were of much greater effect than a vigorous course of physical "jerks," restoring both liver and legs to normal function

Schlatter's Disease

WHAT is usually known in the English literature as Schlatter's disease was independently described twenty seven years ago by Robert B Osgood of Boston (*Boston Medical and Surgical Journal*, 1903 cxlviii, 114) and by Karl Schlatter of Zurich (*Beiträge fur Klinischen Chirurgie*, 1903, xxxviii, 874), so that the eponym, 'Osgood-Schlatter's disease, adopted by the *Quarterly Cumulative Index Medicus*, appeals to the historical mind Both authors regarded trauma as the main etiological factor in the condition, and in a second paper (*Beiträge*, 1908, lix, 518) Schlatter again expressed his belief in the traumatic nature of his disease He was careful to disown cases of complete separation of the epiphysis, a condition with which surgeons had been familiar in pre Röntgen days (Poland *Traumatic Separation of the Epiphyses*, London, 1898, p 816) Knowledge of the natural history of the disease has advanced but little, and its position as a clinical entity has yet to be established In an interesting paper in the *Archives Franco Belges de Chirurgie* (1926, xxix, 119) M van Neck records a case of Schlatter's disease affecting the patella His hope that he had made an original discovery was shattered when he found that this condition had already been described in the Scandinavian literature by Sinding-Larsen and by Johansson An article in the October number of *St Bartholomew's Hospital Journal* entitled Schlatter's disease before and after Schlatter an eponymic note," quotes a passage on "enlargements of the tubercle of the tibia in young people much given to athletic games, from Sir James Paget's *Studies of Old Case books*, which seems to show that Paget in 1891 was familiar with 'Schlatter's disease as we know it

A Warning

A CORRESPONDENT in Yorkshire, acting on the advice of the chief inspector of police, asks us to publish the following description of a man who is wanted on many charges in different counties, and appears to have made a habit of seeking advice from doctors without any intention of paying their fee "Aged 48, heavily built, weighing about 16 st Well dressed, usually stays in a good class boarding house or small hotel Goes under such names as 'A Foster' and 'A L Brown', almost always uses the initials 'A' or 'A E' He usually complains of gout and seeks advice about a tophus, which has broken down and will not heal in the soft tissues of the right heel The margins of the ulcer are rounded and hard Near this sore he has an old incision scar, where a previous tophus was removed The fingers of both hands are much enlarged with gouty deposits" Any medical practitioner who is consulted by a man answering to this description should report at once to the local police

Cleansing of the Chalice

THE REV A C PURCHAS (Lyttleton, New Zealand) writes In connexion with the correspondence in the *British Medical Journal* on the 'Cleansing of the chalice' a doctor friend tells me that he always carries with him a small phial of brandy in which he cleanses his clinical thermometer, alcohol over 10 per cent being deadly to all germs That percentage, being present in Communion wine, should effectually destroy any possible germs that your correspondents so much dread Is it not the fact also that clergymen, who have to consume whatever wine remains in the chalice, and should therefore be the recipients of all manner of germs, are, as a general rule, extremely healthy—a witness to the almost negligible danger from such a source?

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals, will be found at pages 45, 46, 47, 48, 49, 53, and 54 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 50 51, and 52

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 211

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

409 Cardiac Hypertrophy and Dilatation of Pulmonary Origin

J Hatziegang (*Ann de Méd*, July, 1930 p 158) remarks that cardio pulmonary pathological conditions, though less well known have the same importance as cardio renal ones Functional troubles or anatomical lesions of the lesser circulation cause a hypertension, with resulting hypertrophy of the right side of the heart The diagnosis of this condition is usually difficult Hypertrophy of the right ventricle is particularly manifested by a sclerosis of the pulmonary artery, and also, but not so regularly, by a sclero-emphysematous process in the lungs, accompanied by extensive pleural adhesions and thoracic deformity *All processes* arising in the pulmonary artery or pleuro-pulmonary apparatus can cause a very pronounced hypertrophy and dilatation of the right heart Other important predisposing causes are the constitution and age the hypertrophies are especially noted between the ages of 35 and 45 in hypersthenic persons In addition to the pleuro pulmonary lesions, a sclerosis or discrete atheroma of the intrapulmonary arterioles has often been found after death The absence of this vascular change does not exclude the possibility of a hypertony of the lesser circulation, which, probably due to a short circuit of this circulation, has the greatest effect on the right side of the heart It causes a distension and hypotonicity of the muscular fibres ending in dilatation, due to increased blood content On radiological examination, pronounced discrete, pulsatile shadows are seen the pulmonary field being filled with adhesions The pulmonary arch protrudes, the rounded apex of the heart being found above and behind with the transverse diameter predominating Very frequently, especially at the onset, the prominence of the pulmonary arch alone is noted Two distinctive anatomical points between hypertrophy of the right and left sides of the heart are absence of aortic dilatation in the latter, and marked hypertrophy and dilatation of the auricle in the former Clinically hypertrophy of the right heart is marked by its prolonged evolution with repeated asystolic crises

410 Economic Results of Diabetic Treatment.

B D Bowen (*Journ Amer Med Assoc* August 23rd, 1930, p 565) presents a study of 81 cases of diabetes, treated by modern methods which was undertaken to determine the completeness with which insulin restores the diabetic patient to his former physical and economic level The subject is approached from the standpoint of the patient s total reaction to his environment rather than by applying specific tests The cases comprised (1) those under insulin treatment for a sufficient time to bring about apparently maximum improvement, (2) those free from interfering complications, and (3) those sufficiently intelligent and co-operative to answer questions Observations were made of the body weight, insulin dosage, period under treatment sense of well being reaction to physical exercise and to mental activity, change of occupation because of diabetes, earning capacity, and of the age factor From this study it appears that the adult diabetic patient who is treated with insulin compares quite favourably with the normal individual with the exception that the majority have the subjective impression that they are not capable of normal physical effort without fatigue, children, apparently, do not show this physical limitation Early recognition and adequate treatment are the most important factors in obtaining good results Various causes of the fatigue are suggested Improper dieting may be concerned, and the diets advocated by Joslin Sansum, and other authorities are mentioned Opinions differ concerning the role of carbohydrates and fat in energy metabolism Some believe that fat must be converted into dextrose before becoming a source of energy, while others hold that fat may be used as such without this conversion The diabetic patient may have some inherent metabolic perversion whereby he stores fat with greater ease instead of using it as energy The great tendency to fatness shown by insulin treated patients is a matter of common experience obesity is well known as a forerunner of diabetes Diabetic children are not usually over weight and do not get fat with insulin since they do not manifest any reduction in physical energy it is possible that they use their muscle glycogen for energy, and do not convert it into fat, a contrast with what occurs in some adults

411 Hepatic Cirrhosis with Cholesterinic Ascites.

C B Udaondo and A Vadone (*Rev Sud Amer de Méd et de Chir*, July, 1930 p 681) state that all serous effusions contain a certain amount of cholesterin especially is this the case in inflammatory exudates In pleural effusions the quantity ranges usually between 0 008 and 0 133 per cent, and under certain conditions this quantity may be greatly exceeded Cholesterinic ascites has been described by several writers in one instance the percentage recorded was 4 2. In the case recorded by the present authors the patient was a widow aged 62 She had noticed a gradual increase in the size of her abdomen for six years, this was accompanied by emaciation and general debility The performance of paracentesis once a year gave temporary relief On admission she was tapped and 31 6 pints of fluid were withdrawn this fluid was sero-fibrinous, with a glittering appearance due to innumerable cholesterin crystals amounting to 5 per cent of the total exudate The liver and spleen could not be felt but a mobile tumour as large as a mandarin orange could be felt in the right flank. The Wassermann reaction was negative The authors could not obtain any history of alcoholism, although they suspected it They remark that the etiology of these cases is obscure The exudates are usually aseptic but in some cases tubercle bacilli have been found

412. Dogs as Typhoid Carriers.

G Krogh Lund (*Ugeskrift for Laeger*, August 28th 1930 p 821) spent a year and a half in Jakobshavn North Greenland and investigated in the summer of 1929 the capacity of sledge dogs to be carriers of typhoid bacilli While the Greenland dog scorns the faeces of its own species its appetite for those of human beings is such that, for generations the inhabitants of Greenland have used no other method for their disposal It follows that if dogs are capable of harbouring typhoid bacilli in their intestines for long periods they may well spread the infection over wide areas in the course of sledge expeditions Twelve healthy adult dogs were obtained from homes where there had been no cases of typhoid fever Their faeces were examined at the beginning of the experiments, and the Widal reaction of their blood was noted It was positive in one dog in a 1 in 10 dilution, and it was negative in the remainder Some of the dogs were fed with the faeces of human carriers and others with cultures of typhoid bacilli The dogs were killed after the investigations had lasted between three and four months and typhoid bacilli were then sought in various organs, including the digestive tract and in the blood In as many as three of the six dogs fed with typhoid cultures typhoid bacilli were found in the gall bladder in pure culture from five to ten weeks after the last feeding with these bacteria The gall bladders in these cases were slightly inflamed Typhoid bacilli were also found in four cases in the dogs faeces, in some cases as late as three weeks after the latest feeding with typhoid cultures. In the case of one dog fed on the faeces of a human carrier, typhoid bacilli were found in the dog s faeces Krogh Lund suggests that the Greenland sledge dog may well play an important part in the dissemination of typhoid fever the danger is particularly great for children whose hands and faces are apt to be licked by dogs which have just eaten infected human faeces

413 Etiology of Juvenile Rheumatism

N Gray Hill (*Brit Journ Child Dis*, July–September 1930, p 161) thinks it probable that 1 per cent of all children below the age of 14 in this country develop rheumatic carditis All forms of rheumatism especially chorea are commoner in girls than in boys, this contrasts with adolescence and adult life in which acute rheumatism is as common in the male Between the ages of 7 and 12 years there is the gravest risk of an attack of acute rheumatism, but up to the age of 30 attacks of acute rheumatism or rheumatic fever are fairly common According to Hill s experience heredity has little if any etiological significance There does not appear to be any definite evidence of a distinct rheumatic type of child No special racial incidence was noted in Hill s patients A considerable proportion were undernourished on admission to hospital As regards climate the complete absence of acute rheumatism in the Tropics seems to indicate that a persistently high temperature has a deterrent influence on its production In this country it is generally agreed that first attacks or exacerbations are most frequent in the darker months of the year As regards home conditions, the incidence

of rheumatism is heaviest among children living in damp houses Hill's experience does not confirm the view that there is an intimate relation between tonsillitis and acute rheumatism, nor did he find any connexion between scarlet fever and rheumatic fever He concludes that acute rheumatism can be prevented or its incidence very considerably reduced by children living a healthy life on a simple diet, rich in milk, fruit, and animal fats, and being exposed, very lightly clad, to sunlight and open air

414 Whooping cough Carriers

THE current opinion is that whooping cough bacilli disappear five to six weeks after the termination of the disease M STOLZOVÁ SUTORISOVÁ (*Bratislavské Lekarske Listy*, October, 1930, p 482) describes a case of a girl, aged 3, in which whooping cough bacilli were found two years after the termination of the whooping cough In another instance large numbers of whooping cough bacilli were found in the nasopharynx of a child seven weeks after the termination of the disease The prolonged presence of the bacilli is explained by an inadequate production of antibodies The author concludes that the possibility of whooping cough infection through bacillus carriers must therefore be borne in mind

415 The Diagnosis of Poliomyelitis

W WERNSTEDT (*Kinderarzt Praxis*, September, 1930, p 3) emphasizes the importance of certain signs of nervous irritation in the diagnosis of incipient or abortive poliomyelitis Of these the most important are (1) rigidity of the neck and often of the whole of the back, both on active and on passive movement, (2) intermittent or persistent pain and tenderness in the legs and sometimes other parts of the body, and liable to be mistaken for rheumatism or neuritis, and (3) symptoms of ataxia, usually of the cerebellar type and confined to the lower limbs, and occasionally associated with some degree of spasticity If symptoms of this kind occur during an epidemic of poliomyelitis or in association with other typical cases in the summer and autumn, and other diseases can be excluded, the patients should be regarded as suffering from poliomyelitis and be treated accordingly

Surgery.

416 Healing in Bone Tuberculosis

THE method of healing in any infection of a joint in which there has been bony destruction may be primarily classified under two heads by fibrous union or replacement of eroded bones and cartilage by connective tissue, and by new bone formation in and about the joint M B HANSON and I FENGER (*Radiology*, September, 1930, p 374) deal with that class in which new bone formation is demonstrable during the stage of repair In arthritis deformans and in purulent involvement of joints quite marked new bone formation usually occurs, also in tuberculous joints in which there has been sinus formation with consequent invasion by secondary organisms It has been taught that new bone rarely, if ever, occurs in the repair of tuberculous joints other than those Cofield, in 1922, drew attention to "bony bridging in tuberculosis of the spine" The present authors agree that this is possible because they have found not infrequently quite extensive new bone formation in the repair of joint tuberculosis in cases in which there have been no communicating sinuses with secondary infection They have also noted that healing by the production of osseous tissue is more prevalent in tuberculosis of the vertebrae than in hip or sacro iliac involvement About 15 per cent of their cases of Pott's disease showed new bone formation during the healing stage The differential diagnosis from an *x* ray standpoint between tuberculous joints, arthritis deformans, and some cases of septic joint disease must occasionally lie in the appreciation of secondary findings, such as the presence of paravertebral abscess and the association of pulmonary tuberculosis

417 Operative Indications in Acute Mastoiditis

FOR the early diagnosis of mastoiditis, G LILBAULT (*Paris Méd*, September 6th, 1930, p 206) lays emphasis on three chief symptoms the pain, the temperature, and the discharge The signs formerly considered as characteristic occur too late, and only appear after the mastoiditis has become well established, with the risk of grave complications At its onset an acute otitis causes extremely sharp, lancinating pains, which, as a rule, subside when the tympanum is opened, either spontaneously or by paracentesis In other cases this amelioration does not occur, the pains, though less severe, persist and assume a neuralgic character Finally, in some cases the spontaneous pains disappear, but a careful palpation of the mastoid will provoke them at certain precise points Surgical intervention is not indicated when the pains are accompanied by a satisfactory general condition and by a progressive fall in the temperature, or when the pains persist for a few days with only slight fever This rule applies only to the first days of the otitis Should the pains persist for a longer period, with marked fever, antrotomy is indicated The temperature curve, obtained by morning and evening observations rather than a single isolated taking, should be the guide to operation Should this curve show a rising tendency, surgical measures are indicated, another operative indication is a sudden marked evening rise of temperature, even though there is a drop next morning Variations in the discharge are indicative of mastoid infection If the discharge continues to be abundant and is accompanied by pains and fever, antrotomy should be performed In some cases the discharge ceases abruptly, and if pain and fever are absent the infection may be considered as having ended If, however the mastoid becomes painful, and the temperature rises, the discharge is very probably being retained in the mastoid cells, and an operation should be performed without hesitation LILBAULT maintains that these three symptoms are of great value when considered together, a single one alone rarely suffices for diagnostic purposes

418 Surgical Treatment of Angina Pectoris

D DANIELOPOLU (*Zeit f klin Med*, Bd 113, 2 Heft, p 294) records 28 cases of angina pectoris in patients aged from 24 to 64 who had been treated in different countries (Rumania, America, France, Italy, Austria, and Spain) by suppression of the pressor reflex The operation consists in extirpation of the cervical sympathetic, leaving the stellate ganglion intact, this is associated with section of all the vertical branches of the vagus, the rami communicantes connecting the inferior cervical and first thoracic ganglion with the sixth, seventh, and eighth cervical, and first dorsal nerves, the vertebral nerve, and the nerves forming the anastomosis between the superior laryngeal nerve and the vagus These nerves do not contain any fibres, the section of which is dangerous, but they carry a sufficient number of centripetal cardio aortic fibres which require section to prevent anginal attacks In his previous publications Danielopolu had suggested that the operation should be carried out in two sittings, but as the result of his subsequent experience he recommends that the whole operation should be completed at once In the great majority of cases the operation was completely or almost completely successful The patients in whom the results were not so good were those in whom it was impossible to perform the complete operation The absence of any fatalities is attributed to the fact that care was taken to avoid cutting important nerves such as the inferior cardiac nerve, the stellate ganglion, and the rami communicantes connecting this ganglion with the second, third, and fourth dorsal nerves

419 Gastro-intestinal Lymphogranulomatosis

L SUSSIG (*Deut Zeit f Chir*, August, 1930, p 344), who has had three cases of solitary lymphogranuloma of the alimentary canal in a comparatively short period, believes that this condition is not so rare as it has been considered It is frequently diagnosed erroneously as tuberculosis, "lymphadenoid sarcoma," or carcinoma Sussig's first patient was a man, aged 41, with the tumour in the lesser curvature of the stomach The other patients (female) were aged 18 and 52 years respectively, and both tumours were situated in the ileum All the patients showed progressive emaciation, fluctuating temperature, and a yellowish skin with malar flush In all cases the Wassermann and diazo reactions were negative, and there was slight polymorphonuclear leucocytosis. The first patient had symptoms of gastric ulcer lasting six months, he was admitted with a temperature of 102 9° and signs of complete obstruction, and the diagnosis made was perforated gastric ulcer The temperature fell and the symptoms subsided Skiagrams showed a shadow as large as a date over the pancreas, there was rigidity of the stomach wall After a test meal the stomach contents were found to contain blood, hydrochloric and lactic acids were absent The patient returned to work, but was readmitted for an operation on the ulcer A hard tumour was found in the lesser curvature, as large as a pigeon's egg, the mesentery and mesocolon were thickened and contracted, and there was enlargement of the glands in the lesser omentum and around the pancreas and aorta The tumour appeared to be an inoperable carcinoma, it was adherent to the liver and pancreas, and the patient died two months later At the necropsy a crateriform ulcer was found to have penetrated the left lobe of the liver, causing abscess formation, the pus showed a mixed infection Histologically the growth proved to be a typical lymphogranuloma The second patient had had irregular periodic

abdominal pain localized for three months in the right iliac fossa A hard ill-defined nodular tumour extended from the symphysis to the umbilicus In view of a history of pulmonary tuberculosis conservative treatment was instituted, but complete obstruction with bilious vomiting necessitated laparotomy A large nodular tumour was found to be firmly adherent to the parietal peritoneum and bladder, which were studded with many small greyish nodules The upper pole of the tumour had perforated a loop of ileum, the adjacent mesentery was thickened and contained many enlarged lymph nodes The tumour, which completely filled the pelvis, was removed after resection of the bladder and the lowest coil of ileum with the thickened mesentery, followed by termino-lateral ileo-colostomy Paralytic ileus ensued two days later and the patient died on the seventh day Sections of the peritoneal nodules and of the tracheo-bronchial glands showed calcifying tubercles containing tubercle bacilli The third patient aged 52 had had pain in the right iliac fossa for two years, occurring four to six hours after food, and relieved by defaecation Four months before admission appendicectomy was performed without relief, the pain increased and was followed by bilious vomiting She was anaemic and emaciated, with slight pyrexia The abdomen was very distended and tense below the umbilicus; there was visible peristalsis and considerable polymorphonuclear leucocytosis Skiagrams showed stenosis or strangulation of the ileum At operation the lowest five inches of ileum was found to be very dilated and indurated with mesenteric thickening and enlarged glands, eight inches was resected with its mesentery The patient recovered The tumour was a typical lymphogranuloma, greyish homogeneous and non necrotic, there was no bacterial infection Sussig reviews the various etiological theories concerning lymphogranuloma (1) that it is due to protozoal infection by *Entamoeba histolytica* trichomonas, or chilomastix (2) that it results from a modified tuberculous infection, (3) that it is due to a corynebacterium and (4) that it is a disease *sui generis* of unknown origin Sussig claims that his cases were of definitely tuberculous origin, one being associated with the presence of diphtheroid bacilli, which reveals the mode of entry and primary infective focus Extirpation of the local lesion is necessary, followed by medicinal and x-ray treatment

Therapeutics

420 Dietary Therapy of Chronic Arthritis

WHILE most cases of chronic arthritis appear to be initiated either by infection, trauma or strain or by the menopause from a clinical standpoint it is apparent that many factors such as fatigue occupation metabolism, worry, diet and nutrition, contribute to the development of this condition A. A FLETCHER (*Journ Lab and Clin Med*, August 1930, p 1140) discusses these nutritional and dietetic factors A relationship is generally recognized between the digestive system and the development and course of chronic arthritis Some disturbance of this system such as constipation diarrhoea, or putrefaction may precede the onset of joint disease or parallel its severity, and relief of arthritic symptoms may be obtained by changes in diet and by colon irrigations Goldthwaite and others have directed attention to certain changes in the abdominal viscera visceroptosis, intestinal stasis, and bowel atony Fletcher believes that many factors particularly nutrition and diet, influence the tone and motility of the bowel McCarrison has shown that bowel atony and degeneration of the colonic mucosa in monkeys was produced by feeding autoclaved diets rich in carbohydrates The bowel changes in chronic arthritis are structurally and etiologically of the same nature, under the influence of a diet rich in vitamin but poor in carbohydrate the tone of the colon improves and it tends to regain its normal shape and contour Such a diet is outlined Therapy of this kind involves two general principles the liberal use of foods with high vitamin contents and the restriction of those constituents, such as carbohydrates which favour deficiency disease Treatment by diet should not exclude the use of other additional measures Recovery is likely to be slow, since the colon changes and long standing gastro-intestinal disturbances antedate the arthritis Patients with chronic arthritis are liable to develop focal infection, and this tendency is influenced by corrective dietetic measures Visceroptosis, intestinal stasis and atony are associated with faulty nutrition, and are improved or cured by a course of dietetic treatment Colon disturbances have been observed in cases of rheumatoid arthritis osteo-arthritis and menopausal arthritis, in all these conditions dietary measures have proved beneficial Fletcher maintains that faulty nutrition is the most frequent and most important basic factor in the development of arthritis.

421 Insulin in Delirium Tremens

K BENDIXEN (*Tidsskrift f d Norske Laegefor*, September 1st, 1930, p 940) was induced to treat delirium tremens with insulin by a publication in *Monatsschrift für Psychiatrie und Neurologie* (December, 1929) by E Klemperer who found that this form of delirium is associated with an incomplete dissolution of the alcohol molecule Intermediary products (acetaldehyde or by products thereof) are formed which are responsible in part at any rate, for the symptoms Insulin having been experimentally shown to hasten the dissolution of alcohol in the body, he argued that it would be beneficial in delirium tremens, the more so because insulin has already been shown to be of therapeutic value in certain diseases of the liver—an organ the functions of which are disturbed by alcohol poisoning On the basis of eighteen cases, Klemperer came to the conclusion that insulin treatment, conducted in a hospital, is without danger, and is superior to the usual fractional treatment with veronal, and Bendixen's cases, similarly dealt with, support these conclusions In one of them fractional treatment with veronal had first been tried, but without success In three cases treated by Bendixen the results were satisfactory, his dosage was a little higher than that recommended by Klemperer, who gives in the morning and at midday two subcutaneous injections of 8 to 10 international units with an interval of one hour between them Five units are administered in the evening if necessary Since the blood sugar curve runs more or less parallel with the pulse rate, careful observation of the latter and of the patient's general condition renders the physician relatively independent of blood sugar tests

422. Medicinal Treatment of Gastric and Duodenal Ulcer

W L PALMER (*Arch Int Med*, August, 1930 p 165) discusses the value of acid neutralization in the treatment of gastric and duodenal ulcers Apart from gastroscopy there is no means of determining when an ulcer has healed or of measuring the rate of healing, since an active ulcer may be present even when the radiographical signs and all traces of occult blood have disappeared The first stage of healing is the subsidence of the inflammatory reaction about the ulcer, as indicated by the rapid disappearance of spontaneous pain and the early transition from a positive to a negative acid test this may be taken as a rough index of the rate of healing Observations upon two groups of patients were conducted by Palmer in order to present data bearing upon the part played by free gastric acidity in the rate of healing of gastric and duodenal ulcers In the first the 'alkali group an attempt was made to neutralize the free acidity throughout the entire digestive period whereas in the second the 'beef tea group, gastric secretion was purposely stimulated in order to maintain as high a free acidity as possible By observing the rate of desensitization of the pain producing mechanism, conclusions were drawn as to the result in each group It was found that two-thirds of the 'beef tea group patients became free from spontaneous pain, indicating desensitization even without alkali therapy that neutralization of the gastric free acidity with alkalis definitely increased the rate of desensitization of the pain producing mechanism and that neutralization of the gastric free acidity favoured healing These experiments are held to indicate that desensitization of the pain producing mechanism occurred in both groups of patients and that the duration of the positive acid test definitely exceeded the duration of spontaneous pain in the 'alkali group, but only slightly in the beef tea group The hourly administration of beef tea did not stop the healing process but neutralization of the free acidity definitely favoured it

423 Treatment of Serum Sickness.

B SCHICK (*Kinderärzt Praxis* September 1930 p 12) emphasizes the importance of prophylaxis, and deprecates unnecessary injections of serum such as passive immunization of all the members of the family when one of them has contracted diphtheria or scarlet fever The growing tendency to inject all cases of scarlet fever with antitoxin is also held to be undesirable The toxin antitoxin mixtures employed in the United States have for several years contained goat or sheep serum instead of horse serum anatoxin contains no serum Some serums, such as tetanus pneumonia and scarlet fever antitoxins, are more likely to give rise to unpleasant symptoms than others, but the toxicity of the serum is diminished by precipitation of the pseudo globulin with ammonium sulphate or electrodialysis The rarity of fatal cases is shown by the fact that though Lamson has collected 41 examples from the literature Pfaundler had only 3 deaths among 1,000 000 injected and Park 1 among 50 000 The persons exposed to special risk may be divided in two groups asthmatic subjects especially those who are hyper sensitive to emanations from horses, and persons who have

had previous prophylactic or therapeutic injections of serum Before injection, therefore, in every case an inquiry should be made as to whether the patient is the subject of asthma or any other allergic disease such as hay fever or eczema or whether he has had any previous injections of serum for any purpose Sensitiveness for horse serum can and should be tested by diluting the antitoxin 1 in 10 with normal saline solution, and injecting 0 05 intracutaneously, especially before intravenous or intrathecal administrations of serum Desensitization should be secured by the subcutaneous injection of small quantities of serum The first dose should not exceed 0 01 c cm If no symptoms occur a double dose can be injected intravenously, and in another twenty minutes the dose can be redoubled, and so on If symptoms appear the following dose should not be doubled, but the same dose should be repeated in half an hour's time When intrathecal injections are needed the same method should be continued until the amount injected intravenously is 10 c cm In persons whose hypersensitiveness is low, especially with subcutaneous or intramuscular injection, the interval between the doses may be shortened and the size of the doses may be more than doubled A solution of 1 in 1,000 adrenaline should be at hand in every case where an injection is performed The ordinary methods for treatment of shock should also be employed

424 Opium Administration in Diabetes

R N CHOPRA and J P BOSE (*Indian Journ of Med Research*, July, 1930, p 15) systematically examined a series of hospital patients suffering from diabetes in order to test the accuracy of a belief prevalent in India that small doses of opium are beneficial in this disease The patients were kept strictly on the same diet for a few days before and after the period during which the drug was being tested When the daily output of sugar in the urine ran at a constant level the drug was given in gradually increasing doses, the excretion of sugar being carefully measured every day, and the blood sugar examined at regular intervals The psychological element was eliminated by masking the taste and smell of the opium with oil of citronella so that the patient had no idea of what drug was being employed The initial dose was 1 to 2 grains a day increasing by 1 grain every third or fourth day until from 6 to 8 grains were being taken daily, when the drug was stopped, either suddenly or gradually Some patients received as much as 10 to 12 grains each day without experiencing the least discomfort By these means it was found that the administration of small doses of opium (1 to 6 grains daily) slightly reduced the total urinary output in mild cases, but in serious cases there was no reduction in the polyuria, thirst, or frequency of micturition In early and mild cases opium has a well marked effect in reducing the total daily excretion of sugar in the urine, even causing complete disappearance in some instances, but in serious cases it had no effect on the sugar output The drug has but little effect in reducing the blood sugar, in severe forms of the disease it actually increases it The authors conclude that its use is inadvisable in diabetes, since in some patients the renal threshold for sugar excretion is raised thereby, while the sugar disappears from the urine the amount in the blood is increased

Neurology and Psychology.

425 Progressive Athetosis

SINCE the pioneer work of Kinnier Wilson and of C and O Vogt much has been learned concerning the function of the basal ganglia Several cases of progressive athetosis have been reported and evidence is accumulating that this distressing syndrome usually occurs when there is disease of the corpus striatum, perhaps particularly of the caudate nucleus B CROTHERS and S COBB (*New England Journ Med*, July 31st, 1930, p 213) record a further case in order to assist the accumulation of evidence A male infant was born some four weeks before term without difficulty, and nothing abnormal was noted until the age of 8 months, when he did not sit up When seen at the age of 13 months the child was under weight, nervous and showed athetoid, almost choreiform, movements About eleven months later the left side was more spastic than the right, no clonus was noted, and plantar stimulation produced athetosis rather than a typical Babinski response The impression then was that the child had a profound disturbance of motor control chiefly extrapyramidal, without serious mental defect The most probable cause was assumed to be haemorrhage occurring in the course of the premature labour Systematic muscular training was tried but three months later the child had acute otitis media Some months subsequently decided improvement had occurred However, at the age of 6 the child again became ill, and died on the eighth day of this illness the respiration suddenly ceasing after the development of marked retraction of the neck, dilatation of the pupils, and Cheyne Stokes breathing Post mortem examination of the brain showed morphological anomalies of the convolutions, which indicated that the brain was congenitally abnormal The lesions in the basal ganglia were very definite, and are best explained, according to the authors, as processes of repair following some former injury, this process had not stopped when the original damage was healed by absorption and scar formation, but had gone on as a progressive gliosis, which had gradually involved both the caudate and lenticular nuclei, and, to a less extent, the thalami In this case, again, the etiology was merely a matter of speculation, and the only possible diagnosis was gliosis of unknown origin The authors conclude that the changes in the nerve cells and glia of the cortex were probably acute, and due to terminal toxæmia, asphyxia, and circulatory changes, they do not consider them significant in relation to the principal symptom, the athetosis

426 Psychopathology of Ulcerative Colitis.

DURING psychological investigations in relation to disease, C D MURRAY (*Amer Journ Med Sci*, August, 1930, p 239) noted in a number of cases of ulcerative colitis that the personality of these patients gave many indications that deeper problems of psychopathology should be investigated Accordingly, a study was made of the life histories and mental attitudes of twelve patients suffering from ulcerative colitis, and these revealed a close association in time between the emergence of a difficult psychological situation and the onset of the intestinal symptoms Four cases are described in detail, these show a well marked time relationship between the outbreak of an emotional disturbance and the beginning of the disease It is well known that emotion is often accompanied by hypermotility or spasticity of the colon, and probably also by hypersecretion and vasomotor disturbances The exact mechanism of this phenomenon is unknown, but the reality of a nervous link between mental states and colon troubles is virtually proved by the many histories which reveal a close time relationship between the mental and physical symptoms An outstanding trait in colitis patients is their emotional immaturity, all the patients studied revealed definite childish elements in their character Mental conflicts concerned with marriage were more commonly found than other types of situations which might evoke anxiety In each case the patients faced their problems in an inadequate, infantile manner Murray believes that if the pathological process has not progressed too far, a thorough investigation into the patient's life and mentality is indicated and may afford opportunity for much needed psychotherapy

427 Tumours of the Occipital Lobe

I M ALLEN (*Brain*, July, 1930, p 194) reviews the clinical features of 40 cases of tumour of the occipital lobe, and discusses their frequency, pathogenesis, and significance In 24 of the cases the tumour was confined to that lobe, in 6 the posterior part of the temporal lobe, and in 10 a portion of the parietal lobe, were also involved The initial symptoms were epileptiform attacks in 30 per cent , a visual aura or visual hallucinations in 12 5 per cent , general mental impairment in 17 per cent , headache in 35 per cent , transient or progressive failure of vision in 15 per cent , and strabismus in 2 5 per cent In only 12 5 per cent did the initial symptoms suggest that the visual paths were involved The relative frequency of different symptoms was visual hallucinations, 25 per cent , abnormality of the visual fields, 16 per cent , epileptiform attacks, 52 5 per cent , auditory hallucinations, 5 per cent abnormal tastes and smells, 12 5 per cent , headache, 95 per cent , diplopia, 22 per cent , impairment of vision, 57 per cent , speech disturbances, 35 per cent , spontaneous subjective sensations, 30 per cent , disturbances of motor functions, 52 per cent , and mental symptoms, 55 per cent Important findings on examining the patients were mental changes, 60 per cent , contralateral homonymous defects of the visual fields, 94 per cent , papilloedema or optic atrophy, 70 per cent , inequality of the pupils, 35 per cent (larger contralateral pupil in 25 per cent), ocular paresis, usually of the external recti, 30 per cent , nystagmus and nystagmoid jerkings, 35 per cent , speech disturbances, 30 per cent (50 per cent of left sided tumours), sensation disturbances of the supra thalamic type, 55 per cent , and minor degrees of motor disturbance, usually in the contralateral limbs, 90 per cent The changes in the visual fields in the majority of cases occurred only in the contralateral halves of the field In individual cases the fields showed complete hemianopia up to the fixation point Incomplete hemianopsia with spacing of the field for central vision, quadrantic defects, peripheral crescentic defects, and no abnormal changes When vision was failing a concentric contraction of the fields was

also sometimes found Focal symptoms and signs were limited to unformed visual hallucinations and distortions of the visual fields Symptoms and signs referable to a definite neighbourhood were important in localization, and with the exception of speech disturbances, were probably the result of oedema or vascular changes near the tumour or of pressure on adjacent structures, sometimes intensified by raised supratentorial pressure Symptoms due to increased pressure in some cases were confusing and enhanced the risk of erroneous localization In most cases symptoms of increased intracranial pressure predominated from the beginning in a few instances epileptiform attacks occurred for some time in others there was a history of exacerbations of increased intracranial pressure for as long as two years

Obstetrics and Gynaecology.

428. Etiology of Puerperal Sepsis.

IN an attempt to determine the actual source of infections arising during the puerperium JOHN TAYLOR and H D WRIGHT (*Journ Obstet and Gynaecol of the British Empire* Summer No, 1930 p 213) report the following findings In the vagina in 1 123 women *immediately before delivery* were found non haemolytic haemolytic pseudo-haemolytic and anaerobic streptococci in 37 8 2 7, 1 3 and 1 1 percentages respectively Pseudo-haemolytic strains, producing no haemolysis in serum broth but definite haemolysis on the plate, were present in 22 patients of whom 20 subsequently had an afebrile puerperium, one had mild sepsis due to another organism, and one had pyelitis Of 32 patients harbouring true haemolytic streptococci, 29 had an absolutely apyrexial puerperium of the other three one had staphylococcal mastitis and in another instance a sore throat and fever developed on the fifteenth day *Of thirteen women in whose vaginas anaerobic streptococci* were found three later developed fever, but none from infection with an anaerobic streptococcus. It would appear, therefore, that streptococci present in the vagina before delivery do not usually produce infection After *delivery, on the third day, streptococci* were present in the vaginal flora in slightly increased proportions, especially was this the case with anaerobic streptococci but clinical evidence of infection was absent in patients having these bacteria in the uterus or vagina *In respect of cases of puerperal morbidity (as defined by the B M A standard) the* authors found that of 125 cases 50 were certainly and 27 others probably due to an extrauterine cause Of the remaining 47 definitely septic cases 14 were caused by haemolytic streptococci 10 by anaerobic cocci and 8 by *B coli* In none of the fourteen septic cases in which haemolytic streptococci were obtained did death ensue and only about half were of moderate severity of the five (hospital) cases in which ante natal bacteriological examination had been made, none had then shown the presence of haemolytic streptococci It *appears that the bacteria present in the vagina before* delivery are a less serious danger than those entering during or after labour Stress is laid on the importance of anaerobic organisms and the relative infrequency of haemolytic streptococci A prognosis based on bacteriological findings alone is said to be almost invariably deceptive

429. Treatment of Leucorrhoea.

L ADLER (*Wien Klin Woch*, July 28th 1930 p 948) remarks that to determine the correct line of treatment in leucorrhoea the origin of the discharge must be ascertained and its etiology be defined It must be remembered that a copious non inflammatory discharge may cause secondary inflammation lower down *Gonorrhoea is not so common as is* supposed and should be excluded by microscopical examination *Vulvo-vestibular discharge is usually a sequel of a* descending infection it often becomes infected and is accompanied by burning and irritability Hyperidrosis and abnormalities of the urine must be dealt with if present before local treatment can be of any use benefit may then follow tepid bathing and powdering during the day *If the condition* is acute rest in bed with hot fomentations is required If it is chronic, painting with a silver solution will clear it up *Vulvo-vaginitis of little girls* may be due to gonorrhoea masturbation, oxyuris infestation, or cystitis treatment follows the same lines, with 10 per cent silver nitrate application in obstinate cases. Of vaginal discharges the non inflammatory as seen in young girls is due to constitutional causes True vaginitis may be exogenous due to infection from without or trauma it is more often endogenous, however and attributable to ovarian hypofunction and constitutional anomalies Attention to the general health is the first line of treatment, associated with organotherapy to stimulate the ovaries For any form of vaginitis local treatment is necessary If properly performed, douching gives good results in severe inflammation, a 0 5 per cent solution of mercury oxycyanate should be instilled through a tubular speculum followed by vaginal lavage with a silver preparation If the condition is acute this is employed daily, otherwise every second or third day with a douche of weak camomile tea in between *This routine treatment is often* sufficient but individual idiosyncrasies may have to be considered Dry dusting does not give good results Tampons and pessaries of various medicaments may be very useful in cases where douching is making the mucous membrane too dry In cases where the discharge originates from the cervix gonorrhoea has been over-emphasized and the possibilities of erosion, ectropion and damage from contraceptive pessaries have been underestimated Local treatment with corrosives can only be carried out in the absence of inflammation after swabbing with alkalis silver nitrate or protargol should be applied The corrosive used should be applied again in about four days time, and the treatment be repeated at least five or six times Tears and erosions require operative treatment Such local measures may also be used in hypersecretion due to psychic causes or ovarian action The body of the uterus seldom causes discharge, but it may appear in glandular hyperplasia or polyposis, when curetting is necessary Pus is found only in severe inflammation and pyometra If carcinoma can be excluded, dilatation of the cervix and douching will cure it

430. Haematometra with Utero intestinal Fistula.

A V VIKOULOF (*Gynecol et Obstet* June 1930 p 500) reports the successful treatment on conservative lines of a case of cervical atresia with haematometra in which the uterus communicated with the small intestine A married woman aged 27, who had never menstruated had suffered for twelve years from monthly attacks of pain latterly accompanied by vertigo and transient amblyopia melaena had been constantly present for twelve months The uterus was greatly enlarged, but did not admit the sound for more than 5 cm Diseased and adherent uterine appendages were removed on both sides a fistula of the width of a goose quill connecting the fundus of the uterus with the small intestine was excised and ventro-fixation was performed seventeen days later the uterus was drained by the forcible introduction of a sound through the cervix Six weeks subsequently the track which had closed was dilated During the ensuing twelve months regular and painless menstruations became established and melaena has ceased

431. Pregnancy and Parkinsonism

P BROOKE BLAND and L GOLDSTEIN (*Journ Amer Med Assoc* August 16th, 1930 p 473) who record an illustrative case with a review of the literature, come to the following conclusions. Chronic epidemic encephalitis does not render a woman sterile and the incidence of abortions in patients who conceive is about the same as in other women Pregnant women are not specially susceptible to the infection of epidemic encephalitis *Clinically the disease pursues much* the same course in the pregnant as in the non pregnant woman although the mortality rate is somewhat higher Pregnancy may aggravate latent or quiescent encephalitis in patients who have previously suffered from the disease Women who contract acute encephalitis in pregnancy are especially liable to develop Parkinsonism the incidence being from 75 to 80 per cent as compared with 25 per cent in non pregnant women Except in a small proportion of cases chronic encephalitis does not have an unfavourable influence on pregnancy and labour On the other hand pregnancy has a decidedly unfavourable effect on Parkinsonism La thy although encephalitis may be transmitted to the foetus such transmission is exceedingly rare

432. Pregnancy after Hemihysterectomy

ACCORDING to P PETIT DUTAILLIS (*La Gynecol* June 1930 p 350) a double uterus of whatever variety is as well adapted in one of the halves as an ordinary uterus for the function of reproduction provided that that half is sufficiently developed and free from acquired disease. In confirmation he describes the case of a patient operated on for pain chiefly menstrual due to iliac ectopia of the obliterated right cornu of a pseudo-didelphic uterus with the corresponding adnexa. The ectopic organs were removed together with the fibrous band which united them to the other half of the uterus. The second patient a girl aged 18 had had left hemihysterectomy for acute symptoms due to torsion of the left horn of a bicornuate unicervical uterus with left haematosalpinx and intraligamentary haematoma after subsequent marriage two healthy children were born in successive labours at term In the first pregnancy also pregnancy proceeding to term followed operation

Pathology.

433 Physiological Properties of Insulin

In a brief review of certain physiological properties of insulin C H Best (*Canad an Med Assoc Journ*, August, 1930, p 141) states that, although it has not been established that mammalian tissues other than the pancreas cannot produce small amounts of insulin there is no doubt that the insulin concentration in the pancreas is greater than in any other organ The insulin found in various tissues is probably transported by the blood from the pancreas Without doubt some insulin can be obtained from the tissues of severely diabetic animals and of patients dying in diabetic coma As one of the mechanisms responsible for the liberation of insulin from the pancreas of normal animals is operating in the diabetic—namely, the increased sugar concentration of the blood—this insulin should be considered as active One action of insulin in normal and diabetic animals is the formation of muscle glycogen from dextrose It is reasonable to suppose that the reduced amounts of insulin in diabetes are promoting the formation of muscle glycogen, but are not adequate for the prevention of excessive sugar formation, the accummulation of the ketone bodies, and other abnormalities which may cause death There is satisfactory evidence that the islands of Langerhans produce the pancreatic insulin which leaves this organ in the venous blood Stimulation of the right vagus, fibres from which may be traced to the islet cells, produces a lowering of the blood sugar figure Glucose concentration of the blood is the chief agent in controlling the liberation of insulin from the pancreas, and the nervous mechanism is of secondary importance Among the effects of insulin are decrease of nitrogen excretion, the rapid diminution of the ketone body concentration in the blood, rapid fall of the blood phosphorus content, diminution of the excess urinary phosphates, and a definite increase in muscle glycogen Some investigators believe that the glycogen formation and dextrose combustion account for practically all the sugar which disappears when insulin is given, others believe that a decrease in sugar from protein and fat must also be brought about Many factors reduce the efficiency of insulin—namely, interference with glycogen formation in the liver and muscles, bacterial infections, anaesthetics, and diets Best concludes with a few remarks on the preparation of insulin—and the relation between insulin administration and diabetic mortality

434 Immunization in Syphilis

M Truffi (*Ann de Derm et de Syph*, July, 1930, p 689) concludes that as regards mankind there is no natural immunity to syphilis, and that many species of animals hitherto considered refractory are only apparently immune In a syphilitic subject reinoculation lesions correspond generally to the symptoms of the particular stage of the original disease, except that spirochaetes inoculated into the skin cannot penetrate without first producing a local lesion Apparently partial immunity begins to develop from the commencement of the primary incubation period, during the pre secondary stage a gradually increasing degree of immunity is observed A fresh inoculation lesion originates as an initial syphiloma, but later becomes papular, the incubation being usually short and abortive Immunity increases during the period of generalized symptoms During the latent period immunity decreases slowly, deeper re inoculation lesions and signs of distal diffusion may occur During the tertiary stage the skin reacts strongly to the introduction of a fresh virus, and immunity diminishes more rapidly In general paralysis the skin is almost entirely refractory to reinoculation, this refractory state is less evident in tabes Congenital syphilis produces no immunity to fresh infections No absolute proof can be shown that a given syphilitic patient can be considered cured, nor is it possible to differentiate superinfection and reinfection Neither in man nor in animals has it been possible to distinguish differing strains of spirochaetes with affinities for certain organs Although allergy is an expression of immunity, exact agreement between these two states cannot always be demonstrated in syphilis The immunizing substances are probably of histogenetic rather than humoral origin, but their nature and mode of action cannot be demonstrated, neither can it be explained why the disease at a given period tends to be confined to a single system, organ, or part of an organ In syphilis there is no true immunity, but only an immunity by infection, as such it is not transmissible, except with the infection itself Intensive early treatment destroys immunity, probably because it destroys infection, such a result is rare in the more advanced period of the disease

435 The Haematology of Peruvian Wart

C Monge and P Weiss (*Rev Sud Amer de Méd et de Chir*, June, 1930, p 570) describe from observations on eighteen cases the characteristic appearances of the blood in Peruvian wart (Carrion's disease), a Bartonella infection The severe rapidly developing anaemia of this disease has the megaloblastic and megalocytic characters of pernicious anaemia There is a fall of the red cell count to about one million per c mm, with the appearance in the circulation of all forms of red cells from the most undifferentiated type to the adult erythrocyte, and much basophilia, polychromatophilia, poikilocytosis, and anisocytosis This condition is associated with a leucocytosis up to 20,000 per c mm of a leukaemic granulopolynuclear type, reflecting the granulocytic activity of the bone marrow There is a marked nuclear deviation to the left with predominance of young, immature forms, such as metamyelocytes, myelocytes, and myeloblasts with azure granules, Turck cells and plasma cells are generally present, and also immature forms of the lymphoid series, which can be differentiated by the oxydase reaction There are also many primitive monocytes, including the primitive parenchymatous forms usually met with in leukaemia Generally the condition may be regarded as a leukanaemia The authors find that the earliest sign of haemotological remission is the onset of a monocytosis, when the parasites (Bartonella) leave the red cells to pass into the tissues This remission is accompanied by a rise in the number of the red cells, a diminution in the number of immature forms, and disappearance of megalocytosis In favourable cases the remission is followed by a gradual return to a normal blood picture

436 Opsonin and Bacteriotropin Actions

M Strumia, S Mudd, Emily B H Mudd, B Lucke, and M McCutchfon (*Journ Exper Med*, September 1st, 1930, p 299) have previously reported that serums which have promoted the phagocytosis of acid fast bacteria have regularly produced certain alterations in the bacterial surfaces in corresponding degree They now record the results of a study undertaken to determine the distribution of the substances responsible for the surface and tropin effects in the several fractions of immune serums Antiserums against several strains of acid fast bacteria were separated into their euglobulin, pseudoglobulin, and albumin fractions The globulin fractions were found to possess the essential properties of bacteriotropic serums, thus they alter the bacterial surface properties, and, in quantitative correspondence, cause agglutination and phagocytosis, these several effects withstand washing of the sensitized bacteria, and are little, if at all, affected by inactivation of the antiserums before fractionation, the combination of antibody and antigen is serologically specific It is concluded that the contact of antigen with fresh homologous immune serum results in the deposit on the antigen surface of a substance, or substances, contained in the globulin fractions of the antiserum, as a consequence of this surface deposit the leucocytes can spread over and engulf the antigen The same investigators (*ibid*, p 313) also report the results of further tests of tropin action These indicate that precipitation, agglutination, the surface changes, and increased phagocytosis are all consequences of one underlying phenomenon—the specific chemical combination with and deposit on the surface of the antigen of antibody protein The several serological reactions then follow as consequences of the properties of the sensitized surface and of the special environing conditions The antibody is contained in the globulin fractions of immune serum, and appears to be a globulin with chemico physical differences from normal serum globulin

437 The Sedimentation Test in Acute Anterior Poliomyelitis

R Huss (*Nordisk Medicinsk Tidskrift*, August 30th, 1930, p 517) has observed the rate of sedimentation of the erythrocytes in 62 cases of acute anterior poliomyelitis treated in the fever hospital in Stockholm The cases were classified according as they were, or were not, characterized by paralysis, but there was practically no difference between the sedimentation curves in the two classes No correlation could be established between the rate of sedimentation and the height and course of the fever, nor could any relationship be established between the sedimentation and the leucocyte curves The first conformed to the type characteristic of the large group of acute infectious diseases in which the rate of sedimentation is only slightly increased Sudden changes in the curve, such as have been observed in scarlatina and recurrent fever, were never found, nor did injections of serum increase the rate of sedimentation, as is sometimes the case in serum treatment of other diseases.

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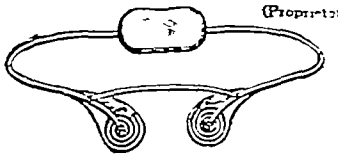
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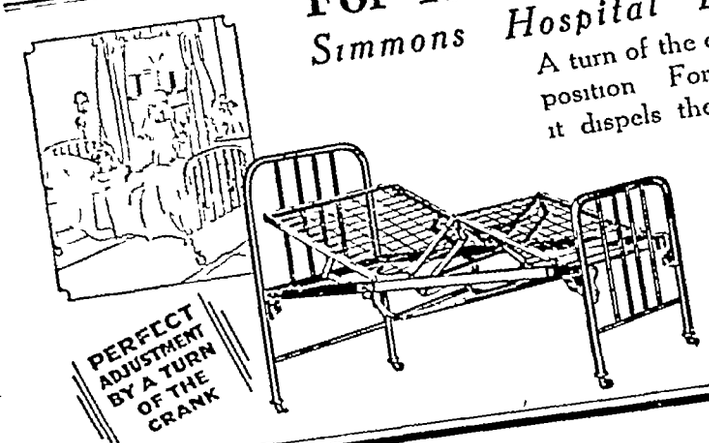
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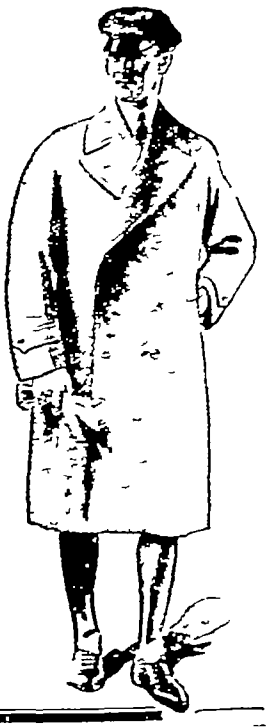
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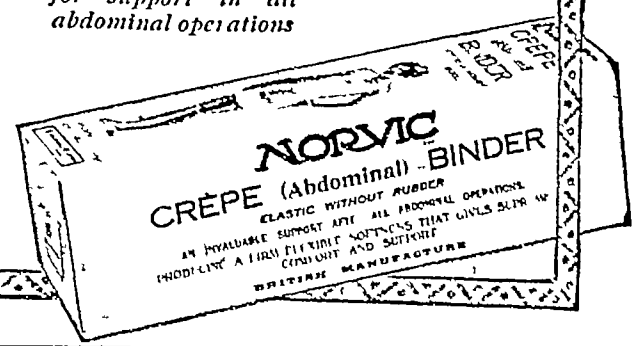
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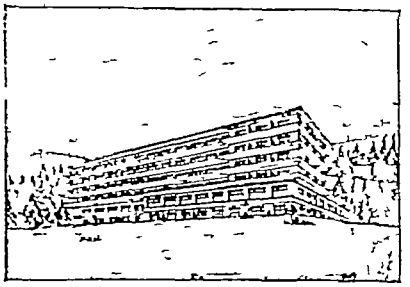
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For terms and further particulars apply to the Medical Superintendent (Telephone No 56 Northampton) who can be seen in London by appointment

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FUNCTIONAL NERVOUS DISORDERS, MEDICAL & CONVALESCENT CASES

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For particulars as to terms etc apply to—
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Telephone No. 7 Barnwood

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Dr MARY R BARKAS M D D P M

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Telegrams Castle, Ruthin Telephone 66, Ruthin Ruthin Castle North Wales

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Tel. Tel Address Bethlem Beckenham *Telephone* Springpark 1180—1181

Station Eden Park (Southern Railway)

President LORD WAKEFIELD OF HYTHE, C.B.E. LL.D
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Telegrams "Alleviated, London" Telephone Rodney 4741—4742.

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Telegrams SUBSIDIARY LONDON" *Telephone* NORTH 0299

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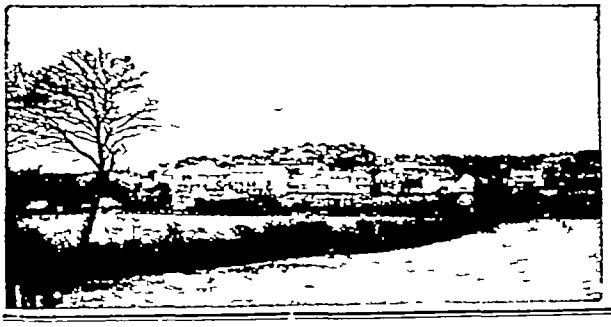
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ASSISTANT MEDICAL OFFICER.

BEVERLEY ROAD INSTITUTION (HOSPITAL).

The Corporation of Hull invite application from Medical Practitioners for the appointment of an Assistant Medical Officer (single) at the above-named Hospital

Commencing salary at the rate of £300 per annum for a probationary period of one year together with an allowance of £150 for board and residence outside the Hospital

The Hospital Section contains 400 beds and is equipped with modern X-ray and Ultra-violet Light Departments

Applicants must be under the age of 40 years

A form of application together with conditions of appointment and a list of duties may be obtained from the undersigned to whom completed applications should be returned not later than Thursday November 20th.

Guildhall, Hull. W M FRAZER M D Medical Officer of Health.

October 27th 1930

UNIVERSITY OF LONDON

ROGERS PRIZE 1931

Under the will of the late Dr NATHANIEL ROGERS the Senate offer from time to time a Prize of £100 open for competition to all persons whose names appear on the *Medical Register* of the United Kingdom for the best essay or dissertation on some medical or surgical subject to be chosen by the University. The Prize will be next offered for award in 1931 and the subject named is

Filtrable Virus as a Cause of Disease in Man

Copies of the Regulations including information regarding the date in April by which essays must be received and any further information that may be required may be obtained on application to the Academic Registrar University of London South Kensington, S W 7

EDWIN DELLER, Principal

University of London South Kensington S W 7

University of London

A Course of Four Lectures on *The Preparatory Functions of the Blood* will be given by Dr L E BAYLISS at UNIVERSITY COLLEGE LONDON (Gower Street W C 1) on MONDAYS NOVEMBER 10th 17th 24th and DECEMBER 1st at 5 p.m.

A Course of Four Lectures on "*Protein Metabolism*" will be given by Dr W ROBSON D.Sc. Ph.D at KING'S COLLEGE, LONDON (Strand W C), on THURSDAYS NOVEMBER 13th 20th, 27th and DECEMBER 4th at 5 p.m.

Admission free without ticket.

S J WORSLEY Academic Registrar

The University of Liverpool

The Council invites applications for the post of LECTURER IN DERMATOLOGY Application to be made together with the names of three referees to be forwarded to the undersigned (from whom further particulars may be obtained) not later than November 19th.

EDWARD CAREY Registrar

County Borough of Huddersfield

PUBLIC HEALTH DEPARTMENT

APPOINTMENT OF ASSISTANT MEDICAL OFFICER OF HEALTH.

The Corporation of Huddersfield invite applications from registered Medical Practitioners for the above appointment

Candidates should be ladies who have had special experience in ante-natal work, and in the care of infants

The salary will be at the rate of £500 per annum rising by annual increments of £25 to a maximum of £600 per annum

Candidates should set out their qualifications and experience and furnish three recent testimonials and or two references

Applications should be addressed to JOHN M GIBSON B.A M.D D P H Medical Officer of Health Huddersfield, so as to reach him not later than November 15th

Forms of application are now provided

Town Hall, Huddersfield. SAMUEL PROCTOR Town Clerk.

October 1930

Northamptonshire County Council.

EDUCATION COMMITTEE.

ASSISTANT SCHOOL MEDICAL OFFICER.

The Committee invite applications for the appointment of Assistant School Medical Officer (male) from registered Medical Practitioners of not less than three years standing The possession of a D P H will be considered an additional qualification

The salary of the post will be £500 per annum rising by £25 per annum to £600 per annum subject to satisfactory service together with expenses in accordance with the County scale

A full statement of the duties and conditions attached to the appointment can be obtained from the undersigned

Applications together with copies of not more than three recent testimonials must be lodged not later than Friday November 28th.

County Education Offices, Northampton. J L HOLLAND Secretary for Education

Refraction and the Ordering of GLASSES taught by Practising Ophthalmic Surgeon in London £8 8s for 10 lessons.—Address No. 125 B.M.A House, Tavistock Square, W C.1

St Mary's Hospital, Institute OF PATHOLOGY AND RESEARCH

Imperial Cancer Research Fund

Applications are invited from qualified Medical Practitioners for a RESEARCH STUDENTSHIP This will be tenable for a period of six months

The Institute comprises the following Departments Anatomy and Embryology Physiology Pathology Chemical Pathology Clinical Bacteriology Systematic Bacteriology and Immunology

The student who will receive an honorarium at the rate of £200 per annum may elect to carry out his researches in any one of these Departments and would be required to work under the direction of the head of the Department concerned

Preference will be given to St Mary's student

For further particulars apply to the Secretary Institute of Pathology and Research St Mary's Hospital Paddington W 2 to whom applications must be sent not later than November 17th.

Lancashire County Council

APPOINTMENT OF DENTAL SURGEON

The Lancashire County Council propose to appoint a full-time Dental Surgeon and invite applications from fully qualified and registered Dental Surgeons who must not be over 35 years of age

The duties of the post are

1. The dental inspection and treatment of children under the Education Act.
2. The dental inspection and treatment of Expectant and Nursing Mothers and of young children under the Maternity and Child Welfare Acts
3. Such other duties as may from time to time be imposed by the Education and Public Health Committees.

The salary will be at the rate of £600 per annum together with the usual allowances for travelling etc The person appointed will be required to pass a medical examination and to contribute towards the Council's Superannuation Scheme

Applications must be made upon a form which can be obtained together with further particulars from the County Medical officer of Health School Medical and Child Welfare Department County Offices Preston to whom the completed form should be returned not later than November 24th.

All communications must be endorsed Dental Surgeon Any form of canvassing is strictly forbidden and will disqualify

County Offices Preston GEORGE ETHERTON Clerk of the County Council

Lancashire County Council

BIDDULPH GRANGE ORTHOPAEDIC HOSPITAL.

Application are invited for the post of SENIOR HOUSE SURGEON (woman) at the above Hospital which contains 87 beds The salary is at the rate of £250 a year together with board residence and laundry

The appointment will be for a period of six months in the first instance and for a further period of six months at the option of the Council

Candidates must be fully qualified and have had experience in a general Hospital and a Resident and have had Orthopaedic experience

Application with copies of two recent testimonials should be sent not later than November 21st to Dr J J BUTTERWORTH School Medical and Child Welfare Department County Offices Preston

Duties to commence February 1st 1931

County Offices Preston GEORGE ETHERTON Clerk to the County Council

Woking and District Victoria HOSPITAL.

(General Hospital—50 Beds)

FEMALE RESIDENT MEDICAL OFFICER (unmarried) required for January 1st, 1931 Applicants must be fully qualified and registered. Salary £100 per annum with board residence and laundry

Appointment for six months in the first instance for further six months

Applications stating age etc and accompanied by copies of not more than three testimonials to be addressed to the undersigned from whom all particulars may be obtained They must be received on or before November 21st. Personal canvassing will be disqualification

WILLIAM H MANNING DRIVER District Victoria Hospital Hon Sec

City of Birmingham

SELLY OAK HOSPITAL

SURGEON

Applications are invited from fully qualified registered Medical Practitioners for the above whole time appointment

The present Hospital accommodation is 550 beds divided into General Medical General Surgical Gynaecological Obstetrical and *Children's Diseases sections* There are complete ly equipped [illegible] Radiological Laboratories X ray Ultra violet Ray departments Over 3 000 operations are performed annually

Candidates for the appointment must have had good Surgical experience and be Fellows of the Royal College of Surgeons (England)

The scale of salary will be £700 rising by annual increments of £50 to a maximum of £1 000 per annum

Furnished quarters, rations, laundry, and attendance will be provided Alternatively, a cash allowance will be paid if the officer appointed is non resident The officer appointed will be required to account to the Council for all fees allowances and emoluments (other than the foregoing) received by him

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme, and to the candidate passing a medical examination and will be subject to three months notice on either side

Further particulars of the appointment may be obtained from the Medical Superintendent, R P STANLEY KELMAN, Esq, M B, F R C S (Eng and Edin) at the Selly Oak Hospital

Applications stating age experience, and qualifications accompanied by copies of recent testimonials and endorsed Surgeon, should be addressed to me and delivered at my office not later than 10 a m on Wednesday, November 12th

F H C WILTSHIRE,
Town Clerk

The Council House
Birmingham October 1930

County Council of Middlesex

PUBLIC VACCINATOR

The County Council invites applications from registered Medical Practitioners for the appointment of Public Vaccinator for a Vaccination District within the Urban District of Willesden

Particulars as to fees can be obtained on application to me.

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination unless such certificate was required as a condition of obtaining any diploma, licence or degree which he possesses

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order 1930, of the Minister of Health

Applications stating (1) age (2) qualifications and (3) previous experience together with copies of not more than three recent testimonials must be received by the undersigned not later than November 22nd

No special application forms are provided Envelopes must be endorsed Public Vaccinator

Canvassing directly or indirectly, will be a disqualification

ERNEST S W HART
Clerk of the
County Council

Middlesex Guildhall
Westminster S W 1
October 28th, 1930

County Council of the West Riding of Yorkshire

PUBLIC HEALTH LABORATORY

ASSISTANT BACTERIOLOGIST

The County Council of the West Riding of York hire invite applications for the appointment of Assistant Bacteriologist

Applicants must be registered Medical Practitioners with experience of Public Health Bacteriology and Clinical Pathology

The salary will be £500 per annum rising by Increments of £25 in accordance with the County Council's scale of salaries to £700 per annum

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and the person appointed will be required to pass a medical examination by a person nominated by the County Council

Form of application and further particulars may be obtained from the undersigned by whom all applications together with copies of not more than three recent testimonials must be received no later than November 17th

J CHARLES McGRATH
Clerk of the County
Council

County Hall
W A 6 1
October 1930

City of Birmingham

ERDINGTON HOUSE

RESIDENT ASSISTANT MEDICAL OFFICER
(Female)

The Public Assistance Committee invite applications from fully qualified Medical Practitioners for the above appointment at the Erdington House. The Institution accommodates 1 800 inmates of whom approximately 800 are *mental patients of varying types* and 250 are sick the remainder being aged and infirm, ordinary House cases etc Parts of the Institution are certified under the provisions of the Mental Deficiency Acts, 1913 to 1927

The officer appointed will be required to assist in the general medical work of the Institution and to undertake such other duties as may be assigned to her, and, should occasion arise to assist at other Institutions under the control of the Committee The salary will be at the rate of £350 per annum together with full residential emoluments (rations apartments laundry, and attendance) Any other payments received by the officer for duties performed in connection with the appointment must be paid into the Corporation funds The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination, and will be the subject of one month's notice on either side The appointment will automatically terminate in the event of the Medical Officer's marriage

Applications stating age experience, and qualifications, accompanied by copies of recent testimonials should be forwarded so as to reach me not later than Wednesday, November 12th, and be endorsed "Assistant Medical Officer, Erdington House"

F H C WILTSHIRE
Town Clerk

Council House,
Birmingham
October 27th 1930

City of Birmingham

ASSISTANT MEDICAL OFFICER FOR MATERNITY AND CHILD WELFARE.

The Maternity and Child Welfare Committee invite applications from Medical Women for the post of Whole-time Assistant Medical Officer for Maternity and Child Welfare. Applicants must have had Children's Hospital and Maternity Hospital experience and the Diploma of Health is desirable The salary will be £500 per annum, rising by annual increments of £25 to a maximum of £700 per annum The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination and will be subject to three months notice on either side. The appointment will automatically terminate in the event of the Medical Officer's marriage.

Applications, endorsed "Medical Officer for Maternity and Child Welfare," and accompanied by copies of three recent testimonials to be made on a form to be obtained from the Medical Officer of Health Council House, Birmingham and returned to him on or before November 22nd

F H C WILTSHIRE
Town Clerk

Council House,
Birmingham

City of Plymouth

UDAL TORRE SANATORIUM, YELVERTON

RESIDENT MEDICAL OFFICER

Applications are invited from duly qualified and registered Medical Practitioners (male) for the post of Resident Medical Officer to Udal Torre Sanatorium (59 beds) The Sanatorium is situated about nine miles from Plymouth, and is reserved for the treatment of intermediate and advanced cases of pulmonary tuberculosis in males

The salary will be at the rate of £450 per annum, together with board residence, and laundry Quarters are provided for an unmarried man The appointment will be terminable by three months notice on either side, and canvassing will be a disqualification

The person appointed will be on the staff of the Medical Officer of Health and will rank as an Assistant Medical Officer in the Public Health Department

Forms of application will not be provided, but candidates must state their age and experience Preference will be given to candidates who have received special training for a period of not less than six months in the diagnosis and treatment of tuberculosis

Applications together with copies of not more than three recent testimonials must be delivered to the undersigned at his office on or before Saturday November 22nd and envelopes should be endorsed Resident Medical Officer

A T NANAVELL M D M R C P, D P H,
Medical Officer of Health.

Town Hall
Stonehouse, Plymouth.
November 3rd, 1930

City of Birmingham

DUDLEY ROAD AND SELLY OAK HOSPITALS SERVICES

ASSISTANT PATHOLOGIST

Applications are invited from fully qualified registered Medical Practitioners for the whole-time non resident appointment of Assistant Pathologist to the above Hospitals The officer appointed will work at either Hospital under the Pathologist

It is anticipated that the officer's services will be more required at Selly Oak Hospital

The scale of salary will be £500 rising, subject to satisfactory service by annual increments of £25 per annum to £700 per annum

The officer appointed will be required to refund to the Council all other fees and allowances received

The appointment will be subject to the Birmingham Corporation's Superannuation Scheme and to the candidate passing a medical examination and will be subject to three months notice on either side

Further particulars of the appointment may be obtained from the Medical Officer of Health, The Council House, Birmingham

Applications, stating age experience, and qualifications, accompanied by copies of recent testimonials, and endorsed Assistant Pathologist, should be addressed to me and delivered at my office not later than Wednesday, November 12th

I H C WILTSHIRE
Town Clerk

The Council House,
Birmingham October 1930

Borough of Margate

Applications are invited from duly qualified and registered Medical Practitioners for the post of MEDICAL OFFICER OF HEALTH SCHOOL MEDICAL OFFICER and TOWN SURGEON for the Borough of Margate

Candidates must be registered in the *Medical Register* as holding a Diploma in Sanitary Science a Diploma of Public Health or of *State Medicine and have had previous experience* in the duties of a Medical Officer of Health, and be not less than 30 nor more than 40 years of age

The appointment will be subject to the approval of the Minister of Health and the Board of Education

Salary will be at the rate of £900 p a, rising by two annual increments of £50 to £1,000 p a

Applications must be made on the prescribed form, which can be obtained from my office, and must be sent to me under cover, endorsed Medical Officer of Health' not later than 1 p m on Monday November 17th

EDWARD BROOKE
Town Clerk

Town Clerk's Office,
Margate
October, 1930

County Borough of Preston.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER

The Council invite applications from registered Medical Practitioners (male) for the position of Assistant School Medical Officer, at a salary of £600 per annum

Candidates must have not less than three years Post graduate experience, including Resident Hospital appointments

The holding of a Diploma in Public Health, and experience in the diseases of children, will be considered an additional advantage

The selected candidate will be expected to undertake other duties in the Public Health Department under the direction of the Medical Officer of Health

The person appointed will be required to pass a medical examination and to contribute to the Council's Superannuation Scheme

Applications on forms to be obtained from the undersigned and endorsed "School Medical Officer must be delivered on or before November 15th

ALFRED HOWARTH
Town Clerk

Town Hall
Preston
October 24th 1930

Argyll County Council

MEDICAL OFFICER wanted for the Medical Service area of KILFINICHEN and KILVICHEON in the Island of Mull and the Island of Iona The salary includes a payment of £135 from the County Council A grant from the Highlands and Islands (Medical Service) Fund is made by the Department of Health and considerable private practice may be expected

A free house is provided (occupier's rates are paid by the tenant)

For further particulars reference may be made to the County Medical Officer Oban, Argyll with whom application, with six copies of each testimonial are to be lodged on or before November 21st

Oban October 31st, 1930

London Jewish Hospital,
Stepney Green E.1
(General Hospital—108 Beds)

Applications are invited for the following posts:

RESIDENT MEDICAL OFFICER. Salary at the rate of £150 per annum with board and residence; appointment for six months.

JUNIOR RESIDENT MEDICAL OFFICER. Salary at the rate of £100 per annum with board and residence; appointment for six months.

CASUALTY OFFICER (non-resident). Salary at the rate of £150 per annum with luncheon and tea; appointment for six months. The holder will be required to attend the Out-patient Department daily from 9 a.m. to Friday at 9 a.m.

Applications with copies of three recent testimonials to be sent to the Secretary on or before Friday, November 14th. The successful candidates will be required to take up their duties on December 1st.

London Jewish Hospital,
Stepney Green E.1
(General Hospital—108 Beds)

Applications which should be addressed to the Secretary are invited for CLINICAL ASSISTANTS in the Surgical Department, who will be required to attend on Monday and Friday mornings at 9.30 o'clock.

Princess Louise Kensington
HOSPITAL FOR CHILDREN
St Quintin Avenue North Kensington W.10
(50 Beds.)

HOUSE PHYSICIAN (male or female) required for six months from December 1st. Salary for the first month at the rate of £100 a year, after which, should he or she be appointed Senior Resident (of two) the salary would be at the rate of £125 a year with board, residence and laundry in each case. It is desirable that applicants should have held a responsible Hospital post. Application, with copies of three testimonials, must be submitted on a form to be obtained from the Secretary. Applications must reach the Secretary not later than first post on Monday, November 24th.

Princess Louise Kensington
HOSPITAL FOR CHILDREN
North Kensington

The Board of Management invite applications for the post of HON. ASSISTANT DENTAL SURGEON. Applicant must be Bachelor or Licentiates of Dental Surgery. Candidates should apply for further information to the Secretary, Princess Louise Kensington Hospital for Children, St. Quintin Avenue, W.10, to whom final applications should be made by Friday, November 24th.

Princess Louise Kensington
HOSPITAL FOR CHILDREN
St. Quintin Avenue, North Kensington, W.10
(50 Beds)

HONORARY ASSISTANT ANAESTHETIST required. Full particulars should be obtained from the Secretary, to whom formal application should be made with copies of three testimonials, not later than Wednesday, Nov. 26th.

Kettering and District General Hospital

Applications are invited for the post of HOUSE SURGEON. Appointment to commence on January 1st, 1931, for six months, with eligibility for a period of a second six months. Salary £200 per annum, plus Indoor and Certificate Fees, etc. (approximately £100 per annum). Application stating age, qualification, etc., together with copies of three recent testimonials, should reach the undersigned not later than Nov. 20th.

G. W. JACKSON,
Secretary-Superintendent.

Shropshire Orthopaedic Hospital
AND AGNES HUNT SURGICAL HOME,
OSWESTRY

Two HOUSE SURGEONS (male) required in January, 1931. Appointment for six months, with possibility of extension. Salary at the rate of £200 per annum, with board, residence and laundry. Two weeks holiday for each six months' term.

Applications, stating age, with copies of three recent testimonials, to be received by the Secretary-Superintendent on or before Nov. 30th.

Seamen's Hospital Society
KING GEORGE'S SANATORIUM FOR SAILORS
UPHOOK, HANTS, for the Treatment of Pulmonary and Non-pulmonary Tuberculosis

Applications are invited for the post of ASSISTANT MEDICAL OFFICER. Commencing salary at the rate of £200 per annum with quarters and board. The appointment is for six months in the first instance. There is no accommodation for a married man.

Applications with copies of three recent testimonials to be sent in by November 19th to the undersigned.

Commander P. E. V. BAY,
November 3rd, 1930. Secretary.

Seamen's Hospital Society

The Committee of Management invite applications for the appointment of ASSISTANT SURGEON at the ALBERT DOCK HOSPITAL, Connaught Road, E. Candidates must be Fellows of the Royal College of Surgeons of England or Masters of Surgery of a University in the United Kingdom.

Applications to be sent in on or before November 18th to the undersigned from whom further particulars can be obtained.

By Order,
Greenwich, October 27th, 1930. P. E. V. BAY, Secretary.

There is a vacancy for a Junior
HOUSE SURGEON at WESTMINSTER HOSPITAL ANNEXE, 65 Fitzjohn's Avenue, Hampstead. Salary £250 per annum, non-resident. The appointment will be for six months and may be renewed.

The post offers an opportunity for wide and unique Fulham experience.

Candidates who previously have held a House appointment preferred.

Application should be submitted to the undersigned at Westminster Hospital, Broad Sanctuary, Westminster, not later than November 15th.

CHARLES M. POYTER, Secretary.

Queen's Hospital for Children,
Hackney Road, London, E.2

HOUSE PHYSICIAN (male) required on December 15th. Six months' appointment. Salary at the rate of £100 a year with board, lodging and washing.

Applications must be made on forms to be obtained from the undersigned and must be sent in with copies of not more than four testimonials on or before November 29th.

CHARLES H. BESSELL,
October 25th, 1930. Acting Secretary.

Darlington General Hospital
(120 Beds)

Wanted, HOUSE SURGEON male or female, fully qualified British. Salary £150 per annum with board, residence and laundry. Special Department—Ear, Nose and Throat. Orthopaedic. Maternity. Ultra-violet rays. Applications stating age, experience, qualifications, together with copies of two recent testimonials to be addressed to me forthwith.

A. RIDDLE, Secretary.

The Kidderminster and District
GENERAL HOSPITAL. (120 Beds)

HOUSE SURGEON required.

Salary £150 per annum with residence, board and laundry. Applications with not more than three testimonials, to be sent to the Assistant Secretary, Mr. Susan Smith, South Cliff, Kidderminster.

Connaught Hospital,
Orford Road, E.17 (100 Beds)

RESIDENT HOUSE SURGEON (male) required. Salary £100 per annum. Appointment for six months, with board, quarters and laundry. Applications *stating age, nationality, qualifications* and experience, accompanied by copies of not more than three recent testimonials, should be sent immediately to the Secretary.

Birmingham and Midland
HOSPITAL FOR WOMEN

HOUSE SURGEON (man or woman) wanted for six months from January 1, 1931. Salary to be at the rate of £75 per annum. Applications with full particulars and copies of testimonials to be sent to HUGH C. ASPER, 45 Newhall Street, not later than Nov. 10th.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1

A PART-TIME JUNIOR CASUALTY OFFICER is required on January 9th, 1931, to assist in the Casualty Department on from 10 a.m. to 3 p.m. (Saturday 10 a.m. to 1 p.m.) under the direction of the Casualty Officer.

The work of the Officer includes a large number of Tonsil and Minor operations.

Candidates must be registered Medical Practitioners and have held a responsible Hospital appointment.

Qualified men are invited to send in their applications addressed to the Secretary, before 12 o'clock on Monday, December 1st, and accompanied by copies of not more than three testimonials written specially for the purpose.

The appointment is made for six months and is non-resident.

Salary at the rate of £150 per annum with luncheon.

All candidates must be in attendance to appear before the Joint Committee if required at their meeting on Wednesday, December 3rd, at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary at the Hospital.

By Order of the Board of Management,
JAMES McKAY,
November 1930. Secretary.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on January 1, 1931.

Gentlemen are invited to send in their application addressed to the Secretary, before 12 o'clock on Monday, December 1, with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible Hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried and possess a medical qualification to practise.

All candidates must be in attendance to appear before the Joint Committee if required at their meeting on Wednesday, December 3rd, at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary.

By Order of the Board of Management,
JAMES McKAY,
November 1930. Secretary.

Walsall General Hospital

The Committee invite applications from men for the post of CASUALTY HOUSE SURGEON. Salary £120 per annum.

Candidates who must be registered under the Medical Act must produce three recent testimonials.

The appointment will be for six months.

The Hospital contains 100 beds and is equipped in all Special Departments.

Application, stating age, qualifications and nationality, must be received by the undersigned immediately.

WALTER FRANCOMBE,
November 3rd, 1930. Secretary.

Central Hospital, Plymouth
(50 Beds)

Applications are invited for the position of HOUSE SURGEON (male or female). Salary £120 per annum with board, residence and laundry.

Applications, stating age, qualifications, and experience, and not more than three recent testimonials, should be sent to the undersigned not later than Nov. 22nd.

WM. W. UPCOTT, Secretary.

Liverpool & Samaritan Hospital
FOR WOMEN

Wanted a HOUSE SURGEON for a period of six months, commencing January 1, 1931.

Applications, stating age, qualifications, and experience, to be sent to the undersigned not later than Nov. 22nd.

JOINT COMMITTEE OF MANAGEMENT,
13 Rodney Street, Liverpool. HUGH MACNAIR, Secretary.

Tiverton Hospital, Devon

HOUSE SURGEON required immediately. Salary £100 per annum, board, residence and laundry.

The appointment is for six months.

Application, with testimonials, to be sent to the undersigned.

H. H. DEEKS, Hon. Secretary.

Royal Free Hospital,

Gray's Inn Road, W C 1

Applications are invited from fully qualified and registered Medical Women for the post of RESIDENT ANAESTHETIST to the Gynaecological and Obstetric Unit Salary £150 per annum Candidates who must have had special experience should submit applications stating age and accompanied by copies of three recent testimonials to the undersigned on or before November 22nd The appointment is made for a period of six months but renewable preference will be given to candidates who have held resident posts in the Hospital Duties to commence February 1st, 1931

REGINALD R GARRATT, Secretary

Royal Free Hospital,

Gray's Inn Road W C 1

Applications are invited from duly qualified and registered Medical Men for the following Resident posts

HOUSE SURGEON to the Senior Surgeon and the Surgeon in Charge of the Ear, Nose, and Throat Beds Duties to commence January 1st, 1931

CASUALTY OFFICER Salary £150 per annum Duties to commence February 1st, 1931

Candidates for the above posts must submit applications, stating age and accompanied by copies of three recent testimonials, to the undersigned on or before November 22nd

REGINALD R. GARRATT, Secretary

Royal Free Hospital,

Gray's Inn Road, W C 1

Applications are invited for the WHOLE TIME POST of SURGICAL REGISTRAR from fully qualified and registered Men or Women Preference will be given to candidates who are Fellows of the Royal College of Surgeons (England) Salary £200 per annum

Applications stating age and accompanied by copies of three recent testimonials, must be sent to the undersigned (from whom all information may be obtained) on or before November 22nd Duties to commence January 1st, 1931

REGINALD R GARRATT Secretary

Royal Free Hospital,

Gray's Inn Road, W C 1

Applications are invited for the HALF TIME POST of GYNAECOLOGICAL REGISTRAR from fully qualified and registered Medical Women This post is reserved for former Students of the London (Royal Free Hospital) School of Medicine for Women Salary £100 per annum

Applications stating age and accompanied by copies of three recent testimonials must be sent to the undersigned (from whom all information may be obtained) on or before November 22nd Duties to commence January 1st, 1931

REGINALD R GARRATT Secretary

East Ham Memorial Hospital,

E 7 (100 Beds)

The Committee of Management invite applications for the post of HONORARY PHYSICIAN Candidates must be Fellows or Members of the Royal College of Physicians of London and Graduates of a University recognized by the General Medical Council and not engaged in general practice

Applications in triplicate should reach the undersigned on or before November 12th

REGINALD PERRY Secretary

East Ham Memorial Hospital,

E 7 (100 Beds)

The Committee of Management invite applications for the post of HONORARY SURGEON Candidates must be Fellows of one of the Royal Colleges of Surgeons and not engaged in general practice

Applications in triplicate should reach the undersigned on or before November 12th

REGINALD PERRY Secretary

East Ham Memorial Hospital,

E 7 (100 Beds)

The Committee of Management invite applications for the post of HONORARY RADIOLOGIST

Application in triplicate should reach the undersigned on or before November 12th

REGINALD PERRY, Secretary

Royal Free Hospital,

Gray's Inn Road W C 1

Applications are invited for the following Resident appointments

SECOND HOUSE SURGEON, with care of Orthopaedic Beds

THIRD HOUSE SURGEON

FIRST HOUSE PHYSICIAN to the Children's Dept

HOUSE PHYSICIAN to the GYNAECOLOGICAL HOUSE SURGEON

OBSTETRIC HOUSE SURGEON

Duties of the above six posts to commence January 1st, 1931

ASSISTANT ANAESTHETIST

SECOND HOUSE PHYSICIAN

DISTRICT OBSTETRIC ASSISTANT Salary £100 per annum

Duties of the three above posts to commence February 1st, 1931

Preference is given to applications from former Students of the London (Royal Free Hospital) School of Medicine for Women Candidates must be duly qualified registered Medical Practitioners and must submit applications, stating age and accompanied by copies of three recent testimonials, to the undersigned on or before November 22nd

REGINALD R GARRATT, Secretary

Royal Free Hospital,

Gray's Inn Road, W C 1

Applications are invited for the HALF TIME POST of MEDICAL REGISTRAR from fully qualified and registered Men or Women Salary £100 per annum

Applications stating age and accompanied by copies of three recent testimonials, must be sent to the undersigned (from whom all information may be obtained) on or before November 22nd Duties to commence January 1st 1931

REGINALD R GARRATT, Secretary

Royal Free Hospital,

Gray's Inn Road W C 1 Welfare

Applications are invited for the post of ASSISTANT MEDICAL OFFICERS (Three) in the V D Department (female) Salary at the rate of £350 per annum (part time) Intending candidates should submit applications stating age and experience to the undersigned on or before November 15th accompanied by copies of three recent testimonials

REGINALD R GARRATT Secretary

Royal Surrey County Hospital,

GUILDFORD

ASSISTANT PATHOLOGIST

Applications are invited from fully qualified registered Medical Practitioners for the whole time non resident appointment of Assistant Pathologist at the above Hospital.

Salary £500 per annum

Applications, stating age experience and qualifications accompanied by copies of recent testimonials should be addressed to the undersigned as early as possible

W T PATRICK,
General Superintendent

St Bartholomew's Hospital

CHIEF ASSISTANT TO THE DENTAL DEPT

Vacancies occur for Two Chief Assistants to the Dental Department (unpaid)

Candidates must hold a registrable British Dental qualification A Medical qualification in addition is desirable but not essential Appointment will be made for a period expiring on December 31st 1931, with eligibility for re election

Applications must be left with the undersigned on or before Wednesday November 19th

THOMAS HAYES,
Clerk to the Governors

October 21st, 1930

Royal Hampshire County Hospital, WINCHESTER

(158 Beds)

HOUSE SURGEON

Applications are invited from fully qualified men for the above post to take up duties at once Six months appointment Salary £150 per annum with board residence and laundry Candidates who must be of British nationality to make application at once to the undersigned, enclosing copies of three testimonials

HERBERT MASLEN, Secretary

Metropolitan Borough of SHOREDITCH

APPOINTMENT OF TUBERCULOSIS OFFICER

The Shoreditch Borough Council invite applications from registered Medical Practitioners for the appointment of Tuberculosis Officer

Candidates must be qualified as laid down in the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations 1930

The salary will be at the rate of £750 per annum rising by increments of £50 every two years up to a maximum of 25 per cent above the commencing salary All fees received by the person appointed in connection with this office must be paid in to the Council

The appointment will commence as from April 1st 1931, and will be subject to a medical examination and to the provisions of the Shoreditch and other Metropolitan Borough Councils (Superannuation) Act, 1922, as amended by the London County Council (General Powers) Act, 1930

Applications (endorsed Tuberculosis Officer) accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than noon on Monday, December 1st

Form of application will be forwarded on receipt of a stamped addressed envelope

Canvassing is prohibited and will be a disqualification

By Order
R CYRIL RAY
Town Clerk

Town Hall
Old Street, E.C 1
October 30th, 1930

Hull Royal Infirmary

(270 Beds)

Applications are invited for the post of ASSISTANT HOUSE PHYSICIAN (male) vacant November 27th

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side

Salary at the rate of £130 per annum, including board, residence, and laundry

R J CARLESS
House Governor

Oct 25th 1930

The Children's Hospital,

SUNDERLAND (70 Beds)

Wanted immediately, HOUSE SURGEON (female) Candidates must possess double qualifications (registered)

Salary £100 per annum, with board residence and laundry The appointment is for six months Applications stating age with copies of three recent testimonials, to be sent to the undersigned

S C FRYERS,
House Governor and Secretary

Ancoats Hospital, Manchester

HOUSE SURGEON (Orthopaedic) male or female To commence duty on December 1st next for a period of six months Salary at the rate of £100 per annum Applications, stating age qualifications previous experience, if any, to be forwarded together with copies of three recent testimonials on or before Wednesday, November 12th to the undersigned

By Order of the Board
HERBERT J DAFFORNE
Gen Supt & Secretary

Royal Northern Hospital,

Holloway, London, N 7

Vacancies occur for Two SURGEONS to the Hospital and applications are invited for the appointments

Candidates must be Fellows of the Royal College of Surgeons of England and details with regard to the offices and details with Particulars of the submission of testimonials etc, may be obtained from the undersigned to whom applications should be sent not later than November 21st

GILBERT C PANTER Secretary

Kent and Canterbury Hospital,

CANTERBURY

Applications are invited for the post of HONORARY SURGEON to the above Hospital The successful candidate will be expected to reside within a reasonable distance of the Hospital

Candidates must send twelve copies of their application and testimonials to the undersigned not later than November 29th

W F SOUTHWOOD
Superintendent & Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	PORTSMOUTH EDUCATION COMMITTEE. *(Male Assistant School Medical Officer)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE, PENYGRAIC GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch, Savings Bank Building 21 Elizabeth St. Sydney N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch B.M.A. House 207 North Terrace Adelaide.	WELLINGTON, NEW ZEALAND *(Contract Practice Appointments)*	Dr. G. F. V. ANSON (Hon. Sec. New Zealand Branch, British Medical Association P.O. Box 156, Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec. Queensland Branch), British Medical Association B.M.A. Building Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr. J. P. Major (Hon. Sec., Victorian Branch) British Medical Association, Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices.)*	Hon. Sec., Western Australian Branch, British Medical Association No. 6 Bank of N.S.W. Chambers St. George's Terr. Perth Western Australia.

November 5th 1930 By Order of the Council ALFRED COX Medical Secretary

Woolwich and District War MEMORIAL HOSPITAL,

Shooters Hill, London, S.E.18
(General Hospital—112 Beds)

The Board of Management invites applications from suitably qualified male candidates for immediate appointment as HOUSE SURGEON. In addition to his surgical duties he will have care of the Maternity Unit of 8 beds.

An honorarium of £100 per annum will be paid in respect of this appointment plus board, residence and laundry.

Application, accompanied by copies of not more than three recent testimonials, should be addressed to the undersigned, to reach him not later than first post of Wednesday, Nov. 12th.

EDWIN PADFORD
Secretary Superintendent

Victoria Hospital, Burnley
(120 Beds)

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment is for six months in the first instance and carries a salary of £150 per annum, with board etc.

This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Applications with testimonials should be addressed to the undersigned forthwith.

GEO. W. COOLING
Sept. 26th, 1930 Secretary Superintendent

East Suffolk & Ipswich Hospital, IPSWICH

(265 Beds—7 Residents.)

Applications are invited for the post of HOUSE SURGEON. Salary £120 per annum. Board, residence and laundry. Previous experience essential.

Applications from British (male) candidates, stating age, qualifications, and experience, and accompanied by three recent testimonials to be sent to the undersigned.

The Hospital, Ipswich. ARTHUR GRIFFITHS, Secretary.
August 18th 1930

Royal Devon & Exeter Hospital, EXETER. (225 Beds.)

HOUSE PHYSICIAN (Male)

Applications are invited for the post of HOUSE PHYSICIAN at this Hospital vacant on December 3rd next. The appointment is for six months but candidates are eligible for re-election.

Salary at the rate of £150 per annum with board, apartments and washing.

Application giving particulars as to age and qualifications together with copies of three recent testimonials should be sent to the undersigned on or before Wednesday November 12th next.

By Order of the Committee
S. S. COLE
Oct. 23rd 1930 Secretary & Manager

Merthyr General Hospital, MERTHYR TYDFIL.

Application are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, room and laundry.

Applicants must have had experience in administration of anaesthetics.

Applications, stating age and qualifications and enclosing copies (only) of not more than three testimonials should be addressed Hon. Secretary Hon. Medical Staff Merthyr General Hospital.

Northampton County Mental HOSPITAL, BERRYWOOD, NORTHAMPTON

JUNIOR ASSISTANT MEDICAL OFFICER required (male single). Salary £300 rising by £20 annually to £450 (£50 extra to holder of D.P.H.) with board, lodging, washing and attendance. Subject to provisions of Asylum Officers Superannuation Act.

Application, stating age and experience, together with copies of recent testimonials to be sent to the Medical Superintendent not later than November 12th next.

Metropolitan Hospital, Kingsland Road, London, E.8.

The Committee of Management are prepared to receive application for the appointment of a SURGEON to the Ear, Nose and Throat Department (male).

Candidates must be Fellows of the Royal College of Surgeons of England and must be engaged in general practice.

Candidates will be required to call upon Members of the Staff.

Twenty applications, complete with copies of recent testimonials, must reach the undersigned from whom further particulars may be obtained not later than first post on Monday November 17th.

HERBERT F. RUTHERFORD
Secretary & House Governor

Elizabeth Garrett Anderson HOSPITAL, Euston Road.

Wanted, fully qualified Medical Women for the following posts: HOUSE PHYSICIAN, OBSTETRIC ASSISTANT, THREE HOUSE SURGEONS. Appointment for six months from January 1st next. Salary at the rate of £50 per annum with board, residence and laundry.

CLINICAL ASSISTANTS (one of three and one Junior for one year) are also wanted for the Out-patient and Special Departments. Applications with three copies of testimonials should be sent to the Secretary by Tuesday November 25th.

JEAN L. MURRAY Secretary.

The Sheffield Royal Hospital

Required, OPHTHALMIC HOUSE SURGEON, a bachelor (male). Salary for the first six months at the rate of £80 per annum, afterwards £100 with board, residence and laundry. There are two Assistant Medical Officers.

Applications should be forwarded immediately to—

W. H. BOOTH
Superintendent and Secretary

(Appointments continued on p. 52)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE,

TAVISTOCK SQ., LONDON, W C 1

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ASSISTANCIES

Wanted — Assistant, indoor, male, single preferred Protestant, for a General Practice Reference to a man who would consider a long engagement Must be a good Anaesthetist and have some knowledge of Eye work —Address No 7706, B M A House, Tavistock Square, W C 1

Wanted — Assistant, young, Indian Experience of private and panel Practice and midwifery essential Salary £250 a year, with board London Practice Full particulars, copies of testimonials Usual terms —No 7739, B M A House, Tavistock Sq, W C 1

Wanted by M B, M R C P, at 27 ASSISTANTSHIP with or without view in Scotland or N England non dispensing Practice Hosp experience also G I Capital available —Address, No 7695, B M A House Tavistock Square W C 1

Wanted immediately, Assistantship by M B, Ch B (N U I 1922) with view to Partnership (not essential) ex House Physician midwifery, anaesthetics well experienced in G P Married aged 33, R C Interv —No 7713, B M A House, Tavistock Sq, W C 1

Wanted — Assistantship (whole or part time) by Lady Doctor, L R C P S L M, D P H Five years experience G P Free now in town Interview arranged London or near preferred —Address No 7733 B M A House Tavistock Square W C 1

Wanted by Woman M B, ASSISTANTSHIP or PART TIME WORK in or near West End Live out Six years experience private and panel Drives own car —Address No 7757 B M A House Tavistock Square W C 1

Wanted — Outdoor Assistant for panel and private Practice Manchester Salary £400 p a, with furnished rooms and attendance State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted immediately — Indoor and Outdoor ASSISTANTS (male and female) for Country and Town Practices with and without view State full particulars — BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Wanted — Assistant, single outdoor private and panel Practice Manchester Usual terms Full particulars soon as poss —Address No 7753 B M A House Tavistock Square W C 1

Wanted — Assistant for panel and private Practice in South East London Live at Surgery Furnished rooms and attendance Salary £300 —Address No 7760, B M A House, Tavistock Square W C 1

Wanted — Assistantship by Woman Doctor Good experience in private and panel Practice, with dispensing Able to drive car —Address No 7737, B M A House Tavistock Square, W C 1

Wanted, in or near London, Part-time ASSISTANTSHIP, by Scotch Lady M B, Ch B D P H, ex H S and H P, 3 years G P —Address, No 7712, B M A House, Tavistock Square, W C 1

Wanted — Part-time Assistantship or Evening Surgeries in London, preferably in East End, by M B, aged 28 Applicant is free every day after 4 p m — Address, No 7738, B M A House, Tavistock Square, W C 1

Wanted —Young Assistant, preferably married, for busy East End working class panel Practice Dispenser kept Salary £300 per annum and unfurnished house Essential particulars in first letter please —No 7720 B M A House, Tavistock Sq W C 1

Wanted — Assistantship with view Partnership or Succession, by Scotch M B, Ch B Edinburgh aged 31, married 4 years' experience C P Own car —No 7724, B M A House, Tavistock Sq, W C 1

Wanted —Indoor male Assistant English Protestant General Practice, W Riding City Work light Essential particulars and copies of testimonials —Address, No 7564, B M A House, Tavistock Sq, W C 1

Wanted — Lady Assistant, indoor Village Practice, Gloucestershire Car provided Suit newly qualified Salary £150 Work light —Address No 7719, B M A House, Tavistock Square, W C 1

Wanted — Outdoor Assistant in small Country Town (with Hospital) North Wales Able to drive car Work light Usual bond —Address No 7728, B M A House, Tavistock Square, W C 1

Wanted in an old-established Practice seaside, a Woman ASSISTANT, with view to Partnership —Address No 7707, B M A House, Tavistock Square, W C 1

Assistantship required by M B B Ch, male, aged 28, unmarried, H S and H P (over 2 years), experience G P, E N T & Eyes Has had some practice of car driving Free now London —Address, No 7759, B M A House Tavistock Square, W C 1

Assistant, newly qualified, Protestant State age, height, and nationality Pleasant district Work easy Near large town — Address, No 7755, B M A House, Tavistock Square, W C 1

Assistantship wanted, part-time in London by Scots Graduate studying for higher degree Panel Practice preferred — Address, No 7758, B M A House, Tavistock Square W C 1

Assistant wanted in good-class C P Large town, S W Eng About 25 years of age To manage and live in Branch £300 p a, Indoor Partnership later —Address, No 7703, B M A House, Tavistock Sq, W C 1

Lady holding Society of Radiographers certificate desires post as ASSISTANT to RADIOLOGIST Secretarial duties — Address No 7754, B M A House, Tavistock Square W C 1

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION —Pathologists and Bacteriologists requiring SKILLED CERTIFICATED LABORATORY ASSISTANTS are invited to communicate with H Cooding Hon Sec Moelfre 10 Holbeck Grove Victoria Park Manchester No fees

LOCUMS

Wanted —Male Locum, expected to drive car dispense No night work or midwifery State age height experience recent references and all particulars —Address No 7730 B M A House Tavistock Square W C 1

For Reliable Locums and Assistants
AT SHORT NOTICE, CONSULT
British Medical Bureau
(Northern Branch),
33, CROSS ST, MANCHESTER
Telegrams— LOCUM, MANCHESTER.'
Telephones—CENTRAL 3925 after office hours 2549 RUSHOLME

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Wanted —Locums or OUTDOOR ASSISTANTSHIP by Lady Doctor L R C P S L M, D P H Young, good personality Accustomed sole charge and dispensing Free now in Yorks Will go anywhere —Add, No 7734 B M A House, Tavistock Square, W C 1

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM GRANT)
WATERGATE HOUSE, 15 YORK BUILDINGS, ADELPHI, W C 2 *Tel* TEMPLE BAR 1054, RIVERSIDE 1254 (*Night Calls*)
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MEDICAL POSTS DISPENSERS, etc.

Wanted — Fully qualified MEDICAL (Lady) for Laboratory work, chiefly Vitamin Research Must have sound knowledge of Biochemistry and Section Cutting Salary £350—£400 per annum according to experience —Apply Dr ROWLANDS 1, Knightsbridge Court, 12 Sloane Street, S W 1

Wanted — Nurse-Dispenser-SECRETARY, in a West Country Practice Send photo and testimonials with application —Address No 7702, B M A House, Tavistock Square, W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write, wire or 'phone (Park 0969), Secretary, 7, Westbourne Park Road W 2

B.A, capable Lady Secretary (25) fluent French and German good experience Government secretarial post West Africa and in England adaptable and energetic seeks POST Would travel —I M I, 61 Redington Road, Hampstead N W 3

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers Secretary Dispensers Nurse Dispensers and Chauffeuse Dispensers —Write wire or 'phone Central 3679, THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E C 1

Dispenser, Lady, 26 (Apothecaries Hall) Central London resident seeks POST Experience hospital, institution, and 3½ years private practice Typewriting etc —Address No 7727, B M A House Tavistock Square W C 1

Doctors requiring qualified Dispensers Nurse Dispensers Secretary Dispensers or Chauffeuse Dispensers are invited to write wire or phone Temple Bar 5858 THE DISPENSERS BUREAU 15, Lindsay House 171, Shaftesbury Avenue London W C 2

Indian, M B, B S, M R C S, etc desires PART TIME WORK in London Locum considered Experienced private and panel practice Abstainer young Free about December 20th —Address No 7736 B M A House Tavistock Square, W C 1

Lady desires re engagement as HOUSEKEEPER or RECEPTIONIST to Doctor's house ... sticated Highest B.M.A. Hou e ... Tavistock Square W.C.1

Lady Dispenser - Bookkeeper (Doctor's or Hospital) Shorthand, typ writing and secretarial work Young reliable energetic Experienced Well recommend I Free now —Addres No 7732 B.M.A. Hous Tavistock Square W.C.1

Lady Doctor M.B., Ch.B., will experienced desires PART TIME WORK Wembley Harrow Pinner and district preferred —Addre No 7722 B.M.A. House Tavistock Square W.C.1

Lady Secretary-Receptionist daily whole or part time Shorthand typist knowledge of German French and bookkeeping good personality and tactful interviewer Excellent references — H 7 Winchester Road N.W.3 Phone Primrose 1120

Opportunity, salary, prospects, time for study and comfortable home offered to young ambitious male Graduate by Country Doctor in return for HELP in Prac tice — Address No 7562 B.M.A. House Tavistock Square W.C.1

Secretary-Dispenser, quali- fied good experience in town and country seeks POST Help in surgery or with electrical treatments —ENID DAVIES 48 Crouch Hill, N.4. Phone Archway 2147

Secretary - Receptionist — Young Lady seeks re-engagement near Croydon preferred Shorthand, typing book keeping Good reference —Miss ETLAND 111 Strathyre Avenue Norbury S.W.16

The Royal Army Medical Corps ASSOCIATION — If you require men trained in all branches of hospital work— Dispensers (capable of undertaking returns clerical work, etc., connected with Ministry of Health) Clerks Laboratory Assistants general hospital duties Porters Caretakers etc.—Apply Secretary 85 Eccleston Square S.W.1

Typewriting —Expert undertakes Theses Testimonials etc. Numerous letters of appreciation from Doctors —BEATRICE RADFORD 341 Fiuchley Road N.W.3 Phone Hampstead 6430 (any hour)

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Typewriting —Difficult Medical and other Scientific MSS copied speedily and accurately Theses lectures etc. Short hand duplicating Highest recommendations —MARGARET WATSON Ltd., Palace Chambers Bridge Street S.W.1 Victoria 3838

Young Lady requires Post as RECEPTIONIST SECRETARY to Medical Man Shorthand typewriting and bookkeeping Will have pre ference.—Address Miss K. BUTT 4 High Street Devizes Wilts.

PARTNERSHIPS

Wanted by Medical Woman PARTNERSHIP or PRACTICE (about £700 p.a.) or Nucleus with prospects Easy access to West End Capital available —Address No 7723 B.M.A. House Tavistock Square W.C.1

Liverpool — Partnership, with succession in old-estab Practice Cash receipts last year £2 959 Panel 2,536 House to rent. Premium—1/4 or 1/2 share—1½ years purchase — BRITISH MEDICAL BUREAU 33 Cross Stree Manchester

Partnership or Assistantship with view to Partnership in old-estab lished Practice in Devon. Ample scope Sport —Address, giving experience No. 7714 B.M.A House Tavistock Square W.C.1

Yorkshire (W.R.) —Partnership in good Practice Income £4 23 p.a. panel 2 841. Good house to rent at £52 p.a. Premium—1/4 share—£1 100 for quick sal —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

PRACTICES

Wanted, London preferred, a mixed PRACTICE. Income not less than £1 800 with large panel. Medium-sized house to rent (would purchase if neces ary) District immaterial providing living accommo dation is suitable ... or house is available mium up to £5 000 AGENCY Wat rgate

Wanted early in New Year, PRACTICE, £700—£1,200 in country town or village agricultural district Good house with at least 6 bedrooms and large garden for sale or rent Phone if possible. Ample capital Full details in confidence— No 7565 B.M.A. House Tavistock Sq W.C.1

Wanted in residential neigh- bourhood within 5 to 10 miles of Oxford Circus NUCLEUS or SMALL PRAC TICE mainly panel House to rent or buy —Address full particulars No. 7716 B.M.A House Tavistock Square W.C.1

Wanted by Medical Woman, small PRACTICE with panel Country town. House with garage to rent Small garden Good introduction—Address, No 7704 B.M.A. House Tavistock Square W.C.1

Wanted —Practice in or about Bristol £1 000 p.a. upward Capital available Full details in confidence—Address No 7708 B.M.A. House Tavistock Sq W.C.1

Wanted —Practice in London Income about £2 000 or over Large panel essential Ample capital (cash) available —Address No 7752, B.M.A. House Tavistock Square W.C.1

Wanted — Practice or NUCLEUS Chelsea Fulham Hampstead or Central London —Write W.W., c/o J. W. VICKERS & Co Ltd., 24 Austin Friars E.C.2

Cheshire Town, near Manchester —Average cash receipts £800 Panel 450 Much scope. Excellent modern house 2 reception 4 bedrooms Garage and garden Pre mium 1½ years' purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Co Durham —Seaport Town — Death Vacancy with good introduction Private and panel PRACTICE established 50 years Gross receipts per annum £1,200 House and garage to let Excellent opportunity for energetic man.—Address No. 7551 B.M.A House Tavistock Square W.C.1

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer appli cants something suitable. Nearly all the best Prac tices are sold by him without being adver tised. Inform free on applic.—4 Adam St. W.C.2.

For immediate Sale, owing to ill-health Ear Nose and Throat PRACTICE worth £1,500 per annum, in Yorkshire city Hon. Dispensary appointment, ample scope House and Practice cheap for quick sale —Address No 7717 B.M.A House Tavistock Square W.C.1

For Sale —North London —Well- established cash worked PRACTICE. Income about £1 300 for 1 1 900 House in good residential neighbourhood look up in working-class district. Little midwifery and night calls. Unlimited scope —Address No 7705 B.M.A House Tavistock Square W.C.1

For Sale —General Practice Cathedral town North England Panel over 2,200 Will suit two Hospital educational facilities all sports All cash down —Address No 7735 B.M.A. House Tavistock Square W.C.1

For Sale —Somerset Rural Prac- TICE. Receipts average £686 p.a. Panel 500 Cott Hosp Small house (3 bedrooms) rent £36 1 2 acre d lightful garden garage Cott Gdns, et Premium £1 300 —Address No 7715 B.M.A. House Tavistock Sq W.C.1

Isle of Man —Seaside Town — Oldest at PRACTICE. Receipts averag £940 (including £550 p.a. from panel) Semi d tached house 3 recep 4 bedrooms Garden Good school Premium—Practice and house— any reasonable offer — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Lancs Town —Old - established —Nice house rapidly growing area gardens garage price £1 100 or rent with option Receipts £1 200 Panel 900 Opposition poor Price 1½ years purchase part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street

Lancs Town — Excellent and old-established Good house central position 2 surgeries garage Average receipt £1 700 great scope Panel over 1,500 Price— Practice and property—£5 750 part deferred. —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Liverpool (near) — Old-estab lished PRACTICE. Cash receipts 1929 £1 431 Excellent corner house 2 reception 5 bedrooms Garage and garden Premium 1½ years purchase—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Manchester — Industrial Prac- TICE. Average cash receipts £978 Panel 721 Plenty of scope Good house 2 reception 5 bedrooms Rent £50 p.a. Premium 1½ year purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Moorland Residential PRACTICE near large City in the South West Average receipts £930 Panel 340 No night work £ 400 —Address No 7729 B.M.A. House Tavistock Square W.C.1

Near Leeds — Industrial Town PRACTICE. Average cash receipts £1,280 Panel 1,350 Hospital appointments £80 Good house 2 reception 5 bedrooms Premium— Practice —1½ years purchase—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

North-West Coast —Good mid- dle-class PRACTICE. Average cash receipts £1 700 Excellent modern house for sale Garage and garden —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Nucleus (growing), estab- lished (by woman) 5 years County town S.W. Scotland Panel 300 Good midwifery Suitable house for sale — Address No 7570 B.M.A. House Tavistock Square W.C.1

Old-established Practice, Lancs easy reach Manchester and coast Excellent transferable Panel 1 938 at fully increasing Collections about £400 Thorough introduction given Desirable corner house garden garage Lease No branch or assistant Good will debts drugs surgery fittings if required £3 400 — Further particulars address No 7729 B.M.A. House Tavistock Square W.C.1

Scottish Graduate wishes to hear of a good PRACTICE available soon in Scotland country or small town preferably the North —Address in strictest confidence No 7709 B.M.A. House Tavistock Square, W.C.1

Surrey, 35 miles from London — Old-established practice for disposal Country PRACTICE Average income £1 400 including panel and appointments £500 Modern house every convenience 1/2 acre garden Price freehold £1,800 part can remain on mortgage Premium 1½ years purchase —Address No 7760 B.M.A. House Tavistock Sq., W.C.1.

To Purchasers — Do not buy without expert assistance. With 40 yrs. experience Mr PERCIVAL TURNER can advise in all cases Terms free on application to 4 Adam St. Strand W.C.2. Telephone Temple Bar 9011 Telegrams Epsomian London."

To retired Army, Naval or R.A.M.C. Men —Old-established PRACTICE for disposal in good residential district near London owing to ill-health Capital required £800 Easily worked Under reading No agents—Address No 7725 B.M.A. House Tavistock Square W.C.1

Woman's Practice (estab nearly 22 yrs) London suburb Average takings 3 yrs £3 Panel 4 2 (a rec Greenwich) two members handsomely furnished 1½ yrs purchase Excellent corner house freehold—Address No 7731 B.M.A. House Tavistock Square W.C.1

X-Ray Practice — For Sale owing to ill health Receipts average £950 Low price for quick sale Vendor has long been hospital appointment —Address No 7654 B.M.A. House Tavistock Sq are W.C.1.

Well-established Practice with Branch in suburbs of City in North of England Large panel Suitable houses in excellent positions for Doctor and Assistant Branch portion of Practice may be sold separately Short Partnership if desired Price for whole Practice £3 850 —CORMACK & BYERS, W S Lockerbie.

Yorkshire (N R) — Unopposed Country PRACTICE in pretty district Average cash receipts £750 p a. Panel 450 Excellent modern house 12 rooms Garage and large garden with tennis court. Rent £42 p a Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Wanted — Part-time Use of CONSULTING ROOM every afternoon (service included) Send offers —Address No 7710 B M A House Tavistock Square W C 1

Bournemouth —Executors Sale An unusual opportunity to acquire an excellent Detached RESIDENCE occupied by Medical Practitioner (dcsd) Splendid position on main road close to centre of town Three reception five bedrooms bathroom etc Large garden In perfect order Price only £2 200 or near offer — Address No 7701 B M A House Tavistock Square W C 1

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Harewood Chambers, 74 to 80, Gower Street W C near Marylebone Euston St Pancras and King's Cross Quiet comfortable rooms h and c Bedroom, bath table d hote breakfast 7/6 dinner 4/ From 2 gns p w — Phone Museum 3941—2.

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APPOINTMENTS—Contd

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RESIDENT OBSTETRICAL OFFICER AND UNIVERSITY CLINICAL TUTOR IN OBSTETRICS

Applications are invited for this combined post Salary £250 per annum Previous Obstetrical experience essential Eight copies of applications and of three recent testimonials should be sent before November 30th to the Secretaries SCOTT & PATERSON, C.A 5, Coates Crescent, Edinburgh

The Hospital for Sick Children, NEWCASTLE UPON TYNE (92 Beds)

Applications are invited for a RESIDENT HOUSE PHYSICIAN (male or female) to commence duties forthwith until March 31st 1931 Salary at the rate of £100 per annum together with board, residence and laundry

Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE 18 City Road Newcastle

The Hospital for Sick Children, NEWCASTLE UPON TYNE. (92 Beds)

Applications are invited for a RESIDENT SENIOR HOUSE SURGEON (male or female) to commence duties forthwith until March 31st 1931 Salary at the rate of £100 per annum together with board, residence and laundry

Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE 18 City Road Newcastle

The Hospital for Sick Children, NEWCASTLE UPON TYNE. (92 Beds)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female) non resident to commence duties forthwith until March 31st 1931 Salary at the rate of £100 per annum

Applications, stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE 18 City Road Newcastle

Cardiff Royal Infirmary

(Associated with Welsh National School of Medicine)

VENEREAL DISEASES CLINIC

MEDICAL OFFICER (female) required to take charge of female side of above Clinic. Appointment is a part time one and salary is at the rate of £300 per annum (non resident). Applicants must have special qualifications as laid down in Local Government (Qualifications of Medical Officers and Health Visitors) Regulations Article 5 which reads as follows

(5) VENEREAL DISEASES OFFICER

Any person appointed by the Council of a County or County Borough to be a venereal disease officer shall be a registered medical practitioner who, prior to the 1st April 1930 has held the appointment of venereal diseases officer with the approval of the Minister or who (1) has had at least three years experience in the practice of his profession subsequent to qualification and (2) is in possession of a certificate given by the venereal diseases officer of a treatment centre at which not less than 500 patients attended for the first time during the 12 months preceding the issue of the certificate testifying that he has attended at the treatment centre for a period of no less than three months and has received during that period not less than 130 hours instruction in the modern methods of diagnosis and treatment of venereal diseases."

Application accompanied with proof of necessary qualification and copies of recent testimonials should reach the undersigned on or before December 1st.

R. ARMSTRONG
Nov 4th 1930 Medical Supt

County Council of the County of

STIRLING

Applications are invited for the appointment of a Male ASSISTANT to the County Medical Officer at a commencing salary of £500 per annum rising on approved service by annual increments of £25 to £600 and actual travelling expenses.

Applicants must be duly qualified Medical Men and must hold the Diploma in Public Health or similar qualification and have had some experience of Eye work. Experience of V.D. treatment desirable. Canvassing prohibited.

Forms of application may be obtained from the undersigned with whom applications (with copies of three recent testimonials) must be lodged not later than November 17th.

County Buildings JAMES LEARMONTH
Stirling County Clerk.
November 3rd 1930

Kent County Ophthalmic and

AURAL HOSPITAL, MAIDSTONE.
(105 Beds)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON (male) which becomes vacant at the end of November. The appointment is for six months but may be renewed for a further six month.

Candidates must be duly qualified and registered Medical Practitioners single and of British birth and nationality and should have some experience of Refractions.

Salary at the rate of £200 per annum with board residence and washing.

The Hospital is recognized for the practical work of the D.O.M.S.

Applications stating age and qualifications together with copies of three testimonials should be sent to the undersigned.

JOHN W. STRICKLAND Secretary

Royal Infirmary, Wigan

(180 Beds)

HOUSE SURGEON (male) required to commence duty on November 22nd for a period of six months. Salary £150 per annum with board, apartments and washing. Applications stating age and qualifications with copies of three recent testimonials should be addressed to the undersigned as soon as possible.

A. STANLEY BRUNT
Oct 27th 1930 Gen. Supt. & Secretary

The Royal Eye and Ear Hospital,

BRADFORD

Wanted JUNIOR HOUSE SURGEON male. Salary £150 with board residence and laundry. Applications stating qualifications, age, etc. with copies of recent testimonials to be forwarded to the undersigned on or before November 11th.

F. BRIGGS
Secretary Superintendent

City and County of Newcastle-

UPON TYNE

NEWCASTLE GENERAL HOSPITAL.

SENIOR RESIDENT MEDICAL ASSISTANT
(Male or Female)

Applications are invited for the above post. The duties will be chiefly concerned with the charge of medical ward. Salary £300 rising by £50 annually to £500 per annum with board residence etc.

Applications stating age and qualifications together with copies of not more than three recent testimonials to be addressed to the Medical Officer of Health, Town Hall, Newcastle upon Tyne.

November 3rd 1930

City and County of Newcastle-

UPON TYNE.

NEWCASTLE GENERAL HOSPITAL.

HOUSE PHYSICIAN AND HOUSE SURGEON
(Male or Female)

Applications are invited for the above posts. The salary in respect of each of the appointments which are tenable for six months is at the rate of £100 per annum with board lodging etc.

Applications stating age and qualifications together with copies of not more than three recent testimonials to be addressed to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.

November 3rd 1930

Hampstead General and North-

WEST LONDON HOSPITAL,
Haverstock Hill, N.W.3.

APPOINTMENT OF CASUALTY MEDICAL OFFICER

Applications are invited from unmarried registered Medical Women for the position of Casualty Medical Officer, vacant on December 1st next at the Out-patient Department of the Hospital, Bayham Street, Camden Town. The salary will be at the rate of £100 per annum together with board residence etc. and the term will be for six months.

Applications to be made on a form which will be supplied by the Secretary, together with copies of not more than three testimonials should reach the Secretary not later than noon on November 15th next.

County Mental Hospital, Chester

JUNIOR ASSISTANT MEDICAL OFFICER (male single) wanted. Salary £350 per annum with four annual increments of £25 together with furnished apartments, board, washing and attendance. The last three increments are conditional on holding the Diploma in Psychological Medicine and for which a further £50 per annum is paid. Three months study leave (D.P.M.) may be granted.

The appointment is subject to the provisions and privileges of the Asylums Officers Superannuation Act 1909.

Form of application which may be obtained from the Medical Superintendent, to be returned duly completed not later than November 21st.

G. HAMILTON GRILLS, M.D.,
Medical Superintendent

Middlesbrough Education Com-

MITTEE.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER

Applications are invited from duly qualified Women Medical Practitioners for appointment as a Whole-time Assistant School Medical Officer. Commencing salary £500 per annum. Applications stating age together with particulars of qualifications and experience and accompanied by copies of three recent testimonials to be forwarded to the undersigned not later than Saturday November 22nd.

Education Offices, STANLEY MOFFETT
Middlesbrough. Director of
November 4th 1930 Education

Redlands Hospital for Women,

GLASGOW W.2.

Required Medical Woman for the post of HOUSE OBSTETRICIAN for six months. Salary at rate of £50 per annum. Applications with copies of three testimonials to be sent to JANET F. STELL, Medical Secretary.

Staffordshire, Wolverhampton, &

DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS

TUBERCULOSIS OFFICER.

The Joint Committee invite applications for the post of Tuberculosis Officer for the Dudley and Wednesbury Dispensary Areas at a commencing salary of £750 per annum rising to £850 per annum together with travelling expenses.

Candidates should either have held a previous appointment as Tuberculosis Officer with the approval of the Ministry of Health or should since qualification

(1) have had at least three years experience in the practice of their profession
(2) have spent in general clinical work a period of not less than eighteen months of which no less than six months have been spent in a hospital as resident officer in charge of beds occupied by general medical or surgical cases and
(3) have received special training for a period of not less than six months in the diagnosis and treatment of tuberculosis.

The successful applicant will be required to act as Visiting Medical Officer of The Limes Sanatorium for Children, Himley and will work under the administrative control of the Medical Officer of the Joint Committee.

Applications stating age with copies of three recent testimonials must be forwarded to the undersigned not later than November 19th.

County Buildings EUSTACE JOY
Stafford. Clerk of the Joint Committee

West London Hospital,

Hammersmith Road, W.6.

Applications are invited for the post of HONORARY REGISTRAR, Throat, Nose and Ear Department. The appointment is for one year and subject to annual re-election may be extended for a period not longer than three years. Applicants must be doubly qualified registered Medical Practitioners.

Applications accompanied by copies of testimonials must reach me not later than Thursday November 20th. Candidates must attend the meeting of the Medical Council on Friday November 21st at 4.30 p.m. and prior to that date call upon and send copies of application and testimonials to each Member thereof. They must not canvass Members of the Board but nevertheless must send a copy of their application and testimonials to each Member thereof and if notified be in attendance at a meeting of the Board at 5 p.m. on Tuesday November 25th, when the appointment will be made.

H. A. MADGE, Secretary.

The General Hospital,

BIRMINGHAM

Applications are invited for the post of Whole-time Non-resident SURGICAL CASUALTY OFFICER to take charge of the Casualty Department daily from 9 to 5.

Candidates must be Fellows of one of the Royal Colleges of Surgeons and have held a Surgical appointment. Salary £400 a year.

The appointment will be made for one year in the first instance and be subject to renewal for a further two years.

Applications giving full details of qualifications and experience, and accompanied by testimonial should reach the undersigned by November 24th.

A. H. LEANEY, House Governor.

Hospital for Consumption and

DISEASES OF THE CHEST
Brompton, S.W.3.

The Committee of Management invite applications for the post of whole-time qualified ASSISTANT in the Department of Pathology. Duly qualified women are eligible for appointment. Further particulars may be obtained at the Hospital. Salary £350 per annum. Applications with copies of testimonials must reach the undersigned not later than Saturday November 22nd. Candidates will be required to attend the Meeting of the Medical Committee on Wednesday November 26th at 4.30 p.m.

Brompton, S.W.3. FREDERICK WOOD
October 1930 Secretary

York Dispensary

Wanted a RESIDENT MEDICAL OFFICER (female) to visit and attend the sick poor at their own homes to commence duties if possible not later than December 1st. Candidate must be duly qualified registered and unmarried. Salary £150 per annum with board, lodging and a tender and allowance for laundry.

Applications with testimonials to be sent on or before November 15th to JOHN C. PEDDIE, Secretary, 9 New Street, York.

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OF PRACTICES

and those seeking

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The

BRITISH MEDICAL BUREAU

at

12, Stratford Place, Oxford St., London,

or its Northern Branch at

33, Cross Street, Manchester

or its Newcastle Branch at

7, Windsor Place, Newcastle-on-Tyne

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THIRD PARTNER required in West Riding City Equal shares Receipts over £5,000 p a. Panel 4,400 Premium 2 years purchase —Apply 2592

PARTNERSHIP in middle and better-class Practice in Leicestershire 1/6 share for disposal Receipts average £8,000 p a Panel 700 Small house available Premium 2 years' purchase to be paid in full Applicants must be Protestant and not over 30 years of age —Apply 2595

The Lady Chichester Hospital,

FOR EARLY NERVOUS BREAKDOWNS

(50 Beds)

Two Medical Women required as JUNIOR and SENIOR HOUSE PHYSICIANS Honorarium at the rate of £50 and £100 per annum, with board lodging and laundry

Applications must be made in writing and accompanied with testimonials and sent to the Secretary A F GRAVES 117 North Street, Brighton

Royal Isle of Wight County

HOSPITAL, RYDE

RESIDENT HOUSE SURGEON wanted for November 29th either sex unmarried Single handed appointment Doubly qualified and registered State age and nationality Salary at the rate of £180 yearly with board residence and laundry Apply enclosing copies of testimonials to Secretary before Tuesday November 18th Return railway fare for selected candidate

A S CORDON Secretary

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The Mount Vernon Hospital,

NORTHWOOD MIDDLESEX

(National Centre for the Study and Treatment of Cancer)

There is a vacancy for a RESIDENT MEDICAL OFFICER Candidates must be fully qualified and registered Salary at the rate of £300 per annum with board, lodging etc.

Applications with copies of three recent testimonials to be sent to the undersigned not later than November 12th

Offices W J MORTON

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Surrey —£1,600 p a Panel over 1 300 Residential district Fees 3/6 to 21/ Mids discouraged Detached freehold house with large garden —No 8756

Midlands Town —About £2,400 Panel 2 500 Very little midwifery Visits 3/6 up Good house, 4 bed to rent —No 8755

Cheshire — Country Town — Over £3,500 p a One third share to start Panel 1,000 Fees 3/6 to 21/ Good house 5 bed, to rent —No 8754

Oxon —Country Practice nearly £1,200 p a Panel over 1 000 Visits 3/6 to 10/6 House, 4 bed surgery, etc —No 8753

Home County — £2,800 p a Half share Old estab Panel over 1,500 Fees 5/ to 31/6 Good house Graduate over 35 preferred —No 8751

S. Midlands —Average £756 p a Town of 45,000 Small panel Fees 3/6 to £1 1s Large house and garden Smaller ones available —No 8750

London S E —Over £800 Cash and panel of 880 Visits 2/6 to 3/6 Shop front surgery, with living accommodation —No 8749

Salop — Country —£1,030 p a Panel and appts £460 Visiting fees 5/ up Modern house, 6 bed, etc, large garden, to rent Easy terms —No 8747

Hants (15 miles from sea) — Nearly £1,000 p a Panel 240 Scope. Fees 3/6 to 15/ House 2 reception, 6 bed, surgy, and large garden —No 8744

South Coast — Within 60 miles Over £1,000, increasing rapidly Panel 500 Clinic £50 Fees 3/6 to 12/6 Good house, 4 bed, etc —No 8742

Surrey — Rapidly increasing NUCLEUS Receipts over £830 Panel 580 Excellent house, 8 bed, with large garden to rent —No 8741

Glos — Country —Over £1,250 p a Panel nearly 1,100 Fees 3/6 to 5/ Detached house, 1/4 acre £1,000 down, balance over 4 years —No 8740

Ulster — Seaside Town, about £750, great scope Panel over 600, increasing Fees 2/6 to 7/6 and up House, 5 bed, etc —No 8738

S. Wales — Average £3,360 p a 1/2 share for sale Panel 3 000 Visits 3/6 Good house, 4 bed Premium only £1,600 —No 8736

London, S W — £630 p a increasing Panel 400 Visits 3/6 Midwifery 3 gns up Small house on main road. —No 8730

Devon —Dispensing Practice in large village averaging £940 p a. Fees 5/ to 2 gns Surgery 2/6 to 7/6 Large house with an acre and cottage, for £3 000, of which £2,500 could remain, or for sale without house —No 8727

S. W County near Coast —Dispensing PRACTICE over £2 000 p a, chiefly agricultural Visits 5/ up Surgery 2/6 up 1,100 panel.—No 8728

North Wales —Old-established —About £900 p a Panel £292 Agricl Cottage Hosp Scope surgery Good house Garage and garden —No 8692

N E Wales, near Border — Three tenths share, producing over £700 p.a. Fees £5/ up Panel 2 600 Large house and garden at £78 p a £1,300 or £1,000 and £350 spread —No 8725

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FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants Full particulars on application to Mr Percival Turner

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LONDON E.—Middle and working-class Cash and Panel PRACTICE. Corner house (10 room) to rent on lease. Receipts approx £1 560 p.a. (subject to confirmation). One appointment. Panel 2,200. Visits and medicine 3/6 up. Consultation and medicine 2. Midwifery £3 3s. Premium £3 000 cash or near offer.

HANTS.—(Near Sea)—Well-established PRACTICE in growing locality. Small but convenient house well situated at junction of road; the freehold property of the Vendor. Garden, garage, etc. Receipts average £651. Panel 365. Fees 2/6 up. Practically no night work. Premium £350.

BEDFORDSHIRE.—Well-situated non-panel PRACTICE (with scope for panel if desired) in good thoroughfare. House for sale or would be rented. Receipts approx. £1 000 p.a. Premium 1½ years purchase each.

MIDDLESEX (WEST).—NUCLEUS middle and working-class PRACTICE (mostly cash) situated in growing locality within 10 miles of London. Receipts for 9½ months £240. Panel 30. Fees 2/6 up. Premium £450 or near offer to include fixtures, fitting, etc. Excellent scope.

BERKS.—Town PRACTICE, within 60 miles of London.—Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years purchase.

KENT (Seaport).—NUCLEUS G.P. situated in growing locality. Scope for development. Receipts approx. £7 per week (subject to confirmation). Panel nearly 200. One appointment worth £50—£60 p.a. Small house to rent (alternative accommodation available). Premium open to reasonable offer.

BEDS.—NUCLEUS middle-class Country Practice. 14-roomed house, garden, garage, etc. Receipts nearly £500 p.a. Fees 3/6 up. Premium £300 for Practice, or £1 000 with house. House could be rented at £68 p.a. Scope.

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3 500. Panel 2,262. Fees 3/- up. Several appointments. Hospital. Scope for surgery. Good school. Premium for 1/3 share £2 050. Terms considered to the right man.

GLOS.—Mixed Town PRACTICE. Receipts over £1 800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3 640 or near offer. PARTNERSHIP considered.

LANCS.—Middle-class Town PRACTICE. Surgical scope especially ENT. Suitable house available for rental at £78 p.a. or for sale lease hold. Receipts over £1 500. Fees 7/6 up. Midwifery not encouraged. Modern Hospital fully equipped. Good educational facilities. Premium £1 200 cash.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten roomed house available. Receipts nearly £2 000. Fees 3/- up. Up-to-date Hospital. Scope for surgery. Premium 1/3 share with view to larger share £1 500. Opportunity five.

MIDDLESEX.—RIVERSIDE SUBURB PARTNERSHIP in rapidly growing Practice. Receipts £1 500. Two appointments worth £650. Panel nearly 1 000. Premium for 1/3 share with view to larger share £700. Suitable accommodation available.

MIDDLESEX (W.).—Middle and working-class PRACTICE in rapidly growing residential locality. Fees 5/- up. House (9 rooms), freehold property of the Vendor, garden, garage, etc. Receipts nearly £900. Panel 300. Scope for surgery. Cottage Hospital. Premium for Practice £1 100. House £1 700 on mortgage to remain.

SURREY (near Windsor). — Well-established middle-class PRACTICE. Double-fronted detached house with charming garden to rent on lease at £120 p.a. or may be purchased freehold. Receipts over £700 p.a. Panel 220. Fees 2/6 up. Cottage Hospital. Good social life. Good schools. Premium for Practice £900.

LONDON (N.).—Lady Doctor PRACTICE. Middle and working-class locality. Ground floor flat to rent. Receipts £260 p.a. Panel 170 increasing. Fees 2/- up. Excellent scope. Premium £300.

BUCKS.—Under 25 miles from London.—Middle-class G.P. Good-class residential locality. Modern house to rent on lease. Receipts over £400 p.a. Fees 5/6 up. Increasing pop. Good schools. Premium £600. Suitable for semi-retired Practitioner or one with private means.

HOME COUNTIES (NORTH).—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP 3 to 6 months in old-established middle-class Practice. Receipts average £3 500. Panel nearly 1,200. Suitable house to rent (6 beds) at £83 p.a. Garden. Town Practice. Fees 5/- up. Midwifery 3 gns. up. Two appointments. Excellent educational facilities. 1/3 share is offered with view to half share at 2 years' purchase. Suitable to well-qualified man, preferably married with Hospital experience and good at Anaesthetics.

SHROPSHIRE.—Country Town PRACTICE, unopposed. Modern house with every convenience to rent at £100 p.a. (11 rooms). Large garden (3 acres). Receipts over £1 000 p.a. Panel 500. Visits 8/6 up. Consultations 5/- up. Midwifery £2 2s. up. Three appointments. Premium 1½ years purchase.

S.W. COAST.—Well-established Central PRACTICE. Excellent house with all modern conveniences. Fruit and vegetable garden, garage. Receipts nearly £2,400. Panel over 1 400. Visits 7/6 up. Consultations 3/6 up. Scope for surgery if desired. Premium for Practice £4 600.

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5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 600. Appts. worth £118. Good house, garage etc.
6. LANCASHIRE (Large Town).—Non-dispensing non-panel largely Surgical PRACTICE estab. nearly 4 years. Receipts average £1 179 p.a. and unlimited scope. Good house etc.
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4. LONDON S.E.—Residential part.—Old-established non-panel PRACTICE. Held 36 years by Vendor now retiring. Receipts average £1 000 p.a. Good sized house rent £110. Scope for panel *if desired*. Prem. moderate.
5. Near MANCHESTER.—Well-estab. PRACTICE. Receipts last year £570. Panel 280. Good house, garden, etc. rent £50 p.a. Premium £750. Distric growing rapidly. Part of purchase price can be paid by instalments.
6. GLOS.—Nice Town.—HALF SHARE of an old-established Practice. Receipts nearly £2 000 a year including large panel. Good house available *for incoming* Partner. Premium for half share 2 years' purchase.
- LONDON S.W. (near Chelsea).—Old-established cash and panel PRACTICE. Receipts £1 500 a year. Nice corner house, rent £150, long lease. Situated in residential part. Premium 2 years purchase.
8. LONDON E.—QUARTER SHARE of a cash and panel Practice doing about £1 700 a year. Panel 2 000. Living accommodation available, rent £2 p.w. inclusive. Premium for share £750. Good scope for further increase in receipts.
9. LANCS.—Large Town.—Old-estab. PRACTICE. Receipts £1,200 p.a. including 900 panel. Nice house can be had on lease. Practically no immed. opposition. Prem. 1½ yrs. purchase.

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1 EAST COAST —Partnership in non-panel Practice in favourite watering-place Partner should be young and with Hospital experience Share of about £1 000 p a at 2 years purchase Preliminary Assistantship

2 KENT —Practice of £1,260 p a in residential outlying suburban district. Fair panel Corner house (7 bed and dressing rooms), with large garage and garden, for sale Scope Premium 1½ years purchase

3 CORNWALL — Partnership in Country Practice on Coast Convenient house (6 bedrooms) with good garden for sale Share of about £1,200 p a, at 1½ years pur

4 S OF ENGLAND —Practice over £1,200 p a. (including clubs and panel over 1,100) in small industrial town House (6 bedrooms), with large garden and garage, for sale Beautiful country around Premium £1 500

5 S E COAST — Partnership in well-established Practice about £2,600 p a, in popular Seaside Resort Small panel House obtainable One third share for disposal Excellent scope

6 EASTERN COUNTIES —Good-class PRACTICE of £1,545 p a. in famous Country Town Panel 350 House contains 5 bedrooms, etc, and would be sold or let Good society and sport Considerable scope Premium 1½ years purchase.

7 LONDON, S E —Practice averaging over £1 700 p a in outlying residential suburb Small panel Good and well situated house (6 bedrooms) with small garden, for sale. Premium—Practice—1½ years purchase

8 KENT —Country Practice about £650 p a in beautiful district Panel about 700 No house but surgery and waiting room to rent Capable of much increase Moderate premium

9 LONDON, S W —Increasing Cash Practice close to West End Receipts past 10 months £1 227 Panel 1 250 (about) No midwifery Excellently situated house for sale or rent Premium 1¼ years purchase

10 W MIDLANDS —Partnership in Practice about £2 700 p a in Market Town Panel about 800 One-third share at 2 years purchase Partner must be experienced in General Practice Preliminary Assistantship

11 W OF ENGLAND — Assistant required (with view to Partnership) in Town and Country Practice doing over £2 000 p a Hospital One third share at 1¾ years purchase to suitable man (English or Scotch)

12 MIDLANDS — Partnership in Practice £3 200 in Manufacturing Town Panel about 1 700 House to rent One-third share at 1¾ yrs pur Preliminary Assistantship

13 BORDERS OF SURREY AND HANTS — Steadily increasing non-dispensing PRACTICE averaging £1 590 p a in residential district Panel 1 350 Nicely situated house (8 bedroom) with garage etc and garden for sale Premium 1¼ years purchase

14 LONDON, E —Cash Practice over £2,000 p a Panel 1 860 House (4 bedrooms) to rent (part sublet) Premium 1½ years purchase.

15 LONDON, E C —Practice of about £650 p a in the City No panel or midwifery Consultations up to £1 1s. Excellent and nicely furnished consulting and waiting rooms to rent on lease Good scope for increase Premium £750

16 W OF ENGLAND —Partnership in Practice of £2 800 p a in pleasant Country Town, under 130 miles from London Partner must be young and should have *held* Hospital appointments Premium for a two-fifths share 2 years purchase

17 LONDON, S W —Practice (carried on by two Medical Men) averaging £5 000 p a, in suburban district Panel 1 400 rapidly increasing Two houses to rent Or a share up to one half would be sold

18 HOME COUNTY —Practice of £540 p a in small town under 45 miles from London Panel 150 Centrally situated house (4 bedrooms) for sale Scope Premium 1½ years purchase

19 SOUTH AFRICA — Practice in growing seaport and popular Health and Pleasure Resort Net takings about £1 500 p a Practically no night work or midwifery Nice house (3 bedrooms), with garage and about 1/2 acre of grounds, for sale or rent Equable climate Premium £1,600, to include consulting room furniture, drugs, etc

20 MIDLANDS — Partnership in Practice nearly £1 900 p a. in good Town Panel 1,100 Suitable house Plenty of sport Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment One half share at 2 years purchase with ultimate succession

21 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms) garage, garden, etc, for sale or rent Very good trout fishing Premium £1 250

22 MIDDLESEX — Partnership in Practice nearly £3 500 p a in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi detached corner residence (6 bedrooms) garage and garden for sale Premium one-half share 2 years purchase

23 MIDLANDS —Practice, over £1,700 p a, in important City Panel 1 570 Centrally situated house (7 bed and dressing rooms) with garage and garden, for sale Scope for increase Premium £2 250

24 WITHIN 50 MILES OF LONDON — PARTNERSHIP in Practice averaging over £3 500 p a. in first rate county town Panel over 1 100 Good house (7 bed and dressing rooms) to purchase or rent One third share at 2 years purchase Partner should be aged 28 35 and have held H S and H P appointments Preliminary assistantship

British Medical Bureau

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Practices and Partnerships for Disposal (continued)

25 CHESHIRE.—Partnership in increasing better-class non-panel Practice over £4,500 p.a. In first rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

26 LANCASHIRE.—Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 260. Very nice compact house (4 bedrooms) garage and garden etc. for sale. Golf. Premium £1,000.

27 S. DEVON.—Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House containing 5/6 bedrooms for sale. Premium one-half share £1,320 to include drugs etc. Work very light.

28 MIDLANDS.—Partnership in steadily increasing Practice of nearly £3,500 p.a. in country town amid picturesque scenery. Panel 1,700. Nice house (5 bedrooms) with garage, etc. Premium one-fourth share 2 years' purchase. Short preliminary Assistantship.

29 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics) garage and half acre of garden, for sale. Scope. Premium 1½ years purchase.

30 HOME COUNTIES.—Increasing Country PRACTICE of nearly £900 p.a. within 30 miles of London. Panel 500. Detached house (5 bedrooms) in quarter acre of ground, with garage to rent. Scope. Premium 1½ years purchase.

31 YORKSHIRE (N.R.).—Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450. Visits 3/6 to 10/6. Modern house, 12 rooms. Garage and good garden. Rent £42 p.a. Premium 1½ years purchase.

32 SURREY.—Steadily increasing Practice, averaging £1,355 p.a. in a first rate Country Town. Panel nearly 1,300. Large attractive old fashioned house (7 bedrooms) for sale. Cottage Hospital. Premium 1½ years purchase.

33 S. MIDLANDS.—Practice averaging £1,180 p.a. in residential country district. Panel 1,000. Detached house (4 bedrooms) garage and good garden for sale. Good society. Premium 1½ years purchase.

34 SUSSEX.—Partnership in Practice about £3,000 p.a. in delightful residential country district. Panel 1,550. Nice house (8 bedrooms) with garage and about acre garden etc. to purchase if desired. Good society and educational facilities. Premium one-half share 2 years purchase. Partner must be experienced preferably aged 35—40.

35 S.W. OF ENGLAND.—Middle and better-class non-dispensing PRACTICE over £1,750 p.a. in first rate town. No panel. Well-situated non-basement house (7 bed and dressing rooms) garage and garden for sale or rent. Good introduction. Premium 1½ years purchase.

36 MIDDLESEX.—Steadily increasing non-dispensing PRACTICE in growing district. Receipts past 12 months £420. Panel about 30. Well-situated corner house (7 bed rooms) garage and garden for sale. Good reasons for rapid increase. Premium £500.

37 LONDON, N.W.—Practice of about £1,450 p.a. in suburban district. Panel 1,150. Corner house (7 bed rooms) for sale. Scope.

38 S. MIDLANDS.—Partnership in steadily increasing Practice about £3,000 in first rate country district. Panel 1,000. Suitable house available. Cottage Hospital. Premium one-third share 2 years purchase.

39 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water main drainage) for sale or rent. Premium £750.

40 LONDON, E.—Practice (carried on by Medical Woman) in populous area. Receipts last year £580. Small panel. No midwifery. Six roomed house to rent. Premium £750 to include drugs etc.

41 DEATH VACANCY.—CORNWALL.—Compact Country PRACTICE. Receipts last year £900. Panel 230. House (4 bedrooms) with 1 2 acre garden for sale or rent.

42 SURREY.—Partnership in Practice about £3,500 p.a. in desirable residential town. Small select panel. House (6 bedrooms) to rent. Premium—one-third share—2 years purchase.

43 ESSEX.—Assistantship (with view to Partnership and Succession) in Country Practice of £1,500 p.a. Panel 1,200.

44 LONDON, W.—Old-established Practice over £850 p.a. in outlying residential suburb. Visits mainly 5s., some 7s. 6d. and 10s. 6d. Practically no midwifery. Nice compact house (2 reception room consulting and waiting room 4 bedrooms, etc.) Rent £85 p.a. Premium £1,100.

45 W. MIDLANDS.—Practice over £1,500 p.a. Market Town. Attractive agricultural district. Panel 500. Good house (7 bedrooms etc.). Electric light and gas. Scope for increase. Premium £2,100.

46 LONDON, N.—Partnership in Practice of £2,300 p.a. Growing residential district. Panel 1,100. Scope for increase. Hospital. Premium one-third share 2 years purchase.

47 S. DEVON.—Partnership in non-dispensing Practice about £2,400 p.a. in favourite watering place. Panel 950. Good hospital. One-third share at 2 years purchase. Preliminary Assistantship.

48 W. MIDLANDS.—Practice of £2,400 p.a. in small residential country town. Panel about 1,000. Excellent non-basement house (6 bedrooms) in about 3 acres of grounds for sale. Very good sport. Premium 1½ years purchase.

49 LONDON, N.—Increasing Practice of over £500 in pleasant residential district. Panel over 100. Well situated house (4 bedrooms) for sale or rent. Ample scope. Premium 1½ years purchase.

50 S.W. OF ENGLAND.—Practice over £2,000 p.a. in small country town near coast. Panel 1,036. House (5 bedrooms) with electric light, for sale. Premium 1½ years purchase.

51 S. WALES.—Non-dispensing Practice of £760 p.a. in one of the Principal Towns. Panel 620. Corner house in residential part for sale. Good scope. Premium £750.

52 S.W. OF ENGLAND.—Practice averaging £1,666 p.a. in seaport town. Panel over 2,000. House with 8 or more bedrooms for sale. Premium £2,500.

53 S. OF ENGLAND.—Practice of £960 p.a. in Market Town under 100 miles from London. Panel 287. House (5 to 6 bedrooms) garage and good garden for sale or rent. Cottage Hospital. Premium 1½ years purchase.

54 ITALY.—Season Practice (March to October) in famous City. Receipts from £200/£700 p.a., according to Season. Up-to-date Hospital. Premium £250.

55 MIDLANDS.—Practice over £800 p.a. in first rate Town. Panel 500. Suitable house to rent. Premium 1½ years purchase.

56 MIDDLESEX.—Rapidly increasing Practice in new developing district about 12 miles from London. Earnings past year £750. Panel 200. Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Premium 1½ years purchase.

57 SOUTH AFRICA.—Practice over £3,000 p.a. in one of the pleasantest towns in the Cape Province. House (4 bedrooms) to rent. Excellent Surgical centre. Purchaser should be able to do Surgery. Prem. £2,200 part by instalments.

58 S.W. OF ENGLAND.—Partnership in increasing middle-class Practice now at £2,500 in seaport town. Panel 870. One-fourth or one-third share at 2 years purchase. Preliminary Assistantship.

59 SURREY.—Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third share 2 years purchase.

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1 SOUTH WESTERN COUNTY —Near the Sea —Old estab easily worked Country PRACTICE in beautiful district within reach of Market Town and averaging £1 100 p a, including appts and panel producing £450 Exceptionally attractive modernized house in over 3 acres of ground with ample accommodation, productive fruit and vegetable garden with tennis lawn etc Water laid on and electric light available shortly Price freehold £3 000, part on mortgage Premium £1,650 Sport of all kinds and schools within reach

2 OUTLYING EASTERN SUBURB—Sound middle and working class PRACTICE producing about £3,000 p a, including panel of over 2 000 Visits from 3/6 Not much midwifery from 3 gns Very good house with 2 reception 6 bedrooms, etc Garden Can be rented on lease Premium 1½ years purchase

3 LONDON NORTH —Good mixed General PRACTICE in open suburb Gross cash receipts average about £2 000 p a, including panel of over 2 000 Fees from 2/6 Not much midwifery Exceptionally nice house in good condition, with ample accommodation and large garden Can be rented on lease Premium 1½ years purchase

4 SURREY —Attractive residential town within easy reach of London, and with beautiful surrounding country Non dispensing PRACTICE, increasing and averaging about £1 600 p a with panel of 1,350 Fees 3/6 to 21/ Good house, with 3 reception 8 bedrooms, etc Garden Garage Price £2 400 Sport of all kinds and good schools Premium 1½ years purchase

5 PARTNERSHIP — LONDON SOUTH EAST — Outlying Residential Suburb —Owing to the retirement of one of three partners the fifth share of an old estab Practice is for disposal Cash receipts average over £5 300 p a (last year £5,540) including panel of upwards of 2 000 Visits 3/6 to 10/6 Good house can be rented at £80 p a Premium 2 years purchase

6 CLOSE — COUNTRY PRACTICE — Old-established PRACTICE in *picturesque surroundings, averaging about £1,250 p a, including* panel of over 1 100 Visits from 3/ Commodious house with 3 reception, 6 bedrooms, etc Garden Garage Price for freehold £1 500 £1 000 on mortgage Premium £1,850

7 DEATH VACANCY —SUSSEX —Very attractive country district within 35 miles of London —PARTNERSHIP —A one half share in an old established good mixed class Practice averaging over £2 800 (last year £3 046) Panel of 1 550 Fees 3/6 to 31/6 Midwifery from 5 gns (about 8 cases yearly) Appts worth about £240 p a Very good house with 4 reception 6 to 8 bedrooms etc One acre of garden For sale Premium 2 years purchase

8 LONDON WEST —Chiefly better class non panel and non dispensing PRACTICE offering large scope Average gross cash receipts for past 3 years £1 284 Fees 7/6 to 2 gns Midwifery 10 to 30 gns only few cases Well situated house in excellent repair, with 2 reception 6 bedrooms etc Very nice garden Can be rented on lease at very low rental Premium to include valuable lease, £2 500

9 LONDON S E —Outlying Residential Suburb —Very old-established PRACTICE (hitherto carried on by two men in partnership) is for disposal or half share would be sold with succession to the whole in 12 months time Receipts average about £3 000 p a, including appts worth £330 and panel over 1 500 Two houses available Premium 1½ years purchase Eminently suitable for two friends

10 HANTS —Delightful residential district within easy reach of Coast — Old established good mixed PRACTICE averaging £970 p a and offering large scope as district rapidly developing Panel of 230 Fees 3/6 to 15/ Well built well situated house, with 2 reception 6 bedrooms, etc Garden with tennis lawn Moderate premium accepted for quick sale Sport of all kinds and good social facilities

11 X RAY AND ELECTRO THERAPEUTIC PRACTICE —Large Hospital Town within 80 miles of London Well established connection averaging £975 p a and offering excellent prospects Patients mostly better class at good fees House is exceptionally well situated with ample accommodation professional and otherwise Price freehold £1,500 Premium only £900 to include valuable plant, furniture, etc

12 LONDON SOUTH WEST —Very sound old established PRACTICE in thickly populated area averaging over £5 000 p.a., including panel of 1 500 but large scope for more Fees 2/6 upwards Choice of houses Rent of surgery on long lease £100 p.a. Prem 1½ years pur

13 GLOUCESTERSHIRE.—Old established PRACTICE in good residential town in the midst of the Cotswold Hills averaging over £1 300 p a, including panel of about 1 200 Fees from 2/6 Very little midwifery Good detached house in own grounds with 2 reception 6 bedrooms etc Separate entrance to professional rooms. Gas and electric light Price, freehold £2,000, half on mortgage Premium 1½ years purchase

14 WARWICKSHIRE COAST —Village PRACTICE unopposed and situated in very beautiful district within easy reach of large town Cash receipts last year £740 Panel of 305 Fees 2/6 to 21/ House faces sea in own grounds and contains sitting room, 4 bedrooms, etc Rent £40 p a Premium £1 000 part by arrangement

15 NORTH WALES —Unopposed PRACTICE in beautiful agricultural district within 4 miles of Coast Average gross cash receipts for past 3 years £853 Panel of 734 which together with appts and clubs bring in £750 p a Fees 2/6 to 21/ Small house with 3 reception 3 bedrooms bathroom etc Garden Rent £39 p a Larger house available if desired Premium 1½ years purchase

16 OXON —UNDER 45 MILES FROM LONDON —Old established practically unopposed Country PRACTICE within 4 miles of the River Average income £1 180 including panel of over 1,000 Fees 2/ to 10/ Good house with two reception 4 bedrooms bathroom etc. Electric light One acre of garden Garage for 2 cars. Price for freehold £1 600 £1 000 on mortgage Premium £1 750

17 MANCHESTER DISTRICT —Old established middle and working-class PRACTICE, worth last year *about £700 p a, including* panel of 614 and capable of increase Expenses small Well situated house with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted

18 PARTNERSHIP —HOME COUNTY —Within 40 miles —In very pleasant district (with large surrounding population), the third share (with increase later) of old estab mixed class Practice offering large scope Present income £3,000 p a, with panel producing over £1 200 p a and appts worth £160 Visits 3/6 to 2 gns Good house at moderate rental Good society and sport Ingoing partner should be about 30, pref married and English or Scotch

19 LINCOLNSHIRE COAST — Well established mixed-class PRACTICE averaging £2 749 p a. (last year £2 868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly). Newly built modern house, with special professional accommodation, central heating etc. Garden Garage Price freehold £2 300 part on mortgage Good sport and schools within reach. Premium 1½ years purchase

20 WEST MIDLANDS —Very old established mixed class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2 367 p a with panel over 1 000 Opposition not strong Very fine house (3 reception 6 bedrooms, bathroom, etc.), standing in nearly 3 acres of ground Beautiful garden tennis lawn, and productive orchard. Price free hold £2,000 *Premium 1½ years purchase*

21 LONDON S E —Pleasant residential suburb —Very old established non panel (but scope for this) PRACTICE, held over 30 years by Vendor who is retiring Receipts last year over £900 Patients mixed but mostly good class Large house (part could be let off for flat) Rent £98 p a. Premium 1½ years purchase

22 PARTNERSHIP —WITHIN 100 MILES NORTH OF LONDON —A one-sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better-class Practice, in a large town at present worked by three partners who now require further assistance Gross cash receipts average about £8 000 p a Selected panel of 700—800 Fees 5/ to 21/, average 7/ Suitable small house with sitting room 3 bedrooms, etc. Rent £90 p a. Premium 2 years purchase

23 MIDDLESEX —Rapidly developing district, within 20 miles —PARTNERSHIP —A one-half share in an old-estab good middle-class Practice averaging for the past two years over £3 600 p a Panel of 1 100 and appts bring in £100 p a Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms etc Garden Price for freehold £2,100 Premium 2 years purchase

24 BORDERS OF NORFOLK AND SUFFOLK —PARTNERSHIP —A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice, in pleasant village, near two good towns. Income for last 12 months £1,992 including panel of 1 000, and appts. worth about £150 Fees 2/6 to 10/6 House contains 3 reception, 6 bedrooms, etc Sport of all kinds Premium 2 years purchase

25 KENT —Country PRACTICE near Coast —Old established mixed class Practice averaging about £1 100 p a Panel of nearly 400 Fees 3/6 upwards Convenient house, with 3 reception 6 bedrooms etc Good garden Rent on lease £75 p a Good sport and schools within reach Premium 1½ years purchase

26 PLEASANT CATHEDRAL CITY, within 200 miles North of London — Old established mixed-class PRACTICE averaging £1 600 p a including £800 from panel and over £100 from clubs Visits 5/ upwards (occasionally 2 gns) Very little midwifery from 2 to 5 gns. Large attractive house, with garden Rent £80 Prem 1½ yr pur

27 MANCHESTER —Chiefly working class PRACTICE Average income £1 000 including panel of 1 000 Moderate expenses Corner house with 3 reception 8 bedrooms etc. Garage Rent on lease £65 p a. Premium £1 500 or near offer

28 NEAR HUDDERSFIELD —PARTNERSHIP —A half share in an old established mixed-class Practice Income for immediate past year over £4 250 Panel of 3 600 Fees 3/6 to 7/6 Very good house with 4 reception 6 bedrooms, etc. 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

29 PARTNERSHIP —COUNTRY TOWN within 130 miles North of London —A one-fifth share is offered in an exceptionally *good* mixed class Practice averaging for past 3 years over £6 000 p a Panel of 3 400 Fees from 4/ Not much midwifery House can be rented at £50 p a Premium 2 years purchase

30 LANCS —LARGE TOWN —Old-established good working class PRACTICE, averaging about £2 500 p a Panel of over 1 800 Fees from 2/6 Suitable house available Premium 1½ years purchase

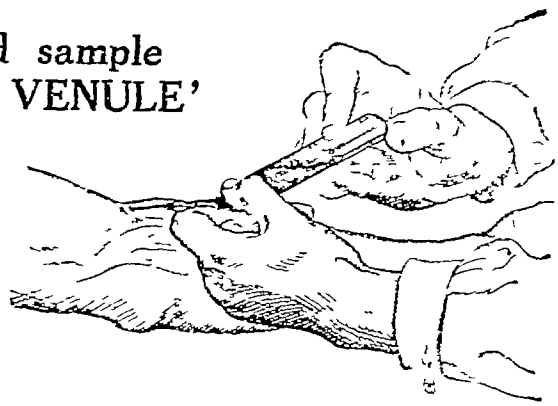
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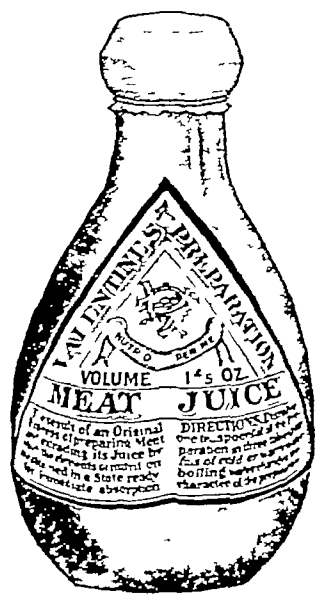
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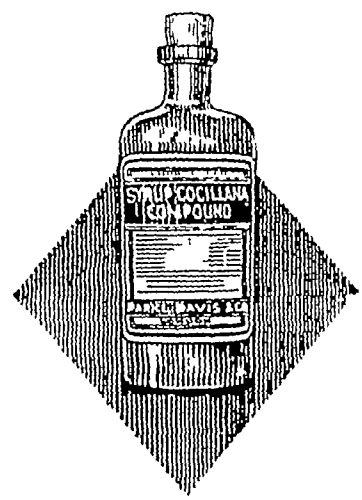
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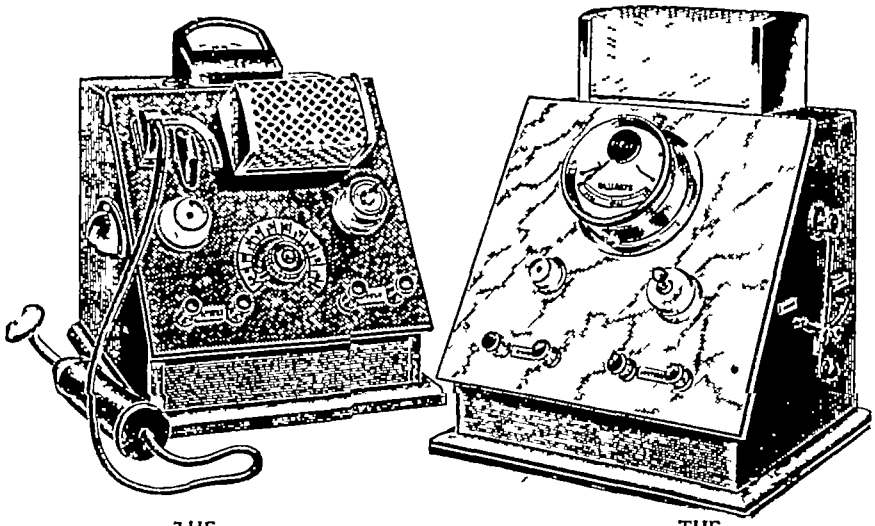
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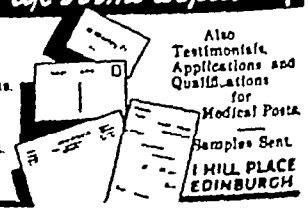
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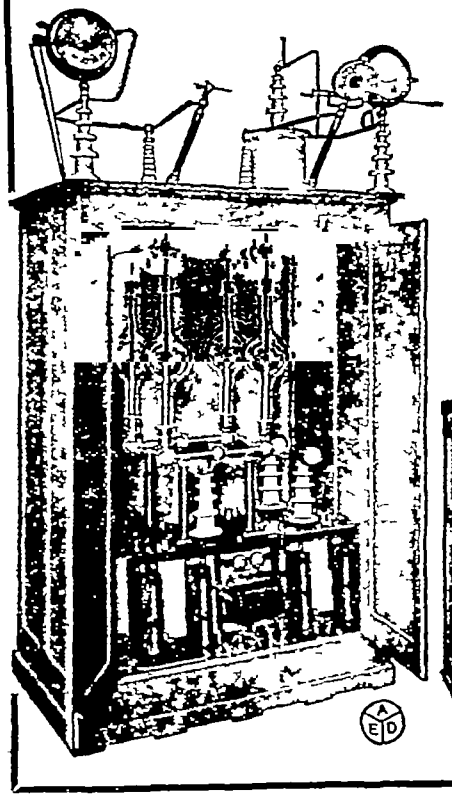
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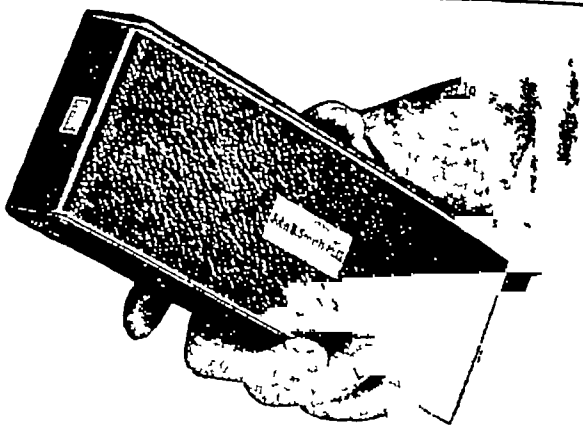
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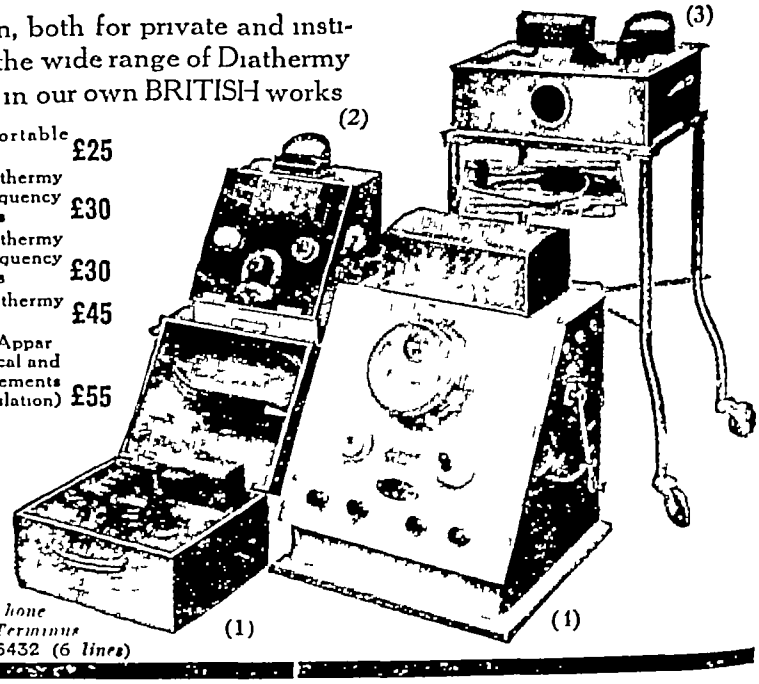
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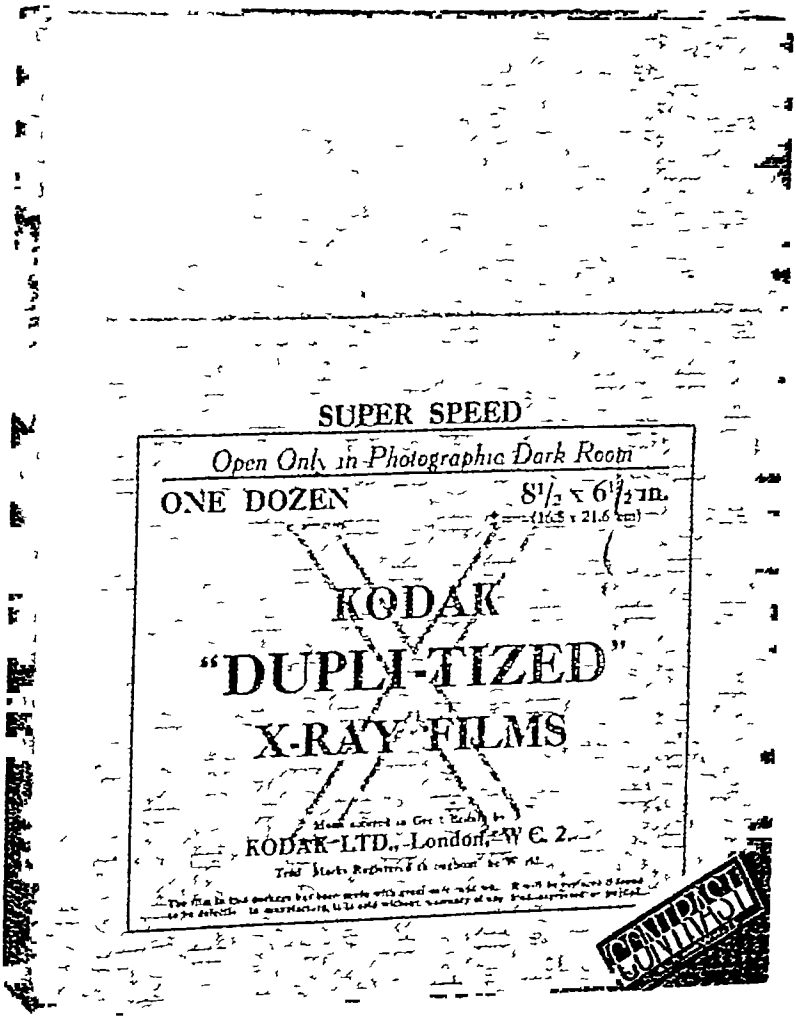


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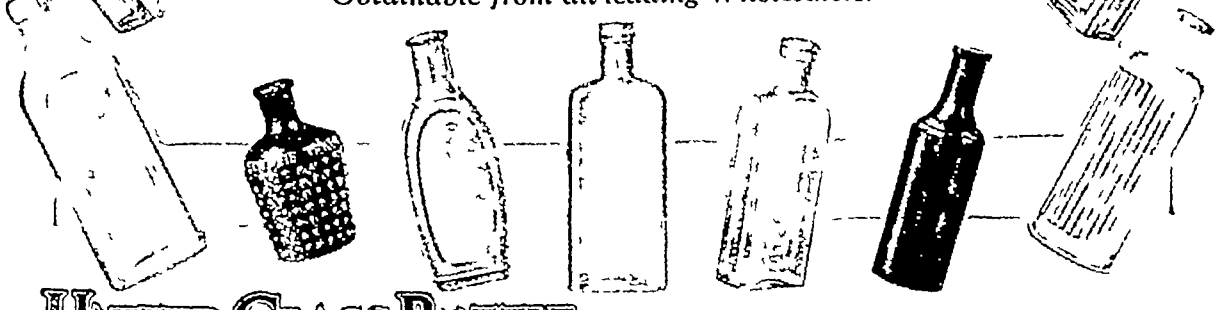
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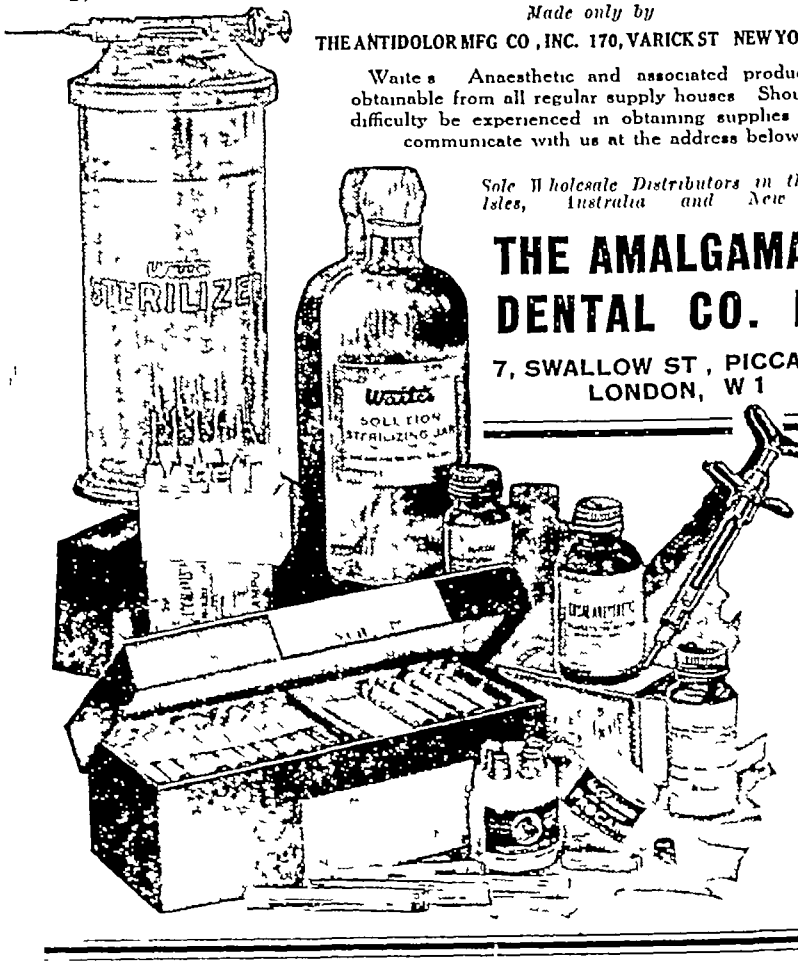
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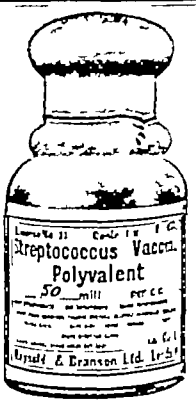
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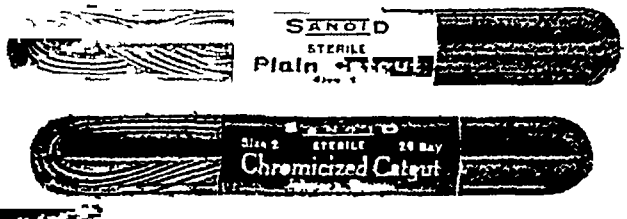
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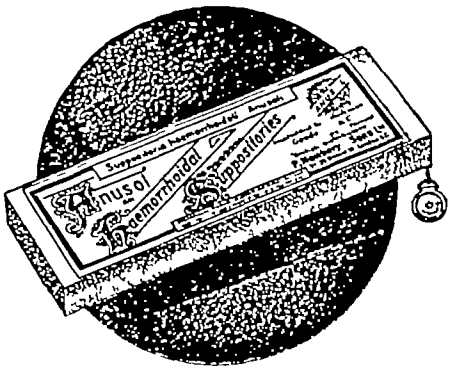
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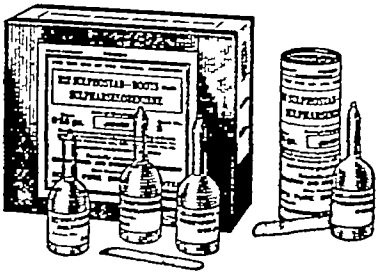
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Other references B M J., June 15 1929 p. 1070 B M J., June 28, 1930

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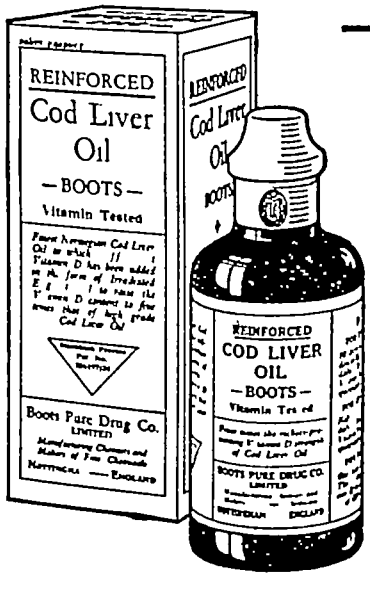
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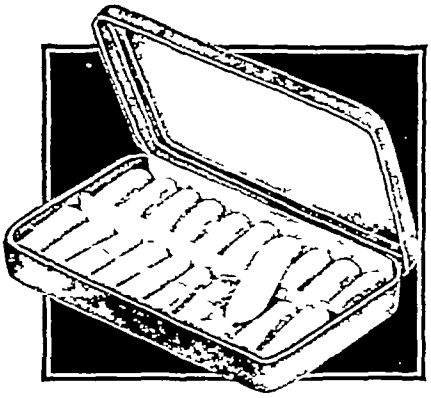


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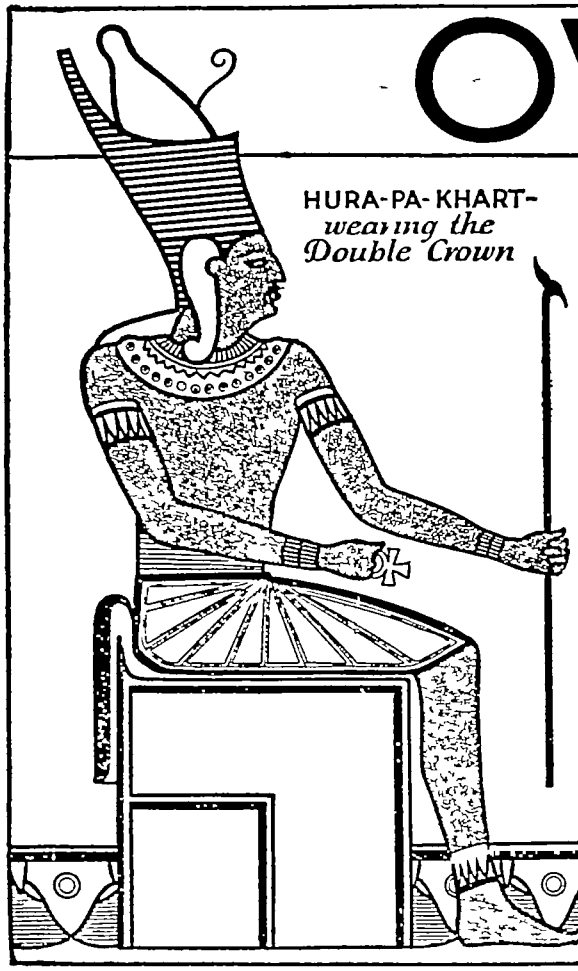
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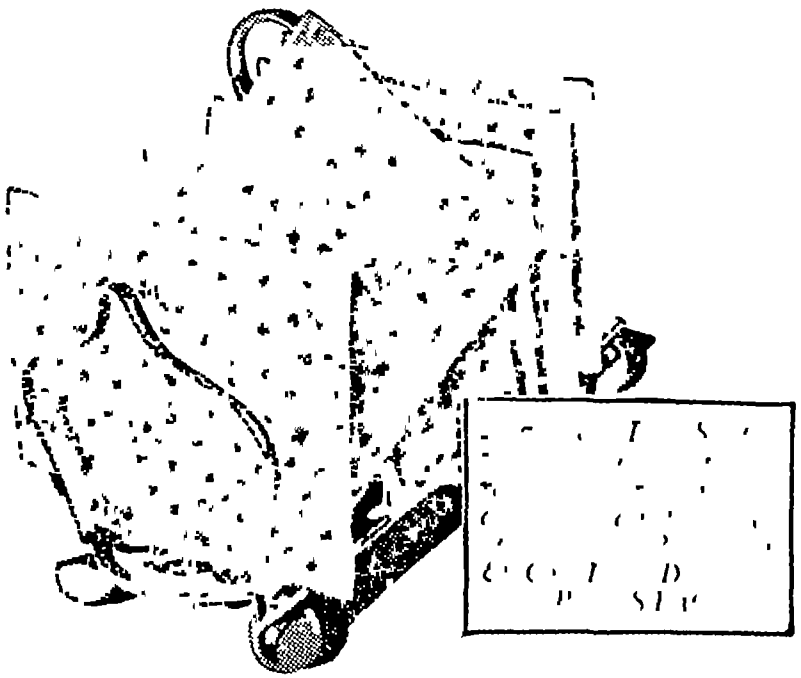
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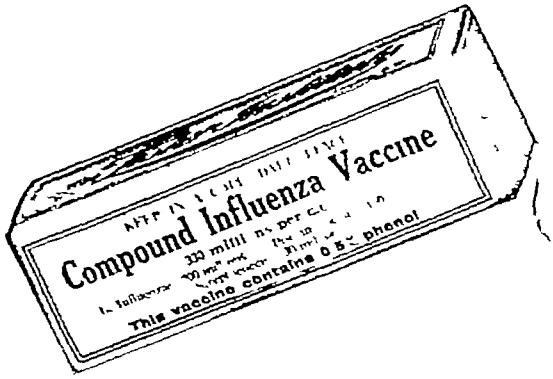
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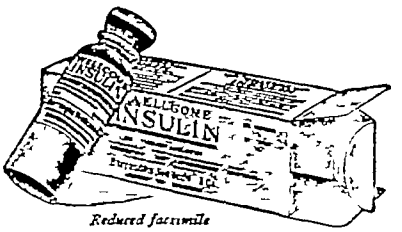


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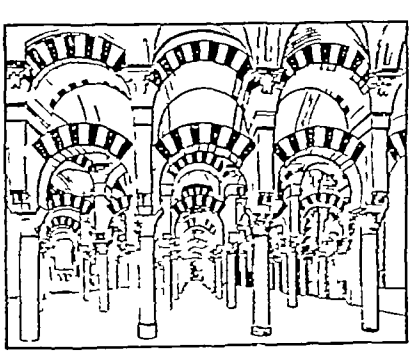
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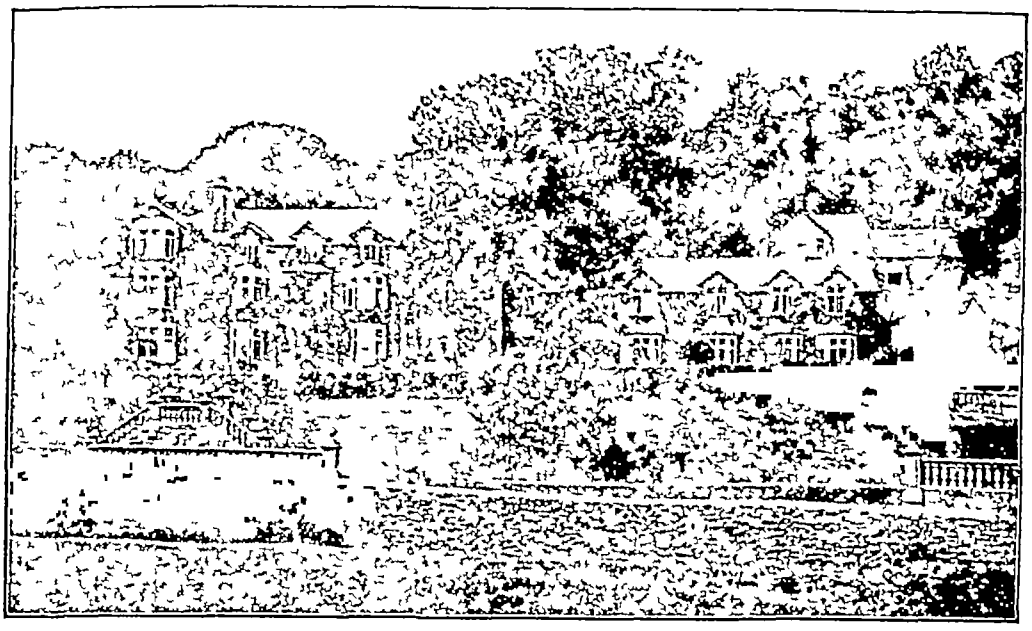
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PSYCHOLOGY AND PSYCHOPATHOLOGY OF CHILDHOOD *

BY
R. D. GILLESPIE, M.D.,
PHYSICIAN AND LECTURER IN PSYCHOLOGICAL MEDICINE, GUY'S HOSPITAL

EVERYONE knows that the last decade of medical work and thought has been characterized by nothing more than by an increasing appreciation of the importance of psychological factors in the production of ill health. This rediscovery has been derived primarily from the study of adult ill health, but one of its fundamental implications is that adult psychological disorders depend very often and very largely upon conditions personal and environmental, which have existed in childhood. In childhood itself the share of psychological factors is probably even greater than in adult life in producing illness, for the child's entire psychophysical system is more labile than the adult's, and emotional disturbances lead more readily to bodily effects. Moreover, in children, disturbances of a psychotic kind are absolutely rare, and the mental disturbances which do occur have usually a closer and more obvious connexion with immediate factors than is encountered in most adult disorders, no matter of what general clinical type.

There are consequently several principal directions of interest for the student of child psychopathology. These are the psychopathology of childhood for its own sake, the physical signs and symptoms produced by emotional factors and especially prone to occur in children, and the connexion of adolescent and adult psychological morbidity with childhood and its influences. The first and especially the second of these directions are of peculiar interest to the student and teacher of paediatrics, for a numerically important and varied group of physical disturbances of a fairly distinctive kind results from emotional and temperamental influences. The third is one which interests the professed psychiatrist more, but the paediatrician who explores it can make valuable contributions in a largely unworked field of preventive medicine.

General Fallacy of Interpretation

One caution must always be observed. It is a caution of interpretation. We must be careful not to play the Lewis Carroll or the Kenneth Graham, measuring what we observe in a child's mind too much in terms of adult knowledge and experience. It may seem superfluous to issue such a caution to those who are brought face to face with a similar situation in treating the physical illnesses of children, but in psychological affairs we are far more apt to interpret what we see not merely in terms of adult experience in general, but of our own in particular. Not to do so is difficult even for those who remember better than the majority their own childhood; indeed this remembering may itself be a source of bias, experiences that are similar to our own being too readily attributed to similar causes. There are other errors of interpretation of which I shall speak later.

PRINCIPAL CHARACTERISTICS OF CHILD PSYCHOPATHOLOGY

There are three cardinal points for discussion in the psychology of children considered apart from the psychology of adults, as far as distinctions in this field can be drawn. They are first the great influence of environment upon the child's mental processes, secondly the plasticity of the latter, and thirdly the prominence of egoistic tendencies, their substitution and frustration in the production of symptoms. Environment means, of course, the personal environment of parents, brothers, sisters, teachers, and companions, and an important reflection occurs here that when signs of morbidity appear they arise at the surface of contact, so to speak, of the child's environment with his aims and desires, rather than at some locus of conflict deeply within the psyche. It is far more often a question of some direct frustation than of a conflict between an introjected ideal and libidinous unconscious wishes.

Influence on Method

This is a generalization which admits exceptions, but it is of sufficient importance in theory and especially in practice, to warrant expansive discussion. For instance, it connotes that relatively simple adjustments of the environment, after careful consideration of the tendencies whose frustration or misdirection are indicated by the symptoms, will cause the latter to disappear, and that intensive intrapsychic exploration of the child's mind is usually unnecessary. Hence the psychiatrist's method of exploring the problem principally through interviews, with parents and other adults more than with the child himself, has its justification. There is, however, a small residue of cases in which intensive exploration may be desirable.

Prognostic Contrast in Children and Adults

The second point, the plasticity of the attitude and behaviour of children, is another aspect of the first, and is of immense practical and theoretical importance, although this plasticity is limited in some degree by inborn disposition and temperament. Taking the most superficial aspect of the whole problem first, we are confronted by such a contrast as this, which shows the recovery rates in a group of adults and in a number of children who attended the out-patient practice of the department of nervous disease and psychological medicine in Guy's Hospital two years ago.

The statistical analysis of 70 adult patients who were treated at that time and have subsequently been followed up gives this result:

Not traced	7
Dead, committed suicide, or disappeared	9
Condition little changed	28
Improved	14
Much improved or cured	12
Total	70

This gives a percentage of 37 improved or cured. A similar investigation among 60 children two years after their treatment gives the following figures:

Not traced	5
Condition little changed	16
Improved	15
Much improved	24
Total	60

This gives a percentage of "improved" or "well" of 65. The groups are statistically very small, but the figures are sufficiently in accord with general impressions to be considered reliable. One has the more confidence in the figures for the group of children, because it included all varieties, even such unfavourable ones as feeble-minded and epileptic children.

Controls

The improvement all round was so marked and so invariable, where it could be expected, that the reflection readily arises that so-called "nervous" children would usually get better of themselves without the aid, sometimes nowadays very elaborate, of the clinic. Indeed, while giving proper weight to the immense effect of the child's environment in producing psychological disturbances, it is necessary to remember that all children are subjected to innumerable traumata, and the wonder is not how many nervous or unstable children there are, but what a large proportion grow to be reasonably normal men and women. The urge to adaptation has been well styled imperative. Nevertheless, the comparatively few unstable ones are in the aggregate many, and their contribution to adult social inefficiency and ill-health is sufficient to make psychiatric work with children not only as worth while as any, but worth extending till every considerable hospital has the necessary facilities and has intimate connexions with other social organizations for child welfare, as well as with children's courts.

* Given to the International Paediatric Congress, Stockholm, August 1930.

Role of Innate Factors

Just as too much optimism may lead to a policy of *laissez-faire* on the ground of the self-adjustment of the majority of psychopathological phenomena in children, so on the other hand may a pessimism, preconceived on the score of the importance and immutability of inborn temperament and disposition, lead to a failure to grasp numerous possibilities of modification, for the limitations produced by inborn factors are much less than is generally supposed. It is a sound working rule to attribute nothing morbid whether of behaviour, mood, or thought, to congenital and therefore presumably less modifiable causes until a complete investigation has exhibited nothing in the history of environmental influences and personal events that will reasonably account for the symptoms, and until the latter have been proved but little modifiable by any known therapy, and even then the matter may not have been congenitally engraved.

Prophylaxis of Adult Neuroses and Psychoses

The practical importance of the plasticity of the child's mind in both its congenital and acquired aspects lies not only in the management of nervous children, but in the prevention of neurotic and psychotic disorders in later life. There are two principal views of the etiology of adult mental illness. Both of them place the primary focus in the formative influences of childhood, but one view regards the adult illness as the cumulative result of mental habits acquired and engrained throughout childhood and adolescence, while the other regards it as a regression to particular emotional "fixations" or attachments of an erotic kind at the same period. The apparent divergence of view lies perhaps more in emphasis and terminology, but they certainly agree in acknowledging the importance of early factors. It seems to me, however, that in its insistence on a set pattern, the Oedipus pattern in the infantile foundation of neuroses, the second view does less justice than the first to the almost infinite plasticity of the young organism's mental and emotional equipment, the wide variety of the influences that impinge upon it, and the multiplicity of its responses.

Self-assertive Tendencies and Their Handling

The third generalization, that symptoms in children centre principally round their egoistic, self-preservative or self-assertive strivings, is derived from a study of the nature of the symptoms, their mode of production, and their therapeutic reactions. The point, although it must seem obvious to many, is worth making, for the alternative view invokes the same explanation for children's nervous disturbances that is so commonly advanced for those of adults—namely, the vital importance of infantile sexuality. My impression is that in children the origin of psychogenic symptoms in the greater number of cases is, properly speaking, neither infantile nor sexual. No one now denies the existence of infantile and childish sexual desires. But two fallacies seem to be committed by exponents of the more rigorously Freudian view. To say that infantile sexuality exists is an entirely different assertion from the statement that it lies at the root of all neurotic disorders of children and adults. The other assertion is that infantile sexuality is the same as adult sexuality in its aims and objects. This is a type of assertion that is hard to disprove, for a negative finding is no proof to the contrary. Careful observation by ordinary methods in younger children fails to furnish as a rule evidence of sexuality of this type at the foundation of their functional nervous disturbances, the special methods which have been employed to show it, from contemporary studies of children (not from retrospective accounts from adults) do not command confidence as valid scientific evidence. I am thinking of Little Hans and some of the other psycho-analytic work with children. It is possible, of course, by a sufficient complication of hypotheses, to regard egoistic tendencies as themselves libidinous. A child's desire for praise, possessions, and other outlets of self-assertion may be said to represent libido which has been diverted to egoistic ends, but it is more useful as well as simpler to regard these tendencies for what they certainly are. There is an field of research here. Direct observation, unbiassed by esoteric pre-conceptions, is badly wanted. In the meantime, it is a safe working rule to regard the majority of children's psychogenic disturbances as disturbances of their egoistic strivings.

DISORDERS OF CHILDHOOD

A general survey of the varieties of mental and functional nervous disorders of childhood will illuminate the generalizations which have been made. (The age range given in several of the groups is that of children attending Guy's Hospital as out-patients in the last four years. Patients over 14 years of age are not included.)

1 *Disorders of Personality*.—Timidity, obstinacy, irritability, outbursts of temper, sensitiveness, shyness, day-dreaming, lack of sociability, emotional disturbances, etc. (Age range in the Guy's series 12 to 14. Intelligence quotient 81 to 103.)

2 *Behaviour Disorders*.—Truancy, wandering, temper outbursts lying, stealing, begging, cruelty, sex misdemeanours, food fads, refusal of food, etc. (Age range in the Guy's series 4 to 14. Intelligence quotient 67 to 103.)

3 *Habit Disorders*.—Nail biting, thumb sucking, incontinence—nocturnal and diurnal—constipation, vomiting, stammering, etc. (Age range up to 14. Intelligence quotient 77 to 127.)

4 *Psychoneuroses*.—Anxiety psychoneuroses (age range 7 to 14), hysteria (age range 5 to 14, intelligence quotient 64 to 93), phobias, obsessions, compulsions, ties (some).

5 *Psychoses*.—Schizophrenia (dementia praecox), manic depressive psychoses, etc.

6 *Epilepsy*.

7 *Mental Deficiency*.—Dull and backward group the result of general or localized defect—*for example, word* blindness and word-deafness, feeble-mindedness imbecility, idiocy, temperamental defect ("moral imbecility").

8 *Sleep Disorders*.—Insomnia, night terrors, somnambulism.

9 *Mental Disorders* occurring with, and probably dependent on, some physical disease—for example, chorea, epidemic encephalitis, trauma.

10 *Disorder of the So-called "Glycopenic" Variety*.—Migraine, crises of collapse, insomnia, night terrors, cyclical vomiting, etc.

This classification is proposed from experience as a convenient one, although it mingles symptomatic and diagnostic categories to some extent, and although there is also some overlap between the various subdivisions. The deviations of personality issue in abnormalities of behaviour but of a less *outspoken*, less impulsive, and more consistent type than those of subdivision 2. Habit disorders are distinguished from behaviour disorders in so far as they involve only a part of the child's behaviour—that is are a much simpler form of activity, and do not require conscious co-operation for their production. On the other hand some of them probably begin in no other way than as hysterical symptoms and deserve to be classified accordingly. This would hold especially for some instances of vomiting, of incontinence, and of constipation. Mental deficiency, especially in its lesser degree of intellectual subnormality, naturally interpenetrates the other groups. The *extent* is suggested by the results of systematic testing of every child who comes to a psychiatric out-patient department. Figures were compiled for fifty-two unselected children who attended as out-patients in the department of psychological medicine at Guy's Hospital during the first months of this year. A frequency curve exhibited well that the majority of the fifty cases of which detailed records were available had an intelligence quotient between 70 and 90—that is belonged to the "dull and backward" group, on this test. The figures suggested what would be suspected on general grounds, that an intellectual equipment less than the average does tend even at an early age, *to produce* additional difficulties in social adaptation, and to foster symptoms in a disproportionate percentage of the dull and backward. It occurred to me that the Binet-Simon tests might not do justice to these children. Accordingly performance tests were also given. Contrary to expectation, the results with performance tests

were inferior to those with the Binet-Simon scale, when compared with normal standards The general results were suggestive rather than conclusive The group was too small, and some other experience of the prognostic value of such tests for social adaptation after the school age has been passed makes me a little sceptical of their value in general My impression is that many of the so-called dull and backward who show abnormalities of behaviour and other symptoms of adaptive disharmony during the school age, often do remarkably well by comparison after leaving school This impression is borne out statistically by some figures recently supplied to R G Gordon from school children at Bath It seems, nevertheless, to be of great importance that a machinery for occupational guidance should exist which would begin to operate at the age of 12 This would go far to prevent much adolescent unhappiness, inefficiency, and nervous illness

To return to the clinical classification already given, the first two clinical groups and the fourth are the most important for establishing our general propositions regarding environment, plasticity and egocentricity It is convenient, however, to deal first of all with the other clinical groups, in summary fashion, but sufficiently to place them in their proper perspective, and to indicate openings for research

Habit Disorders

Some of the so-called habit disorders such as nail biting thumb sucking, and the like, belong to a group of which some variant occurs in practically every child (Olsen) Their *raison d'etre* is either pleasurable stimulation of the auto-erotic variety, or the non specific expression of a disturbed mental state Incontinence, although often similar in origin to these has a more varied etiology In our series at Guy's Hospital urinary and especially faecal incontinence has been most frequently associated with some degree of mental defect and on this and other grounds (especially the evidences of parental inadequacy) it is presumably often the simple result of lack of educational influences or capability But incontinence can also be present as the result of mental conflict, as the non specific expression of an emotional disturbance or more directly as a self-assertive phenomenon and sometimes as an erotic one As a symptom urinary incontinence can be cured by all kinds of methods, and all kinds of methods can fail Fear is said to be a frequent cause of it, but I have known additional fear to cause it to cease Urinary incontinence especially the nocturnal form is a problem not yet wholly solved, either in theory or in therapy

Psychoses Fallacies of Interpretation

With regard to Group 5, psychoses in the adult sense are so rare in childhood as to furnish relatively little material for psychological investigation It is important to remember that many traits which would be psychotic in an adult cannot be so regarded in a child In some recent literature there is a tendency to interpret the behaviour and thought of certain children in the same terms as would be used if the patient were an adult This is often fallacious and disregards the basis of a fundamental conception—namely, that of regression Certain forms of behaviour normal in a child if persisted in till adult life, would make the adult a psychotic and regression consists not in persistence in but in return to such behaviour—that is, it implies the reappearance of early traits in a late setting but there has to be a certain depth of regression before these traits are regarded as psychotic It is therefore not correct to say that simply because certain childish traits such as suggestibility and negativism, are highly accentuated in a child these traits betoken a psychosis The case is similar with certain kinds of mental content A child may believe itself a kind of god and yet not be considered to have a delusion in the adult sense for such ideas are common to many, and perhaps in a sense to all children at some time or another and differ only in the length of time for which they persist Most children feel omnipotence in some fashion at some time and hanker after it when they cease to feel it Often the more intelligent child disbelieves for a time the reality of anything but himself The tendency is to characterize such beliefs as psychotic only when they are expressed, and to ignore the fact that they are always present *in some form at some time*, although often not even consciously formulated except in the intellectually brighter children

This matter of *conscious formulation* is important and touches not only the interpretation of so-called psychotic traits in children, but the general psychotherapeutic accessibility of psychological disturbances in them In the degree of awareness of his mental processes and in his ability to observe and to express them verbally, the child is inferior even to the average adult In children we often feel that in the grave disorders of behaviour, the concrete reaction appears first, and the conscious formulation only afterwards, if at all Not only is this one of the reasons why it is unwise to conclude that certain symptoms that are prima facie psychotic are necessarily so, but it is also part of the reason why disorders of behaviour and even the more habitual deviations of personality are usually so readily altered in children There is little organized mental superstructure, conscious or otherwise of the reactions The external conditions are there and the reaction takes place let the external stimuli be removed, and the reaction dies out It is not merely that the hypothetical 'paths" are not deeply graven, but that there are no well-organized sets of motives no complex intrapsychic elaborations which will act to maintain and stereotype the abnormal reaction The whole process is more closely analogous to a conditioned reflex than one meets anywhere in the behaviour of adults and their mental disorders

The term psychotic is not, therefore, properly applied to such disturbances in children, but in so far as the term "regressive" can be truly applied, it can entitle behaviour or thinking to be labelled psychotic, and the latter term is thus sometimes applicable This conception, as has been pointed out also necessitates a certain "depth" of regression and the depth is a misnomer for a time sequence there is obviously less scope for manifestations of regression in children Nevertheless, these manifestations frequently occur but more often in the field of behaviour and in simple form, such as crying and babytalk than in the domain of thought When the regression include much of the child's thinking as well as his behaviour the temptation to think in terms of adult psychoses is stronger than ever, but it is more correct as well as safer not to be tempted to apply diagnostic terms borrowed from adult psychiatry to such instances The rule should be here, as always, to deal directly with the facts of observation and to avoid obscuring them with diagnostic terms, such as chizophrenia, unless their use in a given instance is unimpeachable

For example I recently saw a child, aged 6 whose condition had been diagnosed schizophrenic For the past eighteen months he had used only inarticulate sounds and cries He was very restless and distractible If presented with a book he turned over the pages rapidly in the manner of a child aged 2. Given a piece of paper, he scribbled at first wavy lines then when some simple diagrams were placed before him he produced crude geometrical forms He was not at all hostile or even apathetic for he placed his arm round the doctor's neck and his cheek against his, smiling slightly His entire behaviour, in fact, re-embled that of a child aged about 18 months or less It was certainly not schizophrenia and it lacked the push and infectiousness of a manic reaction Yet it was a much clearer instance of regressive behaviour than is usually found in adult mental disorder It seems better to state the facts in such a case and to leave schizophrenia aside

The conclusion is that when we say that psychoses are rare in children we are in a periphrastic way saying that the conditions are so different that as a rule the term psychosis as used in psychiatry generally is misleading

Glycogenic Disorders

The disorders belonging to the last three groups of our classification are very common and of great interest Many of the instances of disturbance of sleep are suitably considered along with the cyclical vomiting group Night

terrors, for example, and some cases of insomnia, are immediately dependent on the same general cause, and all of them are on that borderland of the psychological and physical which is of such fascinating importance, and for which the illnesses of children offer an unrivalled opportunity for study (cf chronic epidemic encephalitis) The problem in the cyclical vomiting group should interest the paediatrician who is not also a professed psychologist, since the symptoms are usually the direct expression of environmental stimuli, and do not as a rule involve the intermediary operation of psychic "complexes" It is now well established by observation—and I can confirm it amply from my own experience—that not only cyclical vomiting and its varieties, anticipatory and otherwise, but night terrors, certain headaches, often of migrainous type, some cases of collapse, some insomnias, certain cases of enuresis, and many cases of fatigue, belong to a group with the same metabolic fault behind them (Osman adds certain cases of constipation, pallor, anorexia, failure to put on weight, growing pains, pyrexia, recurrent diarrhoea, asthma, and cough) Since it was found that the administration of glucose acted like a charm in these conditions (Cameron), the metabolic fault was originally called "glycopenia," and it was shown by Swedish workers that while these symptoms were apt to arise in emotionally unstable children of asthenic physical type, many of them could be produced in normal children by cutting down the carbohydrate intake But curiously, it has now been shown by Osman that there is in fact usually no hypoglycaemia in children afflicted in these ways, and that what is found is an acidosis in the sense of a diminished plasma bicarbonate In the majority there is also no ketosis Osman suggests that glucose works because it builds up the glycogen reserve of the liver The relationship between nervous constitution and symptoms is in any case a close one, and represents in simple form a general problem which has always interested psychiatrists Here in children are the first beginnings of a biochemical description of constitutional characteristics, but the description is proximate and not by any means final Presumably in emotionally unstable children adrenaline is more readily secreted, and the glycogen reserves are more often subject to mobilization, so that the danger point for the production of symptoms is more readily and more often reached than in stable children

Disorders of Personality

The group of children whom I have classified as exhibiting abnormal traits of personality are of very special importance from a social and a prophylactic, as well as from a human, point of view There are also important theoretical considerations It is now well established that many instances of mental disorder in adults present an antecedent history of peculiarities of personal make-up—often simply accentuations here and there of traits that otherwise pass for normal I have pointed out that one school of psychiatric thought considers that mental disorder develops directly out of such traits, as a kind of cumulative resultant of their operation, after what might be termed a break in the psychic compensation that enabled an appearance of normality to be maintained for so long Now if these traits can be modified while they are still in the plastic stage which is so characteristic of childhood, or, still better, if they can be prevented altogether from forming, a great work will be done, as far as adult mental disorders are concerned, and much human unhappiness and inefficiency will have been prevented

It is an undoubted fact that many such morbific traits appear in childhood, and it is also a fact of observation that in childhood such or similar characteristics are modifiable Whether the modifiable and the morbific characteristics are precisely the same remains to be seen, but some who have worked with children on these principles are already inclined to believe that what would become some day adult psychoses are being prevented For example, Professor Hans Maier of Zurich, in whose asylum there is a cottage for psychopathic children, tells me he believes that something is being done there towards the prevention of schizophrenias

It is most important theoretically that the formation of a child's personal traits should be carefully scrutinized At present some psychopathologists are somewhat obsessed by what might be called the prototypic hypothesis—that is, that a mental attitude or characteristic is explainable most completely, or even solely, in terms of the conditions of its first (supposed) occurrence This would do less harm, were it not also assumed that the first occurrence must stand in relation to infantile orificial erotism Obstinacy, to take one character trait as an example, is explained in terms of anal erotism and reaction between the latter and environmental conventions But it is surely a matter of everyday observation that such traits can be formed and lost again in reaction to later desires and later influences

All these questions form material for study at first hand, to control or replace psychopathological data at present derived solely from the retrospective statements of adults This is a task for the psychologically minded paediatrician which will bring great rewards, both theoretical and practical In particular he will be struck by the plasticity of even the most ominous-looking personal characteristics, when compared with their rigidity in adults He will also be impressed by the rapidity with which environmental influences produce and modify these characteristics, and if he observes them in an objective way, without schematical preconceptions, he will probably find a dominance of ego tendencies, in so far as the inner contribution of the patient is concerned Even the clearly affective attachments are often more reasonably construed in terms of desire for self-assertion and of self-esteem than of erotic drives

Behaviour Disorders

The behaviour disorders are, for the most part, the manifestations of healthy self-assertive tendencies which have been frustrated This becomes evident both from an inspection of their nature and from analysis of the motives in individual instances The cases in which the disorder of behaviour indicates the frustration of some erotic goal in the narrow sense are comparatively rare Much more readily than the personality disorders, they yield to environmental rearrangement, in conjunction with brief talks with the child, sometimes of a mildly hortatory kind The social history of children of this group often bears an impressive resemblance to the history of juvenile delinquents There is a suggestive field for co-operative research here

Psychoneuroses

The psychoneurotic anxiety states and the hysterias of children indicate in my experience much the same conclusion, with an especially direct demonstration of the effects of environmental imitation and suggestion While we must be wary of using superficial and easy-going explanations, on the other hand a facile interpretation in more recondite terms is to be guarded against, as is illustrated in the following case

A boy, aged 11, was brought for advice because he was afraid of the dark He would not sleep in any room alone at home he was often peevish, and did not get on well with his younger brother, aged 8, who was a rollicking boy and physically stronger The patient was said to be very much attached to his mother The latter claimed to be able to intuit his thoughts, yet she appeared to have no knowledge of the details of the boy's fears and indeed knew virtually nothing of his inner concerns A skilled psychopathologist who saw the boy said it seemed to be on first scrutiny a very obvious Oedipus position, but that of course he could not commit himself without further knowledge His caution proved to be well justified, for on further inquiry the mother revealed that the boy had never been allowed to sleep alone and that he had slept for years in the same room with her, and always with a light burning The reason was that his mother hated marital intercourse, and dreaded having more children, and so kept the patient and the light near her as measures of protection She made no secret of the fact that she was mortally afraid of the dark In the circumstances it was therefore not very wonderful that her son was afraid of the dark and of sleeping alone An insistence on a more hygienic regime produced a remission of the boy's fears for a month when the mother, being no longer able to stand the anxiety induced by his deportation, took him back to her bedroom, with consequent relapse of the boy's condition

This was an unusually flagrant instance of the possibilities of misinterpretation, but it shows what is evident in many instances of anxiety in children—namely, the immense influence of parental example (often direct

example of obvious anxiety). The anxious atmosphere surrounding the child becomes the natural one for it. Anxiety is there as a matter of course colouring all its views and enterprise. The same holds for the genesis of many childish phobias. These are often the crystallization at one point of a general sense of insecurity easily engendered in a young child facing a big and difficult world. Similarly with obsessive and compulsive conditions the part played by the stage of development of thinking (sympathetic magic) in determining their almost universal incidence must be investigated in their relation to instinctive tendencies. Of hysterical conditions it may be said that again a common-sense evaluation is required. The problems of the hysterical constitution and of hysterical dissociation have not by any means been finally met by the hypotheses so far advocated.

All these problems about which there is at present so much speculation offer a promising field for really scientific investigation. The psychiatrist who so often sees only the end results envies the paediatrician his opportunities of seeing the beginnings of watching personalities in the making and of guiding them towards healthy happy achievement.

RESULTS OF TREATMENT IN EXOPHTHALMIC GOITRE

BY

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THERE is considerable uncertainty in the minds of many medical men as to the place of surgery in the treatment of toxic goitre, by which is meant not only exophthalmic goitre but also those closely related conditions in which there are manifestations of thyroid intoxication such as the so-called 'toxic adenoma.' It may be of interest therefore to review the results of treatment in a series of patients, some of whom were treated by thyroidectomy and others by various methods but without thyroidectomy.

All the patients in this series were admitted to the wards under my charge during 1920–25, and since then have been recalled from time to time only those who have been seen this year or of whom reliable reports have been received this year will be considered. A period varying from five to ten years has now elapsed since their admission to hospital. They all remained under direct observation in the wards for several weeks at least and in some instances for several months during which time many lines of treatment and investigation were tried according to the ideas or clues we were working on at the time but neither x-ray treatment nor radium was employed, so that although the number is small they have been carefully observed. They were admitted because they were the more serious cases and they include such patients as those with heart failure in preparation for surgical treatment and similar cases in which surgical treatment was not carried out for one reason or another. The two groups—those treated by thyroidectomy and those treated by other methods—though not strictly comparable as regards the severity of the disease are similar to a considerable extent since many patients in whom thyroidectomy appeared advisable refused to undergo operation and because we are always ready to delay operation if possible so that other methods of treatment can be tried. As a rule thyroidectomy was advised in the more severe cases and in those that proved resistant to other method of treatment.

Of the 60 patients there is no report for 1930 in 10 and of the remaining 50, 24 with an average age of 38 years, were treated surgically and 26 with an average age of 35 years by means other than thyroidectomy. Of the 24 treated surgically the results (Table I) are good (capable of full work) in 15, poor (working with difficulty) in 5, bad (leading invalid life) in 1, while 3 are dead. Of the 26 treated by non-surgical method the result are good in 10, poor in 4, bad in 2, while 10 are dead. The principal difference in the results in the two groups is the much higher mortality in the non-surgical group. Even if two patients who died in hospital of conditions not apparently connected with the thyroid disease are omitted the difference in the mortality in the two groups is striking.

TABLE I

Treatment	Total Number	Average Age	Result			
			Good	Poor	Bad	Died.
Surgical	24	38 years	15	5	1	3
Non-surgical	26	35 years	10	4	2	10
	0		25	9	3	13

The patients can be subdivided into those with primary and those with secondary Graves's disease although the distinction cannot always be made with confidence. The essential disturbance that produces the thyroid intoxication is unknown but is probably the same in both. In primary Graves's disease, however there is no evidence of previous structural change in the thyroid gland the characteristic histological changes are found throughout the whole gland and the subjects are usually young adults. The signs of intoxication may be very severe this group includes the typical cases of exophthalmic goitre with the eye signs tachycardia tremor vasomotor and nervous disturbance. In secondary Graves's disease the disturbance arises in a patient who has a damaged thyroid gland already as shown by coarse or fine fibrosis colloid goitre local areas of degeneration etc. the histological changes characteristic of the disease are found distributed in a patchy manner, and the subjects are commonly more advanced in years. The signs of intoxication are usually mild eye signs and vasomotor disturbance may be absent but the functions of the other organs of the body may be seriously crippled possibly because they are older. The patients with but slight evidence of thyroid intoxication but with auricular fibrillation and heart failure belong as a rule to this secondary group.

The classification of patients that were treated by non-surgical method into the primary and secondary group reveals (Table II) that the good results are found mainly

TABLE II.—*Treated by Non-Surgical Methods*

Type	Total Number	Average Age	Results			
			Good	Poor	Bad	Died
Primary	16	8 years	8	3	1	4
Secondary	10	47 years	2	1	1	6
	26		10	4	2	10

in the primary group (average age 28 years) and the mortality is greater in the secondary group (average age 47 years). Of the four fatal cases of primary Graves disease two patients died in hospital of conditions other than the thyroid disease but the other two were young females 15 and 25 years of age who were not seriously ill when in hospital but who did not remain under observation and relapsed later and died at home. The six patients with secondary Graves's disease who died had an average age of 45 years one aged 39 had been ill off and on for twenty years and died horribly after admission with an acute severe intoxication one aged 53 died after discharge but no operation was advised because of the presence of pulmonary tuberculosis and the remaining four died after discharge in acute exacerbations of the thyroid disease having refused operative treatment while in hospital. Of the six patients in whom the result is recorded as poor or bad two have since undergone operation and are now improving and two others have refused operation. Of the ten patients in whom the result is recorded as good two, aged 65 and 36 years,

had secondary Graves's disease, were not seriously ill, and improved rapidly under treatment, the remaining eight were young females (average age 26 years) with primary Graves's disease who either improved rapidly with treatment, or were in such domestic and financial circumstances as to allow of prolonged rest under supervision In one of them the result could not be called "good" until as long as six years after commencing treatment, and as long as eleven years from the onset of the disease

Those that received surgical treatment (Table III) can be classified about equally in the primary and secondary groups, with average ages of 29 and 44 years respectively

TABLE III—*Treated by Thyroidectomy*

Type	Total Number	Average Age	Results			
			Good	Poor	Bad	Died
Primary	10	29 years	8	1	0	1
Secondary	14	44 years	7	4	1	2
	24		15	5	1	3

One only of the deaths occurred immediately after operation, the other two patients (aged 44 and 49 years) who died had one lobe only removed, and died later in acute relapses, three and six years following the operation Of the six patients in whom the results are recorded as "poor" or "bad," one has recently had a third operation, at which the thyroid gland was found to have grown to a considerable size from the remnant left at the previous operations, and is now doing well The remaining five may require further operative treatment also, but in them case there are factors that make a decision difficult

Conclusions

The number of patients is too small to be of statistical value, nor are the groups strictly comparable, but the results after periods varying from five to ten years after discharge from hospital confirm the impression gained from the experience with a much larger number that have not been under observation for so long, or have not been studied so carefully The nature of the results in the patients treated by surgery will depend, of course, on the experience and skill of the surgeons available The following conclusions, however, seem justifiable Of patients whose condition is severe enough to require admission to hospital, surgical treatment is indicated in the present state of knowledge in those with secondary Graves's disease It is indicated, also, in those with primary Graves's disease who do not improve rapidly, or who continue to relapse and become chronically ill in spite of satisfactory management, or who for financial or other reasons cannot submit to adequate observation and treatment In a number of the younger patients with primary Graves's disease recovery takes place without surgical treatment but observation and treatment extending over years may be necessary

THE AFTER-HISTORY OF HEALED SURGICAL TUBERCULOSIS

BY

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The treatment of non-pulmonary tuberculosis has passed through various phases in the last thirty years In the earlier days treatment was mainly by operation, and tuberculosis was regarded as a local disease to be eradicated by painstaking removal Hence, free and often elaborate excisions of joints were widely practised In the end the unfortunate outcome as regards the local disease, no less than the frequency of disastrous functional results, caused the methods of radical excision and erasion to fall into deserved disuse

This was hastened when it was realized that tuberculosis of a joint is not the primary condition, but is a pyaemic manifestation in a patient already infected in another spot Obviously, if this view is correct—and there can be little doubt that it is—the most extensive local procedure will not cure the disease In conformity with this view, treatment then swung over to conservative methods aiming to raise the resistance of the body by general treatment and handling the local condition by rest in the optimum position for a prolonged period The results of this method are on the whole good, but they fall short of ideal, and in recent years the question of operative treatment has again been seriously raised by thoughtful surgeons

It is clear that in the present state of our knowledge our main curative agent in tuberculosis is rest The rest given by any form of external splint, however carefully applied, is at the best incomplete If by operation we can induce ankylosis of a tuberculous joint, either by intra-articular or extra-articular technique, that joint will almost certainly heal The object of the modern revival of operation is therefore not immediate eradication of disease but ultimate cure by production of an ankylosis

Any surgical method, however sound in theory, must in the end stand or fall by its results, and it is unfortunately very difficult to estimate with any accuracy the end-results in surgical tuberculosis This communication has been written in no spirit of controversy but simply with the object of contributing certain data which may be useful in any discussion of the respective merits of the conservative and operative methods The author has had the advantage of treating this type of case during twenty six years in one institution by conservative methods, involving, in addition to the usual resources of general treatment, a somewhat rigid fixation by plaster or *appliance In these* respects the series has the advantage *of being* very homogeneous, but the difficulties in arriving at an accurate idea of the results are great

The main stumbling-block is diagnosis How is one to be sure that a given case is really tuberculosis? In the series here discussed all that can be said is that every care has been taken, by clinical examination, by skiagram, and, where available, by examination of aspirated material, before a diagnosis of tuberculosis was accepted While the grosser errors—for example, syphilis, actinomycosis, haemophilia, the varying dystrophies of the type of pseudocoxalgia, and the more obvious infective joints—can be eliminated, who is to say what other conditions may still be hidden in the dump we call surgical tuberculosis?

In a previous communication[1] I endeavoured to estimate the more immediate results of conservative treatment, the object of the present inquiry is to estimate, as far as may be, the ultimate fortune of those patients who are discharged as cured

The investigation concerns a total of 170 cases of children who have been under my care for tuberculous disease of the larger joints These patients comprise 67 suffering from disease of the spine, 71 with disease of the hip-joint, and 32 where the lesion was in the knee-joint All these patients were discharged between the years 1906 and 1924 with the observation "apparently cured" None of the patients examined has been discharged from the institution for a shorter period than six years, and the length of time which has elapsed since their apparent cure ranges from six to no less than twenty-four years

Of the 170 patients, I have been able to find 129, and their present condition is exactly known The proportion of cases traced must be regarded as satisfactory when one considers the very floating nature of the population in a large industrial city

In classifying the results, the method adopted is as follows

Class A includes all patients found to be in good health with no sign of activity in the old disease and no fresh focus of tuberculosis They are all either at work or quite capable of doing active work These number 110

Class B comprises cases in which there is *complete* arrest of the disease, as in Class A but the functional result is not good, the patients, who number 7, must be regarded as cripples

Class C contains those cases which show the original disease in a still active form or have had some other sign of tuberculous infection Of these there are 6

Class D includes patients who have died since discharge There are 6 of these and with one possible exception in which death is stated to have been due to influenza they have all died of tuberculosis of lung or kidney

The main fact which emerges is that out of 129 patients who are known, no fewer than 110 remain perfectly well These figures are in welcome contrast to the gloomy views often expressed which are usually the vaguest of impressions not backed by any actual figures Pessimism in tuberculosis is due mainly to the fact that, as with other diseases it is chiefly the failures that come back

Finally it is contended—and probably with reason—that operative treatment may shorten the length of the time needed for recovery In this respect it is worth noting that the average residence in the institution of these 170 patients was three years and two months

REFERENCE

1 "The Results of Institutional Treatment in Surgical Tuberculosis" *British Medical Journal* Jul 2nd 1921.

RADIUM IN THE TREATMENT OF MENORRHAGIA AND IRREGULAR UTERINE HAEMORRHAGE.*

BY

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So much work has been done in the treatment of malignant disease by radiotherapy that it is easy to overlook the value of such treatment in non-malignant conditions such as haemorrhage and menorrhagia caused by fibroids or associated with the menopause

Twenty or thirty years ago students were taught that if a patient was diagnosed (after curettage) as having "menopausal haemorrhage" it was only necessary to use palliative remedies and to reassure the patient that all would be well in a year or so, when the "change of life" was over In actual practice this meant that the unfortunate woman was doomed to a C3 life for several years, and only if she became dangerously anaemic was hysterectomy resorted to Nowadays all that is entirely changed

DIAGNOSIS OF IRREGULAR HAEMORRHAGE

At the present time it would be superfluous to emphasize the importance of a careful physical examination if a patient complains of this symptom Irregular haemorrhage is so often the first symptom of malignant disease that every student is taught that to treat a patient suffering from irregular haemorrhage or menorrhagia without such an examination is malpraxis almost amounting to criminal negligence

It is unfortunate that the public is not equally aware of the importance of irregular haemorrhage and menorrhagia It is true that very often such symptoms are of a temporary nature and have no serious consequences and it is this fact that makes it so difficult to educate women to regard them as needing immediate attention In the past the medical profession has contributed to this attitude of mind by the wait and see principle of treatment which was very frequently adopted especially in cases of menopausal haemorrhage

What then are the rules which should be laid down for dealing with the patient who complains of menorrhagia or irregular bleeding? The first thing is to take a careful history which together with a general physical examination, will exclude such conditions as haemorrhage connected with pregnancy high blood pressure etc Next a physical examination of the genital organs especially the cervix uteri will exclude such conditions as carcinoma of the cervix, fibroids etc If there are no gross abnormalities it is then permissible to treat the patient symptomatically for a week or two If at the end of a month there is no improvement the uterus must be explored Only after such exploration is it justifiable to say that the condition is due to an endocrine disturbance such as is found at the time of the menopause

TREATMENT

Having now decided that the patient is suffering from an endocrine disturbance which is not benefited by drugs the question of treatment will depend first on the age of the patient If the patient is over 40 then there is no doubt that the right treatment is to create an artificial menopause by means of radiotherapy

Before discussing the particular technique it is as well to consider the pros and cons of such a procedure The advantage of getting rid of this troublesome symptom of haemorrhage once and for all is obvious and borne out by the numerous letters of gratitude that one receives What then are the disadvantages?

The objection of course is the onset of menopausal symptoms—namely, flushing sweating headaches etc The question has been asked whether these symptoms are any more pronounced in a menopause which is artificially produced than those which occur when nature brings about the menopause in the course of time It is a point which it is almost impossible to solve by means of statistics but my impression is that, after the age of 40, there is really very little difference

If, however the question arises of producing an artificial menopause in a patient under the age of 40, the problem is very different First there is an obvious objection to cutting short the youthful characteristics of such a patient at an early age Secondly there is some evidence that the symptoms caused are distinctly more severe than those found in patients over 40 It is true that in some of the young patients in whom those symptoms have been noticed the treatment has consisted of a small dose of irradiation, purposely administered in the hope of causing a temporary amenorrhoea and it is possible that the increased symptoms are due to a partial destruction of the ovarian activity The same sequelae have been observed in a patient who has had an operation leaving only a small portion of one ovary

When once the decision has been made that it is advisable to create an artificial menopause the question arises as to what method should be employed There are two radiological methods by which the artificial menopause may be brought about (*a*) radium (*b*) x rays

If a patient is suffering from irregular haemorrhage it is impossible without exploring the uterus to exclude a cause such as malignant disease or a polypus For this examination an anaesthetic is necessary and under these circumstances the correct procedure is to place 50 mg. of radium in the uterus. If on the other hand the patient is suffering purely from menorrhagia then it is fairly certain that the condition is not due to malignant disease In these circumstances it is justifiable to use x rays without any exploration of the uterus the advantage of this method being the fact that no anaesthetic is required and the patient is not obliged to lie up in bed

Technique of Radium Treatment

The technique for using radium in the case of a patient who is over 40 is very simple The patient is given an anaesthetic and after a careful bimanual examination the uterus is dilated and carefully curetted If nothing abnormal is discovered then a tube containing 50 mg. of radium element the length of which is no more than 2 inches is placed inside the cavity of the uterus The walls of this tube must be the equivalent of at least 0·5 mm of platinum and in addition it is better to screen the metal filter with 2 mm of rubber so as to cut off secondary rays The length of time which the tube should be left in is still a matter of controversy The majority of gynaecologists consider twenty four hours sufficient but in a large uterus with the ovaries near the pelvic wall, this sometimes fails to produce a permanent

* Read in opening a discussion in the Section of Radiology at the Annual Meeting of the British Medical Association in Winnipeg 1929

amenorrhoea At St Bartholomew's Hospital we did a series using seventy-two hours, the results of which will be discussed later We are now doing a series leaving the radium in for forty-eight hours, and this, in my opinion, is the optimum duration for the application

Technique of X-Ray Treatment

My colleague Dr Finzi has sent me the following description of his methods

'As used in England, *x* rays are generally employed in doses that will cause complete sterilization in patients over 38 or 40 Smaller doses have been used with the idea of reducing the menorrhagia, but their use is very tricky, and they take a long time to act The larger doses will produce a temporary sterilization in younger patients, but there is then a danger that, if conception takes place when the ovaries are just beginning to recover, the offspring may be malformed, microcephaly being the most usual abnormality

The action of *x* rays is not entirely an action on the ovaries but in the case of fibroids there is a direct action on these also

The method which I have used for many years and have found so satisfactory that I have not thought advisable to drop it as a routine, is a split dose, repeated method

"A filter of 5 mm of aluminium is used, 140 to 150 kilovolts (interrupted current), and a moderately full erythema dose is given to the skin Two anterior ports of entry are used, and the applicator, applied with compression, is sloped, so that both ovaries get some of the rays One or two posterior fields are employed, according to the stoutness of the patient, generally one One of these fields is given on each of three or four successive days This series of fields must be repeated on two further occasions, and it is most important that the beginning of the second series should be four weeks after the first and the beginning of the third series four weeks after the second The dose is slightly reduced for these subsequent treatments to compensate for the decreased tolerance of the skin

'This method results in very little discomfort to most patients and they can usually continue their ordinary avocations even during the treatment

"The other method, which I employ for patients who live far away is to sterilize in one treatment This is a far more severe procedure for most patients A filter of 0 5 mm of copper or zinc is used, 180 kilovolts continuous current, and two three, or four fields at a 30 cm distance Less than an erythema dose is needed

'Whichever method is used, the result is very certain in competent hands I have not failed out of more than sixty cases which I have treated myself

Compared to radium its action is slower, as there is no direct action on the mucous membrane of the uterus as with radium One period, often very prolonged, is the rule after the first *x* ray treatment and, during this, the menorrhagia is not diminished A second period may occur, but is usually much less severe A third period is very rare This applies whether the single dose or the split dose technique is used

One advantage over radium is that *x* rays can be satisfactorily used with quite large fibroids (My second case had a mass reaching the ensiform cartilage and it gradually disappeared)

X rays I find, is usually—not always—less trying to patients than radium in the uterus The fact however, that *x* rays can be used without an anaesthetic is rather a snag, as the examination under an anaesthetic may be necessary to determine whether there are any contraindications to the treatment"

ACTION OF RADIUM IN PRODUCING MENOPAUSE

It was at one time thought that radium brought about amenorrhoea in a different way to *x* rays It was suggested that the radium acted purely on the endometrium, while *x* rays acted entirely on the ovary This theory was upheld by Forsdike in his Jacksonian Essay, "The effects of radium upon living tissues" His evidence, however, that it is not due to destruction of the ovary, is a little confusing He states that only two out of ten young women between the ages of 29 and 38 suffered from flushes This certainly is a small proportion but if even two suffered in this way, is it not evidence that the ovaries were affected?

Turning to his histological evidence, he bases this on sections of an ovary removed after irradiation The experimental evidence, where radium was placed 8 cm from the ovary, is certainly more convincing

In my experience there is considerable evidence against the theory that radium acts only on the endometrium For instance, in quite a large number of cases there have been two periods following the radium application It might be argued that in these cases sufficient changes had not taken place in the endometrium to prevent the flow of blood, but if this is so, why did the same dose produce in some of the young women only a temporary amenorrhoea? It would be very difficult to explain these observed facts by an action on the endometrium, but it is not so difficult to explain them if we believe that radium acts on the ovaries It is well known that menstruation is related to ovulation, and the Graafian follicle which is ruptured or is mature enough to be on the point of rupturing is not so readily affected by radium as the young rapidly growing follicle In the elderly patient it is probable that the follicles that are likely to be associated with menstruation within the next few years are destroyed by the radium, but not those one or two follicles which are already mature, and this would explain the fact that patients sometimes menstruate once, or even twice, after irradiation

Again, in the case of a young patient, the cells which will eventually become a follicle are not undergoing sufficient active metabolism to be affected by the rays, and therefore, a year later, will become mature follicles, and will then rupture to form a corpus luteum, which on degeneration will be associated with menstruation

DISCUSSION OF RESULTS

The results of creating an artificial menopause are fairly well known statistics obtained at University College have recently been published by Asherson[1]

In this series, 63 cases were treated for menopausal menorrhagia Of these 63, 55 were cured by one application of radium Six required two applications, 4 were untraced, and 1 had a small dose without results These patients were all over 40 years of age Six of them required a second dose, compared with two in the Bartholomew's series, which suggests that the rather larger dose used in the latter institution is more certain in its results

In the same series, 23 cases were treated for "essential menorrhagia" These are of particular interest All of them were under the age of 40, and of these, 16 cases had a restoration of normal menstruation Five cases had permanent amenorrhoea The dose given to these patients varied from 50 mg used for eight hours up to 50 mg for fifty hours

It is clearly shown from these results (1) that the younger patients will stand a much bigger dose without producing amenorrhoea, (2) that this method of treatment must seriously be considered in certain cases even if the patient is under 40 before resorting to hysterectomy

The disadvantage is the fact that, owing to the position of the ovary being unknown, it is impossible to be certain of getting a dose that will be efficient and yet not produce permanent amenorrhoea

The other series recorded by M L Kreitmayer, in his paper on page 815, consisted of 122 cases treated at St Bartholomew's Hospital Of these patients, 97 were traced, and answered a questionary As the author states, a questionary is not the ideal method of getting evidence but the answers were sufficiently definite to justify publication It is hoped that these patients will be persuaded to return to the hospital so that more details can be obtained

It would appear from these figures that of 97 cases, 90 patients were cured with one dose, while 7 required further treatment Of these 7, 5 were under the age of 40, thus bearing out the idea that it is more difficult to produce an artificial menopause in a young patient

With regard to menopausal symptoms, the answers were not very definite, it would appear, however, that 15 patients had no flushes at all Of those who had flushes, some have continued for as long as five years

There is some controversy as to whether these menopausal symptoms are more severe after a menopause artificially produced than one occurring as a result of age This, of course, is a very difficult problem to solve by statistics It is my impression that there is little differ

[1] *Journ Obstet and Gynaecol*, 1929 xxxvi, No. 4, 778

ence in patients who are treated over the age of 40, but that in the younger patients the symptoms tend to be more severe

A question often asked by patients before submitting to this treatment is 'Shall I get fat?' It would appear from this series that 50 per cent definitely put on weight, but details of how much are not recorded

Another important symptom is the question of dyspareunia which occurred in only 7 cases out of the 93 and loss of inclination was experienced in 8 In 31 cases it is definitely stated that the relations were unaltered Forty of the remaining patients however, were spinsters or widows, and in 5 the answers were too indefinite to be of value The small number of cases suffering from dyspareunia suggests that there is no real trouble caused by cicatrization or adhesions in the vagina in spite of the large dose—that is, 3 600 mg hours

Treatment of Fibroids by Radiotherapy

The treatment of fibroids may be divided under three headings—surgical radiological and palliative

A few years ago the palliative treatment was frequently employed, especially when the patient was over 40 and approaching the menopause, with the idea that once the menopause was complete the symptoms of menorrhagia would cease and the fibroids diminish in size Unfortunately this process often lasted over a period of several years

Such treatment is now confined purely to cases where the patient is young the symptoms very slight the fibroids small, and where it is undesirable that the patient should have any drastic treatment until all hope of pregnancy is abandoned when some more radical measure such as myomectomy, is undertaken which will not only relieve the symptoms but may bring about fertility

The indications for radiological treatment are at present somewhat limited The majority of gynaecologists consider that, if the patient is over 40 and the symptoms are menorrhagia or irregular haemorrhage and the fibroid is not sufficiently large to cause pressure symptoms—that is to say, not larger than a fist—and if there is no inflammatory condition in the pelvis then such a case should undoubtedly be treated by radiotherapy

The question then arises whether radium or *x* rays should be employed Here again the rule is very much the same as in the case of creating artificial menopause If the fibroids are associated with irregular bleeding it is essential that the uterus should be explored Fibroids are very frequently associated with sterility and it is in the nulliparous patients that carcinoma of the body is most likely to occur If therefore the uterus is to be explored in order to exclude malignant disease then a 50 mg tube of radium element should be inserted into the body of the uterus to bring about an artificial menopause and thus to stop the symptoms of haemorrhage due to the fibroid

On the other hand when the fibroid produces pure menorrhagia it is quite justifiable in such a case to use *x* rays, as mentioned in the preceding section

Conclusions

1 In cases where the patient is over 40 years of age and suffering from irregular haemorrhage without a gross pathological lesion the production of an artificial menopause by means of radium is the treatment of choice if drugs fail

2 The optimum dose of radium seems to be 50 mg of the element screened with not less than 0·5 mm of platinum and kept in the uterine cavity for *forty-eight* hours

3 In cases where the patient is over 40 years of age and suffering from pure menorrhagia without any gross pathological lesion *x* rays should be considered as an alternative method of producing an artificial menopause

4 In young women where other treatment has failed to cure the symptom of uterine haemorrhage or menorrhagia, radium has been used successfully to cure this symptom but there is a risk of permanent amenorrhoea and severe menopausal symptoms which perhaps makes subtotal hysterectomy preferable in the majority of cases

AFTER-EFFECTS OF INTRAUTERINE RADIUM FOR THE PRODUCTION OF ARTIFICIAL MENOPAUSE

Report of an Investigation

BY

M I KREITMAYER MRCS LRCP

(From the Gynaecological Department of St Bartholomew's Hospital)

The present investigation was undertaken at the suggestion of Dr Malcolm Donaldson in order to obtain definite figures for the degree of success of the primary objective—that is the production of amenorrhoea—and also to gain some idea of the nature of the sequels such as menopausal symptoms The cases in the series were all treated in the gynaecological department of St Bartholomew's Hospital during the years 1925 to 1929 inclusive under the care of Dr J Barris, Dr M Donaldson, and Dr W Shaw to all of whom I offer thanks for permitting me to have access to the notes Essentially the type of case treated was that in which there was excessive or irregular uterine haemorrhage with no gross abnormality detectable on visual and bimanual examination under anaesthesia The majority of women treated were near the menopause A small proportion were women of under 40 years of age suffering from menorrhagia and one patient was treated for dysmenorrhoea In no case was there found any evidence of malignant disease

Technique

With the patient anaesthetized and in the lithotomy position the vagina and cervix were first inspected, and then a careful bimanual examination was made The cervix was then dilated and curettage for section performed The radium in its container was then inserted, and kept in position by gauze packed into the vagina

The dosage usually given was 50 mg element screened by a minimum of 0·5 mm thickness of platinum and kept in position for seventy two hours in other words a dosage of 3 600 mg hours Of the 97 patients forming the present series 53 received this amount but 1 patient received as little as 480 mg hours and 3 as much as 7 200 The dosage in the remainder fell between these limits The ages of the patients ranged from 20 upwards 3 were in the twenties 14 in the thirties 57 in the forties 22 in the fifties, and 1 was in the sixties

The actual number of patients treated was 122 but of these only 97 were traced each of these received a questionary accompanied by a letter suggesting that he should consult her doctor if she had any difficulty in making out the answers It was hoped in this way to minimize inaccuracies The questionary was as follows

A Have you had any bleeding or monthly period since your radium treatment
  If so When did it start?
  When did it finish?
  How often did it occur?
  Give dates if possible
B How do you feel in yourself?
  Do you feel better or worse since your radium treatment?
  Do you feel the same as before your radium treatment
C Have you had any hot flushes since your treatment?
  If so how often did they occur?
  How long ago did they end?
D Have you had any sweatings?
  How long do the sweats last?
E. Have you suffered from depression since the treatment?
  If so for how long?
F Are you more cheerful?
  Are you more irritable
  Are you more depressed?
G Have you put on weight or lost it since your treatment?
H Have you had any pain since your treatment
  If so where was the pain
I Have your relations with your husband altered since the treatment?
  If so how?
K. Have you had other trouble since the treatment such as discharge (such as whites) pregnancy instead of facial neuralgia

The following is an analysis of the replies

Question A

All the patients answered this question 47 reporting no bleeding at all following the treatment and 50 some

bleeding of varying severity The 7 of whom particulars follow required further treatment

A B, aged 35, was treated in August, 1926, with 10 mg element applied for forty eight hours she had severe recurrence, and hysterectomy was carried out in another hospital

C D aged 29, was treated in January, 1929, with 50 mg for seventy two hours she had a severe recurrence, and hysterectomy was carried out in July 1929

E F, aged 37 was treated in January, 1929, with 49 mg for ninety six hours she had severe recurrence, and hysterectomy was carried out in October, 1929

G H, aged 33 was treated in June, 1926, with 50 mg element for ninety-six hours, and in May, 1927, she was treated for recurrence by means of x rays Since then she has had amenorrhoea, except for some bleeding in August and September, 1929

I K, aged 44, was treated in May, 1927, with 50 mg element for seventy two hours, a recurrence was treated in September, 1927, with the same dose, and since then the patient has had amenorrhoea

L M, aged 38 was treated in April, 1928, with 50 mg for seventy two hours In January, 1929, a recurrence was treated with the same dose and since then the patient has had amenorrhoea

N O, aged 40, was treated in December, 1927, with 50 mg element for fifty two hours A recurrence was treated in May, 1928, with 50 mg element for forty-eight hours, since then she has had occasional bleeding, but diminishing in amount

The after-history of the remaining 43 is as follows 5 had slight bleeding immediately following the treatment, 25 within the first two months, and 3 within three to six months, 7 had occasional bleeding from six to eighteen months after treatment In these 40 cases bleeding has now stopped In 2 cases treated in 1928 with 50 mg element for seventy-two hours bleeding still occurs at irregular intervals, but no further treatment has been carried out The remaining case was treated in December, 1925, for dysmenorrhoea with 50 mg element for seventy two hours There was some bleeding from January to March, 1926, and then amenorrhoea till January, 1929 Since then periods have occurred, not excessive in amount, at the normal rhythm of twenty-four days dysmenorrhoea has disappeared

Question 3

This question was answered by 93 patients, of these 76 say they feel better, 3 that they feel worse, and 10 that their condition is unchanged No definite conclusion could be derived from 4

Question C

This question was answered by 93 patients, but on the whole the answers were vague It seems clear that of 77 who have had flushes 62 still have them, and of the remaining 15 6 state that the flushes have ceased, and 9 have failed to answer this part of the question In the 6 cases from which this symptom has disappeared the flushes persisted after treatment for a period ranging from six months to three years

Question D

The purport of this question does not seem to have been quite clear to the patients, but 52 state that they have had sweats, and 39 that they have had none, the remainder give indefinite answers The average duration of sweats appears to have been five to ten minutes, but there are no data about their frequency

Question E

Of those who give definite answers to this question, 59 state that they have suffered from depression, and 32 that they have not Only 21 attempted to answer the second part of the question, and of these 8 state that the depression lasted for periods varying between one and twelve months after treatment, 2 that it lasted for two years, 4 that it lasted for three years, 5 that depression is experienced occasionally, and 2 that it is experienced frequently

Question F

Definite answers were received from 75 patients, 43 of whom claim to have been more cheerful, 22 more irritable, more depressed, or both, and 10 unchanged in spirits since the operation

Question G

Answers were received from 79 patients, of whom 46 have gained weight, 18 have lost weight, and 15 said that their weight is unchanged

Question H

To this question there were 91 definite replies, 52 patients said that they have had pain since the operation, 39 that they have not, of the former, 27 state that the pain has been in the lower abdomen, lower part of the back, or groins, 19 that it has been in the head, arms, chest, etc, and 6 are vague on the subject

Question I

To this question the replies of 40 of the patients were irrelevant, as they were spinsters, widows, or others who for some reason had had no sexual relations since treatment Of the remainder, 31 stated that their relations were unaltered, 8 that they had lost inclination, 7 that they suffered from dyspareunia, and 2 that they bled after coitus, 5 were indefinite

Question K

To this question the answers are necessarily varied, 41 complain of discharge, though many of these state that the discharge only lasted for a short time after treatment, 41 complain of indigestion, 54 of headache, and 54 of nerves None have become pregnant

ANALYSIS OF RESULTS

It will be seen that from the point of view of the production of amenorrhoea the treatment has been satisfactory, but it is worth while analysing the nine cases in which the initial dose of radium failed to bring about a cure In this group six of the patients were under 40, one was 40, and two were between 40 and 50 Only one of the six under 40 had received a small dose—namely, 480 mg hours, the remainder receiving 3,600 mg hours or over The patient aged 40 received 2,600 mg hours, and the other two 3,600 each Estimating failures as a percentage of patients within the same age group it will be seen that 35 3 per cent of failures occurred in the cases under 40, and 3 75 per cent in the cases over 40 The series is too small to generalize from, but the figures accord with the view that the younger the patient is the more resistant are her organs likely to be to the effects of radium

The fact that 77 of the patients complain of flushes, 52 of sweats, 59 of depression, 54 of headaches, and 54 of nerves, suggests that menopausal symptoms are prominent sequels of the treatment In spite of these menopausal symptoms, however, 76 of the patients said that they are better, 10 that they feel just the same, and only 3 that they are worse Although a large proportion complain of pain, one cannot say how much of this is due to the treatment, or even if the pain was present or not before the treatment

PNEUMONOCONIOSIS DUE TO FLUE DUST.

BY

W E COOKE, M D, F R C P Ed, D P H

THE special interest of the following details turns on the fact that we have been unable to trace a similar case in medical literature

A post-mortem examination was performed on a man, aged 35 at the time of his death Between the ages of 14 and 25 he had been employed as a riveter in a boiler works For the subsequent nine and a half years he had been a boiler cleaner, an occupation which included flue cleaning

There was no family history of tuberculosis, and except for an attack of pneumonia in 1917, and again in 1918 (probably influenzal), and an attack of influenza in December, 1929, his previous health had been good In May, 1930, his teeth were extracted for pyorrhoea On July 1st he complained of hoarseness and lassitude, and ceased work At the beginning of August he was placed under the care of the district tuberculosis officer Up to August 11th his sputum had been examined for tubercle bacilli on six occasions with negative results, but it was found positive on five subsequent occasions

An x-ray examination on August 13th revealed scattered mottling throughout both lungs, especially dense on the left, and the view expressed by the tuberculosis officer was

that the appearance was suggestive of advanced silicosis The patient died on September 5th, and a necropsy was performed on the next day

Macroscopical Appearances

There were dense pleural adhesions on both sides of the chest The right lung was almost coal black in colour small hard nodules were found along its anterior border and throughout its substance Several small cavities were present at the apex they were smooth walled and surrounded by dense fibrous tissue The lung generally was fibrosed and small scattered areas of broncho pneumonia were visible The left lung was voluminous heavy and dark grey in colour Small hard nodules were present throughout its substance which was markedly fibrosed At the apex were several small cavities with thick wall The rest of the lung was the seat of extensive broncho pneumonia

The bronchial glands were enlarged black in colour but not very hard The heart muscle was pale and soft and the mitral valve was clerosed and incompetent The liver was in the condition of chronic passive congestion with fatty change

Microscopical Appearances

Both lungs showed the condition of well marked pneumonoconiosis with extensive areas of fibrosis and obliteration of the smaller bronchi and vessels There was an excessive amount of dust in the fibrotic areas and dust cells were present in large numbers throughout the sections The alveolar walls were fibrosed and thickened and contained dust deposits and dust cells Caseation was occurring in some of the fibrotic areas certain of which showed giant cells and an atypical picture of tuberculosis In the right lung small areas of bronchopneumonia were present The histological appearance of the left lung differed only in degree from that of the right The fibrosis was more marked and the broncho-pneumonia which was undoubtedly of tuberculous origin was very much more extensive The bronchial glands showed some fibrosis and fine dust particles were scattered throughout the sections

Portions of the lungs were digested with trypsin and the mineral matter was examined microscopically In addition to an excessive quantity of fine granular dust much of which was carbonaceous large dark angular particles were seen and also flat mica like and small transparent crystalline particles of silica or silicates which ranged in size from the order of the ultra microscopic to 60 or more microns in length Some of the mica and crystalline particles were coloured red from the presence of iron Under the polarizing microscope the mica and silica particles were seen to be doubly refracting Similar particles were present in the flue dust in which he patient had worked Sections of both lungs and of the bronchial glands showed under the polarizing microscope a large number of doubly refracting particles presumably silica or silicates

From the history and the examination of the lungs there can be little doubt but that the pneumonoconiosis preceded the tuberculous infection by many years

Chemical Considerations

Chemical analysis of the lungs boiler scale and flue dust were made by Mr T H Byrom F I C The following tables indicate the components in 100 grams of the dried material

	Left Lung		Right Lung	
	Grams	Percentage of Ash	Grams	Percentage of Ash
Insoluble siliceous matter	0·142	3·03	0·178	3·56
Soluble siliceous matter	0·181	3·86	0·156	3·12
Total siliceous matter	0·323	6·89	0·334	6·68
Ferric oxide — —	0·120	2·56	0·450	9·00
Alumina — —	0·430	9·18	0·430	8·60
Phosphoric anhydride —	0·389	8·17	0·546	10·92
Calcium oxide — —	0·017	0·36	0·025	0·50
Magnesium oxide —	0·030	0·64	0·042	0·84
Sulphuric anhydride —	0·070	1·50	0·073	1·46
Alkalis — — —	3·320	70·75	3·100	62·00
	4·690	100·00	5·000	100·00

	Boiler Scale	Flue Dust
	Per cent	Per cent
Insoluble siliceous matter — — —	6·40	1·43
Soluble siliceous matter — — — —	3·90	6·00
Total siliceous matter — — — —	10·30	32·50
Ferric oxide — — — — — —	0·42	27·17
Alumina — — — — — —	1·63	14·12
Calcium sulphate — — — — —	57·13	21·14
Calcium carbonate — — — —	3·60	Trace
Magnesium hydrate — — — —	17·80	3·13*
Combined water — — — —	4·60	Nil
Carbonaceous matter — — — —	1·00	Nil
Phosphoric anhydride — — — —	0·074	0·16
		2·32†

*Magnesium oxide †Ferrous oxide

The insoluble siliceous matter in the flue dust contains in addition to quartz grains many acicular crystals and flat plates, both transparent and opaque probably of micaceous and felspathic origin derived from the shale and other inorganic material from which the flue dust has been formed The occupation of boiler cleaner when Lancashire boilers are used includes flue cleaning The latter is by far the more dusty part of the work and was undoubtedly the primary cause of the pneumonoconiosis

It is of interest to note that three boiler cleaners are employed at the particular colliery at which the deceased worked During the past twelve years twenty seven men have been employed and have given up the work of these two are known to have died—on the subject of this communication, and another the cause of whose death is unknown One worked only one day and another one week Excluding these four the average duration of employment was fifteen months Including the two dead, the average period of work was twenty months The deceased man had worked the longest period 113 months the nearest approaching that time being thirty six months There is however a man still employed who has been at the work for sixty two months

TECHNIQUE IN ENDOTRACHEAL ANAESTHESIA[1]

BY

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Not many years ago the administration of an endotracheal anaesthetic was outside the routine of the operating theatre Its introduction excited such interest as would be accorded to the performance of an unusual or difficult operation It is not improbable perhaps that the procedure was at first regarded as an unnecessary complication Doubtless also the patience of many a surgeon has been sorely tried on a busy operating day by the first attempts of his anaesthetist

Within recent years the advantages of the method have become widely known Surgeons are increasingly anxious to avail themselves of these advantages and many expert anaesthetists in England now employ the method as a routine for operations which formerly involved many anaesthetic difficulties

Nevertheless in some hospitals endotracheal anaesthesia is not available when required in cases where the result can compare unfavourably with those obtained by older and more orthodox methods Since the method can no longer be considered new—and if we grant that it has advantages—it is apparent that there must be some drawbacks to its unqualified employment

[1] A paper read in opening a discussion in the Section of Anaesthetics at the Annual Meeting of the British Medical Association at Winnipeg

Importance of Intubation Technique

In modern scientific work some of the most valuable advances have been the outcome of a study of technique It is my intention to apply this principle to the present subject, and to point out that most of the advantages of endotracheal anaesthesia are available if the anaesthetist will trouble to master the technique of intubation, if he does, the disadvantages become insignificant

Advantages and Disadvantages

The veriest novice knows that many of the difficulties in anaesthesia arise from a defective airway Whatever the cause, the syndrome is familiar—cyanosis, rigidity, laboured respiration—a vicious circle that is a heavy tax on patient, surgeon, and anaesthetist The ease with which an anaesthetic can be administered through a tracheotomy tube is an obvious contrast

It may be argued that in many cases such difficulties do not arise, and that in others the error can be rectified by the insertion of a pharyngeal tube of some sort But such a device cannot prevent obstruction at the larynx, and the anaesthetist must be constantly on his guard against such an occurrence In operations which do not actually increase the possibility of respiratory obstruction by their nature or situation, most of us are prepared to take the risk

A free airway can be established as a rule without interfering with the progress of the operation In those cases, however, in which endotracheal anaesthesia has proved itself most useful, there is no excuse for the anaesthetist who does not establish absolute control of the larynx before the surgeon operates This control can be secured at once by intubation, with the following results (1) The airway is free under all conditions (2) The patient can be protected against the entry of blood into the trachea (3) Control of the larynx makes it possible to maintain a light and even anaesthesia (4) The surgeon can be protected from the anaesthetic laden exhalations of the patient It is apparent that the provision by intubation of an airway that is practically proof against obstruction is the fundamental principle of the method

I wish to stress this point Many of us associate endotracheal anaesthesia with the true insufflation principle as described by Meltzer Auer, and Elsberg I hold that with the exception of those operations in which positive pulmonary ventilation is essential to life, low pressure, or no pressure gives adequate results Therefore elaborate apparatus is not absolutely necessary in every case The chief disadvantages are (1) the risk of possible trauma by the anaesthetist, and (2) the delay involved by intubation The importance of dexterity in intubation is now obvious and I propose to give you the results of my own experience

Position of the Patient's Head

Some of the chief difficulties which arise during intubation for anaesthetic purposes may be traced to a faulty position of the patient's head Hyperextension as adopted by some surgeons for bronchoscopy is not only unnecessary in most cases, but actually increases the difficulty of the procedure The position of the head in relation to the neck and trunk should be the same in the recumbent as in the erect position, this may involve the insertion of a pillow below the occiput When the position on the table is correct, the cervical vertebrae are in normal relation to the dorsal vertebrae and are not extended The head itself is slightly extended on the atlas, thus bringing the mandible into a position approximately at right angles to the table These, in fact, are the relative positions of the air passages instinctively adopted by a man standing in the normal erect position when he scents the air The natural air passage from nose to glottis is at its freest when such a position is adopted, the nose being the natural human respiratory passage

Let us consider a mesial section through the head and neck in this position It is clear that the course of the air passage from nostril to glottis is a curve A rubber tube with a similar curve, or a catheter mounted on a curved stylet, can be made to follow that course quite naturally, and will enter the glottis in a large percentage of cases, in fact, it will enter the glottis more readily than the oesophagus If a similar curved tube is passed through the mouth while the head is in the position I have described, it will almost invariably enter the oesophagus

Intubation can be carried out through the mouth or through the nose, according to the site of the operation In either case the position of the head is the same

Intubation through the Mouth

When the oral route is selected I prefer to pass the tube by direct vision with the aid of a speculum This instrument should have a wide slot at the side A self-contained battery in the handle is a convenient means of illumination

With deep anaesthesia associated with complete muscular relaxation and absence of reflexes in the throat, intubation through the mouth is easily performed But deep anaesthesia, such as is obtainable with ether, should be avoided if possible The aim of most of us is to exclude ether, or at any rate to limit its use to a minimum

When intubating through the mouth under light anaesthesia certain precautions facilitate the procedure and also prevent trauma

1 Preliminary cocainization of the pharynx and vocal cords with a fine nebulizer is of first importance This can be carried out before induction, or while induction is in progress The tendency towards reflex contraction of the pharyngeal muscles on passing the speculum is thus greatly diminished, and the glottis usually remains open I do not propose to discuss the obvious objections to this practice I have employed it for over ten years without any cause for regret

2 The teeth require particular protection under light anaesthesia It is best to insert a mouth prop before induction, and to protect the point where the speculum rests with a piece of sheet lead

3 On passing the instrument into the mouth the tongue should be manipulated to the left side, away from the slot, otherwise the organ may roll into the barrel and completely obstruct the view When the glottis appears, intubation should not be attempted unless the cords are apart Forcing a passage through the closed glottis is not only difficult, but likely to give rise to post-anaesthetic sore throat

Difficulty in obtaining a view of the glottis with the speculum can frequently be overcome by moving the proximal end of the instrument towards the right corner of the mouth This manœuvre permits the necessary extra elevation of the tip, and is preferable to hyperextension of the cervical vertebrae by lowering the head of the patient In my experience, the latter alteration in position is more likely to increase the difficulty than to alleviate it

Intubation through the Nose

I have described elsewhere[1] a method of passing rubber tubes and catheters into the trachea by picking up the ends in the pharynx with the aid of a forceps and direct vision laryngoscope

I have referred also to what I have called "blind intubation,"[2] which is performed without opening the patient's mouth "Blind intubation" through the nose is, in my opinion, the most valuable manœuvre in the whole technique, and, as nasal intubation is so frequently of value in intra-oral operations, I propose to consider it fully It has two advantages (*a*) that it can be carried out under light anaesthesia without muscular relaxation (one might even go further and say that light anaesthesia is advantageous as tonus of the jaw muscles actually draws the epiglottis away from the posterior pharyngeal wall), (*b*) that there is no risk of damage to teeth or growths by the speculum

If you recollect my observations on the correct position of the patient's head, the facility with which intubation can be performed in this way is apparent It is so easy

in most cases that when a free choice is presented, and when there is no contraindication I always select the nasal route This experience has also been borne out while teaching students

Technique of "Blind Intubation"

It is clearly essential that free nasal breathing should be present on at least one side, and where a difference in degree exists the side which is most patent should be selected This point should be determined before induction Cylindrical gum elastic catheters up to size 23 (French gauge) can usually be passed through the adult nose without causing injury It is inadvisable, in my opinion to use a larger tube of this or any other hard material if trauma and bleeding are to be avoided Catheters require a wire stylet bent in the form of a semicircle

Commercial rubber tubing is the most satisfactory material It is cheap and easy to obtain It is firm enough to maintain its patency and sufficiently resilient to pass over mucous membranes without causing injury Moreover in the process of manufacture and subsequent storage in coils rubber tubing becomes naturally curved This curve is essential if the tube is to follow the course of the airway from nose to larynx It also obviates the necessity for a wire stylet

The tube should be cut obliquely sterilized and lubricated with soft paraffin It is then passed along the floor of the nose close to the septum The course of the tube should be mentally visualized as is that of the needle in regional anaesthesia When a point is reached at which the respiratory sounds are heard at maximum intensity the tube will usually enter the glottis if pushed onwards during inspiration In the case of failure, before resorting to the speculum and forceps, rotation of the tube to one side or the other will frequently bring its end into the desired position Occasionally gentle manipulation of the larynx with the left hand may be required in addition In certain cases where the epiglottis is the obstacle the difficulty can be overcome by withdrawing the tube one inch and rotating it so that the concavity is posterior If pushed onwards in this position the end of the tube will frequently pass behind the epiglottis On again rotating to the original position with the concavity anterior the free end will enter the larynx

The commonest question I have had to answer in demonstrating this manœuvre is "How do you know the tube is in the trachea?" It seems to me obvious that if a tube 26 cm in length is passed through the nose in its entirety the presence or absence of the free ingress and egress of air through the lumen is sufficient evidence of its position Should the tube be in the œsophagus or coiled up in the pharynx, no breath sounds are audible at the outer end

MAINTENANCE OF ANAESTHESIA

Having laid down the principle that intubation is of fundamental importance in endotracheal anaesthesia I shall now consider maintenance Here there is a choice of methods

1 In the classical method of Elsberg a catheter is used for intubation, and air or a mixture of anaesthetic gases delivered under sufficient pressure to prevent collapse of the lung (even though both pleural cavities are opened) and to prevent also the entry of pus or blood into the trachea at any phase of respiration Expiration takes place around the catheter and if the pressure is effective the clinical picture is not always a pleasant one The constant bubbling and spraying of blood by the return current obscures the operative field and as the pressure cannot be reduced with safety if there is any possibility of blood reaching the trachea the obstruction to expiration becomes a strain on the patient The surgeon also gets the full blast of the anaesthetic

2 This method[3] comprises the use of a catheter and in addition an expiratory tube which obviates most of the difficulties associated with insufflation through a single catheter It should be remembered that the return current no longer drives blood away from the larynx An effective pharyngeal gauze pack is therefore essential

3 In this method intubation is carried out with a tube the calibre of which is sufficient to allow free to-and-fro respiration The tube may be made of metal, of gum elastic, or of commercial rubber[2]

Anaesthesia can be maintained on ordinary inhalation principles, and the system may be open or closed

Several appliances and variations of technique have been devised in connexion with this method Flagg's metal cannula commends itself on account of its simplicity The Guedel and Waters inflatable bag provides absolute security against the entry of blood into the trachea besides other advantages Unfortunately however, neither of these appliances can be used through the nose and I trust that I have clearly pointed out the advantages of the nasal route for intubation

MATERIAL RECOMMENDED FOR INTUBATION

The material I have found to be most generally useful for intubation is commercial rubber, for reasons already stated About six sizes are necessary, varying from 3/16 to 3/8 of an inch in calibre The largest tube which the larynx will comfortably accommodate should be used An exception is made in the case of infants under one year for whom it is difficult to obtain a rubber tube with a wall which is thin enough and firm enough to maintain its patency under varying conditions of external pressure For these children I use a special thin-walled gum elastic catheter, size 7 (English gauge), and have found this satisfactory

APPARATUS FOR MAINTENANCE OF ANAESTHESIA

As already stated, when intubation is carried out anaesthesia can be maintained if necessary, without any apparatus other than a drop bottle and a piece of gauze over the outer end of the tube My own preference is nitrous oxide and oxygen with a minimum amount of ether This mixture seems to me to compare favourably with ethylene I use any efficient apparatus that is available in hospital work, but as bulk and portability are considerable factors in the conditions under which anaesthetists work in England I find a small continuous flow apparatus of my own design to be most useful It is provided with a half-gallon bag of thin texture close to the machine and a delicate spring expiratory valve close to the patient This valve is connected by a metal elbow to the tube in the trachea I endeavour to interfere as little as possible with the normal respiratory mechanism of the patient Low pressure is used as a routine, but ample high pressure is immediately available in case of emergency

In every case gauze packing is used to ensure that breathing takes place through the tube and not outside it and also to prevent blood from reaching the trachea It carefully placed around the tube in the pharynx this packing is sufficient for practical purposes In operations upon the nose the gauze keeps the soft palate in close apposition to the posterior wall of the pharynx This method of packing is more effective than gauze or sponges in the post-nasal space, and is less likely to cause discomfort after operation

SUMMARY

1 The fundamental principle of endotracheal anaesthesia is the provision by intubation of an airway that is proof against obstruction

2 High pressure insufflation is usually unnecessary

3 Deep anaesthesia is not essential for intubation

4 Dexterity in intubation minimizes the disadvantages

5 Owing to the greater ease with which intubation can be performed through the nose this route should always be chosen when possible

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THE NOSE AND THROAT IN RELATION TO ORBITAL AND OCULAR DISEASE

BY

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In this article only such conditions will be described as have their origin and points of attack in the nose and throat The diseases under this heading are all inflammations in which the eye changes, though often the first to appear, are nevertheless only secondary to foci of gross infection in neighbouring structures It is to emphasize and familiarize these important relationships that these notes are put together

Anatomical Considerations

The spread of infection from the nose and throat to the eye may take place along any of the usual channels, but as in one or two important instances such spread is direct, it is necessary to appreciate the anatomy of the parts and, in particular, the anatomy of the accessory nasal sinuses which are grouped round the orbital cavities

The major part of the skeleton of the nose may be regarded as suspended from the base of the skull between the two orbits, and several bones on either side enter into the formation of both structures These bones are the sphenoid, ethmoid, maxilla, palate, frontal, and lacrymal The os planum of the ethmoid forms the largest part of the inner wall of the orbit, and attached to it on the nasal aspect is the lateral mass enclosing the anterior, middle, and posterior groups of the ethmoidal air cells These air cells are incomplete in parts in the disarticulated bone, and in life are closed in by neighbouring structures On the upper surface a few half-cells of the middle group are completed by similar half-cells on the under surface of the orbital plate of the frontal bone bordering the ethmoidal notch The anterior or infundibular cells are completed by the lacrymal bone and maxilla, where they form the anterior part of the inner orbital wall The posterior ethmoidal cells open into the sphenoethmoidal recess where they are opposed to the conchae covering the sphenoidal air sinuses

The anterior ethmoidal artery, though a vessel of no great size, is of considerable importance in the group of diseases under consideration, owing to its anatomical position A branch of the ophthalmic artery, it runs inwards and leaves the orbit by passing with its accompanying vein and the nasal nerve through the anterior ethmoidal canal This canal lies between the cells on the upper surface of the lateral mass of the ethmoid, and is commonly completed by the articulation of the orbital plate of the frontal From this canal the artery emerges on to the cribriform plate lying under the dura of the anterior fossa, whence it runs forwards, and piercing the bone at the side of the crista galli enters the cavity of the nose, where it lies on the deep surface of the nasal bone The antrum of Highmore lies immediately beneath the orbit, and its roof formed by the orbital plates of the maxilla and palate is also the floor of the orbit In its roof is a canal containing the infra-orbital nerve and vessels, the latter joining the parent trunks in the sphenomaxillary fossa The antrum opens into the nose in the middle meatus All the accessory nasal sinuses open into the nose and are at any time liable to become infected from the nasal passages

Orbital Cellulitis

The first condition to be dealt with is orbital cellulitis It is unfortunately true that its relationship to ethmoid or other sinus disease is far from being generally appreciated, yet apart from cases caused by penetrating wounds of the orbit, orbital cellulitis is practically always secondary to inflammation in the ethmoidal cells Its treatment therefore lies essentially in the hands of the nasal surgeon Simple drainage operations on the orbit frequently fail to save the life of the patient, and still more frequently leave a persistent discharging sinus Orbital cellulitis is a complication of acute, but rarely of chronic, sinus inflammation, in spite of the fact that chronic ethmoiditis, characterized often by the formation of nasal polypi, is a very common disorder The reason for this anomaly will be found in the discussion to follow on the mode of spread of the infection

Following the rules governing the spread of infection elsewhere in the body there are three possible routes—namely, the blood stream, the lymphatics, and some direct path There is no suggestion that infection is via the blood stream, except perhaps as a terminal event when a widespread dissemination may take place from one of the larger venous sinuses Spread by lymphatics may also be excluded, as the parts are but poorly supplied with lymph vessels, and there is no connexion demonstrated between the orbital and ethmoidal symptoms

A direct spread is the one that almost certainly takes place, and there are one or two alternative routes even here to be considered A possible route is through the os planum, but although this is a very thin plate of bone, it is fairly tough, moreover, experience in operating on these cases nearly always reveals it intact There is no evidence that, save in neglected cases, it allows the passage of infection

The most probable path is that along the line of the ethmoidal vessels, and there are several points strongly in favour of this view There is a ready-made communication in the ethmoidal canal between the ethmoidal and the orbital cavities The pus found in the orbit in cases of orbital cellulitis is always in the upper and inner part of the cavity—that is, about the opening of the anterior ethmoidal canal Furthermore, the passage of infection by this route accounts satisfactorily for two of the most common and important complications of orbital cellulitis—namely, cavernous sinus thrombosis and meningitis

The mere presence of a collection of pus in the orbit is not in itself sufficient to cause thrombosis of the veins in the neighbourhood, and of the sinuses into which they drain, but such a condition would readily arise as the result of a spread of thrombosis along the radicles and trunk of the ethmoidal vein, which opens into the ophthalmic vein, and so into the cavernous sinus It is worth noting here the parallel way in which cavernous sinus thrombosis may arise from sepsis on the face by spread along the infra-orbital vessels It has already been noted, too, that part of the course of the ethmoidal vessels lies under the dura covering the cribriform plate In this situation the dura is perforated by the olfactory roots, and affords a portal of entry for infection from a septic phlebitis such as obtains in the conditions under consideration Meningitis occurs quite frequently in fatal cases of orbital cellulitis, and is evidenced by intense headaches, and, more typically, by hyperpyrexia

Although the ethmoidal air cells have alone been considered as the starting point of orbital cellulitis, this condition may nevertheless complicate acute infections in the frontal sinus and the sphenoidal sinus, though less frequently Quite often both frontal and ethmoid, or sphenoid and ethmoid, are affected together

The above account is the argument for treating orbital cellulitis by radical operation on the accessory nasal sinus, by the external route Apart from haemorrhage, the result of inflammatory engorgement, the steps of the operation can be followed deliberately and the source of the infection traced and eliminated Briefly, the operation consists in perforating the nasal process of the maxilla and opening up the frontal sinus and the lateral mass of the ethmoid Infected cells are opened and removed as far as possible, and the os planum is cut through to drain the orbital cavity The anterior ethmoidal artery is almost constantly severed Bleeding yields readily to moderate gauze pressure, but the site of the haemorrhage demonstrates very well, in the living, its close relation to the orbit It is important to make as complete a clearance as possible, as infection often starts far back, but the patients are often so gravely ill that complete removal of the lateral mass is not always possible, and one has to be content with ample drainage

Enlargement of the Blind Spot

The second disorder to be discussed is a more purely ocular one It has a fairly high incidence but its relation to primary nasal infection is little appreciated It is first manifested purely as a disturbance of vision, most often unilateral, and there is found a blurring and loss of visual acuity in that part of the retina immediately surrounding the optic disc A most important sign and a fairly constant one, is enlargement of the blind spot for white and colours as determined by perimetric examination This in all probability signifies an inflammatory lesion of the retinal fibres in the affected area The enlargement of the blind spot is known as Von der Hoeve's sign, and is described by him as an important symptom of posterior accessory sinus disease, and where no other cause for the eye changes can be found he considers it an indication for operation on the sinuses Another observer found in 102 patients suffering from ethmoidal and sphenoidal sinus disease enlargement of the blind spot in no less than 31 per cent of cases In my experience, however the antrum is as often at fault A case that came under my care recently illustrates very well how completely unsuspected is this underlying nasal infection

P H was referred to me by my colleague Mr S T Parker to whom I am also indebted for the notes on enlargement of the blind spot The patient complained that for three weeks she had had blurring of vision in the right eye Mr Parker found enlargement of the blind spot and sent her to me for examination of the nasal sinuses There was nothing in her history suggestive of sinus disease and examination of the nose only revealed a marked deflection of the septum to the left There was no trace of pus in the nose or nasopharynx A skiagram however revealed a marked opacity in the right antrum and exploratory puncture under local anaesthesia found thick mucopus Under a general anaesthetic I drained the antrum into the inferior meatus by the intranasal method A considerable amount of pus was evacuated at the time and some discharge persisted for several days after the operation No organisms could be grown from the pus on ordinary media

In two weeks there was marked improvement in vision in the affected eye and a month later it was almost completely restored only a slight deficiency being recorded by the perimeter

While the connexion between ocular disease and sinus disease is certain, the path along which the infection travels is not so clear It is presumably a direct one, both parts being almost always affected on the same side It is probable that the ocular element is not in fact an infection but the result rather of compression by inflammatory exudate at the back of the orbit The latter assumption is supported by the rapid improvement which follows adequate treatment of the primary nasal trouble In a number of cases no direct evidence of sinus disease can be found but frequently there is a history which indicates some such trouble perhaps months before One girl had pain and swelling in one side of the face with profuse discharge of pus from one side of the nose following a bathe in a well patronized swimming bath I have no doubt she had an acute antral infection, yet her visual defect only became apparent some six months later I have found a similar coincidence in other cases and it appears that sometimes at any rate the progress of the trouble from the nose to the optic nerve elements is so slow that the original focus may have cleared up before the advent of the eye symptoms

Phlyctenular Conjunctivitis and Blepharitis

The third and last group to which I am going to refer includes cases chiefly in children of phlyctenular conjunctivitis and blepharitis Although they almost always come for treatment via the ophthalmic department children frequently attend the throat clinic for recurrent sore throat and complain that each attack is associated with inflammation and soreness of the eyelids These cases are often intractable to all form of local treatment as they are secondary to a remote focus usually in the tonsils The result of tonsillectomy in this disorder are so uniformly good that the operation should be undertaken even in the absence of any apparent tonsillar disease The tonsils should be removed by formal dissection

One or two points of interest come out in the examination of the tonsils in these children They are quite frequently very small and look innocent even on section after enucleation Further there is most often a complete absence of palpable gland in the neck and this is the more striking as the vast majority of children presenting themselves at the throat clinic have some cervical adenitis

In the absence of any demonstrable anatomical connexion it must be assumed that the tonsils in these cases contain some toxin which circulates in the blood stream and lowers the vitality of the conjunctivae, which are already infected from purely local sources Any effective resistance is thus hampered, and the condition becomes chronic

I have not attempted in these notes to describe in any detail the symptoms and treatment of the diseases enumerated My purpose has been solely to draw attention to relationship which must be fully appreciated in order to provide the scientific treatment so essential for cure

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

THE TREATMENT OF TETANUS

While the prophylactic dose of antitetanic serum has tended to make the incidence of tetanus an increasing rarity, it may still happen to anyone to have to treat a case and the problem of the correct treatment suitable to various cases must be approached through the accumulated experience of the few instances available The treatment of the wound by thorough disinfection is the first consideration, and, if suitable complete excision is indicated Where excision is impossible then continuous irrigation with oxygen producing agents may prevent the production of any additional toxins

For the control of the spasms the injection into the spinal canal of hypertonic salt solution, after removal of cerebro-spinal fluid will give approximately twenty-four hours' remission of symptoms Under chloroform anaesthesia about 10 c cm of cerebro-spinal fluid is removed slowly and 2 c cm of 25 per cent magnesium sulphate solution in distilled water is injected To overcome the effect of those toxins already exerting their harmful influence massive doses of antitoxin should be given This may be administered by subcutaneous intravenous or intrathecal injection preferably by all three methods I have used with success in an adult case injections of 10 000 units into the spinal canal after removing a similar amount of fluid, as an initial dose, and injections by intravenous and subcutaneous route of the same dose as well making 30,000 units in all These measures may be repeated more than once, at daily interval if there is an increase or so long as there is no abatement of the severity of the symptoms of spasms and trismus etc

Experience gained with adults during the war does not afford any guidance in dealing with tetanus in children and as there are so few cases in which the treatment and dosage are on record I am venturing to record the result I obtained in a recent case showing the dose used and the unusual reaction observed afterwards

A medium-sized boy aged 12, had a lacerated wound of the left leg 5 inches long transverse to the long axis as a result of falling from a tree on April 5 th The wound was dressed and treated with boric fomentations but became septic On April 15 th he was seen by a colleague who observed a well marked condition of trismus with stiffness of the back I saw the patient with him later in the day and removed the boy to hospital

After admission under general chloroform anaesthesia the wound was thoroughly inspected and cleaned and it was found to extend throughout its length 3 inches from the skin edges into the subcutaneous pace Carrel Dakin irrigation was then arranged from the most limit of the infected area and the wound was dressed with gauze soaked in hydrogen peroxide solution The healing of this presented no unusual features After dealing with the wound lumbar puncture was performed and 10 c cm of fluid was drained and an injection of 5000 units of antitetanic serum given 6000 units were given by subcutaneous injection

On April 16th the general condition of the boy was as above no spasm had occurred but the trismus and the general stiffness of the back were unchanged An intravenous injection of 7000 units of antitetanic serum was given and an injection of 1/6 grain of omnopon was sufficient to allay the pain in the back On

April 17th another intravenous injection of 7,000 units was given The trismus was unchanged, but the stiffness and pain in the back were less marked and were easily controlled by omnopon On April 18th the trismus condition was noted to be relaxing, and gradually became less day by day On April 26th the patient suddenly commenced to register a temperature of 103° F, but complained of no symptoms or malaise, and no signs of any trouble could be found in any of the organs This high temperature remained unchanged day and night until May 1st, when it fell by lysis Throughout this period the patient felt perfectly well He was discharged from hospital on May 10th

I admit that this case must be regarded as an exceptionally mild one, but the following are points of interest

1 Thorough irrigation with the Carrel Dakin method can prevent the development of any further tetanus toxin when excision of the wound is impossible

2 Massive doses of antitetanic serum should be administered as soon as possible, in the case of a boy those given proved efficacious and safe

3 The reaction from antitetanic serum may take the somewhat unusual form recorded

4 The injection of hypertonic salt solution was not required in this case, but I have used it in the severer type of case with most satisfactory results in relieving spasms, and I can strongly recommend it

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A PARASITIC DERMOID CYST

THE following clinical details of a case of dermoid cyst with no obvious connexion with an ovary appears to be worth recording, in view of the migration which would seem to have occurred

A multipara, aged 44, was sent to me by Dr Speight of Burscough She had backache and a "bearing down" pain, neither of which was relieved by rest The symptoms dated roughly from her third confinement She had had five labours, all of which had been normal and followed by normal puerperia Examination revealed a slight degree of vaginal prolapse, and the presence of an irregular hard mass behind the uterus This mass was considered to be either a calcified fibroid or a *lithopaedion*

At operation the omentum was found to be lightly adherent to the abdominal wall, the mass was situated in the pouch of Douglas where it was embedded in adhesions These were easily separated and the mass was shelled out, it was completely within the peritoneum The left appendage was normal, but the right was represented by a small tubo ovarian cyst The specimen, when removed, was completely enveloped in a calcareous wall, and was 7½ cm long On opening a window in it sebaceous material and hair were seen

The point of interest about the cyst is its origin Since it lay within the pouch of Douglas, it could not be an extraperitoneal dermoid, and the fact that it was buried in adhesions and had no pedicle suggests that this was not its original site The calcareous change in its wall supports this view, for it implies a deficient blood supply

The common site for a dermoid tumour anywhere in this neighbourhood is certainly the ovary Assuming this, three possible modes of origin may be considered (1) From a supernumerary ovary As there was no sign of any 'ligament" running from the tumour to the uterus or inguinal canal (no remnant of a gubernaculum ovarii) this origin can be dismissed (2) From accessory ovarian tissue Had it arisen thus it would, in all probability, have been extraperitoneal (3) Separation from the ovary in which it grew, probably by torsion of its pedicle This appears to be the most likely explanation, the condition of the right appendage and the presence of omental adhesions are in favour of such a suggestion Unfortunately, no sections were cut from the right appendage to determine whether any ovarian tissue was present

Complete separation of ovarian dermoids from their point of origin appears to be of infrequent occurrence It is mentioned by Senn[1] and older authors, but it has only been possible to trace a few specific cases in the literature Spencer Wells[2] records a case, and refers to one reported by Atlee Doran[3] notes a case described by Knowsley Thornton, in this patient one ovary was cystic and the other was represented by a short tag of fatty and partly calcareous tissue Heimann[4] had a case in which, at the time of operation, both ovaries were intact, he considered that this tumour arose in an accessory ovary This case is complicated by the fact that the tumour was in part pseudo-mucinous and in part dermoid Remprecht[5] reported a case, but does not give sufficient details of the appearance of the ovaries at the time of operation Ernest Herman[6] appears to have had a case, and to have operated during labour, but the description leaves the reader somewhat in doubt Miss Ivens[7] has reported a case in which the whole ovary was involved, and its previous existence represented only by a scar on the back of the broad ligament Miles Phillips's case[8] was very similar to that of Miss Ivens In Dartigue's case[9] the separation involved the whole appendage, and the tumour represented both tube and ovary

It is noteworthy that where parity is mentioned the women were all multiparae, and that where the side is specified the right is the commoner Pregnancy predisposes to torsion of the pedicle of ovarian cysts, and the normal obliquity of the pregnant uterus may cause it to have more effect on right-sided cysts

Liverpool ARTHUR A GEMMELL, M D, F R C S Ed

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GLANDULAR FEVER IN THE FALKLAND ISLANDS

A SHORT note on an epidemic of glandular fever that occurred in 1926 in a very isolated community may be of interest The cases numbered 87—52 males and 35 females The incidence in the sex and age groups is shown in the following table

Age Group	Male	Female	Total	Percentage
Under 5	5	2	7	8
5–15	9	8	17	20
15–25	22	11	33	38
25–45	11	10	21	24
45–65	4	4	8	9
65 and over	1	—	1	1

The youngest person afflicted was a boy aged 2 years, the oldest a man of 70 The disease was characterized by the sudden onset of slight soreness and redness of the throat, difficulty in swallowing, and pain in the neck, accentuated by movement Fever was present in all cases, the temperature ranging between 100 and 103° F Painful bilateral adenitis of the neck appeared between the second and fourth days of the disease The glands varied in size from that of a pea to a hen's egg, and were of a stony consistence In eight cases the onset was very acute, with marked headache, nausea, vomiting, and prostration In two cases the onset was marked by severe epistaxis At an early stage of the disease five cases showed a nephritis of a mild type associated with pain in the lumber region Recovery in all cases was uneventful Four cases developed retropharyngeal abscess One of these, a female aged 30, died owing to the sudden rupture of a large retropharyngeal abscess causing rapid asphyxia In a boy, aged 8, the cervical adenitis went on to suppuration, and a large quantity of pus was evacuated on incising the affected gland One patient only, a man of 29, showed a slight enlargement and tenderness of the spleen and liver The average duration of the disease was about a month Careful nursing and the administration of small doses of calomel was the method of treatment

In isolated communities the lack of resistance to infectious disease and its incidence in age groups is of interest Old and young alike have little immunity to the

so-called diseases of childhood It has been my experience in a community where infectious diseases were previously unknown or a mere legend, that the maturer people are as liable to infection as and suffer more acutely than, the young During this epidemic of glandular fever all the complications of the disease occurred in the third, fourth and fifth age groups, with the single exception of *the boy* who e adenitis went on to suppuration

Among several recent immigrants men of the third age group from the South of England, none of whom gave a history of glandular fever, only two contracted the disease, although all without exception lived in precisely the same manner and in close as ociation with the natives of the island among whom the case incidence of the disease was very high

J Innes Moir M B , Ch B D P H Aberd ,
Principal Medical Officer Falkland Island

Reports of Societies

SOME AMPUTATION PROBLEMS

At the meeting of the Section of Orthopaedics of the Royal Society of Medicine, on November 4th, Mr P Jenner Verrall delivered the annual address from the chair on "Some amputation problems" after which he invited discussion The discussion was a continuation of one held in the Section of Surgery in April last (*British Medical Journal*, April 12th, p 693)

Mr Jenner Verrall said that he proposed to deal in the main with the unusual, but he wanted first to state briefly what was the normal and ideal Speaking of the lower limb he said that a tilting-table prosthesis was to be avoided if possible but it must be fitted for a stump of less than 5 inches measured from the great trochanter An above-kn amputation should be at least 4 inches above the condyles and preferably should leave a stump measuring 10 to 11 inches where the normal femur measured 19 inches, or 12 inches if the femur was longer The ideal below-knee stump contained 7 inches of tibia Flaps should be no longer than the diameter of the limb and should contain no more muscle in their base than was needed as sheer tissue solely to ensure the blood supply He expressed himself against alcohol injections into the nerves they produced a perineural fibrosis which was bad in the long run Haemastasis should be most complete, and there should be no hesitation in surrounding small portions of tissue with a circular ligature if there were small vessels which could not be picked up singly Haemastasis being complete, he would advise that no drainage be employed He would far sooner stitch up loosely, allowing space between stitches for oozing than introduce a drainage tube which, like other doors could be passed through in both directions Massage where the stump was normal was quite useless, and might be harmful as militating against rest and settling down Re-amputations were more difficult than primary ones owing, among other causes to the pre-existing scar, also the congested and varicose condition of the parts Of the three varieties of emergency amputation, guillotine, through-joint and amputation with flaps left open, the last was rarely used and he thought the first superior to the second Undue retraction of the skin would be prevented by some form of extension such as the admirable method described by Elmslie If pus pockets were found in a case for re-amputation although they might be quite sterile on bacteriological examination, it was not fair to take the risk and re-amputation must be put off One would always tend to err on the side of waiting too long and it often happened that while waiting the amputation would heal and even the nerves which had been cut short at operation give no more trouble

Mr Verrall then proceeded to give his opinions on certain amputations Beginning with the foot he pointed out that one disadvantage of the Lisfranc operation was the loss of one arch of the foot and with regard to the Chopart amputation he gave certain reasons why it was a bad one in the adult Coming next to the Syme by which he meant the modern Syme with the elliptical incision he would not deny the existence of many successful Symes, in both civil and military cases, but the Syme was far less certain of remaining perfectly satisfactory than was the mid-tibial amputation It had been said that an unsatisfactory Syme was a Syme badly done, but he had seen many Symes go wrong which had been performed by surgeons whose skill was beyond question It was generally admitted that a mid-tibial amputation should leave a 7-inch tibia and a slightly shorter fibula In a muscular and well-nourished leg an anterior skin flap was good, but in atrophic legs, especially with old sciatic injuries, where the circulation was none too good he preferred to make a postero-external flap, calculating the length so that after shrinkage the scar would lie transversely half an inch below the tibial level The Stokes-Gritti amputation was still spoken of in literature as a good operation but in his experience it was not and Mr Muirhead Little had very kindly allowed them to borrow from the Royal College of Surgeons an admirable portfolio of x rays and other pictures from his collection, which to the speaker's mind showed every sort of misbehaviour of which the Stokes-Gritti was capable Dealing with unsatisfactory stumps in general, Mr Verrall declared that much trouble was caused by too early limb-fitting In a perfectly clean amputation, where sepsis had never been present or had been prevented from developing the fitting with the prosthesis might take place within three months but in war cases and secondary amputations in civil life six months should be allowed to elapse Below-knee pylons were very unsatisfactory, and above-knee pylons though surgically bad, were economically good But the pylon must be fitted by a limb-maker under surgical supervision, reproducing the pressure points which would remain in the permanent prosthesis to be fitted later Coming to the problem of stiffness of the joints he said that in the case of the hip, ankylosis in good or bad position was almost an absolute bar to the fitting of a satisfactory limb The alternatives were either to re-amputate to give the best stump for the tilting-table or to attempt the formation of a mobile joint As no weight had to be borne on the joint it would appear that a simple excision of the hip would suffice, but this was not satisfactory in his experience because the patient had no control over the prosthesis it was the fulcrum that was lacking Arthroplasty of the hip in amputation cases was excellent—more promising in stumps than in complete limbs A hopelessly flexed hip should be left flexed and the stump shortened to allow of the fitting of a tilting-table The longest stump that could be so fitted was one of 6 inches this was very unsightly With regard to the treatment of neuromata this was less and less important Indiscriminate removal of neuromata was to be deprecated Operations for a painful neuroma should be local Circulatory defects in stumps were commonly due to excessive length or excessive volume of soft tissues They might also be due to deep seated circulatory defects In certain stumps there was a vascular upset, nervous in origin and exceedingly difficult to cure He was more and more convinced that necessary re-amputations which one saw in so many of these cases were harmful and he refused to do them Time and occupation were the only cure The phantom limb was a simple problem operations were to be avoided and if the phantom were considered as definitely due to a neuritis syphilitic or alcoholic or other it was important to alter the line of treatment and to defer limb-fitting for a long period while the case was treated Mr Muirhead Little had mentioned the existence of pain felt in the stump during defaecation and micturition This was not uncommon and the reverse was often found—pain in the rectum or bladder when the limb was worn This was due to unstable nervous reflex Time again was the only cure though in some cases pain was due to imperfect limb-fitting Since the war there had been two admirable works on the operative side published in this country—namely, Lane's on "Amputations" in Carson's *Modern Operative Surgery* and Muirhead Little's *Artificial Limbs and Amputation Stumps* The developments up to this date were an alteration in opinion as to the length of the thigh stump the value of the Syme and of the Stokes-Gritti the question of drainage in amputations of treatment of the nerves a consideration of the choice in the case of mid-tibial

amputation between an anterior and a posterior flap based on the trophic condition of the leg, and, finally, the admission of the operation of arthroplasty as a reasonable and eminently successful proceeding for the treatment of stiff joints in amputation stumps

Mr E MUIRHEAD LITTLE said that it was a matter of congratulation to him to find that the decisions generally agreed upon at Roehampton at the end of the war on various points connected with amputations had nearly all been upheld He found himself in agreement with Mr Verrall on almost every point As to the Syme amputation, he was still rather unrepentant, but it was of no use gainsaying positive facts Mr Verrall and others who had been practising since the speaker left Roehampton had found positive difficulties with the Syme There were many Symes which were excellent, a good Syme was excellent, a bad Syme was worth nothing In this connexion he reminded the section of Martin Huggins's book, *Amputation Stumps Their Care and After-Treatment*, in which he had laid down an excellent way of treating the flaps of the Syme after operation or dressing With regard to the Stokes-Griffith amputation for the knee, the evidence which he had brought up for exhibition to the meeting showed how bad the results could be In a case which it was intended should be fitted with a tilting-table, he quite agreed that the best thing was an amputation through or just below the lesser trochanter, giving the patient something more than the bare pelvis on which to sit With regard to *stiff joints*, he quite agreed with Mr Verrall, as also in his observations about the uselessness of the limb when the fulcrum had been excised away

Mr R C ELMSLIE said that he was still unrepentant with regard to the Syme He believed with Mr Little that a really good Syme was a good amputation, though he appreciated that the limb-fitting was a difficult matter One must not condemn any amputation too loosely There was one amputation which he supposed most of those present would condemn—namely, amputation through the knee-joint—yet he must plead guilty to having done it on at least three occasions in recent cases In each of these cases he was amputating over a congenital deformity in which the tibia was missing, and the children had been accustomed to get about on the flexed knee, so that they had an absolutely perfect end-bearing on the condyles of the femur Although one might condemn an amputation generally, one must not wipe it out as a thing never to be done

Mr W R BRISTOW said that there were plenty of Symes which remained good for a year or two Only this week at St Thomas's he had had to deal with the case of a woman on whom seven years ago a double Syme was done Her stumps remained good for five years, but between the fifth and seventh years the end of one stump became rather loose and began to give trouble The procedure was followed which Huggins practised in 1918, and re-amputation was done straight away With regard to the treatment of nerve ends, it was the small nerves which gave the trouble—the internal saphenous in the thigh and the internal cutaneous in the arm It was often expedient to shorten these nerves, crush them, and perhaps put a ligature on them With regard to arthroplasty, he recalled that it was at Shepherd's Bush that he did the first arthroplasty of the hip-joint on amputation stumps He remembered one case with double ankylosis of the hip, and two short thigh stumps Sir Robert Jones agreed that an attempt at arthroplasty was the only expedient His experience agreed with Mr Verrall's that the arthroplasty where some fulcrum was retained was very useful in the limbs and particularly in the hip

Mr ROCYN JONES recalled that when he had the honour of assisting Mr Muirhead Little it was the invariable custom to inject the nerves with alcohol He thought this was valuable in emergency amputations where a primary amputation had to be done through possibly a very bad fracture, and later it might be necessary to do a secondary amputation It certainly did diminish the shock of the operation very considerably Particularly in a high amputation through the thigh, an injection into the sciatic nerve was of some value

Mr S L HIGGS agreed with Mr Verrall's point about refraining from putting in a drainage tube except in very rare instances

Mr VERRALL, in reply, asked whether orthopaedists were to teach that the improved Syme was a good thing and that the surgeons who performed it could hold out reasonable prospects to their patients that it would be a permanent amputation He had seen a certain number of good Symes, but one had to legislate for the majority, and he felt that the chances were against getting a permanent satisfactory condition with the Syme As to crushing of the nerves, that was an expedient he believed in, but pulling down and shortening were procedures with which he could not agree, he was sure that the effect was to produce perineural fibrosis

AIMS AND LIMITATIONS OF SURGERY

IN the Section of Surgery of the Royal Society of Medicine, on November 5th, Mr C H FAGGE delivered an annual address from the chair which was probably the shortest on record Its delivery occupied only a quarter of an hour, and at the close Mr Fagge invited discussion

Mr Fagge began by saying that the philosophic surgeon would admit that his ideal—the restoration to the normal—was never accomplished Much of the surgeon's time and energy was taken up in attempts to prolong life in patients suffering from terminal states, for whom his best endeavours could do no more than leave them in a condition far short of normal In truth, far too much of modern surgery was mutilation Excluding the correction of some injuries, such as fractures, and cosmetic operations for congenital deformities, such as cleft palate and hare lip, there was little in the surgical technique which *did not replace one evil by another, admittedly of less and usually of unimportant degree* The fascinating field of surgery which endeavoured to combat the ravages of age by transplantation of an organ or part of it from an ape closely allied to man, or to replace a damaged or diseased organ by a similar organ taken from another human, or to fill a deficiency such as an absent finger by grafting another in its place, was still in its infancy It was clear that much that had been exploited in this direction could not bear the scrutiny of judgement by results Such graftings and transplantations could only be successful when the technique of connecting the blood vessels of the transplanted viscus to those of the recipient had been improved to a degree not yet possible, so that immediate restoration of the necessary nutritive fluids could be established with a reasonable degree of certainty This restoration of circulation applied not only to blood vessels but also to the lymphatics

Passing to the physical limitations by which the surgeon's work was hemmed in, Mr Fagge confined himself to those which resulted from the nature of bodily tissues and from the healing of the operation wound Lord Moynihan had remarked that surgery as a craft had reached finality That idea was not new, in an American journal there recently appeared a quotation to the same effect from Erichsen, made at a time when Listerism had become firmly established But if the half-truth were admitted, so must the reservation that even with the very best technique the finest and most accurate primary union resulted in the formation of a scar Modern aseptic technique had undoubtedly modified the amount of scar formed in any tissue operated upon by limiting the leucocytic infiltration, but it was generally believed that proliferation of the fixed connective tissue cells was the ultimate factor in the causation of fibrous tissue, and, so far as he knew, there were no means to hand by which this might be controlled What happened to any one of the higher connective tissues when it was subjected to an abnormal strain? When applied to the soft parts, a strain, in his judgement, usually resulted in the suture material, of whatever nature or strength, cutting through, with the giving way of the structure which it was desired to hold down, or in the formation of a scar by degeneration of the tissue held down This limitation appeared to apply to

many of the operations described under the name of "pexies", a particular example which illustrated his point was that of orchidopexy The consideration of such behaviour of soft parts under strain brought him to another type of technique—namely, operations for incisional or ventral hernia Here an area of scar had been produced by infection, and the fibrous tissue over this area offered a feeble resistance to normal abdominal tension The normal resilient elastic abdominal wall had been replaced by an inelastic scar This was spoken of as stretching but in fact it gave way and a gap resulted The object was to replace the scar by normal resilient muscular layer Many operations had been devised and much ingenuity expended in attempting to close this defect, and yet the majority of such devices could only replace a thin weak scar by a thicker more resistant one Such was the method of action of metal filigrees or the introduction of living suture material, after the method of Gallie and Le Mesurier In dealing with such cases, the speaker submitted, the surgeon should concentrate attention not on the gap, but on the tissue which filled it, beginning with a free excision of all abnormal fibrous tissue scar The surgeon's heart must be hardened and his courage steeled, for a most alarming gap would be left When this had been done, normal aponeurotic and muscular layers could be approximated safely and it was all important to spend time in accurately defining the layers of the abdominal wall and suturing them one by one He had not so far met any incisional or ventral hernia which he could not close in this way with ordinary catgut sutures, and an inquiry made by his former registrar of patients dealt with in this way had revealed no recurrence, all the patients were following their normal occupations without pain or the use of appliances Finally, he spoke of keloid, an interesting eccentricity of scar formation He remembered observing, thirty years ago that after an operation for inguinal hernia in small children, if the incision encroached on to the hair-bearing pubes that part of the scar might be keloid, and the rest a thin normal scar In a patient operated on recently the cholecystectomy scar was keloid above and below but normal in the middle It was Mr Fagge's belief that keloids, if excised freely, did not re-form

Mr C Max Page thought that Mr Fagge had been a little too pessimistic in describing almost all the performances of the surgeon as mutilation After all, Mr Fagge himself had referred to hernia, and that surely was very definitely an operation which restored to the normal, or nearly so He thought bone-grafting might be placed in the same category, though it was quite true that not a great amount of it was done He confessed that his own practice in the treatment of ventral hernia differed from that which Mr Fagge had laid down In the cases in which there was a large gap he had usually done a plastic operation, generally without the use of foreign material such as filigree or living suture and had attempted to get apposition of the main bulk of the abdominal wall by an overlap such as was practised in the Mayo operation for umbilical hernia He might be wrong but he believed he could show quite as good results by that method though he had had no registrar to collect them for him With regard to keloid, he had always thought that if keloid were excised another keloid formed He regretted that Mr Fagge had not touched on infective processes

Mr V Zachary Cope said that it was always interesting and encouraging to hear the philosophy of a surgeon Limitations of surgery might be dealt with from several points of view—for example the limitations to which the individual surgeon was kept by the multiplication of specialties There was a tendency for the individual surgeon to become limited to one small sphere In surgery itself there could be no limitation *It it was to live it* must advance When Brodhsen said that surgery had reached finality, the kidney the brain the spinal cord, and most of the internal viscera had not been operated on, but now it could be said that practically every viscera, from the pituitary body to the remote depths of the spinal cord was dealt with by the surgeon But he thought that surgery would advance by co-operation in a more intelligent manner with the physician. In surgery there might come about, if one liked to call it so, a retrogression, which was really an advance, in the sense that operation would be avoided in a greater number of cases, and more cases would go to the physician He saw no reason for example why a medical cure should not be found for exophthalmic goitre, and in gastric ulcer and suchlike conditions there should be found some method of cure without operation He would not call that a going back of surgery it was an advance of the whole of medicine In the case of scars Mr Fagge had said that it was impossible to have a cut without getting some scar But it was well to remember that in the modern treatment with radium there was no scar in the usual sense of the term, or the scar was infinitesimal, and the tissue left was practically normal in appearance It was possible that in the next few years, by the suitable application of radium or radiotherapy of various kinds a disappearance of scars might be obtained and a reappearance of normal tissue Many keloids became softer under x-ray treatment

Mr A J Walton said that the surgeon must feel more and more, as he looked back upon his results that the aims and objects in view were to abolish surgery entirely Practically everything the surgeon did was of course a mutilating operation But, fortunately every individual was born with a pretty big banking account and was able to go on for a long time until the balance was exhausted He had always laid it down that in surgery as small an amount of normal tissue as possible should be removed He agreed with Mr Cope that surgical treatment of exophthalmic goitre was absolutely wrong, but unfortunately to-day it was the only method of certain cure In the same way with the surgery of the stomach the more modern Continental method of removing seven-eighths of the stomach for an ulcer perhaps only half an inch in diameter was certainly wrong In his own private practice he found himself doing more and more medicine and less and less surgery Perhaps the most ideal operations for the restoration of normal function and anatomy were those for the removal of benign tumours and next to these came operations for restoration after accidental lesions Fractures had been mentioned and there one did restore very nearly to the normal with the minimum of scar tissue With regard to infective processes in no field did the surgeon feel so absolutely hopeless One factor he could not control was the presence of sepsis If an appendix for example could be dealt with before infection had spread the focus could be removed and everything was plain sailing But once the condition went beyond that, and the infection spread there was little more that the surgeon could do He agreed with Mr Fagge as to the treatment of ventral hernia His own experience was that with careful dissections and working out all the layer one by one there were very few hernias where one could not restore completely by sewing up the separate layers There was one exception to this—namely where a hernia had arisen through paralysis of muscle Where there was a destruction of the lower section of the rectus muscle or wide paralysis of the oblique muscle, it was, of course almost impossible to restore

Mr Eric Lloyd asked whether the president's philosophy extended to offering any explanation of the curious variations which most of them had observed in patients suffering from congenital abnormalities of various kind In particular, he was thinking of the children one sometimes saw who had just escaped a hare-lip All surgeons had seen such patients with scars which nature had produced, and which they attempted in vain to emulate Why was it that nature could produce such a superior scar to anything their best effort could accomplish Indeed that point might be carried further for every individual face was made up of most marvellously united seams He had been struck by the occasional occurrence of keloid at the lower end of an inguinal incision His impression was that this occurred more frequently in the lower end of a hernial scar than in the upper With regard to treatment of keloid he believed the proper method was not to apply x rays or radium immediately but to excise the keloid and then to apply the ray

Mr Julian Taylor said that anyone who had attempted to operate on a strangulated hernia through a filigree

would hesitate before putting another filigree in He joined issue with Mr Walton on the question of hernia due to nerve injury It was extremely rare for hernia of the abdomen to be due to nerve injury, and the average case which presented a paralysis of the muscle was no exception to the rule laid down by the president

Mr Hugh Lett criticized the pessimistic outlook of the president He did not consider that, after all, surgery was in such a very bad way It was true that the operations might be regarded as mutilating, but what about the disease for which they were done? If one removed a gall-bladder which had given the patient pain and discomfort, and the patient was restored to a state of normal health, even though he had lost the gall-bladder—a loss of which he was quite unconscious—to what extent was he worse off?

Mr Fagge, in reply, said that he had not felt competent to speak about the treatment of acute infections, nor did this part of the subject come strictly under the text which he had taken In reply to Mr Walton, he (Mr Fagge) had, perhaps fortunately, never had a hernia which had arisen through paralysis of muscle With regard to keloid formation, it used to be said that keloid indicated tuberculosis, but it had been his experience that keloid varied greatly with the patients, some patients producing it very easily indeed and others much less easily

CARDIAC PAIN

At a meeting of the Brighton and Sussex Medico-Chirurgical Society, on November 6th, with the president, Mr H Nethersolf Fletcher, in the chair, Dr Donald Hall read a paper on cardiac pain

Dr Hall divided his subject into two groups, according to the pain being non-coronary or coronary in origin The first group comprised a miscellaneous selection, the patients in most cases not having cardiac disease It included dyspeptic pain referred to the heart and not to the stomach, the pain met with in 'D A H,' hyperthyroidism, and other types of functional tachycardia pain occurring in the cardiac region during the course of, and in convalescence after, the acute fevers, and two special forms of heart disease in which pain might be a prominent feature—namely, acute pericarditis and mitral stenosis In this group the location of the pain was mammary or submammary, and not retrosternal It was frequently accompanied by local tenderness, might be present throughout the day and yet the patient be carrying on his or her ordinary vocation, and radiation, if present, involved the entire upper limb, and not merely the ulnar border Apart from tachycardia, with the exception of pericarditis and mitral stenosis, clinical examination of the heart afforded negative results, as did radiography and electrocardiography The second group comprised coronary thrombosis and angina pectoris Although there was a clear-cut difference between the cases of acute coronary infarction and the more chronic cases of the effort syndrome, intermediate types were met with both clinically and in the curves of the electrocardiogram Apart from the rare incidence of coronary embolism, these two types were different expressions of the same pathological process, in the one instance abrupt occlusion of an already diseased artery followed by the sudden ischaemic necrosis of a limited area of myocardium, in the other a slow, diffuse myocardial degeneration produced by chronic progressive atheroma of the coronary arteries Advanced myocardial change might be present without any change in the heart sounds, borders, or rhythm, or any alteration in the blood pressure even if the electrocardiogram was also unchanged, the clinical symptoms of the effort syndrome were so clear that on them alone the diagnosis must be made and maintained Lantern slides were shown of the 'plateau-curve" and subsequent changes met with in coronary thrombosis, and of various abnormalities of the electrocardiogram found in cases of angina pectoris Dr Hall said he had seen typical RS–T deviation shortly after acute pulmonary oedema and cardiac failure in a high did not regard this abnormality *per se* as proof of coronary infarction Serial electrocardiograms are required to make the diagnosis complete

of great value in assessing the recovery of the myocardium The etiological significance of defective blood supply in the effort syndrome was made even more clear by the interesting type of angina pectoris met with in Addisonian anaemia where, although the vessels were intact, anoxaemia and degeneration of the heart muscle were brought about by faulty quality of the nutrient fluid

SPEECH DISORDERS OF CHILDHOOD

At a meeting of the Liverpool Medical Institution, on October 23rd, Dr Barton Hall read a paper on the speech disorders of childhood, with special reference to congenital auditory imperception

Dr Barton Hall said that the importance of the subject arose from the fact that speech disorder was of common occurrence, and that it was often the predominant feature of conditions which were, in their nature, extraordinarily diverse The disorder might be localized to the motor or the sensory sides of the speech mechanism, or to the intellectual processes concerned in speech From the motor aspect the most obvious difficulties arose in cases where there was organic defect in the mechanism of articulation Probably the most common speech disorder to be encountered was that of inco-ordinate speech, stammering or stuttering Although stammering was often classed among the so-called "functional" disorders of the nervous system, it had always appeared to the speaker to be some inherent disability of the patient's higher speech mechanism Lalling and lisping constituted two further disorders of speech The latter was of fairly common occurrence, but lalling was rare in children who had passed babyhood, and might be of so severe a degree as to amount to idioglossia Although the difficulty in idioglossia was that of the correct formation of sounds, the defect was really one of audition Dr Barton Hall then considered the condition known as congenital auditory imperception The literature on this subject was reviewed, particular attention being paid to the subject of pathogenesis, and the lecturer then described three of his own clinical cases in detail, the first, a case of idioglossia in a girl, aged 5, in which there was a definite familial factor, the second, a case of auditory imperception in a girl, aged 7, in which there was a definite familial factor, and the possibility of a traumatic factor associated with an attack of whooping-cough, the third, a typical case of congenital auditory imperception in a boy, aged 8½, who had been diagnosed as mentally defective, and in whom there was a possibility of a familial factor, and also the chance of some birth trauma having occurred The importance of assessing the intelligence in such cases was stressed, and emphasis was laid upon the assistance that such measures gave to diagnosis, prognosis, and treatment

Mrs Barton Hall described the methods employed in assessing the intelligence of these three children, pointing out the significance of using "performance material" in conditions such as auditory imperception, where verbal methods of testing were impossible Examination showed that the intelligence quotients in the three cases were 104, 114, and 94 respectively, all three children proving to be of average, or above average, intelligence

Dr Norman B Capon referred to the many difficulties of examining the sensory reactions in very young children He pointed out that in certain circumstances it was possible to obtain help from the application of conditioned reflexes In regard to the etiology of congenital auditory imperception, prematurity and intracranial birth injury might be concerned, but the evidence was still indefinite

Mr John T Morrison read a paper entitled "A simple method of intravenous local anaesthesia" The technique employed involved the use of one tourniquet and one needle puncture only He then commented on the actual type of anaesthesia produced, and offered some explanation of the possible mode of action of the drug novocain A brief summary was given of experimental work dealing with the "fixation" of novocain in the tissues and its application to surgery In the following discussion it was suggested that since the injection was made in a portion of the

high remote from the tourniquet and the circulation was arrested the anaesthesia might be due to pressure on the nerves by the tourniquet, since it was present in the region of this constriction

FIBROID DISEASE OF THE UTERUS

AT a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland on October 24th with the president DR A H DAVIDSON in the chair, DR NIVIAN JACKSON showed a large myoma which had been removed from a patient aged 48. The clinical history was as follows:

The patient's menstrual period had been regular but rather profuse. Her appetite was good and the bowels regular. The abdomen was found to be filled by an apparently solid tumour which was shown by bimanual examination to extend into the pelvis. A probable diagnosis of malignant ovarian tumour was made and the abdomen was opened. It was then found that the uterus was attached to the side of the tumour at the level of the umbilicus. The growth was eventually removed with considerable difficulty owing to it being impacted in the pelvis.

The shape of the tumour had been apparently influenced by its growth following the line of least resistance, and extending downwards into the pelvis as well as upward in the abdomen. Microscopical examination showed that its structure was that of a simple fibromyoma with hyaline and mucinous degeneration; no evidence of malignancy was obtained. The weight of the tumour was 15 lb. 12 oz. After the removal a very large raw area was left, and peritonization of the pelvis could only be performed very roughly; the abdomen was closed, and the patient had a normal convalescence.

The PRESIDENT commented on the way this growth had spread; it was the largest myoma he had ever seen, and in view of its size it seemed rather extraordinary that there had been no constipation. In removing large myomata the ureter always involved some difficulty, and in the present case the successful excision was a matter for congratulation. DR R. M. COPEET mentioned two cases of myoma which he had recently seen; in each the growth had weighed about 10 or 12 lb., and neither had given rise to any symptoms.

DR BETHEL SOLOMONS remarked that isolation of the ureters was an essential step in the procedure of removing such large fibroid tumours. He then exhibited two fibroid uteri removed from women during the active child bearing period. They showed hyaline degeneration with some evidence of active growth. In the first patient, who was 47 years old, had been married for twenty-three years and was a 17-para, the only symptoms had been backache and palpitation. The second patient, who was 35 years old, had been married for four years and had given birth to two children; she had had two miscarriages, the last having resulted three months previously.

The PRESIDENT thought that both these cases illustrated very well the fact that myomata caused miscarriage. DR CRIMMON FITZGIBBON said that when he had been preparing statistics of the incidence of fibroids during his Mastership of the Rotunda Hospital he had been surprised by the large number of cases of fibroids in women who had had children. The majority of these patients had been married; they were either women who came at the menopause or were aged about 30, had had no children, and consulted a doctor because of sterility. He thought that the old idea that fibroids were associated with sterility or celibacy was not at all supported by statistics.

AT a meeting of the Section of Laryngology of the Royal Society of Medicine on November 6th PROFESSOR J. ESTEVAN SUEFHAN of New York gave a cinematograph demonstration in colours of plastic operations. Many coloured photographs of the following procedures were shown: (1) operation for relief of unilateral facial paralysis under local anaesthesia through use of sustaining strips of fascia lata; (2) were cicatrix of upper lip and face (lupus) repaired by utilizing a free full thickness skin graft; (3) migration tube pedicle graft from neck for restoration of facial contour (saber defect); (4) the procedure for excision of costal cartilage for use in repairs of the nose and face; (5) the use of the epidermic skin graft for extensive cicatricial contracture of hand. After this demonstration SIR HAROLD GILLIES and MR. IVOR COLLYER showed examples illustrating the end results of similar surgical procedures.

Reviews.

A SYSTEM OF BACTERIOLOGY

VOLUME I of "A System of Bacteriology" the fifth of the series to appear, opens with a chapter on the history of bacteriology. It is rather astonishing to find how ignorant many bacteriologists are of the history of their subject, perhaps in the case of a young and actively growing science like this attention is apt to be focused entirely on the present and the possible developments that the future holds in store. Yet a knowledge of the past is not only of interest but of positive value; what more salutary lesson could there be for the young research worker than the reading of some of the publications of a man like Koch. Professor Bulloch the author of this chapter has a unique knowledge of his subject and knows how to impart it, and the chapter is enriched by a number of illustrations reproduced from some of the early bacteriological classics. Following this is a short account of the morphology of bacteria by R. St. J. Brooks with a very brief note on the investigation of bacteria in the living state by J. E. Barnard. This latter is little more than an indication of the lines along which Barnard is approaching the question, and the possibilities of the method are illustrated by the reproduction of some of his beautiful photomicrographs. Chapter III is devoted to a consideration of the physics of the bacterial cell by E. K. Rideal and Hamilton McCombie—a difficult subject but one of great importance. The growth and reproduction of bacteria, the subject of the next chapter, is dealt with under the three headings of 'Phases in growth,' 'Cell division, colony formation and spore formation,' and 'Life-cycles.' Perhaps in the first section by A. Slator more might have been said on the question of suspended animation because of its bearing on the problem of conservation which is of particular interest in the case of filterable viruses. A. D. Gardner contributes the second section on cell division, colony formation and spore formation, and it is very good though it is somewhat surprising to find no mention of Fildes's recent work when the conditions affecting the germination of spores is under consideration.

Life-cycles in bacteria have had rather a vogue during the last few years, though the majority of bacteriologists adhere to the more orthodox view. H. C. Thornton however gives us some examples such as *B. rubicola* where developmental cycle do seem to pertain, though he recommendably cautions in arguing from such individual findings to bacteria in general. Chapter V on the theory of disinfection by H. Chick is a good account of the subject wherein the lines along which further investigation is required are clearly indicated. This chapter has a section devoted to antiseptic dyes by C. H. Browning who has done so much in this field. The metabolism of bacteria by A. Harden which forms the subject of the next chapter is not valuable, though it will probably prove rather difficult reading for many bacteriologists. Chapter VII on bacterial respiration by J. W. McLeod suffers perhaps from being too condensed, but it is extremely good and offers much food for thought. The short paper on the conception of oxidation-reduction potentials and its application to the problems of bacterial respirations is particularly good.

We always expect something good and eminently readable from Sir Frederick Andrewes, and in his chapter on nomenclature and classification this expectation is fully realized. He never fails to make his subject interesting and to have done this with the subject in question—it is the most readable chapter in the book—is no mean achievement. The volume concludes with an account of variation by J. A. Arkwright who has contributed so much to our knowledge of this question. It is a clear and well planned paper and contains a beautiful plate illustrating smooth and rough colonies of certain organisms.

"A System of Bacteriology in Relation to Medicine." Vol. I. Issued by the Medical Research Council. Vol. I. London: H.M. Stationery Office. 1930. (9½ in. × 6¼ in., pp. 374. Single volumes £1 1s. net; set of nine volumes £8 8s. net.)

THE ENZYME REACTION

A large number of papers by Italian workers on the relation between immunity and protective enzymes have appeared in recent years. This work has now been summarized by Sivori, Rebaudi, and Mennitti in a book on the enzyme reaction.[1] According to these authors, serums of immune animals contain enzymes, differing in character from those of the alimentary canal, which break down foreign proteins. The first products of hydrolysis are insoluble, later intermediate products toxic, and the end-products non-toxic. Theories of skin reactions, anaphylaxis, and the course of infective diseases based on this property are stated in outline.

In the first part of the book, containing only 128 pages, the authors deal also with endocrine disturbances and the etiology of, and immunity to, neoplasms, besides giving the results of certain experiments in detail. The result is neither a thorough discussion nor a brief outline of suggestive ideas, and is wholly unconvincing. In the second part the authors describe their enzyme reaction in detail. It differs from the Abderhalden reaction in that the antigens are liquid, being prepared by hydrolysis to the stage in which the biuret reaction for peptone is strong and the ninhydrin reaction weak, and that the mixture of antigen and serum is not dialysed, but the *ninhydrin*, used to test for products of digestion, is added directly to the mixture. The technique of the application of this reaction to tuberculous and syphilitic serums, and the results obtained by numerous workers are described. The results in tuberculosis appear to be valuable. Applications of the reaction to other diseases are mentioned also.

Although many authors are quoted in the first part of the book no references to them are given. There is no index.

DISEASES OF THE SKIN

Amid the flood of textbooks of dermatology which have appeared within the last few years that by Dr. G. C. Andrews of New York, *Diseases of the Skin*,[2] stands out. It is certainly among the best. While it is of ample size adequately to deal with the subject, the author maintains the proper proportions between what it is important for all students and practitioners to know about the essentials of cutaneous medicine and those quaint and interesting rarities which appeal almost exclusively to the specialist, whose attitude towards them often resembles that of the collector of postage stamps towards unique specimens of the philatelic art. Dr. Andrews has brought his account of the subject thoroughly up to date, and in doing so has taken immense pains. There is no better evidence of this than the vast bibliography appended to each chapter, which shows how thoroughly he and his assistants, whose help he generously acknowledges in the preface, have searched the whole of dermatological literature for all that might be useful in this *magnum opus*.

This is the first general textbook in which any account has appeared of the dietetic treatment of lupus vulgaris, now undergoing so thorough a trial in Germany. Dr. Edgar Mayer, who furnished the author with notes on the subject taken during a personal visit to Germany, has, it is interesting to observe, also tried the diet (the chief features of which are low content of sodium chloride, protein, and carbohydrate, and an enhanced proportion of fats and vitamins) on thirty patients with advanced pulmonary tuberculosis who had proved refractory to all accepted methods of therapy. He states that good results were obtained in about half the cases. Dr. Mayer was very favourably *impressed with the results obtained* from the diet at Munich, Giessen, and also at Leysin. Dr. Andrews has long been interested in the physical methods of dermatological therapy, and among the most useful chapters is that on ultra-violet light. As might be expected, he is conservative in his estimation of the value of ultra-violet rays in general dermatology, and definitely states that they must be considered inferior to *x* rays in all-round utility. There is one field for their action, however, which deserves to be better known than it is, and that is in the treatment of pitted scars, such as are often left after severe acne. In these, blistering exposures to ultra-violet light often lead to marked improvement. Another topic recently much discussed by dermatologists is the thallium treatment of ringworm of the scalp which the reader will find very judiciously dealt with in this volume. The author concludes that its *greatest* opportunity lies in the treatment of severe epidemics of tinea capitis when adequate *x*-ray treatment is not available, and also in combination with *x* rays for the treatment of adults for diseases of the skin requiring epilation. This is a field which has not as yet received much attention. Dr. Andrews has also used radium itself in the treatment of ringworm in very young and restless children, the applicators being fixed by strapping to the scalp.

A special word of commendation must be accorded to the illustrations, which are both numerous and excellent. In the volume of just over 1,000 pages there are nearly a thousand illustrations, for the most part excellently reproduced from clinical photographs, but there are also many diagrams explaining various points of technique, which will be found most useful. The whole volume is excellently got up, and, considering the amount of matter contained in it, remains moderate in size and easy to handle. We commend it with confidence both to general practitioners and to specialists.

PHYSIOLOGY FOR STUDENTS OF MEDICINE

Little need now be said in praise of the excellent treatise on *Physiology and Biochemistry in Modern Medicine*,[3] by Professor J. J. R. Macleod. It has reached its sixth edition in some ten years for the very good reason that it gives one of the best and most readable accounts of physiology particularly of the metabolic phase of physiological activity, in any language. The present edition, except that it records advances that have taken place in the last three years, differs but little from its predecessor. But we adhere to the opinion expressed in our review of the fifth edition that it was a mistake to expand this excellent book so as to make it serve as a textbook of physiology for students of medicine. In the first place the expansion has not been in all respects sufficient for this purpose, some subjects—for example, reproduction—being omitted from Professor Macleod's survey. Secondly, while the book fulfils the needs of those who have already some knowledge of the fundamentals of physiology, it makes very difficult reading for the novice.

A perusal of the text recalls the issue raised by some editorial comment on Sir Arthur Keith's oration on evolution in modern medicine (May 17th, p. 913). "The medical student has much to learn and only a short time in which to learn it, and the practitioner of medicine deals in very practical affairs. Our pastors and masters must realize this position for if, as we are told, physiology in the medical curriculum can now only be covered by three teachers where formerly one sufficed, it is certain that some selection in relation to utilitarian values will have to be made so far at least as the medical student is concerned." Teachers of physiology are not blind to the problem of relating their teaching to utilitarian values. Most of them, we believe, do not forget that physiology is, in the old Scottish phrase, the institutes of medicine, and in a very real sense an introduction to medicine. But what are the limits of the utilitarian? Are a few words on function following a detailed anatomical description enough? Clinically the subject is far too *fundamental and* too living to be dismissed in that way. If, on the other hand, it is allowed to become too copious, too abstract, and too concentrated on matters of purely academic interest, the average medical student will ask himself and his fellows What is the practical value of this material? What, for the lack of a better word, may be called the theoretical physiology must stand, but it should as far as possible be illustrated by clinical applications. Every

[1] *L'Enzimoreazione*. Del Prof. Luigi Sivori, Prof. Ulisse Rebaudi, Dott. Ivo Mennitti. Con prefazione del Prof. Arnaldo Tramontini. Milan: L. Cappelli. 1929. (Sup. Roy. 8vo, pp. viii + 222. 12 figures.)

[2] *Diseases of the Skin*. By George Clinton Andrews, M.D. Philadelphia and London: W. B. Saunders Company. 1930. (Sup. roy. 8vo, pp. 1091. 983 figures. 35s. net.)

[3] *Physiology and Biochemistry in Modern Medicine*. By J. J. R. Macleod, M.B., LL.D., D.Sc., F.R.S. Assisted by Rex G. Pearce, A. C. Redfield, N. B. Taylor, and J. M. D. Olmsted, and by others. Sixth edition. London: H. Kimpton. 1930. (Roy. 8vo, pp. xxxii + 1074, 295 figures. 42s. net.)

teacher of physiology has appreciated the general increase of interest in his auditors when he connects the physiology he is teaching with some clinical condition Probably the best result would be attained by the use of a short didactic textbook of physiology in which commonly accepted facts of the subject are plainly stated, and a textbook of reasonable dimensions and price which deals with 'clinical" physiology It is a common complaint of clinical tutors that many students of medicine fail to carry forward to their clinical studies either an adequate memory or an adequate appreciation of the data given them in the course of their training in physiology Obviously this may arise because of mental shortcomings on the part of the student, but it may equally readily and with as much justice be ascribed to faults in the teaching of physiology

THE WOUNDED BEHIND THE LINE

Unknown Warriors[1] is a war book It is not concerned with fighting but describes the immediate aftermath of battle—the fate of the wounded in the hospitals behind the line The author, Miss K F Luard, spent four years in France and much of that time was in casualty clearing stations In letters, written at all sorts of odd moments, he gives an intimate description of a nursing sister's life in a hospital near the front line The slack times preparing for the various 'pushes' the rush periods when the staffs were almost overwhelmed with crowds of wounded the lighter moments when the sisters went picnicking in the woods, the minor horrors of war, the mud the blood, the shelling are all depicted by one who, amid the turmoil and stress of war, never lost her interest in her work, her admiration for the bravery, and her sympathy for the suffering that surrounded her These letters were almost certainly not written with any idea of publication and in the absence of such motive they ring with an absolute sincerity which adds greatly to their merit Amid the plethora of literature that is being written, and will still be written about the war, it is inevitable that such a book should appear We are fortunate in having the subject presented by one who avoids all cheap devices to disgust her readers and yet draws an impressive picture of the cruelty and horror of war Two things stand out clearly the stoical courage of the wounded and the endurance and devotion of the nursing sisters Miss Luard treats her subject with a sure and certain touch as long as she keeps within the confines of the hospital When she strays from these well-defined limits and repeats gossip and reports about the military situation, gleaned from various sources we see the truth of General Rawlinson's statement, Rumours generally start in the casualty clearing stations ' The book may be recommended to anyone—doctor or sister—who is interested in the subject of military nursing It will also appeal to a wider public, who will find here a fresh picture of the war, drawn from a different angle

TABULAE BIOLOGICAE '

The sixth volume of *Tabulae Biologicae*[2] consists of about 100 pages of tabulated data relating to zoology, and concludes with nearly 200 pages of index The first four volumes of this work dealt with physiology and biochemistry and the fifth volume with botany The present volume deals chiefly with invertebrate zoology, for the first four volumes contained a large amount of data concerning vertebrate zoology The index however gives references to relevant matter in all six volumes As regards the contents of the volume now under review these are so varied that it is difficult to give a short indication of their character The data comprise the most varied information concerning the biochemistry, physiology distribution, life-cycle and mode of reproduction of the invertebrates The worms are dealt with particularly fully 200 pages The arthropods however are only allotted forty pages, which seems a somewhat inadequate space The most notable features of the vertebrate section are data regarding snake poisons, and a series of tables providing information about the reproduction of a large number of birds and mammals The volume should prove of great value to zoologists, and parasitologists also will find in it much useful information In general we may say that it maintains the high standard set by the previous volumes

NOTES ON BOOKS

Of the articles in the September instalment of *Annals of Medical History*,[3] two deal with the same subject for Dr L J Moorman contributes a paper on tuberculosis and genius as manifested in St Francis of Assisi and Dr R L Pitfield writes at greater length on John Keats the reactions of a genius to tuberculosis and other adversities and graphically describes the tragic mismanagement of his case by various medical advisers among them Robert Bree and Sir James Clark Dr M H Goldstein traces the influence on physiological concepts of Claude Bernard, whose portrait is borne on the cover Bernard in early life wrote a successful vaudeville, *Le Rose du Rhône* and carried another to Paris where however he was fortunately diverted to medicine and became Magendie's official *préparateur* at the Hotel Dieu A syphilitic skull found by Dr J C Tello in an ancient burial place in Peru which other evidence shows to be pre Columbian is described by H C Williams and cannot fail to interest those who differ from Sudhoff's opinion that syphilis was not imported from America Professor A S Warthin continues his well illustrated account of The Physician of the Dance of Death and describes the pre Holbein manuscripts block books, and incunabula Dr J H Lloyd defends Benjamin Rush against his critics remarking that eulogies are now less common, and that it has become fashionable to debunk history Infant welfare in the eighteenth century is considered by Dr F Caulfield and Mr Lambert Rogers of Cardiff sketches the history of craniotomy In the article on William Hunter's obstetrical career Dr G C Peachey adds some knowledge to the store he published in his well known book on the two Hunters Dr R H Major writes on the Ebers papyrus and a catalogue is given by Mr J F Ballard of the 257 incunabula in the Boston Medical Library

Dr W Bolton Tomson of St Leonards-on Sea has compiled a useful summary of the present position in a pamphlet entitled *The Housing Problem in its Relations to the Tuberculous and Tuberculosis Care Committees*[4] He indicates the great importance of providing suitable homes for necessitous tuberculous persons with a view to securing more rapid progress in the campaign against this disease He refers in detail to the views and propositions put forward by various authorities in this country and in France and offers certain specific suggestions for consideration One of his main points is that new houses should be made available for elected tuberculous patients at rents they can afford to pay after the expense of getting to and from their daily work has been taken into account The tenants would be subject to a signed agreement ensuring that everything possible was being done by them to arrest the spread of the disease The extra expenditure entailed by such provision of housing accommodation should Dr Tomson thinks be undertaken by the local tuberculosis scheme, in some instances it might be advisable to form a subcommittee of the tuberculosis care committee to supervise these tenants It is pointed out by the author that such a scheme of allocating houses to tuberculous persons has already been adopted in some parts of this country and also of the Continent and he discusses the possibilities brought into being by the Local Government Act in this connexion

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[1] *Unknown Warriors* Extracts from the letters of K. E. Luard R.R.C. Nursing Sister in France 1914-18. With a preface by Field Marshal Viscount Allenby G.C.B. G.C.M.G. London Chatto and Windus 1930 8s. pp. 306. 7 6d net)

[2] *Tabulae Biologicae* Herausgegeben von C. Oppenheimer und F. Pincussen Supplement II (Band VII) Z. f. d. ges. Berlin W. Junk. 1930. (7 × 9½ pp. vi + 636 34 figures 2 plates 45 10s or subscription price £5.)

[3] *Annals of Medical History* New Series vol. II No. 5 September Edited by Francis Packard M.D. New York P. B. Hoeber Inc. London Bailliere Tindall and Cox. 1930 (9½ × 11½ pp. 453-525 illustrated Subscription in Great Britain 45s. per volume (six numbers).

[4] *The Housing Problem in its Relations to the Tuberculous and Tuberculosis Care Committee* By W. Bolton Tomson M.D. London Bailliere Tindall and Cox. 1930 (Demy 8vo. pp. 75. 1 fig.)

PREPARATIONS AND APPLIANCES

EPINALIN

Epinalin is a combination of adrenaline (1 in 10 000) and ephedrine sulphate (1 in 50) The preparation is intended for application to the pharynx and nose by means of an atomizer It can also be applied to mucous membrane on a swab By these drugs produce vaso-constriction adrenaline produces a rapid but transient action whilst ephedrine produces a prolonged action The mixture thus ensures an immediate effect followed by a sustained action The mixture has been found useful in a large variety of conditions such as rhinitis hay fever and nasal catarrh it can also be used to check bleeding from mucous membranes This preparation is made by Messrs. Burroughs Wellcome and Co

NEW MOTOR LEGISLATION.

BY

STENSON COOKE,

SECRETARY, THE AUTOMOBILE ASSOCIATION

In the early days of motoring, when the utility of the motor vehicle was in the balance, medical men were among the first to realize the comparative advantages of the motor vehicle To-day the motor car is indispensible to the medical profession The few motor cars of those early days were regarded by many as dangerous machines, but since then motoring has made phenomenal strides The thousands have become millions The wonderful development of mechanical transport completely altered the everyday life of the public, and new legislation to meet these changed conditions has been long overdue

Those who motored in the first few years of the present century will have realized that for over twenty-five years the law has been unchanged During that time Royal Commissions and Departmental Committees have been appointed from time to time to investigate the legislative problems of motor transport, but it is only now that the results of those investigations have been given definite effect About a year ago the Road Traffic Bill was introduced in the House of Lords At the beginning of August last that bill received the Royal Assent

Dangerous Driving

The new Road Traffic Act abolishes the twenty-mile speed limit imposed in 1903 The futility of this artificial restriction was apparent from the start, and its only real value was as a means of extracting fines from the pockets of otherwise law-abiding citizens for the technical offence of exceeding the fixed limit There was no question of danger to others, and the twenty-mile limit contributed nothing to the safety of the public

Perhaps I may be pardoned for saying at this point that as far back as 1910–11 the Automobile Association took the initiative in drafting a new Motor Car Bill containing provisions for cancellation of the speed limit Since that time there has been a growing body of opinion in favour of repealing the speed limit and increasing the penalties for dangerous driving The main objection to the fixed limit has always been the fact that, whilst under some conditions it is possible to drive safely at thirty to forty miles per hour, in others a speed of only ten miles per hour might be dangerous

These important factors are recognized in the new Act, but this does not mean that the dangerous or inconsiderate driver will be allowed to imperil others The law in regard to dangerous driving is tightened up considerably, and a new offence of "careless driving" is created Motorists must still drive cautiously and with reasonable consideration for other road users The courts have comprehensive powers to suspend driving licences, and the penalties for dangerous driving have been increased, for the first offence to £50 or up to four months' imprisonment, and for the second and subsequent offence £100 or up to four months' imprisonment, or to both such fine and imprisonment

These increased penalties rendered it necessary, in the interests of the rank and file of motorists, that there should be adequate safeguards against unjust convictions for dangerous driving An amendment was obtained which gives every person charged with this offence the right of electing to be tried by a jury Also, to remedy the present position in which a motorist may be entirely ignorant of the details of the charge he has to meet until he appears in court, the A A was instrumental in securing that where a person is prosecuted for reckless, dangerous, or careless driving he shall not be convicted unless

(*a*) He was warned at the time the offence was committed or
(*b*) the summons was served within fourteen days of the commission of the alleged offence or
(*c*) a notice of the intended prosecution giving details as to the nature time and place of the alleged offence was served on or sent by registered post to the driver or registered owner of the car within fourteen days of the commission of the alleged offence

Drunkenness

The offence of being drunk in charge of a motor vehicle has been extended to cover a person who, when under the influence of *drugs* is incapable of having proper control of the vehicle For the first offence a fine up to £50 imprisonment up to four months, may be inflicted For second or subsequent conviction the maximum penalty increased to £100, or four months' imprisonment to both such fine and imprisonment The courts have also wide powers to disqualify a person from holding licence It will be seen that the penalties for this offence are substantially the same as for dangerous driving

Third Party Risks

Compulsory third party insurance is also a prominent feature of the new Act When it comes into operation January 1st, 1931, a person will not be allowed to use or permit any other person to use, a motor vehicle on the road unless it is covered by insurance against legal liability in respect of the death of, or injury to, any person caused by that vehicle Property is not covered Regulations have yet to be made as to the exact manner in which the will operate, but, in addition to the usual policy the insurance company will hand to the owner a "certificate of insurance," and when applying for his car licence this certificate must be produced

Fitness of Drivers

The question of physical fitness has now been embodied in the law of the land Individual tests of fitness before driving licences were granted was the original proposal but investigations showed that the small benefit to be derived from these individual tests would be out of all proportion to the expense and administrative work entailed in setting up the necessary machinery throughout the country for carrying out such tests As an alternative every applicant for a driving licence will be required to make a declaration as to whether or not he is suffering from any disease or physical disability which would render it dangerous for him to drive

The important question as to what diseases or defects shall constitute a definite bar to the driving of a motor vehicle is still the subject of discussion, but epilepsy and very defective eyesight will doubtless figure in this There is, however, every indication that the regulations in their final form will not be unduly restrictive or irksome

Other Provisions of the Road Traffic Act

The provisions of the Act relating to the prevention of "joy riding" or tampering with cars are of considerable interest to medical men, who are compelled unavoidably to leave their cars on the roadside for various periods No longer will the individual who takes away the car of another be able successfully to advance the plea that he was only "borrowing it" and intended to return it That, in effect, is what has happened in the past The person who drives away a car without the consent of the owner or other lawful authority will be liable to heavy fines and substantial terms of imprisonment Similarly, a person who interferes with the brakes or other part of the car mechanism will be subject to heavy fines

From time to time there has been a good deal of discussion as to the minimum *ages at which* persons should be allowed to drive various types of motor vehicles The Act alters the present minimum age for motor cyclists from 14 to 16 and also restricts the driving of heavy locomotives, light locomotives, motor tractors, and other vehicles other the ordinary motor car class to persons of not less than 21 years of age In each case persons who were driving in the six months prior to January, 1930, are unaffected

These are a few of the important changes contained in the Road Traffic Act There are other new provisions such as (*a*) prohibition of motor racing on a highway (*b*) restrictions as to pillion riding, (*c*) preparation of a Highway Code by the Minister of Transport, (*d*) the limitation of hours of work for the drivers of heavy motor vehicles, (*e*) the appointment of Traffic Commissioners (*f*) the institution of mobile police, etc Space does not permit of detailed reference to all these points but, taking the Act as a whole, there is no doubt that it contains many improvements on the obsolete law of the past twenty-five years, and that, whilst the reasonable motorist need fear no fears as to the effect of the new Act, it is clearly a definite attempt by Parliament to deal severely with the dangerous or drunken driver and provide measures for increasing the safety of the public

British Medical Journal.

SATURDAY NOVEMBER 15TH, 1930

PUBLIC HEALTH AND MATERNITY WELFARE.

THE judicious person interested in public health matters and in social movements related thereto reads each year with great advantage the annual report of the Chief Medical Officer of the Ministry of Health. Most of the subjects dealt with in that volume are of first rate importance, and Sir George Newman's method and style in setting them forth are always extremely attractive. In last week's *Journal* (p. 792) we began our summary of his report for the year 1929,[1] making *special reference to three of its sections*, and a further notice appears this week at page 836. It is to be hoped that these short articles will not satisfy the curiosity of our readers, but that at least the greater part of the report (varying in accordance with varied interests) will be widely studied. For buried within it, as usual, will be found a number of admirable essays full of acute observations and suggestions on matters of real moment to the medical profession and to the public. As illustrations may be mentioned the paragraphs touching the hygiene of pregnancy, contraceptive methods, the efficiency of the health insurance service, the increase in sickness insurance *claims and medical certification*, consultation of medical officers of health with the profession in general, the imperfect notification of tuberculosis, cancer curers, and the education of the public in health matters.

It may be that "buried" is too strong a word to use of these paragraphs; yet it seems certain that some medical officers of health and many members of public health authorities and other interested persons would never be in a position to avail themselves of their suggested wisdom if attention were not specifically drawn to them. At the present time, when very important new health duties have been placed upon county, borough, *councils and county councils*, many of whose new members possess much zeal but little experience, this is of peculiar moment. Intensive agitation by relatively small bodies of persons in favour of this or that medical remedy or surgical procedure or social panacea is liable to have an altogether undue effect in the absence of scientific knowledge and an atmosphere of reason. It is obvious, too, that great importance should be attached to the appointment of new medical officers in the public health service in view of their extended duties and especially to the staffing of the Poor Law hospitals which have been transferred to the new administration.

The appointment of *local medical practitioners* or specialists for outdoor or institutional service, the question of paying wards, the provision of facilities for medical education in institutions, the extension or restriction of the medical services of the Authority—all these are issues in which the medical officer of health should take such counsel as will better qualify him to offer timely and competent advice, and he should do this whether or not there be a local medical advisory committee. In areas in which there are medical schools or university and hospital centres the medical officer should advise his Authority to establish means for close and friendly co-operation. Full advantage should be taken by the Authority of the special skill and experience in medicine and surgery thus available. There should be no lack of willingness on the part of any branch of the medical profession to help local authorities and their officers in such ways.

Another *urgent matter in relation to the state of the* public health is reviewed by Sir George Newman in his chapter on maternity and child welfare. This is peculiarly opportune because the latest returns of maternal deaths are now given, and because the recent reports of Departmental Committees and the maternity schemes of responsible bodies are available for comparison one with another. As regards the statistics these do not reveal any material improvement in the situation generally, but they demonstrate that averages, as is well known, may be fallacious and that all parts of the country are not alike in the dangers of childbirth. In London the maternal death *rate is lower than in any other area*, both for puerperal sepsis and for other causes, and the rate for Wales and for the northern districts of England is notably higher than elsewhere. There are even particular towns, especially some six or seven in Lancashire, which reappear year after year as those with the highest rates. Though there is room for improvement everywhere, no doubt it is safe to say that an intensive campaign in such towns and in Wales would be reflected in a material improvement in the average figures for the whole country. Perhaps this consideration is among those which have influenced the Minister of Health in his recent announcements that the *immediate policy of the Government will be to urge*, and if necessary to enforce, upon local authorities a fuller use of the powers they now possess rather than to attempt to establish at once any more widespread *and comprehensive service*.[2] Economic circumstances probably furnish less justification for the postponement of a national maternity service on the lines proposed by the British Medical Association and the Departmental Committee than for that of any other social service, but no serious objection can be urged against the Minister's policy provided certain conditions are fulfilled. Such conditions are (1) that when any further ante-natal clinics are established and in connexion with any extension of the work of existing clinics the local general practitioners shall be fully utilized for such work, so that practitioners who are liable to be called in at the confinement itself may be those who have knowledge of and responsibility for the patient during pregnancy; (2) that arrangements for specialist consultation and service, whether ante-natal or at the time of the confinement or thereafter, shall be made with part-time consultants; (3) in general that no provisional arrangements shall be made which would interfere with the early establishment of the complete service, and especially that nothing should be done to prevent the linking of maternity work with a national insurance system; and (4) that negotiations shall be at once begun with all those concerned in the establishment of a national maternity service, so that the settlement of the difficult financial and administrative questions involved may be facilitated. Mr. Greenwood has himself announced this first condition as part of his policy, and preparation may now be looked for. Meanwhile there is every reason to proceed with such reforms in the training of midwives and the education of medical students as have been recommended by the Departmental Committee or as may emerge from the consideration now being given to the subject by the General Medical Council.

[1] *On the State of the Public Health.* Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1929. London: H.M. Stationery Office. 1930. 3s. 6d. net.

[2] *British Medical Journal*, October 18th, p. 657, and November 1st, p. 781.

SPECIFIC AGGLUTININS AND PATERNITY

The presence in the blood of individual specific substances by which one man can be recognized from another, and the possible transmission of such characters from parent to offspring, are a matter of interest alike to the geneticist, to the clinician, to the legal authorities, and to the doubting parent. If such individuality were capable of demonstration many doubtful claims of legitimacy could be definitely settled, and if it could be definitely detected in blood stains, for example, a great advance in criminal investigation would be made. The presence in human blood of specific agglutinins and agglutinable substances, and the knowledge that these are transmitted according to Mendelian principles, has certainly done something towards reaching this ideal. Professor Karl Landsteiner of Vienna, whose name is so closely associated with research on the specific isohaemagglutinins in blood and the distribution of such factors in four main groups, has just been awarded the Nobel prize *in medicine*, and this must be a source of satisfaction to all those who have so keenly followed his work.

Since Landsteiner first observed, in 1900, that the agglutination of the red cells of one individual by the serum of another was by no means a chance process, but that it followed definite relationships, a considerable literature concerning blood groups has grown up, scattered over a wide range of journals. The publication of a handbook focusing the work on this interesting subject is opportune, and, in his *Blood Grouping in Relation to Clinical and Legal Medicine*,[1] Dr. Laurence Snyder has brought together the salient facts and hypotheses. His book deals with the indications for and against transfusion, the choice of a donor, and the various methods, direct and indirect, used in the transfusion of blood. Some attention is paid to the technique of blood grouping, but this is rather sketchy, as is the technique for identifying the group in blood stains for medico-legal purposes. These parts of the book occupy in all about thirty pages. More interesting are the chapters on the hereditary transmission of the group characters. Snyder discusses in a simple manner the Mendelian hypothesis of heredity, and applies this to the transmission of factors associated with the red corpuscles to form the four blood groups in man. Von Dungern and Hirszfeld's original hypothesis that these were inherited as two independent pairs of Mendelian factors (the agglutinogens A and B being dominant to their respective agglutinins *a* and *b*) is discussed, together with the more recent views of workers in this field. The hypothesis of triple allelomorphs put forward first by Bernstein from statistical observations, and confirmed by Snyder and others on observed hereditary data, is dealt with at some length. According to this the genetic factors responsible for the four groups are all located on the same spot on a single pair of chromosomes. Three factors are supposed, two of which (A and B) are dominants, and one (O) recessive. From the point of view of inheritance the hypothesis of triple allelomorphs does not question the validity of the original hypothesis, the only difference being in unions in which one of the parents is in group AB, *in which the possible blood groups in the offspring are more restricted*.

There seems to be no doubt that isohaemagglutinogens never appear in a child unless they were present in one of the parents, and when neither parent has an agglutinogen none of the children can have it. The group test therefore offers a means of deciding certain questions of paternal identity. Snyder discusses in some detail the medico-legal value of the group test and also its limitations with reference to alleged paternity. Reference is made to the fact that no one of the various hypotheses of heredity has been satisfactorily proved, and also to the fact that even the division into four groups only is open to certain objections. Landsteiner and Levine's work, showing that there are a number of more or less definite agglutinable factors within the four major groups, is mentioned in this regard. Todd's work on cellular individuality is too recent for inclusion, but this work suggests that the red cells of any one animal have distinctive characters by which they can be clearly differentiated from the cells of any other animal of the same species by comparatively simple serological methods. Todd has shown also that such specificity is transmitted by one or both parents to the offspring. Thus, if a polyvalent serum, prepared by using the blood of a large number of hens as antigen, is exhausted with the blood of both father and mother, it will not agglutinate the blood of the chickens of these two birds. This work is not applicable to human beings at present, but it points to an almost infinite range of specificity within species. These specific bodies differ apparently from the specific bodies which are associated with the four recognizable blood groups.

In passing, we might mention Zangemeister's work on the optical properties of the blood of parent and offspring. This research suggests that when the blood of closely related persons is mixed, the luminosity, when viewed through the ultra microscope, tends to diminish, due to agglutination of the protoplasmic colloids. Zangemeister's work is in the experimental stage, but it is of the greatest interest, not only in connexion with proof of paternity, but as another proof of the individuality of the proteins which go to make up protoplasm.

[1] *Blood Grouping in Relation to Clinical and Legal Medicine*. By Laurence H. Snyder, Sc.D. London: Baillière, Tindall and Cox. 1930. (22s. 6d. net.)

DR. CHEVALIER JACKSON

The name of Chevalier Jackson has long been familiar not only to every specialist in laryngology, but also to every English-speaking practitioner of modern methods *in medicine*. His recent visit to London, therefore, is an event of unusual interest. As Mr. Frank Rose, president of the Section of Laryngology of the Royal Society of Medicine, said in welcoming Dr. Jackson at the dinner given to him last week, a large number of those to whom his name, his writings, and his instruments are well known, but who have never been able to visit Philadelphia, have now had the opportunity of meeting him face to face, and of hearing him speak on several occasions, an experience that will leave an indelible impression. The president speculated on which of their guest's achievements would secure for him immortality: his skill in operating on cancer of the larynx, his dexterity in extracting foreign bodies or his bronchoscope. Dr. Jackson's value to his own generation is of a rather different order.

It is no more than a few decades since the laryngologist was a person who did little more than inspect the vocal cords with a mirror. Laryngology dates naturally from the invention of the laryngoscope by Manuel Garcia in 1855. Development since then has been rapid and steady, and in this no one on either side of the Atlantic has played a more active part than Chevalier Jackson. He is still advancing the frontiers of laryngology. The invitation from the Medical Society of London to open a discussion on malignant disease in the chest is a remarkable and gratifying [illegible] The Royal Society of Medicine

too has acknowledged the services of Dr Jackson to general medicine as well as to laryngology by inviting him to address the whole society This is the highest compliment it can pay to anyone who is not one of its own members—an honour jealously guarded and reserved for very few The Barnes Hall has never held a larger or a more appreciative audience than that which listened to Dr Jackson's address on the pathology and treatment of suppurative diseases of the lungs, reported in our issue of October 25th

The welcome that has been extended to Dr Chevalier Jackson sprang from a profound admiration for his personality and his work His modesty and his generous acknowledgement of the help received from his associates and assistants are traits particularly gratifying to his British admirers To Mr Herbert Tilley thanks are due for persuading this distinguished guest to accept the hospitality of London, and we trust it will not be long before he repeats the visit

AMPUTATIONS

By the time the great war came to its official end British limb-fitting surgeons had generally agreed on what their experience led them to think were the principles upon which amputations should be performed and what were the most suitable sites, having regard to the subsequent fitting of useful prostheses The discussion held in the Section of Surgery of the Royal Society of Medicine on April 2nd, on which we commented at some length in our issue of April 12th, and the discussion held on November 4th in the Orthopaedic Section (reported this week at page 823), show that the last nine years' experience has not caused surgeons to change their views except in regard to very few procedures Mr Verrall summed up the developments of amputation practice in the last ten years as follows "an alteration in opinion as to the length of the thigh stump the value of the Syme and of the Stokes-Gritti, the question of drainage in amputations, of treatment of the nerves a consideration of the choice in the case of mid-tibial amputation between an anterior and a posterior flap based on the trophic condition of the leg, and finally the admission of the operation of arthroplasty as a reasonable and eminently successful proceeding for the treatment of stiff joints in amputation stumps" It may therefore be assumed that the theory and practice of amputation has become, for the time at least, stabilized and the paper read by the president of the Orthopaedic Section, Mr P Jenner Verrall, should become a permanent guide to those surgeons all over the country who are liable to be called upon at any moment to amputate a limb The fearful tax laid on life and limb by motor vehicles, which produce as many casualties in a year as a quite respectable military campaign, has vastly increased the annual number of such operations We suggested in our leading article in April that the unfavourable opinion formed of the late results of certain typical operations was perhaps due to the experience having been drawn from war cases in which the condition of the tissues was unfavourable It appears, however, from Mr Verrall's paper that this is not the case, for unfavourable late results of Syme's amputations and of those with long thigh stumps have been met with in civilian practice In the case of Syme's amputation the recent experience of orthopaedic surgeons appears to be in conflict with that of the limb-makers most of whom can put on record cases which after many years, are still satisfactory One well known firm wrote on this subject as follows

> We have quite a number of customers who have been wearing artificial feet for Syme's amputation for ten years or more some for twenty thirty and even forty years and although from the aesthetic point of view we do not like the amputation as it is very difficult to conceal the fact that a limb has been lost especially in the case of a lady we are bound to state that considered as an amputation only it is an entirely successful one.

Can it be that some change in the procedure of late years has unfavourably affected the durability of good primary results? It is admitted by its critics that Syme's amputation gives in some cases excellent and lasting results Is there no way of telling in advance the durable from the transient good stump? The question is important to the patient, for there is no comparison in comfort and in economy between the Syme prosthesis which leaves the knee free, and that for a mid leg amputation, with its cumbrous knee joint and tight-fitting laced thigh corset involving as it does the necessity for very skilled and accurate fitting of the socket below the knee

PREVENTION OF PSYCHOLOGICAL DISORDERS

ALTHOUGH psychologists are tending more and more to the view that psychological disturbances in the adult are derived from faulty environment in childhood or infancy, the avoidance of such disturbance is seldom regarded as a serious part of preventive medicine Dr R D Gillespie, in his paper (printed at page 807) on the psychology and psychopathology of childhood puts this aspect of the work of the psychologist in a clear light In dealing with children the psychologist has the advantage of handling young material, plastic and gifted with marked powers of recuperation A child is not merely remarkable for the suddenness with which he is prostrated by disease but for the vigour with which convalescence progresses, and in his mental reactions he shows a similar buoyancy Usually, Dr Gillespie finds, psychological symptoms in the child depend on the frustration or misdirection of some of his tendencies by his environment, and an adjustment of the offending environmental factors causes the symptoms to disappear No analysis of the child's mental state is usually necessary and the adjustment can be made through interviews with parents as soon as the fundamental problem has been solved There is a danger, against which he offers a warning of interpreting the child's mental state in the terms of adult experience such an attitude must inevitably bias the judgement and lead to errors In the child the prognosis for psychological disturbance properly treated is nearly twice as good as in the adult according to a small group of statistics obtained by Dr Gillespie at Guy's Hospital, in this group only about a third of the adult patients could be classed as improved or cured while the number of children who recovered reached 65 per cent There is a possibility that a proportion of these children might have recovered without the aid of the clinic so strong is the urge to adaptation but it is equally probable that a certain number of those who found adjustment difficult in childhood would have progressed to a more serious disability in later life if they had been suffered to go untreated It is on these grounds that Dr Gillespie urges the importance of establishing a sound adjustment in childhood believing that herein lies the prevention of adult neurotic and perhaps psychotic disorders He points out that certain morbific traits appear in childhood at a time when characteristics of a similar type are modifiable, though it has yet to be decided whether the morbific and modifiable characteristics are the same There is an opinion however among certain of those psychologists who have worked with children that the development of adult psychoses is being prevented at least in some cases If this is really so its importance can scarcely be over-emphasized On economic grounds alone the cost to the community of mental hospitals is considerable while the neuroses are responsible for a heavy toll in loss of work every year At present our knowledge of psychological disorders in childhood is handicapped by lack of data other than the retrospective statements of adults.

[1] *British Medical Journal* 1930 i 693.

Dr Gillespie believes that the psychologically minded paediatrician is the person best fitted to carry out research among children, by observation of the onset of these disorders The psychiatrist, who at present sees only the end-results, would thus be enabled to obtain his material in the early stages, by reference from the paediatrician, and symptoms due to maladjustment would be open to treatment before they had acquired any pronounced hold on the character of the child

THE MUSCLES OF THE LARNYX

The annual Semon Lecture, under the auspices of the University of London, was delivered at the House of the Royal Society of Medicine, on November 6th, by Mr V F Negus The lecturer devoted himself to showing, with the aid of demonstrations in comparative anatomy and physiology, how well proved was the theory put forward by Sir Felix Semon with regard to the muscles of the larynx This organ, said the lecturer, might be described as a scaffolding of cartilages and two sets of muscles, which he called respectively the sphincteric and the dilator Semon, in his *Clinical Remarks*, published in 1881, laid it down that if there was any interference with the common nerve supply to the two groups of muscles, the dilator muscles were paralysed sooner than the sphincteric In remarking upon this far-reaching law, the lecturer traced the evolution of the larynx from its primitive forms to its complicated structures in man Semon himself started by regarding the larynx as the organ of voice, but from a study of comparative anatomy it was evident that a very large number of animals never used it for this purpose, vocalization was only a secondary function of the larynx From a study of lunged fish, such as the Amazon mud-fish, it appeared that the primary function of the sphincteric muscles of the larynx was the protection of the respiratory epithelium If this muscle did not act, certain fishes would be drowned as soon as they went under water, but the sphincteric muscle was able to close the larynx like a purse-string The lecturer considered this to be an important factor in explaining Semon's theory that the sphincteric muscle of the larynx originally came into being before the dilator muscle, and had a vital valvular function in protecting the lungs It was the general rule, seen in other parts of the body, that an organ of vital importance and earlier origin survived an organ of less vital importance and later origin Various changes and adaptations had taken place in the sphincteric muscle in the course of evolution Thus some creatures, such as crocodiles, were enabled to keep their mouths open under water and catch prey, so long as their snouts were above the surface In some animals the protective closure was supplemented by closure of the nostrils, and there were curious modifications of the larynx in ruminating animals Turning to the dilator muscles, Mr Negus said that these did not belong to the larynx in the simpler species later, they became included, and in man assumed a much more important position Here again he showed examples of the larynx in various animals, including the tilted larynx in the muntjac or American barking deer In man the dilator muscles had assumed a greater importance They had to contract to hold the glottis open, otherwise the membranous folds would stick together and air could not enter Nevertheless, the greater importance of the sphincteric muscles, derived from their earlier origin, remained, and Semon's law still held good There were certain secondary functions of both groups of muscles The sphincteric muscle, for example, had a function of its own in retaining air in the lungs, and the dilator muscle the function of contraction during simultaneous respiration and deglutition, a mechanism brought to perfection in whales and porpoises, where the dilator muscles had a part to play in the highly specialized modification of the blow-hole on the top of the head Phonation was one function of the combined sphincteric and dilator muscles, but it was a function acquired late The larynx happened to be a convenient organ of voice, but it was not evolved for that purpose, its primary object being the protection of the air tract Semon thought that the movement of the glottis might be looked upon as part of respiration Actually it was the first act in respiration, the glottis opening at the beginning of inspiration, before the respiratory muscle contracted, also it started to close before expiration had ended After anastomosis of the phrenic nerve, it was interesting to note that the timing had changed, the movement of the vocal cord taking place at the same time as contraction of the diaphragm Sir David Ferrier once suggested that the muscles of the larynx might be compared with the muscles of the limb, in which the extensor muscle were paralysed before the flexor, should there be any injury to the nerve supply, that was probably a protective mechanism In an arboreal species it was obviously most important for an animal to retain the power of hanging on to a branch But the same question of relative importance was involved in the larynx, and in every respect comparative anatomy supported Semon's theory At the close of the lecture Mr Negus was presented with the Semon medal by Lady Semon

DRAFT POTTERY REGULATIONS

In our issue of March 23rd, 1929 (p 562), we called attention to the reports on the incidence of silicosis in various industries—the pottery industry, the sandstone industry, and others The Home Office wisely approaches the considerable problems arising out of the evidence so obtained in two ways first, by schemes entitling those who are found to be suffering from silicosis (or the dependants of those who have died) to obtain compensation, and, secondly, and as far as possible contemporaneously, by the issue of Regulations to minimize the amount of siliceous dust evolved in the processes So far as the pottery industry is concerned, the evidence made it clear that periodic examination by a medical board was desirable As the constitution of such a board is now in sight, since the passage of the Workmen's Compensation (Silicosis and Asbestosis) Act of last session, the Home Secretary has issued draft Regulations (additional to the existing Pottery Regulations) in regard to dust prevention He emphasizes their urgency by stating that, since the Various Industries (Silicosis) Scheme came into force (as recently as in February, 1929) 113 cases of total disablement, including 54 deaths, have been reported Twelve processes (mainly those in which the dust from ground flint is in question) are specifically named which must be carried out under an efficient exhaust draught Everything turns on what is meant by "efficiency" in this connexion We regret to see that no attempt is made at a definition Can it not be determined by an instrument—an anemometer, or the height to which a column of water in a U tube is drawn up—or by a permissible limit of milligrams of dust per cubic metre of air at breathing level (as in South Africa[1]), or by the number of particles under 10 microns as tested by the Owens dust counter (as in Sydney sandstone mining)? Is it still to be regarded as efficient if the back of the hand is chilled, or if a handkerchief is drawn inwards by the draught at the exhaust opening? This is the most practical urgent point in the matter of silicosis—attainment and enforcement of some standard More would be accomplished in the prevention of silicosis by the determination of the dose of particles of free silica under 10 microns which, inhaled daily, would in the course of ten years produce disabling silicosis, than by all the elaborate

[1] Contributions to the Study of Miners' Phthisis By A Mavrogordato South African Institute for Medical Research 1926 p 61
[2] Extract from the Report of the Director General of Public Health New South Wales, for the year 1927

dissertations now being published on its prevalence throughout the world It is impossible not to extend sympathy to employers and workpeople alike over the risks attendant on so useful and, in its output, so beautiful an art and craft The industry has, in magnificent manner overcome the risk from lead poisoning which was another of its banes in bygone years In 1898, for example, from pottery works alone 457 cases of saturnism were reported, last year the number was 14 This success should inspire all concerned to cope with the trouble now brought to light

REGISTER OF BIO PHYSICAL ASSISTANTS

THE Representative Body of the British Medical Association in July, 1928 pointed out the need for the registration of competent and suitable lay persons to whom doctors could with confidence send their patients for electrical treatment and actinotherapy In the following December the Science Committee presented to the Council a report on the practical steps to be taken to organize courses of training in these procedures, and to prepare a roll of persons who had satisfactorily followed such courses A small committee of experts was then formed to draft general lines of procedure, and an arrangement was entered into with the Society of Apothecaries of London to institute a register of approved persons under the conditions prescribed Regulations were drawn up and the first *Register of Bio-Physical Assistants* was printed and published a few months ago under the direction of the Society of Apothecaries[1] This contained full details of what is required in order to become a registered bio-physical assistant a statement of the undertakings which registered persons are required to sign, and the first list of names arranged both alphabetically and topographically At the suggestion of the Science Committee, and with the co-operation of the Society of Apothecaries, we publish in the *Supplement* this week, for the convenience of medical practitioners at home and abroad the topographical part of the *Register of Bio-Physical Assistants* revised to October 31st, 1930 Those whose names appear therein have been approved as persons "competent to dispense the direct current, ionization, faradic currents, sinusoidal currents diathermy, high frequency currents, light and heat, and ultra violet light"

PUBLIC HEALTH CONGRESS IN LONDON

A CONGRESS and exhibition are held every November at the Agricultural Hall, Islington organized by a council composed of representatives of the Ministry of Health the Board of Education, the Board of Control, and the various associations of municipal corporations, county councils, and other public bodies The congress is devoted in alternate years to local administration on the engineering and public works side and to local administration on the side of public health This year it is the turn of public health and the congress, which is to be opened by Mr Arthur Greenwood, the Minister of Health on November 17th and to continue until November 21st has a very full and interesting programme Among those who are giving addresses are Sir Arthur Newsholme, who is to speak on medicine and the State, Dr W M Ash on the school medical service, Profes or E Mellanby on maternal mortality Dr T Beaton, on the mental health problem Dr E S Litteljohn, on mental deficiency and Professor C S Myers, on industrial psychology The chairmen at the various sessions include Sir Herbert Samuel, Sir Charles Trevelyan, President of the Board of Education, Miss Susan Lawrence, Sir Arthur Robinson and Mr L G Brock A special discussion is to take place on the morning of November 21st on the sterilization of the unfit, and among the announced speakers are Dr W F Menzies, Dr A F Tredgold, Dr C P Blacker, and the Right Rev Monsignor Newsome In addition to the ordinary sessions, meetings of various associations are to be held in connexion with the congress The British Hospitals Association is to discuss hospital contributory schemes, the Association of Hospital Officers is to take up the subject of co-operation between the voluntary and council hospitals, and other bodies are to debate sewage disposal, water supply and public cleansing problems Evidently a full week's work is anticipated, and delegates are expected from very many of the local authorities in Great Britain An exhibition filling the vast space of the Agricultural Hall and including plant machinery, and materials used in the various public health services, will be held during the week

[1] *British Medical Journal* May 31st 1930 p 1012

TABULAE BIOLOGICAE

THE six volumes of collected data published in Berlin under the title *Tabulae Biologicae* deserve the attention of workers in biological sciences The appearance of the first volume of the series in 1925 was welcomed warmly in these columns, for the difficulty of hunting down data is well known to all investigators Collected tables of data have long been recognized as an elementary necessity by chemists and physicists, and the lack of anything in biology that corresponded to the volumes of Landolt-Bornstein or Kaye and Laby was a very serious hindrance to research *Tabulae Biologicae* evidently met a widely felt need, for the work, which was originally planned to comprise four volumes dealing with physiological and biochemical data has since been expanded by the addition of botanical and zoological volumes The collection of biological data, even on a modest scale, is a remarkably difficult and tedious task, and it is impossible to escape a feeling of amazement when glancing through the thousands of pages of tabulated data brought together in these volumes Biological workers certainly have reason to be grateful to the authors who have completed this labour, and it is pleasing to learn that the volumes have met with widespread appreciation The editors announce that the series will be continued in periodical form, one volume in four parts will appear annually The bulk of scientific literature becomes every year more overwhelming but we can welcome this particular addition without hesitation because it will serve to reduce rather than increase labour

SIR FREDERICK GOWLAND HOPKINS D Sc F R C P Professor of Biochemistry in the University of Cambridge has been recommended by the President and Council of the Royal Society for election to the presidency of the Society at the anniversary meeting to be held on December 1st

SIR ARTHUR KEITH M D F R S was on November 8th elected Rector of the University of Aberdeen in succession to the late Earl of Birkenhead

AT the Yeomanry Dinner to be given by the Master Wardens and Court of Assistants of the Society of Apothecaries of London on Tuesday next November 18th the honorary freedom of the Society will be conferred upon Mr Arthur Greenwood Minister of Health and the gold medal will be presented to M Fourneau

ORGANIC GASTRIC SYPHILIS

CORRECTION

WE have to correct an unaccountable blunder which occurred in our last issue dated November 8th 1930 Dr David Smith the author of the article on Organic gastric syphilis printed at page 773 was described in the heading as Assistant Physician Royal Infirmary, *Edinburgh* This, of course, should be Royal Infirmary, *Glasgow*

DINNER TO DR. CHEVALIER JACKSON.

The President and Council of the Section of Laryngology of the Royal Society of Medicine held a dinner at the Langham Hotel, London, on November 7th, in honour of Dr Chevalier Jackson, professor of bronchoscopy and oesophagoscopy, Jefferson Medical College and University of Pennsylvania Graduate School of Medicine The chair was taken by Mr Frank A Rose, president of the Section, and the large company included members of the Section from all parts of Great Britain, many of whom had had the opportunity of welcoming Dr Chevalier Jackson on the previous evening at an informal reception given by Sir StClair Thomson

The President, in proposing the health of the guest, began by contrasting his own first experience of seeing an oesophagoscope used in 1899 with his experience at the Jackson Clinic in Philadelphia twenty years later, when he saw Dr Chevalier Jackson remove a foreign body from the bronchus in about two minutes Mr Rose suggested that the man they delighted to honour that evening would perhaps be remembered by future generations not so much for his success in operating on the larynx for carcinoma nor for his dexterity in removing foreign bodies, but would rather be compared to Elias Howe, who invented the sewing machine Howe showed the world that the eye of a needle ought to be at its point, similarly Chevalier Jackson would perhaps be remembered longest as the man who taught the world to place the light of a bronchoscope at its tip It might be that when the memory of his other achievements had grown dim, as they merged into the ever-growing stream of medical knowledge, Chevalier Jackson would for all time be known by his bronchoscope

Mr Herbert Tilley, in seconding the toast, said that it "worship of a hero is transcendant admiration of a great man," then, and without flattery, he could assure Dr Chevalier Jackson that he was surrounded by a great company of devout worshippers It might be no compliment to speak of Dr Jackson's great work, *Bronchoscopy and Oesophagoscopy*, as a classic, because that had been defined as "a book which everyone praises but no one reads," whereas this volume was such a source of light and inspiration that it might well be termed the bronchoscopist's bible Mr Tilley then referred to the brilliant exposition of the subject which Dr Chevalier Jackson had recently given before the Royal Society of Medicine, where his audience enjoyed a vivid and artistic description of his methods for dealing with suppurative lesions of the lungs How much he was appreciated in his own city was shown four years ago when Philadelphia awarded him the Bok Memorial Prize Furthermore, he had already anticipated a monument to his name by building a wonderful museum of pathological lesions and of foreign bodies removed by him from the lungs or oesophagus Mr Tilley said, in conclusion, that the sentiments he wished to express on behalf of his colleagues would be most fitly rendered by a modified verse of the poet-physician of Philadelphia, Wm Mitchell

> 'And now you've found with us a second home,
> And in the practice of Life's happiest arts
> You little guess how readily you've won
> The added friendship of our open hearts"

Dr Chevalier Jackson responded to the toast in a speech of characteristic modesty He began by referring with a touch of sadness to his father, who was born in Hull about a hundred years ago, and, after sailing to the United States never returned to England He felt that this splendid welcome would have delighted his father were he still alive It had been suggested, Dr Jackson said, that he might speak on "the making of a bronchoscopist," but a bronchoscopist was born, not made, and in illustration of this he told, with dry and sparkling humour, two stories against himself

The health of the other guests was proposed by Dr Dan McKenzie, and responded to by Dr T Watts Eden, President of the Royal Society of Medicine, and Sir Humphry Rolleston, Regius Professor of Physic at Cambridge

THE STATE OF THE PUBLIC HEALTH.

SIR GEORGE NEWMAN'S REPORT FOR 1929

[Second Notice *]

The average age of the population of England and Wales is steadily rising, owing to a decrease in the proportion of children to the total population, and an increase in the proportion of persons past the prime of life In 1928 the birth rate exceeded the death rate by 5 per thousand living, which meant a net increase of 5 for every thousand of the population This figure was less than half that which obtained during the quinquennium 1921–25, and very little more than one-third of the figure for 1916–20 In 1929 there was a further decrease in the birth rate (from 16·7 per thousand to 16·3), and a substantial increase in the death rate (from 11·7 to 13·4), so that the net increase of the population was further reduced from 5 to just below 3 per thousand living The number of births (643,673) is the lowest, and the number of deaths (532,492) the highest recorded for a great many years The mortality of infants during the first year of life rose to 74 per thousand births, as against 65 the previous year, so that of the reduced number of children born still fewer survived infancy

Causes of Death

The principal certified causes of death were the following

	Per 1 000 deaths.
Diseases of the heart and circulation	225
Bronchitis, pneumonia, and other respiratory diseases	157
Cancer, malignant disease	107
Diseases of the nervous system	82
All forms of tuberculosis	71
Influenza	55
Diarrhœa, enteritis, and other diseases of the digestive system	52
Non venereal diseases of the genito-urinary system	43
Violence	41
Old age	40
Premature birth and diseases of early infancy	31
Measles, whooping-cough, and diphtheria	21
Other causes	69

The deaths from influenza, which numbered 7 754 in 1928, rose, in consequence of the spring outbreak, to 29,084 in 1929 Owing to the complications following influenza, the death rate from pulmonary tuberculosis and from respiratory diseases also increased

Epidemic Diseases

Small-pox showed an increased prevalence in 1929 in and near London, accompanied by a decline in most other parts of the country Generally the disease was of the mild variety The notifications of enteric fever (including paratyphoid) were considerably fewer in 1929 than in the two previous years Scarlet fever continued to be of the mild type, and measles, though once again the most fatal infectious disease of childhood, showed a smaller number of deaths Several local authorities, particularly in London, are using the serum of convalescents to protect selected children who are found to have been exposed to measles infection In infectious diseases hospitals of the London County Council convalescent serum is also being used to check the spread of infection in the wards There were no extensive outbreaks of diphtheria during 1929 with the exception of one of 237 cases with 12 deaths at Poole The investigation of psittacosis is described in the report, the hypothesis of a filterable virus as the causal agent is regarded as the most probable, and certain observers are engaged, with the assistance of the Ministry, in the arduous and prolonged researches necessary to establish it It is hoped shortly to publish a special report on the subject The decline in the notifications of encephalitis lethargica continues, the notifications were little more than one-fifth of the number in 1924 There was a sh[ort]

* The first notice of the Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1929 appeared in the Journal of November 8th (p 792)

rise in the number of notifications of poliomyelitis and polioencephalitis, though the death rate was lower Cerebro-spinal fever continued the upward tendency remarked since 1923

Rheumatism Tuberculosis Venereal Disease

After quoting from recent writings on acute rheumatic infection in childhood Sir George Newman expresses the opinion that no sufficient case has been made out for the routine removal of apparently healthy tonsils in the rheumatic or potentially rheumatic child simply as a measure of prophylaxis against acute rheumatism The removal should only be undertaken if there is some definite local condition, such as obvious enlargement or disease, associated adenitis, or ill health caused by the obstructive size of the tonsils In discussing chronic rheumatism he mentions that the incidence continues to judge from industrial statistics, at about the same level The figures from the approved societies show that rheumatic diseases account for about 14 per cent of total sickness and disablement

The new cases of tuberculosis coming to the knowledge of the health officers of local authorities have shown, especially in the pulmonary form, a steady decline for many years The number of deaths from pulmonary tuberculosis rose slightly in 1929, but was below the figure for 1927 The figures for each year since 1847 show a remarkable consistency of diminution The following table indicates the death rate for tuberculosis of the respiratory system per million living, the figures being taken at intervals of ten years

1847	3 189	1897	..	1,356
1857	2 690	1907	..	1,125
1867	2,653	1917		1 085
1877	2,184	1927	..	744
1887	1 685	1929		738

Several pages of the report are devoted to a discussion of the place of the village settlement in a tuberculosis scheme Sir George Newman regards the village settlement as a highly important experiment in connexion with the problem of after-care

The number of treatment centres for venereal disease at the end of last year was 178 in England and 10 in Wales The cases of syphilis dealt with at the centres showed a decline in numbers, but the number of cases of gonorrhoea was higher than it has ever been It is deduced, however that the figure for gonorrhoea indicates not a real increase, but the greater use of the centres by persons suffering from that disease The low ratio of gonorrhoea to syphilis in females (1 18 to 1) as compared with males (2 76 to 1) suggests the probability that a large proportion of women with gonorrhoea remain untreated

The Cancer Problem

The recorded deaths from cancer per million of population again showed a rise in 1929 the figure being 1 437 as compared with 1,425 in 1928 The rate is higher than in any previous year, and is, roughly double that which obtained thirty-five or forty years ago In males to judge from the death certificates, the most frequent site is the stomach, in females the breast There is a declining incidence among males of cancer of the tongue and jaw and in view of the possibility that a proportion of cancers of the tongue originated in old syphilitic lesions it would be reasonable to attribute this improvement to the higher curability of syphilis The mortality from cancer of the uterus has been falling for some years past, possibly owing to improvements in the care of women during and after childbirth whereby local effects on the cervix which are the precursor of cervical cancer have been diminished From a study of the sex incidence, it would appear that whereas in 1851–55 the susceptibility of females to cancer was more than double that of males in 1921–25 the susceptibility of the sexes was approximately equal From certain other facts set out in the Registrar-General's report Sir George Newman draws the general conclusion that previous local disease or injury is a more important factor in the causation of cancer than susceptibility the resistance varies with the organ concerned, remaining steady in some sites increasing or decreasing in others varying with the sexes and probably also with age Sir George Newman points out that under the powers conferred upon local authorities by the Local Government Act many of these bodies will be called upon to provide treatment for the sick poor of their districts As the sick poor include a large proportion of cancer cases an opportunity of education in preventive treatment will be afforded

"Cancer Cures"

With regard to non professional amateur or quack remedies for cancer, to which public notice has lately been drawn, Sir George Newman states the condition which must be met before it can be stated that one method is superior to another the number of cases must be large enough to avoid errors due to chance there must be no reasonable doubt that the cases were cancerous and the proportion of three-year or five-year cures must be definitely greater after one method than after the other Unless these conditions are fully satisfied no new method of treatment is likely to meet with the general acceptance of the medical profession In matters of this sort the members of the profession are their own severest critics and the scepticism with which they receive accounts of vaunted "cures" for cancer should be attributed to their conviction that such "cures" must pass tests similar to those which experience has shown to be essential Another necessary step in testing the value of a new method is that such an account of it must be given to the world as will permit of claims made on its behalf being confirmed or controverted Experience has shown Sir George Newman says drily, that the reaction of the professed "cancer curer" to such a condition is a certain reserve, he is not too anxious, as a rule to obtrude himself or to submit his methods to the scrutiny of an investigatory committee The main feature of his trade is that his remedy is a secret one, known only to himself It is not contended that the "cancer curer" never treats the cancerous condition nor that he never cures some diseased conditions, it is also possible that he cures some superficial cancers if he uses caustic applications But the medical profession knows that removal can be effected more quickly by some surgical method also with less disfigurement, and usually with less pain

> One may believe that the cancer curer is merely ignorant it seems probable that he is more often a charlatan trading on the facts that some cancers are difficult to diagnose that the preparations he uses sometimes lead to healing of the local disease and that on the part of the public fear of the disease ignorance of the true state of affairs and the secrecy with which the treatment is enshrouded all combine to make them ready victims One may rest assured that if and when some form of treatment for cancer is found which gives result superior to those being obtained by members of the medical profession it will be quite unnecessary to take special steps to give it the prominence it will deserve its virtues will ensure its full recognition

Nothing could be further from the truth than that any professional jealousy enters into the matter or any unwillingness to consider suggestions emanating from outside the bounds of the medical profession

Sir George Newman concludes his remarks on cancer with a reference to the place of radiotherapy While it cannot be said that efforts during the past year to improve the nation's resources in respect of radium treatment of cancer have been untruitful two important points should not be allowed to escape notice (1) the need for fostering a parallel development of x ray therapy with radium therapy and (2) the practicability of pooling resources for radiotherapy in those hospitals which have such small amounts of radium as to lead to inadequate or costly use

Public Health Activities and Special Investigations

A large section of the report is devoted to food and nutrition In the elucidation of the problem of nutrition progress continues to be recorded, but as fresh knowledge

accumulates the complexity of the subject becomes increasingly manifest Some suggestive work by Professor Mellanby gives ground for believing that vitamin A may have an important function in the prevention of infection, and steps are now being taken to test that hypothesis on a large scale

A few sporadic outbreaks of food poisoning occurred during the year, but all were of the usual type The "toxin" type of food poisoning associated with canned or cooked food in which no living bacteria are to be found is no longer of common occurrence Only three outbreaks could be reasonably ascribed to this form of food, in all three, canned veal from one particular foreign factory was suspected Only one outbreak was observed as due to ice-cream An interesting outbreak, due to milk, occurred in an elementary school, the milk was certainly highly contaminated with bacteria of the *B coli* group, but no pathogenic bacillus was isolated

Sir George Newman describes the many activities of the intelligence division of the Ministry, the work of the Ministry's pathological laboratory, the work carried out by medical officers of the Ministry under the Therapeutic Substances Act, and special and auxiliary investigations on port sanitation and other matters In international health he shows that British research and experience have made useful contributions During the past year one of the Ministry's highly placed officers has been sent to Australia to advise on the establishment of a maternity and child welfare division in the Commonwealth Department of Health, and another to the Governments of Kenya and Uganda to advise as to measures to be taken to combat malaria

The Education of the People

In conclusion, Sir George Newman remarks that the relatively sound condition of the health of the English people at the present time should afford them both encouragement and gratification It is largely due to the steady progress which has taken place within the last two generations in their social life and habit Alongside an advanced and progressive policy of health reform on the part of the legislature, there has been steady progress in the administration of public health measures, as well as profound social changes For the masses of the people the hours of leisure have been extended, housing, clothing, and diet have improved, life has been lived more in the open air and more of its amenities have been enjoyed The practice of sobriety has come to appeal to them common sense, and they have taken a fuller and more reasonable interest in their own health and function He points out that the public health services have been a means, not only of providing facilities, but of actually educating the people The value of the public services must always be conditioned by the state of public education

On one matter, perhaps, the enthusiasm of Sir George Newman has led him to bestow praise which he might well have qualified He points to the newspaper press, with its millions of readers, as one of the most effective means of educating the people in the importance of health Newspapers, he says, constitute one of the principal exchanges for the enlargement of the mind of the public, and he continues "In recent years there has been an enormous extension and development of all classes of newspapers in the presentation, interpretation, and application of our knowledge of the science and art of hygiene Of its educational value there can be no doubt" It is true that some London and many provincial newspapers maintain a high standard of journalism, but it can hardly be denied that a large section of the "popular" press holds a distorting mirror up to current affairs, in health as in other matters, and often gives information which, if not inaccurate in detail, is false in emphasis Genuine news is sacrificed to "stunts", false hopes are continually being raised as regards alleged "cures," and scares are started which alarm the uncritical It is a question whether the tit-bits of health information given in such fashion do not at times create an ignorance more deplorable than that which they profess to remove

MEDICAL HYDROLOGY IN PORTUGAL

The annual meeting of the International Society of Medical Hydrology was held this year in Portugal from October 15th to 23rd, under the presidency of Dr Belo Morae, professor of clinical medicine at the University of Lisbon The society met in conjunction with the older organization interested in hydrology—namely, the Triennial Congress, founded at Biarritz in 1886, and now under the presidency of Professor Egas Moniz Nearly three hundred medical practitioners, from most of the European countries, took part in the proceedings

The congress and the society were received at the Academy of Sciences by the Prime Minister, Senhor Domingo Oliveira and Senhor Cordeira Ramos, Minister of Education In responding for the society, Dr Fortescue Fox said that in all countries the same problem was encountered, the use of waters and baths for invalids was everywhere on the increase, but the principles of hydrology were little understood Professor Egas Moniz announced that systematic lectures in hydrology now formed a part of medical teaching in Lisbon

Treatment of Digestive Disorders

The subject of the society's discussion was the treatment of digestive disorders by hydrological methods Dr Armando Narciso of the Lisbon Institute of Hydrology said that the alkaline waters of Vidago and Salus were employed for acid types of dyspepsia with pain and pyloric spasm, with or without latent ulceration, as well as for many hepatic cases For atonic or muco-membranous entero colitis both alkaline and chloride waters were prescribed Drs Mazeran and Aime (Châtel-Guyon), discussing chronic affections of the colon, clearly differentiated functional disorders from alterations in the mucous surface and colitis properly so called In the treatment of these various conditions the writers distinguished (1) waters acting directly on the colitic process, (2) those that acted upon the abdominal nervous system, and (3) those which acted primarily upon other digestive organs Among external applications, warm and sedative baths came first and then stimulant carbo-gaseous and saline baths Cold was carefully avoided, colonic lavage was reserved for exceptional cases, and then was used only in small quantities, *goutte à goutte* Dr Fred Kraus spoke from thirty five years' experience at Carlsbad of the treatment of slight jaundice, hepatic engorgement, early cirrhosis, and the various cholecystopathies All these types of subacute or chronic digestive disorder derived benefit from alkaline sulphated waters often combined with packs of hot peat, 60 to 70 per cent of his cases were relieved of all symptoms by such means In affections of the gall-bladder and bile-ducts they were the best alternative to surgical treatment and were also often very useful after operations Dr Zoltan Rausch (Budapest) considered that hydrological treatment was becoming more precise from the new knowledge of liver functions Thermal sulphated waters appeared to favour the excretion of bile in hepatic engorgement and abdominal plethora, but further investigation was required Dr Michael Foster dealt with the use of British waters in disorders of the digestive tract Experiment had shown that the old sulphur springs at Harrogate produced an increased flow of bile Such waters, with hot liver packs, gave good results in chronic congestion and slight enlargement of the liver, while the milder saline waters of Leamington and Llandrindod were indicated for other forms of hepatism Many tropical cases, for which a temperate climate was no real cure, obtained rapid relief from British sulphur or saline waters Dr Paul Weiss advocated the more general use of waters for the digestive disorders of children Chloride waters, especially those containing calcium, were, if judiciously used, of much service, and led to marked increase of weight, as had been shown in the home for children at Homburg Such springs provided the material for building up new cells, and regulated the water balance, they also diminished vagal tone and irritability of the central nervous system Children were often more successfully treated at the spa

by waters, with careful dieting, than at the seaside resorts, where dieting was too often neglected.

A paper by Professor Amaj (Andorno) dealt with the external treatment of gastric and duodenal disorders by hydrotherapy. Thermal and mechanical applications (sponging ablution, half-baths friction baths and douches) might be according to their temperature and technique, either stimulant or sedative and analgesic. When judiciously employed the results were excellent, but long experience and judgement were indispensable, since one error in technique might upset the whole course of treatment. Dr Fox like Dr Mazeran, emphasized the importance of studying the "chronic disorders of transit or traffic" in the digestive canal for which only gentle treatment ought to be prescribed. Both aperient" waters and large injections, when repeatedly given were irritating and injurious, and the *coup de mucus* should be regarded as a danger signal.

General Business.

The society's international standards measurements committee (chairman Dr S. Judd Lewis) presented a draft register which had been under preparation for three years. It suggested an agreed system for recording the composition and qualities of the medicinal waters of all countries also a provisional classification. This was *adopted by the society* subject to certain amendments. The society's committee on social hydrology (arrangements for the treatment of insured patients and their families) considered proposals from Germany (Dr Hirsch) and from France (Dr Durand Fardel). The report will be laid before the proper authorities *in all countries*. The committee on the protection of spas was reappointed.

Among the more important papers presented to the hydrology section of the international congress of hydrology climatology, and medical geology were an account of the variations in the blood during spa treatment (Professor Sarmento and others), experiments on the action of waters upon spasm of unstriated muscle (Professor Villaret and Drs Justin Besançon and Cascão de Anciães) the use of various waters in syphilis (Professor *Brito* and Dr Pierret), and a discussion by Drs *George Baudoin* and Piery of the physiological and therapeutic effects of the physical factors in climates.

After the meetings at the *Faculty of Medicine* the delegates paid a short visit to the spas and health resorts of Portugal including the marine health resort and thermal establishment at Estoril the beautiful hill station at Cintra, and the spas of Curia Luso Busaco and Vidago.

MALARIA IN THE NORTHERN ADRIATIC

A Clinical and Epidemiological Study

Some provocative questions about the transmission of malaria are asked by an Italian physician, Giuseppi Corradini who has been in practice for thirty-five years in Rovigno, on the east coast of the Adriatic twenty miles north of Pola. He contributes to the September issue of the *Archiv für Schiffs- und Tropen Hygiene* a clinical and epidemiological statement of his experience there since he was appointed district medical officer in 1895. For the first fifteen years he was concerned with treatment as well as with administration seeing about three-quarters of the malarial patients who in one year might number a dozen and in another 300 the case incidence seemed to be independent of the degree of prevalence of mosquitos.

About 5 per cent of the cases were of the quartan type the remainder being tropical or tertian. Rovigno a town of 12 000 inhabitants lies at the foot of a sloping tract of dry chalky soil where there are no swamp springs or permanent stream but only rain water lakes and ponds in which mosquitos lay their eggs. Viticulture is the chief industry but the rural slopes are almost uninhabited since malaria in the past ruined the farms. The peasants retreated therefore to the town for they knew that only during daylight were they safe on the farms. They are but little attacked now more lightly than in most malarial places. Few townsmen were attacked for the town was surrounded by cattle sheds which provided a protective screen since mosquitos prefer the blood of cattle to that of man. Early in 1915 the inhabitants were evacuated to Pola all but 400 (among these 25 peasant families) and all the cattle were commandeered and removed. A fortnight later the still remaining peasants were ordered to reside in the rural area in tents in August an epidemic of malaria compelled their return to the town now severely attacked since it had been deprived of its protecting cattle.

The three classical types of malaria occur in Rovigno now but all are mild and amenable to quinine. The *I. falciparum* infection is notably milder than elsewhere and causes no swelling of the spleen or initial rigor. There is also a quotidian form not a double infection but exceptionally mild its parasite *P. immaculatum* is according to D. Corradini smaller more delicate and much more numerous in the blood. In 1907 he found it in 38 of 51 tropical cases. Pernicious *falciparum* infections hardly ever occur. This persistent harmlessness is curious because every year 800 workers came to Rovigno from Apulia (where malaria is really malignant) for the brandy-distilling season in September yet the local mosquitos never seemed to become infected with the graver forms of malaria. Indeed severe cases were quite uncommon until 1915 when the railway watchmen who were continuously exposed at night began to suffer they were all local men so no new infection of the mosquitos could be alleged and there was as yet no food shortage. Since the war the cases have again become slight. The author defines two chief malarial seasons the spring (March–May) and the summer-autumn (August–October). The spring cases were tertian, including each year a quarter of those who in the previous year had had malignant tertian and were relapsing always with benign tertian. He thinks it impossible that in all these cases he had missed mixed infections he is sure his examinations (always a deep drop and two films) were too careful for that. The cases continued to show *P. falciparum* until apparent cure after three or four months of recovery the patient became ill again now with *P. vivax* in their blood. The spring cases are Dr Corradini believes either relapses due to altered parasites or infections dating back to the previous year with *delayed incubation*. Tertian infection never changes into the tropical form but may perhaps he suggests change into the quartan.

The autumn epidemic commences suddenly and rapidly rises to a peak sometimes almost a rapidly as influenza. Why is there such delay in incubation? The author has tried in June and July to find parasites in patients of the previous year but always without success. Whence did the mosquitos receive their infection? In Rovigno there was little malarial infection since the mosquitos could not get into contact with patients how then did the mosquitos maintain their infectiveness? He deduces that there must be some other intermediate host for the malarial parasite beside man. At Rovigno in 1910 a hundred healthy persons were turned on to the land in early June and remained well until early August when within a few days most of them were attacked. The reports from the Roman Campagna are said to be similar and Dr Corradini concludes that the mosquito-infecting role of the human carrier is too much stressed at present. He notes the care ever later taken after the war to prevent the infecting of the anopheline mosquitos of Northern Europe by patients returning from malarious districts the precautions were never successful everywhere and no epidemic occurred but he doubts whether the precautions adopted were responsible for this. Finally the author discusses the possibility of infection arising from latent malaria of old standing which has long been present but has never diagnosed one limit of which is the presence as plasmodia pigment in post-mortem blood while tiny parasites polychromasia are absent from the blood. Of the methods of the symptoms by quinine is an important aid in making a diagnosis of malaria.

His ultimate conclusions are three (1) there is latent tertian but only relapses originate from latent infections of previous year (2) there is latent malarial parasitism in various forms and (3) there is an intermediate host of the malarial parasite other than man. It follows that the additional systematic malarial campaign must be concentrated on the mosquito if success is to be achieved.

Scotland.

Treatment of Scottish Blind

A REPORT of the proceedings of the Scottish Advisory Committee on the Welfare of the Blind to the Department of Health for Scotland, covering the years 1928 and 1929, has just been issued. The committee reviews the various arrangements that have been made by county councils in different parts of Scotland for the welfare of the blind, and criticizes the schemes which have been drawn up for the payment of grants towards setting up blind persons in business or employment. It is pointed out that the grants paid by the Department of Health towards services for the blind in 1927–28 amounted to approximately £18,000, that £53,000 was contributed during the year by local authorities to voluntary associations helping the blind, and that the total subscriptions, donations, and legacies received by voluntary associations in the year amounted to £37,681. According to the investigations of the committee the number of blind persons undergoing a course of technical education increased from 150 in 1921 to 386 in 1928, while the number of trained blind workers in institutions rose from 608 to 694 in the same period. The number of untrained blind persons stated to be capable and willing to undergo training in 1928 was only 135. Among the recommendations made by the committee is that in the administration of their schemes local authorities should in every case utilize the experience of those who work among the blind, and that they should take steps to provide adequate accommodation for aged and infirm blind persons who are not otherwise properly cared for. Contributions of local authorities towards the funds of voluntary associations should be on a per capita basis, on the lines on which grants are paid by the department. Every local authority should satisfy itself of the adequacy and efficiency of arrangements made in its area for the medical certification of blind persons. Further, no blind person should require to have recourse to the Poor Law for assistance, and in the absence of complete State provision for the maintenance of blind persons, local authorities should augment their incomes to 25s. per week, with safeguards against the refusal to work or be trained. A State compensation allowance, amounting to £1 per week for all blind persons over the age of 18 whose annual income does not exceed £105, is recommended. This graduated allowance would cease if the blind person's means amounted to £200 per annum. It is estimated that the annual cost to the State of a compensation allowance on this scale would be about £450,000 for Scotland. The net cost to the State, however, after allowing for the present expenditure of £120,000 on pensions to the blind under the Blind Persons Act and the Old Age Pensions Acts would be £330,000. The committee states that the institutional side of blind welfare work has been so well developed that the facilities for technical education and workshop employment of blind persons in Scotland are greater than in any other country. At the same time, it does not consider that the same high standard has been reached in ensuring the welfare of blind persons who are not suitable for institutional treatment. The report states that over £1,000,000 has been expended by the State, local authorities and education authorities in the past eight years on the welfare of the blind. The number of blind persons registered by the Department of Health for Scotland, as on April 1st, 1929, was 8,518—an increase of over 100 per cent. in the past ten years, and equivalent to a rate of 1·7 per 1,000 of the population. Of the registered blind, 69 per cent. are recorded as unemployable. The main cause of the increase in the number on the register is thought to be the more complete registration of blind old age pensioners, it is considered that a stricter and more uniform standard of certification of blindness is desirable. In the past ten years the number of blind infants under 5 years of age has been reduced by 71 per cent., the decrease in the number of children between the ages of 5 and 16 being 16 per cent. These figures confirm the beneficial effect of the measures carried out by local authorities for the prevention and treatment of ophthalmia neonatorum and similar diseases. The report is published by H.M. Stationery Office, George Street, Edinburgh, price 9d. net.

Future of the Family Doctor

Dr. Charles Forbes delivered his presidential address before the Aberdeen Medico-Chirurgical Society on October 30th, taking as his theme the place of the family doctor in the supply of an adequate medical service for the wage-earning and poorer classes in the Aberdeen region and the North of Scotland. He made a brief survey of the growth and development of the public medical services, dealing particularly with the Poor Law, dispensary, public health and compulsory insurance services. He directed his remarks mainly to the members in general practice, impressing upon them the seriousness of the present situation in Scotland, and outlining what he considered to be their position in relation to the preventive-curative work carried on through the public health clinics and the dispensary. The public demand was insistent for an adequate service. He saw only two ways of meeting this demand, either by an extension of the services given through the public clinics to include domiciliary treatment of the families, or by an extension of the existing insurance services to include the wives and dependants of insured persons and allied classes. Dr. Forbes urged his fellow practitioners to fight for the acceptance of the policy of the organized medical profession, both for the benefit of the common folk and for the future of general practice in this country.

The Health of Workers

Under the auspices of the Department of Social Study and Training of the University of Edinburgh an address was delivered on November 4th by Lieut.-Colonel Sir Arnold Wilson on the *promotion of health in industry*. Principal Sir Thomas Holland, who presided, remarked that the knowledge and conditions affecting good work had improved very greatly since the war. Sir Arnold said that Great Britain had been the first country to promote factory legislation, but the solid advances that had been made had seldom originated in political programmes. Progress had been achieved almost entirely as the result of the study and systematic work of factory inspectors and medical officers, and the promotion of health in industry had largely depended on medical research. One of the most successful methods of reducing industrial fatigue was to study the movements of the worker. This study had originated in America, where it was carried on by engineers with the object of increasing output. The most economical movements had been standardized in regard to time, and output of work had consequently been increased, this increase, however, was due mainly to increased speed and not to real lessening of fatigue and such methods had aroused resentment among the workers. The problem in this country had been approached from a different angle by psychologists, not by engineers, and principles which were more fundamental had been discovered in relation to economy of movement. The methods devised had been to make the movements fit into the natural rhythm of the worker. Rest pause in working periods had been introduced into various occupations with great success. The incidence of accidents had also been studied in relation to hours of work and atmospheric conditions. The question of the proper length of the working day was constantly being examined. Long hours of work were found to be uneconomical, because they caused undue fatigue and lowered the hourly output. On the other hand, the shorter working day enforced in collieries had had the effect of reducing the total output, and no amount of speeding up could compensate for hours shortened beyond a certain point. Further, short hours and high speeds tended to penalize older workers, who could perform tasks more comfortably when spread over a longer period. Short hours often *meant that expensive* machinery was out of use for long periods, and this led to demands for double shifts, which disorganized domestic arrangements. They were now entering upon a new economic era. This country had a tradition of loyalty, fair dealing, and craftsmanship, and the chief concern of those whose business it was to promote health in industry

was to emphasize the importance of the human factor Psychology was a young science, but it was based on sound principles and its application to industry would do more to refashion civilization than any Acts of Parliament

Medicines, Old and New

A lecture on medicines, old and new, was delivered under the Combe Trust in Edinburgh, on November 5th, by Dr *John M Bowie Lord Sands*, who presided, remarked that in older days he thought that there was more knowledge of medicine *in the household* than at the present day Dr Bowie said that the earliest medical records were found in Egypt and dated about 4000 B C Medicine at that time depended mainly on the theory that disease was possession by an evil spirit, and the practice of healing consisted largely of means directed towards exorcism Later, these oral rites were accompanied by manual rites, such as that of tying a knot seven times, later still, the manual rites developed into giving the patient some substance, often of an obnoxious nature, to hasten the departure of the spirit In time, by a process of exclusion some of these substances were found to be of real value, and thus the profession of medicine and the use of medicines to cure disease had arisen About 30 per cent of the drugs in the present pharmacopoeia were known to these later Egyptian physicians, including such substances as castor oil, dill, turpentine, and myrrh Greek medicine from the sixth century B C to the second century A D had left a legacy of clinical observations The Greeks had a strong belief in the healing power of nature After a period of suspended animation in medicine, which lasted till the sixteenth century, the medical schools arose and from that time medicine had steadily developed The present age of medicine might be said to have begun in the middle of the eighteenth century, when the idea of prevention came into being to combat the epidemics and the high infantile mortality *which was then brought about* by the overcrowding of the towns during the industrial revolution The present era of *scientific subdivision or specialism* began in the early part of last century, and since then biochemists had given us *the endocrine extracts, and* bacteriologists the vaccines, but it was well to remember that new remedial agents such as *x* rays, ultra violet rays, radium, and so on, were only in their infancy, and the statements of miraculous powers *sometimes attributed* to them should be treated with due reserve The other measures prescribed by the doctor were usually of more importance than medicines, although fashions in medicine would probably tend in the future, as in the past, to hinder rather than to help the progress of the healing art

Education of the Deaf

The Educational Endowments (Scotland) Commission has *drawn up a scheme* under the Educational Endowments (Scotland) Act, 1928, for the amalgamation of Donaldson's Hospital, Edinburgh, and the Edinburgh Royal Institution for the Education of Deaf and Dumb Children, with a view to the better education of the deaf The former of these institutions was inaugurated in 1845, and the latter in 1816 The Commission proposes to establish a governing board of twenty three persons to be elected by various bodies, in order to administer the united institution and its property At present half of the children at Donaldson's Hospital are deaf and dumb while the others are normal but necessitous children The scheme directs that the education of normal children shall in future be discontinued all the resources of the two institutions being devoted to the education of the deaf and dumb A school is to be set up in Donaldson's Hospital to be known as Donaldson's Royal Edinburgh School for *the Deaf* and boarding-houses for the children are to be established as they may be found necessary When the boarding-houses are ready the buildings of Donaldson's Hospital will cease to be used for residence and will be devoted entirely to the purposes of the school Arrangements are to be made for the provision of a nursery school department a department for general education and a department for vocational training Children will receive a general education up to the age of 16 years and education of a vocational type from 16 to 19 Parents or guardians, and *town and county councils and other* public bodies, may arrange for the education of their deaf and dumb children at the school on payment of fees Arrangements are also proposed to make the school available *as a clinic in the event of a course* on education of the deaf being instituted in the University of Edinburgh Copies of the draft scheme may be obtained from H M Stationery Office, 120, George Street, Edinburgh, at *the price of 5d*

Royal Medical Society of Edinburgh.

An address on the prevention of cancer was delivered to the Royal Medical Society of Edinburgh on October 24th by Mr W Sampson Handley, *surgeon to the* Middlesex Hospital He said that one person in every seven who reached the age of 30 ultimately died of cancer so that the subject was of immediate public interest Cancer starting *in accessible positions might be regarded* as a local and curable disease if detected at an early stage, and even if the patient sought advice too late for cure, much could be done nowadays to delay the fatal issue by radium treatment and other methods In the last half-century the average duration of life had increased by ten years this fact might be associated with the higher mortality from cancer occurring to a large extent in people who, but for the *development of medical knowledge, would* have died in youth The Middlesex Hospital had issued a series of health leaflets for the instruction of the public in health matters, and several of these dealt with cancer The routine medical inspection of middle-aged persons at regular intervals would in many cases lead to the detection of early cancer while it was still curable, he considered that this was the best practical policy for controlling the disease The general belief that the cause of cancer was absolutely unknown was no longer true *in his opinion*, for according to his observations malignant disease *occurred only in areas of tissue* where the lymphatic vessels had been blocked by previous local disease, cancer could be almost abolished if it were possible to prevent chronic inflammation of the lymphatic vessels

England and Wales.

Halley Stewart Lectures.

The Halley Stewart trustees invited Sir George Newman to deliver their course of lectures this year and he chose as his subject, 'Health and social evolution' the opening lecture, on "How England learned to control disease" was devoted to a consideration of the social structure of England in the Middle Ages and its relation to modern institutions particularly those concerned with health The manor estate and its justiciary courts, the monastery as the local centre of learning and institutional religion and the guild as representing industry were discussed and it was shown that their joint services were the beginning of co-operation national tradition, self-government and public service, including health services Upon this social structure the Black Death broke in 1349, not only disorganizing it but so changing it as to destroy half the population, redistributing poverty and wealth changing *the course of agriculture, and affecting wage rents* taxes and tenure It also domesticated foreign pestilence on home soil, and so resulted the first *organized attempt* at preventive medicine The lecturer then discussed medical practice in *England from the time of the Conquest* to the end of the eighteenth century and showed the part played in England by the doctor and by the former of the Renaissance, including Sir Thomas More Finally the lecturer touched on the rise of individualism and humanitarianism in the eighteenth century In the second lecture, entitled Health problem of the modern period Sir George Newman discussed the nature of man and its relation to nurture, environment and ignorance going on to show the changes in the incidence of disease between the two periods before and after the eighteenth century the former being marked by famine pestilence plague and ignorance, and the latter by a group of deficiency diseases,

infections, and impairments There was one new enemy—namely, the vast increase in population Up to the end of the seventeenth century the population never rose beyond about 8 millions, but in the nineteenth century it rose to 32 millions, which had since increased to 38 or 39 millions The lecturer considered that from a health point of view the industrial revolution formed the Great Divide between the old England and the new England, between a rural England and an urbanized England, and between a small and scattered population and a large dense one The industrial revolution not only led to increase of population, and to its redistribution but also to new housing and factory problems, involving radical dealing with factory reform, housing, and the physical welfare of women and children The modern period was also marked by the coming of democracy, and a new spirit which manifested itself in a demand for municipal reform, increased franchise, co-operative movements of various kinds, utilitarianism, and the creation of a vocal public opinion and an insistent demand for the application of social medicine

Reconstruction at Great Ormond Street

It has been determined to proceed at once with a scheme, long overdue, for the reconstruction and modernizing of the Hospital for Sick Children, Great Ormond Street The hospital was founded nearly eighty years ago, and has been enlarged three times by piecemeal additions It began as an affair of ten beds in a house which even then was old, having been the house of Richard Mead, the eighteenth century physician It is interesting to recall that one of the sponsors of Great Ormond Street was Charles Dickens, who lived at that time at Tavistock House, less than half a mile away, the site of which is now occupied by the headquarters of the British Medical Association The idea of a children's hospital appealed to Dickens's fervent imagination and love of children, he described the hospital in *Our Mutual Friend*, and spoke in public on its behalf The hospital has now grown to 252 beds (with 45 at the branch hospital at Tadworth) and it is claimed that its beneficent work as the prototype of children's hospitals throughout the world has resulted in the restoration to health and happiness of more than a million and a half little children Although aware that other hospitals are making similar appeals, the board of management, with Lord Macmillan in its chair, has decided that matters cannot wait any longer, but that the hospital must proceed at once to remedy by a comprehensive scheme the present state of congestion, which is detrimental to the full efficiency of its work The Prince of Wales, who is president of the hospital, has commended the project and the necessary appeal and is attending a meeting at the hospital on November 19th with the object of furthering it

Medical Women's Federation

The half-yearly meeting of the council of the Medical Women's Federation was held on October 31st and November 1st at the London (Royal Free Hospital) School of Medicine for Women, with the president, Miss Martindale, in the chair Among matters discussed was the need for the appointment of more women doctors on the staffs of mental hospitals, women patients being in a preponderance Some discussion took place on the question of the sterilization of mental defectives Dr Doris Odlum presented an interesting report on the Mental Hygiene Congress recently held at Washington, which she attended as a delegate from the Federation A discussion took place on birth control and the possibility of obtaining exact information thereon Satisfaction was expressed at the lifting of the ban on the admission of women medical students to King's College Medical School London It was hoped that other medical schools would follow the good example Considerable discussion ensued on the need of facilities for medical women to obtain post-graduate instruction in medicine and surgery and special subjects in London, these specialized courses being necessary for the obtaining of the higher qualifications, such as F R C S and M R C P It was realized that the facilities for post-graduate study provided for men were often inadequate and restricted, but it was felt that an effort should be made to secure that when courses were arranged they should as far as possible, be available to men and women alike The London Association presented its report on dysmenorrhoea, an analysis of some 6,000 cases This investigation which had taken five years to complete, was welcomed as a fine piece of exact scientific work Dr Helen Chambers gave an interesting account of the work done at the Marie Curie Hospital as exemplifying what could be achieved by the organized efforts of medical women working on one definite method at one aspect of the cancer problem It was announced that a new unit had been started in Edinburgh to link up the work of medical women in Scotland, guided by the experience of the workers at the Marie Curie Hospital Dr Helen Chambers suggested that, in order to extend this work in England, other units staffed by medical women might be linked up with the Marie Curie Hospital by means of a travelling radium specialist

New Turkish Baths at Eastbourne

Dr R Fortescue Fox opened the new Turkish baths at Eastbourne on November 7th The total cost of reconstruction and of introducing new equipment has been over £9,000, the new building includes a cooling room, three hot rooms, a massage room, a plunge bath two vapour baths, and a Russian bath Dr Fortescue Fox emphasized the importance of spreading information about the curative properties of the seaside He believed that in future the sea would play a more prominent part in therapeutic Coastal health resorts should utilize all their natural resources, and should introduce the various artificial procedures which were now being devised since in such a variable climate as that of England heat treatment would always have its part to play Some forms of hot vapour baths had been used in northern climes for several hundred years, and it was only in England that this method of treatment had somewhat fallen into disuse in the past It had been revived here about one hundred years ago and was now recognized as one of the most important ways of treating rheumatism

Correspondence.

DRAINAGE IN PLEURAL EFFUSIONS

Sir,—May I, as one of the surgeons so gently prodded by Dr R A Young in his most instructive paper on the medical aspects of thoracic surgery (*Journal*, November 8th, p 763), proceed in return to cavil at one of his paragraphs? It is that one in which he mentions the report of the American Empyema Commission and then goes on to state that a streptococcal pleural effusion should never be drained till frank pus is present Surely the moral of that report was that the indication for open drainage should be the state of the patient rather than that of the effusion, the crucial point was not whether the fluid was thick or clear, but whether the lungs had recovered sufficiently from the original pneumonia to stand the interference with their action caused by a free airway into the pleural cavity On the other hand, I do not see why any patient should be better off with streptococcal fluid in his chest than without it, provided that it can be removed without upsetting him by means of a needle or "closed drainage" tube

However, *on considering that* "sup pneumonic empyemas are usually streptococcal, that streptococcal effusions usually remain clear in their early stages when they are likely to coexist with a pneumonia, and that operations on them in this country usually involve the resection of a rib under general anæsthesia, I must admit that Dr Young's warning comes to much the same thing in the end I must also admit that the trouble with the closed drainage methods comes later, but that is another story —I am, etc ,

DENIS BROWNE

London W 1 Nov 8th

TEMPORARY TREATMENT WITHOUT CERTIFICATION

SIR,—The new Mental Treatment Act comes into operation on January 1st, 1931, and, as is now well known, one of the most important provisions it contains is that relating to the temporary treatment of patients without certification It has, I think, been generally accepted that the intention of the promoters of the Act was to enable treatment of early and recoverable cases of mental illness to be obtainable without recourse to a justice's order The main section of the Act dealing with this provision states that, in addition to the fact that the patient must be suffering from a mental illness and be likely to benefit by temporary treatment, he must also be "incapable of expressing himself as willing or unwilling to receive such treatment" Now does this mean what it says? If, for example, a patient otherwise suitable, says that he is unwilling to enter an institution for treatment, as most are likely to do does it mean that this patient must be certified? Or is the section meant to imply that, even though the patient expresses his unwillingness to receive treatment the doctor is entitled to decide and base his recommendation on whether the patient understands what he is doing at the time? If so, the section is very badly worded, and is likely to lead to much confusion in practice An authoritative ruling on the point is urgently desirable—I am, etc,

London W.1 Nov 7th. FREDERICK DILLON

THE CRADLE OF ANTISEPTIC SURGERY

SIR—In a recent issue of your valuable *Journal* I noticed a slight error, which I think should be corrected It was to the effect that the antiseptic methods of surgery first made their appearance in the Edinburgh Royal Infirmary I yield to nobody in my respect for the Edinburgh School It is one of the best schools in the world, and for a very long time has maintained its high reputation combined with excellent work

At the same time Lord Lister was not in Edinburgh when he first began modern surgery He was a London man and he came to Scotland for the purpose of studying Edinburgh surgery, particularly with Syme, whose daughter at a later period became Lord Lister's wife There was a vacancy in the chair of surgery in Glasgow in the early sixties of last century for which vacancy Lister successfully applied He got wards in the Glasgow Royal Infirmary and first introduced antiseptic surgery into these wards Lord Lister was a very highly cultured man, and intensely sympathetic and he was appalled at the number of deaths which took place in his wards

He brought the matter very prominently before Dr Anderson who at that time was professor of chemistry in the University of Glasgow although he was professor of chemistry Dr Anderson had a medical qualification, and was a widely read, highly cultured man It was he who pointed out to Lister Pasteur's researches on the effects of micro-organic action Dr Anderson suggested that probably that was the cause of the high death rate, and to him also was due the suggestion that carbolic acid might prove the remedy for the trouble Dr Anderson being professor of chemistry had no wards and no practice whatsoever, but Lister at once put the matter to the test and found that his colleague Anderson was quite correct Some of the apparatus which was used in the Royal Infirmary of Glasgow such as the carbolic spray was in existence only a few years ago and so far as I know may be in existence yet

Nothing more unfortunate could possibly have occurred than the destruction of the Lister ward As recently pointed out by myself in the columns of the *British Medical Journal*, the whole of the directors of the Glasgow Royal Infirmary were not on the side of the Huns a third of those who were at the meeting which determined the disaster were anti Huns and at the last meeting I had the honour of leading the forlorn hope

It may be mentioned that probably the first place in the United Kingdom if not in Europe where the change from antiseptic surgery to that modification of it generally called aseptic surgery took place was the Royal Infirmary of Glasgow, and the surgeon who made that change was William Macewen

No person acquainted with the facts has the lightest wish to lessen the glory of the Edinburgh School or to disparage it but at the same time although it has probably done more than any other school in Scotland to advance medicine, still, when valuable contributions have been made in other school, I think the facts should be accurately stated—I am etc,

Rothesay Nov 3rd. FREELAND FERGUS

IONIZATION IN ULCERATIVE COLITIS

SIR—The letter of Dr Curtis Webb in your issue of November 1st (p 757) commenting on my article on this subject, whilst impressing me with my negligence in not searching the literature, enhances the value of my own contribution In 1905 he writes to the *Lancet* in general terms on "electric enemata," and in 1911 he adduces in support of this nineteen cases of colitis (including mucous colitis) which were all treated successfully with zinc ionization Had I known of his work I should certainly have made mention of it, and indeed, should not have delayed publication of my own results for so many years—a delay partly arising from doubt as to the efficacy of so simple a treatment in so serious and intractable a disease and partly from a desire to collect sufficient evidence

In recent publications and discussions on ulcerative colitis no mention is made of electrical treatment When I showed my first case in 1924 before the West London Medical Society Mr Aslett Baldwin confirmed my result from his own experience in dysenteric cases I did not include any cases of mucous colitis in my series, as the few cases I attempted were unsuccessful But in the light of Dr Curtis Webb's work I shall repeat the treatment at the first opportunity In chronic dysentery, also I should like to try ionization, but no doubt others with more opportunity will do so

One other criticism has been made to me which bears on the very premisses of the matter Does the ionization act throughout the entire length of the colon or is the good result due solely to lavage with zinc sulphate? Dr Curtis Webb answers this as I do, that his first case failed to get relief with silver nitrate lavage until combined with ionization Dr Carter Braine has further tested this point for me in a case with a colotomy opening and has shown that there is some current flowing in the fluid from the colostomy wound This is a point I must leave to the physicists for I cannot reckon myself among them My interest lies in the fact that numerous cases of ulcerative colitis occur especially among women and these are amenable to ionization

Finally I should be grateful to know of the results of more extensive tests of the treatment which I understand is being tried for with increasing experience one recognizes the limitations of all treatments and doubts will continue to arise—I am etc

London W1, Nov 4th. JULIUS BURNFORD

PERSONNEL OF A RADIUM CLINIC

SIR—I was pleased to see in the *Journal* of November 1st a letter from that doughty champion of the professional radiologist, Dr Douglas Webster With him I may sometime cross swords on minor matters but always find myself in agreement on main issues His remarks are of especial value as he makes it clear that owing to his having at his disposal six beds at the Middlesex Hospital, he is not suffering under any sense of personal grievance I think this is very important as letters which give the impression that the writer is smarting under a sense of injustice to himself seldom carry much weight even if the arguments contained in them are sound For this reason I would preface my own remark by saying that in the hospital to which I am attached nearly all cases of malignant disease are sent to me within a few days of operation and in an increasing number of instances for a preparatory course before operation is undertaken Although I have no special beds, I have no difficulty in getting on when I wish and from time to time I have cases in hospital which are receiving radiation treatment alone Also, the radium

supply, while of course freely available for surgical use, is under my immediate charge

Now for a tilt at Mr Duncan Fitzwilliams and such surgeons as approve his attitude It is less than ten years since I heard Mr Fitzwilliams publicly declare at a meeting of the Chelsea Clinical Society that x rays and radium should be classed with violet leaves among the quack remedies for cancer of the breast I must, of course, congratulate him on his conversion so far as radium is concerned, but I am not impressed with his competency to act as a judge with regard to the results of x-ray treatment

As Dr Webster points out, material for a comparison of the results of x rays and those of surgery in early operable cases scarcely exists as yet in this country Statistics are beginning to be available in breast cancer with regard to surgery alone, and radium treatment alone, but this is only because the latter treatment has been chiefly interstitial, and so has been carried out by the same people who formerly did the radical operation On the other hand, cases with widespread recurrence are sent to the x-ray department, and the extraordinary thing is that most of these patients are kept going in comparative comfort for months, and often for years, and that a few of them may even be regarded as "cured" in that, becoming free from signs and symptoms, they cease to attend in spite of orders, and when subsequently traced years later are found to have remained in good health

Some of the most remarkable results in modern medicine—to which the overworked adjective "miraculous" might well be applied—are seen in the deep x-ray treatment of inoperable cancer of the uterus with invasion of the pelvis I have myself published two such cases in which patients, admittedly dying, were restored to active life, in one case for ten months, and in the other for a year, during which periods there were no symptoms Precisely the same arguments which have led to the use of radium alone in cancer of the breast, uterus, and tongue can be employed to advocate deep x rays as a substitute for operation in cancer of the cervix On the Continent such treatment has been extensively carried out, with results at least equal to those of panhysterectomy

Apart from the opinions of a few people who are of Mr Fitzwilliams's way of thinking, there is general agreement that x rays can powerfully affect for good many forms of cancer Concerning the value of radium, there is now little dispute, and surgery, of course, has a well-established place Surely it is most unscientific to be a violent partisan of one form of treatment to the exclusion of one or both of the others X rays have many inherent advantages, they can be produced in practically unlimited quantities, and thus evenness of distribution can be secured over as wide an area as may seem desirable They are available in any well-equipped hospital, whereas the radium supply of the world is at present quite inadequate to deal with a tithe of the cases requiring treatment

On the Continent at the present time there is a strong movement in favour of combining localized interstitial radium treatment with wide external irradiation by x rays, and in such matters what the Continent is doing to-day England is pretty sure to be thinking about to-morrow The older radiologists in this country have been treating cases of malignant disease for over twenty years We have, each of us, seen more individual cancer patients than the average surgeon, we have seen each patient far more often, and we have seen them at a far worse stage of their disease Attempts to freeze out radiologists from participation in the treatment of cancer, or even to keep them in a subordinate place, may succeed for a time, but are doomed ultimately to failure—I am, etc,

London W 1 Nov 2nd F Hernaman-Johnson

IMMUNIZATION AGAINST TUBERCULOSIS

Sir,—I am whole-heartedly with Professor Calmette in his desire to immunize every infant against tuberculosis, but I am in complete disagreement with him about his method In the case of human beings immunization with a live antigen is very undesirable, if there is any alternative, since, while it protects the majority, it is invariably associated with the infection of exceptionally susceptible individuals, and there is always the risk of infection with contaminating microbes

Professor Calmette is quite wrong in stating that people are not afraid of small-pox vaccination, the very partial state of vaccination in the British Isles demonstrates the contrary Was there not a disaster with Haffkine's plague prophylactic similar to that in Lübeck, and is there not constantly a percentage of deaths in flocks given Pasteur's anthrax vaccine? Moreover, Pasteur's antirabies method is not free from suspicion of having caused some cases of the disease

The work of Wright, Leishman, and their co-workers has amply demonstrated the power of dead antigens against such assaulting epidemic infections as the enteric dysentery, and cholera In the case of tuberculosis such high tide of immunity is necessary to protect, since in nature the infection is of relatively slow incubation, and normal resistance overcomes it A dead antigen can, with very few exceptions, assure this, and there can be no danger of either the development of the injected tubercle bacilli or of contaminating microbes

Professor Calmette and others seem to forget that here we seeking to prevent against a natural infection, and not against a large infection by virulent microbes injected into the body In twenty years' work I only know of two cases of members of tuberculous families in which inoculation with my own "H T S" was not sufficient to prevent the disease developing I pray that there may be no further stumbling-blocks in the path of this essential method of prophylaxis—I am, etc,

University College, Dublin, Nov 10th W M Crofton

CONGENITAL RADIO-ULNAR SYNOSTOSIS

Sir,—I am obliged to Mr David J Davies for furnishing me with references to two articles on the above subject which had escaped my notice Your space is too valuable for me to go into their merits, but I should be obliged if you would allow me to clarify one point Mr Davies quotes John Fraser as saying that 'pronation varies from 90 to 120 degrees," and Mr Davis takes this to be contrary to my assertion that any degree of rotation (he misquotes me as saying "any degree of pronation") completely precludes the presence of a synostosis I am quite sure that what Mr Fraser means is a "*position*" of pronation varying between those angles, and not a '*movement*" of pronation In my original letter I clearly differentiated between these two by using the words "can be rotated through an angle"

I should very much enjoy seeing Mr Davies's case, as I think his description and photographs would fit very well a case of congenital dislocation of the head of the radius but would fit badly a case of congenital radio-ulnar synostosis—I am, etc,

Liverpool Nov 10th B L McIlreavy

Obituary

We regret to announce the death of Mr Hugh Davies which took place at Templecrone, Westcombe Park, Blackheath, on November 5th Born in February, 1867, Mr Davies spent his schooldays at Oswestry, after which he proceeded to University College, London, and Guy's Hospital, whence he qualified M R C S and L R C P in 1893 After graduating M B and B S Lond, with honours, and obtaining the gold medal for surgery in his year, he became house-surgeon at Guy's Hospital, and obtained the diploma of F R C S Eng in 1896 He settled in private practice at Greenwich and Blackheath, and in 1900 became an honorary surgeon on the staff of the Miller General Hospital, Greenwich, with which he was connected at the time of his death, being then senior surgeon After extensive experience in general practice, he established himself as a consultant surgeon in Harley Street In addition to his services to the Miller Hospital, Mr Hugh-Davies was also consulting surgeon to Camberwell House, Peckham, medical referee to the Prudential and other assurance companies, and a Fellow of the Hunterian Soci

nd the Medical Society of London He was also a ember of the Greenwich Division of the British Medical ssociation In Greenwich and Blackheath Mr Davies will e much missed by his numerous friends who esteemed him oth for his work and for his personality and undoubtedly ie community has sustained a great loss He is survived y his widow, whom he married in 1900, and by three ildren

Dr CECIL FRANCIS WATTS who was drowned in the hannel on November 2nd while yachting, was born in 02 and received his early education at Sherborne and inity College, Cambridge After gaining first-class honours i both parts of the Natural Sciences Tripos he had an ually distinguished career as a student at St Bartholoew's Hospital winning the Sir George Burrows prize i pathology, the Skynner prize in regional and morbid natomy, and the Willett medal in operative surgery, and eing ranked *proxime accessit* for the Brackenbury scholarhip He graduated M A and B Ch Camb in 1927 and ntained the diplomas M R C S L R C P in the same ear He had held at his hospital the appointments of inior demonstrator in pathology, casualty house-physician nd house-surgeon and clinical assistant in the surgical rofessorial and the orthopaedic units he had also been asualty officer at the Miller General Hospital Before ualifying he published a paper in the *Proceedings* of the 'hysiological Society on the relation between the size f the electrical response and tension developed during he contraction of striated muscle and also another paper n the effect of curari and denervation on the electrical xcitability of striated muscle In 1929 he contributed to t *Bartholomew's Hospital Journal* an article on fractures of the tibia and fibula with notes of five cases He was a member of the British Medical Association

Dr WILSON BLACK, who died on October 23rd at his esidence in Academy Street, Inverness, had been in ill-ealth since he retired from active practice about seven ears ago John Wilson Black received his medical educaion at Edinburgh University where he graduated M B, M in 1885, and proceeded M D in 1896 After acting is house-surgeon to the Northern Infirmary Inverness he as appointed a member of the medical staff as ophthalmic urgeon His skill in the treatment of eye diseases was oon recognized when he started practice in his native own, and patients came to consult him from a wide area s a family practitioner he had a large and influential ractice being much beloved for his sympathetic and nassuming disposition Dr Black was a member of the phthalmological Society of the United Kingdom and f the Scottish Ophthalmological Society

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

HE House of Commons this week considered the Covern ent's Agriculture Bill and the financial side of the proposal raise the age for compulsory school attendance

The Parliamentary Medical Committee at its first meeting the session on November 11th re-elected Dr Salter its airman and Mr Somerville Hastings its honorary secretary selection was made of subjects on which addresses or dis sions are desired at future meetings Suggestions approved clude Dr Addison on bovine tuberculosis an address fr m spoke man of the Eugenics Education Society and talks n lonal medical problems health problems in mining the health the mercantile marine and maternal mortality

A committee of the National Medical Service Association at the House of Commons on November 10th and approved modified draft of a statement in criticism of the British dical Association Scheme for a General Medical Service his criticism will be published

The Conservative party's Parliamentary Agricultural Committee has appointed a committee to investigate the present sition of the Royal Veterinary College

On November 7th the Architects Registration Bill was read second time without a division During the debate Professor clair referred to the General Medical Council and spoke of the improvement in the dental profession which had followed registration under the Dentists Act 1921

The Education (School Attendance) Bill was read a second time on November 6th Speaking against the second reading Dr Vernon Davies said he was assured that the little pieceers of Lancashire were no poorer as their fathers owing to the abolition of the half time system

On November 11th Mr Foot presented a bill to extend the operation of the enactments relating to the protection of animals kept in captivity or confinement and released for the purpose of being hunted or coursed

B.C.G.

Mr CREEWOOD in reply to Mr Freeman on November 6th said that he had received a copy of a confidential report made to the Medical Research Council by the two representatives who visited Lubeck early this year in connexion with the deaths of sixty-seven children following the Calmette treatment at the Pasteur Institute The report dealt with technical matters which were of interest only to research workers and did not cover the ground of the official German inquiry which was being made by the Imperial Board of Health By courtesy of the German authorities he had received copies of two statements on the subject in one of which mention was made of the neglect of certain precautions which should have been observed in the administration of the treatment but the investigation into the cause of the deaths which involved difficult problems of bacteriology was not complete and might not be completed for some time

Animal Experiments.

Mr SHORT said in answer to Mr Freeman on November 5th that members of the advisory committee for the administration of the Acts relating to experiments on living animals were appointed on the ground of their general suitability to advise the Secretary of State There was no differentiation of function between various members of the committee The usual method of killing animals found to be suffering pain which was severe or likely to endure was to administer an overdose of chloroform but no record was kept of such cases

Mr CLYNES said on November 11th that the evidence for scrupulous observance of the pain condition in experiments was that the inspectors who saw many thousand of animals under experiment in a year had not found any infringement of the condition The known character of the licence holder was an additional guarantee that the conditions of their licences were observed He would not arrange for a summary to be included in the annual official report of the nature and purpose of each experiment performed on living animals To do so would be foreign to the purpose of the report and an unjustifiable expenditure of public money No useful purpose would be served by keeping a record of the number and species of animals killed following vivisection experiments as a result of pain which was too severe and likely to endure and publishing the figures in the annual report

On November 11th Mr SHAW told Mr Freeman that no experiments had been carried out on horses at Cambridge and those at Porton had been with the sole object of devising protective and curative treatment for these animals Dogs were not used for experimental purposes at these stations

Control of Dangerous Drugs.

Mr CLYNES told Colonel Howard Bury on November 6th that all States whether members or non-members of the League of Nations would be invited to send representatives to the general conference being convened next May or the conclusion of an agreement on the limitation of the manufacture of dangerous drugs The Preliminary Opium Conference now taking place was convened to consider questions which concerned primarily those countries engaged in manufacturing dangerous drugs in preparation for the general conference in May 1931 to which all consuming countries were being invited

Mr CLYNES told Mr Maxton on November 5th that no final action was required concerning the traffic in opium and other dangerous drugs as recommended in a resolution passed by the League of Nations The measures recommended were already in operation in this country

Dental Benefit.

Answering Mr Llewellyn-Jones on November 6th Mr CREEWOOD said about 6 000 approved societies' branches in England and Wales whose total membership at the date of the actuarial valuation was approximately 12,750 000 contributed towards the cost of dental treatment for their members and about 500 societies and branches whose total membership at the same date was about 1 000 000 did not provide dental benefit The third

valuation of societies had not yet been completed, but the result thus far did not show any reduction in the amount allocated for the provision of dental benefit

In reply to Mr Rhys Davies, on November 6th, Mr Greenwood said that, under the regulations governing the provision of dental benefit, no distinction was made between employed and voluntary contributors Before varying the regulations in this respect, he required to be satisfied that there were sufficient reasons to justify the variation, and such reasons had not yet been put before him

Hospital Treatment of Pensioners

Mr F O Roberts on November 10th told Mr Stephen that after careful consideration, he had decided that Bellahouston Hospital could not justifiably be maintained beyond a date early in the New Year, so that the premises might be handed back to the Red Cross and the necessary reinstatements completed by the date of the expiry of the lease He had arranged with the committee of Erskine House for the use of that hospital for the type of case at present treated at Bellahouston The patients would be under the care of the same surgeon as heretofore He had also made arrangements with the Glasgow Royal Infirmary for the immediate admission of any case requiring urgent emergency treatment All out patients would be treated at the Glasgow Area Clinic

Mr Stephen asked if the right hon gentleman did not intend to have a hospital in Glasgow to serve the ex service men in the West of Scotland Mr Roberts said he did not know much about that locality What he had to do was to see that adequate treatment was provided for the men, and he was satisfied that the arrangements made with Erskine House as a general hospital would meet all requirements

Mr Roberts stated that the average number of disabled ex service officers and men (apart from cases of mental disease in mental hospitals) for whom the Ministry of Pensions is providing institutional treatment, whether for wounds or diseases, is, in round figures, 4 000

Opium

Mr Clynes, on November 10th told Mr Maude that considerable progress had been achieved with the consideration of the proposals made at the preliminary opium conference which recently opened in London, and it was hoped to submit a report in a few days

Mr Benn replying to Major Pole on November 10th, said that the Government of India had formulated a scheme for dealing with the preparation of opium in the Malwa States, and was discussing it with those States

Medical Records of Children Leaving School—Sir Charles Trevelyan told Mr Somerville Hastings, on November 6th, that in view of administrative difficulties involved and the interval which was likely to elapse between the age at which a child was last medically inspected in school and the age at which the first application for medical benefit was made, he did not feel justified in advising local education authorities to transfer to local insurance committees, when so requested copies of the medical records of children leaving school It had been impressed upon local education authorities that school medical records should be treated as strictly confidential He was unaware of any applications for these records Dr Vernon Davies asked if the records were available for certifying surgeons when they were examining the children No answer was returned

Tinfoil Cheese Wrappers—Replying to Sir C Cayzer on November 6th Mr Greenwood said that the statement of an analyst of a local authority quoted in a recent annual report of his department that the practice of wrapping cheeses in tinfoil was a potential danger to the health of the consumer was well founded He did not propose to publish any qualification

Poison Gas—Mr A Henderson told Mr Graham White, on November 10th that twenty seven States had both signed and ratified the Geneva Protocol of June 17th, 1925 undertaking to refrain from the use of asphyxiating or poison gases in war Nineteen other States had signed, or otherwise acceded to, this Protocol, but had not yet ratified it

Dublin Hospitals Sweepstake—Questions have been asked in the House of Commons concerning the Dublin hospitals sweepstake On November 10th Mr Pethick Lawrence informed Sir W Davison that his attention had not been called to the sums of money which were leaving this country for investment in the Irish Free State sweepstake

Notes in Brief

Mr Greenwood told Major Pole on November 5th, that fifty two county councils in England and Wales had incurred expenditure on the provision of milk and meals for expectant and nursing mothers and children under school age

The number of certified mental defectives in England and Wales on January 1st 1930 was 25,076 Of these, 1 591 were under guardians outside institutions The number of beds available in institutions was approximately 24 000

On October 1st last there were, approximately 1,895 000 persons in Scotland insured under the National Health Insurance Act

On November 10th Dr Addison told Mr Freeman that foot and mouth disease serum had no deleterious effect on the flesh of an inoculated animal subsequently slaughtered

In 1929 some 140,000 children were provided with spectacles under arrangements made by education authorities in England and Wales All local education authorities had the service of an experienced oculist, except the authority for the Isles of Scilly

Mr Roberts informed Major Cohen, on November 11th that in the nine years, up to September 30th last since the limit was enacted some 1 400 cases of late claim had been awarded pecuniary compensation by way of pension or otherwise, and about 500 cases surgical treatment had been provided

Universities and Colleges.

UNIVERSITY OF LONDON

Mr G E Vlvandre has been recognized as a teacher of radiology at the London Hospital Medical College, and Dr I W Disney as teacher of dental surgery at St Mary's Hospital Medical School

The following appointed and recognized teachers have been assigned to the Faculties indicated *Medicine* Dr A E Boycott (professor of experimental pathology, Cancer Hospital), Mr H J Gray (teacher of surgery, Hospital for Sick Children), and Dr D V Nabarro (teacher of bacteriology Hospital for Children) *Medicine and Science* Dr C R Harington (reader in pathological chemistry, University College Hospital Medical School)

It has been decided that recognition of the Cancer Hospital as a school of the University shall be continued until October 1st, 1931

A course of five lectures on Diseases of bacteria' will be given by Mr F W Twort, superintendent of the Brown Animal Sanitary Institution, in the theatre of the Royal College of Surgeons of England Lincoln's Inn Fields, W C , on December 1st 3rd, 5th, 8th, and 10th, at 4 p m Admission is free, without ticket

NATIONAL UNIVERSITY OF IRELAND

University College, Dublin

The following candidates have been approved at the examinations indicated

Third M B—*Part I* *D K O Donovan *J K Feeney †J L O Murphy *R Hayes †Irene A Foster †T J Fenton †J Reidy †M J Murphy †F Fleming †M P Gorman †J Duffy †J Fahy J J Dawson D Deasy J J Deasy D C McCarthy J P McCormack C A McDonnell J McSorley J J O Donnell T D Phelan, J Russell P G Ryan D F Savage M J Sheehan J Walsh *Part II* *T A Brady †J J Sheehan †T Crowley †P J O Doherty †J Phelan J Diver J Duddy Joan J Kennedy J McDonnell P W Rattery J J Sheehan

* First-class honours † Second class honours

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A quarterly meeting of the Royal College of Physicians of Edinburgh was held on November 4th, when the President Sir Norman Walker, was in the chair

Drs Henry Leonard Wallace (Edinburgh) and William Brown O B E (Aberdeen), were introduced and took their seats as Fellows of the College

Drs Emile Macbeth Watson (Ontario), Wm Archibald Mein (Bournemouth) Agnes Rose Macgregor (Edinburgh) and James Davidson (Edinburgh) were elected Fellows of the College

The Hill Pattison-Struthers bursary in anatomy and physiology was awarded to Maurice Goldfarb, and the Hill Pattison Struthers bursary in clinical medicine to Robert Leitch Allan

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

At the annual meeting of the Royal Faculty of Physicians & Surgeons of Glasgow, held on November 3rd, the following office were elected President Dr John P Fergus, visitor Mr I Barclay Ness, honorary treasurer, Mr J H MacDonald, honorary librarian, Dr L H L Oliphant

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

At the monthly meeting of the President and Fellows, held on November 7th the following were duly admitted to the Fellowship of the College John Lait, Edward Keohan, Frederick MacSorley

The following were admitted as Members Thomas Craw Boyd James Michael O Donovan

The Licence in Midwifery was conferred upon A K Shem

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have been approved in the subjects indicated

Surgery—C L Ferguson H R Fosbery A R O Lahiffe S Lobb J M L Love J H W Lyle F O Parsons L C H Sykes P Wade

Medicine—R F T Finn B C Ghose C R Graham M Halpin T C Keble R D Newton C G Nicol G S Rozario C I Scott

Forensic Medicine—F J Jones R D Newton

Midwifery—H Glynn C R Graham J Inger W A Neil H I Newman

The diploma of the Society has been granted to Messrs M Abbas R F T Finn, B C Ghose H Glynn, C R Graham M Halpin T C Keble, J M L Love, H I Newman, R D Newton C G Nicol, C P Seeley

Medical News.

THE Nobel prize in medicine for 1930 has been awarded to Professor Karl Landsteiner of Vienna who since 1922 has been engaged at the Rockefeller Institute, New York, in the study of blood groups

THE annual dinner of the Old Epsomian Club will be held at the Hotel Great Central Marylebone Road, on Thursday, December 11th, at 7 30 o'clock

THE annual dinner of the Chelsea Clinical Society was held at the Rembrandt Rooms on October 28th under the chairmanship of Dr P J McCann The attendance was excellent 96 members and guests being present the latter including Lord Riddell, Sir Thomas Horder and the presidents of five hundred medical societies The first dinner meeting of the session will be held at the same place on Tuesday November 18th, when Dr Anthony Feiling will open a discussion on the treatment of headache All communications should be addressed to Mr A. Rugg Gunn, F R C S , 49, Harley Street W 1

A MEETING of the Medico-Legal Society will be held at 11, Chandos Street, W 1 on Thursday November 27th at 8 30 p m Dr F C Martley will read a paper on the importance of blood grouping tests in paternity cases a discussion will follow

AT the meeting of the Royal Microscopical Society to be held in the Hastings Hall B M A House Tavistock Square W C , on Wednesday, November 19th, at 5 30 p m the following papers will be read and discussed Mr R J Bracey, 'A universal tube length and cover glass correcting lens system for use with microscope object glasses Dr W E Cooke and Mr C F Hill "Microscopical studies in pernicious anaemia—I, The haemoglobiniferous cells

THE second meeting of the session of the British Institute of Radiology will be held at the Institute on November 20th, at 8 30 p m Dr G Simon will read a statement on the use of diathermy in pneumonia and Dr A Müller will describe an *x* ray generator with a rotating water-cooled target On the afternoon of the following day the radiological department of Charing Cross Hospital will be open to inspection by provincial medical members, and later there will be an informal discussion at the institute on the movements of the intestinal tract, which will be illustrated by a cinematograph film

A NEW course of post graduate lectures at the City of London Maternity Hospital City Road E C , will commence on November 20th, at 5 p m , when Dr J A Willett will discuss the importance of ante natal care The lectures will be continued on succeeding Thursdays at the same hour till February 19th 1931, with the exception of December 25th and January 1st

THE Fellowship of Medicine announces that in connexion with the M R C P examination lectures will be given at the Medical Society of London 11 Chandos Street Cavendish Square at 8 30 p m on Tuesday November 18th, by Dr T Izod Bennett on the conception of nephrosis, and on Friday, November 21st by Dr W J Adie on diseases of the nervous system Tickets are obtainable from the Fellowship or at the lecture hall A free lecture will be given at the same place on Monday, November 17th, at 4 p m , by Mr L C Rivett on recent advances in gynaecology and obstetrics The following free demonstrations will be given at the Golden Square Throat Hospital on November 17th at 2 p m by Mr F C Ormerod at King's College Hospital Denmark Hill, on November 19th at 2 p m by Dr M Critchley (neurology) and at the Royal Northern Hospital Holloway Road, on November 19th at 6 p m on gonorrhoea in the female, by Dr Violet Russell (for women graduates only) A special course will begin on November 17th at the City of London Hospital, Victoria Park continuing for two weeks and occupying the whole of each day with demonstrations and lectures on diseases of the heart and lungs At the West End Hospital for Nervous Diseases Welbeck Street there will be a daily course at 5 p m for four weeks from November 17th The subjects of the remaining courses in 1930 are proctology November 24th to 29th dermatology December 1st to 13 h and diseases of infants from December 1st to 13th The 1931 list of special courses is now ready and may be obtained on application to the secretary of the Fellowship 1 Wimpole Street London W 1.

THE list of medical mayors elected on November 10th include Dr Arthur Hawkyard as Lord Mayor of Leeds, Dr W S S oble as Mayor of Oxford, and Dr R F Bury re-elected Mayor of Leamington

THE National Homecroft Association, which has as one of its aims the carrying into practical effect of the teachings of the late Dr George Vivian Poore, author of *Rural Hygiene*, is holding a meeting on Thursday next November 20th, at 3 p m in the Church House Dean's Yard Westminster Dr F G Crookshank will take the chair and Professor J W Scott will outline the steps taken to realize the project of a memorial to Dr Poore So far more than £250 has been subscribed towards the proposed memorial and a further sum of £200 has been promised Inquiries and subscriptions may be addressed to Professor Scott at the offices of the association, 38 Charles Street Cardiff

THE Woodside Nerve Hospital at Muswell Hill of which we published some particulars in our issue of November 1st (p 741) was opened by Princess Helena Victoria on November 8th In declaring the hospital open the Princess expressed her opinion that such an institution would meet a real want and would amply justify the care and expenditure incurred Lord Blanesburgh chairman and treasurer, said that the hospital was for the benefit of cultured people of slender means It was hoped that with the assistance of the larger fees of some patients it would be possible to treat a number of people without resources Sir James Purves Stewart said that the hospital would not be run as a business proposition but as a contributory benevolent institution

AT a meeting of the National Baby Week Council, held on November 12th, a discussion on the necessity for routine medical inspection of the child from the age of 1 to 5 years was opened by Dr Eric Pritchard, chairman of the executive committee who was followed by the joint honorary secretaries of the council Dr D H Geffen medical officer of health for Enfield, and Mrs Sophia Friel M D The prizes awarded in the council's essay competition for domestic science pupils were presented

ST BARTHOLOMEW'S HOSPITAL contributed to the Lord Mayor's Show on November 10th a pageant emphasizing the services rendered by the hospital throughout the world Celebrated teachers and students of the past were also portrayed in the procession and there were references to the part played by St Bartholomew's in past centuries, and also to the claims of its extension fund

THE Minister of Health has issued a circular (No 1153) describing the form in which county borough councils and authorities of areas with a population over 20 000 may submit quinquennial statements of their proposals for dealing with the housing conditions in their areas and for providing new housing accommodation as required by Section 25 of the Housing Act 1930 In the preparation of their statements which must be submitted to the Minister before the end of December next councils are reminded that their medical officers of health have been advised (Circular 1119) to include special housing information in their annual reports for the current year (The contents of this circular were referred to in the *British Medical Journal* of June 28th p 1194.) The dominant figure of the statement will be the estimated number of houses which councils are able to provide to meet the requirements of their districts whether they are to be used as additional houses or for rehousing purposes In considering the need for new accommodation special regard must be given to the waiting lists of applicants for houses which will probably include persons residing in houses whose demolition is contemplated by the Act

DR C P BLACKER, M C has been appointed general secretary of the Eugenics Society as from November 1st, 1930

DR EMILE F HOLMAN professor of surgery at Stanford University has been awarded the Samuel D Gross prize for his research on abnormal arterio-venous communication

AT the recent opening of the Banting Research Institute the Doctorate of Laws of the University of Toronto was conferred on Dr Thomas S Cullen, professor of clinical gynaecology at Johns Hopkins, in recognition of his work on cancer

THE issue of the *Wiener medizinische Wochenschrift* for November 1st is dedicated to the Vienna paediatrist Professor Hochsinger on the occasion of his seventieth birthday and contains articles dealing exclusively with diseases of children

ON the occasion of its tenth annual meeting the German Society for Diseases of the Digestive System and Metabolism has founded a Boas prize of the value of 1 000 marks The subject is the bacterial and non bacterial origin of diseases of the pancreas Candidates should send in their essays by April 1st 1931 to the general secretary Professor P von den Velden 30 Bambuga Strasse Berlin from whom further information can be obtained.

A MEMORIAL tablet has been affixed to the house where Paul Ehrlich was born at Strehlen in Silesia

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

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All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863* and *9864* (internal exchange, four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc), *Articulate Westcent London*

MEDICAL SECRETARY *Medisecra Westcent, London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh* telephone 24361 Edinburgh)

QUERIES AND ANSWERS

Infra red Rays

DR H E GIBSON (South Godstone) writes I should be glad if some expert in physics would inform me whether infra red rays penetrate ordinary glass, or are non penetrating, like ultra violet rays

*** Ordinary glass—window glass—is fairly transparent to all the infra red rays which we receive from the sun, after these have been filtered by the gases of the atmosphere Such glass is however opaque to the much longer waves received from low temperature sources, such as a gas burner or domestic fire The use of a magnifying glass as a "burning glass" when held in sunlight, and the action of a common glass fire screen, exemplify both effects

Angioneurotic Oedema

DR P G SHEPPARD (Liverpool) writes In reply to the inquiry of H C B in the *Journal* of November 8th (p 806), I would suggest strict attention to diet and the employment of saline laxatives and antacids, with sodium benzoate in 5 to 20 grain doses three times a day As a purgative the ordinary antacid magnesia may be given and a gastro intestinal antiseptic, such as salol If these fail I would recommend a dose of salvarsan, thyroid extract in daily half grain doses has proved useful

Cyanosis with Collapse

DR L R LEMPRIÈRE (medical officer to Haileybury College) writes Can any reader throw light on the following incident?

On October 28th a boy, aged 14 came into the school hospital about 12 30 p m complaining of feeling very faint and ill In spite of his faintness he was not pale, but bluish, his pulse was small and quick (100) He was given some sp ammon aromat and lay down half an hour later he was no better, and was carried up to bed Within another half hour I went into the ward, and found him lying on his side with his head into the pillow, the face neck, and hands having a deep blue black colour He was breathing very slowly and lightly, was cold but not clammy and his pulse was almost imperceptible, but he was not unconscious for he answered questions He was immediately given an injection of pituitrin, to which his pulse soon responded, and a little later camphor and ether, with some brandy Twenty minutes later he said he felt much better, but had a bad headache The blue colour remained almost the same, and he was given frequent inhalations of oxygen Between 2 30 and 6 p m he vomited half a dozen times, but his colour steadily improved, though he remained dusky hued until the next day by which time he seemed perfectly well He was discharged fit on November 2nd, having had no further symptoms He had been perfectly well until he began to feel faint while at a drawing lesson at noon Between 10 a m and noon he had been at a science class and had got some aniline dye on his lips and a drop in his mouth, but he had immediately washed his lips and mouth thoroughly Also he had seen the school dentist who had put a fibre dressing containing arsenic into a lateral incisor This I removed about 3 p m , the dressing was a very small one in the root and the dentist estimates the amount of arsenic as less than 1/32 grain of arsenious oxide Could the signs and symptoms related be due to this small amount of arsenic? The boy was seen by another doctor between 4 30 and 5 p m , when he was much better and out of danger, he then looked like a case of patent foramen ovale The heart was frequently examined, but was quite normal, there was no enlargement of either side, and no history of previous heart trouble or fainting

Income Tax

Income from Additional Appointments

"J M " is in general practice and holds an appointment as sub-vaccinator In April, 1930, he was appointed visiting medical officer to a children's home and in October medical officer for an infant welfare centre How should income from these sources for the year 1930-31 be assessed? Also, how are the periodical payments of vaccination bonus (1s per case) usually dealt with for income tax purposes?

*** In strict law the income from such appointments is assessable separately under Schedule E, and on that basis the first year's earnings should be assessed on the basis of the amount for the actual financial year, and thereafter on the basis of the preceding year Frequently, however, such income, where relatively small, is not, in fact, separately assessed, but is allowed to be included in the general receipts Presumably that course, however, involves some small loss to the Revenue seeing that, if the appointment be held for a number of years, one year's income therefrom would not be reflected in the practice statements So far as the bonuses on vaccination work are concerned, the rule appears to be to regard them as receipts of the year in which the payments are made, and to bring them into the assessment figures accordingly on the previous year's basis

Replacement of Car

"G O C" bought a car in May, 1926, for £200—wear and tear allowance was never claimed on that car In June, 1930, he sold the car for £70 and bought a new car for £410 On October 1st he left his former practice and started professional work elsewhere

*** It is a pity that the wear and tear allowance was not claimed, as we have pointed out before it always pays to do so As it is, "G O C" seems to have lost the chance of obtaining any relief for the loss on the old car, because he cannot treat that as an expense of carrying on his present practice We can only advise him to claim depreciation on the new car for 1931-32 and future years It would be possible for him to claim an adjustment of the tax assessed for the last period of the old practice and to charge the renewal cost to that account, but that would involve interference with the liabilities of his former partners, which 'G O C will presumably wish to avoid

LETTERS, NOTES, ETC

Congenital Absence of the Bile Duct

DR S WARD (Birmingham) who contributed a note on a case of congenital absence of the bile duct, which was published in the *Journal* of July 6th, 1929 (p 36), has now sent some further details The patient has recently given birth to another child, a girl, who is at present alive and healthy Dr Ward writes — The interesting points to me in this case are apparently the 'fault" lies with her second husband, the condition has only occurred in male children in the family, the absence of jaundice at birth, and the incidence of two cases in one family, the woman's three children by her first husband being all alive and well

Radiologist and Radiographer

'CAPE PROVINCE writes We require an accurate definition of the word "radiologist,' at present used quite loosely in South Africa For confirmation of this one has only to refer to the minutes of the recent Federal Council meeting at Durban The first essential of a radiologist is a medical qualification Those bodies in Great Britain which confer qualifications in radiology specify this, adding that the qualification must be an approved one The term "radiographer' might properly be applied to a layman doing the work, though not expected to interpret results

An Improvised Bed Desk

"A A G D writes A very handy appliance for reading in bed is an ironing board which stands on its own legs, with a board 1 yard long projecting It only requires to have a board 15 in by 24 in screwed on to it, and can then be used as a tea table or writing table A reading board can also be added to it It stands firm, will not tip over, and can be painted any colour The total cost is about 10s 6d

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals will be found at pages 56, 57 58, 59 60, 61, 65 and 66 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 62 63 and 64

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 223

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

433. Dyspepsia in Pulmonary Tuberculosis

E SKOUGE (*Norsk Mag f Laegevid*, September 1930 p 945) examined the gastric secretion in 102 cases of pulmonary tuberculosis by Ewald's test breakfast with the following results In the early stage it was frequent to find hyper acidity and cases with a tendency to this condition while in the advanced stage there was a pronounced incidence of subacidity and anacidity In 23 patients who showed anacidity after Ewald's test breakfast a control examination by histamine was performed with the result that 17 of the 23 cases proved to be examples of false achylia In the remaining 6 cases alcoholism syphilis or cancer could be regarded as responsible for the achylia Skouge therefore comes to the conclusion that the uncomplicated gastritis of *patients with pulmonary tuberculosis* is not connected with deep changes in the gastric mucosa and that its development is so slow that generalized gastritis hardly ever ensues even though the tuberculosis has been in existence for many years *Symptoms of dyspepsia are most frequent in the early stage, and in advanced tuberculosis of the exudative form as is shown by the fact that 71 per cent of patients in* the former stage and 89 per cent of those in the latter complained of dyspepsia In cases of advanced phthisis mainly of a fibroid character, 50 per cent showed dyspeptic symptoms

439 Etiology of Pernicious Anaemia.

J BLAIR (*Med Journ and Record*, September 3rd 1930 p 209) believes that pyelitis will probably be found by careful observers in all cases of pernicious anaemia He discusses the infectious origin of this disease and the relation of pyelitis to achlorhydria and pernicious anaemia The blood changes, the fever and the achlorhydria in pernicious anaemia, and the incidence of achlorhydria in other affections, as gastric carcinoma, are discussed, and it is shown that many clinical symptoms of pernicious anaemia and pyelitis show a marked similarity Blair draws the following conclusions from this study The actual anaemia of pernicious anaemia is not due to erythrocyte haemolysis or excessive destruction in the vascular system, but to a deficient formation of erythrocytes, which deficiency is caused by a lack of sufficient stroma material for their formation *In pyelitis* granular leucocytes are constantly lost from the body and its occurrence in pernicious anaemia constitutes an insistent demand for granular leucopoiesis. Certain common relations exist between erythrocytes and granular leucocytes their formation in the same location (bone marrow) in the adult their decreased formation in the relapses of pernicious anaemia and their simultaneous response to liver therapy The excessive production of leucocytes over a long period probably deprives the body of the substance (the specific 'x factor of liver) necessary to both granular leucocyte and erythrocyte formation and is thus responsible for both the anaemia and the leucopenia The achlorhydria in pernicious anaemia is probably the end result of a chronic mild stimulation of the gastric secretion associated with a mild chronic infection (pyelitis), and producing an exhaustion of the secreting mechanism of the stomach from overuse, coupled with the loss from the stomach tissues of the specific 'x' factor normally present in these tissues Hence the presence of pyelitis in pernicious anaemia gives an adequate explanation of the fever loss of weight tendency to remission and relapse and other symptoms *The prevention* of pernicious anaemia is therefore the prevention of focal infection and consequent urinary tract infection the detection and cure of focal and urinary tract infection already established and the preventive or palliative administration of the specific substance found abundantly in the liver

440 Geographical Distribution of Rheumatic Fever

SINCE study of geographical distribution has greatly aided the unravelling of the causes of disease J T CLARKE (*Journ Trop Med and Hyg* September 1st 1930 p 249) believes *that if rheumatic fever* can be proved to be confined to extra tropical countries, the search for its cause will have been greatly narrowed The disease has frequently been described as ubiquitous an opinion which Clarke strenuously combats maintaining that it is unknown among the inhabitants of the Tropics For the purposes of this study accurate definitions of the Tropics and rheumatic fever are given By the former is meant that region which lies between the latitude 23 28 north and south thus only parts of India China Egypt and Arabia are described as tropical Rheumatic fever is defined as a specific febrile disease which has a particular incidence on the heart and which frequently presents as its prominent features polyarthritis chorea and subcutaneous nodes The essential typical lesion is the Aschoff body these cells are *the precursors of the fibrous scar tissue which in the heart* produces mitral stenosis The presence or absence of mitral stenosis has a great bearing on the question of the presence or absence of rheumatic fever During thirty three years of *medical work in the Tropics during which time about 150 000* patients were seen Clarke did not find a single case of rheumatic fever mitral stenosis or chorea nor in many post mortem examinations was a valve found suggestive of the scarred valve of a rheumatic heart It is pointed out that certain diseases occurring in the Tropics such as undulant and relapsing fever, have *rheumatic like affections anaemia and* cardiac murmurs (not mitral stenosis) as complications and sequels A general review of the literature bearing on the geographical distribution of rheumatic fever and its racial incidence is given Clarke strongly maintains that the disease does not arise in the Tropics and that any case found in such countries has originated elsewhere He adds that If this is true, every theory as to its causation must be reconsidered, and new lines of research instituted There would appear to be some factor, common in one part of the world and rare in others, which investigation should eventually bring to light

441 Indications for Blood Transfusion.

J F LANDON (*Amer Journ Med Sci*, October 1930 p 514) records his observations on 100 cases of various acute infectious diseases treated by blood transfusion at the Willard Parker Hospital New York, during a period of three and a half years He concludes that such transfusions are contraindicated in diphtheria when it is complicated by myocarditis, and in laryngeal diphtheria, especially when broncho-pneumonia is present This form of treatment is however, a valuable adjuvant in the pre- and post operative treatment of *mastoiditis sinus thrombosis* and empyema particularly when these conditions complicate scarlet fever *or measles It is also of value in the treatment of broncho-pneumonia complicating measles and whooping cough* It is strongly indicated as a general tonic in protracted cases accompanied by anaemia and malnutrition.

Surgery.

442. Non union of Fractures.

DISCUSSING certain principles in the treatment of non united *fractures* F H ALBEE (*Surg Gynecol and Obstet* September 1930 p 289) distinguishes four overlapping stages in the process of union—namely preliminary fibrous union (granulation tissue) which is identical with the union of soft tissue formation of soft callus development of hard callus and the adaptive reconstruction of the callus The complexity of the process can be fully understood only after considering the functions of bone and their interrelation with other bodily functions The metabolic function of bone, its importance in storing calcium the presence of an enzyme (phosphatase) which is secreted by the osteoblasts and the dependence of bone growth on the activities of other organs such as the thymus sex glands thyroid and pituitary glands are dealt with Non union may result from various factors including infection and the disorganization of the soft callus by rough manipulation the causes may be grouped in o tho e concerned with the formation of granulation tissue and those concerned with the ossification of that tissue the end re ul varying with the fate of the granulation tissue While measures directed to the improvement of the general health will aid bones to unite Albee maintains that an open operation is the only way to treat non union bone grafting being the method advocated The entire process of union and the survival of the graft depend on the es ablishment of vascular connexions between the graft and the host fragments and this requires accuracy of appo ition The use of autom tic power-driven tools which can be adjusted to cut with exactness to h the graft bed and the graft is advised The step-up operation of Senn and mechanical fixation and o her methods are criticized Albee describes his technique of bone grafting

with inlays, sliding, and double wedge end grafts If infection is present, this must be eradicated before the grafting is performed Likewise, extensive scar tissue should be removed and replaced by an ample pedicle graft, usually obtained from the other limb, the bone grafting should not be undertaken for at least one month after this The post operative treatment, which must include much physiotherapy, is outlined The ultimate results in 754 cases of non union were good in 671 (89 per cent) and poor in 83 (11 per cent)

443 Hirschsprung's Disease

R B WADE (*Journ College of Surg of Australasia*, July, 1930, p 3) defines Hirschsprung's disease as a condition in which an enlarged and dilated colon is associated with constipation and a gross degree of abdominal enlargement It may be present at birth or may occur shortly afterwards, and is thought to be due to some neuro muscular incoordination In mild cases constipation is the most marked symptom Apart from anaemia and slight abdominal distension the child may be moderately well, but in more severe cases constipation may be found, no natural bowel action occurring for weeks or even months In these cases there may be attacks of acute distension and vomiting, with convulsions, and death may ensue during one of them Peristaltic waves are most evident in patients who are much emaciated, in these cases the dilated loops of the pelvic colon appear to fill the whole abdominal cavity Daily purgatives and enemata will relieve the symptoms but will not cure the constipation Of the various operative measures which have been used that of sympathetic lumbar rami section has given good results Thirteen cases are reported by Wade, in nearly every instance the constipation was relieved, a normal action being established by the time the child was convalescent Abdominal distension and dilatation of the colon decreased slowly, and the children improved in general health

444 Primary Carcinoma of the Lungs and Bronchi

E V GOLTZ (*Minnesota Med*, September, 1930, p 605) has seen an increasing number of these cases in recent years, as also have many authorities in Europe and America, it is greater than the total increase of all forms of cancer, and is not entirely accounted for by increased longevity, alterations in pathological classification, improved diagnosis, or more general hospital attendance The percentage of primary lung cancer, compared with the total of all cancers, has increased three or four times This suggests that some chronic irritative factors have been becoming more common recently Influenza is probably the chief bacterial factor, a definite increase of lung cancer followed the pandemic of 1918–19, and chronic bronchitis, fibroid pneumonia, and syphilis may predispose also Chemical and mechanical forms of irritation may be supplied by smoke, fumes, road dust, and possibly tarred roads, half a million tons of tar are used annually on American roads, and pulmonary cancer is very rare in Hong Kong and Singapore, where roads are not tarred Lung cancer is very prevalent among Saxon miners, and it is said that 50 per cent of old miners have died from this disease, while no cases occurred among the rest of the population, arsenic contamination in the cobalt and bismuth mines is supposed to be the cause The injuries due to gas inhalation in the war is also cited as a possible cause of the increase The pathology of these tumours is obscure. Most authorities believe that the majority of tumours arise in the bronchial mucosa Metastases may appear early in the liver, kidney, and suprarenal glands, or the primary tumour may invade the lung, even displacing an entire lobe Partial or complete bronchial obstruction ensues, and broncho pneumonia is usually the immediate cause of death The majority of cases occur between the ages of 45 and 65, and the average duration is seven months Cases in men are three times as numerous as in women Sudden haemorrhage may be the initial symptom, or the case may simulate acute pleurisy or pneumonia, the onset may also be gradual, with cough, pain, and dyspnoea The cancer may be entirely latent, manifesting itself by metastases in the brain, bones, or viscera The physical signs are always confusing, they may be absent in early cases, or may suggest broncho pneumonia, atelectasis, bronchiectasis, lung abscess, or pleurisy Cough is the most frequent symptom, but it may be absent, or atypical Paroxysmal cough with intense pain and dyspnoea, accompanied by scanty, sometimes blood tinged mucus, is very suggestive of bronchial cancer, especially when occurring in elderly patients Pain is usually felt in the chest, but may be referred to the neck, back, abdomen, or limbs, it arises from nerve pressure, pleural irritation, pericarditis, or involvement of the spinal cord or nerve plexus Wasting is found in 50 per cent of cases, and may begin early Cyanosis and venous dilatation due to mediastinal pressure, laryngeal paralysis, and dysphagia may occur, and occasionally signs of pulmonary osteo arthropathy are seen Since the tumour usually occurs in the larger bronchi, application of the local cautery, with radium possibly, offers the best hope At least twenty eight cases of lobectomy and other surgical interventions have been recorded, one patient lived for five and another for three years after the operation Deep x ray therapy sometimes relieves the pain, but fails to arrest the progress of the tumour

Therapeutics.

445 Gold Treatment of Advanced Tuberculosis

J W KIME (*Med Journ and Record*, September 17th, 1930, p 274) records his experience with gold in the treatment of pulmonary tuberculosis Using one of the standard preparations, he commenced with advanced and hopeless cases, discovering that within a few days after the first dose the sputum, which had previously shown a few scattered extracellular bacilli, became loaded with enormously increased numbers, many of them lying within the polymorphonuclear cells The bacilli had a decided tendency to clumping in circular form of corresponding size to the leucocytes, but with no cell structure visible, as if the bacilli had been gathered up by the leucocytes which were eventually destroyed In some cases the fields were densely crowded with masses of the bacilli, apparently as the result of an intense phagocytosis Deep intramuscular injections into the deltoid were given, these resulted in severe pain for about a minute, but there was no soreness or local reaction The solution is self sterilizing, but the steel needles quickly corrode and become plugged Kime remarks that there is generally a slight temperature reaction within a day or two Examinations of the sputum should be made daily, and though the characteristic results may not be found every day they generally occur within a week of the first or second dose He considers that a curative course should continue for six months to one year, after such administration he has seen the bacilli disappear by disintegration within the cells, the patients remaining well three years later The process of cure can be microscopically followed, the cell activity or bacillary impairment resulting in an intense phagocytic activity, and the leucocytes engulfing the bacilli in large numbers That gold so used has a specific selective action upon tuberculous tissue was noted in a few open cases, a tuberculous wound in the neck healing very rapidly although the patient was dying

446 Barium Chloride in Heart-block

A E PARSONNET and A S HYMAN (*Amer Journ Med Sci*, September, 1930, p 356) record their experience of treatment with barium chloride in eight cases (seven men and one woman, whose ages were between 51 and 68) of auricular and ventricular dissociation exhibiting the Stokes Adams syndrome The doses ranged from 0 16 to 0 4 gram per day, and the total amounts given from 9 6 to 40 32 grams The treatment was continued in one case for as long as 126 days, and in no case lasted less than 40 days, but in no patient was any effect, either good or bad, noted, and no confirmation was obtained of the favourable results reported by previous investigators of barium chloride given by mouth, even in larger doses than those previously reported Great care was taken to procure a chemically pure salt, and tablets containing 0 04 gram were obtained which were readily soluble in water and conformed to the standard fragility tests Two deaths occurred, but neither of these were in a period less than three months after the administration of the barium The authors consider that this series of eight cases in this by no means common condition is sufficient to throw doubt on the efficacy of barium treatment in the Stokes Adams syndrome of complete heart block

447 Treatment of Malignant Diphtheria

IT has been demonstrated in animal experiments that antitoxin is only effective in counteracting a lethal dose of diphtheria toxin if not more than six to ten hours are allowed to elapse before it is injected, after this interval it has no effect, no matter how large the dose K KUNDRATITZ (*Med Klinik*, August 29th, 1930, p 1289) suggests that in these cases a large proportion of the toxin becomes "fixed" in important tissues such as the heart, and is thus out of reach of the antitoxin, which can only neutralize circulating toxin Similar conditions probably prevail in malignant cases of diphtheria in human subjects, though whether the prevalence of this type in some epidemics is due to increased virulence or to increased susceptibility is still uncertain By using theophyllin (or euphyllin) Kundratitz has attempted to increase the permeability of the tissue cells in order thereby to liberate some of the "fixed" toxin, and to facilitate the

access of antitoxin to the cells The guinea pigs used for the tests were divided into groups according to the number of hours which were allowed to elapse between the injection of toxin and the onset of treatment, either with antitoxin alone or with a combination of antitoxin and theophyllin theophyllin sodium acetate in doses of 0 0001 gram per gram of body weight was used in a 3 per cent aqueous solution The results showed a lower mortality among those animals which were treated with a combination of antitoxin and theophyllin than among those which received antitoxin only A number of cases of malignant diphtheria admitted to the Mautner Markhof Children s Hospital were then treated along similar lines Antitoxin was given in the following doses 10 000 to 20 000 units intravenously on admission, 10,000 to 20,000 units intramuscularly one hour later, 10 000 units seven and a half hours and nineteen and a half hours after admission, and if necessary twenty four hours later Subcutaneous injections of ½ to 1 c cm euphyllin (according to the age of the child) were given half an hour before the second and third injections of antitoxin and with the fourth and fifth injections Drugs to improve the circulation, and plenty of fluids because of the diuresis induced by the theophyllin were also administered Kundratitz was unable to draw definite conclusions regarding the value of this treatment, partly because of the difficulty of clearly differentiating the malignant type, and partly because there were fewer malignant cases in the period under observation (1929–30) than in the preceding years He found, however, that the proportion of deaths to recoveries in the euphyllin cases was 8 to 6, and in those treated without euphyllin 13 to 6 patients dying within twenty four hours of admission being excluded, his general impression of the method was favourable

Dermatology.

448 Dermatitis due to Chronic Irritation

DURING the past two or three years C DU BOIS (*Ann de Derm et de Syph* August, 1930, p 829) has noted exclusively in females, cases of ringed dermatitis, which he suspected were due to modern artificial ornaments composed of chemical combinations A case is reported which appears to prove the truth of this supposition The patient had worn for the first time a bracelet of artificial yellow crystals, composed of galalith (a formalin hardened casein preparation) and other substances, for four hours one evening The next day clearly marked red streaks were noted on the arm these were slightly pruriginous and were attributed to pressure of the bracelet However the redness and pruritus increased the inflamed bands became much raised and covered with miliary vesicles and the forearm began to swell On the fifth day the bands (each corresponding with the base of a segment of the bracelet) surrounded the arm with perfect regularity, there being apparently normal skin between their well defined edges Despite treatment the dermatitis became generalized as an intense erythema with swelling of the face and of the mucosae of all the natural orifices and an intolerable pruritus Then the eruption became clearly eczematous, it was accompanied by oozing behind the ears and in the articular folds, and interdigital and palmar dyshidrosis with enormous vesicles After three weeks treatment with emollient baths and desensitization by a hyposulphite preparation the condition ameliorated the skin at the sites of the primary bands alone remaining pigmented A furunculosis of nearly all the articular folds then supervened The crystals contained synthetic resins with a urea and formaldehyde base The patient when a child, had suffered from a general eczema following the application of dilute solutions of formalin for mosquito bites Cases are also cited by Du Bois of glossitis and inflammation of the lips caused by the use of dentures and cigarette holders composed of similar resins He contrasts the condition described, which he terms eczematiform dermatitis, with that of true or constitutional eczema the sensitization in the first case to the particular substance is not equivalent to that in the case of constitutional eczema, though the cutaneous reactions may be identical in both

449 The Treatment of Lupus Vulgaris.

A REYN (*Ugeskrift for Laeger* July 31st 1930, p 742) reviews the present position of the treatment of lupus throughout the world The magnitude of the problem in connexion with the need for institutional treatment of patients suffering from lupus is made clear by the fact that in Germany alone there are between 60 000 and 70 000 such cases Finsen light treatment which before 1914 was practised in many parts of the world was neglected in the belligerent countries during and after the war but in the last few years has again gained ground in many places It is the treatment most commonly employed in Denmark, and is capable of effecting a cure in 90 per cent of cases if carried out properly In the ten year period 1914 to 1923 Reyn was responsible for the treatment of 957 patients, 735 of whom were cured, there remained 75 still under treatment, and 147 who did not complete it Only in eight cases was the treatment carried out strictly according to the instructions without a cure being effected X ray treatment, extensively practised in Germany, is held by Reyn to be indicated in a very limited number of cases as a supplementary measure it is very rare for it alone to effect a cure and this is achieved at the cost of x ray injuries the skin becoming atrophic and subject to injuries and infections which are slow to clear up The danger of x ray carcinoma is considerably greater for patients suffering from lupus than for others and abroad the incidence of lupus carcinoma has shown an appreciable rise since the treatment of lupus with the x rays was introduced More and more warnings are therefore coming from Germany on this score Since the introduction in 1908 of the treatment of lupus by diathermy no great extension of its application for this lesion has been observed and at the present time it is but little employed in Germany relapses are frequent and very difficult to treat Various improvements of the technique have been suggested, and most authorities now agree that it should be employed only as a means of dividing tissues with a view to excision, but in Reyn s opinion a simple surgical excision is much to be preferred He insists on the importance of general treatment and of regarding the cutaneous lesion as an outward manifestation of a deep-seated infection

450 Keratoderma Blennorrhagicum

F RONCHESE (*Urol and Cut Rev*, September, 1930 p 591), who records an illustrative case states that since Vidal s first description of keratoderma blennorrhagicum as a clinical entity in 1893 a relatively small number of cases have been reported There are only about 90 instances on record but probably some cases pass unrecognized being wrongly diagnosed as epidermophytosis or keratosis of a different etiology Ronchese s patient was a lad aged 18 who developed keratodermia while suffering from subacute gonorrhoeal urethritis prostatitis and arthritis The typical acute inflammatory symmetrical lesions were on the feet and hands raising and disintegrating the bed of the nails of the fingers and toes in the lumbar regions the lesions were conical like those of rupia The gonococcus was present in the urethral discharge and the complement fixation test for gonorrhoea was strongly positive

Obstetrics and Gynaecology

451 Labour in Elderly Primiparae.

T ESMANN (*Ugeskrift for Laeger*, August 21st 1930 p 795) finds that the problem of the elderly primipara is being solved in certain quarters, and particularly in Germany with increasing frequency by means of Caesarean section In his private hospital where primiparae aged 40 and over constituted less than 1 per cent of all the confinements 34 out of 75 confinements were in women aged 40 The corresponding number for women aged 41 was 15 and the figures for women aged 42, 43 44 45 and 46 were 11, 8 1 3 and 3 respectively In the case of 37 head presentations and 4 breech presentations, labour was completed spontaneously, and in 2 other cases of breech presentation threatened intrauterine asphyxia necessitated manipulative manœuvres for the completion of labour One of these 43 patients died from pulmonary embolism on the eighth day Among these 43 confinements there were 4 deaths among the infants, and in 30 cases forceps had to be used with 3 infantile deaths Altogether eight infants died Caesarean section was undertaken only in one case, the patient being a primipara aged 40 with a flat rachitic pelvis The infant was born at term and weighed 7 lb 5 oz In as many as 7 cases (9 3 per cent of the 75 cases) the placenta required manual extraction whereas the author had to undertake manual detachment of the placenta in only 0 79 per cent of a series of 6 30- confinements at all ages While the average weight of the infants spontaneously born was 7 lb 2 oz., that of the infants requiring forceps extraction was as great as 7 lb 11 oz., and it would therefore seem that the high proportion of confinements requiring forceps extraction depended to a certain extent on the weight of the infants Esmann concludes that labour in elderly primiparae presents pathological incidents so often that the e women should always seek hospital treatment but he also considers that his investigation does not support Hirsch who advocates the routine performance of Caesarean section in these cases Esmann admits however, that in at any rate two of his cases the lives of the infants could have been saved with certainty had Caesarean section been performed In 1916 Leopold Meyer of Denmark classified elderly primiparae as (1) those who only late in life are given a chance

to conceive, but who conceive easily, and (2) those who, in spite of every provision for conception in their youth, fail to conceive before they are elderly Meyer suggested that labour in the first group does not present greater difficulties than it does in primiparae of more tender years, whereas it is from the second group that the cases of protracted difficult confinements with faulty labour pains, rigidity of the cervix, and lack of elasticity of the maternal passage are drawn Esmann has checked this hypothesis in the light of his own material, finding records bearing on this point only in about a third of his cases, they fail to confirm Meyer's hypothesis

452 Streptococcal Puerperal Sepsis

Endeavouring to cultivate haemolytic streptococci from cervical smears, W A Daloe (*Amer Journ of Obstet and Gynecol*, August, 1930, p 174) found them present in 1 4 per cent of ante natal, 3 2 per cent of natal, and 9 8 per cent of post natal cultures Each group included four to five hundred cases, and the cultures were made respectively fourteen days before term, in the second stage of labour, and on the second to tenth day The observations extended over two years, and the proportion of cultures positive for *Streptococcus haemolyticus* was considerably higher from February to May, at the same time the puerperal morbidity rate was higher Of the total morbidity, 32 per cent was due to puerperal sepsis, and of these septic cases 52 per cent were due to *Streptococcus haemolyticus* Of 52 patients showing this organism in the post partum culture 32 had clinical signs of puerperal sepsis, but in 20 there was no evidence of infection The 32 patients, of whom 17 had temperatures of 102° or more for twenty-four hours, and were regarded as serious cases, recovered with one exception The small mortality is attributed in part to the fact that in severe and moderately severe cases 30 to 45 c cm of scarlet fever antitoxin was injected intravenously or intramuscularly.

453 Primary and Secondary Ovarian Cancer

M R Robinson (*Surg, Gynecol and Obstet*, September, 1930, p 321) reports cases of granulosa cell cancer, papillary adenocarcinoma, and secondary or metastatic cancer of the ovary, and expresses his belief that primary ovarian cancer arises from epithelial elements which constitute part of the fully formed sex gland and not from hypothetical embryonal rests (Cohnheim's theory), that tumours during their evolution present different phases of growth which do not need separate classification, that a close relation exists between growth and function, and that tumours may and do assume the function of the organ from which they spring The histogenetic source of granulosa cell cancer is the epithelium of the Graafian follicles, and the folliculoid, medullary, and solid forms of this neoplasm are not different cancer types, but different phases in one and the same tumour. The main points of difference between this and other types of ovarian carcinoma are the rotundity and uniformity of the epithelial cells during the early stages, the rarity of mitosis, and the absence of invasive and destructive propensities Primary ovarian cancer, particularly the granulosa, may augment the still active ovarian function, or revive it after it has been quiescent, this is manifested clinically by hyperactivation of the endometrium, resulting in increased normal menstruation, or in periodic uterine bleeding after the menopause Secondary cancer does not influence the ovarian function at first, but as the disease develops the function is progressively suppressed Histopathological differences account for this The primary type is derived from the ovarian generative elements and possesses the same hormone producing properties as the ovary, therefore, with increased hyperplasia of this tissue the hormonic index rises The epithelium in secondary cancer is of extra ovarian genesis, and therefore has no relation to ovarian function The blood should always be tested for increased or diminished hormone content in the differential diagnosis between primary and secondary ovarian neoplasms Malignant papillary tumours and papillary adenoma of the ovary arise from the surface epithelium of the ovary, the epithelium lining its cysticles, and the epithelium of cystic follicles The adjacent position of normal and malignant epithelium in papillary tumours indicates that the transition from a benign to a malignant state is a sudden one Also metastatic carcinoma is indicated when the surface epithelium is intact, and the tumour is not adherent to any adjacent organ or tissue, the primary focus should be sought Owing to the successive nature of primary ovarian cancer the opposite ovary and uterus must be removed in cases of apparently unilateral malignancy The granulosa cell cancer is the most benign, in papillary adenocarcinoma the prognosis is far less favourable Metastatic ovarian cancer is the most malignant, the reactions in the ovaries are very pronounced, and removal of these organs does not eradicate the root of the disease.

Pathology.

454 Pathogenesis of Rickets

C E Bloch and F Faber (*Acta Paediatrica*, August 18th, 1930, p 10) present a study of seventy one cases of clinical rickets in children from 2 months to 2 years old These cases fall into groups according to lowness of the serum calcium, the serum phosphorus, or of both It was found that tetany occurred if the serum calcium was low, the threshold being at 8 3 mg per cent, except in the case of very debilitated children or those up to 3 months old, where tetany did not occur even with a lower serum calcium With the exception of osteoporosis, all other signs, such as bone deformities or tenderness, flabby muscles, retarded development, were relatively slight in cases of hypocalcaemia Severe rachitic deformities were associated with low serum phosphorus The primary sign of rickets was the change in the lime forming salts in the blood, but in the stage of healing the bony changes persisted for some time after the blood had become normal or nearly so Further, it was only when the hypocalcaemia or the hypophosphataemia persisted, in particular if it was progressive, that the skeletal signs of rickets developed But even when the blood changes were persistent concurrent growth was required for the development of rachitic bone change The authors conclude that clinical rickets is chiefly due to deficient retention of the absorbed salts of calcium and phosphorus, and only in a few cases to deficient absorption or supply of these salts This function may be restored by the administration of ultra violet irradiation, cod liver oil, or vitamin D They recommend that 5 c cm twice a day should be the maximum dose of cod liver oil, larger quantities are said to have an injurious effect on the organism

455 Distribution of the Coronary Arteries.

E W Jones (*Practitioner*, September, 1930, p 370) has studied the coronary arteries in health and disease by injection with barium emulsion and subsequent radiography A standard technique is described After the excised heart has been immersed in saline solution for twenty four hours a cannula containing the emulsion is introduced through the cut end of the aorta into the orifice of the artery to be injected The pressure of the injection mass is raised, and filling of the arteries continues for four minutes, after which the heart is kept in formalin for twenty four hours before being x rayed The author has found that in 5 per cent of hearts the left coronary artery is the sole supply of the neuromuscular tissue, 11 per cent of hearts possess three coronaries, the accessory vessel being more commonly found on the right side Marked increase in the vascularity of the left auricle was observed in mitral lesions Accounts are given of three patients who died with the usual manifestations of cardiac infarction, in two of them the findings by radiography after coronary injection are recorded Coronary sclerosis was detected in the first two cases, but not in the third In the second heart there was a large area of fibrosis, but no recent infarction, the left coronary artery was shown by radiography to be extremely narrowed through most of its course, and septal anastomoses were dense In the third patient, who suffered from polycythaemia vera, no chronic coronary disease was present, but thromboses were found in the right and left coronary arteries It was discovered that in complete occlusion the affected vessel throws no shadow on the x ray film, and the related area of myocardium shows no injected vessels Incomplete occlusion due to sclerosis or calcification produces attenuated indefinite shadows contrasting with the smooth outline of the normal vessels A thrombus in process of canalization gives a characteristic appearance on radiography, the shadow being irregular and appearing double in parts, with frequent overlapping

456 Conversion of Carotene into Vitamin A.

N S Cappin (*Biochem Journ*, 1930, xxiv, No 4, p 980) received from Moore some liver oils extracted from rats fed on highly purified carotene The oils were dissolved in ether or chloroform, and their absorption spectra were determined The results were very striking The oils from rats fed on a diet free from vitamin A gave no band in the region of 325 $\mu\mu$, while those from rats given carotene all showed selective absorption in this region The absorption spectra given by this latter group of oils were similar to those shown by cod liver oils Since this band is absent from the absorption spectrum of pure carotene, it follows that the substance responsible for it must have been synthesized in vivo from the carotene It may therefore be concluded that carotene is converted in the body into vitamin A

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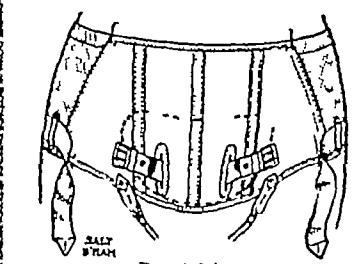
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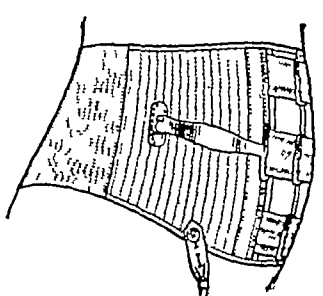
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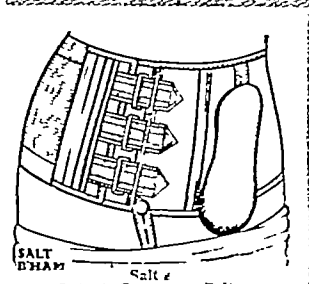
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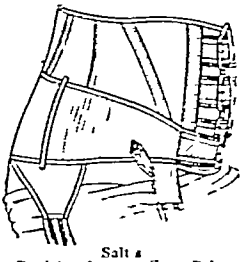
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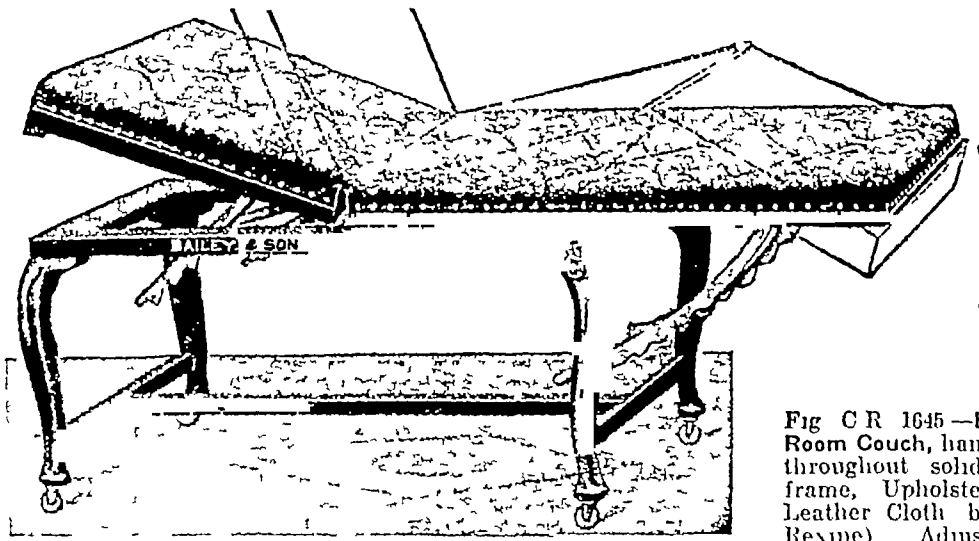
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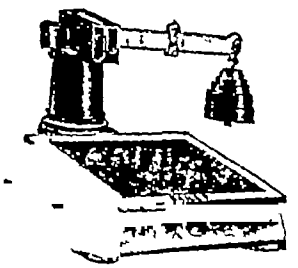
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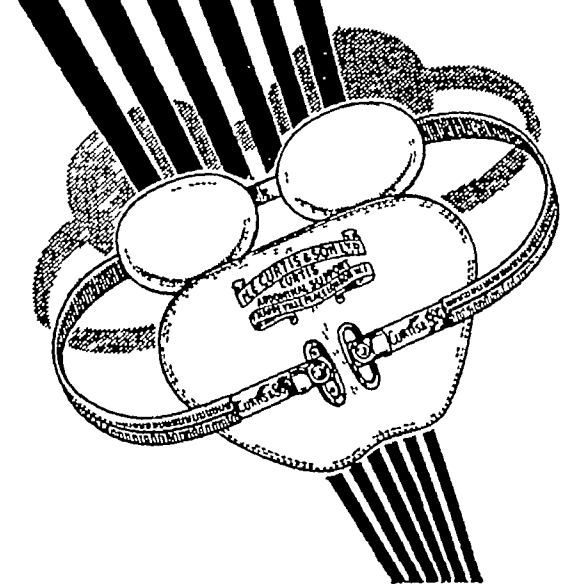
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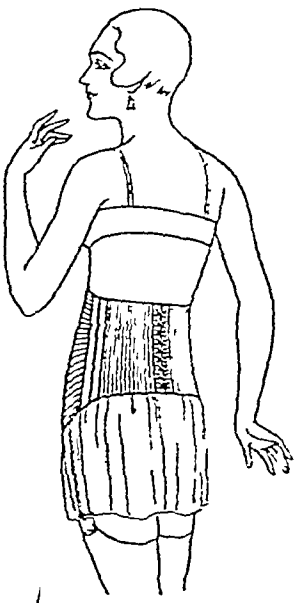
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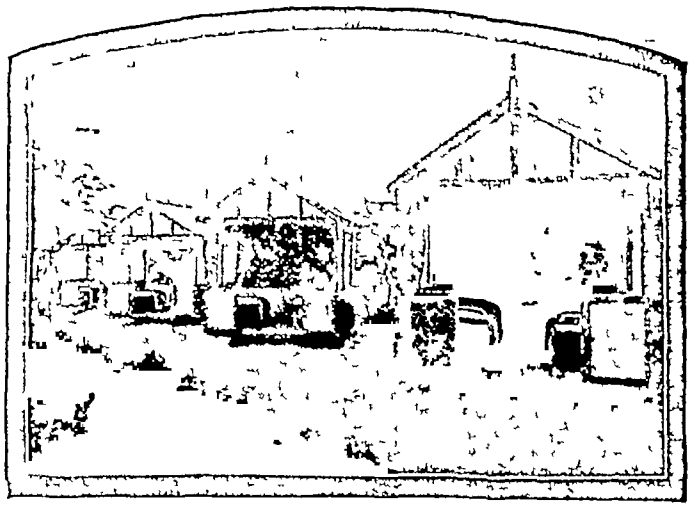
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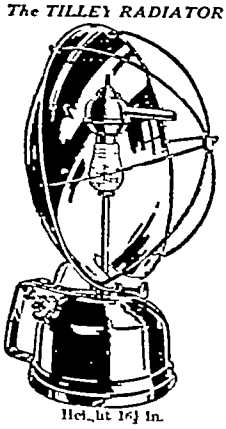
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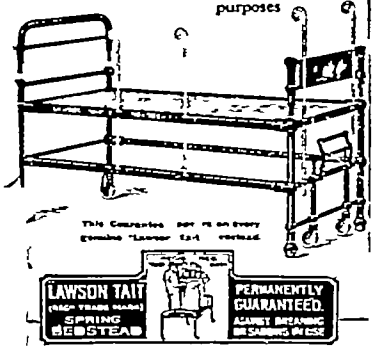
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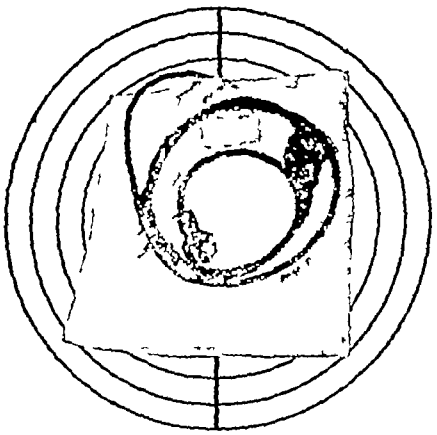
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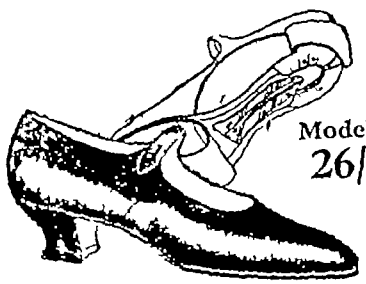
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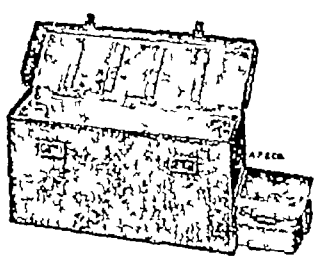
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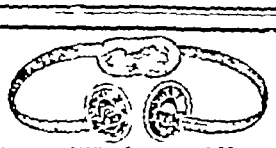
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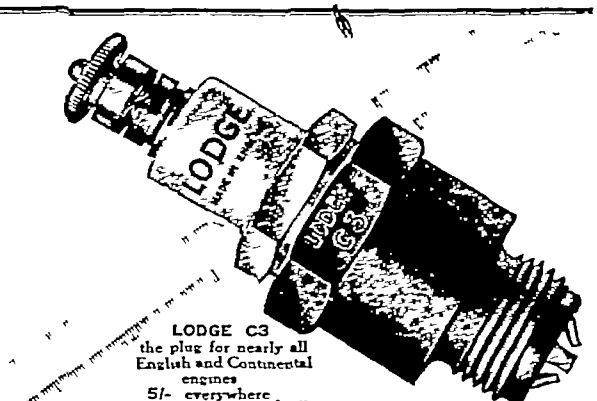
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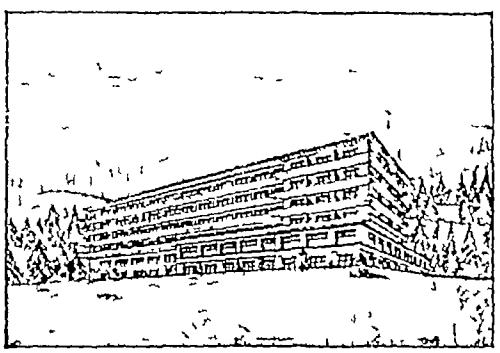
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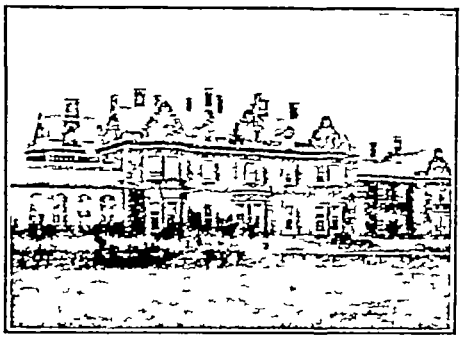
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As founded and established by the late Dr FRANCIS HARE, for 20 years Med. Supt. of The Norwood Sanatorium and author of Alcoholism etc for the treatment of ALCOHOLISM other Drug Habits Insomnia, Neurasthenia, Functional Nervous Disorders TROPICAL Ailments etc

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FOR THE UPPER AND MIDDLE CLASSES ONLY

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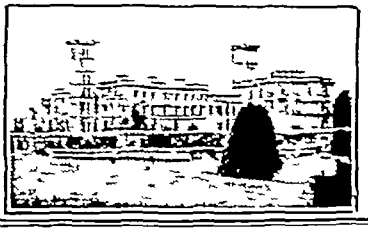
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Six acres of ground, highly situated facing Finsbury Park.
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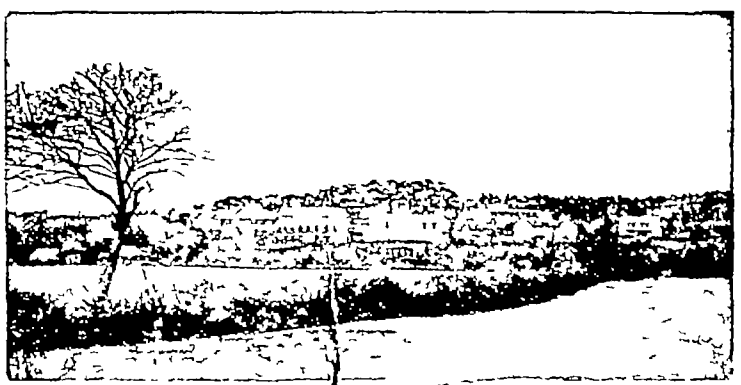
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FOR THE TREATMENT OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS
WAS OPENED IN JANUARY, 1899

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THE Mineral Waters of Bridge of Allan have been famous for upwards of 150 years Their principal contents are calcium iodine and bromine The Spa provides the most modern hydro-therapeutic and electro-therapeutic treatment.

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Completely rebuilt and modernised in summer 1930 and provided with every facility for the convenience of patients. All rooms have running hot and cold water and all front rooms in addition are provided with private bathrooms and lavatories House and inter national telephone connections are installed in every room Light signals instead of bells throughout the house The new private balconies are of the most modern construction.

Terms from £5 12 0 per week.

Medical Supt BERNARD HUDSON M.A., M.D *Cantab.*, M.R.C.P *Lond. Swiss Federal Diploma.*

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LINCUSSIE INVERNESS-SHIRE

Specially built for the Open air Treatment of Tuberculosis and opened in 1901. Bracing mountain air Elevation 850 ft above sea level Sheltered situation in pine wood. Graduated walk Electric light throughout Building and in shelters. Central heating Fully equipped X-ray Plant Inoculation Treatment available for patients—24 beds Trained Nurse on duty all night. Terms £4 6s 8d. to £6 6s *inclusive* p.w. Med. Supt.—FELIX SAXT M.D For particulars apply to the Secretary

POST-GRADUATE MIDWIFERY
Qualified Medical Women are admitted to
The Mothers Hospital of the Salvation Army Lower Clapton Road, E.5
for practical fortnightly Courses in Midwifery These include delivery of normal cases attendances at all abnormal cases operations ward rounds of visiting staff, V.D. clinics and antenatal clinics For further particulars fees etc. apply to EDGAR DIBDEN, the Secretary

Society of Apothecaries of LONDON
MASTERY OF MIDWIFERY EXAMINATION

The next Examination will take place on Monday November 17th, 1930 and following days For regulation apply to—
FRANK HAYDON Secretary

F.R.C.S. (Edin.)
CLASSES with Museum and Anatomical Demonstrations for next Exam will commence shortly Correspondence work at any time. Particulars from CHAS. WHITTAKER F.R.C.S. Surgeons Hall, Edinburgh.

Preliminary Examinations
The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March June September and December For Regulation apply to the Secretary College of Preceptors Bloomsbury Square London W.C.1

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BEST CARE or SUPERVISION Large roomy and beautiful garden of nearly 8 acres can produce gravel soil. Car etc. Special care to Chronic Patients.—"Duncroft," Staines, Middlesex.

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POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS
SOME SUCCESSES

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F.R.C.S. (Eng.),	*Primary* 1906-29	154
	Final 1906-29	149
M.R.C.P. (Lond.),	1914-29	168
D.P.H.	(Various) 1906-29 (Completed Exam.)	286
F.R.C.S. (Edin.),	1918-29	43
M.R.C.S. L.R.C.P.	*Final* 1910-29 (Completed Exam.)	433
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Preparation for Medical Preliminary and in Chemistry Physics Anatomy Physiology and final subjects for the Conjoint Board M.B. (Cantab., etc.) also D.P.M. D.O.M.S. D.T.M. & H. D.L.O. D.C.O. D.M.R.E. M.M.S.A., L.M.S.S.A. etc. *Numerous successes.*

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MEDICAL PROSPECTUS (48pp.)
CONTENTS.—The method and the cost of entering the Medical Profession *Particulars of all Medical Examinations* Postal Courses and Oral Classes Suggestions for the higher Medical Examinations. Suggestions for the higher Surgical Examination Suggestions for the Special Diploma Examination For resh r Courses Openings for Women Hints for writing theses.

Medical Prospectus gratis alone with list of Tutors etc on application to the Principal Mr. E. S. WEYMOUTH M.A. 17 Red Lion Sq. London W.C.1 (Telephone HOLBORN 6313.)

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CONSULT
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STAMMERING SPEECH DEFECTS
BEHNKE METHOD Estab. 1882. Cases non-resident treated at 39 Earl's Court Square, S.W.5 and in residence in the Summer holidays at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects."—"Times."
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Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims.
Chemistry Physics and Biology Labs.
MANCHESTER TUTORIAL COLLEGE,
32 Oxford Road Manchester

F.R.C.S. (Edin.)
CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly CORRESPONDENCE COURSE for March and later Exams should begin now.—H. C. O'NEIL F.R.C.S. Surgeons Hall Edinburgh.

Royal College of Surgeons of ENGLAND
ELECTION TO COURT OF EXAMINERS

Notice is hereby given that the Council on December 11th next will proceed to the election of THREE MEMBERS of the COURT OF EXAMINERS in the vacancies occasioned by the death of Mr. T. H. Lees the expiration of the period of office of Mr. RUSSELL J. HOWARD and the retirement of Mr. C. H. FAGGE, who is not eligible for re-election

Fellows of the College desirous of becoming candidates for the office must make application in writing to the Secretary on or before Wednesday December 3rd.

S. FOPPETT COWELL,
November 10, 1930. Secretary

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a m to 4 p m —Post-Graduates may enrol at any time for any period from 1 week to 3 months —Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners"—Anaesthetic Courses —Clinical Assistantships —Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals

Prospectus from the DEAN, West London Hospital, Hammersmith, W 6

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MARYLEBONE ROAD, N W 1

Medical Students and Qualified Practitioners admitted to the Practice of this Hospital Unusual opportunities are afforded of seeing Obstetrical Complications and Operative Midwifery (about one half of the total admissions being primiparous cases) Over 2 300 patients are admitted to the Wards annually and in the Ante natal Department there are over 18 000 attendances per annum

Certificates awarded as required by the various Examining Bodies

For rules fees, etc apply ARTHUR WATTS Secretary

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Diploma in Psychological Medicine
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New Zealand

HAWKES BAY HOSPITAL BOARD NAPIER

Applications are invited for position of FULL TIME PATHOLOGIST at NAPIER HOSPITAL Commencing salary £750 per annum rising by annual increments of £50 to £900 Assistant Bacteriologist and adequate staff employed

Applications will be received by E T REES Managing Secretary Hawkes Bay Hospital Board Napier New Zealand up to January 10th 1931 Appointee will be required to take up duties on April 1st 1931

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

(University of London)

Tropical Medicine and Hygiene

The School provides two courses yearly each of 22 weeks The Spring Course commences on February 2nd, 1931 and the Autumn Course in October 1931 Composition fee, to include hire of Microscope, etc , £34 5s

Diploma in Public Health

The next course of study, covering a period of twelve months, commences on October 1st, 1931, and is so designed that Students wishing to do so can proceed to the New Academic Diploma instituted by the University of London The composition fee of 54 guineas covers the cost of the necessary practical work and instruction in Infectious Diseases, etc

Diploma in Bacteriology

The course of study, covering one academic year, commences in October Composition fee £47 15s

Epidemiology and Vital Statistics

Special three-monthly advanced courses Composition fee £7 7s

Applications for Prospectuses and for other information should be addressed to the Secretary, Keppel St (Gower Street), London, W C 1

British Guiana

A vacancy at present exists for an ASSISTANT GOVERNMENT MEDICAL OFFICER OF HEALTH in BRITISH GUIANA

Candidates who should be under 35 years of age, must hold a Degree or Diploma in Public Health Salary £650 per annum rising by annual increments of £25 to £800 per annum together with duty allowance of £150 per annum house allowance of £100 per annum and motor car allowance of £100 per annum Private practice is not allowed Free first class passage is provided The selected candidate will be engaged on contract for a period of two years in the first instance and will be placed on the pensionable establishment if he is confirmed in his appointment on the termination of contract

Further particulars and form of application may be obtained on application in writing from the Private Secretary (Appointments) Colonial Office 2 Richmond Terrace Whitehall London S W 1

Completed applications must reach the Private Secretary not later than December 6th

CITY OF LONDON MATERNITY HOSPITAL

CITY ROAD, E C 1

MIDWIFERY TRAINING SCHOOL

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery and Surgical complications Monthly or Fortnightly Courses

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C M B regulations

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The age of the pupil district preferred and rough idea of fees should be given

J & J PATON Educational Agents 143 Cannon St London E C 4 Tel Mansion House 5055

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A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M B Examination University Scholarships in Chemistry Biology etc

Special facilities are offered for the teaching of Chemistry, Physics Botany, and Zoology

New Science Buildings containing seven laboratories two lecture rooms, science library store rooms etc opened in September 1928

Prospectus from Head Master

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd (Candidates for the D T H must possess the D T M of this University)

For particulars apply to the Hon Dean Liverpool School of Tropical Medicine, Pembroke Place Liverpool

University of Cape Town

ASSISTANT ANATOMIST

Applications are invited for the above post

Salary —£750 per annum (but for pensions purposes on the scale £500—£25—£650).

Engagement —In the first instance for three years

Qualifications —Applicants must have a registrable medical qualification and must have had experience in teaching anatomy

Transport —£50 will be allowed for transport subject to a proportionate refund in the event of resignation before the expiry of the three years

Applications and copies of testimonials (in triplicate) must be lodged with the Secretary Office of the High Commissioner for the Union of South Africa 73 Strand W C (from whom forms of application and further particulars may be obtained) not later than December 17th 1930

St George's Hospital, S W 1

Owing to the retirement of the SENIOR and TWO other ANAESTHETISTS at the end of 1930 the House Committee invite applications for these posts There are five Visiting Anaesthetists to the Hospital of whom three must not be engaged in General Practice

Applications should be sent to the Secretary not later than December 1st next

J M CHURCHFIELD Secretary

November 5th 1930

Willesden Urban District Council.

HEALTH DEPARTMENT

APPOINTMENT OF DENTIST

The Willesden Urban District Council require the services of a Dentist

The duties attached to this post includ the Dental Inspection and Treatment of School Children and the Dental Inspection and Treatment of Expectant and Nursing Mothers and Children under five years of age and such other duties as the Council or Medical Officer of Health may require to be undertaken

The Dentist's work under the administrative control of the Medical Officer of Health.

The appointment is terminable by a month's notice on either side is subject to the Council's regulation concerning officers of the Council and to the provisions of the Local Government and Other Officers Superannuation Act 1922.

The successful applicant will be required to pass a medical examination.

Candidates must possess a registrable qualification in Dentistry and devote their whole time to the duties of the office

Commencing salary £420 rising by four annual increments to £517 10s with Civil Service bonus in addition which bonus fluctuates according to the rise or fall in the cost of living revision being made every six months—namely March 1st and September 1st. At the present time the commencing salary and bonus is at the rate of £561 8 9d. per annum.

Travelling expenses within the district paid by the Council.

Application form may be obtained on application by letter (enclosing stamped addressed envelope) to the Medical Officer of Health, Health Department 54 Winchester Avenue Kilburn N W 6 and should be returned to him duly filled in by applicant together with copies of three testimonials not later than 9 a.m on Friday November 28th. Envelopes containing communications relative to this appointment must have Dentist written in top left hand corner

Town Hall E A PRATT
Dyne Road Clerk of the Council.
Kilburn N W 6 Nov 1930

Borough of Leyton

ASSISTANT MEDICAL OFFICER

Application are invited from duly qualified Medical Practitioners for the appointment of Assistant Medical Officer

Age not to exceed 45

The inclusive salary will be at the rate of £500 per annum rising by annual increments of £25 to £700 per annum.

The duties will be principally in connection with maternity and child welfare and school medical services

The appointment will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922 and to the approval of the Minister of Health and the Board of Education

Applications must be made on prescribed forms which can be obtained by sending a stamped addressed foolscap envelope to the undersigned.

Application endorsed Assistant Medical Officer" must reach me not later than December 6th

Canvassing directly or indirectly will be a disqualification

Town Hall JNO ATKINSON
Leyton E.10 Town Clerk
November 10th 1930

County Council of Inverness-shire.

LOCAL MEDICAL OFFICER. PARISH OF SLEAT

Applications are invited from registered Medical Practitioners for the appointment of Local Medical Officer for the Parish of Sleat

Income is derived from the following sources

(1) County Council in respect of services to that Authority £175 per annum
(2) Private practice including Medical Club Practice and small panel
(3) Highlands and Islands Medical Service Fund.

Free house and garage provided

The officer appointed will be expected to take up duty on or before January 22nd 1931

Applications with statement of qualification and experience and accompanied by copies of three recent testimonial to be lodged with the undersigned not later than Saturday Nov 29th

Court Buildings J W McKILLOP
Inverness County Clerk
November 7th 1930

City of Manchester

PUBLIC HEALTH DEPARTMENT

ABERGELE SANATORIUM (262 Beds)

APPOINTMENT OF MEDICAL SUPT

The Public Health Committee invites applications from qualified Medical Men for the position of Medical Superintendent at the Abergele Sanatorium

The Sanatorium contains 210 beds for pulmonary and non pulmonary tuberculosis in children and 52 beds for pulmonary tuberculosis in adult

Every candidate must be a registered Medical Practitioner have had experience in the administration of sanatoria and in the treatment of tuberculosis in children and adult

Salary £900 per annum inclusive of emoluments (house coal and light) valued at £116 per annum.

Every application stating fully the training qualifications and experience of the candidate and his age with copies of three recent testimonials and endorsed on the envelope Medical Superintendent Abergele Sanatorium" must be addressed to the undermentioned only and no to members of the Committee or Council and must reach him not later than December 5th.

The successful candidate will be under the general administrative control of the Medical Officer of Health and will be required to pass a medical examination to devote the whole of his time to the duties of his office to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service

Canvassing in any form oral or written direct or indirect is prohibited

F E WARBRECK HOWELL.
Town Hall Town Clerk
Manchester November 7th 1930

City of Plymouth

UDAL TORRE SANATORIUM YELVERTON

RESIDENT MEDICAL OFFICER.

Application are invited from duly qualified and registered Medical Practitioner (male) for the post of Resident Medical Officer to Udal Torre Sanatorium (39 beds) The Sanatorium is situated about nine miles from Plymouth and is reserved for the treatment of intermediate and advanced cases of pulmonary tuberculosis in males

The salary will be at the rate of £450 per annum together with board residence and laundry Quarters are provided for an unmarried man The appointment will be terminable by three months notice on either side and canvassing will be a disqualification

The person appointed will be on the staff of the Medical Officer of Health and will rank as an Assistant Medical Officer in the Public Health Department.

Forms of application will not be provided but candidates must state their age and experience Preference will be given to candidates who have received special training for a period of not less than six month in the diagnosis and treatment of tuberculosis

Application together with copies of not more than three recent testimonials must be delivered to the undersigned at his office on or before Saturday November 22nd and envelopes should be endorsed Resident Medical Officer

A T VANKIVELL, M.D. M.R.C.P. D.P.H
Town Hall Medical Officer of Health
Stonehouse Plymouth.
November 3rd, 1930

City of Birmingham

ASSISTANT MEDICAL OFFICER FOR MATERNITY AND CHILD WELFARE.

The Maternity and Child Welfare Committee invite applications from Medical Women for the post of Whole-time Assistant Medical Officer for Maternity and Child Welfare Applicant must have had Children's Hospital and Maternity Hospital experience and the Diploma of Health is desirable The salary will be £500 per annum rising by annual increments of £25 to a maximum of £700 per annum. The appointment will be subject to the Birmingham Corporation Superannuation Scheme and to the candidate passing a medical examination and will be subject to three months notice on either side The appointment will automatically terminate in the event of the Medical Officer's marriage

Application endorsed "Medical Officer for Maternity and Child Welfare and accompanied by copies of three recent testimonials to be made on a form to be obtained from the Medical Officer of Health Council House Birmingham and returned to him on or before November 22nd

Council House F H C WHITSHIRE.
Birmingham. Town Clerk.

Staffordshire, Wolverhampton, & DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS

TUBERCULOSIS OFFICER.

The Joint Committee invite application for the post of Tuberculosis Officer for the Dudley and Wednesbury Dispensary Areas at a commencing salary of £750 per annum rising to £850 per annum together with travelling expenses

Candidates should either have held a previous appointment as Tuberculosis Officer with the approval of the Ministry of Health, or should since qualification

(1) have had at least three years experience in the practice of their profession
(2) have spent in general clinical work a period of not less than eighteen months of which not less than six months have been spent in a hospital a resident officer in charge of beds occupied by general medical or surgical cases and
(3) have received special training for a period of no less than six months in the diagnosis and treatment of tuberculosis

The successful applicant will be required to act as Visiting Medical Officer of The Limes Sanatorium for Children Himley and will work under the administrative control of the Medical Officer of the Joint Committee.

Applications stating age with copies of three recent testimonials, must be forwarded to the undersigned not later than November 19th.

County Buildings EUSTACE JOY
Stafford. Clerk of the Joint Committee

The Borough of Richmond (SURREY) and THE HESTON AND ISLEWORTH URBAN DISTRICT JOINT ISOLATION HOSPITAL COMMITTEE.

RESIDENT MEDICAL OFFICER.

The Committee requires the services of a Resident Medical Officer at its Hospital at Mogden

Applicants must be at least 35 years of age Previous experience as a Resident in a Fever Hospital will be considered an advantage

Salary £400 per annum rising by annual increments of £50 to £500

At present no suitable living accommodation is available at the Hospital but will be provided in due course Until it is provided the person appointed will be required to live within easy distance of the Hospital. The place of residence must be approved by the Committee When the accommodation is ready the person appointed will be required to take up residence in the Hospital Until then there will be an allowance at the rate of £130 per annum in lieu of emolument

The Committee has no superannuation scheme at the moment.

Application accompanied by copies of three recent testimonials to reach me by 25th.

S C T LITTLEWOOD
14 Church Street Clerk to the
Kingston-on Thames Committee
November 5th, 1930

Lancashire County Council

BIDDULPH GRANGE ORTHOPAEDIC HOSPITAL.

Applications are invited for the post of SENIOR HOUSE SURGEON (woman) at the above Hospital which contains 80 beds The salary is at the rate of £250 a year together with board residence and laundry

The appointment will be for a period of six months in the first instance and for a further period of six months at the option of the Council

Candidates must be fully qualified and have had experience in a general Hospital as a Resident and have had Orthopaedic experience

Applications with copies of two recent testimonial should be sent not later than November 21st to Dr J J BUTTERWORTH School Medical and Child Welfare Department, County Offices Preston

Duties to commence February 1st 1931

County Offices GEORGE ETHERTON
Preston Clerk to the County Council

Borough of Todmorden

Applications are invited for the position of WHOLE TIME MEDICAL OFFICER OF HEALTH AND SCHOOL MEDICAL OFFICER Salary £800 per annum. The appointment is subject to the Local Government and Other Officers Superannuation Act 1922. Applicants must state age qualification and experience with copies of not more than three recent testimonials to reach me on or before December 1st in envelopes endorsed Medical Officer"

Municipal Offices HERBT GARRATT
Todmorden Town Clerk.

Royal Victoria Infirmary, NEWCASTLE UPON TYNE.

The House Committee declare vacant the office of HONORARY ASSISTANT SURGEON to the EYE DEPARTMENT

According to statutory provision every candidate must be registered in Medicine and Surgery

Applications with copies of three recent testimonials and stating age and other particulars must be sent to the House Governor & Secretary Royal Victoria Infirmary Newcastle upon Tyne not later than Thursday November 27th

The appointment will be made on Thursday December 4th

Personal canvassing will be considered a disqualification for office Candidates may, if they so desire forward to each member of the House Committee a copy of their application and testimonials

S DUNSTAN
House Gov & Sec

Nov 8th 1930

City of London Hospital for DISEASES OF THE HEART & LUNGS

Victoria Park E 2
(Bus, Tram and Rail Cambridge Heath, L & N E Railway)

Applications (with copies of three testimonials) are invited to be sent to the undersigned on or before Monday, December 8th, for the following posts subject to the rules and by laws of the Hospital

RESIDENT MEDICAL OFFICER (male) for one year from January 1st 1931, with eligibility for reappointment Salary £250 per annum

HOUSE PHYSICIAN (male) for six months from January 1st 1931 Salary at the rate of £100 per annum

Board, residence and laundry provided

GEORGE WATTS Secretary

Woking and District Victoria HOSPITAL

(General Hospital—50 Beds)

Female RESIDENT MEDICAL OFFICER (unmarried) required for January 1st 1931 Applicants must be doubly qualified and registered Salary £100 per annum, with board residence and laundry

Appointment for six months and renewable for further six months

Applications stating age etc, and accompanied by copies of recent testimonials to be addressed to the undersigned from whom all particulars may be obtained They must be received on or before November 21st Personal canvassing not allowed

Woking and District Victoria Hospital — R MANNING DRIVER, Hon Sec

National Hospital, Queen Sq, for the Relief and Cure of Diseases of the Nervous System including Paralysis and Epilepsy

HOUSE PHYSICIAN

The Board of Management invite applications for the post of House Physician which should be sent to the undersigned accompanied by copies of three recent testimonials not later than Monday December 1st The salary is £150 per annum with board and lodging The appointed officer will be needed about the end of December

GODFREY H HAMILTON
Secretary

The Queen's Hospital for CHILDREN, Hackney Road, London, E 2

HOUSE PHYSICIAN required on December 15th A six months appointment Salary £100 a year with board residence, and washing Preference given to candidates who have previously held Resident appointments *The appointed candidate will be required to do a certain amount of Ear Nose and Throat work* Applications must be made on forms to be obtained from me and must be sent in with copies of not more than four testimonials on or before November 29th

CHARLES H BESSELL
Acting Secretary

Nov 3rd 1930

Aberdeen Royal Mental Hospital

JUNIOR ASSISTANT PHYSICIAN (male) wanted for the above Mental Hospital Preference will be given to one who has had general Hospital experience Commencing salary £300 per annum with board lodging and laundry

Applications stating qualifications and experience with copies of three recent testimonials should be sent to the Physician Supt

West London Hospital, Hammersmith Road W 6

Applications are invited for the post of HONORARY REGISTRAR Throat Nose and Ear Department The appointment is for one year and subject to annual re election may be extended for a period not longer than three years Applicants must be doubly qualified registered Medical Practitioners

Applications accompanied by copies of testimonials must reach me not later than Thursday November 20th Candidates must attend the meeting of the Medical Council on Friday November 21st at 4 30 p m and prior to that date call upon and send copies of application and testimonials to each Member thereof They must not canvass Members of the Board but nevertheless must send a copy of their application and testimonials to each Member thereof and if notified be in attendance at a meeting of the Board at 5 p m on Tuesday November 25th when the appointment will be made

H A MADGE Secretary

South Devon and East Cornwall HOSPITAL, PLYMOUTH (240 Beds)

Applications are invited for the posts of
(1) HOUSE PHYSICIAN (Woman)
(2) HOUSE SURGEON to Casualty and Special Departments (Woman)

Salary £120 and £100 per annum respectively, with board, residence and laundry Appointments are tenable for six months and are subject to renewal Candidates must be registered under the Medical Acts

Applications stating age and qualifications together with copies of recent testimonials to reach the undersigned by November 24th

ARTHUR R CASH
Gen Supt & Secretary

Nov 7th 1930

The General Hospital, BIRMINGHAM

Applications are invited for the post of Whole time Non resident SURGICAL CASUALTY OFFICER to take charge of the Casualty Department daily from 9 to 5

Candidates must be Fellows of one of the Royal Colleges of Surgeons and have held a Surgical appointment Salary £400 a year

The appointment will be made for one year in the first instance and be subject to renewal for a further two years

Applications giving full details of qualifications and experience and accompanied by testimonials should reach the undersigned by November 24th

A H LEANEY House Governor

Royal Northern Hospital, Holloway, London N 7

Vacancies occur for Two SURGEONS to the Hospital and applications are invited for the appointments

Candidates must be Fellows of the Royal College of Surgeons of England

Particulars of the offices and details with regard to the submission of testimonials etc may be obtained from the undersigned to whom applications should be sent not later than November 21st

CILBERT G PAINTER Secretary

City of London Maternity HOSPITAL City Road, E.C 1

Applications are invited from fully qualified candidates for the post of ASSISTANT RESIDENT MEDICAL OFFICER vacant January 1st next Three months appointment at £80 p a and board residence and laundry If satisfactory appointee becomes Senior for three months at £100 p a Twenty five copies of application and of three testimonials should reach the undersigned by December 6th

RALPH B CANNING, Secretary

Durham County and Sunderland EYE INFIRMARY

HOUSE SURGEON wanted Must have Ophthalmic experience Salary £350 per annum rising by annual increments of £50 to £500 per annum Applications together with copies of three recent testimonials to be sent to—

Eye Infirmary, Sunderland — JOHN BUTTERFIELD Secretary

Applications are invited for appointment as HON PHYSICIAN to the BRITISH HOSPITAL FOR FUNCTIONAL MENTAL AND NERVOUS DISORDERS 72 Camden Road N W 1 and should be addressed to the Secretary

The Hospital for Sick Children Great Ormond Street London W C 1

A PART TIME JUNIOR CASUALTY OFFICER is required on January 9th, 1931 to assist in the Casualty Department from 10 a.m. to 3 p m (Saturdays 10 a m to 1 p m) under the direction of the Casualty Officer

The work of this Officer includes a large number of Tonsillectomies and other minor operations.

Candidates must be registered Medical Practitioners and have held a responsible Hospital appointment

Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday December 1st accompanied by copies of not more than three testimonials written specially for the purpose

The appointment is made for six months and is non resident

Salary at the rate of £150 per annum with luncheon

All candidates must be in attendance and appear before the Joint Committee if required at their meeting on Wednesday, December 3rd at 4 45 p m precisely

Forms of application and copies of the rules may be obtained from the Secretary at the Hospital

By Order of the Board of Management
JAMES McKAY
Secretary

November 1930

The Hospital for Sick Children Great Ormond Street London, W C 1

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on January 1st 1931

Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday December 1st with copies of not more than three testimonials given specially for the purpose and also evidence of their having held a responsible Hospital appointment

The appointments are made for six months Salaries at the rate of £100 per annum laundry allowance £5 board and residence in the Hospital

Candidates must be unmarried and possess a legal qualification to practise

All candidates must be in attendance and appear before the Joint Committee if required at their meeting on Wednesday December 3rd at 4 45 p m precisely

Forms of application and copies of the rules may be obtained from the Secretary

By Order of the Board of Management
JAMES McKAY
Secretary

November 1930

Manchester Royal Infirmary MEDICAL REGISTRAR

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment vacant on February 1st 1931 Applicants must be registered and hold a Medical and Surgical qualification and are required to attend daily from 10 a m to 1 p m Sundays excepted

The appointment (non resident) is for one year renewable for a further period of one year subject to the provisions of the By laws as to notice etc Salary £150 per annum

Applicants must state age and address their applications and testimonials to the Chairman of the Medical Board not later than Nov 29th

By Order,
FRANK G HATTLL
Gen Supt & Sec

Nov 10th 1930

County Mental Hospital, Chester

JUNIOR ASSISTANT MEDICAL OFFICER (male single) wanted Salary £350 per annum with four annual increments of £25 together with furnished apartments board washing and attendance The last three increments are conditional on holding the Diploma in Psychological Medicine and for which a further £50 per annum is paid Three months study leave (D P M) may be granted

The appointment is subject to the provisions and privileges of the Asylums Officers Superannuation Act 1909

Form of application which may be obtained from the Medical Superintendent to be returned duly completed not later than November 21st

C HAMILTON GRILLS M D
Medical Superintendent

Leicester Royal Infirmary (450 Beds)

SURGICAL DRESSER required (First appointment preferred) Appointment for three months Honorarium 10/6 per week for a student proved service Board etc provided

Applications forthwith to the House Governor and Secretary of the Infirmary

Administrative County of LONDON

HOSPITALS SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned positions. The persons appointed will be required to carry out such duties as may be assigned by the Medical Superintendents and should occasion arise to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidates will be required to live in the respective Hospitals:

(a) HACKNEY HOSPITAL, High Street, Homerton, E.9 — DEPUTY MEDICAL SUPERINTENDENT. Salary £550 a year with board, lodging and laundry. Candidates should have been registered under the Medical Acts for at least 5 years and must have held responsible resident appointments in a Public or General Hospital. They should be capable of performing major surgical operations. There is no accommodation for a married man.

(b) BETHNAL GREEN HOSPITAL, Cambridge Road, E.2. — ASSISTANT MEDICAL OFFICER. Salary £350 a year with board, lodging and laundry. Candidates must have held a resident appointment in a General Hospital. There is no accommodation for a married man.

(c) COLINDALE HOSPITAL, Hendon.—JUNIOR ASSISTANT MEDICAL OFFICER. Salary £500 a year. Board, lodging and laundry will be provided for which a charge (at present £130 a year) is made. Candidates must be under 30 years of age and must have held a resident appointment in a Hospital. There is no accommodation for a married man or for a woman. Previous Tuberculosis experience is not essential.

(d) QUEEN MARY'S HOSPITAL FOR CONVALESCENTS, Sidcup, Kent. — JUNIOR ASSISTANT MEDICAL OFFICER. Salary £250 a year with board, lodging and laundry. The appointment in the first instance will be for one year only. Candidates must have held a resident appointment in a General Hospital. There is no accommodation for a married man or for a woman.

(e) ST. GILES' HOSPITAL, Brunswick Sq., S.E.5. — TWO ASSISTANT MEDICAL OFFICERS. Salary £350 a year with board, lodging and laundry. Candidates must have held a resident appointment in a General Hospital. One position is partly medical and partly gynaecological; for the other, candidates must possess a [illegible]. There is no accommodation for a married man.

(f) SOUTH WESTERN FEVER HOSPITAL, Landor Road, Stockwell, S.W.9.—JUNIOR ASSISTANT MEDICAL OFFICER. Salary £500 a year. Board, lodging and laundry will be provided for which a charge (at present £130 a year) is made. Candidates must have held a resident appointment in a General Hospital. Fever experience not essential. There is no accommodation for a married man or for a woman. Candidates must be under 30 years of age.

The salary and conditions of appointment are provisional and subject to review by the Council. Forms of application may be obtained (stamped addressed foolscap envelopes necessary) from the Medical Officer of Health (Staff Division 4a), The County Hall, Westminster Bridge, S.E.1, and must be returned by November 28th. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent of the Hospital.

MONTAGU H. COX,
Clerk of the London County Council.

The Cancer Hospital (Free)

(Incorporated under the Royal Charter)
Fulham Road, London, S.W.3.

The Committee are prepared to receive applications for the post of HOUSE SURGEON, Salary at the rate of £100 per annum. The appointment is for *six months and subject to rules*. Candidates must call upon each member of the Medical Committee, not later than Monday, December 8th. A copy of the rules and the names and addresses of the Medical Committee may be obtained from the Secretary. Previous experience as a House Surgeon is indispensable.

Applications, with three (copies only) testimonials, to be sent to the undersigned not later than the first post on Saturday, November 29th.

J. COURTNEY BUCHANAN,
Secretary.

County Council of Middlesex

PUBLIC VACCINATOR.

The County Council invites applications from registered Medical Practitioners for the appointment of Public Vaccinator for a Vaccination District within the Urban District of Willesden. Particulars and forms can be obtained on application to me.

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination unless such certificate was required as a condition of obtaining any diploma, licence or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order 1930 of the Minister of Health.

Application, stating (1) age, (2) qualifications and (3) previous experience, together with copies of not more than three recent testimonials, must be received by the undersigned not later than November 22nd.

No special application forms are provided. Envelopes must be endorsed "Public Vaccinator."

Canvassing directly or indirectly will be a disqualification.

ERNEST S. W. HART,
Clerk of the
County Council.

Middlesex Guildhall,
Westminster, S.W.1.
October 28th, 1930.

City and County of Newcastle-upon-Tyne

NEWCASTLE GENERAL HOSPITAL.

SENIOR RESIDENT MEDICAL ASSISTANT (Male or Female).

Applications are invited for the above post. The duties will be chiefly concerned with the charge of medical wards. Salary £300 rising by £50 annually to £500 per annum with board, residence, etc.

Applications, stating age and qualifications, together with copies of not more than three recent testimonials to be addressed to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.

November 3rd, 1930.

City and County of Newcastle-upon-Tyne

NEWCASTLE GENERAL HOSPITAL.

HOUSE PHYSICIAN AND HOUSE SURGEON (Male or Female).

Applications are invited for the above posts. The salary in respect of each of the appointments, which are tenable for six months, is at the rate of £100 per annum with board, lodging, etc.

Applications, stating age and qualifications, together with copies of not more than three recent testimonials, to be addressed to the Medical Officer of Health, Town Hall, Newcastle-upon-Tyne.

November 3rd, 1930.

Kettering and District General HOSPITAL.

Applications are invited for the post of HOUSE SURGEON. Appointment to commence on January 1st, 1931, for six months, with eligibility for a period of a second six months. Salary £200 per annum, plus Inquest and Certificate Fees, etc. (approximately £100 per annum). Applications, stating age, qualifications, etc., together with copies of three recent testimonials, should reach the undersigned not later than Nov. 20th.

G. W. JACKSON,
Secretary-Superintendent.

Royal Infirmary, Wigan

(160 Beds.)

HOUSE SURGEON (male) required to commence duty on December 2nd for a period of six months. Salary £150 per annum with board, apartments and washing. Applications, stating age and qualifications, with copies of three recent testimonials, should be addressed to the undersigned as soon as possible.

A. STANLEY BRUNT,
Gen. Supt. & Sec.

Nov. 11th, 1930.

Kitchener Memorial Hospital,

CAIRO, EGYPT.

Medical Woman required January 1931 as SENIOR MEDICAL OFFICER. 70 general bed. £400 with residence. Passage allowance.

Apply by December 1st to Dr. GARRETT ANDERSON, C.B.E., c/o 8 Hunter Street, Brunswick Square, W.C.1.

County Borough of West Bromwich

HALLAM HOSPITAL.

RESIDENT HOUSE PHYSICIAN.

Applications are invited from fully qualified male registered Practitioners (single) for the above appointment.

The appointment is for twelve months, but either party may give six weeks' notice terminating the engagement. The Hospital has 47 beds and is equipped with up-to-date special department. There is a visiting staff of eight Consultant Physicians and Surgeons.

Preference will be given to applicants with previous Hospital experience.

Salary £250 per annum.

Canvassing either directly or indirectly is strictly prohibited and will be deemed a disqualification.

Application, stating age, experience and qualifications, together with copies of three recent testimonials, must be forwarded to the Medical Officer of Health, 2 Lodge Road, West Bromwich, so as to arrive not later than by the first post on Wednesday, November 26th.

Town Hall,
West Bromwich.

ALFRED WICKHAM,
Town Clerk.

County of London

The LONDON COUNTY COUNCIL invites application for appointment as JUNIOR ASSISTANT MEDICAL OFFICER (man) at Mental Hospital. Candidates must be under 40 years of age and be registered to practise both in Medicine and Surgery in England. Commencing salary (subject to review) £500 a year. No emoluments. Charges for board, lodging, etc. (at present £130 a year) if required to be resident. *Pensionable under Asylums Officers* [illegible]. Application form obtainable from Chief Clerk's Department. The applications must be received by 24th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

County of London

The LONDON COUNTY COUNCIL *invites* applications for EIGHTH ASSISTANT [illegible] in the Mental [illegible] must be under 35 years of age and be registered to practise both in Medicine and Surgery in England. Salary £445 a year rising to £570 a year. No emoluments. Charges for board, lodging, etc. (at present £2 9s. a week) if required to be resident. Pensionable under Asylums Officers Superannuation Act 1909. Application form giving full particulars obtainable from Chief Officer, Mental Hospitals Department, The County Hall, S.E.1. Applications must be received by Monday, November 24th. Canvassing disqualifies.

MONTAGU H. COX,
Clerk of the London County Council.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (92 Beds.)

Applications are invited for a RESIDENT HOUSE PHYSICIAN (male or female) to commence duties forthwith until March 31st, 1931. Salary at the rate of £100 per annum together with board, residence and laundry.

Applications, stating age and qualifications, with copies of testimonials to be sent to the Secretary, Mr. NEIL BRODIE, 18 City Road, Newcastle.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (92 Beds.)

Applications are invited for a RESIDENT SENIOR HOUSE SURGEON (male or female) to commence duties forthwith until March 31, 1931. Salary at the rate of £100 per annum together with board, residence and laundry.

Application, stating age and qualifications, with copies of testimonials to be sent to the Secretary, Mr. NEIL BRODIE, 18 City Road, Newcastle.

The Hospital for Sick Children,

NEWCASTLE-UPON-TYNE. (92 Beds.)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female) to commence duties forthwith until March 31st, 1931. Salary at the rate of £100 per annum.

Application, stating age and qualifications, with copies of testimonials to be sent to the Secretary, Mr. NEIL BRODIE, 18 City Road, Newcastle.

St James Hospital, Leeds

Applications are invited from members of the Medical Profession to fill a vacancy in the staff of HOUSE PHYSICIANS AND SURGEONS at the above Hospital. Applicants must be fully qualified and registered. The Hospital is one of 1,126 beds with special departments for Radiology, Pathology, Midwifery and Diseases of Children. There are in addition 320 beds in separate Mental Wards. The staff consists of a Medical Superintendent, a Resident Medical Staff of six, a Pathologist, a Radiologist and Visiting Physicians and Surgeons. The successful applicant will be required to act as House Physician and Surgeon under the Medical Superintendent and the Visiting Staff, and to perform such other duties as the Medical Superintendent may direct. The term of appointment is limited to one year. Salary £200 per annum with board, apartments and attendance. Applications, stating qualifications and giving particulars of present and prior occupations, together with copies of three recent testimonials, must be received by me not later than 10 a.m. on Tuesday, November 25th, endorsed "House Physician and Surgeon." Selected candidates will receive due notice to attend.

11 South Parade, Leeds. H. FIELDHOUSE, Public Assistance Officer.
November 10th, 1930.

Manchester Royal Infirmary

RESIDENT CLINICAL PATHOLOGIST

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment, vacant on January 1st, 1931. Applicants (men only) must be registered and hold a Medical and Surgical qualification, preference being given to those who have held a Resident appointment at the Manchester Royal Infirmary.

The appointment is for twelve months, subject to the provisions of the By-laws as to notice, etc.

Salary £100 per annum, with board, residence and allowance for laundry.

Applicants must state age, and address their applications to the Chairman of the Medical Board, not later than November 29th.

By Order,
FRANK C. HAZELL,
Nov. 10th, 1930. Gen. Supt. & Secretary.

Ancoats Hospital, Manchester

Applications are invited for the following posts, which will become vacant on December 31st next:

MEDICAL REGISTRAR (part time). Salary £100 per annum.

SURGICAL REGISTRAR (part time). Salary £100 per annum.

Applications, stating age, qualifications, experience, appointments held, etc., together with copies of three recent testimonials, to be forwarded to the undersigned on or before Wednesday, November 26th, next, and from whom all particulars may be obtained.

By Order of the Board,
HERBERT J. DAFFORNE,
Gen. Supt. & Secretary.

Ancoats Hospital, Manchester

ORTHOPAEDIC HOUSE SURGEON, male or female, to commence duty on December 1st next, for a period of six months. Salary at the rate of £100 per annum. Applications, stating age, qualifications, previous experience, if any, to be forwarded, together with copies of three recent testimonials, on or before Wednesday, November 19th, to the undersigned.

By Order of the Board,
HERBERT J. DAFFORNE,
Gen. Supt. & Secretary.

Manchester Royal Eye Hospital

JUNIOR HOUSE SURGEON required. Salary £120 per annum, with residence, board, etc. Applications (with copies of testimonials) endorsed "House Surgeon," to be addressed to the Chairman of the Board of Management, not later than November 22nd.

H. R. NOTTH, Secretary.

Taunton and Somerset Hospital,

TAUNTON. (104 Beds.)

JUNIOR HOUSE SURGEON (male) required. Two other resident officers. Salary at the rate of £100 per annum, with board, residence and laundry.

Applications, with testimonials, to—

F. J. J. STAPLEY, Secretary.

West Bromwich and District General Hospital

Appointment of (1) HONORARY ANAESTHETIST (2) HONORARY ASSISTANT Ear, Nose and Throat Department.

The Committee of Selection will on Monday, November 17th, proceed to the appointment of (1) an Honorary Anaesthetist and (2) an Honorary Assistant for the Ear, Nose, and Throat Department.

Candidates are requested to send their applications and testimonials, and evidence of their degrees and diploma, to ERIC BACHE, Esq., 11 B Lombard House, West Bromwich on or before November 14th.

The By-laws provide That every honorary surgeon shall be a Fellow or Member of a Royal College of Surgeons in the United Kingdom or a Graduate in Surgery of a British University, and that appointments shall be for a period not exceeding five years.

By Order,
FRANK J. HANCOCK,
Secretary & Supt.

Kent County Ophthalmic and Aural Hospital, Maidstone.

(105 Beds.)

Applications are invited for the post of OPHTHALMIC HOUSE SURGEON (male) which becomes vacant at the end of November. The appointment is for six months, but may be renewed for a further six months.

Candidates must be duly qualified and registered Medical Practitioners, single and of British birth and nationality, and should have some experience of Refractions.

Salary at the rate of £200 per annum with board, residence and washing.

The Hospital is recognised for the practical work of the D.O.M.S.

Applications, stating age and qualifications, together with copies of three testimonials, should be sent to the undersigned.

JOHN W. STRICKLAND, Secretary.

Metropolitan Hospital,

Kingsland Road, E.8.

The Committee of Management are prepared to receive applications for the appointment of an ASSISTANT MEDICAL OFFICER to the X-ray and Electrical Department.

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom and must in addition hold the Diploma of Medical Radiology and Electrology.

Candidates will be required to call upon Members of the Staff.

Twenty applications, complete with copies of recent testimonials, must reach the undersigned from whom further particulars may be obtained, not later than first post on Saturday, November 29th.

HERBERT F. RUTHERFORD,
Secretary & House Governor.

Children's Hospital, Sheffield

Applications are invited for the post of THIRD RESIDENT MEDICAL OFFICER, vacant January 1st 1931. Salary £100 per annum with board, residence and laundry.

Candidates (female and unmarried) who must possess registered qualifications, should forward applications, stating age, etc., together with copies of three recent testimonials to the undersigned.

The successful candidate will be eligible for the next Senior post when vacant.

J. H. G. CARLAND, Secretary.

Darlington General Hospital

(120 Beds.)

Wanted HOUSE SURGEON, male or female, fully qualified, British. Salary £150 per annum, with board, residence and laundry. Special Departments—Eye, Ear, Nose and Throat, Orthopaedic, Maternity, Ultra-violet rays. Applications, stating age, experience, qualifications, together with copies of two recent testimonials, to be addressed to me forthwith.

A. RIDDLE, Secretary.

Liverpool and District Hospital

FOR DISEASES OF THE HEART

HOUSE PHYSICIAN (male or female) required for period of six months from January 1st 1931. Salary at the rate of £100 per annum with board, residence and laundry.

Applications, not later than November 24th, to Miss LEWIS, Secretary, 14 Cook Street, Liverpool.

Warwickshire and Coventry Joint Committee for Tuberculosis

KING EDWARD VII MEMORIAL SANATORIUM, HERTFORD HILL, near WARWICK.

Applications are invited from duly registered Medical Practitioners (male) for the post of JUNIOR ASSISTANT MEDICAL OFFICER at the above Sanatorium, which contains 196 beds for the treatment of all stages of pulmonary tuberculosis. Salary £200 per annum with board, lodging and laundry.

At the end of six months the successful candidate will be eligible for promotion to Senior Assistant Medical Officer at the Institution.

Applications, together with copies of testimonials, should reach the undersigned by November 24th.

CORYDON BUDGE,
Medical Superintendent.

Bolton Infirmary & Dispensary

SECRETARY'S OFFICE.
(247 Beds, including Auxiliary Hospital.)

Applications for the appointment of TWO HOUSE SURGEONS and CASUALTY OFFICER. Salary £150 each per annum with board, residence and attendance are invited from Ladies and Gentlemen having a registered Medical and Surgical qualification. The appointment of House Surgeons will be for twelve months and Casualty Officer for six months from January 1st 1931. The Resident Staff consists of five persons.

Application, stating age and nationality, with copies of testimonials, should be forwarded to the undersigned (from whom further particulars may be obtained), not later than Monday the 24th inst., and the appointment will be made on Thursday afternoon, December 4th.

ALBERT E. BRISCOE, Secretary.

Merthyr General Hospital,

MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum with board, rooms and laundry.

Applicants must have had experience in administration of anaesthetics.

Applications, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed Hon. Secretary, Hon. Medical Staff, Merthyr General Hospital.

Addenbrooke's Hospital,

CAMBRIDGE.

Applications are invited for the post of HOUSE PHYSICIAN. The appointment will be for six months from December 1st, but is terminable at an earlier date by one month's written notice on either side. Salary at the rate of £130 per annum with board, residence and laundry. Candidates (male) who must be unmarried and duly registered are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four testimonials, to the undersigned on or before Friday, November 21st.

W. H. HEAD,
Secretary, Superintendent.

Addenbrooke's Hospital,

CAMBRIDGE.

Applications are invited for the post of RESIDENT ANAESTHETIST and EMERGENCY OFFICER (male). The appointment will be for three months. Salary at the rate of £130 per annum with board, residence and laundry. Candidates, who must be unmarried and duly registered, are requested to forward their applications, stating age, qualifications, etc., together with copies of not more than four recent testimonials, to the undersigned as soon as possible.

W. H. HEAD,
Secretary, Superintendent.

Kent and Canterbury Hospital

CANTERBURY.

Applications are invited for the post of HONORARY SURGEON to the above Hospital. The successful candidate will be expected to reside within a reasonable distance of the Hospital.

Candidates must send twelve copies of their application and testimonials to the undersigned not later than November 29th.

W. T. SOUTHWOOD,
Superintendent & Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District	Town or District	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	PORTSMOUTH EDUCATION COMMITTEE. *(Male Assistant School Medical Officer)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG CLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society) (Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch	Town or District	Hon Sec of Division or Branch
NEW SOUTH WALES *(All Friendly Societies Appointments)*	Dr R H TODD (Hon. Sec. New South Wales Branch Savings Bank Building 21 Elizabeth St. Sydney N S W	**SOUTH AUSTRALIA.** *(Lodge Appointment)*	Secretary South Australian Branch B.M.A House 207, North Terrace Adelaide.	**WELLINGTON NEW ZEALAND** *(Contract Practice Appointment)*	Dr G F V ANSON (Hon. Sec. New Zealand Branch, British Medical Association P O Box 156 Wellington New Zealand.
QUEENSLAND *(Hospitals to be elected Friendly Societies Institute)*	The Hon. Sec. Queensland Branch) British Medical Association B M A Building Adelaide St. Brisbane.	**VICTORIA.** *(All Institutional Medical Dispensaries)*	Dr J P Major (Hon Sec. Victorian Branch), British Medical Association Medical Society Hall East Melbourne Victoria.	**WESTERN AUSTRALIA** *(Contract and Lodge Practice)*	Hon. Sec. Western Australian Branch British Medical Association No 6 Bank of N.S.W Chambers St George's Terr Perth Western Australia.

November 12th 1930 By Order of the Council ALFRED COX Medical Secretary

Royal Free Hospital,
Gray's Inn Road W C 1

Applications are invited for the following Resident appointments

SECOND HOUSE SURGEON with care of [illegible] Dept

[illegible] URGEON

[illegible] to commence

[illegible] STANT Salary

[illegible] ts to commence

ebruary 1st 1931

Preference is given to applications from former Students of the *London* (Royal Free Hospital) School of Medicine for Women candidates must be duly qualified registered Medical Practitioners and must submit application stating age and accompanied by copies of three [illegible] undersigned not later than *three* recent testimonials to be sent immediately to the Secretary

Liverpool & Samaritan Hospital
FOR WOMEN

Wanted a HOUSE SURGEON for period of six month commencing *January* 1st 1931 Application with testimonials to be sent to the undersigned before November 21st

J ST GEORGE WILSON
Hon Sec
Medical Board

15, Rodney St Liverpool

Connaught Hospital,
Orford Road E.17 (100 Beds.)

RESIDENT HOUSE SURGEON (male) required salary £100 per annum Appointment for six month with board quarters and laundry Applications stating age nationality qualification and experience accompanied by copies of not more than *three* recent testimonials should be sent immediately to the Secretary

Royal Free Hospital,
Gray's Inn Road W C 1

[illegible] rom fully qualified men for the post of [illegible] to the Gynaecological Salary £150 per annum *must have had* special experience should submit applications stating age and accompanied by copies of three recent testimonials to the undersigned on or before November 22nd.

The appointment is made for a period of six months but renewable preference will be given to candidates who have held resident posts in the Hospital Duties to commence February 1st 1931

REGINALD R GARRATT Secretary

Royal Free Hospital,
Gray's Inn Road, W C 1

Applications are invited from duly qualified and registered Medical Men for the following Resident posts

HOUSE SURGEON to the Senior Surgeon and the Surgeon in Charge of the Ear Nose and Throat Beds Duties to commence January 1st 1931

CASUALTY OFFICER Salary £150 per annum. Duties to commence February 1st 1931

Candidates for the above posts must submit application stating age and accompanied by copies of three recent testimonials to the undersigned on or before November 22nd.

REGINALD R. GARRATT Secretary

Royal Free Hospital,
Gray's Inn Road W C 1

Applications are invited for the HALF TIME POST of MEDICAL REGISTRAR from fully qualified and registered Men or Women Salary £100 per annum.

Application stating age and accompanied by copies of three recent testimonials must be sent to the undersigned (from whom all information may be obtained) on or before November 22nd. Duties to commence January 1st 1931

REGINALD R. GARRATT Secretary

Royal Free Hospital,
Gray's Inn Road W C 1

Applications are invited for the WHOLE TIME POST of SURGICAL REGISTRAR from fully qualified and registered Men or Women Preference will be given to candidates who are Fellows of the Royal College of Surgeons (England). Salary £200 per annum

Applications stating age and accompanied by copies of three recent testimonials must be sent to the undersigned (from whom all information may be obtained) on or before November 22nd Duties to commence January 1st, 1931

REGINALD R. GARRATT Secretary

Royal Free Hospital,
Gray's Inn Road W C 1

Applications are invited for the HALF TIME POST of GYNAECOLOGICAL REGISTRAR from fully qualified and registered Medical Women

This post is reserved for former students of the London (Royal Free Hospital) School of Medicine for Women Salary £100 per annum

Applications stating age and accompanied by copies of three recent testimonials must be sent to the undersigned (from whom all information may be obtained) on or before November 22nd Duties to commence January 1st 1931

REGINALD R GARRATT Secretary

Seamen's Hospital Society

KING GEORGE'S SANATORIUM FOR SAILORS LIPHOOK HANTS for the Treatment of Pulmonary and Non-pulmonary Tuberculosis

Applications are invited for the post of ASSISTANT MEDICAL OFFICER Commencing salary at the rate of £200 per annum with quarters and board. The appointment is for six months in the first instance There is no accommodation for a married man.

Applications with copies of three recent testimonials to be sent in by November 19th to the undersigned.

Greenwich. R. E. V. BAY
November 3rd, 1930 Secretary

(Appointments continued on p 65.)

British Medical Journal,

BRITISH MEDICAL ASSOCIATION HOUSE
TAVISTOCK SQ., LONDON W.C.1

Tel MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES

Up to Six Lines (32 Words) 9s
Each Additional Line, 1s 6d

(a line averages 5 words)
Address must be paid for

All advertisements should reach the above address by not later than first post TUESDAY preceding publication

ASSISTANCIES

Wanted — Assistantship, with view Partnership or Succession in busy Practice by Scotch M B Ch B 28 married Honorary Anaesthetist ex R M O, C O and Senior H S Good G I experience Excellent refs Surgical scope pref Interview—Add No 7851 B M A House Tavistock Sq, W C 1

Wanted immediately, indoor ASSISTANT Salary to commence £275 p a Young energetic single man required for panel Practice Car kept Good opportunity for young man to gain experience in G P—No 7874 B M A House Tavistock Sq W C 1

Wanted — Assistant, married, in a large industrial Practice near Manchester Must be abstainer Commencing salary £550 p a with unfurnished house—Address No 7872 B M A House Tavistock Square W C 1

Wanted by M B, M R C P, æt 27 ASSISTANTSHIP with or without view to Scotland or N England non-dispensing Practice Hosp experience also G P Capital available — Address No 7595 B M A House Tavistock Square W C 1

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Wanted — Assistant, outdoor, male for private and panel Practice near Manchester Young and energetic Salary £375—£400 Usual bond Particulars and testimonials essential — Address No 7880, B M A House Tavistock Square, W C 1

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Manchester — Industrial Practice. Average cash receipts £978 Panel 721 Plant of scope Good house 2 reception 5 bedrooms Rent £50 p.a. Premium 1½ year purchase—BRITISH MEDICAL BUREAU 33, Cross Street Manchester

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N. Midlands — Practice and HOUSE for Sale in rapidly growing district Little opposition Receipts £800 Panel 400 Cottage Hospital less than a mile away and General Hospital for Golf Links and Aerodrome very near No 7805 BMA House Tavistock Sq W C 1

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Old-established Practice, Lancs, easy reach Manchester and coast Easily transferable Panel 1 938 steadily increasing Collections about £400 Thorough introduction given Desirable corner house gardens, garage Lease No branch or assistant Good will debts, drugs, surgery fittings instruments, £3 400 — Further particulars address No 7867 B M A House Tavistock Square W C 1

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APPOINTMENTS—Contd

Hospital for Consumption and DISEASES OF THE CHEST Brompton S.W.3.

The Committee of Management invite applications for the post of whole-time qualified ASSISTANT in the Department of Pathology Duly qualified women are eligible for appointment Further particulars may be obtained at the Hospital. Salary £350 per annum Applications with copies of testimonials must reach the undersigned not later than Saturday November 22nd. Candidates will be required to attend the meeting of the Medical Committee on Wednesday November 26th, at 4.30 p.m.

Brompton S.W.3. FREDERICK WOOD
October 1930 Secretary

The Willesden General Hospital (Incorporated) N.W.10

CLINICAL ASSISTANT to the Surgical Out patient Department (Monday afternoon).

Applications are invited for the above Honorary appointment for a period of six months from December 1st

Applications must be received by the Secretary of the Hospital not later than first post on Thursday November 27th from whom details of the appointment may be obtained.

November 8th 1930

Jenny Lind Hospital for CHILDREN NORWICH

Applications are invited for the post of RESIDENT MEDICAL OFFICER Commencing salary £120 per annum with board residence and laundry

Candidates (male or female) who must possess registered qualifications should forward applications, stating age nationality etc. together with copies of testimonial to the undersigned not later than Tuesday December 2nd

FRANK INCH Secretary

The Prince of Wales's General HOSPITAL, London N.15

Appointments of HONORARY CLINICAL ASSISTANTS in the various Departments of the Hospital (Surgical Medical Gynaecological Ear Nose and Throat Eye Skin X-ray and Electrical) for the ensuing year will be made in December

Applications for appointment to any of these posts should be sent to me on or before Tuesday December 2nd next.

J C BURDETT Director

November 10th 1930

Hull Royal Infirmary (270 Beds.)

Applications are invited for the post of ASSISTANT HOUSE PHYSICIAN (male) vacant November 27th

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Salary at the rate of £130 per annum including board residence and laundry

R. J CARLESS
Oct. 25th 1930 House Governor

Peterborough and District MEMORIAL HOSPITAL. (150 Beds)

APPOINTMENT OF HONORARY PHYSICIAN

Applications are invited from registered Medical Practitioners for the above post. The successful applicant must reside within a radius of seven miles of Peterborough.

Applications stating age qualifications and accompanied by copies of three recent testimonials must reach the undersigned on or before November 29th next

FRANK A. C TAYLOR
Secretary Superintendent

Elizabeth Garrett Anderson HOSPITAL, Euston Road.

Wanted fully qualified Medical Women for the following posts HOUSE PHYSICIAN OBSTETRIC ASSISTANT THREE HOUSE SURGEONS Appointments for six months from January 1st next Salary at the rate of £50 per annum with board residence, and laundry

Applications with three copies of testimonials should be sent to the Secretary by Saturday December 6th.

JEAN R. MURRAY Secretary

Elsie Inglis Memorial Maternity HOSPITAL, Spring Gardens EDINBURGH. (60 Beds)

Applications are invited from qualified Medical Women for the following posts—(a) DISTRICT MEDICAL OFFICER (b) JUNIOR HOUSE SURGEON The District Medical Officer serves for three months on the district and then becomes Senior House Surgeon The appointments are for six months from January 1st 1931 with board residence and laundry

Applications, with copies of testimonials to be received by the Secretary at above address by Tuesday November 25th.

The Royal Liverpool Children's HOSPITAL, Myrtle Street LIVERPOOL.

The Committee invite applications from Graduates with previous Hospital experience for the appointment of RESIDENT CASUALTY OFFICER (male). The appointment will be for a period of one year duties to be taken up at an early date. The holder of the post will be eligible for re-election

Salary at the rate of £250 per annum

Applications with copies of recent testimonials to be sent to the Secretary Royal Liverpool Children's Hospital Myrtle Street Liverpool from whom further particulars may be obtained

The Marie Curie Hospital (For Radium Treatment of Cancer in Women).

Applications are invited for the post of HOUSE SURGEON (woman) at the above Hospital of 30 beds Salary at the rate of £50 a year with board residence and laundry

The appointment will be for a period of six months in the first instance

Applications with copies of three recent testimonial to be sent to the Secretary The Marie Curie Hospital 2 Fitzjohn's Avenue London N.W.3 not later than Saturday November 29th

The Salvation Army, THE MOTHERS HOSPITAL, Lower Clapton Road Clapton E.5

Applications are invited from Medical Women for the post of JUNIOR RESIDENT MEDICAL OFFICER vacant January 1st 1931 Salary £60 per annum with board residence and laundry The appointment is for six months Application with testimonials, must be sent to the Secretary on or before November 24th.

EDGAR DIBDEN Secretary

Princess Louise Kensington HOSPITAL FOR CHILDREN St Quintin Avenue North Kensington W.10 (50 Beds.)

HOUSE SURGEON male or female required for six months from January 1st 1931 Salary for first five months at the rate of £100 a year after which should he or she be appointed Senior Resident (of two) the salary would be at the rate of £125 a year with board, residence and laundry in each case It is desirable that applicants should have held a responsible Hospital post. Application with copies of three testimonials must be submitted on a form to be obtained from the Secretary Applications must reach the Secretary not later than first post on Monday December 8th.

Princess Louise Kensington HOSPITAL FOR CHILDREN North Kensington.

The Board of Management invite applications for the post of HON ASSISTANT DENTAL SURGEON Applicants must be Bachelors or Licentiates of Dental Surgery Candidates should apply for further information to the Secretary Princess Louis. Kensington Hospital for Children St Quintin Avenue W.10 to whom final applications should be made by Monday November 24th

Princess Louise Kensington HOSPITAL FOR CHILDREN St Quintin Avenue North Kensington W.10 (50 Beds.)

HONORARY ASSISTANT ANAESTHETIST required. Full particulars should be obtained from the Secretary to whom formal application should be made with copies of three testimonials not later than Wednesday Nov 26th

Royal Northern Hospital, Holloway London N

Applications are invited for the post of HOUSE SURGEON (male) The appointment is for nine months (six months as House Surgeon and three months as Casualty Officer) from December 15th. Salary at the rate of £70 per annum with board, residence and laundry

Application with copies of testimonial should be sent by November 22nd to the undersigned from whom forms of application and rules can be obtained.

GILBERT C PANTER, Secretary

Middlesbrough Education Committee.

APPOINTMENT OF ASSISTANT SCHOOL MEDICAL OFFICER.

Applications are invited from duly qualified Women Medical Practitioners for appointment as a Whole-time Assistant School Medical Officer Commencing salary £500 per annum Applications stating age together with particulars of qualifications and experience and accompanied by copies of three recent testimonials to be forwarded to the undersigned not later than Saturday November 22nd.

Education Offices STANLEY MOFFETT
Middlesbrough. Director of
November 4th 1930 Education

Cardiff Royal Infirmary (Associated with Welsh National School of Medicine)

Applications are invited for the under mentioned posts

HOUSE SURGEON
HOUSE SURGEON—AURAL.
CASUALTY SURGICAL OFFICER.

Salary is at the rate of £50 per annum for the House Surgeon and £75 per annum for the HS—Aural and CSO., with board and lodging Applicants as CSO should have held previous House appointments.

Appointments are for six months commencing December 20th.

Application forms can be had from the undersigned and should be returned, with copies of three recent testimonials on or before Dec. 1st

R. ARMSTRONG
November 11th, 1930 Medical Supt.

West Suffolk General Hospital, BURY ST EDMUNDS (103 Beds.)

JUNIOR RESIDENT MEDICAL OFFICER required on November 25th. Salary £150 per annum with board, residence and laundry

Applicant must be fully qualified and registered. Application giving particulars of experience and enclosing three recent testimonials to be sent to the undersigned.

E. E. HARDWICKE,
November 11th 1930 Secretary

Telephone WELBECK 2728
Telegrams 'ASSISTIAMO LONDON

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Psyconurse Padd Lond' No 6105 Padd

East Suffolk & Ipswich Hospital,

IPSWICH
(265 Beds—7 Residents)

Applications are invited for the post of HOUSE SURGEON Salary £120 per annum Board residence and laundry Previous experience essential

Applications from British (male) candidates stating age qualifications and experience and accompanied by three recent testimonials to be sent to the undersigned

The Hospital ARTHUR GRIFFITHS
Ipswich Secretary
August 18th 1930

Edinburgh Hospital for Women

AND CHILDREN
Whitehouse Loan EDINBURGH (50 Beds)

Applications are invited from qualified Medical Women for the posts of SENIOR HOUSE SURGEON and HOUSE PHYSICIAN at the above Hospital The appointments are for six months from January 1st 1931, with board residence and laundry

Applications with copies of testimonials to be received by the Secretary at above address by Tuesday November 25th

The Sheffield Royal Hospital

Required OPHTHALMIC HOUSE SURGEON also RESIDENT ANAESTHETIST to commence duties at once (males) Salary for the first six months at the rate of £80 per annum after which £100 per annum with board residence and laundry There are twelve Resident Medical Officers

Applications should be forwarded at once to—
W H BOOTH
Superintendent and Secretary

British Medical Bureau

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London Temperance Hospital,

Hampstead Road, N W 1

Applications are invited for the post of CASUALTY OFFICER (male) The appointment will be for a period of six months at a salary of £120 per annum, and will date as from December 11th Preference will be given to those who have held a resident post

Candidates must submit applications stating qualifications age etc, with copies of not more than three testimonials, by Thursday, December 4th addressed to the Secretary

London Temperance Hospital,

Hampstead Road N W 1

Applications are invited for the post of HOUSE PHYSICIAN (male) The appointment will be for a period of six months at a salary of £100 per annum and will date as from December 16th Preference will be given to those who have held resident posts

Candidates must submit applications stating qualifications age etc with copies of not more than three testimonials by Thursday, December 4th, addressed to the Secretary

Royal National Orthopaedic

HOSPITAL.

HONORARY ASSISTANT SURGEON

The Committee propose to appoint an Honorary Assistant Surgeon, whose duties will include attendance in the Out patient Department on Thursday and Friday afternoons and charge of beds. Application with copies of three recent testimonials should be sent to the Secretary 234 Gt Portland St W 1 on or before Wednesday, December 3rd

Royal Isle of Wight County

HOSPITAL, RYDE.

RESIDENT HOUSE SURGEON wanted for November 29th either sex unmarried Single handed appointment Doubly qualified and registered State age and nationality Salary at the rate of £180 yearly with board residence and laundry Apply enclosing copies of testimonials to Secretary before Tuesday November 18th Return railway fare for selected candidates

A S GORDON, Secretary

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Somerset — Cy Town — Share worth £700 after preliminary Assistancy Very little midy Visits 3/6 Increasing practice.—No 8761

Lady Doctors' Nuclei —London, W and N about £500 Visit fees 3/ to 5/ Panel 200 about Ground floor accom, with living rooms —No 8759

Surrey —£1,600 p a Panel over 1,300 Residential district Fees 3/6 to 21/ Midy discouraged Detached freehold house with large garden —No 8756

Cheshire — Country Town — Over £3 500 p a One third share to start Panel 1,000 Fees 3/6 to 21/ Good house 5 bed to rent —No 8754

Oxon —Country Practice nearly £1,200 p a Panel over 1,000 Visits 3/6 to 10/6 House, 4 bed surgery, etc —No 8753

S. Midlands —Average £756 p a Town of 45,000 Small panel Fees 3/6 to £1 1s Large house and garden Smaller ones available —No 8750

London S E —Over £800 Cash and panel of 880 Visits 2/6 to 3/6 Shop front surgery with living accommodation —No 8749

Salop — Country —£1,030 p a Panel and appts £460 Visiting fees 5/ up Modern house, 5 bed, etc large garden to rent Easy terms —No 8747

Hants (15 miles from sea) — Nearly £1,000 p a Panel 240 Scope Fees 3/6 to 15/ House 2 reception, 6 bed, surgy, and large garden —No 8744

South Coast — Within 60 miles Over £1 000, increasing rapidly Panel 500 Clinic £50 Fees 3/6 to 12/6 Good house, 4 bed, etc —No 8742

Surrey — Rapidly increasing NUCLEUS Receipts over £830 Panel 580 Excellent house, 8 bed, with large garden, to rent —No. 8741

Glos — Country —Over £1,200 p a Panel nearly 1,100 Fees 3/6 to 5/ Detached house, 1/4 acre £1,000 down, balance over 4 years —No 8740

Ulster — Seaside Town, about £750 great scope Panel over 600, increasing Fees 2/6 to 7/6 and up House 5 bed, etc —No 8738

S. Wales — Average £3,360 1/2 share for sale Panel 3,000 Visits 3/6 Good house 4 bed Premium only £1 500 —No 8736

London, S W — £630 p a increasing Panel 400 Visits 3/6 Midwifery 3 gns up Small house on main road —No 8730

Devon —Dispensing Practice in large village averaging £940 p a Fees 5/ to 2 gns Surgery 2/6 to 7/6 Large house with an acre and cottage for £3 000 of which £2,500 could remain or for sale without house —No 8727

S. W County near Coast —Dispensing PRACTICE over £2 000 p a, chiefly agricultural Visits 5/ up Surgery 2/6 up 1 100 panel —No 8728

North Wales —Old-established —About £900 p a Panel £292 Agr Cottage Hosp Scope surgery Good h Garage and garden —No 8692

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr Percival Turner

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LONDON N —Middle and working-class PRACTICE, situated in well populated locality Medium sized house to rent on lease Receipts approximately £2,200 Panel 2 400 (subject to confirmation) Premium 2 years purchase or near offer

LONDON W 9—Lady Doctor's NUCLEUS PRACTICE, established in well populated residential locality Receipts nearly £300 Panel 200 Suitable accommodation to rent on lease. Premium £300 Furniture and drugs etc at valuation

KENT —Within 25 miles of London well-established PRACTICE, situated in growing locality with ample scope for development. Receipts nearly £1 100 Panel over 300 Suitable residence to let Alternative accommodation available Premium £1 500

LONDON W 10—Cash and Panel PRACTICE, situated in middle and working-class locality Suitable accommodation available to rent at £"6 p.a., inclusive Fees 2/6 up Midwifery 2 gns up Panel 300 Books audited Receipts £385 Premium £600

KENT (Seaside).—PARTNERSHIP in good middle-class Practice with excellent scope for increase Receipts nearly £1 900 Panel "00 1/2 share at 1½ years purchase Suitable to experienced Practitioner aged about 2"—35

LONDON S W —Well-established growing PRACTICE, with scope Situated on main road. House to rent on lease Branch. Receipts over £600 Panel nearly 400 Premium 1½ years purchase

LONDON E.—Middle and working-class Cash and Panel PRACTICE. Corner house (10 rooms) to rent on lease Receipts approx. £1,550 p.a. (subject to confirmation). One appointment. Panel 2,200 Visit and medicine 3/6 up Consultation and medicine 2/ Midwifery £3 3s Premium £3 000 cash or near offer

HANTS —(Near Sea)—Well-established PRACTICE in growing locality Small but convenient house well situated at junction of roads the freehold property of the Vendor Garden garage etc Receipts average £651 Panel 365 Fees 2/6 up Practically no night work. Premium £850

MIDDLESEX (WEST)—NUCLEUS middle and working-class PRACTICE (mostly cash) situated in growing locality within 10 miles of London Receipts for 9½ months £240 Panel 30 Fees 2/6 up Premium £450 or near offer to include fixtures fittings etc Excellent scope

BERKS —Town PRACTICE, within 60 miles of London —Middle and working-class Receipts nearly £900 Panel 555 Fees 2/6 up No midwifery (scope). Suitable house available Premium 1½ years purchase

KENT (Seaport)—NUCLEUS G P situated in growing locality Scope for development Receipts approx. £" per week (subject to confirmation). Panel nearly 200 One appointment worth £50—£60 p.a. Small house to rent (alternative accommodation available) Premium open to reasonable offer

BEDS —NUCLEUS middle-class Country Practice. 14-roomed house garden garage etc Receipts nearly £500 p.a. Fees 3/6 up. Premium £3.0 for Practice or £1 000 with house. House could be rented at £68 p.a. Scope

GLOS —Mixed Town PRACTICE. Receipts over £1 800 p.a Panel 2 1–6 Fees 2/6 up Three Hospitals Good schools Scope for increase Alternative accommodation available Premium for Practice £3 640 or near offer PARTNERSHIP considered

LANCS —Middle-class Town PRACTICE. Surgical scope especially E N & T Suitable house available for rental at £"8 p.a. or for sale leasehold Receipts over £1 500 Fees "/6 up Midwifery no encouraged Modern Hospital fully equipped. Good educational facilities Premium £1 200 cash.

EAST MIDLANDS —PARTNERSHIP in better middle-class Practice Ten roomed house available Receipts nearly £2 000 Fees 3/ up Up-to-date Hospital Scope for surgery Premium 1/3 share with view to larger share £1 300 Opposition free

MIDDLESEX —RIVERSIDE SUBURB PARTNERSHIP in rapidly growing Practice Receipts £1 500 Two appointments worth £660 Panel nearly 1 000 Premium for 1/3 share with view to larger share £"00 Suitable accommodation available

SURREY (near Windsor). — Well-established middle-class PRACTICE. Double-fronted detached house with charming garden to rent on lease at £120 p.a or may be purchased freehold Receipts over £"00 p.a. Panel 220 Fees 2/6 up Cottage Hospital. Good social life Good schools Premium for Practice £900

LONDON (N).—Lady Doctor's PRACTICE. Middle and working-class locality Ground floor flat to rent Receipts £260 p.a. Panel 170 increasing Fees 2/ up Excellent scope. Premium £300

BUCKS —Under 25 miles from London —Middle-class G P Good-class residential locality Modern house to rent on lease Receipts over £400 p.a. Fees 3/6 up Increasing population Good schools. Prem. £600 Suitable for semi-retired Practitioner or one with private means

SHROPSHIRE.—Country Town PRACTICE, unopposed Modern house with every convenience to rent at £100 p.a. (11 rooms) Large garden (3 acres). Receipts over £1 600 p.a Panel 500. Visits 8/6 up Consultations 5/ up Midwifery £2 2s up Three appointments Premium 1½ years purchase

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1 LONDON S E. — LOCK UP SURGERY in Vendor's hands 35 years Over £550 p.a. Also appts £60 No panel, mid or night work. Lease of premises at £50 Large scope Prem mod Strongly recommended.
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4 HANTS —PRACTICE of nearly £1 000 p.a. in small pleasant Town with Cottage Hosp Small panel Patient all classes Capital premises garage and nice garden For sale or lease granted Price £1 250
5 LANCS —For Sale at £1 500 a middle-class PRACTICE of £1,200 in a clean and well-to-do town of about 30 000. Panel "00 Fees 3/6 to 7/6 The house is well situated and very convenient with garage Lease can be had at £75
6 S. WALES —PRACTICE of £2,500—£3 000 in mining area. Panel £2 000 Premium £2 000 each Detail on application
– NURSING HOME in Harrow area —Mainly maternity Licensed for six cases Full up for next six months Fees 6 gns Excellent premises and ground Returns over £"00 growing Price to include furniture (valued £400) £"00
8 REQUIRED IN London or other large town (preferably Midland or South) a PRACTICE of £2,"0 with a good panel and family residence Money no object if investment is suitable
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1 NORTH OF ENGLAND — Panel Private Colliery and Club PRACTICE. Receipts are £800 p.a. Panel 550 Appts. £350 Good house to rent. Considerable scope for energetic man.
2. MIDLANDS —Panel and Private PRACTICE. Estab. 5 years Receipts over £"00 panel 550 both increasing Appointments worth about £"0 p.a Hous to rent Garage etc
3 BIRMINGHAM —PRACTICE for Sale or PARTNERSHIP (1/3 share) with early Succession in old-estab Industrial and Panel Practice. Receipts nearly £1 800 Panel about 3 000 Appts worth about £50 transferable. Good house garage etc
4 LANCASHIRE. — Well-estab middle and better-class PRACTICE. Receipts £988 panel 900 both increasing Appt. £30 p.a. trans Good house garage and all conveniences
5 WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,"2. Panel 600. Appts. worth £118 Good house garage etc
6 LANCASHIRE (Large Town).—Non-dispensing non panel largely Surgical PRACTICE, estab. nearly 4 years. Receipts average £1 1"9 p.a. and unlimited scope. Good house etc
– LANCASHIRE.—Old-estab. Panel and Industrial PRACTICE. Receipts £2,242 and increasing Panel 1 450 Appointments worth about £95 Good house to rent.
8 MIDLANDS — COUNTY BOROUGH — Well estab. better middle-class PRACTICE. Receipts average over £2 "00 p.a. Panel recently started, and increasing rapidly Good fees house etc.

FINANCIAL ASSISTANCE afforded to approved applicants for the purchase of Practices or Partnerships on very reasonable terms. Full particulars on application.

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(FOUNDED 1880)

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Members of the British Medical Association may take advantage of a reduced scale of charges applicable to them

The business undertaken by the British Medical Bureau is divided under the following heads —

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers All information is treated in strictest confidence Full and trustworthy information regarding Practices, Partnerships, etc, for disposal, supplied gratis to Purchasers

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Assistants and Locumtenents can be secured at short notice It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out

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Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau A large number of Patients are placed yearly through this medium

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The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i e, Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc

Practices and Partnerships for Disposal. **Full particulars sent free**

1 LONDON, E C —Partnership (with Succession) in steadily increasing Practice of about £1 200 p a in the City Majority of consultations £1 1s Excellent consulting rooms Premium one-half share 2 years purchase

2 MIDLANDS —Compact middle and working class PRACTICE nearly £2 200 p a in manufacturing town Panel over 2 500 Ten roomed house (with surgery accommodation additional) to rent Premium £3 500

3 YORKSHIRE (W R) — Compact easily worked PRACTICE averaging £1 600 p a in manufacturing town Panel over 1 500 Splendidly situated house (4 bedrooms) for sale Scope Premium 1½ years' purchase

4 N W COAST — Partnership in Practice about £3 000 p a in popular seaside resort Panel over 2 000 Modern house (3 bedrooms) for sale Premium one fifth share £1 200

5 S COAST — Nucleus of good-class non-dispensing Practice about £376 p a in seaside resort No panel Well situated house (6 bedrooms) for sale or rent Scope Any reasonable offer for prompt sale

6 HOME COUNTY —Practice of £540 p a in small town under 45 miles from London Panel 150 Centrally situated house (4 bedrooms) for sale Scope Premium 1 years purchase

7 EAST COAST —Partnership in non-panel Practice in favourite watering place Partner should be young and with Hospital experience Share of about £1 000 p a at 2 year purchase Preliminary Assistantship

8 KENT —Practice of £1,260 p a in residential outlying suburban district Fair panel Corner house (7 bed and dressing rooms) with large garage and garden for sale Scope Premium 1½ years purchase

9 CORNWALL — Partnership in Country Practice on Coast Convenient house (6 bedrooms) with good garden for sale Share of about £1 200 p a at 1½ years purchase

10 S OF ENGLAND —Practice over £1,200 p a (including clubs and panel over 1 100) in small industrial town House (6 bedrooms) with large garden and garage for sale Beautiful country around Premium £1 500

11 S E COAST — Partnership in well-established Practice about £2 600 p a in popular Seaside Resort Small panel House obtainable One third share for disposal Excellent scope

12 EASTERN COUNTIES —Good-class Practice of £1 545 p a in famous Country Town Panel 350 House contains 5 bedrooms etc and would be sold or let Good society and sport Considerable scope Premium 1½ years purchase

13 LONDON, S E —Practice averaging over £1 700 p a in outlying residential suburb Small panel Good and well situated house (6 bedrooms) with small garden for sale Premium—Practice—1½ years purchase

14 KENT —Country Practice about £650 p a in beautiful district Panel about 700 No house, but surgery and waiting room to rent Capable of much increase Moderate premium

15 LONDON, S W —Increasing Cash Practice close to West End Receipts past 10 months £1 227 Panel 1 250 (about) No midwifery Excellently situated house for sale or rent Premium 1½ years purchase

16 W MIDLANDS —Partnership in Practice about £2 700 p a in Market Town Panel about 800 One-third share at 2 years purchase Partner must be experienced in General Practice Preliminary Assistantship

17 W OF ENGLAND — Assistant required (with view to Partnership) in Town and Country Practice doing over £2,000 p a Hospital One-third share at 1½ years purchase to suitable man (English or Scotch)

18 MIDLANDS — Partnership in Practice £3 200 in Manufacturing Town Panel about 1 700 House to rent One third share at 1½ yrs pur Preliminary Assistantship

19 LONDON, E C —Practice of about £650 p a in the City No panel or midwifery Consultations up to £1 1 Excellent and nicely furnished consulting and waiting rooms to rent on lease Good scope for increase Premium £750

20 W OF ENGLAND —Partnership in Practice of £2 800 p a in pleasant Country Town under 150 miles from London Partner must be young and should have Hospital appointment Premium for a two fifths share 2 years purchase

21 LONDON, S W —Practice (carried on by two Medical Men) averaging £5 000 p a in suburban district Panel 1 400 rapidly increasing Two houses to rent Or a half up to one half would be sold

British Medical Bureau

(THE SCHOLASTIC, CLERICAL & MEDICAL ASSOCIATION LTD.)
(FOUNDED 1880)

12, Stratford Place,
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Practices and Partnerships for Disposal (continued)

22 SOUTH AFRICA — Practice in growing seaport and popular Health and Pleasure Resort. Net takings about £1 500 p.a. Practically no night work or midwifery. Nice house (3 bedrooms) with garage and about 1/2 acre of grounds for sale or rent. Equable climate. Premium £1 600 to include consulting room furniture drugs etc.

23 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town. Panel 1 100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years purchase with ultimate succession.

24 YORKSHIRE (N.R.) —Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms) garage garden etc. for sale or rent. Very good trout fishing. Premium £1,250.

25 MIDDLESEX — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1 150. Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

26 MIDLANDS —Practice, over £1,700 p.a., in important City. Panel 1,350. Centrally situated house (7 bed and dressing rooms) with garage and garden for sale. Scope for increase. Premium £2,250.

27 WITHIN 50 MILES OF LONDON — PARTNERSHIP in Practice averaging over £3,500 p.a. in first rate county town. Panel over 1 100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

28 CHESHIRE —Partnership in increasing better-class non-panel Practice over £4,500 p.a. in first rate residential district. One-fourth share at 2 years purchase. Partner should be University Graduate who must have held Resident appointments.

29 LANCASHIRE — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1 200. Panel 260. Very nice compact house (4 bedrooms) garage and garden etc. for sale. Golf. Premium £1 000.

30 S. DEVON — Partnership in Country Practice about £1 500 p.a. in beautiful part easy distance of coast. Panel over 950. House containing 5 6 bedrooms, for sale. Premium one-half share £1 320 to include drugs etc. Work very light.

31 MIDLANDS —Partnership in steadily increasing Practice of nearly £3 500 p.a. in country town amidst picturesque scenery. Panel 1 700. Nice house (5 bedrooms) with garage, etc. Premium one-fourth share 2 years purchase. Short preliminary Assistantship.

32 S. MIDLANDS —Practice averaging over £1 200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing room and attics) garage and half acre of garden for sale. Scope. Premium 1½ years purchase.

33 YORKSHIRE (N.R.) — Very old-established easily worked PRACTICE of £750 p.a. in attractive country district. Panel 450. Visits 3/6 to 10/6. Modern house 12 rooms. Garage and good garden. Rent £42 p.a. Premium 1½ years purchase.

34 SURREY — Steadily increasing Practice averaging £1,355 p.a. in a first rate Country Town. Panel nearly 1 300. Large attractive old fashioned house (7 bedrooms) for sale. Cottage Hospital. Premium 1½ years purchase.

35 S. MIDLANDS — Practice averaging £1 180 p.a. in residential country district. Panel 1 000. Detached house (4 bedrooms) garage and good garden for sale. Good society. Premium 1½ years purchase.

36 S.W. OF ENGLAND —Middle and better-class non-dispensing PRACTICE over £1 750 p.a. in first rate town. No panel. Well-situated non-basement house (7 bed and dressing room) garage and garden for sale or rent. Good introduction. Premium 1½ years purchase.

37 MIDDLESEX — Steadily increasing non-dispensing PRACTICE in growing district. Receipts past 12 months £420. Panel about 50. Well situated semi-detached house (7 bed rooms) garage and garden for sale. Good reasons for rapid increase. Premium £500.

38 LONDON, N.W. — Practice of about £1,450 p.a. in suburban district. Panel 1 150. Corner house (4 bedrooms) for sale. Scope.

39 S. MIDLANDS —Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1 000. Suitable house available. Cottage Hospital. Premium one-third share 2 years purchase.

40 WILTSHIRE —Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water main drainage) for sale or rent. Premium £750.

41 LONDON, E. —Practice (carried on by Medical Woman) in populous area. Receipts last year £580. Small panel. No midwifery. Six roomed house to rent. Premium £750 to include drugs etc.

42 DEATH VACANCY — CORNWALL — Compact Country PRACTICE. Receipts last year £900. Panel 230. House (4 bedrooms) with 1/2 acre garden for sale or rent.

43 SURREY —Partnership in Practice about £3,500 p.a. in desirable residential town. Small select panel. House (6 bedrooms) to rent. Premium one-third share—2 years purchase.

44 ESSEX —Assistantship (with view to Partnership and Succession) in Country Practice of £1,500 p.a. Panel 1 200.

45 LONDON, W. — Old-established Practice over £850 p.a. in outlying residential suburb. Visits mainly 5s. some 7s. 6d. and 10s. 6d. Practically no midwifery. Nice semi-part house (2 reception rooms consulting and waiting room 4 bedrooms etc.). Rent £85 p.a. Premium £1,100.

46 W. MIDLANDS — Practice over £1,500 p.a. Market Town. Attractive agricultural district. Panel 500. Good house (7 bedrooms etc.). Electric light and gas. Scope for increase. Premium £2,100.

47 LONDON, N. —Partnership in Practice of £2 300 p.a. Growing residential district. Panel 1,100. Scope for increase. Hospital. Premium one-third share 2 years' purchase.

48 LONDON, N. —Increasing Practice of over £500 in pleasant residential district. Panel over 100. Well situated house (4 bedrooms) for sale or rent. Ample scope. Premium 1½ years purchase.

49 S.W. OF ENGLAND — Practice over £2 000 p.a. in small country town near coast. Panel 1 086. House (5 bedrooms) with electric light for sale. Premium 1½ years purchase.

50 S. WALES — Non-dispensing Practice of £750 p.a. in one of the Principal Towns. Panel 620. Corner house in residential part for sale. Good scope. Premium £750.

51 S.W. OF ENGLAND —Practice averaging £1 666 p.a. in seaport town. Panel over 2,000. House, with 5 or more bedrooms for sale. Premium £2 500.

52 S. OF ENGLAND —Practice of £900 p.a. in Market Town under 100 miles from London. Panel 287. House (5/6 bedrooms) garage and good garden for sale or rent. Cottage Hospital. Premium 1½ years purchase.

53 ITALY — Season Practice (March to October) in famous City. Receipts from £200 £700 p.a. according to Season. Up-to-date Hospital. Premium £250.

54 MIDLANDS — Practice over £800 p.a. in first rate Town. Panel 500. Suitable house to rent. Premium 1½ years purchase.

55 MIDDLESEX —Rapidly increasing Practice in new developing district about 12 miles from London. Earnings past year £767. Panel 200. Very convenient house (4 bedrooms) garden and garage, for sale. Great scope. Premium 1½ years purchase.

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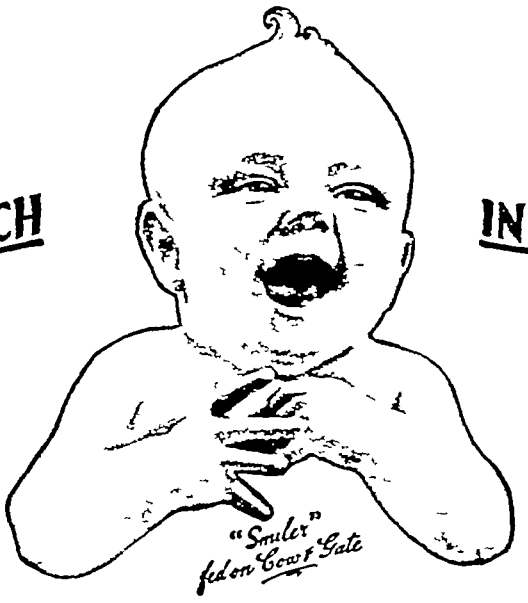
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1 LONDON (WEST END)—PARTNERSHIP—The third share of an old established non-dispensing and non panel Practice offers to a suitable well qualified gentleman aged about 35 to 40 Income about £6 000 per annum Visits and consultations 1 to 3 gns No midwifery Premium 2 LANCS—PARTNERSHIP—A one-fourth share to commence (with increase up to one half later) is offered in a very old established good middle class Practice producing £4 700 p a Visits 2/6 to 12/6 Panel of 2 730 Appts worth nearly £200 p a Suitable house obtainable but if single purchaser can reside with Vendor, who is a bachelor Premium 2 years purchase
3 CAMBS—PARTNERSHIP—A one half share is offered in a sound mixed class Practice producing last year nearly £2,000 Panel of 765 Situated in pleasant agricultural district with good sporting facilities Fees 5/ to 21/ Suitable house can be rented at £75 p a Premium 2 years purchase
4 YORKS—In small pleasant market town amidst pretty and prosperous surrounding country very old established mixed class PRACTICE averaging nearly £1 250 p a including panel and appts worth over £450 Visits 3/6 to 25/ Opposition weak Good house with ample accommodation and every convenience Garden Garage Price £1 300 £1 000 on mortgage or would be let at £80 p a Premium
5 SOUTH WESTERN COUNTY—Near the Sea—Old estab easily worked Country PRACTICE in beautiful district, within reach of Market Town and averaging £1 100 p a including appts and panel pro ducing £450 Exceptionally attractive modernized house in over 3 acres of ground with ample accommodation productive fruit and vegetable garden with tennis lawn etc Water laid on and electric light available shortly Price freehold £3 000 part on mortgage Premium £1 650 Sport of all kinds and schools within reach
6 OUTLYING EASTERN SUBURB—Sound middle and working class PRACTICE producing about £5 000 p a including panel of over 2 000 Visits from 3/6 Not much midwifery from 3 gns Very good house with 2 reception 6 bedrooms etc Garden Can be rented on lease Premium 1½ years purchase
7 PARTNERSHIP — LONDON SOUTH EAST — Outlying Residential Suburb—Owing to the retirement of one of three partners the fifth share of an old estab Practice is for disposal Cash receipts average over £5 500 p a (last year £5 540) including panel of upwards of 2 000 Visits 3/6 to 10/6 Good house can be rented at £80 p a
8 SURREY—Attractive residential town within easy reach of London, and with beautiful surrounding country Non dispensing PRACTICE increasing and averaging about £1 600 p a with panel of 1,350 Fees 3/6 to 21/ Good house with 3 reception 8 bedrooms etc Garden Garage Price £2 400 Sport of all kinds and good schools
9 Premium 1½ years purchase
LOS — COUNTRY PRACTICE — Old established PRACTICE in picture que surroundings averaging about £1,250 p a including panel of over 1 100 Visits from 3/ Commodious house, with 3 reception 6 bedrooms etc Garden Garage Price for freehold £1 500 £1 000 on mortgage Premium £1 850
10 LONDON S E—Outlying Residential Suburb—Very old established PRACTICE (hitherto carried on by two men in partnership) is for disposal or half share would be sold with succession to the whole in 12 months time Receipts average about £3 000 p a including appts worth £330 and panel over 1 500 Two houses available
11 HANTS—Delightful residential district within easy reach of Coast—Good mixed PRACTICE averaging £970 p a and offering large scope as district rapidly developing Panel of 230 Fees 3/6 to 15/ Well built well situated house with 2 reception 6 bedrooms etc Garden with tennis lawn Moderate premium accepted for quick sale Sport of all kinds and good social facilities
12 LONDON SOUTH WEST—Very sound old established PRACTICE in thickly populated area averaging over £5 000 p a including panel of 1 500 but large scope for more Fees 2/6 upwards Choice of houses Rent of surgery on long lease £100 p a Prem 1½ years pur
13 GLOUCESTERSHIRE—Old established PRACTICE in good residential town in the midst of the Cotswold Hills averaging over £1 300 p a including panel of about 1 200 Fees from 2/6 Very little mid Good detached house in own grounds with 2 reception 6 bedrooms etc Separate entrance to professional rooms Gas and electric light
14 ULSTER—IRISHIRE COAST—Village PRACTICE unopposed and situated in very beautiful district within easy reach of large town Cash receipts last year £740 Pan 1 of 303 Fees 2/6 to 21/ House faces sea in own grounds and contains sitting room 4 bedrooms etc Rent £40 p a Premium £1 000 part by arrangement
15 NORTH WALES—Unopposed PRACTICE in beautiful agricultural district within 4 miles of Coast Average gross cash receipts for past 3 years £853 Panel of 734 which together with appts and clubs brings in £750 p a Fees 2/6 to 21/ Small house with 1 recep tion 3 bedrooms bathroom etc Garden Rent £39 p a Larger house available if desired Premium 1½ years purchase
16 ONON—UNDER 45 MILES FROM LONDON—Old-established prac tically unopposed Country PRACTICE within 4 miles of the River Average Income £1 180 including panel of over 1 000 Fees 2/ to 10/ Good house, with two reception 4 bedrooms, bathroom etc Electric light One acre of garden Garage for 2 cars Price for freehold £1,600 £1 000 on mortgage Premium £1 750
17 MANCHESTER DISTRICT—Old-established middle and working-class PRACTICE, worth last year about £700 p a including panel of 614 and capable of increase about £700 p a Well situated house with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted.
18 PARTNERSHIP—HOME COUNTY—Within 40 miles—In very pleasant district (with large surrounding population) the third share (with increase later) of old-estab mixed class Practice, offering large scop Present income £3,000 p a., with panel producing over £1 200 p a and appt worth £160 Visits 3/6 to 2 gns. Good house at moderate rental Good society and sport Ingoing partner should be about 30 plcf married and English or Scotch Well-established mixed-class PRACTICE
19 LINCOLNSHIRE COAST — averaging £2 749 p a (last year £2 868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns Newly built modern house with special professional accommodation central heating etc Garden Garage Price freehold £2 300
20 WEST MIDLANDS—Very old established mixed-class PRACTICE in small town (largely residential) amidst agricultural district of excep tional beauty Cash receipts average £2 367 p a. with panel over 1 000 Opposition not strong Very fine house (3 reception 6 bed rooms, bathroom etc), standing in nearly 3 acres of ground. Beautiful garden tennis lawn, and productive orchard Price free hold £2 000 Premium 1½ years purchase.
21 LONDON S E—Pleasant residential suburb—Very old established non panel (but scope for this) PRACTICE held over 30 years by Vendor who is retiring Receipts last year over £900 Patients mixed but mostly good class Large house (part could be let off for flat) Rent £98 p a Premium 1½ years purchase
22 PARTNERSHIP—WITHIN 100 MILES NORTH OF LONDON—A one sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better class Practice in a large town at present worked by three partners who non require further assistance Gross cash receipts average about £8 000 p a Selected panel of 700—800 Fees 5/ to 21/ average 7/ Suitable small house with sitting room 3 bedrooms etc Rent £90 p a Premium 2 years purchase
23 MIDDLESEX—Rapidly developing district within 20 miles—PART NERSHIP—A one half share in an old estab good middle-class Prac tice averaging for the past two years over £3 500 p a Panel of 1 100 and appts bring in £100 p a Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms etc Garden Price for freehold £2 100 Premium 2 years purchase
24 BORDERS OF NORFOLK AND SUFFOLK—PARTNERSHIP—A half share (with succession in 2 to 3 years time) in a good mixed un opposed Practice in pleasant village near two good towns Income for last 12 months £1 992 including panel of 1,000 and appts worth about £150 Fees 2/6 to 10/6 House contains 3 reception 6 bedrooms etc Sport of all kinds Premium 2 years purchase
25 KENT—Country PRACTICE near Coast—Old established mixed Practice averaging about £1 100 p a Panel of nearly 400 Fees 3/6 upwards Convenient house, with 3 reception 6 bedrooms etc Good garden Rent on lease £75 p a Good sport and schools within reach Premium 1½ years purchase
26 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed-class PRACTICE averaging £1 600 p a in cluding £800 from panel and over £100 from clubs Visits 5/ up wards (occasionally 2 gns) Very little midwifery from 2 to 5 gns Large attractive house with garden Rent £80 Term 14 yrs Fur with 3 reception 8 bedrooms etc. Moderate expenses Corner house £1,000 including panel of 1 000 Income for immediate past year Premium £1 500 or near offer Garage Rent on lease £65 p.a.
27 MANCHESTER—Chiefly working class PRACTICE Very good hous established mixed class Practice. over £4 250 Panel of 3 560 Fees 3/6 to 7/6 Very good hous with 4 reception 6 bedrooms etc 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase
28 NEAR HUDDERSFIELD—PARTNERSHIP—1 half share in an old London—1 one fifth share is offered in 130 miles North of good mixed-class Practice averaging for past 3 years over £6 000 p a Panel of 3 400 Fees from 4/ Not much midwifery Price can be rented at £50 p a Premium 2 years purchase
29 PARTNERSHIP—COUNTRY TOWN within an exceptionally sound FAR EAST APPOINTMENT—MEDICAL OFFICER required for Railway Salary about £600 p a increasing annually Three years engage ment First class passage out and home Age 25 to 30 English or Scotch Must have held Hospital appts Personal application desirable ASSISTANTS REQUIRED—(1) LONDON NORTH Outdoor with view to Partner ship (2) LONDON NORTH Outdoor to live at Branch Partner with extras (3) ESSEX Outdoor Not over 35 and experience Salary £450 p a (4) ESSEX Outdoor £300 p a. £345 p a (5) LONDON S W (4) LINCS Indoor £300 p a all found (6) SOUTH WES COAST TOWN Outdoor £300 p a all found Scotch or Englis WALES Indoor or Outdoor and married or single (7) SOUTH WE BATH Indoor £300 p a newly qualified suitable (8) NEW

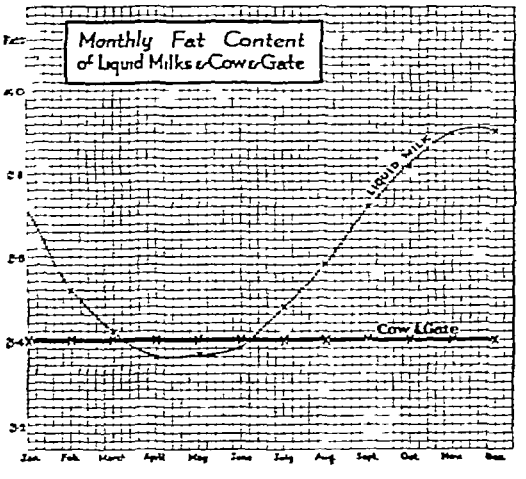
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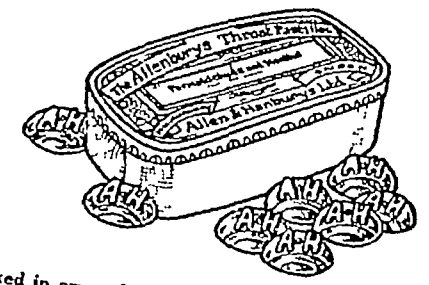
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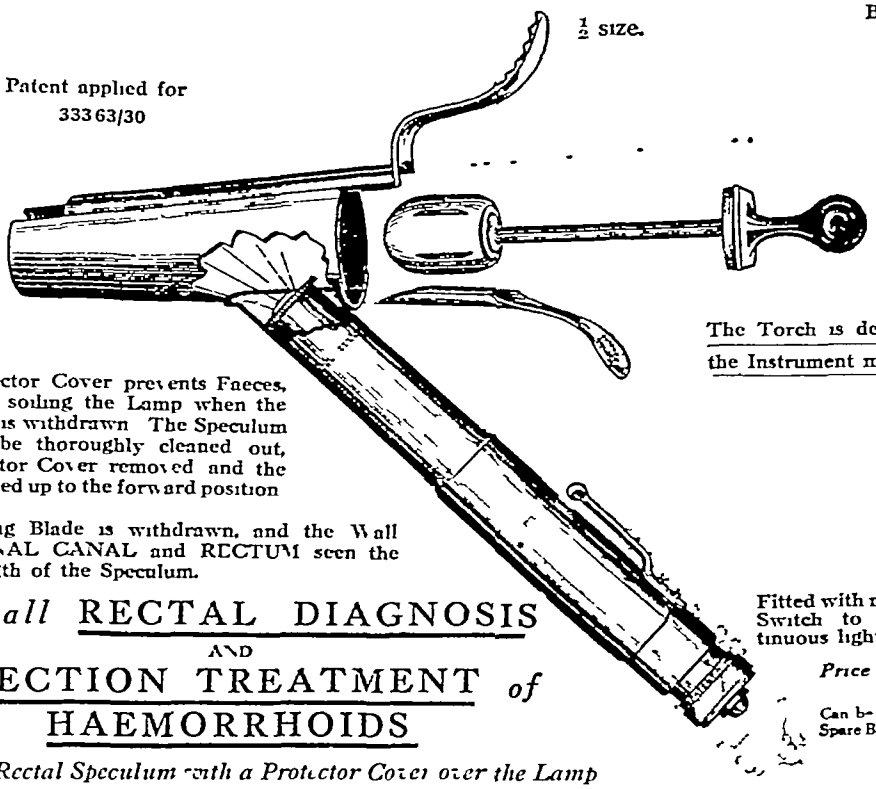
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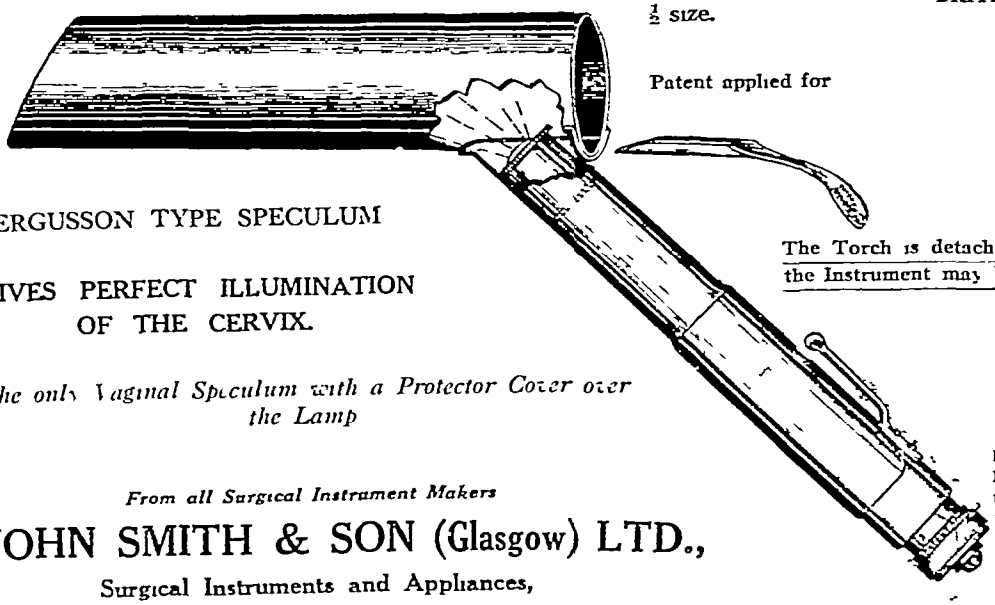
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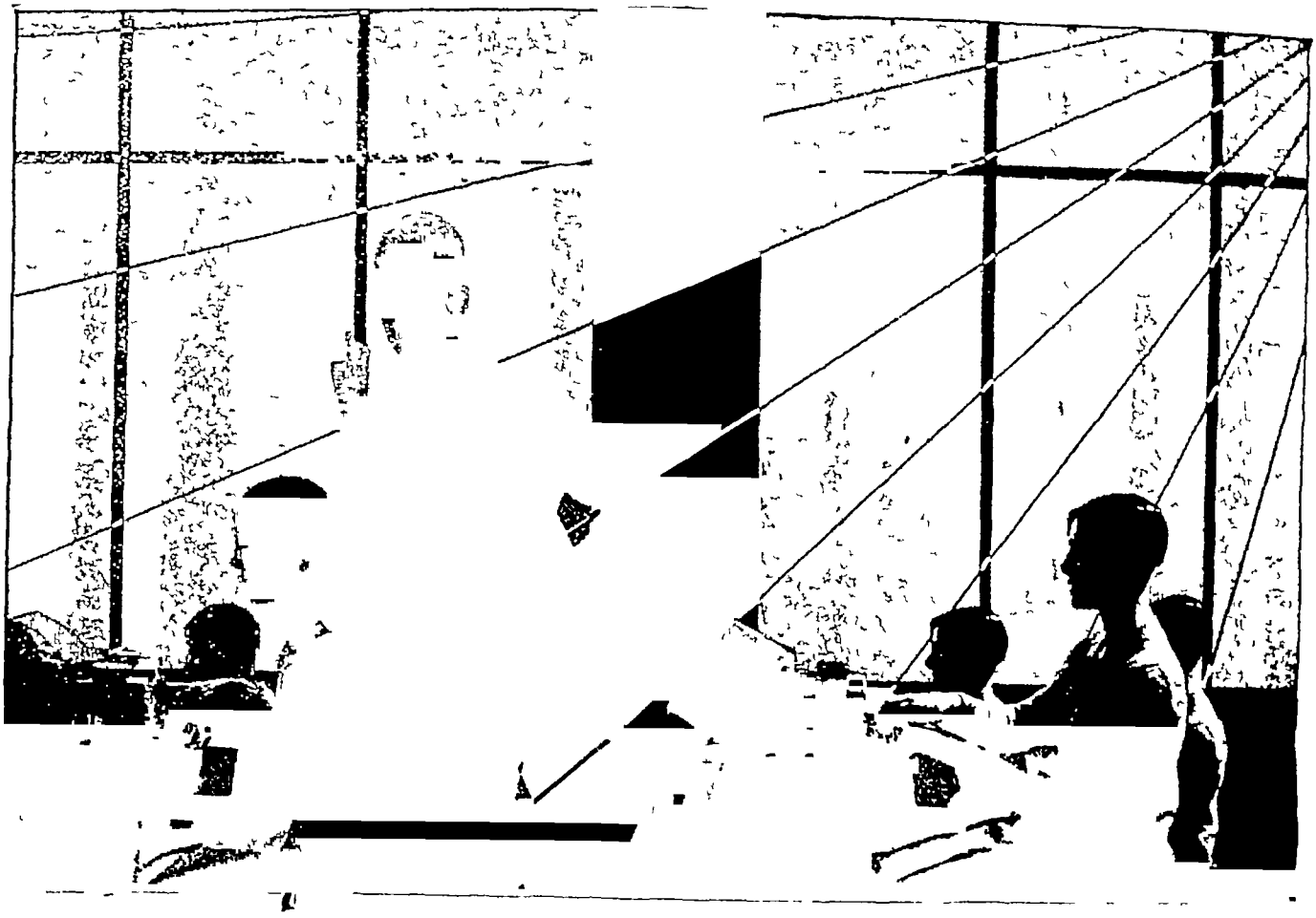
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In brief the experiments show (a) that even on a sunless February day ultra-violet rays are transmitted by dirty "Vita" Glass (b) that "Vita" Glass, coated with four months' accumulation of dirt, still transmits ultra-violet health rays, the transmitting property of the glass being practically undiminished

May we post this folder to you? Write to-day to the "Vita" Glass Marketing Board, 9, Crown Glass Works, St Helens, Lancashire

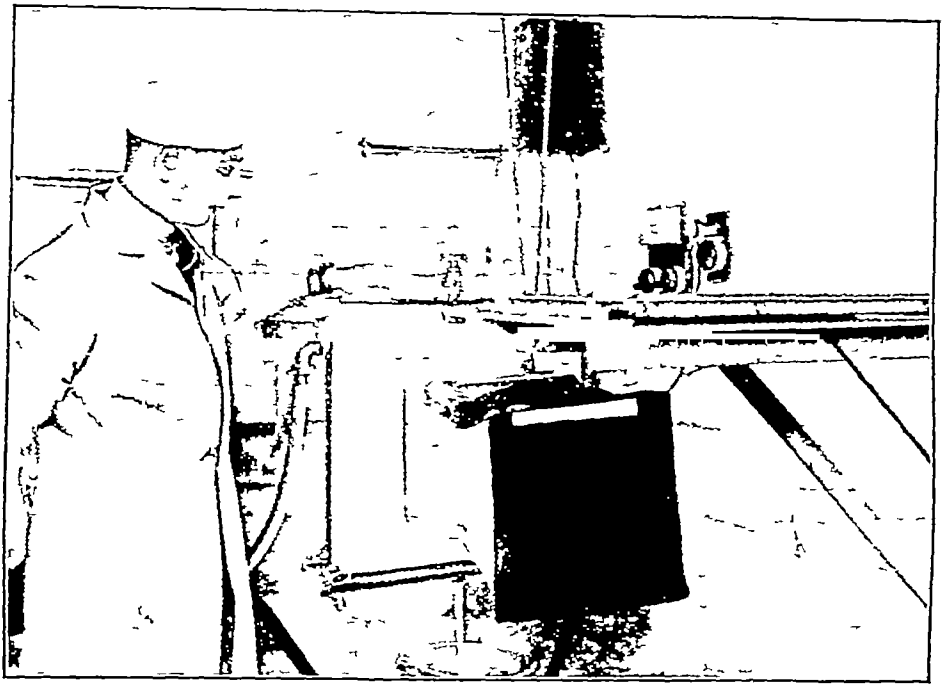
"Vita" Glass is obtainable from local Glass Merchants, Plumbers, Glaziers and Builders

"VITA" GLASS

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(2) 29 " 1/3 pint of Grade A (T T) milk five days a week.
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(1) Average increase in height 6.05 in. (2) Average increase in weight 9.72 ozs more than (1)
(2) " " " 6.10 in. (3) " " " 10.9 ozs more than (1)
(3) " " " 7.44 in.

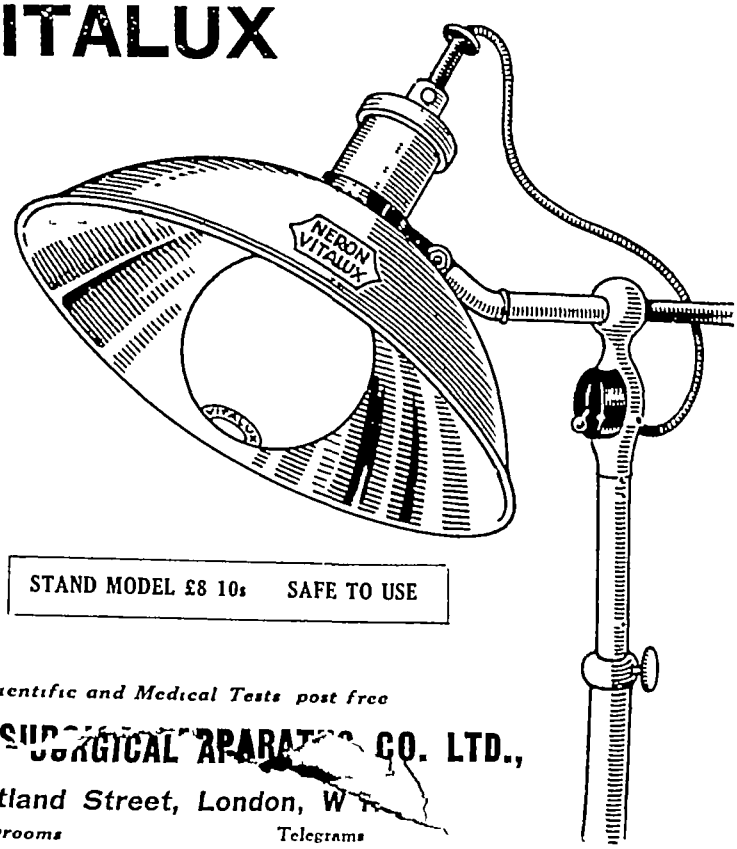
Full particulars appeared in an article in the LANCET January 18 1930 p 127 et seq a reprint of which will be sent post free on request

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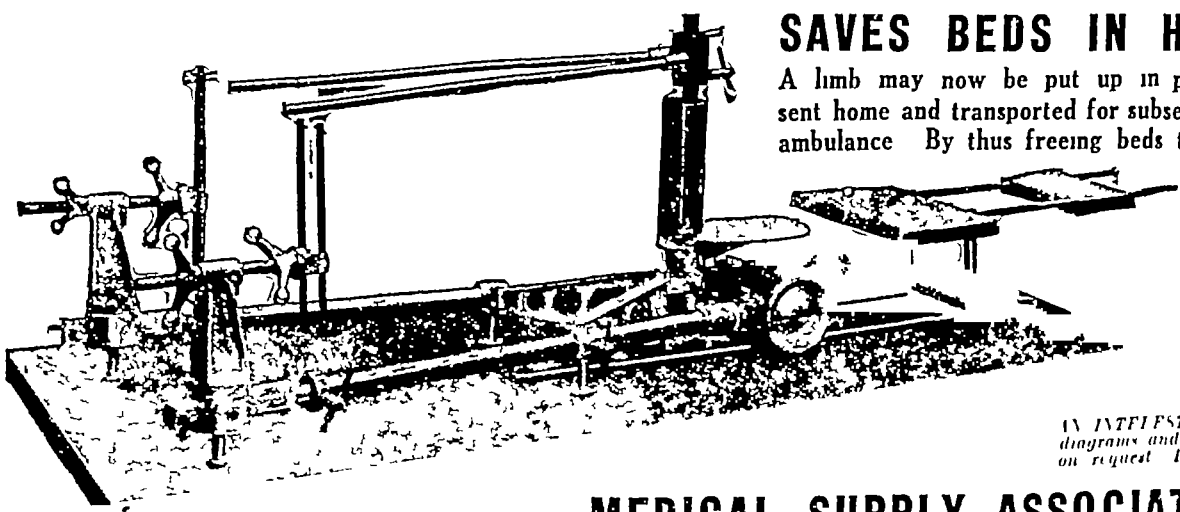
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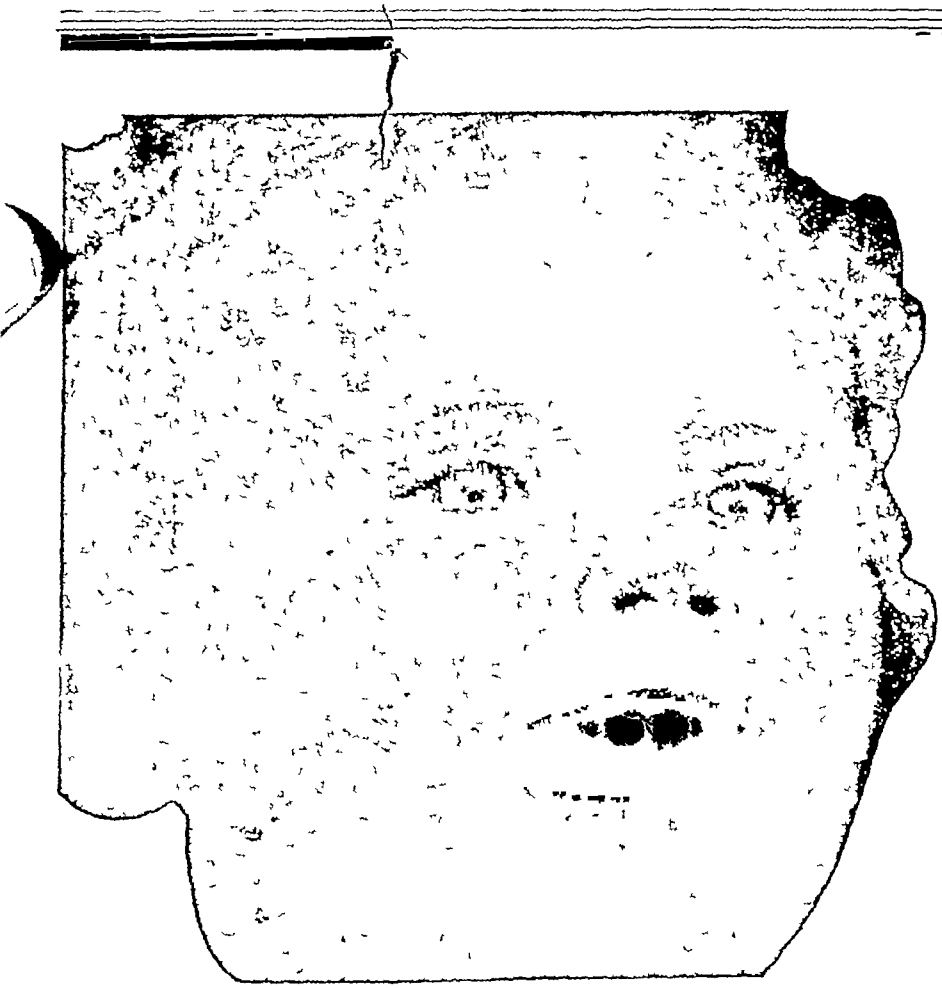
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W Borchardt (*Deut med Woch* March 28th 1930 p 521) records the results of his experiments on young dogs in which anaemia had been artificially produced by the removal of about half their blood. In the first series some of the animals were fed with rib-marrow others with marrow from the long bones. Control animals received a corresponding amount either of fat or of liver extract The basal diet in each case contained a sufficiency of iron (5 mg per cent). Only the animals receiving the red rib-marrow showed a definite increase of weight and their haemoglobin formation was more rapid than that of the others. In the next series the experiment was repeated but the iron content of the diet was reduced to 1 4 mg per cent The result was similar but more striking the dogs receiving the rib-marrow regaining their haemoglobin far more quickly than the others.

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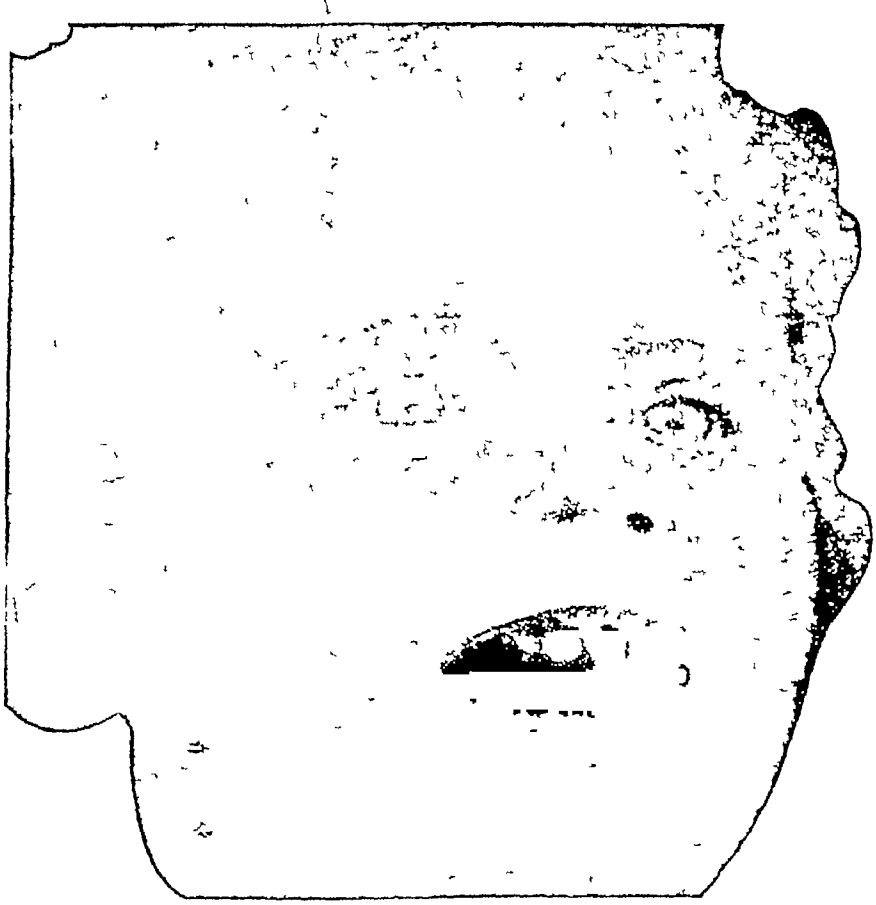
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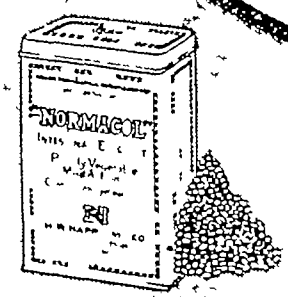
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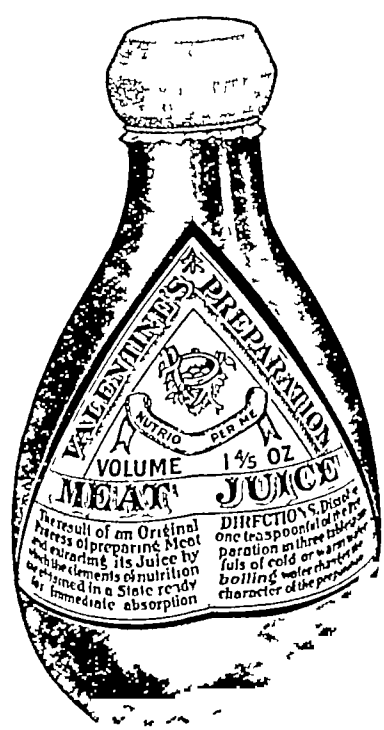


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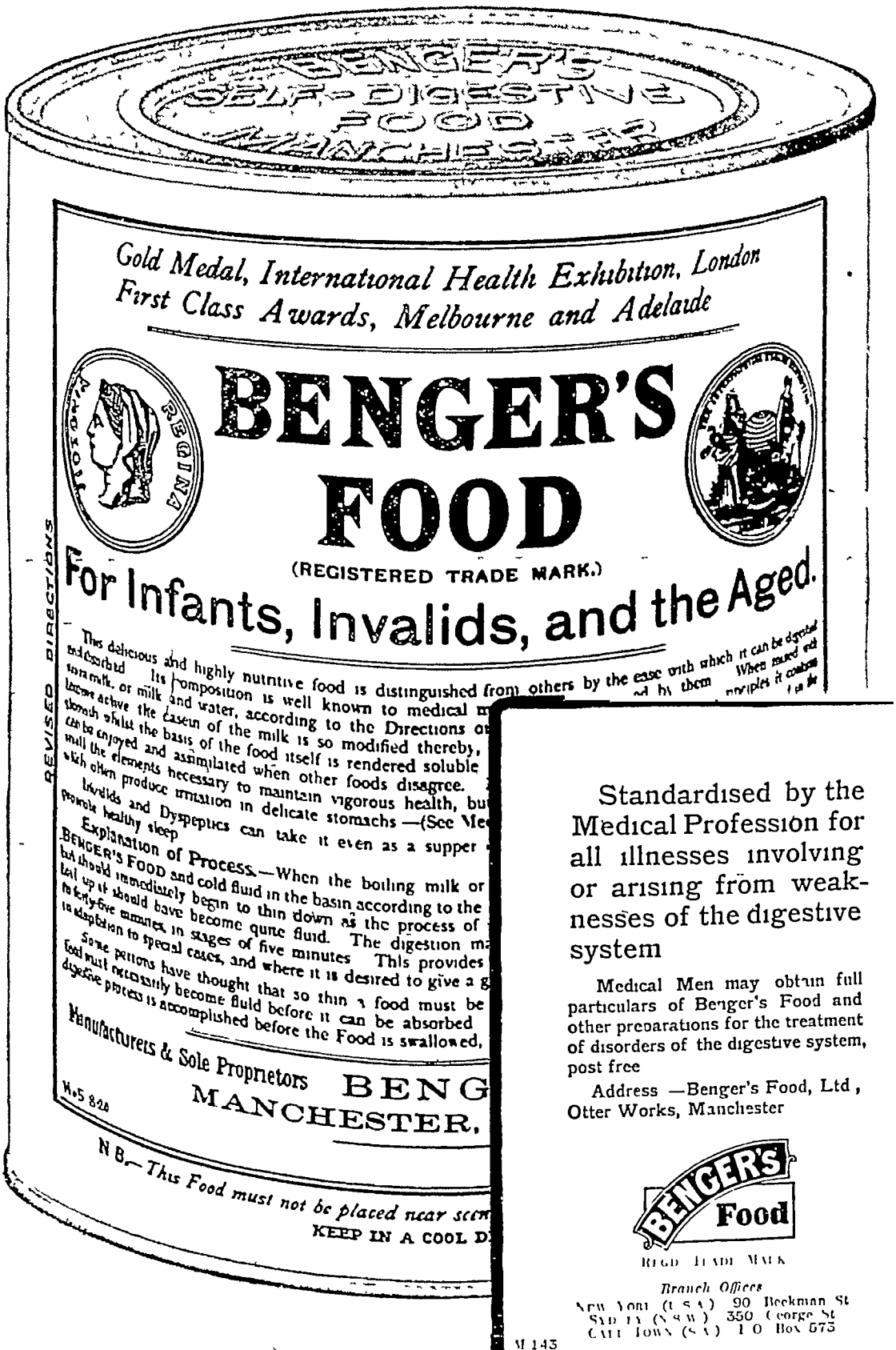
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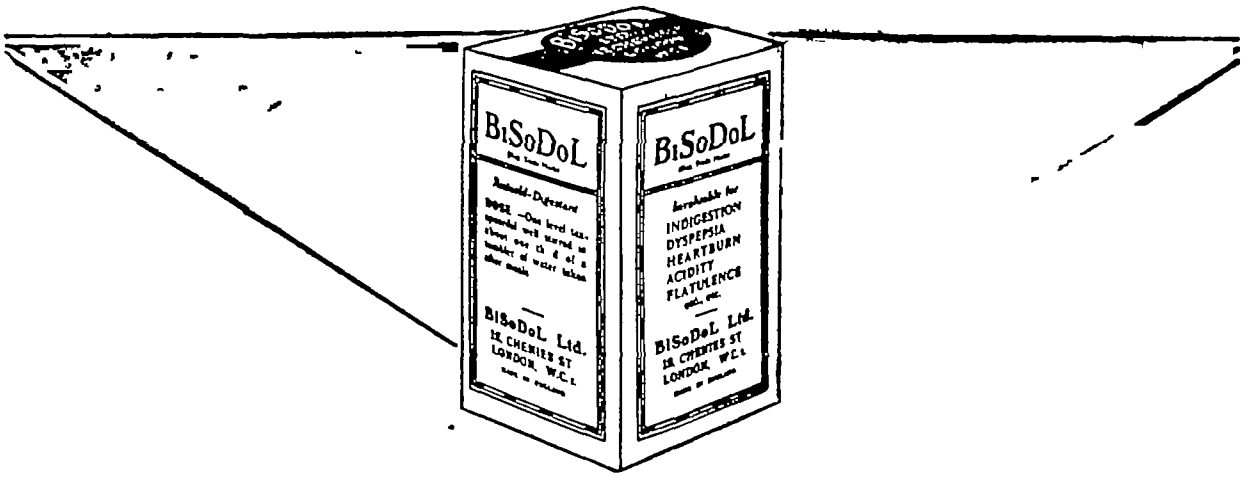
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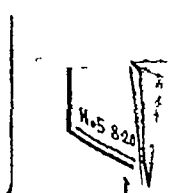


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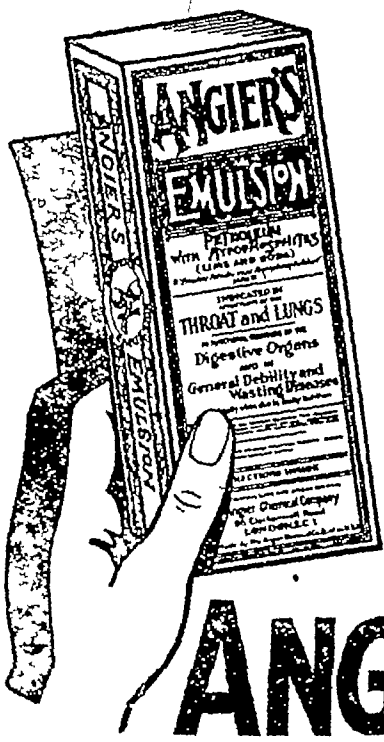
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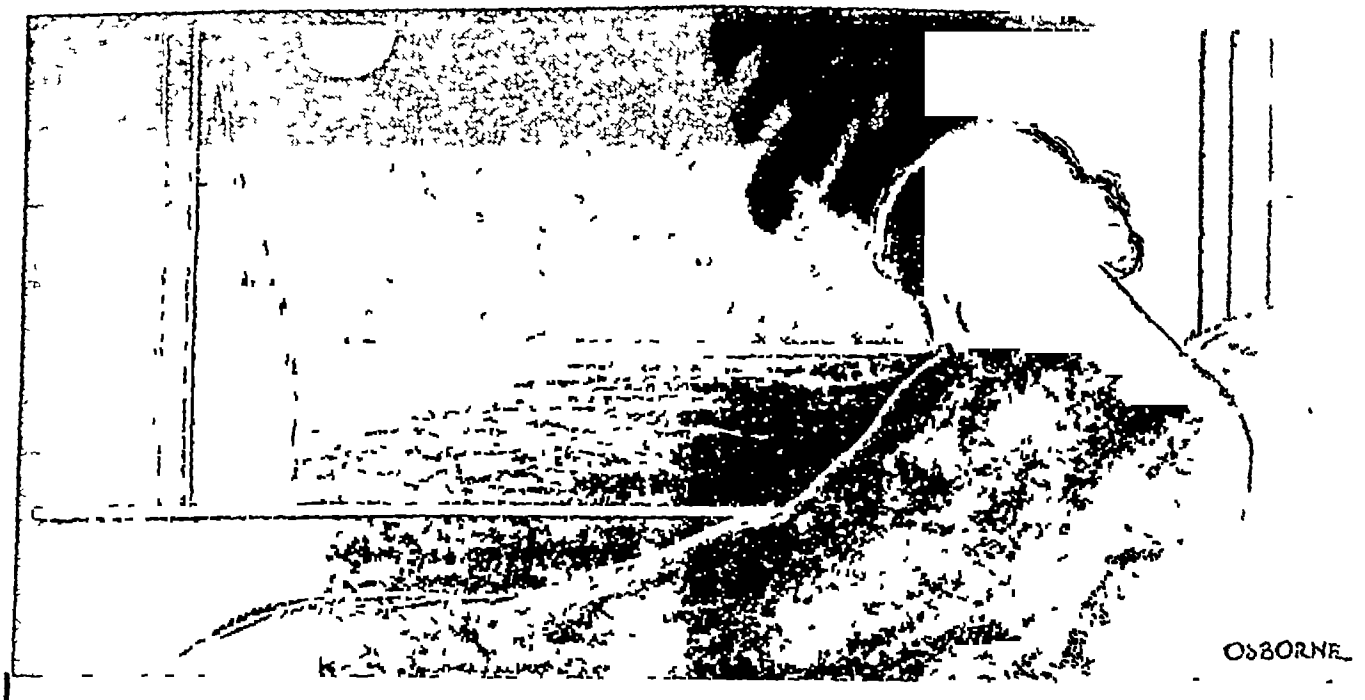
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An Address on REST, WORK, AND PLAY IN HEALTH AND DISEASE

BY

SIR E FARQUHAR BUZZARD, Bt, K.C.V.O., M.D. F.R.C.P.

REGIUS PROFESSOR OF MEDICINE OXFORD UNIVERSITY

When our President honoured me with an invitation to address you to-day, I did my best to visualize the conditions under which I should have to carry out my task and came to the conclusion that work and play would be appropriate subjects for discussion at this meeting and that rest on this, the last day would not be without its seductive appeal to some of us. Questions in regard to indulgence in work, play, and rest are so often put before us in our professional capacity and are so often answered with more respect to tradition than to experience, that they deserve the reconsideration due to all possible factors in the production or maintenance of health and disease. While it is true that play and rest are generally and indeed not unpopularly, recognized as prophylactic and remedial agents of no mean value the position of work is more precarious in the minds of the profession and of the public and it may be that it has earned a reputation for etiological mischief based on somewhat slender evidence. It is not surprising—it is only in accord with human nature—that when the cause of an illness is in doubt, over-indulgence in work is a more acceptable verdict than over-indulgence in other things, such as food, drink or tobacco. But a verdict which is most welcome is not always the best founded, and the medical profession bearing in mind the well-recognized good health and longevity of its members should surely hesitate to agree that over-working can be held responsible for disease or death, without a careful examination of the testimony supporting that doctrine.

It might at first sight be presumed that our knowledge of the physiology of the nervous system provides us with principles sufficiently reliable to guide us in prescribing work, rest, or play, but helpful as such knowledge is, it is not yet equal to solving all the problems with which we are confronted and we must still look to clinical experience for light and learning.

On the other hand, clinical experience is of little value unless it is subjected at every step to careful analysis and the *post hoc propter hoc* process of reasoning used with critical economy. If this rule were as conscientiously observed as it should be by all who have had the advantage of a scientific training, the value of time, the lapse of time as an important ingredient of treatment would not be so often overlooked. And giving credit to time is, after all only an alternative to paying the tribute due to nature's share in repairing structure and restoring function. This sounds like a platitude when addressed to those who have wrestled successfully with the courses and inquisitions of the medical curriculum but if the critical faculty inculcated by the latter survived more generally for a few years the ordeals of practice, we should dispense with at least one-half of the therapeutic measures and concoctions which are prescribed from time to time at the dictates of a prevailing fashion or of an enterprising firm. Is it not true to say that while the time factor is usually estimated at its proper value in relation to certain morbid conditions, the length of which is more or less defined, such as a specific fever or a bony fracture, it is undeservedly neglected in relation to other common disorders whose course is less easily foretold, such as an attack of sciatica or a broken heart? I need only remind you of the craze for rest cures as the universal remedy for all psychoneuroses thirty years ago in order to illustrate the dominating influence of fashion on medical practice. The employment of rest in the treatment of an anxiety neurosis, as in the treatment of a damaged joint, has indeed undergone a revolutionary revision in recent years. My chief object to-day is to examine our established practice in regard to the prescription of work, rest, and play, and to question some of the principles which govern it. As the nervous system is more concerned with these matters than any other, my illustrations will be largely drawn from its functional and organic disorders, and particularly from those which call for specific advice in the regulation of mental and physical activity.

The Prescribing of Work

Epilepsy is one of the commonest disorders of the nervous system, and one which every practitioner is called upon to treat. I expect that we shall all agree that the following story is typical of many presented to us. A boy of 14 years of age, with a previous history of average good health, and with apparently good prospects, has a fit, followed a few months later by another. Perhaps the first has been disregarded, or attributed to some quite inadequate cause, but the second has created alarm, and awakened the parents' minds to the possibility that their son's whole future career is jeopardized. In this atmosphere of panic it is not unnatural, and certainly not unusual, to find that some drastic alteration in the patient's life is advocated. He is to be taken away from school, his brain must be freed from all the strain of lessons and he is to be allowed to run wild for a year in the open air. The chief advantage of such advice is that it sounds eminently sensible, and yet experience teaches us that it may have disastrous results from more than one point of view. In the first place, there is no justification for believing that it will diminish the liability to recurrent attacks, in the second place, it interferes with and interrupts the normal progress of intellectual and moral development and discipline, and thirdly, it suggests to the patient's mind that he is not as other boys are, with the result that a sense of inferiority is easily acquired. Even these disadvantages might be worth incurring if we did not know that speaking generally, an epileptic subject is less liable to fits when his attention and interest are fully occupied than when his thoughts are allowed to run loose. I have known so many children of both sexes overcome the liability to fits when their ordinary educational career is proceeded with that I am convinced that work can rarely exercise any prejudicial effect. In other words, regular and moderate hours of work and play may safely be regarded as an essential part of the treatment, and if, when combined with medicinal therapy, they are unsuccessful, the outlook is certainly grave. Perhaps a general recognition of this truth might influence more schoolmasters to co-operate in rescuing boys and girls from the menace of a very terrible affliction. Undoubtedly, not a few regard the epileptic brain as an organ which should not be allowed to exercise its normal functions, an opinion to which I can give no support. Our ignorance of the pathology of the epileptic habit is so profound that we are obliged to seek elsewhere for guidance in preventing its establishment, and I feel convinced that much depends, in a great many cases, on the way the patient is handled when the first symptoms of this nervous disorder make their appearance. While it is one of the few diseases in which the influence of drugs properly administered, is of paramount importance, success in treatment is enormously favoured by interfering as little as possible with the normal routine of cerebral activity—in other words, with the ordinary ration of work.

Let me turn to another common disease of the nervous system, of which the pathogenesis is still not established. A young woman, between 20 and 30 years of age engaged in teaching develops diplopia and a disability of one limb leading to a diagnosis of disseminated sclerosis. Vision returns to normal and the defective limb recovers its function in the course of a few months, but the diagnosis has been made and the patient's relations know that a threat of recurrent disabilities overhangs the girl's future. The doctor is asked what steps can be taken to prevent relapses, and in many cases he will advise the relinquishment of her work and the avoidance of all mental and physical exertion. Again the advice sounds all right, but can it be justified by any reliable evidence? My clinical experience leads me to believe that we are without any satisfactory

Delivered on the occasion of the Annual Meeting of the British Medical Association, Winnipeg 1930.

knowledge as to what factors are responsible for the appearance of fresh plaques in this disease, that relapses may be delayed for five, ten, or fifteen years, and that they are likely to appear at the end of a long restful holiday as in the middle of a strenuous term's work. If this is the case are we justified in asking our patient to give up her career, her interest, and her chief source of happiness in life? I can recall so many patients who, in spite of carrying the label of disseminated sclerosis, have led active and useful lives over a number of years, that I should always hesitate to advocate one of idleness. I cannot believe that normal activity or even normal fatigue of the nervous system has any prejudicial influence in such cases, and I am sure that the patient's interests are best served by the encouragement to resume her normal occupation and habits. One particular incident which has always been fixed in my memory is worth recording in this connexion. A young woman, who had suffered from symptoms of disseminated sclerosis and had temporarily recovered, was employed in a large shop or store. The building in which she worked caught fire. She escaped with difficulty, although several of her companions lost their lives. In spite of this emotional experience, followed by months of particularly hard work, she remained quite well, and it was not until a year or two later, while spending her summer holiday at the seaside, that she developed further symptoms of her disease. Before leaving the subject of disseminated sclerosis I must make it clear that I do not advocate activity during the acute phases of the disease. On the contrary, rest must be regarded as a first essential in favouring the complete or partial restoration of function in damaged parts of the nervous system, a process which may be safely entrusted to time and nature, at any rate in cases of recent origin.

Paralysis agitans, or Parkinson's disease, affords another example of organic disorder of the nervous system in the handling of which the question of work and rest has often to be answered. Here we have to deal with a chronic progressive defect of function of a part of the central nervous system, the cause of which is unknown and the course of which we are entirely unable to influence by any method of treatment. A man of 50 engaged in business, and blessed with other interests and hobbies, develops the characteristic facies and tremor of the disease, and quite naturally asks whether he should give up his work and lead a more restful and sedentary life. In my opinion the answer should be definitely and firmly in the negative. The devotion of time and money to the many curative treatments which will be pressed upon his notice can only lead to a long series of disappointments, and the more leisure he has at his disposal the more will he become preoccupied with his affliction. If he is well advised he will carry on with his work and his play regardless of the fact that he is slower and less active, and as far as possible refuse to recognize his limitations. Only by taking, and persevering in, such a line of action will his life be made tolerable, and we have no right to suggest that by sacrificing his work or his recreations he may expect to render his disabilities less irksome. There is nothing more pathetic or tragic in medicine than the sight of a patient suffering from paralysis agitans who has given up his lifelong interests in the vain pursuit of a cure, and it is difficult to exaggerate the importance of giving the right advice in these cases. There is nothing easier for the medical attendant to advocate than avoidance of mental and physical activity, the very attributes which it is most desirable his patient should foster and preserve.

The observations I have offered on epilepsy, disseminated sclerosis, and paralysis agitans may be applied with diminating modifications to many other organic disorders of the nervous system. They uphold the principle that work, the normal activity of the nervous system, is not contraindicated even when parts of it are damaged or out of order, so long as the latter are not subjected to an unreasonable amount of strain. They are opposed to the tradition that because a patient is suffering from a disease of the nervous system all the multitudinous functions of the brain should be put in irons and allowed to rot. After all we encourage other organs to carry out their functions even when they are damaged by disease. Work is a physiological, not a pathological, process, and its output is not only valuable in itself, but carries with it a psychological influence of paramount importance to the patient's insight, his outlook on life, and his general welfare.

Rest in Therapeutics

If discrimination is called for in prescribing work, it is equally necessary in prescribing rest, and a review of our practice in the latter and of the doctrines which have led up to it may not be without profit. In the first instance, I propose to deal with rest as it is employed in the treatment of psychopathological conditions, and the word "rest" will, for the moment, mean confinement in bed with partial or complete isolation. May I remind you again of the fact that for a period of years rest cures were regarded as the orthodox method of treating neurasthenic and psychoneurotic disorders, and may I suggest that the practice has become less fashionable because experience has exposed its failure to deal effectively with all cases? It may be that rest cures still have their value, and it may be that we are still not quite competent to judge when complete rest is indicated or contraindicated. The rest cure prevailed at a time when our insight into so-called "functional disorders" was not so clear as it is now, and there can be little doubt that it was employed indiscriminately for a number of conditions which differed in origin and which therefore called for different treatment. Moreover, when it successfully attained its object, and relieved the patient, there was always some doubt as to the relative share of the prescribed rest, of suggestion, and of the lapse of time in achieving the result. The bulk of "functional disorders" can be divided for practical purposes into three categories: (1) the anxiety neurosis, (2) hysteria, and (3) the milder forms of the manic-depressive psychosis. Hysteria may be dismissed from further consideration here, because its treatment is essentially based on psychotherapy and rarely demands serious rest. In fact, we may be assured that a rest cure unassociated with psychotherapy would be singularly unsuccessful in curing the frank hysteric.

In spite of our improving insight into psychopathological disorders, the differentiation of an anxiety neurosis from a mild manic-depressive psychosis is not always made with the sharpness it deserves, and in view of its importance for the purpose of treatment a short consideration of the problem will not be out of place. Certain symptoms are common to both conditions, and so lead to mistakes in diagnosis and to inappropriate treatment. Depression, insomnia, failure of concentration, decision, and memory, exhaustibility and restlessness, are complained of both by the neurotic and by the psychotic patient, and particular attention must be directed to one or two of these symptoms in order to make a diagnosis. The depression of the neurotic patient is variable and sometimes dispersible, it is made worse by fatigue and may be alleviated by distraction. It is attributed to the faults of others or to unfortunate circumstances, and it is very rarely of a quality or intensity which leads to suicide. The depression of the psychotic patient, on the other hand, is that of a person who is incapable of interest in anything. It involves loss of natural affections and appetites, and cannot be dissipated by distraction. It is associated with self-accusation and remorse for some real or imaginary wrongful act or behaviour in the past, and no arguments will avail to correct the obsession. It is at its worst in the early morning, when morbid and suicidal thoughts are apt to be translated into deeds. With the neurotic patient sleep is always a difficulty, and he is inclined to lay the blame for his sufferings on insomnia. With the psychotic patient sleeplessness is not so invariable, and indeed may sometimes be self-inflicted, owing to his dread of the terrible depression which overtakes him on waking. The one fears the night, the other the day. Further consideration of the distinctive characters of these two conditions would be out of place and I have said enough to indicate the features concerned with the question of the rest cure. Harking back to the success and failure of the rest cure it is easy to realize that many a patient suffering from psychotic depression was well protected and cared for during the period of his illness, and that the necessities

for his recovery—rest encouragement and time—were all available, if his pocket could stand the strain We know that such patients always recover in time, that sympathetic care rather than active treatment conduces to safety, and that psycho-analytical attacks are more of a danger than a help The patient with an anxiety neurosis is a different problem Rest may or may not be helpful depending on the state of exhaustion prevailing at the moment he comes under medical attention but recovery will depend more on skilled psychotherapy than on the prescription of so many weeks' confinement to bed In fact, we must never forget that rest tends to narrow and to limit the patient's environment, and so encourages preoccupation and introspection

I have memories of the anxiety neurotic patient emerging from a prolonged rest cure unrelieved, and I can recall certain patients with psychotic depression being released too soon from allotted periods of rest only to end their lives The question of rest in the treatment of functional nervous disorders is not therefore so simple of solution as it at first appears Its value can only be estimated accurately in the light of a correct diagnosis The rest cure has fallen into comparative disrepute now that we realize that rest is a useful ally but rarely the essential agent in the relief of the "psychopath" But a rest and a rest cure are not synonymous terms, and the former is loosely used to indicate relaxation and recreation as well as physical torpor In this way rest from work may include recreation, which is often play, a species of activity the reverse of restfulness In the maintenance of health there is much variation among individuals in regard to the amount of sleep or complete repose required in order to avoid undue fatigue It would seem that every individual is endowed with his own capital of nervous energy on which to draw and that over-expenditure is attended by symptoms with which we are all familiar We also recognize that prolonged activity of one part of the nervous system may lead to fatigue of its particular function or reactions, without unduly depleting the capital of nervous energy or interfering with the function of other parts It is on this principle that the healthy person, consciously or unconsciously, regulates his life in other words he employs various parts of his nervous system in turn without tiring out any one of them Unwittingly he recognizes the physiological law that reactions are more easily fatigued than the common paths through which they are executed, and that one set of reactions may regain their functional integrity after fatigue, while others occupy the field of action The repetition of one operation may in the end produce what is called specific objective fatigue, a form of fatigue which does not interfere with the performance of another operation On the other hand general objective fatigue which may be induced by one kind of work may affect the output of an entirely different kind of work to a small extent Experiment has shown however, that fatigue produced by mental work is evanescent the mind being restored to efficiency by sleep or by short interruptions of its activity The phenomena attributed to overwork are more often and more justly to be ascribed to preoccupations of a personal character amounting to an anxiety neurosis According to Gillespie 'Clinical experience bears out these experimental findings Mental exhaustion brain strain from overwork and the like can be safely discarded as a hypothesis in 999 out of 1 000 cases The apparent mental incapacity in such cases is nearly always the result not of intellectual effort but of anxiety or a kindred emotional disturbance This is brought home very dramatically in the sudden recovery of persons complaining of brain fag' which has perhaps limited their work to periods of less than an hour each when a source of worry is removed"

Except during sleep, the mind is always active, and it is customary to allot a certain number of hours in each day to a specific form of work mental or physical the remainder being spent in recreation The latter may be of various kinds, according to the interests of the individual the pursuit of art science or literature or participation in sport or games They all involve cerebral activity and derive their beneficial effects from the fact that the centre of interest and action is temporarily changed The player of a game, for instance is refreshed by following his favourite ball because his centre of interest is altered, other reactions are initiated, and his mind is preoccupied with problems entirely different from those associated with his work It is probably not an exaggeration to say that these factors are of much greater importance than the physical exercise the game involves in promoting a state of good health Realizing, as we must do, that interest depends largely on inborn facility, and that without interest the benefit of recreative pursuits is greatly discounted, we should be well advised not to make a fetish of games as the only means of securing relaxation from work "Take up golf" is in danger of becoming a tabloid preparation, too easily prescribed, readily swallowed, and not always producing the desired results To many, a change from one form of mental work to another is much more recreative than the pursuit of a ball whose flight and destination are of much less interest than those of a moth or a bird It is certainly true, moreover, that a very small amount of muscular exercise will suffice for the maintenance of good health It is sometimes alleged, and the allegation sounds sensible, that the crowds of people who watch football or baseball on a Saturday afternoon would be better employed playing some game themselves. As their interest cannot be doubted, and as they spend their time in the open air, the conditions favouring relaxation and recreation appear to be adequately fulfilled On the other hand, it must be admitted that their interest is often more financial than sporting and therefore predisposes to the development of an anxiety neurosis, which may not always yield to the recuperative influence of the next week's work Incidentally it is our duty to expose the fallacy that the good health, especially the mental good health of an individual is directly dependent on the size of his muscles Physical exercises, unassociated with cerebral activity and recreation, are no panacea for mental exhaustion, on the contrary, they constitute a super-tax on the nervous system, and encourage the musculature to make further and uneconomic demands on its limited sources of energy Muscles are intended to be the servants not the masters, of man, and the efficiency of their service must be measured not by their bulk, but by the speed and accuracy of their response to the demands of the nervous system

Perhaps, in order to anticipate remonstrances I ought to explain that these remarks are not intended to be an attack on physical jerks as a whole They are directed rather against the craze for various systems of exercises advertised to cure all disorders whether of the liver or of the nervous system, and largely taken up by the sedentary worker lacking a hobby, in the vain hope that they may dissipate his weariness of spirit He may be unaware that this weariness represents a subconscious inhibition of a particular activity in other words, a psychological state of staleness rather than one of real exhaustion

Relaxation

While the question of recreation is complicated by personal idiosyncrasies, and must be answered only after careful consideration of individual needs that of relaxation deserves perhaps more general examination Remembering the remarkable capacity shown by nervous centres to recuperate rapidly from fatigue and taking into account the natural aptitude possessed by certain individuals for long periods of intense work, interrupted by comparatively short spells of complete repose, it may be asked whether more could not be done to acquire and cultivate such enviable powers of alternating concentration and relaxation The cult of relaxation is no new thing but like most cults may have lacked the recognition it deserves owing to the enthusiasm of its protagonists At any rate we are all familiar with individuals who appear to wear themselves out by maintaining a continuous state of restless but unproductive activity It may be that a scientific study of complete mental and physical relaxation, its methods of induction, its proper relationship to work and play, and its value in everyday life might show that it is a habit the acquisition of which is worthy of becoming an item in everyone's education At any rate relaxation, like work and recreation, is not

likely to escape further study and we may perhaps look forward to the time when we shall be able to switch off our nervous energy as readily as we do our wireless or our electric light, and so regulate its consumption to our best advantage. In these days the problem of utilizing *time advantageously* is becoming a more and more difficult one, and those who learn early in life how not to waste the hours at their disposal have taken a most important step in achieving such success as lies within their reach.

Conclusions

In the course of these rather desultory and disjointed remarks no attempt has been made to lay down hard-and-fast regulations governing the prescription of work, rest, or play for the preservation of health or for combating disease. No prescription of the kind can be printed and distributed indiscriminately to all who seek advice on this subject, and no rules can be formulated, applicable to any case, without careful consideration of the individual and personal factors involved.

But if regulations are impossible guiding principles are not without their value, and among these I would emphasize again:

(*a*) The recognition of work as an ally, not an enemy, in *therapeutic operations on nervous disease.*

(*b*) The paramount importance of a correct diagnosis in functional disorders before determining the part to be played by rest and work in their treatment.

(*c*) The value of physiological and psychological considerations in the choice of recreations.

The subjects to which I have directed your attention, if they are not altogether commonplace, at any rate pertain to everyday life. The questions I have raised are among those which every individual believes he is best fitted to decide for himself. They certainly *do not admit of* dogmatic answers, and I shall be well content if they stimulate serious consideration, and suggest habits and prescriptions of work, rest, and play such as will promote health and prevent disease.

THE PROBLEMS OF MELANOMA*

BY

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The problems of melanoma maintain their position as the most interesting and complex of any department of oncology. Numerous competent investigations of the past decade, especially those of Dawson[1] and of Masson,[2] while illuminating some questions, have left others quite untouched or even more conspicuous and uncertain. The complexity of the sensory nerve endings, the peculiar relations between these structures and the cutaneous epithelium, the wide distribution of chromatophores, and the ramification of the whole subject of pigment formation in the animal kingdom render the study of melanoma quite a different matter from that of any other malignant tumour process. It is the object of this communication to enumerate some of these problems, not with the ambition of presenting a solution, but with the hope that a simple statement of them may lead to more *definite efforts toward* a solution as the progress of knowledge permits. Tumour pathologists may not feel flattered that the discovery of the nervous origin of the nævus, made by Soldan[3] in 1899, remained practically unnoticed until it was rediscovered and elaborated by Masson in 1927. Possibly there are other important data lying within easy reach of the alert observer.

Origin of the Quiescent Nævus Cell

Since the work of Soldan, and especially after the more elaborate and complete exposition of Masson, there is no longer any room for debate about the *nervous origin* of the nævus cell. In the so-called 'nerve nævus,' occurring mainly in the subcutaneous tissue, but often quite superficial, Masson has shown that the nævus cell is a derivative of specialized cells in the sensory nerve endings. In and about the groups of small glassy quiescent nævus cells he finds many nerve fibrils, and in many cases of nerve nævus these cells are aggregated into definite end organs of the type of Meissner's corpuscles, and in such intimate relation to the nerve fibre bundles as to leave no doubt that they belong to the peripheral nervous system. Every transition from the nerve end-organ with a ring of polyhedral cells up to the characteristic groups of pure nævus cells can be followed in these nerve nævi, while the epidermis fails to show the slightest sign of abnormality. It is remarkable that this fact could so long escape recognition, even after the simplest histological technique.

Masson does not undertake to decide whether the nævus cells are mesodermal, glial, or epidermal, but insists that they belong to the nerve end-organ. The relation to the chromatophore remains unaffected by this observation. The cells of the Meissner corpuscle are unpigmented, but a mantle of chromatophores often covers the peripheral rim of the nævus. *In some cases the two orders of cells,* pigmented and unpigmented, appear to be entirely separate, but in other cases the more peripheral cell groups show increasing pigmentation. These features strongly indicate that the special cells in the nerve nævus produce the pigment.

All these recent studies seem to dispose finally of the theory, first advanced by Unna, that the nævus cell is a *displaced down-wandering epithelial cell,* or that it is an endothelial cell, because of its endothelial morphology. There has never been any substantial basis for either of these time-honoured misconceptions. They do not, however, dispose of the possible participation of epithelium in some of the manifestations of melanoma or of the general class of pigmented tumours.

Unna originally, Nicholson, Dawson, and many others, have described in detail what they *regarded* as the down-wandering of pigmented nævus cells from the epithelial layer and their depigmentation when originally pigmented. I believe that these observations were made upon active melanomas, where it is undoubtedly possible to trace the down-wandering of tumour cells, *but they fail entirely to* prove that these down-wandering cells ever assume the glassy appearance of quiescent nævus cells. The evidence points strongly to the conclusion that in the active nævus the glassy cells proliferate in the derma while at the same time certain cells of the Malpighian layer also *proliferate,* the two groups uniting and forming the complex picture of the growing melanoma with supposed epithelial invasion. *In most melanomas,* especially those derived from deep nævi, there is no participation whatever of the epithelial layer, but in some cases both types of cells, those of the Malpighian layer and those of the corium, are active.

It thus appears that melanoma involves a growth of the specific cells of the sensory nerve endings, nævus cells in the corium, and in other cases the tactile corpuscle of Merkel-Ranvier and the chromatophores in the epidermis. One can find much evidence favouring the view that the epidermal participation in melanoma does not *involve the* whole epithelial layer, but only the specialized cells of Merkel and the chromatophores. *These soon form* small groups that stand out prominently in the Malpighian layer and then invade the derma. These cells *are never* exactly like those of ordinary epidermoid carcinoma. They are finely granular and opaque. They *form* peculiar groups of crescentic or polyhedral cells, which the experienced histologist easily recognizes as melanotic, and they retain these characters in metastases.

The Tactile Corpuscle of Merkel-Ranvier

The nature and behaviour of the tactile corpuscle of Merkel-Ranvier still remain obscure, untouched by *recent studies, and continue* to present one of the fundamental questions. Merkel and Ranvier showed that the *terminal* filaments of the sensory nerves *arborize* about certain cells of epithelial morphology lying in the Malpighian layer of the skin. These cells do not appear to differ in *any* respect *from the average epithelial* cell of the skin, but their relation to the nerve filaments raises an assumption that they may be *of nervous origin,* and to that extent

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similar in nature to the naevus cells of the deeper nerve end-organs. It seems most improbable that the terminal nerve fibril should appropriate any ordinary epithelial cell for its physiological functions. A parallel example is the taste bud of the tongue where the nervous origin is probable. This question seems at present to be unsolvable, but there is considerable evidence suggesting that the tactile corpuscle is not an ordinary epithelial cell, and that it behaves independently in some of the manifestations of melanoma and other diseases of the skin.

In addition to the tactile corpuscle of Merkel-Ranvier there are in the epidermis of most subjects, or under many circumstances, wandering pigmented chromatophores which have an important relation to melanomas of the skin. Bloch has shown that in the unpigmented skin of the infant stained by the dopa method peculiar cells are found in which the pigment material is invisible under ordinary circumstances. Apparently the skin is prepared in the embryo to produce pigment from slumbering chromatophores when it is needed. There are thus two types of specialized cells in the epidermis—chromatophores and tactile cells—with relations to melanoma, and the question of the relation of these two types of cells remains unsolved. The conditions in the subcutaneous nerve naevus—nerve cells associated with chromatophores—seem to be duplicated in the epidermis. After careful study of several nerve naevi and many early melanomas I have been inclined to suspect that the wandering chromatophore of the epidermis bears the same relation to the tactile corpuscle as the pigmented cell of the deep nerve naevus bears to the unpigmented naevus cell. According to this view the naevus cell becomes transformed into the chromatophore. This theory is practically identical with Ribbert's[4] except that Ribbert was not aware of the nervous relations of the deep naevus cell. In offering this suggestion regarding the nature of the tactile corpuscle, I am fully aware that the evidence in its favour is quite inadequate. It may well be that the tactile corpuscle is an ordinary epithelial cell, and that the nerve fibrils end blindly in the epidermis.

Relation of Naevus Cell with Chromatophore

Recent studies do not offer a complete explanation of the origin and relations of the chromatophore. Comparative studies of the pigment function in the animal kingdom strongly favour the belief that the chromatophore is a specialized cell not to be identified with any other cell type derived originally from the mesoblast and with important relations to the nervous system. Yet the evidence from human pathology is against this exclusive theory. Stockard's[5] study of pigment cells in batrachians indicated that these cells arise very early in the embryo and ovum from mesoblastic tissue and that they maintain their identity throughout the life of the animal. In vertebrates pigment production is evidently more complex.

The indications from comparative pathology are so strong that I have always agreed with Ribbert that one should maintain the theory of the independent nature of the chromatophore against all but the most convincing evidence. The relations to the nervous system are very prominent. In the chameleon this cell is attached to the sympathetic nerve fibril and supplied with contractile muscle fibres which control the colour changes in this animal. The wide-wandering function of the chromatophore in lower animal and man is noteworthy. This cell accompanies the ramifications of the sensory and sympathetic nerve fibres in many situations. It is widely distributed in the meninges of many subjects where its freedom from epithelial relations becomes most obvious. In the adrenal the pigmented cells are of neuro-ectodermal origin, but it is not clear that these cells have any close relations with the chromatophores of the skin, choroid or true melanoma. In the skin and choroid it obviously functions as a protection against light. All these features point to a special origin and physiology for the chromatophore.

Additional evidence regarding the nervous relations of the chromatophore is furnished by Masson's study of naevi. In the deep naevi the chromatophores appear in most lesions as satellites about the proliferating unpigmented naevus cells which are derived from the sensory nerve end-organs. From the study of several nerve naevi I find every transitional stage between unpigmented naevus cells and pigmented cells, and have been forced to the conclusion that the chromatophore in this case is derived from the naevus cell. This view accords with the conclusion of Ribbert that the chromatophore bears the same relation to the naevus cell as the glia cell does to the ependymal cells. While many deep naevi are free from pigment in many others pigment begins to appear in the periphery of the lesion and sometimes in the epidermis, and in such cases the whole series of naevus and pigmented cells is entirely separated from any epithelial connexions.

An origin from naevus cells does not fully identify chromatophores with naevus cells. Having once been derived from their cells of origin, they seem to acquire new properties and to function in many respects independently. Moreover there may be many other situations in the development and physiology of the nervous system leading to the formation of chromatophores. It is not necessary to assume that all chromatophores develop in the course of nerve naevi, which is a pathological lesion of the general character of a haematoma and prone to develop tumour processes. That some melanomas are derived from adult chromatophores without any intervention in naevus cells seems probable, this will be discussed shortly.

Some forms of abnormal pigmentation of the skin, due to activity of chromatophores, and the diffuse deposits of chromatophores in the meninges, seem to show that adult chromatophores enjoy an independent existence apart from any connexion with naevus cells, from which they are developed in many melanomas.

Present indications therefore, point to the conclusion that naevus cells and chromatophores are different phases of the same cell order, and that both are derived from the nervous system and are free from any epithelial entanglements. Most of the facts about melanoma seem consistent with this theory, including the structure of the nerve naevus, the appearance of intra-epidermal melanomas, the occurrence of pigmented and unpigmented tumours often in the same subject, and the ready assumption of pigment production in non-pigmented melanomas.

Epithelial Origin of Melanoma

The epithelial theory has enjoyed great popularity in the past, but since the demonstration of the neural origin of naevus cells it has lost its main support. There remains, however, very substantial histological evidence that in many melanomas certain cells of the Malpighian layer participate in the process. In many cases the whole Malpighian layer becomes riddled with small, peculiar cell groups, pigmented or not, the basal cells seem to proliferate, and the rete columns dip down into the derma, become elongated and mingled with other cells of the deeper portion of the tumour, giving the impression that the whole process is mainly epithelial. It is this process which Dawson and many others have so fully depicted, and it has hardly escaped the eye of any experienced pathologist.

In this complex field I do not think that positive statements can safely be made because the histological interpretations are so difficult and uncertain, but there are several considerations which the adherents to the epithelial theory must consider and dispose of before the epithelial origin of any cutaneous melanoma can be adopted even as a partial explanation.

1. There are undoubtedly pigmented epithelial tumours of the skin which have nothing to do with melanoma and it is sometimes difficult to distinguish between them. These are the pigmented epithelial papillomas, pigmented basal cell tumours, pigmented carcinomas in xeroderma pigmentosum. Chromatophores are generally present in these lesions often in considerable numbers. In these pigmented epithelial tumours the pigment is sometimes produced by chromatophores, which accompany the growth of epithelium but do not exhibit any neoplastic quality. When the tumours are heavily pigmented there seems to be no doubt that the epithelial cells may take on

the function of pigment formation This fact does not make them true melanomas, but it may be difficult to distinguish them from melanoma Especially in a group of basal cell tumours of the skin, in which the cells are very small and the pigment abundant, the separation from melanoma requires very careful histological study and clinical observation of the course of the disease Such tumours have no bearing on the questions of true melanoma It should be noted that in these true pigmented epitheliomas the growth affects the entire layer of the epidermis, and not small isolated groups of cells, so that the whole picture is quite different from that of melanoma

2 When epithelium appears to take part in the formation of a true melanoma the appearances are peculiar and unlike any other early epithelioma Isolated cell groups appear throughout the Malpighian layer which are different from the ordinary epithelium It is possible that these cells develop from chromatophores, since many of them are pigmented, as in the infantile naevus, or they may possibly arise from tactile corpuscles, which may be of neural origin In any case, the appearance of such lesions is quite different from that of any ordinary epithelioma, and this raises a doubt as to the epithelial nature of the participating cells

3 The invasion of the epidermis by melanoma cells from below, or from the sides, produces pictures which are difficult to distinguish from the primary proliferation of Malpighian cells The same difficulty arises in Paget's disease of the nipple, in metastatic carcinoma of the skin, and in adenocarcinoma of the rectum In Paget's disease of the nipple the epidermis exhibits somewhat the same appearance of isolated cell groups infiltrating the Malpighian layer as appear in melanoma, and yet we know that these cells originate at a distance in the ducts of the nipple, and are not derived from the cells among which they are found

4 In the most characteristic cases of supposed melanocarcinoma of the skin I have been unable to convince myself that the ordinary epithelial cells actually take part in the dermal invasion, and I consider that it is sometimes impossible to decide this matter from simple histological examination In most of these cases the epithelial cells seem mechanically displaced downward, and are eventually lost among the proliferating chromatophores or naevus cells which constitute the true tumour cell I have not been able to find a single case where the participation of epithelial cells in a melanoma was unquestionable, but it must be admitted that in some instances it is difficult to exclude them

5 The peculiarities of the cells of melanocarcinoma throughout their entire course—which enable the pathologist to identify them as melanotic and not as simple epithelioma—suggest that the cells of origin are peculiar, and not truly epithelial

Since there is no doubt that true naevus cells or chromatophores participate in most of these melanomas in which epithelial growth appears to occur, we must face the peculiar situation that a homogeneous type of malignant tumour owes its origin to the malignant proliferation of two entirely different types of cells Here the epithelial theory of the origin of naevus cells finds an opening, but we have already seen that it is no longer tenable

All these considerations stand as warnings against the too hasty adoption of the epithelial nature of any true melanoma although they seem insufficient to exclude this theory Further evidence on the whole question seems necessary One additional fact comes from Ludlaw's silver impregnation method, which indicates that melanoma cells are silver-negative, while epithelium is silver-positive It may also be noted that Lund[6] cultivated in plasma the retinal epithelium and the choroid chromatophores, and found that the former grew in sheets like epithelium, while the latter grew out in threads or as isolated cells, like fibroblasts This observation has been confirmed by Smith[7]

Intra-epidermal Melanomas

Two histological types of melanomas arise within the Malpighian layer and remain within its limits for a variable period In one of these the cells are pigmented, and elongated or spindle in form, and resemble adult chromatophores In the other the cells are small, unpigmented, polyhedral, and reproduce almost exactly the types of growing naevus cells in dermal melanoma

Case I

A woman, aged 51 years, had on the back of the hand, which had been affected by poison ivy six months before, a small dark spot, which in the course of a few months became black and enlarged to 4 mm in diameter It was then excised Section showed a lesion entirely intra-epidermal The epithelial layer was broken up by the appearance of numerous groups of elongated pigmented cells, between which unpigmented atrophic epithelial cells could be detected The basal layer was ragged, and many of the basal cells seemed to be pigmented or else replaced by pigmented cells The pigmented growing cells lacked the form and opacity of the normal epithelium At the bases of some rete columns the normal epithelium was completely lost and was replaced by masses of quite long pigmented cells resembling adult chromatophores In the derma there were no changes

The lesion was composed exclusively of cells of the type of adult chromatophores It was unlike any known form of epithelioma It seemed impossible to decide by histological study whether the pigmented cells arose from epithelium or from chromatophores previously existing in the epidermis It closely resembled the process in Paget's disease of the nipple, except that the cells were pigmented and elongated On account of the general facts known regarding the presence of wandering chromatophores in the skin, I am inclined to think that the process involved only chromatophores, and that the epithelium was passive

Case II

This case dates from 1905, and no history is available The lesion consisted of a flat elevated circumscribed non pigmented tumour, 6 mm in diameter and 2 mm deep, lying entirely within the epidermis It was composed exclusively of rather small non pigmented polyhedral cells of the type of naevus cell, except that the cytoplasm was granular They were rather loosely aggregated In the centre of the lesion they had completely replaced the epithelium, with the exception of a thin crust of horny cells on the surface At the sides there was a sharp line of demarcation separating the tumour from the normal epithelium No transitions between tumour cells and epithelium could be traced at these points On the under surface the rete columns were enlarged and appeared distended by tumour cells, but not ruptured There was no invasion of the derma by any loose cells The derma itself was unchanged

Certain deductions seem warranted by the structure of these intradermal melanomas

1 The epidermis contains elements which are capable of producing both adult chromatophores and non-pigmented cells, closely resembling the growing cells of the deep naevus

2 The derivation of neither of these cells from epithelium is demonstrable in the lesions by transition stages, and the process is very different from that of any epithelioma of the skin

3 The appearances are consistent with the derivation of the tumour cells from specialized elements in the epidermis, which we know are connected with the sensory nerve-end apparatus, chromatophores, and tactile corpuscles

4 The possible derivation from epithelium *cannot* be excluded on histological evidence, and must be decided for or against on *the general knowledge of the factors entering* into the problem

On account of the general evidence supporting the view that naevus cells and chromatophores belong to the nerve endings, I am inclined to believe that the intradermal melanoma tells against the epithelial origin of melanoma, but I do not find the evidence conclusive

Derivation from Chromatophores

Having assumed that the chromatophore enjoys an independent existence *apart from any neural cell from* which it may be originally derived, it is interesting to inquire whether there are any pure tumours of once adult chromatophores, apart from naevus cells

Ribbert assumed that all melanomas were derived from chromatophores, and the *unpigmented* naevus cells as well It now appears more probable that the naevus cell produces the chromatophore, while the reverse process is uncertain It seems to me very probable that certain melanomas are

derived exclusively from adult chromatophores but it is extremely difficult to separate these pure chromatophoromas from pigmented tumours of deep naevi and from superficial melanoma, *in which certain cells of the Malpighian layer probably take part*

The heavily pigmented tumours of the choroid are probably derived from adult chromatophores, but some of them in choroid iris and ciliary body have been traced to unpigmented cell groups which resemble the simple naevus In the skin both in the Malpighian layer and in the derma one encounters heavily pigmented tumour *which seem to be composed exclusively of polyhedral and* spindle-shaped chromatophores without the appearance of any naevus cells

In the meninges there are rare cases of heavily pigmented tumours for which there is little reason to assume any other origin than the adult wandering chromatophore Here an epithelial origin is satisfactorily excluded Yet some of these meningeal tumours gave secondary tumours which were unpigmented indicating that the chromatophore may produce an unpigmented cell in its tumour processes

Heavy pigmentation the tendency to produce long spindle cells abundant vascular supply and metastases exclusively through the blood vessels seem to be characteristic of pure chromatophoromas Yet this whole subject is very complex, and positive statements seem at present unwarranted

Relation of Melanoma to Neurofibromatosis

The observations of Masson establishing the neural origin of naevus cells confirm the numerous clinical and anatomical data that relate melanoma to neurofibromatosis One may now proceed with more confidence in accepting these indications that melanomatosis is a phase of neurofibromatosis

In many cases of neurofibromatosis there is diffuse pigmentation of the skin due to accumulation of chromatophores in the epidermis and derma and often marked by increase of pigment in the basal cells

In the average case of melanoma the signs of neurofibromatosis are not pronounced but when the naevi or melanomas become multiple or extensive then the deep naevi and cutaneous and subcutaneous neurofibromas are generally present Especially in the bathing trunk type of naevus the nerve trunks of the skin are apt to be the seat of multiple neuromas and fibromas and visceral neurofibromas are not uncommon

A charting of the location of several hundred melanomas by Pack shows a very general distribution but occasional cases in which the multiple tumours occur along the course of cutaneous nerves Pack's study also shows that melanomatosis is in general a rather late manifestation of neurofibromatosis The hereditary character of the two maladies is apparent when careful family histories are obtained but appears rather more marked in other types of neurofibromatosis Some remarkable cases of melanoma with neurofibromatosis have recently come under observation at the Memorial Hospital

In a young adult male the entire trunk was covered by a thick warty hairy bathing trunk naevus and both arms and leg exhibited many large and small lesions In most of these areas there were small cutaneous fibromas and a few subcutaneous tumours of nerve trunks Malignant melanomas developed in several areas and proved fatal with the usual course Excised area of the skin showed areas of diffuse neurofibroma and neuromas resembling nerve naevi and on the outskirts of these tumours groups of naevus cells and clusters of pigmented chromatophores were found The epidermis was generally intact

It seems very probable that careful search for indications of naevus formation and melanoma in neurofibromatosis and for signs of neurofibromatosis in cases of ordinary melanoma will be rewarded with important results tending to establish a close relation between these two diseases

The observations already available seem to furnish further substantial evidence in favour of the neural origin of melanoma and are difficult to reconcile with the epithelial theory

Nevertheless I would here record a remarkable case of pigmented epithelial papilloma with extensive black papillary tumours covering much of the trunk on one side of the body only, showing a characteristic segmental distribution on the trunk and a linear extension along the entire ulnar nerve On section, this tumour, contrary to clinical expectations, proved to be a simple very cellular, benign epithelial papilloma without any features of melanoma except abundance of wandering chromatophores Yet the distribution of the lesions and their gross appearance was exactly like that of the bathing trunk type of pigmented naevus

Relation of Trauma to Melanoma

The demonstration that the skin and subcutaneous tissue contain a complex nerve-end apparatus capable of giving rise to naevi and melanomas furnishes an explanation of the occurrence of some of these tumours following trauma, even when no pigmented mole existed in the affected area It may also account for the occurrence of melanomas in peculiar situations such as the bed of the nails about the anus, and in the mucous membranes In all these situations the tactile sense is highly developed and specialized nerve endings may be assumed to exist

While the nerve naevus is a pathological condition Meissner's corpuscles, from which they originate, are normal structures which probably have a wide distribution

With this knowledge the occurrence of a pigmented tumour following trauma in apparently normal skin becomes explicable since the trauma may affect one of these nerve endings or nerve naevi Such traumatic melanomas are especially frequent on the soles of the feet, but they have been observed in many other parts of the body and they occur at all ages In a recently observed case a projecting nail in the sole of a shoe penetrated the skin of the foot resulting shortly in a pigmented melanoma In another case in a young boy a contusion of the skin of the hand was attributed to bruising from catching a cricket ball, but it soon revealed itself as a non pigmented melanoma The frequency of subungual melanomas suggests a search in this location for some peculiar nerve ending which may explain the tumour growth

In medico-legal circles and especially in the compensation courts, there are indefinite reports of cases of generalized melanosarcoma supposed to have resulted from injury of skin or musculature or bones, or internal organs I have encountered several of these cases without being able to find satisfactory evidence that the melanoma resulted from the injury but also without being able to explain fully the conditions found

Case I

An adult apparently healthy labouring man received a wound of the hand which resulted in a severe palmar cellulitis The hand was incised on three occasions and pus evacuated After six weeks stay in the hospital he was discharged with the hand healed and in fair condition At no time was there any local sign of melanoma or any tumour process yet the patient did not recover his health, but went downhill steadily with abdominal symptoms and anaemia and died within six months after the injury Autopsy disclosed general melanosarcoma of the liver and abdominal lymph nodes but no primary focus of melanoma was discovered

In this case it is obvious that no conclusions can be drawn because of the lack of detailed evidence regarding the tissues of the hand and the possible existence of *primary melanoma in some occult location*

Case II

A young man aged 35 years a farmer was carrying a plank under his arm when he fell bruising the skin of the chest and axilla against the plank His previous health was alleged to be good The physician who first saw him after the accident and the operating surgeon failed to find any mole or tumour of the injured skin Within two weeks the lymph nodes of the axilla began to swell and soon reached the dimension of an orange The excised nodes showed a very cellular large-cell malignant tumour with characteristic *features of non-pigmented melanoma* The skin was involved in the process but never developed any tumour resembling a cutaneous melanoma. The patient succumbed to pleural and pulmonary extension

Here the evidence regarding the previous health of the patient the condition of the skin of the injured area and the exact histological type of the tumour is all defective

While the evidence in these and many similar cases is incomplete—and it seems probable that the melanoma is a coincidence—yet it raises a suspicion that the development of melanoma may not always be limited to superficial cutaneous or subcutaneous structures. Very complete studies of such cases are required before they can be accepted as instances of melanoma of traumatic origin. They suggest a search for structures of the type of naevi capable of giving rise to melanoma from the deep nerve fibres in subcutaneous tissues, lymph nodes, mucous membranes, and viscera.

Summary

1. The work of Soldan and of Masson has proved beyond a reasonable doubt that the naevus cell is derived from and belongs to the peripheral sensory nerve end organs. Whether this cell is *neuro-ectodermal or mesoblastic* is uncertain but an epidermal origin seems to be excluded.

2. The naevus cell in the nerve naevus produces chromatophores and the two types of cells are more or less interchangeable. Yet the adult chromatophore seems to enjoy a more or less independent existence and function apart from naevus cells. Whether there are other sources of chromatophores is uncertain but improbable.

3. In the epidermis there are slumbering, unpigmented and wandering pigmented chromatophores and probably also other specialized cells similar to naevus cells belonging to the intradermal nerve end apparatus. These latter cells may be the tactile corpuscles of Merkel-Ranvier. The conditions in the epidermis may therefore duplicate those found in the derma.

4. In the development of melanoma exactly the same processes seem to occur and the same relations between naevus cells and chromatophores seem to be exhibited in the epidermis as in the nerve naevus of the derma and subcutaneous tissue.

5. The theory of the epithelial origin of the naevus cell and chromatophore has always been seriously questioned by most pathologists and in the light of the new evidence has become less acceptable. All the appearances in the epidermis suggesting the active participation of epithelium in melanoma may be referred to the growth of specialized cells belonging to the nerve end apparatus. Yet the histological evidence in this field is complex and inconclusive.

6. Melanoma has important relations to neurofibromatosis. This fact supports the view that the cells in melanoma are of neural origin and it is difficult to reconcile with the epithelial theory.

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THE CLINICAL ASPECT OF DISTURBANCES OF THE PARATHYROID GLAND*

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It may be stated briefly that the function of the parathyroid glands is the maintenance of the calcium content of the blood plasma at a definite level and the control of the calcium balance of the body. It would also appear that these glands have an important function in regulating the calcium metabolism of the fixed tissues, particularly the osseous system.

For some twenty-five years the absence or deficiency of the parathyroid function has been identified with a lowering of the blood plasma calcium and the associated occurrence of increased electrical excitability of the neuromuscular system, producing the well-known clinical picture of spasmodic tetany. But it has been only in comparatively recent years that clinical biochemical and pathological studies have enlarged our horizon and associated other abnormal conditions with disturbances of the parathyroid function. I think it may be taken that *theoretically* this function might be disturbed in one of three ways, as follows. There might be either (1) a decrease in the normal function, (2) an increase in the normal function or (3) a perversion of this function. As far as is known at the present time no such condition as would occur under the third category has been recognized as such. There are therefore left for consideration such conditions as might be identified under the first two sections. It might serve a useful purpose to consider at this time what conditions might be caused by a derangement of parathyroid function and then determine if such an association is tenable on known facts.

On what basis or criterion may it be tentatively assumed that a disturbance of parathyroid function might exist? The function of the parathyroid has already been defined. There could therefore be no better tentative criterion than such as would indicate a disturbance of this normal function of calcium regulation. In the table are given the various disease conditions which are associated with a disturbance of the calcium metabolism. There has been included a record of the phosphorus content of the blood as the calcium and phosphorus metabolism is so intimately associated that frequently it is impossible to interpret the significance of the first without a knowledge of the second. Of the six conditions there is definite knowledge that 1 and 6 ("parathyroid tetany" and osteitis fibrosa) are intimately connected with abnormal function of the parathyroid glands.

No.	Disease	Blood Calcium	Blood Phosphorus	Calcium Balance	Bony Changes
1	Parathyroid tetany	Low	Normal or increased	Positive	None
2	Nephrosis	Low	Normal	Positive	None
3	Steatorrhœa with megalocolon (sprue coeliac disease)	Low	Normal	?	None
4	Rickets—infantile	Low usually	Low sometimes	Relatively negative	Present.
5	Osteomalacia	Decreased normal or increased	Variable	Negative	Present
6	General osteitis fibrosa	High	Low	Negative	Present

"Parathyroid tetany" is a condition which occurs subsequent to removal of the parathyroid glands or to their injury or degeneration from some other abnormal cause. It is characterized by increased mechanical or electrical excitability of the neuromuscular system with muscular hypertonicity leading to painful spasmodic contractions of the muscles of the limbs, trunk, and certain internal muscles such as those of the larynx, diaphragm, bladder, and bowel. There is also a pronounced decrease of the calcium content of the blood, which is usually in proportion to the degree of muscular irritability. There is little or no change in the *pH* of the plasma. This syndrome may be either permanent or temporary. In the former case it may lead to a painful death unless corrected by the constant use of parathyroid extract. On the other hand, it may be but temporary disappearing completely, or being latent with but mild and temporary manifestations. Tetany is a syndrome, however, which may occur with any condition where there is a low blood calcium, or even a normal blood calcium with a prolonged negative balance, provided the *pH* of the blood and its phosphorus content be not conspicuously lowered. Such conditions are to be found in steatorrhœa with megalocolon, infantile rickets, and osteomalacia, in all of which there is a low calcium content of the blood and either absolute or a relative negative calcium balance. But the mere occurrence of tetany does not necessarily imply that the pathological condition is primarily due to a deficiency of parathyroid function. In fact there is no evidence, either experimental or clinical, to warrant such an assumption, except such as may be concluded from the fact that both in rickets and in steatorrhœa with megalocolon, or what is sometimes

* A paper read in the Section of Bacteriology, Pathology, Physiology and Biochemistry at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

called 'non-tropical sprue" the administration of parathyroid extract, with or without an abnormal increase of calcium in the diet, relieves the symptoms of tetany by raising the level of the blood calcium There are, however other means whereby this may be accomplished in rickets although in non-tropical sprue the most efficient method of treatment is undoubtedly the use of parathyroid extract, not only in controlling the paroxysms of tetany but also in ameliorating the intensity of the gastro-intestinal signs and symptoms In fact, cases have been reported in which it would appear that a permanent cure had been effected by this means In osteomalacia the effect of parathyroid therapy has not as yet been determined but its close relationship to infantile rickets would appear to indicate that this form of therapy might be fruitful of beneficial results

In the last five years a considerable interest has been aroused in the relationship of parathyroid tumours to diseases of the bone In 1891 Recklinghausen described a generalized osteitis fibrosa, a disease which now bears his name This pathological condition was more intensely studied by Askanazy in 1904 The first to draw attention to the association of parathyroid tumours and bone disease was Erdheim in 1907, in which connexion he described a parathyroid tumour associated with osteomalacia Hoffheinz in 1925 in a series of 45 cases with parathyroid tumours either hyperplasia or adenoma, found 27 with diseases of the bone 17 of which were classified as generalized osteitis fibrosa 8 so-called osteomalacia and 2 rickets In the same year Mandl reported a similar case and in 1927 Gold reported another Mandl found a great increase in the calcium excretion, while Cold *described an increase in the blood calcium* This subject has recently been reviewed by Hunter in his second Goulstonian Lecture He here records that 14 carefully studied cases have been published up to date giving the clinical characteristics of hyperparathyroidism These characteristics are briefly as follows Whether the disease be due to a tumour a hyperplasia of the parathyroid or whether these glands be found normal histologically the condition occurs twice as commonly in women as in men and generally between the ages of 30 and 55 The patients complain of pains in the bones and spontaneous fractures are common Hypotonicity of the muscles is sometimes present and radiograms show a greatly diminished density of the bone shadows at times with evidence of cystic formation There is an increased serum calcium varying from 13 to 23 mg per 100 c cm a reduction in the plasma phosphorus to between 1 and 2 7 mg, and in all cases there is *an increase of the calcium output which may vary from* a moderate degree to eight time the normal figure It would appear, therefore as if this condition were the opposite to that found in parathyroid tetany except that there is the additional anatomical finding of pronounced bone destruction

The superficial similarity of generalized osteitis fibrosa and osteomalacia has led to considerable confusion in the study of this subject Hunter brings forward argument which would seem conclusive to warrant the opinion that these are entirely different diseases Furthermore the general course and accessory clinical manifestations such as tetany which occurs in osteomalacia would make it much more likely that it is a disease more closely allied to infantile rickets than it is to the hyperparathyroid condition so intimately connected with generalized osteitis fibrosa

Nephrosis is an interesting condition which would appear, in part at least, to be a disturbance of the permeability of the capillaries This is manifested by an intense degree of albuminuria and generalized oedema There are in addition two interesting disturbances of metabolism one or other of which is usually present—namely decreased basal oxygen consumption and or a lowered blood calcium The chief interest in this disease which shows such pronounced renal factors rests in the fact that a marked lowering of the blood calcium is present in a considerable number of cases and that some of them respond most favourably to *the use of parathyroid extract not only in so* far as the restitution of the blood calcium is concerned, but also in promoting a rapid disappearance of the generalized anasarca As has been said concerning numbers 3 4 and 5 in the table so it may be said in regard to this disease that although there be a disturbance of the calcium metabolism which may be rectified by parathyroid extract there is no concrete evidence that the disease is primarily due to a deficiency of the parathyroid function It is interesting to note in this instance that, although the serum calcium is reduced there is never in these cases any suggestion of neuro-muscular hyperexcitability or tetany The explanation is probably to be found in the tendency in these cases of the reaction of the blood to be toward a decreased *p*H

In conclusion we may state that clinically two conditions are identifiable with disturbed parathyroid function, *the first being parathyroid tetany due to a hypoparathyroidism* characterized by a low serum calcium a positive calcium balance, and great hypertonicity and excitability of the neuro-muscular system On the contrary, there is generalized osteitis fibrosa a condition of hyperparathyroidism in which there is a high serum calcium a negative calcium balance and a tendency to hypertonicity and hypo-excitability of the neuro-muscular system, a pronounced rarefaction of the bones and a resorption of the corticalis and original spongiosa this being in striking distinction to the cessation of calcification characteristic of osteomalacia and rickets

ALBUMINURIA OF PREGNANCY AND ITS LATE RESULTS*

BY

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THE presence of albumin in the urine during pregnancy and labour may be fairly regarded as the commonest abnormality during these states On reviewing some 6 000 cases *in which there has been a complete routine examination*, it is found that about 30 per cent of all patients exhibit this abnormal urinary constituent About seven-eighth of these only show albumin in the urine during the labour itself and its presence may be regarded simply as the expression of severe muscular effort therefore for clinical purposes this type of case may be disregarded The remaining examples of the phenomenon mainly occur during pregnancy, and it has been my endeavour to ascertain as to what extent this abnormal condition influences the subsequent history of an individual

It is necessary to say at the outset that when we try to formulate an answer to this question we soon become impressed by the futility of the effort In the first place we are struck by the absence of statistics bearing upon this point It is only during the past few years that at any rate in England any attempt has been made to learn the subsequent history of patients who have suffered from this complication As an example of the paucity of records, it is only necessary for me to say that in answer to my requests for help I have received from one hospital a statement that their records are in a condition of complete chaos and from another that there are no records whatever bearing on this point I think this sufficient to suggest that there is great need for more careful compilation of statistics in maternity institutions The more for a unification of method in preparing clinical reports of maternity institutions should be productive of much good in this direction especially if attention be focused on this class of case It would of course be necessary to collate all detail of the subsequent histories of albuminurics both as regard the course of future pregnancy and the general health Moreover, such investigations to be of material assistance should be extended over a period of at least five years from the date of the initial illness We must also remember that the statistics

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of maternity institutions do not represent the true state of affairs, as they only take account of those cases which return to the same hospital for subsequent pregnancies. There may be a considerable number of patients who show, for example, a recurrent albuminuria, and who are looked after by some other institution during their later illnesses. There is no way of checking this save by meticulous care in collecting facts from the patients and by the collaboration of hospitals in verifying these facts. Lastly, any attempt to answer or consider this subject accurately ought to be carried out in consort with the medical departments of general hospitals. We as obstetricians, too often lose sight of our patients and it is the general physician who will undoubtedly be able to give us valuable help in trying to discover what may happen to an albuminuric in after-life. An analysis of the medical records of general hospitals would also help these investigations by providing evidence as to the rôle of albuminuria of pregnancy in the etiology of established nephritis as seen in the medical practice of those hospitals.

Any consideration of the late results of albuminuria of pregnancy must necessarily take into consideration the general condition of which that albuminuria is a symptom, and here we find another considerable difficulty—namely, that of classifying the various states in which this symptom occurs. Hospital records differ largely in their attention to this point and, indeed, I wonder whether any satisfactory classification can be made in the present state of our knowledge. In most records, the condition is regarded either as a transitory one or as one of the signs of pre-eclampsia or eclampsia or as an earnest of a chronic nephritic change. There is, of course, no doubt that the matter is not as simple as this. It is, I think, universally recognized that these clinical types do not always exist pure, and there is quite often a mixture of one or two in the same case. One might suggest with Dr. Stander, to whom is the credit of very helpful and careful work regarding all these conditions, that we might make the classification as follows:

1. Albumin present in cases of vomiting in pregnancy.
2. A clinical class of cases with "a low kidney reserve."
3. Frank nephritis complicating pregnancy.
4. That clinical condition which we know as "pre-eclampsia."
5. Eclampsia.

For the purposes of this discussion I propose to omit the vomiting of pregnancy entirely and to confine my efforts to formulating some idea as to the subsequent history of the four remaining groups. In deciding to which group a given case belongs I have had to rely upon the information obtained by reading the clinical history, and it is but seldom that I have found the condition proved by any biochemical or any other more elaborate means of investigation. I have known of cases in which the clinical condition is very widely different from that which has been foreshadowed by the laboratory investigations, and I am not very sure that this method is of any considerable help. The idea was widely held up to the last few years that an attack during pregnancy of a purely toxic nature (I use the word in full consciousness that we are as yet ignorant whether it be a toxæmia or not) tended to make the patient less subject to the condition in succeeding pregnancies. When we read the textbooks of obstetrics we find that it is usually stated that *an attack of severe albuminuria confers immunity upon the sufferer, and that subsequent pregnancies will take place without any untoward symptoms.*

The painstaking work of Stander, James Young, Gibberd, and others has given us furiously to think. Young, for example, states that out of forty-seven cases of eclampsia there were six—that is, 12·8 per cent.—in which signs occurred in a previous pregnancy, and in nine cases there was a toxic condition in a subsequent pregnancy which did not reach the convulsive stage. This gives a recurrence of 31·9 per cent. These findings have been corroborated in the work which he has carried out since the paper in which these figures are quoted. Gibberd finds a recurrence rate of nearly 40 per cent., and much the same conclusions have been reached by Harris of the Johns Hopkins Hospital. I have tried to investigate as many cases as possible in order to be able to formulate some ideas in this respect, but as I said at the outset, the matter is one of very considerable difficulty.

We have to answer, if possible, the following questions:

1. When a patient develops a mild albuminuria in pregnancy, with perhaps a light oedema with no marked rise of blood pressure, and a generally unimpaired state of health, is she likely to show in future years or in future pregnancies, any evidence that her kidney has been permanently damaged?
2. Is a patient who suffers from chronic nephritis likely to display a progressive deterioration of kidney function in future pregnancies?
3. Is a patient who has been the subject of a true eclampsia or a pre-eclampsia likely to suffer in a similar manner should he become pregnant again?
4. Does the toxic albuminuria of pregnancy play an important part in the etiology of chronic nephritis?

My own experience is confined to some 60,000 cases of labour. It is large enough to know that anything may happen to these patients, but it is far too small to be able to forecast what is most likely to happen. I have therefore endeavoured to obtain help from various other sources, and this I have received from Professor Louise McIlroy who has given me the results of the recent experiences of the Royal Free Hospital Obstetrical Unit, and I have also to acknowledge the great assistance I have received from my registrar at Charing Cross Hospital, Dr. Dodds, who has very kindly examined the clinical records of the City of London Maternity Hospital in order to try to find some data bearing on the subject of this discussion. I must here express my gratitude to both these doctors and also to the staff of the City of London Maternity Hospital in allowing my registrar to use their records.

In all, nearly 30,000 cases of labour have been examined, and of that number 1,700 exhibited a condition of albuminuria which necessitated treatment during pregnancy.

There are among this number eighty-six cases in which the albuminuria has recurred more or less severely in subsequent pregnancies. This is a much lower percentage of recurrence than that found by previous observers, but I imagine that, were the histories more complete, we should find a greater number of recurrent cases.

In going over the histories of these eighty-odd patients one cannot help being struck by their extraordinary diversity. For example, out of my own practice I have notes of two patients, one of whom had a very severe eclampsia with her first baby and showed the presence of albumin for eighteen months afterwards. She then became pregnant again, and at the third month this albumin completely disappeared, and has not been found again throughout her two subsequent pregnancies and labours. Another who had a very severe eclampsia, for which I did a Cæsarean section (this was some years ago), has never from the time that the baby was 1 week old had a trace of albumin in the urine, although she has had three other children. On the other hand, I have notes of a patient who had an eclampsia in her first pregnancy, became pregnant again after two years, and albumin appeared in the urine at the second month, accompanied by a rather high systolic blood pressure (190). She was treated for some time according to the ideas prevailing at the moment, but she died in what I have no doubt was an attack of uræmic coma in the fifth month of this second pregnancy. There are also notes of patients who had had a pre-eclampsia for the first and third pregnancies, while the second was entirely normal, and there are records of albuminuria in succeeding pregnancies as far as the seventh, and then the eighth and ninth are recorded as being normal. Such instances, taken haphazard from these collected cases, are sufficient to demonstrate to you that I am unable to give any precise answer to the questions I have set. All I can give you are certain general conclusions based on the analysis of these eighty-six cases.

The first question is, from my experience, to be answered in the negative. Those cases which may be accounted

examples of a low kidney reserve do not I think tend to show further manifestation of a like nature in subsequent pregnancies The consideration of the case under review bears out this conclusion

The answer to the second question is in the affirmative It the condition of chronic nephritis can definitely be established it is I think certain that the kidney will show a progressive deterioration in subsequent possible pregnancy As Cribbend says Pregnancy is the most delicate test of renal efficiency" and I think it is abundantly true that the kidney in this class of case is increasingly unable to stand this test

It is the answer to the third question which is of most practical importance to us as obstetricians and unfortunately here I must confess that I cannot give any dogmatic pronouncement It is however abundantly clear that in about 30 per cent of cases there is a tendency toward either recurrence of the actual condition in subsequent pregnancies or towards some other complication of that pregnancy such as ante partum haemorrhage abortion or intrauterine death of the foetus in the later week

Certain clinical facts are to be noticed in studying my cases which I think may be of help in anticipating the course which a subsequent pregnancy may take

In the first place, there is the duration of the illness These cases suggest to me that an attack of pre-eclampsia or eclampsia of short duration is less likely to be repeated than one which has been spread over many weeks From this conclusion may be drawn the inference that these albuminuric cases should not, in the absence of signs denoting definite improvement, be subject to overlong treatment, but that termination of labour should be practised say after ten days

Secondly, there appears to be no doubt that the blood pressure bears as important a relation to future events as it does to a present condition In these cases which I have studied I find no case of recurrent albuminuria in which the systolic blood pressure during the initial attack was under 150 mm The changes in blood pressure after delivery are also important as I shall show in a moment for the next clinical fact of the case of albuminuria which is important in view of its prognostic value is the reaction to treatment One has found that most cases in which medical treatment is quickly followed by a general improvement and by a fall in blood pressure do not tend to recur should the patient become pregnant again In considering the history of the convalescence the following two points are abundantly clear First when the blood pressure remains constantly raised during this period we are dealing with a patient in whom we may reasonably expect symptoms during a subsequent pregnancy It is also I think true that a persistence of albumin over more than two to three months is a sign that pregnancy may be complicated by a similar state of affairs should it occur again

Perhaps I might digress a little from the actual consideration of the fate of albuminurics in regard to future pregnancies and for one moment suggest to you that the experience of these cases which have been followed through succeeding pregnancies enables one to make suggestions which I think you will find justified They are reflections on the prevention and management of these pre-eclamptic states First I would stress the importance of early recognition Any patient should be encouraged to report any untoward symptom and the attendant should be constantly on the watch for the early manifestation of this condition Secondly I would suggest the value of energetic and thorough treatment of the condition once it occurs We are too apt to regard the early signs of an albuminuria as no sufficiently important and I would recommend that all such patients should at once be placed under a strict regime of treatment Thirdly, they should not be treated too long as mentioned above I have an idea that this prolonged treatment defeats its object and leaves the patient more subject to recurrent attacks This leads me to the conclusion that when a time limit has been set say of seven days should recovery be not noted radical treatment should be chosen Though I cannot subscribe to the belief that eclampsia should be treated by Caesarean section, nevertheless I do believe there is scope for this operation in the severe toxaemias of recent origin

Turning from the consideration of the histories of these patients in recurring pregnancies, may I just draw your attention to the comparative commonness of mental symptoms after severe albuminuria occurring in pregnancy? My experience is that from 15 to 20 per cent of known eclamptics do exhibit a confusional mental state which may even extend to mania As a rule their recovery is complete and generally fairly rapid and I think any permanent mental instability is an expression of some pre-existing state and not a result of the toxaemia of pregnancy, though it is probable that the toxaemia has contributed to making the condition a permanent one

To the fourth question I can give no answer I do not know the etiological value of an albuminuria of pregnancy in the causation of chronic nephritis and for the elucidation of this point I think we must invoke the assistance of physicians

THE INTESTINAL ORIGIN OF ECLAMPSIA.

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THE purpose of this article is to offer an argument in favour of the intestinal origin of eclampsia of pregnancy

Eclampsia has been well named "the disease of theories" and like many other diseases around which an enormous literature has accumulated and for which many theories have been advanced, there is very little known about it All the pathological changes met with in this disease can be best explained on the assumption that a condition of toxaemia exists The composition and origin of the toxin are entirely unknown, but it seems logical—as eclampsia occurs only in pregnant women—to assume that it has its origin in the pregnant uterus arising either from the foetus or the placenta, most probably the placenta

For the present argument it is not necessary to deal minutely with the pathological changes, it is sufficient to state that similar changes occur in different organs—the kidneys, the liver the brain etc The changes found in the liver appear to be of chief importance in eclampsia Areas of haemorrhage and necrosis scattered throughout the liver are apparent to the naked eye, while the microscope reveals (1) Degeneration of hepatic cells, beginning at the periphery of the lobule and gradually spreading towards the centre of it so that in some cases the whole lobule is involved (2) Intertitial haemorrhages and areas of necrosis In nearly all cases of eclampsia the kidneys are similarly affected, small intertitial haemorrhages and areas of degeneration and necrosis are found in the cortex There is also a degeneration of the cell lining the convoluted tubules

It would appear that the toxin in the circulation affects various organs by producing areas of necrosis and small interstitial haemorrhages with consequent alteration in their normal functions Thus we find the kidney excreting albumin and no longer acting as an efficient barrier to the colloids of the blood Analogously the liver may also cease to act as a barrier between the portal and the systemic circulation, so that substances in the portal blood are allowed to pass unchanged into the systemic blood If this is so a condition exists in which a primary toxin of unknown origin damages the liver, with the result that substances from the portal blood are allowed to pass unchanged into the systemic circulation producing a secondary toxaemia which may be the origin of the fits In this connexion it is well to remember that it is the periphery of the liver lobule which is most affected the primary toxin probably being brought there by the hepatic artery and taking effect where it is most concentrated The portal venules are also around the periphery of the lobule and thus convey their blood directly to a damaged area of the liver which may be incapable of detoxicating its contents.

Of course, before any portal substances can penetrate the systemic stream, they have to pass normal cells in the centre of the lobule, but these cells represent only a small fraction of the whole as it is obviously mathematically correct that the cells in the periphery form the majority of the cells in the lobule

Among its many functions the liver acts as a detoxicator of poisonous substances absorbed from the intestinal canal via the portal vein Indole and phenol are examples of noxious substances carried by the portal vein they are products of protein decomposition and are formed in the large bowel by bacterial action on the amino acids tryptophane and tyrosine respectively These are detoxicated in the liver by oxidation and conjugation with sulphuric acid and pass on to the body, from which they are eliminated by normal kidneys most probably within twelve hours Indole is conjugated to indican, and consequently the proportion of indican in the urine forms a rough guide to the amount of putrefaction occurring in the large bowel Thus indican is present in large quantities in the urine of a patient suffering from intestinal obstruction but apart from such a grave lesion it is found almost invariably in the urine of constipated persons and can be made to disappear therefrom by purgation The amount of indican in the urine might serve as a guide to the functional capacity of the liver for dealing with portal toxins especially in subjects of constipation - a condition present in practically all pre-eclamptics or eclamptics In constipation we have every reason to believe that indole is passing via the portal vein to the liver which, if functioning correctly will convert it into indican and the latter substance will be detected in the urine If the liver fails to function no indican should be present in the urine The absence of indicanuria in a patient who is purged obviously has a different interpretation, and in eclampsia may be due to failure of the kidneys to excrete it

An interesting experiment was suggested by a Russian surgeon Eck and successfully carried out by Pavlov An artificial opening was made connecting the lumen of the portal vein with that of the vena cava in a dog The portal vein was then ligated above the anastomosis so that the blood passed directly into the systemic circulation without passing through the liver In some of the animals operated on in this way it was found that so long as their diet consisted only of carbohydrates they could be maintained in full health If they were given a large meal of meat many of them became ill and suffered from convulsions which ended in coma At the same time there was a large increase in the ammonia output of the urine This condition was supposed by Pavlov to be due to ammonaemia, the liver being regarded as protecting the body from ammonia produced in the intestine by converting it into urea In this condition—Eck's fistula—the speed and amount of conjugation of bodies such as indole and phenol is greatly reduced [1]

Slight injury to the liver by chloroform and phosphorus has little effect upon the phenol conjugation but extensive injury reduces it greatly Pelkan and Whipple[1] suggest that the fatal result of the Eck fistula experiment or even of chloroform poisoning may be due to the lack of conjugation of phenols It has been pointed out by Gibbon Fitz-Gibbon [2] and I have personally confirmed this in my own experience—that the eclamptic patient usually suffers from constipation and indulges in dietetic excesses Gibbon Fitz-Gibbon lays great stress upon the intestinal overload, and certainly the success of the Rotunda treatment (purges and high colonic washes) confirms this belief It is also interesting to note that the body weight of patients developing eclampsia increases more than the average [2] This abnormal increase would be expected in a patient who is overeating The seasonal variation, being highest in spring, could be explained also in this way, for in the months immediately preceding more meat and more food as a whole are consumed An eclamptic patient therefore appears to be in a suitable condition to suffer from intestinal toxaemia She is constipated and overeats, and her detoxicator—the liver—is damaged, which, on analogy with the kidney, may allow noxious substances from the portal vein to pass unchanged into the general circulation, causing a condition closely resembling that found in any animal upon which Eck's experiment has been performed In such a patient purging and colonic washes will obviously not only eliminate the primary toxin, but cut off the supply of the secondary toxin at its source

From what has been said above, it will be clear that one might expect eclamptic women even though constipated at the time, to exhibit either very little or no indicanuria, and this I have almost always found to be the case in the few eclamptics whom I have investigated in this manner

Summary

In cases of toxaemia of pregnancy there is present in the circulation a toxin (or toxins) of unknown origin which affects the cells of many organs, interfering with their normal functions The kidneys, if affected, no longer act as barriers to the passage of certain colloids from the blood into the urine Should the liver be affected, it may no longer detoxicate portal poisons, but allow either all or some of them to pass into the general circulation, introducing a secondary toxaemia which may be the cause of the convulsions

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INCIDENCE OF THE SEROLOGICAL TYPES OF THE PNEUMOCOCCUS IN LOBAR PNEUMONIA

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The incidence of the different serological types of the pneumococcus in lobar pneumonia has been studied extensively during the past seventeen years, and the original classification of Dochez, Avery, Gillespie and others is now accepted by most bacteriologists In the present article, in addition to a note of recent observations on the incidence of these types in Edinburgh it is proposed to review briefly the findings of different observers during the past few years

By protection tests and the agglutination reaction with antisera Dochez and Gillespie were able to divide strains of the pneumococcus into four groups designated I, II, III, and IV Groups I, II and III were specifically differentiated in this way Group IV comprised heterogeneous strains which could not be identified immunologically with the other three groups Group III was also characterized by the possession of a thick mucoid capsule noticeable in the mucoid character of growths in culture media (*Pneumococcus mucosus*) More recently a number of constituent types referable to Group IV have also been identified by certain workers (Cooper, *et al*), but, as will be shown, in this country such further serological subdivision seems unnecessary from a practical standpoint, though it may be of importance in other countries The results of Dochez and Gillespie are noted in Table I

TABLE I.—*The Original Classification of Pneumococci by Dochez and Gillespie*

	Classification by Protection Tests		Classification by Agglutination Tests	
	No. of Cases	Per cent	No. of Cases	Per cent
Group I	28	45	22	41
Group II	12	20	11	0
Group III	9	14	9	17
Group IV	13	22	12	22

TABLE IV.—*Death Rate in Relation to Type Incidence, Edinburgh, 1929–30*

Type	No. of Cases	No. of Deaths	Death Rate (Percentage)
I	53	12	23
II	75	23	31
III	7	5	71
IV	47	5	10

It is to be observed that the order of severity is similar to that of other workers. The numbers, of course, are small, and may be insufficient for an exact statistical statement but it is interesting to note that the death rate in Group IV is as low as 10 per cent.

Summary

1. A brief review of the incidence of the different types of pneumococci in lobar pneumonia according to a number of observers from 1913 to date is given.

2. The incidence of pneumococcus types in 186 patients suffering from acute lobar pneumonia in Edinburgh during the past eighteen months is recorded, and also the mortality rates associated with the different types.

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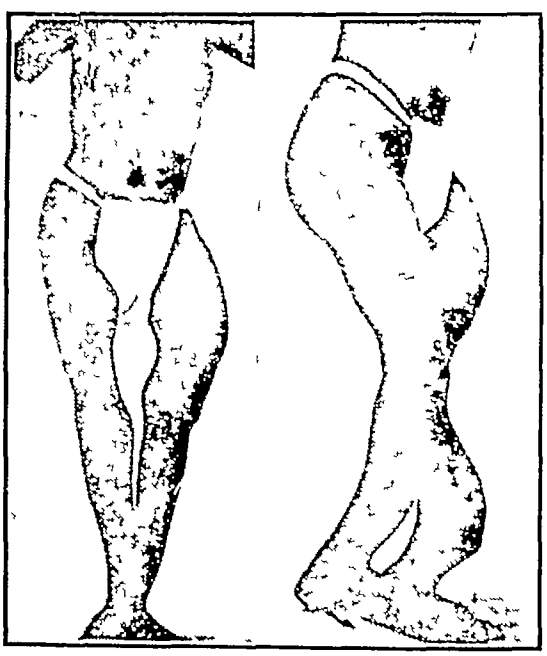
A CASE OF OSTEOGENESIS IMPERFECTA

BY

J. F. WRIGHT, L.R.C.S.Ed.,

MEDICAL SUPERINTENDENT, HOLBERTON HOSPITAL, ANTIGUA

L. M., aged 34, a coloured woman, was admitted to the Holberton Hospital on July 3rd with a fracture of the left radius just below the insertion of the pronator teres and a fracture of the right olecranon. Both fractures were the result of direct violence—by being beaten with a walking-stick. She was unaware that the olecranon was fractured, and complained only of the left arm, which she knew was broken, and a contusion of the left leg. Her complaints of pain in view of pending legal proceedings were not very convincing, as she showed little sign of distress on manipulation. There was also a remarkable absence of swelling, ecchymosis, or muscular spasm.





Family History

The patient's father was a tailor who died of senile decay three years ago. He had had no serious illnesses or fractures. Her mother, whose legs were deformed, died some years ago, probably from pneumonia. The mother's sister, thought to be in America, also had deformed lower limbs. A sister and two brothers are normal.

Patient's History

The patient's mother told her that her legs were broken many times when a baby before she was old enough to feel pain, which seems to suggest that the pain was not of a degree usually associated with fractures even in an infant. Her first recollection was of a fractured femur which was followed by many fractures of the lower limbs up to the age of 16. These frequently occurred at school if she fell or was pushed about by other children. She stated that the fractures were painful, and used to swell.

According to the hospital records she was admitted in 1904, at the age of 7 with a fractured femur and was in hospital from May 2nd to June 13th. The following year she was again in hospital, from March 27th to May 23rd, with a fractured femur. In 1909 she was in hospital from February 19th to March 11th, the diagnosis being fragilitas ossium. On this occasion fractures were not specifically mentioned, but in view of the diagnosis and her good health in other respects it is probable that she had a fracture on this occasion also. For some years she was an inmate of the poorhouse, reserved for the destitute and very chronic cases. She did not at any time appear to have been destitute. From the age of 16 until the present time she had had no fractures.

Clinical Examination

The only thing of note about the patient, apart from the deformities, was the blue colour of the sclerotics, which is very striking in a coloured person. Her height was 4 ft. 10 in. reduced by the shortening of the lower limbs. All the long bones of the lower limbs were grossly deformed, particularly the left femur, which was bowed forwards and outwards, and the right tibia and fibula bowed forwards and inwards—well shown in the accompanying photographs. The anterior superior spines

fossa, and separate from the broad ligament The ovary measured about two and a half inches by three quarters of an inch, its surface was unusually smooth and glossy, but signs were present of a recently ruptured follicle The left ovary was then examined and found to be similar in situation and constitution Except for extreme length, the Fallopian tubes were normal their ostia lying adjacent to the proximal poles of the ovaries The uterus was not fully developed, but showed no obvious abnormality

The caecum and appendix were next sought for, but could not be found in the right half of the abdominal cavity The caecum was finally discovered lying in relation to the greater curvature of the stomach with a long bulbous appendix attached The large intestine consisted therefore of the caecum followed by a length of about four inches of colon—to which was attached a thin and scanty great omentum—leading direct to the splenic flexure From that point to the rectum nothing abnormal was found except that the sigmoid flexure was extremely large and reached well over to the right side The kidneys showed foetal lobulation but were not joined, no further internal abnormalities were discovered

Externally the girl was well developed for her age, and devoid of malformations

More special inquiry into the patient's menstrual history elicited the information that her periods had started three months previously and had so far been regular The abdominal pain was thought to have been particularly severe at these times and this fact would seem to indicate that the symptoms for which she was admitted to hospital were most probably associated with the malposition and abnormal development of the ovaries

Winchester B Henzell Pidock M B, F R C S Eng

IMPLANTATION OF CARCINOMA BY AN OPERATION

The following notes of a case of an unusual form of recurrence of growth, following an excision of part of the colon for carcinoma are, I think, of sufficient interest to merit publication

A man aged 36 had had, eighteen months previously, two operations for abdominal trouble In the first one, the bowel was drained through an incision in the right iliac region, and on the second occasion a growth was excised from the descending colon Since then he had been quite well until a few weeks before seeing me, when he had vague abdominal pains, occasionally feelings of abdominal distension, and once, during an attack, he vomited

On examination I found two scars a left paramedian incision, and a smaller one on the outer side of the right rectus, which had obviously had drainage through it Beneath the latter scar I detected a tumour firm to the touch, dull on percussion, and slightly tender

A right paramedian incision was made and the caecum was found adherent to the abdominal wall by several fairly dense bands These were divided and the caecum was completely freed except for the appendix, which was anchored on to a dense hard mass adherent to the under surface of the old scar I divided the appendix at the base and invaginated it in the orthodox manner I then excised the appendix and tumour in one piece together with the skin incision to which it was adherent There appeared to be no evidence of infiltration of the tumour through the parietal peritoneum I then examined the anastomosis in the descending colon This was patent and free from adhesions and there were no adhesions to any other part of the abdominal cavity, or evidences of metastases in the liver spleen, glands mesentery omentum, or pelvis The incision was then closed the patient made an uninterrupted recovery

Examination of the tumour showed a mass of what appeared at first sight to be chronic inflammatory tissue and adhesions with the appendix running right through the centre of it A stained section under the microscope showed definite adenocarcinoma Some months later he returned with evidence of recurrence in the pelvic peritoneum and glands

In view of the fact that at the time of operation I could find no other evidence of growth in the abdomen I can only conclude that at the previous operation an appendicostomy had been performed after the original growth had been handled by the operators, and that carcinoma had been implanted round the appendix at the same time If this is so, it is a reiteration of the fact that one cannot be too careful in the precautions taken when operating upon cancer or other allied new growths

J R Nicholson-Lailey, M B Cantab, F R C S
Honorary Surgeon to Taunton and Somerset Hospital

Reports of Societies.

DIAGNOSIS AND TREATMENT OF MALIGNANT DISEASE OF THE CHEST

At the meeting of the Medical Society of London on November 10th, with Dr R A Young in the chair, Dr Chevalier Jackson of Philadelphia opened a discussion on this subject

Dr Chevalier Jackson said that the bronchoscopist lacked the broad viewpoint of the internist and the surgeon Therefore he himself could not hope to present comprehensively such a subject as the one for discussion that evening When it came to a foreign body in the lung the bronchoscopist felt himself entitled, out of his large experience, to speak There was, however, some consolation in the fact that clinical experience was always clinical experience, and clinical facts were always of value Experience was what one got when one was looking for something else, and that was particularly true in cancer of the lung All discussion on cancer in any site began and ended with early diagnosis probably also that applied to other things besides cancer Dr Jackson proceeded to show on the lantern screen the radiographs of various cases of malignant and semi-malignant growths encountered in his bronchoscopic clinic The growths included chondroma, chondro-osteoma endothelioma carcinoma, sarcoma lymphosarcoma, lymphomyxoma, and neurofibroma He mentioned that when forty years ago, he first saw a case of cancer of the oesophagus, he thought there was a great era ahead for the treatment of such a condition The mortality was at that time 100 per cent, and it was still 100 per cent to-day He mentioned that only by way of contrast Cancers of the oesophagus were not sensitive, apparently, to x ray treatment, whereas many cancers of the lung seemed to be radiosensitive, though there were others in which the rays had no effect His experience at his bronchoscopic clinic was that there were some malignant growths in the lung which were of a very low grade of malignancy quite amenable to treatment, and sensitive to x rays Whatever might be thought of the operation of lobectomy there was this to be said—that it had never had a fair chance, because the cancer of the lung was practically never diagnosed sufficiently early Diagnosis of pulmonary cancer was usually very late, and always would be so unless every patient with pulmonary disease was examined with the bronchoscope He proceeded to discuss the valvular action of the bronchus, repeating to some extent the remarks he made in his lecture at the Royal Society of Medicine on October 14th (extensively reported in the *British Medical Journal* of October 25th p 702) He mentioned that a wheezing sound plainly heard when the examiner's ear was close to the patient's open mouth, but not heard at the chest, might be a significant sign in the diagnosis of pulmonary cancer though at the same time it might denote other conditions some of them trivial In conclusion Dr Chevalier Jackson said that he was not very enthusiastic about the implantation of radon seeds in the lung, nor, indeed, about any line of treatment of cancer Mechanically it was easy to insert radon seeds but he was not at all certain as to how much could be done in the way of curing cancer by this method It seemed to him that lobectomy and radiology had to be looked to for alleviation, until more was known about the etiology of cancer and the methods of treatment It was a platitude to say that the diagnosis of cancer should be made early, but it was not so well known that the only way of making an early diagnosis of cancer of the lung was to put in the bronchoscope It seemed to him that the greatest good would accrue from the close co-operation of the surgeon, with his broad point of view on the general problem of cancer, the internist, who could look and listen on the outside the radiologist, who could in a sense look through the patient and the bronchoscopist who could look inside the lung

Mr V F Nash said that there was an erroneous impression in this country about the work of Dr Chevalier Jackson—namely, that it was principally concerned with

which, it was ascertained, at least five came from different manufacturers Dosage was measured in milligrams per kilo of body weight With a given sample it was found that 70 mg per kilo of body weight injected intravenously into a large number of mice caused the death of 10 per cent within seven days 150 mg per kilo injected into the same number was fatal to all From these results it was possible to estimate the average lethal dose, or the amount of mercurochrome per kilo of body weight which would produce the death of 50 per cent of the animals The results with two of the preparations might be expressed as follows

Results with Sample I

Dose in Milligrams per Kilogram	Number of Mice Injected	Percentage Mortality Within Seven Days
75	10	100
45	60	71 6
30	30	30
20	10	0
Results with Sample II		
160	30	83 3
140	30	60
120	30	20

The average lethal dose of A was 37 mg per kilo, while that of H was 138 mg per kilo, in other words, A was 3 73 times as toxic as H A few years ago there had been agitation over the standardization of neosalvarsan, and, as a result, a variation of toxicity of more than 20 per cent was now considered to be serious In the case of mercurochrome the range of toxicity of samples on the market was considerably higher than this Five out of the eight samples, however had a toxicity such that the average lethal dose was not less than 105 mg per kilo, and this was suggested as a suitable minimum which should be demanded in standardization, while the sale of samples more toxic than this should be discontinued It was observed that the least toxic sample contained the amount of mercury which approximated most nearly to the theoretical, but the quantity of mercury was in no sense proportional to the toxicity, and could not be taken as an indicator The least toxic samples were not necessarily produced by the biggest firms, and it was evident that the manufacturers were not applying toxicity tests of any value It was the business of the medical profession to demand standardization

Sir William Willcox pointed out that mercurochrome was a toxic drug which was used particularly in desperate cases, and when a good result followed its use it was not easy to say whether it was *post hoc* or *propter hoc* It was difficult to judge the effect of a drug in a toxic condition, and a physician was continually impressed with the ease with which, in critical cases, a small thing might turn the scale unfavourably, and provoke, say, a fatal haemorrhage Mercurochrome was a toxic preparation, if only on account of the mercury which it contained As a toxicologist he had frequently observed the patient who, after a dose of five grains of mercuric chloride, appeared to recover, with complete subsidence of gastro-intestinal symptoms, yet on the fourth or fifth day suppression of urine inevitably set in and the patient died of uraemia Mercury, moreover, might provoke a severe type of ulcerative colitis and was a liver poison By means of experiments on animals and humans, and by bactericidal tests, the use of mercurochrome had been investigated at St Mary's Hospital, and the conclusion had been reached that it reduced the bactericidal power of the blood He thought this drug should be relegated to the time when it was known to be standardized, and when it was not only harmless to the normal person but to the patient in extremity

Dr E P Poulton had given mercurochrome intravenously to a child with a congenital heart lesion upon which had supervened an infective endocarditis He had found it to do neither harm nor good, and Dr Hamill endorsed that view of the effects of the drug Dr Ivor Bennett had used it in a case of septicaemia without result Some weeks after it was stopped the man had developed a fixation abscess spontaneously

Mr K W Heritage had found mercurochrome to be valuable when given intravenously in cases of appendix abscess where the patient ran a swinging temperature following operation The temperature usually settled completely after the third or fourth injection As a wash out for the renal pelvis in cases of pyelitis it was disappointing, but in intractable cystitis with frequency of micturition and pyuria he had had good results from its use as a wash, especially among women

In reply to Dr H S Stannus, who asked whether the virtue of the drug lay in the mercury, or whether any special blessing was to be attached to the fluorescein, Dr Burn said that he believed mercurochrome was supposed to have specific bactericidal properties as an individual compound He knew of no form in which mercury had been omitted

Dr Stannus also raised the point of investigating the renal function before the drug was given since mercury was supposed to be the important agent Recent investigation of the importance of some of the arsenical preparations in trypanosomiasis had revealed the fact that results were due not to the arsenic, but to a member of the benzene group

Dr L C Rivett had employed mercurochrome intravenously in puerperal sepsis with disappointing results When the infecting organism was a streptococcus, particularly when it was haemolytic, he had observed no reaction from the use of the drug There was more hope if the infection was due to *Bacillus coli* As a local application mercurochrome was undoubtedly of benefit, and he had known some cases of chronic cervicitis to respond marvellously when treated with the drug in the form of a douche or a paint He had not used it for acute gonococcal cervicitis or for pyosalpinx

Dr G Graham asked for details of the bactericidal powers of mercurochrome, and wished to know whether addition to blood rendered it more potent Dr Burn, replying, referred him to the original paper by Young, White, and Swartz He reminded his hearers that the difference of toxicity of the various samples was not an argument against the ideal use of mercurochrome It could be remedied by the manufacturers and it was the business of the medical profession to demand that toxicity should be uniform

Dr Graham suggested that it was the business of the body responsible for the *Pharmacopoeia* to demand standardization Dr Hamill replied that, while it was one of the functions of the members of that body to define drugs in common use, they were at liberty to omit any drug not extensively employed if they saw fit It then became the responsibility of the medical profession to demand standardization by the manufacturers

VASCULAR TUMOURS OF THE BRAIN AND SPINAL CORD

At a joint meeting, on November 13th, of the Sections of Neurology and Ophthalmology of the Royal Society of Medicine, with Dr Leslie Paton in the chair, a discussion on vascular tumours of the brain and spinal cord was opened by Dr A Lindau of Sweden

Dr Lindau said that the recent classification of these tumours into angiomatous malformations and haemangioblastomas, by Cushing and Bailey, signified a great advance as the two types differed from each other in site, histological picture, and clinical signs, and required different treatment Those in the first group showed traces of compressed glious nervous tissue between the vascular loops, they were met with in both the brain and the spinal cord, and might occur as part of a systemic disorder with coexistent trigeminal naevi, unilateral glaucoma, and homolateral pial angioma showing a tendency to calcification on x-ray examination In some cases the angioma extended to the ventricle, and death might be by haemorrhage The syndrome often occurred in young children, and four Scandinavian cases had been reported, but a

the level of the seventh and eighth cervical segments which showed reticulum, no capsule, and tongues of glia extending into the tumour The cavernous haemangiomata found above the tentorium consisted of closely packed blood spaces, and appeared to have no connexion with the meninges, they formed no cysts and were not encapsulated, the blood spaces were thin-walled and there was often a striking production of collagen reticulum Frequently the blood spaces were separated by strands of glia, and in one case there was a development of bone trabeculae in the collagen In two cases she had found associated abdominal lesions taking the form of kidney malformations and islets of suprarenal tissue, with cyst formation, in the kidney cortex These tumours, then, showed non-encapsulated capillary and cavernous spaces, separated by glia and by collagen reticulum, but with no evidence of endothelial proliferation, glia might be found in the true haemangioblastomata, and if reticulum was to be the criterion of recognition, there was a danger of confusion There was no doubt that these tumours formed a group distinct from the subtentorial growths and from the cirsoid angiomata, but their connexion with Lindau's syndrome must at present remain open

Mr L B RAWLING described the case of a boy who had an angioma of the frontal lobe, at operation no vessels were ligatured, but five years later he had appeared with a haematoma over the right side of his face This had subsided, and he was now well He was able to quote the histories of other cases of the same kind

Dr PARKES WEBER asked what was the type of angiomatous conditions of the skin when they were found associated with the cerebellar haemangio endotheliomata of Lindau's disease He would expect them to be either haemangio-endotheliomata or haemangio xanthomata, and would like to know whether this was indeed the case He would also like to know the nature of the cystic condition of the kidney and pancreas when it was found in association with this syndrome

Dr H COHEN showed some of the radiographic changes in the skull which might be found in cases of angiomata and Dr W G BARNARD described a case of capillary angioma found above the tentorium, which on section was similar to the other cases described

In replying, Dr LINDAU agreed that a history of trauma was often recorded He believed the haemangio-blastomata to be congenital, and thought the apparently fresh development of previously unsuspected growths in the retina was due to their small size in the early stages He was interested in Miss Russell's cases, especially those where cavernous angiomata of the brain had been found associated with cysts in the kidney, but he did not think they formed a link between angiomatous malformations and capillary haemangiomata A cystic pancreas was not found among her cases, and he thought it was still wise to keep the groups distinct Naevi in the skin associated with capillary haemangiomatosis were rare, and no histological examination had been made of them in the two cases recorded The cysts found in the kidney were not related to the congenital polycystic condition

THE STUDY OF HYSTERIA

IN the Section of Psychiatry of the Royal Society of Medicine, on November 13th, Dr S A KINNIER WILSON delivered an address from the chair entitled "An approach to a study of hysteria"

Dr Kinnier Wilson began by remarking that possibly the outstanding feature of hysteria as revealed by the records of former generations and the knowledge of the present was the changes which its clinical syndromes had undergone The mediaeval ecstatic, simulating in hands and feet the nail-prints of her Redeemer, was long since forgotten, as was her eighteenth century sister, melodramatically counterfeiting the emotional transports of a popular actress The speaker quoted an account of a visit by Mrs Siddons to Edinburgh, when there were repeated scenes of fainting and hysteria among the girls and women in her audiences The chronicler told how a popular surgeon was most reluctantly getting out of the pit to attend some fashionable female, when a friend said to him in passing (alluding to Mrs Siddons) "This is glorious acting, Sandy," to which he answered, looking round at the fainting and screaming ladies in the boxes, "Yes, and a damned deal o't too" "To day," said Dr Wilson, "we seek the clue to the ailment in the unseen psyche, and she [the poor hysteric] is somewhat at a loss accordingly, her elaborated somatic manifestations are rather at a discount A cold scientific environment besets her, instead of a world of emotional extravagance and unlimited credulity So a defence-hysteria is now well *a la mode*, no less egocentric if more utilitarian, with an eye on the main chance, the hysteric turns to the possibility of compensation for trauma, or seeks to escape from unpleasant reality by a flight into neurosis—at least, so we are assured The times have changed, and we, both physicians and hysterics, have changed with them" Yet when all was said, it remained true that if hysterical fashions varied, their kaleidoscopic patterns were composed of unaltering instinctive and impulsive reactions Thus its clinical characters could be recognized on the Greek vase depicting the ecstasies of the frenzied maenad, in the records of some New Testament miracles, in mediaeval paintings of demoniac exorcism, in modern accounts of camp meetings, spiritualistic seances, and religious revivals, of disease mimicry in schoolgirls, and shell-shock amid twentieth century warfare Beneath surface diversities the essence of the phenomena involved had not been modified Further, where old beliefs lingered in the public mind, where superstition and mysticism were rife, there still was to be found the favourable milieu for hysterical exhibitions of antiquated form even in this epoch of scientific enlightenment Human culture might make progress, but a Messina earthquake or a world war would lay bare hidden reactions Old as were leprosy, rabies, and malaria, epilepsy and hysteria were older still, perhaps as old as human nature itself

Proceeding to discuss the motor system in hysteria, Dr Wilson referred to the occurrence in hysterical palsies of the phenomenon known as "defective inhibition of the antagonists" For example, when a patient was asked to extend the elbow, the first muscle observed to contract was the supinator longus, one of the antagonists to the movement of extension Thus was the most common motor sign of the affection Another no less interesting motor sign consisted in the shunting of the desired innervation to other groups of muscles not confined to the actual antagonists For example, on the patient being requested to grasp the examiner's fingers tightly, she would give the impression of putting forth great effort, but the grasp would remain feeble, though shoulder muscles and others remote from the long flexors were found in strong contraction Both these signs indicated impairment of cortical function, coupled with defective inhibition With regard to positive movements, hysterical tremors presented no separate or contrasting features when set alongside those of the so-called "organic" type In hysterical as in organic states, tremor was an escape phenomenon of an infra cortical level So far as the multiplex syndromes under the category of the hysterical fit were concerned, their range from fugues at the one extreme to immobility and lifelessness at the other covered so wide a somatic field as perhaps to render attempts at synthesis precarious Reduced, however, to their lowest terms, one and all were indicative of release of function from conscious control Differences between hysterical and epileptic fits were matters of degree, and not of kind, and if more profound in the average major epileptic seizure, this might be more serviceable in clinical diagnosis, but not in nosological differentiation Turning to the sensory system, Dr Wilson said that, before assuming that hysteria was a "disease of the mind"—a disorder on the plane of mental images—it was well to recall that the physiological arrangement of the mechanisms underlying conduction of sensory impulses varied at successive neural stages Peripheral loss of sensibility could be distinguished from spinal loss, spinal from thalamic, and thalamic from cortical He instanced various facts which made it rash, in his opinion, to presume a psychogenic basis for sensory disorders because of peculiarities in their segmental type when there was

cases These meetings should be part of the routine of hospital work, and should be attended by students He feared that the teaching of full-time medical professors was very likely to be divorced from the necessities of actual practice, full-time research workers in the hospital (provided funds were available) would be much more likely to advance knowledge than part-time workers, but they often became too interested in purely academic questions As far as possible the problems of general practice were those that they should endeavour to solve One variety of research which could be undertaken as well in Dublin as elsewhere was the following up of end-results, the type of work which the late Sir James Mackenzie had shown to be so important The ultimate results following surgical proceedings had been very imperfectly observed in the past and there was a great field there for the collection of facts The after-history of patients in whom biochemical tests had been performed was also very scanty, many more facts must be collected before the validity of biochemical actions could be accepted

Dr W BOXWELL remarked that biochemistry was no new or isolated part of medicine, but had been an absolute necessity from the beginning Harvey, the great physician was his own anatomist, physiologist, surgeon, and apothecary in his day there was no such thing as organized pathology In Ireland any effort at organized research was hampered at the beginning by lack of funds, and clinical research at present was in a rather chaotic state The more departments there were in a hospital, and the better run they were, the more chance there was of making such research work as was possible available for the patients who were under treatment All the special subjects were flourishing independently, but the speaker suggested that it might be possible for their teaching to be carried out in one special institution, there being a liaison officer between that institution and the hospitals The students could be attached to the hospitals as well for medical and surgical work in them, and undertake also research work in the institution

Professor J M O'CONNOR said that the foundation of medicine was physiology, which subject should be brought more into the life of medical students Doctors were concerned with the living patient and not with the disease that the patient was suffering from, and the methods applied to living patients must of necessity be applied to sick people Biochemistry was held at the present time in exaggerated regard, and was really only a part of physiology The fault in medicine in many countries was the attitude of leaving physiology behind It was not easy to see how students should be trained into the methods of research, but he suggested that the junior appointments in the hospitals should only be made on the results of scientific progress, in conferring higher positions the fact whether the candidate had done any research work or not should be taken into consideration It was easy to carry on very good research work in very small laboratories, and he thought that young men should be compelled to do two years' clinical laboratory work before they were allowed to do hospital work

Dr R J ROWLETTE said that most of those who were engaged in clinical work realized that the basis of that work was almost entirely physiology Workers in laboratories chose the conditions for their experimenting, and had not the same complexities to face as had workers in hospital wards, but it was essential that those who worked in hospital wards should be well trained in laboratory experimental work, so that the methods carried out in the wards would bear the scrutiny of the laboratory In times past there had been a danger of medical study becoming too purely clinical, and something more was still required in the way of experimental work The speaker referred to the student's need of a book on elementary logic and statistics, and mentioned mistakes sometimes made in the classification of results Mr W DOOLIN agreed that every medical student ought to have an elementary training in logic, but he thought the practical training of students in the hospitals of this country was much more useful than that in France or in Germany, from the point of view of fitting them to become practitioners

Reviews.

"CANCER OF THE LARYNX"

A BOOK on a subject that is exercising the minds of the profession supplies a definite need, and when its writers are foremost among those who have advanced our knowledge of it, a work such as *Cancer of the Larynx*[1] is sure to receive a generous welcome Its authors, Sir STCLAIR THOMSON and Mr LIONEL COLLEDGE, have made the subject peculiarly their own by many years of close study, and now present the results based on personal work and experience, with admirable fullness and clearness The former has seen intrinsic cancer of the larynx pass from being a dire disease to become one of the most amenable from a surgical standpoint, and has himself contributed in no small degree to this striking change The latter, from his work on the more advanced stages of the affection, has earned the right to speak with authority Despite its dual authorship—perhaps because of it, for each forms a complement to the other—the book has been put together with a thoroughness and independence of judgement that seldom fails to satisfy

We owe mainly to Butlin and Semon the pioneer work which has revolutionized our views of malignant disease of the larynx and has been the basis of subsequent progress It is realized that intrinsic cancer of the larynx is more common than extrinsic, and that the former is most frequent at the cord site and never appears on the posterior commissure or interarytenoid space The authors hold that the subglottic variety is not so rare, but most difficult to recognize and often overlooked They have no belief in a pre-cancerous condition The great advance was recognition that cancer arising in the interior of the larynx is usually slow in growth and relatively benign, only invading glands in an advanced stage On the other hand the extrinsic form is a dire disease Early diagnosis is the pivot upon which much—very much—depends in cancer of the larynx It offers every promise, almost certainty, of a lasting cure in the extrinsic form it is the chief hope With this few will disagree A persistent hoarseness, especially in middle life, is a warning sign, and this cannot be too often repeated All this is brought out with great lucidity and force

The principles of treatment are fully laid down In removal, laryngo-fissure is the route preferred From being an operation with a high mortality, improvement in early diagnosis and technique has made it safe It is the only line that affords satisfactory approach for adequate removal and requires excision of one ala of the thyroid cartilage It has in fact become a partial laryngectomy, giving freer access to the field and better healing This striking advance we owe in great measure to the work of Sir StClair Thomson himself In laryngectomy the great advance is seen in restricting it to intrinsic cases which are too far gone for laryngo-fissure The local conditions which indicate it are well brought out and the importance of the general state of the patient emphasized, as might be expected from the wide outlook of the authors Laryngectomy has become a great achievement, with a surgical mortality which has fallen from 50 per cent some few years ago to 3 per cent, and to this a scrupulous attention to preliminary care and after-treatment has contributed much Opinion is still fluid in regard to operations for extrinsic cancer involving the pharynx Gluck and Soerensen prefer a total laryngectomy, MacKenty of New York holds all surgical procedures hopeless, while the British school, taking a middle line in keeping with its geographical position, gets a fair proportion of lasting results from pharyngotomy in suitable cases

In this work the authors have made it their aim to afford a complete view of the present position of this important question They have explored all aspects of it, and their verdict will carry great weight Not only does the book give a wide conspectus of the whole field, but its judgements on the more important problems are likely

[1] *Cancer of the Larynx* By Sir StClair Thomson MD, FRCS, FRCP, and Lionel Colledge MB FRCS The Anglo-French Library of Medical and Biological Science London Hodder and Trench Trubner and Co, Ltd 1930 (5½ × 8¼, pp xvii + 244 106 figures 25s net)

A MEDICAL MISSIONARY

The book entitled *Dr D Duncan Main of Hangchow*[10] is a record of the life and work of a leading stalwart in the medical missionary world Scotland has contributed a remarkable proportion of men whose names have become famous, each of them endowed with native ability, an untiring persistence to accomplish great things, and a winning personality Such men were Livingstone, Stewart of Lovedale, Laws of Livingstonia, to mention but a few, and to this roll of honour must be added the name of Duncan Main of Hangchow In 1881, at the age of 25, Dr Main, accompanied by his young wife, sailed for China, and was sent on arrival in Shanghai, by the Mid-China Mission, to Hangchow, the capital of Chekiang Province The first chapter contains a description of Hangchow, which for past ages has been so renowned for its beauty that it is known to the Chinese as "Heaven below", and in the second chapter the religions of China are described The rest of the book deals with the life-story of its subject

Dr Main first began his work by opening a dispensary He worked, begged and prayed for a larger hospital," and two years later was able to lay the foundation stone of it Its Chinese title was the "Hospital of Universal Benevolence" He was its architect, general overseer, lecturer physician, and surgeon, and from it sprang in course of time the various departments which made the name of Main of Hangchow so celebrated among Chinese and foreigners alike As the story unfolds it tells of how an opium refuge an isolation hospital, a leper hospital and a maternity hospital, a home of rest for pastors and workers all came to be opened, and we are given instances of the work amongst sick blind, deaf and lame people—in fact, all the "under dogs" who required a helping hand Throughout it all this devoted couple kept the spiritual part of their duties ever in the *forefront* There are many little delightful pen-portraits of the Chinese men and women among whom they lived and laboured For those who may feel the need of encouragement (and life is only worth living for the courage we bring into it) there is a feast in reading about all that 'Dr Apricot" accomplished We gather that from the time of his arrival at Hangchow, when he had found one small house with sixteen beds for opium addicts till the time of his departure forty-six years later, Dr Main had, by his own initiative, established twenty-one departments and hospitals—surely a remarkable achievement

The volume is well illustrated, and has been compressed to the handy size of 244 pages It will make the reader wish to have a further insight into the life and times of this cheery doctor and his able wife What though the Chinese Republic is passing through troublous times and much of the work has been ruined by misguided political malcontents? There is here the record of nearly fifty years' wonderful usefulness, which has deeply imprinted itself in the hearts of too many Chinese to be permanently effaced

NOTES ON BOOKS

Dr R A Houstoun's well known *Treatise on Light*,[11] first published in 1915, has now reached its sixth edition This book is rather more advanced than the ordinary medical student requires but to those proceeding further with the study of physical optics it can be strongly recommended The latest edition shows evidence of thorough revision, and includes more than twenty new diagrams and a new index

There is appearing under the able editorship of Lieut-Colonel J Stevenson, I.M.S (ret.), a series of monographs on *The Fauna of British India, including Ceylon and Burma*[12] and a number of these are devoted to parasites The Cestoda, for example, are described and catalogued by Dr T Southwell of the Liverpool School of Tropical Medicine, and the first volume on this group has now been published This volume contains a general introduction to the Cestoda of some forty pages and the first part of the systematic account The introduction contains a general account of the tapeworms, their classification, morphology, diagnoses, and technique, and it should be invaluable to the student of helminthology The major part of the book, however, is given over to a systematic description of the species found in India, and includes the Cestodaria, and five of the six superfamilies of true cestodes recognized by the author, the sixth (the Taenioidea) being left for the second volume Most of the species dealt with are of direct interest to the zoologist rather than to the medical scientist, apart from *Dibothriocephalus* (which the author retains instead of *Diphyllobothrium*) none of the genera occur in man But in parasitology the comparative method has been one of the most useful in understanding the forms which infect human beings, and for that reason if for no other, the volume is a welcome addition to the library shelves of the human helminthologist as well as to the general zoologist

Mr W McAdam Eccles consulting surgeon to St Bartholomew's Hospital delivered a series of addresses to the Bibbical Forum at St Marylebone Presbyterian Church and the substance of these has now been published in a small book entitled *Old Fundamentals in Modern Light and Continued Natural Law in the Spiritual World*[13] Here will be found a statement of the author's views on religion and modern science set out clearly and succinctly, in order that some of the difficulties felt by honest inquirers in the street or classroom may be met.

A bibliography of the papers read before the first six international Congresses of the History of Medicine has just been published by Dr Marcel Fosseyeux general secretary of the Société Française d'Histoire de la Médecine

[10] *Dr D Duncan Main of Hangchow known in China as Dr Apricot of Heaven Below* By Kingston de Grandié London and Edinburgh Marshall, Morgan and Scott Ltd 1930 (Demy 8vo pp 244 34 plates 6s)

[11] *A Treatise on Light* By R A Houstoun, M.A Ph.D, D.Sc Sixth edition London Longmans, Green and Co 1930 (Demy 8vo, pp xi + 494 340 diagrams 2 coloured plates 12s 6d net)

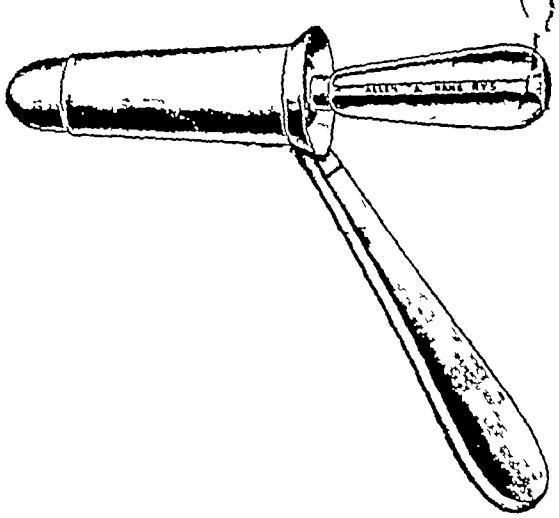
[12] *The Fauna of British India, including Ceylon and Burma* Edited by Lieut-Colonel J Stephenson C.I.E M.B D.Sc I.M.S (retd) Vol i *Cestoda* By T Southwell D.Sc, Ph.D etc London Taylor and Francis 1930 (Med 8vo pp xxxi + 391, 221 figures 22s 6d net)

[13] *Old Fundamentals in Modern Light and Continued Natural Law in the Spiritual World* By W McAdam Eccles M.S M.B Lond F.R.C.S Eng London A H Stockwell, Ltd 1930 (Cr 8vo, pp 60 2s 6d net)

PREPARATIONS AND APPLIANCES

A Modified Kelly Proctoscope

Mr W B Gabriel M.S F.R.C.S (London W 1) writes Messrs Allen and Hanburys Ltd have made at my suggestion a modification of the well-known Kelly proctoscope



The tubular part of the instrument is a quarter of an inch longer than usual allowing now a working length of 2½ inches, this length is often required for giving high submucous injections in the treatment of haemorrhoids The handle is broad and flat, 5 inches in length it is set at an angle of 115 degrees, and in practice renders the instrument easy to manipulate and control The finish is in chromium plating

Quinisan

Quinisan (Messrs Howards and Sons) is a proprietary name for the compound quinine bisalicylosalicylate This compound separates into quinine and salicylo-salicylic acid in dilute acids, but the salicylo-salicylic acid is not hydrolysed until the drug reaches the small intestine Thus the gastric irritation produced by many salicylic compounds is avoided The drug is a combination of two powerful antipyretics, and it is recommended for the treatment of influenza and tonsilitis The makers quote very favourable clinical reports The compound is supplied in 4 grain tablets, and the dose recommended is one tablet two-hourly

considered by Masson it may be said briefly that he regards them as of the same nature as the naevus cells of the corium. Professor Ewing's comment on these investigations is that there is no longer any room for debate about the nervous origin of the naevus cell, which is now shown to be a derivative of specialized cells in the sensory nerve endings. At the same time he makes the important reservation that these observations do not dispose of the possible participation of epithelium in some manifestations of melanomata. It must, indeed, be within the experience of all pathologists that in some cases of melanotic sarcoma a down-growth of epithelial cells seems hardly to admit of doubt.

REST, WORK, PLAY

The cautionary remarks on the therapeutic value of rest, work, and play made by Sir Farquhar Buzzard in an address at the Winnipeg Annual Meeting, and printed in this issue of the *Journal*, are very opportune. It is time that we of the medical profession revised in some respects the stereotyped beliefs and practices with regard to the use of rest in the treatment of diseases. Such books as Hilton's classical *Rest and Pain* did admirable service in explaining the vital importance of rest for injured parts, although even in the treatment of bony fractures rest is now rather mingled with movement than was formerly the case. But doctors in general were so much impressed with the efficacy of rest in partial injuries of the organism, such as fractures, and in acute physical disease, that by an easy but false analogy rest came to rank almost as a therapeutic religion. Whenever there was illness, rest for a time was considered essential. How many lives have been injured, how many careers frustrated, by the prescription of rest when no rest was necessary! We have encountered a patient who, having been prescribed rest in bed thirty years before, had remained there ever since. This, of course, is a grotesque example, recalling the old woman in *Punch* who, when asked by the vicar why she was confined to bed, explained that the doctor had called three years ago and ordered her to rest in bed till his next visit—and he had not returned. But there have been many real tragedies of the rest fetish. A schoolboy presenting some functional disorder of the heart's action is told that he must rest; a period of six months or even a year is ordered. It is not so much the loss of time, which does not matter so greatly in the young, it is the very real psychological trauma produced by the suggestion of invalidism that does the harm.

In no branch of medicine has rest to be prescribed with greater care than in the functional nervous conditions to which Sir Farquhar Buzzard devoted the second part of his address. There was a time when rest in bed was the stock remedy; people forgot that resting the body was not the same as resting the *mind*, they did not even perceive, what is now common knowledge, that most such conditions depend upon a restless mind and not upon an overworked or under-engined nervous system. Too much play was made with the term "nervous exhaustion." Weir Mitchell and other distinguished exponents of the method did not realize that their cures were obtained usually in spite of, rather than because of, their method. Now the emphasis has changed, and in the treatment of psychogenic disorders generally, as well as of the severer psychoses in mental hospitals, occupational therapy, which is the reverse of a rest therapy, is coming into its own. In this country, so far as mental hospitals are concerned, it has been most extensively developed by Henderson in Glasgow, with marked benefit in all wards, not excluding noisy ones, and in Germany the "active work therapy" of Simon has produced results that have not only surprised but convinced visitors to his hospital. It is not that rest does not have its place in therapeutics, it has a very important one in the treatment of acute mental or functional nervous conditions, but it has to be prescribed with all the care that would be given to a potent drug. There are those who, having been told to rest, conclude they must be easily tired and continue to be so for the remainder of their lives.

Fortunately the importance of work is receiving greater *recognition*, not only in the treatment of psychogenic conditions, but in the rehabilitation of those who are suffering or have suffered from physical disease. No one can fail to be struck by the enormous idleness of the average hospital bed patient under the usual regime. We look forward to an early time when occupation will be a therapeutic bulwark not only in mental, but in general hospitals. Something of this sort has already been recognized in America; it is now being introduced into general hospitals here—for example, the recent enterprise in the Royal Free Hospital. It encourages, reassures, and interests those genuinely anxious to get well, and it rapidly picks out the malingerer. Work is the great solace. Nothing in the world gives more permanent satisfaction than work well done. Should we not seek, then, to let our patients have it as far as their condition will allow? While rest may be good for parts of the body, and in acute illness for the whole organism when taken excessively by the person as a whole it is demoralizing, and doubly so at almost any stage of their illness for the vast majority of neurotic patients to whom Sir Farquhar Buzzard refers. The prescription of the appropriate type of work for a given patient becomes an art in itself. Already a literature on this subject has sprung up, and there is a journal in America devoted to occupational therapy. Whether such thoroughgoing specialization is desirable is open to argument, but there can be no doubt of the need for providing some special training in the field. There is in this country a great scarcity of persons qualified both by an occupational training and by temperament for this work, yet the demand for them is bound to increase, because of their immediate therapeutic utility and because of their economic value in the long run. It has been pointed out that insurance companies may some day feel it worth while to subsidize the employment of occupational teachers in hospitals.

The correlate of work is play, and here Sir Farquhar Buzzard has some wise words to say on such advice as the familiar "Take up golf." This can be devastating counsel, if given to the *wrong* person, or at the wrong time, and it raises problems of physiological mechanics, as well as of psychology. Thus it may be quite correct to prescribe golf to one patient with a Parkinsonian syndrome and not to another, the advice depending on the presence or absence of the paradoxical motility of Souques. But the larger issue is that some people make their play too much like work—for example, the strenuous business man who drives his car sixty miles into the country at the week-end, plays thirty-six or even more holes on Sunday, and comes back to duty far more tired than when he left it. These and many other points are involved in the apparently simple prescriptions of rest and recreation.

suffered the indignity of being taken to school in an ambulance It would be a pity if discussion of such topics as Lord Riddell mentioned were to be too much encouraged among popular audiences The best kind of health education deals, not so much with profound scientific controversies, on which at present there can be nothing approaching unanimity, even among the experts, but with simpler but not less vital issues Several speakers deplored the difficulty they found in persuading editors to accept health articles for publication On this point Lord Riddell adjured members of the conference to get their teaching into the press rather by making challenging statements of crude fact than by trying to insinuate the lessons of health in syrupy articles Dr John Hall, organizer of the Merseyside Boroughs Education Committee, read a remarkable paper on the "Technique of popular health talks" It was perhaps a pity that he compressed into this enough matter for the forty-two separate lectures which he is in the habit of giving to children and others The conference was a little perplexed Queer geometrical arcs, and even stranger combinations of letters, formed themselves under Dr Hall's legerdemain into thrilling messages and a kind of health metaphysics, which showed that the speaker was a man of unusual mind At the afternoon session Professor H R Kenwood described generally the means and methods of the central council Mr G H Barker, a member of the executive council of the National Union of Teachers spoke on health teaching in the schools In his condemnation of many of the existing school buildings many members thought Mr Barker went too far, but he explained that his speech was intended to challenge complacency, and certainly he succeeded in arousing numerous apologists for present-day educational arrangements, and in eliciting some reactionary views The conference listened with great attention to Professor V Adam, the general secretary of the German Central Bureau for Health Propaganda As might be expected, this is a very complete organization Teaching is given by the school masters, and health weeks are organized generally throughout Germany One of the most interesting papers was that of Miss Norah March, secretary to the Health and Cleanliness Council, who has given much thought to the psychology of health publicity which is akin to advertising She advised the preparation of simple health articles, cunningly disguised under attractive non-scientific titles, in this way she had no difficulty in securing their acceptance The members were interested also in the question of the colour in which health posters should be printed, apparently red and magenta are antipathetic shades which arouse hostile instincts and had better be avoided Mr T Crewe, publicity organizer of the Central Council, also read a paper on the production and application of propaganda Between the sessions some excellent demonstrations were given of newer health films, including one with talking characters

THE CHURCH AND MEDICINE

One of the resolutions of the recent Lambeth Conference called for co-operation between the clergy and the members of the medical profession This was put forward as an urgent need, because the spiritual and the physical treatment of the sick were complementary and equally necessary for true well-being It was not quite clear what measures were recommended for bringing this co operation about, nor in what directions it could usefully take shape beyond the general friendliness and respect as between the parson and the doctor which exists already It has remained for the Convocation of the Province of York to carry the matter a step further In the Lower House last week Bishop Frodsham, vicar of Halifax, moved to ask the President (Dr Temple, Archbishop of York) to convene conferences in the spirit of the Lambeth resolution His idea was that conferences should be held in Leeds, Newcastle upon-Tyne, Liverpool, Manchester, and Sheffield, the five university cities in the northern province which have medical schools, with a view to an approach to a closer co operation with medical men on the subject of health and spirit There were signs, said Bishop Frodsham, that the connexion between the spirit and the body in the realm of healing was being forgotten He appeared to feel that the true relation was being obscured by forces from two opposite sides on the one hand a materialistic philosophy, and on the other such a principle as Christian Science, which maintained that health and disease were entirely of the mind He thought that conferences between clergy and doctors might result in a better mutual understanding of the work of both His resolution was seconded by Canon Brook, vicar of Doncaster, and carried The Archbishop of York, to whom the resolution was committed for further action, has on many occasions spoken on this subject One of his most notable deliverances was the sermon which he preached at Manchester in connexion with the Annual Meeting of the British Medical Association in 1929[1] He then stated that physical healing and the healing of the soul, although best carried out by separate hands, were not really different ministries They were one, he said, in the purpose of God for His world It is not a vague merging of these two ministries that will make for human good but rather a clearer apprehension of the possibilities and territory of each

PUBLIC HEALTH CONGRESS

More than a thousand delegates, representing local authorities, voluntary societies, and hospitals, have been attending this week a Public Health Congress and Exhibition, held under semi official auspices at the Royal Agricultural Hall, London The Minister of Health, who performed the opening ceremony, remarked on the vast organization which lay behind the fundamental health services of the country, and prophesied for the congress that it would be a powerful influence in increasing the interest in the various aspects of the health problem At the first session the address was delivered by Sir Arthur Newsholme, on "Medicine and the State" He criticized severely certain aspects of the insurance medical service, and his criticisms were immediately answered by Dr Brackenbury, Chairman of Council of the British Medical Association There was a lively, though good-humoured, interchange of contrasting opinion, but we have not space in this issue for an extended report In addition to the sessions of the congress proper, a number of public health and sanitary associations held meetings at the hall The first of these was the British Hospitals Association, which called a discussion on hospital contributory schemes Sir Harold Pink, the chairman of the association council, urged the need for examining the various schemes which were in being in various parts of the country, and bringing them into line One point of policy which it was very necessary to determine was whether public assistance hospitals should be included Some schemes, he said, did not provide for anything of the kind, supporting only the voluntary hospitals in their districts, while others, like the scheme on Merseyside, included appropriations to municipal hospitals also Sir Harold Pink insisted that contributory schemes ought to confine their appeals strictly to their own areas Two or three schemes in London had "poached" in the provinces, thereby causing some difficulty to the British Hospitals Association In the general discussion the delegates from various hospital centres related their experiences, and Sir Robert Bolam expressed the point of view of the British Medical Association A questionary has been prepared, and is to be sent by the British Hospitals Association to

[1] *British Medical Journal* July 27th, 1929, p 154.

INDICATIONS FOR TREATMENT IN PULMONARY TUBERCULOSIS

DR BURRELL'S MITCHELL LECTURE

THE Mitchell Lecture was delivered before the Royal College of Physicians of London by Dr L S T Burrell on November 13th, his subject being "Indications for treatment in pulmonary tuberculosis" The following is an abstract of the lecture

It is usually a simple matter to decide whether a patient has been infected with tuberculosis, but it is often extremely difficult to decide whether or not the lesion is active The problem commonly comes before the physician in one of two ways either he is asked whether such symptoms as lassitude, wasting, cough in a patient previously healthy are due to active tuberculosis, or whether in a patient who admittedly has had pulmonary tuberculosis the disease is active or arrested

There is a wide difference of opinion on the subjects of infectivity and immunity Tuberculin has brought out the fact that a large proportion of human beings are infected with tuberculosis, yet only a few develop clinical tuberculosis To submit a person to a long course of unnecessary treatment may do untold harm by leading him to study *his health too much* and to develop fads, it may be much worse for a child if taken away from school and companions of like age On the other hand, active tuberculosis is amenable to treatment in the early stages, and if neglected quickly gets out of control Doubtful cases should be watched at frequent intervals, but only after the fullest consideration should a patient be diagnosed as tuberculous and sent away for a long course of treatment It must be remembered that if tuberculosis is lurking in the body a prolonged holiday will not necessarily prevent the development of the clinical disease, and the patient would be better following his usual occupation under medical supervision

If we believe that a small infection or series of infections protect the individual effectively, then the correct procedure is to treat those who fail to react to tuberculin by exposure to infection or by inoculation The opposite view is *that prevention should* aim at the abolition or dilution of all sources of infection According to the first view it is those who fail to react to tuberculin who are in danger, according to the second view the reactors are not effectively protected, and are in danger from activation of their own lesions and from reinfection If sufficient living tubercle bacilli are injected into an animal which has not previously been infected there is no immediate reaction, but later it dies of generalized tuberculosis If tubercle bacilli are injected into an animal which has previously been affected the immediate reaction may be fatal, but if it survives recovery may take place without any actual disease developing, or if the disease occurs it progresses slowly and is associated with attempts at healing

There is definite evidence, then, that resistance develops from infection, in the sense that the addict is resistant to morphine, but this is different from resistance such as is *produced by vaccination against* small-pox In the usual type of tuberculosis seen in infancy the child resists the disease and fixes it in the glands Children are particularly free from pulmonary tuberculosis until they reach the age of puberty, but in girls of 16 to 20 years of age the mortality from pulmonary tuberculosis is greater than that from tuberculosis from all causes in the infant To explain this by assuming that resistance to tuberculosis is lowered by the strain of puberty seems to be unconvincing Nor is there any falling off in the number of reactors to tuberculin as puberty and the great increase in the incidence of tuberculosis occur No recognized method of protection against tuberculosis has been evolved either by tuberculin or emulsion of living bacilli The reported success of experiments with B C G still awaits confirmation

The body develops defensive powers against any poison gradually introduced One would expect the chronic consumptive to have considerable resistance, and, in fact, he has If he has no resistance he dies rapidly before he has had time to become a chronic consumptive True immunity, as it occurs after small-pox, is a different thing from the resistance which develops from habit in such cases as alcohol or tuberculosis There is no real protection, and death from tuberculosis occurs in the majority of cases

For these reasons failure to react to tuberculin is not an indication for treatment Any attempt to protect by tuberculin or tubercle bacilli seems to be wrong The policy that appeals to us most is to prevent infection or to dilute it as far as possible Where this has been done by sanitation, cleanliness, and correction of overcrowding, tuberculosis has decreased There is no evidence that any success has followed attempts to diminish the incidence of the disease by producing immunity, and in some cases, where attenuated tubercle bacilli have been injected, fatal tuberculosis supervened

Indications for Treatment in Suspected Early Cases

If the patient reacts to tuberculin he has been infected, *and the problem* is then to decide whether the symptoms are the result of a tuberculous lesion or due to some other cause The absence of cough may be taken as evidence against the diagnosis of pulmonary tuberculosis Paroxysmal morning cough accompanied by vomiting is not uncommon in the later stages of the disease, but is more frequent in alcoholics with bronchitis Cough developing suddenly and lasting more than a month is suggestive, and of 611 patients admitted to Brompton Hospital with pulmonary tuberculosis it was the first symptom in 44 8 per cent Sputum is often absent in the early stages, and a negative sputum test taken early is of little value, but when it has become purulent failure to find tubercle bacilli *is strong evidence* against the disease being active tuberculosis In only 9 out of 188 cases reported by Kingston Fowler from Midhurst Sanatorium were tubercle bacilli not found at the first or second examination In early active disease *there is usually some rise* of temperature in the evening It is increased by exercise, so that when investigating a case the temperature should be taken immediately after exercise, and subsequently at intervals of fifteen minutes, in order to note the time it takes to fall A slight evening rise of temperature alone is not enough for a positive diagnosis Night sweats are common in the early stages, but usually disappear when the patient is put to bed True night sweats are suggestive of the acute stage, and in chronic cases indicate an acute exacerbation Loss of energy is present in the great majority of cases, and is almost invariably associated with some localizing symptom, such as cough In the early stages loss of weight is often slight, loss of voice is an occasional early symptom, and if tuberculous laryngitis is found it should be assumed that the lungs are affected Dyspnœa is not common in the early stages, but digestive troubles are occasionally the *first symptoms noticed* by the patient If no other cause can be found for haemoptysis it should always be taken to indicate tuberculosis of the lungs It is common in chronic fibroid cases, and often no treatment is required except during the actual haemorrhage In the majority of cases, especially in those previously supposed to be healthy, haemoptysis indicates active disease Idiopathic pleurisy is almost invariably *tuberculous*, if it occurs in the apparently healthy as a result of a chill or sitting in a draught it should be regarded as tuberculous in origin, and in some 40 per cent of cases goes on to a definite form of clinical disease

If no physical signs are found it is no evidence whatever that the patient is free from tuberculosis, on the other hand, physical signs are important, not only *because* they are occasionally the first indication of disease, but because they frequently enable one to judge the spread of it The only physical sign which is really important is the presence of moist sounds over the upper part of the lung, and if these sounds are constant and increase with cough *they* are almost pathognomonic Other signs, such as slight flattening at one apex, impairment of percussion *note, and* altered vocal fremitus, may be misleading "Examine your patient carefully, but put not your faith in physical signs" The correct interpretation of x-ray findings is a matter of difficulty Fine mottling of the lung, especially

owed a great deal to latter-day co-operation between the society and the British Medical Association, and it was the best possible augury that Dr Willoughby should have been chosen for the presidency of the Association

SIR EUSTACE HILL recounted some of his early experiences, first as medical officer of health for South Shields, and later for County Durham Durham and Glamorgan were, he believed, the only counties where Labour was in power on the councils, and from the point of view of the medical officer of health he had found it not a bad thing He related instances of understanding sympathy in his work as medical officer which he had received from a check-weighman who was at that time the chairman of his health committee

Dr W G WILLOUGHBY said that it had been a very great honour to be made president-elect of the British Medical Association, the more so because the nomination was made unanimously on a ballot vote by his Eastbourne colleagues, not one of whom, with the exception of his assistant, was in the public health service He was not inclined to lay too much stress on the fact that it was the first time a medical officer of health had been chosen In the first place, the society was not more than half as old as the British Medical Association, and the private and other practitioners in the latter body had long been the leaders in preventive medicine Indeed, the part of the general practitioner in that field was often overlooked It was largely in the treatment of children that preventive medicine could be exercised, so as to prevent troubles arising in later life, and here the private practitioner had abundant scope He referred with gratification to the fact that the British Medical Association was ably represented on the council of the Society of Medical Officers of Health, and the society equally ably on the Association's Council A great deal was heard about "encroachments," on which subject he had had a discussion with the general practitioners in his district He had come to the conclusion that if he and his assistant had at times encroached on their preserves, they were constantly encroaching upon his It was very usual for his meals to be interrupted by a telephone call from a practitioner asking him to provide some kind of help for his patient In his district at least they had come to the conclusion that there was no such thing as encroachment, but, on the contrary, a great deal of mutual assistance He had been himself a general practitioner before becoming a medical officer of health, and he hoped to do his share with the other members of the Council of the British Medical Association in representing the whole profession of the country

The final event of the evening was the presentation, actually of a handsome piece of silver plate, and prospectively of a motor car, to Mr G S Elliston, executive secretary of the society from 1919 to 1930 Dr G F BUCHAN, in making the presentation, said that when Mr Elliston took control of the society it numbered only 700 members, now it numbered 2,000, and the financial position, which was then insecure, was now very sound This position was due, as also were the friendly relations existing with other organizations, largely to Mr Elliston's influence

RESEARCH IN MENTAL HOSPITALS.

As in previous years, the second volume of the annual report of the Board of Control[1] contains an account of the research work undertaken in various mental hospitals during the past year For the most part, this research consists in the investigation of such pathological changes as appear to have etiological significance in the psychoses, but several reports deal with investigations of diseases accidentally associated with mental disorder—for example, the typhoid-dysentery group—while others are mainly concerned with the effect of treatment, especially in general paralysis

Significance of Pathological Changes

Studies carried out under the auspices of the Joint Board of Research for Mental Diseases of the City and University of Birmingham have been directed towards investigating the etiology of and primary changes in chronic disease, especially in the neighbourhood of the brain Post-mortem examinations have confirmed previous findings of a large proportion of cases with macroscopic changes in the sphenoidal sinuses and antra Sensory disturbances, whether perceived by the subject as of an ordinary character or as an hallucination, have been constantly searched for and used as an indication of the presence of septic disease processes in the head It is claimed that the results prove that the vast majority of so-called olfactory hallucinations are true cacosmia due to nasal disease

The oxygen capacity of patients' blood has been compared with the total haemoglobin content in order to find out whether forms of haemoglobin, useless for respiratory purposes, occur It has been shown that anoxaemia may give rise to mental derangement, and it is thought that similar processes occurring at various ages from embryonic to adult life, and variations in the duration of the condition, are responsible for different psychiatric types of mental disorder Work undertaken at the Cardiff Mental Hospital includes the investigation of the changes in carbohydrate metabolism occurring in psychotics The results so far indicate the close relationship between the sustainment of hyperglycaemia incurred by the ingestion of glucose and the emotional tension of the patient

The report from the London County Mental Hospital, West Park, includes an account of an investigation into the distribution of chlorine in the blood and urine in certain types of mental disorder Following on the increased respiratory ventilation after waking in the morning, the normal person shows an increased output of chloride in the urine In the psychotic patients examined there was a varying degree of retention of chlorides over the same period, associated with a varying degree of defect in respiratory regulation In normal persons exercise appears to have no effect on the distribution of chloride between plasma and corpuscles, while in katatonic dementia praecox the same amount of exercise causes a decrease in the acid load of the corpuscle owing to a decrease in alveolar CO_2 tension

The relation between the cause of death to the type of insanity is considered in the report from the Cheshire County Mental Hospital, Parkside, Macclesfield A striking contrast is furnished by comparing the number of schizophrenics dying from heart disease and chronic nephritis with the number of melancholics dying from the same condition—5 out of 68 schizophrenics and 41 out of 67 melancholics Uraemia as a cause of death in the insane has been investigated at the East Sussex County Mental Hospital Renal failure at death occurred in 80 per cent of cases Post-mortem examination of the cerebro-spinal fluid revealed a very high percentage of normally high urea contents, and this has definitely been shown not to be due to decomposition changes Further investigation is in progress with regard to the renal function during life

At the Essex County Mental Hospital blood cholesterin has been found to be raised in dementia praecox and manic-depressive insanity, to a lesser extent in other psychoses, but not in imbecility States of confusion, excitement, and depression are accompanied by a fall in blood cholesterol, with a return to the former high content as the acute mental state disappears At St Andrew's Hospital, Northampton, a study has been made of gastro-intestinal focal infection in relation to oral sepsis By employment of anaerobic technique oral sepsis may be traced through the digestive tract

The above-mentioned investigations are merely a selection from reports too numerous to cite in detail They are evidence of the difficulty and obscurity of the problems awaiting solution, and of the thoroughness with which these are being examined

[1] *Sixteenth Annual Report of the Board of Control, for the Year 1929* Part II London H.M. Stationery Office, or through any bookseller 1930 6s. 6d. net.

Treatment of General Paralysis

The treatment of general paralysis of the insane form the principal communication from several mental hospitals. The treatment of general paralysis by induced malaria has been continued at the West Riding Mental Hospital Wadsley, and is considered valuable. Treatment of this disease by Ducrey's bacillus has been carried out at the Norfolk County Mental Hospital. A vaccine of Ducrey bacillus has the property of producing a high temperature and a "fever" is obtained without the physical discomforts and risks attendant on malarial therapy. The results so far are satisfactory. At the Maudsley Hospital tryparsamide has been found to be a most valuable drug in the treatment of general paralysis. It forms a valuable substitute for fever therapy where the latter is contraindicated, but the most effective mode of treatment is considered to be a combination of tryparsamide with fever.

ORGANIZATION OF PHYSIOTHERAPY

MEETINGS IN LONDON

A MEETING of between thirty and forty practitioners interested in physiotherapy was held in London on November 14th Sir LEONARD HILL presiding to consider the formation of a society of physiotherapy. Letters supporting the proposal were read from two medical members of Parliament and from a dozen others, practitioners of physiotherapy.

The CHAIRMAN said that many of those present must have received invitations to a meeting to take place on November 17th with a view to forming a society on another basis. There seemed to be no reason why the two parties independently advocating the formation of a society should not come together as one.

Dr R. KING BROWN, the honorary secretary, made a statement on the subject of the *British Journal of Actinotherapy and Physiotherapy*, of which he is joint-editor and which has apparently given rise to objection in some quarters. The suggestion that the new society would be run by the *Journal* did not contain a word of truth. The *Journal* would be run by the society. The periodical had no connexion whatever with the trade. It was of course a commercial *Journal* and it accepted advertisements as all journals did, but it received no subsidy from the trade or from any trade association.

Dr A. EDINOW moved that a society of physiotherapy be constituted. Those interested might have joined up with the Electro-Therapeutic Section or the Royal Society of Medicine or with the British Institute of Radiology, but in neither he thought would they have received the consideration which their specialty deserved. The resolution was seconded by Dr W. A. TROUT and supported by Dr FORTESCUE FOX and others. The CHAIRMAN read a note from Sir Thomas Horder who had been present in the earlier part of the meeting wishing the movement success.

Sir ROBERT STANTON WOODS urged that action should be held over until the meeting of November 17th to which he thought all present had received invitations and which he hoped they would attend in view of the great desirability of going forward unitedly and not in two camps. This view was supported by Dr E. P. CUMBERBATCH. On the other hand Dr MURRAY LEVICK thought that if the meetings were amalgamated the present movement which had taken the initiative would lose its identity. Dr W. J. O'DONOVAN spoke in the same sense.

Dr Edinow's resolution was then put and carried without dissent and it was further agreed that the name of the society should be The Society of Physical Medicine and that Dr Edinow, Dr O'Donovan, Dr Murray Levick, Dr Kerr Russell and Dr King Brown with Sir Leonard Hill acting as chairman should form a small committee to draw up a constitution. The CHAIRMAN closed the meeting by remarking that they must see what happened at the meeting called for November 17th and find out whether it was possible to bring about union. He added that he and those associated with him were not out to form a society on their own if they could possibly get union.

A meeting to consider the question of forming a society of physiotherapy was held at the rooms of the Medical Society of London on November 17th with Professor W. E. DIXON in the chair, between fifty and sixty were present.

The CHAIRMAN gave an account of the origin of the proposals and said that matters had taken a somewhat different turn owing to a letter from Lord Dawson of Penn who earnestly advocated that those interested should endeavour to find adequate expression for themselves within the Royal Society of Medicine.

Lord DAWSON made some remarks in support of this view. He agreed that those who practised physiotherapy had not at the present time an adequate organization or means of exchanging ideas and he thought such an organization should be provided. But the great advantage of coming into an organization where they would rub shoulders with those pursuing other branches of medicine had to be remembered. Such a body as the Royal Society of Medicine gave support to each of its constituent Sections and exercised a healthy restraint without interfering with their freedom. He begged them to intend to make a strong endeavour to come within the walls of the Royal Society of Medicine. This was not the time to try to start new organizations. On the subject of education and the recognition and examination of technical assistants a Section of the Royal Society of Medicine would be able to make strong recommendations in suitable quarters.

Sir WILLIAM WILLCOX expressed sympathy with Lord Dawson's point of view but said that there was a feeling that the Royal Society of Medicine rather shelved discussion on the larger or more public aspects of a subject.

Sir LEONARD HILL said that two meetings had been held for a similar purpose by another group which had interested that he should preside, and at the second meeting it was agreed to form a Society of Physical Medicine. At the same time he was all out for unity, he fully agreed that it would be a mistake to form two separate societies. As to joining up with the Royal Society of Medicine he saw both advantages and disadvantages.

Dr FORTESCUE FOX pleaded for a broad basis embracing the whole scope of physical medicine; physiotherapy would not do. He also recalled an occasion on which the council of the Royal Society of Medicine had declared that questions of medical education were outside its scope although one of its Sections had felt strongly on the subject. Dr W. J. O'DONOVAN urged that a separate society should first be formed that it should be all embracing and should claim later on an absorption into the Royal Society of Medicine. Dr A. EDINOW pleaded for general support for the new body which had just been constituted. Dr KING BROWN described the formation of that body, remarking that many practitioners did not wish for full membership of the Royal Society of Medicine. He agreed that it would be absurd to form two societies and invited everybody present to join the one which had been formed. Sir R. STANTON WOODS outlined the history of the meetings already held, urged unity and said that he did not propose to join the society formed last week. Dr W. KEPP RUSSELL said that most of those present were already members of the Royal Society of Medicine and the proposal to form a new body was largely the result of dissatisfaction with that Society.

Dr STANLEY MELVILLE supported the view that action should be taken through the Royal Society of Medicine and Sir WILLIAM HALE WHITE spoke to the same effect but Dr M. B. PAY criticized the policy of the Society's council remarking that the Section of Balneology had not been allowed to take any action in the formation of a spa practitioners group. Lord DAWSON said that the policy of the Royal Society of Medicine was not unmutable; the sensible thing to do was to try to alter what was bad and not weaken the work by multiplication of organizations. In reply to a question by Dr C. B. Heald Lord Dawson assured the meeting that a committee which it appointed would have a sympathetic reception from the Royal Society of Medicine. Dr HECTOR MUNRO deprecated the formation of a new society and suggested three Sections in the Royal Society of Medicine for electrotherapeutics for radiology and for other branches of physical medicine.

The CHAIRMAN (Professor Dixon) said that Lord Dawson had converted him to the idea of forming a Section of the Royal Society of Medicine.

Lord DAWSON then moved and Dr HECTOR MUNRO seconded:

> That a committee representative of the various aspects of knowledge and of opinion be constituted in order to explore a plan of forming an adequate representation of [illegible] therapy within the confines of the Royal Society of Medicine.

As the result of some criticism by Dr F. Vanderpant the proposers agreed to add the word "and" in the event of failure to explore other avenues" and in this form was carried unanimously. The chairman and Sir Leonard Hill were appointed as the nucleus of a committee to add to their number that they would invite others to join them in forming a committee to study the possibilities and to report at a later date.

PHYSICAL FITNESS OF MOTOR DRIVERS.

THE B M A AND THE REGULATIONS

IT IS common knowledge that the Draft Regulations under the Road Traffic Act—known as the Motor Vehicles (Driving Licences) Regulations, 1930—which come into force on December 1st, have been the subject of detailed discussion between the Minister of Transport and representatives of interested bodies, including the British Medical Association Certain statements have appeared in the lay press from which it might be assumed that the standards of physical fitness imposed by these Regulations on the candidates for driving licences are in accordance with the recommendations of the Association Such an assumption would be ill founded The special Committee appointed by the Association in July, 1929, "to investigate and report upon the problem of the medical and physical fitness of drivers of motor cars, and to suggest what tests might be recommended for adoption by local authorities," made certain recommendations as to standards of fitness and the methods of imposing such standards, which were approved by the Representative Body in July, 1930, and conveyed to the Minister in a letter, which is printed in full below

The recommendations of the Committee were designed to ensure that so far as possible no person suffering from any disease or disability likely to make his driving a source of danger to the public should be granted a licence, while, on the other hand, no applicant, whatever his disability, should be unnecessarily precluded from driving, whether by conscientious scruples or by any defect which could be adequately compensated by artificial aid or personal care and skill They postulated provision for medical examination as an essential part of the machinery for deciding those cases of doubtful capacity covered by the third and *fourth items in the draft form of application for a licence* In the opinion of the Committee, it is inequitable in such cases to place upon the applicant the onus of a decision as to the degree of incapacity likely to entail danger, while there are obvious practical limits to the utility of a road test as a measure of some forms of disability The omission from the Draft Regulations of any provision for medical examination leaves the onus of decision as to mental and physical fitness for driving on the candidate, who will himself have to decide what medical advice, if any, he requires to enable him to declare that he is not suffering from any disease or disability which would be likely to cause the driving by him of a motor vehicle to be a source of danger to the public The importance of his decision in this connexion is obvious, for the disabilities which it covers must be taken to include such conditions as general paralysis of the insane, gross heart disease, and marked restriction of the field of vision

The difference between the two schemes is clear, and the British Medical Association is in no way committed to approval of that adopted by the Minister Its advice was, however, sought as to the best means of defining the standards acceptable to the Ministry for the purposes of the scheme actually adopted and subject to its limitations, and the fact that the scheme itself was not in accordance with its original recommendations was naturally no bar to rendering technical assistance of this kind It should, however, be clearly understood that the collaboration of the Association in formulating the Regulations was confined to determination of their form rather than their content

The original recommendations of the Association are set out in detail in a letter addressed by the Medical Secretary of the Association to the Ministry of Transport on February 21st, 1930, as follows

The Association's Letter

The Council of the British Medical Association has had under consideration the Road Traffic Bill, which is at present before the House, and I have been instructed to convey to you certain suggestions and recommendations which the Council believes will be of assistance to the Ministry in connexion with the Regulations which will have to be drawn up as soon as the bill becomes law

The Council is, in the main, in substantial agreement with the bill itself, but would suggest an addition to Clause 22 which it trusts the Minister will see his way to propose himself during the Committee stage, or to accept as an amendment if such be moved when the particular clause is under discussion The suggestion which the Council wishes to make is the desirability of investigating the physical and mental condition of the driver as well as the condition of the vehicle in every case in which an inquiry may be made under Clause 22 of the bill

With regard to the Regulations the Council was faced at the outset by the fact that the information which can be required from a candidate for a licence should be such as the candidate is normally in a position to supply without having recourse to expert assistance, and such information is necessarily extremely limited The Council is of the opinion (1) that the required declaration should be in general terms to the effect that the candidate to the best of his belief does or does not suffer from any one of a specified list of disabilities or any other condition which would be likely to render his driving a source of danger to the public, and (2) that the list of disabilities specified on the form of application should be in simple and popular language and calculated to convey to the average candidate a clear idea as to the general nature of the disabilities which should be declared, and that it should not purport to be an accurate description in scientific terms of the exact conditions which should be considered a disqualification for obtaining a licence A declaration of this nature would seem to be covered by the terms of Clause 5 (1) of the bill

It follows from the nature of the declaration recommended by the Council that this declaration cannot in itself afford sufficient ground for a final decision as to the qualification of a candidate to hold a driver's licence The bill provides that, except in the case of such diseases and disabilities as may be prescribed as an absolute bar, an applicant suffering from any of the specified conditions shall be at liberty, on payment of a prescribed fee, to claim to be subjected to a test as to his fitness or ability to drive a motor vehicle of the class or description for which he desires a licence, and on passing the prescribed test shall, if he is not otherwise disqualified receive a licence of the class for which he has shown himself to be qualified

The Council is of the opinion that while certain conditions should undoubtedly constitute an absolute bar to the issue of a licence, their existence can in the majority of cases only be satisfactorily determined by tests, and that provision should be made where necessary for both a medical examination and a practical driving test With the exception of total blindness and epilepsy the Council is definitely of the opinion that the average candidate cannot be expected to make a declaration in such a form as to decide the point at issue If, therefore, certain conditions are to constitute a statutory bar to the issue of a licence, their existence in the individual case must in general be determined by reference to a competent medical opinion, and not by the bare statement of the applicant

The reason for requiring a medical examination is obvious, since there are diseases and disabilities (notably general paralysis of the insane) which, whilst they may at any time render the applicant totally unfit to drive, would not necessarily prevent him from passing satisfactorily any practical test of driving capacity

A practical test of driving capacity will, however, be desirable in many cases in addition to the medical examination, since care and skill in driving may be an adequate compensation for the presence of gross lesions which in themselves, and apart from the capacity for exercising such care and skill, might be taken as a disqualification

The Council recommends, therefore, that, whilst the declaration required from the applicant should be in general terms, more precise standards should be formulated for the guidance of the licensing authorities of the medical practitioners, to

whom the authorities should refer for examination applicants or drivers who appear to be the subject of any of the specified diseases or disabilities and also of the Courts with whom lies the ultimate decision in the case of an applicant who appeals against the refusal or revocation of a driver's licence. Such standards will also be of use to the private practitioners who may be asked by their patients as to the advisability of driving cars.

The Council desires to emphasize its opinion that deafness in itself should not be considered as a disqualification for driving, and that neurasthenia should be excluded from the list of specified conditions because in the case of the psychoneuroses there is either a complete inhibition against driving at all or the patient is able to drive in safety.

The Council considers that if and when a system of traffic control by colour signals is put into force the danger involved in the wide incidence of defect in colour vision should be met by the addition of adequate signals other than mere colour.

The Council is aware that numerous authorities on the Continent and in America carry out psycho-technical tests, but there is little or no evidence to show that these tests have any great practical utility. It considers that although further research on the subject would be of great interest, any general application of psycho-technical tests in this country is neither desirable nor practicable at the present time.

To sum up, the Council of the Association recommends:

1. That for the purpose of Clause 5 (2) (*b*) of the Road Traffic Bill the only condition for practical purposes which should be constituted an absolute bar to the issue of a driving licence is epilepsy.

2. That the following conditions as to disease or physical disability should be prescribed in the form of declaration contemplated under Clause 5 (1) and 2 (*b*) of the Road Traffic Bill:

- Very defective vision
- Mental disease
- Alcoholism or drug addiction
- Epilepsy
- Paralysis
- Liability to attacks of disabling giddiness
- Loss of foot or hand
- Gross stiffness of joint including the neck
- Gross heart disease

and that the applicant should be asked to state in as brief and simple a manner as possible whether or not he is suffering from any of the diseases or disabilities so specified; that any applicant declaring himself to suffer from any such disease or disability should be referred to a medical examiner who should after due examination recommend

(*a*) that the applicant should not be disqualified for holding a licence; or

(*b*) that the applicant should be subjected to a road test; or

(*c*) that the degree of disability is such that the grant of a licence should be refused.

3. That in reporting upon any person referred to him as above or under Clause 5 (4) of the Bill the medical examiner should have regard to the following standards:

	Degree of disability which would warrant examining practitioner recommending that licence should be refused.	Degree of disability which would warrant examining practitioner recommending a road test before licence granted
Very defective vision	Defects which cannot be adequately corrected by glasses or serious defect of the field of vision	Limitation of field of vision
Alcoholism or drug addiction	—	All cases
Paralysis — —	—	Paralysis of any description involving loss of full use of hand or foot
Liability to attacks of disabling giddiness	Ménière's disease, cerebellar tumour	—
Loss of foot or hand and gross stiffness of joints including neck	—	All cases
Gross heart disease ..	Angina pectoris, severe valvular disease, myocardial degeneration	—

4. That in the case of applicants for a licence in respect of a public service vehicle (Clause 72) the medical examiner's report should be on the lines of that at present in use by the Metropolitan Police Authority as follows:

[The details were here quoted.]

5. The Council is of opinion that the desirability of investigating the physical and mental condition of the driver as well as the condition of the vehicle should be considered in every case in which an inquiry may be made under Clause 22 of the Bill.

The suggestions contained in this letter are the result of the deliberations of a special Committee which was set up by the Council to consider the important problems involved. The constitution of this Committee was as follows:

Professor JOSEPH BARCROFT, M.A., F.R.S., Cambridge (Physiologist), *Chairman*.
Professor ARTHUR H. BURGES, M.S., F.R.C.P., Manchester.
Dr. C. O. HAWTHORNE, D.S.O., F.R.C.P., London.
Dr. H. B. BRACKENBURY, London.
Mr. V. BISHOP HARMAN, F.R.C.S., London.
Dr. F. H. BODMAN, Bristol.
Dr. CHARLES BUTTAR, Guildford.
Sir E. FARQUHAR BUZZARD, Bt., M.D., F.R.C.P., Oxford.
Dr. W. H. DAVIDSON, Birmingham (Medical Coroner).
Group Captain MARTIN FLACK, R.A.F.M.S.
Dr. P. G. GORDON, F.R.C.P.Ed., Bath (Psychologist).
Mr. E. L. PEARCE GOULD, F.R.C.S., London.
Mr. SOMERVILLE HASTINGS, M.S., F.R.C.S., London (Auralist).
Dr. H. L. HATCH, Pinner.
Sir JOHN PARSONS, F.R.S., F.R.C.S., London (Ophthalmic Surgeon).
Dr. F. A. POPPER, Exeter.
Dr. T. H. G. SHORE, F.R.C.P., London.
Mr. E. B. TURNER, F.R.C.S., London.
Mr. P. JEWETT VERRALL, F.R.C.S., London (Orthopaedic Surgeon).
Mr. V. E. WATERFIELD, F.R.C.S., Banbury.

In preparing its report this Committee had the assistance of the Secretary and Deputy Secretary of the Automobile Association, and their views are substantially in agreement with the Committee's findings.

Representatives of the Council would be glad to discuss any or all of the points mentioned with the Minister or his representatives at any time which is found to be convenient.

Terms of Regulation 5

The Regulation which deals with physical fitness of drivers and provides for road tests is as follows:

5.—(i) The diseases and disabilities in the case of which the applicant for a licence shall not be entitled to claim to be subjected to a test as to his fitness or ability to drive a motor vehicle under Subsection (2) of Section 5 of the Act shall be the following: Epilepsy; liability to sudden attacks of disabling giddiness or fainting; inability to read at a distance of 25 yards in good daylight (with the aid of glasses if worn) a series of six letters and figures in black on a white ground of the same size and arrangement as those prescribed for the identification mark of a motor car.

(ii) The fee to be paid by an applicant who claims under that subsection to be subjected to such test shall be ten shillings.

(iii) In order to pass such test the applicant for a licence shall prove to an examiner approved by the Licensing Authority his ability unaided to:

(*a*) Start the vehicle from rest so as to move away in a reasonably quick time and to maintain an accurate course;
(*b*) Turn right and left hand corners correctly;
(*c*) Stop the vehicle within a reasonable distance when travelling at various speeds (In the case of a motor vehicle to satisfy the examiner that in an emergency he will be able to apply the brakes promptly and effectively);
(*d*) Operate all controls with safety and with a minimum of moving from the driving seat;
(*e*) Give all recognized signals to other persons using the road and to traffic controllers in a clearly understandable manner (If owing to his disability it is impracticable or undesirable that he should give such signals by hand the vehicle must be fitted with a device or devices which in the opinion of the examiner will be satisfactory for this purpose);
(*f*) Except in the case of a motor cycle make the vehicle proceed backward for a reasonable distance, make a left and right-hand turn in reverse gear and bring the vehicle into an indicated position;
(*g*) Turn the vehicle round so as to proceed in the opposite direction in a roadway thirty feet in width;
(*h*) Stop, hold and start the vehicle on a gradient of at least 1 in 15, but not steeper than 1 in 10.

Generally the applicant shall satisfy the examiner that he is capable of driving a motor vehicle or a motor vehicle of the particular construction or design to which the application relates without danger to other users of the road

Declaration as to Fitness

Section C of the first schedule to the Regulations defines the terms of declaration of physical fitness to be made by the applicant for a driving licence It runs as follows

The applicant is required to furnish answers to the following questions by placing the word Yes or No in the space provided opposite each question

"1 Do you suffer from epilepsy or from sudden attacks of disabling giddiness or fainting?

"2 Are you able to read at a distance of 25 yards in good daylight (with glasses if worn) a motor car number plate containing six letters and figures?

"3 Have you lost either hand or foot or are you suffering from any defect in movement control or muscular power of either arm or leg? If so give particulars

I declare that I am not suffering from any other disease or disability which would be likely to cause the driving by me of a motor vehicle to be a source of danger to the public

[On the back of the declaration form is a note stating that if the applicant is in doubt as to the answer to be made either to Question 1 or to Question 2 he should obtain professional advice]

Scotland.

Rector of Aberdeen University

As briefly announced in last week's issue Sir Arthur Keith, M D LL D was elected on November 8th, Rector of Aberdeen University for the coming three years in succession to the late Earl of Birkenhead Sir Arthur Keith stood as a non-political candidate against Colonel John Buchan M P who was put forward by the Aberdeen University Unionist Association Sir Arthur is a native of Aberdeenshire and received his education at Robert Gordon's College, Aberdeen, and at Aberdeen University It is the first occasion in its history that Aberdeen University has had at the same time a Chancellor—Lord Meston of Agra and Dunottar—and a Rector who are both alumni of the University

Registration of Blind Persons in Scotland

A circular was issued on November 7th by the Department of Health for Scotland dealing with the registration of blind persons, and giving directions as to arrangements for their medical certification A copy of the central register of the blind, kept by the department, has been issued to all local authorities, containing particulars of individual blind persons already registered, including an occupational classification A form is appended to the circular upon which local authorities are requested to furnish information regarding blind persons in their areas as on April 1st, 1931, with a view to securing uniformity throughout the country The department suggests that every society dealing with the blind in any given area should maintain such a register on behalf of the local authority, and urges close co-operation between local authorities and local pensions committees It points out that some inaccuracy has been caused by the acceptance of certificates by persons other than ophthalmic surgeons, and by lack of uniformity in the interpretation of the standard of blindness The circular states that in the past year only 39 5 per cent of cases were certified as blind by ophthalmic surgeons 44 1 per cent were certified by local medical practitioners, 1 6 per cent according to other evidence, and in 14 8 per cent no particulars of certification were furnished A blind person is defined in the Act of 1920 as one "so blind as to be unable to perform any work for which eyesight is essential" The department considers that the most satisfactory arrangement for certification would be the establishment of regional clinics, all certification being conducted by ophthalmic surgeons The central register of the blind at April 1st, 1930, indicated that there were 8,897 blind persons in Scotland, representing 1 blind person to every 549 of the general population It is suggested that in areas where the incidence of blindness exceeds this ratio, re examination by a properly qualified person should be carried out

Training of Nurses

In an address on nursing services under the Local Government Act, delivered on November 14th, at a meeting held in Glasgow City Chambers, Dr A S M Macgregor, medical officer of health for Glasgow, said that this Act brought under a single administrative control three large groups of hospitals, with their associated medical and nursing staffs These were the general hospitals previously administered by the Poor Law, the hospitals for mental disease—formerly under district boards of control—and the hospitals for infectious disease, including tuberculosis already administered by the local authorities The Act also effected a union between staffs of health visitors required for education health service, maternity and child welfare services, tuberculosis, general sanitation, and other objects The local authority in Glasgow would have to deal with over 1,600 nurses, including trained nurses, and those in training There were about 3,000 beds in the voluntary hospitals, and approximately 8 500 in the hospitals administered by the corporation The latter included over 3,000 beds in mental hospitals, 1 500 beds for infectious disease, 1,400 beds for tuberculosis, and about 2,500 classed as general hospital beds The local authority was therefore closely concerned with the conditions of nursing service for a considerable variety of functions In the training of nurses at present each institution acted as an independent school, and qualified its own staff for admission to the general or the fever nursing registers Training in special hospitals, such as those for the treatment of tuberculosis, was not recognized as forming part of the curriculum for registration Many nurses took both general and fever training certificates involving at least six years' training If a nurse desired a certificate in midwifery, another six months was required, and still another six months was necessary if a nurse was to become a health visitor This curriculum was too long for an all-round comprehensive training In the United States a nurse might obtain a wide training within periods varying from three to five years The problem in that country was simpler, however, because training institutions for nurses were affiliated with medical schools and the large hospital systems in serving a variety of purposes made a wide experience easier to obtain The provision of a considered scheme for nursing services in this country demanded early solution, and would require consideration from three points of view—namely, the effect on the individual hospital, the avoidance of a training which might lose sight of essential principles, and the facilities and status of the various institutions providing parts of the curriculum

England and Wales.

Halley Stewart Lectures

Continuing his Halley Stewart Lectures—referred to in the *Journal* of November 15th (p 841)—Sir George Newman dealt with the subject of "Modern collective humanism at work" The increase in expenditure, he said, from 20 millions in 1891 to 322 in 1928, indicated not only the magnitude of the growth of the social work of the State on behalf of the individual, but also made it necessary to ask if this vast outlay was proving an undue burden upon revenue and industry, and if it was yielding commensurate results To maintain our health and life as a nation, to develop our capacity, creativeness, self-reliance, independence, and even security, was good and profitable statecraft, but to do so much for the individual that he became lazy, indifferent, dependent, and parasitic, was evil and wasteful The lecturer then discussed in detail four aspects of the public health services of a modern State—namely the saving of infant life, the medical service on behalf of maternity, child welfare, and national health insurance An organized service of medicine, he said

had manifestly given the nation immense advantages in regard to an organized and regulated medical profession an improved medical education a hospital and dispensary service for the poor health reform of the factories the defeat of pestilences the care of maternity, child life and the school child, a system of health insurance for 14 million persons, and an ever-expanding means of medical research and discovery In view of the fact that the health insurance system involved intimate relations between 15,000 doctors and 14 million persons criticism and complaint was not remarkable since the scheme was still incomplete and had many imperfections The vital questions were first whether the present scheme was better than the old contract medical practice and secondly whether the patient was getting better treatment than formerly He claimed that the scheme was beyond doubt an immense improvement on previous arrangements, and the treatment provided very much superior Moreover progress was being made every year It was important, however to keep steadily in mind that the appropriate organization of medical services must never be allowed to convert the medical profession into a branch of the Civil Service

The fourth and last lecture was entitled 'Gains and losses in national health needs of the future" Sir George Newman first indicated the chief milestones in the modern advance of medicine such as the prevention of scurvy, the beginnings of immunity anaesthesia, causes of infective disease, antiseptic surgery and the invention of instruments of precision in diagnosis and treatment On the credit side the expectation of life at birth had increased by eighteen years since 1838 From 1838 to 1854 the expectation of life at birth was 40 years, it was now approximately 58 Another gain had been the elimination of pestilences such as leprosy plague, famine pestilence, sweating sickness typhus and cholera On the whole he considered that the resistance of the community was steadily increasing due partly to immunization, but mainly to improved nutrition It appeared that life was more comfortable physically and that there was less suffering owing to the applications of modern medicine Further life was more tolerable and happier there was increased capacity, though not always accompanied by increased output The great improvements in childhood in factory betterment and in housing had played their part On the other hand England had failed to control cancer influenza, digestive disorder, rheumatism and mental disease The public health services were saving life at an extraordinary rate which naturally and inevitably included saving enfeebled impaired, and diseased lives Moreover the birth rate was highest in those classes of the community that were physically the least virile The results of this change though not excessive or in any way alarming were fairly definite Many young women were coming into maternity with lessened stamina the pre-school child still remained defective some of the school diseases still persisted, part of the excessive sickness claims were due to this impaired physique and certain diseases were on the increase Again we had failed to educate the people in health the opportunity for wise and constructive teaching of hygiene in schools was largely neglected, and quackery food stunts indiscriminate artificial contraception and sterilization were looked to with more regard than they deserved

Radium in Surgery

A meeting of the Manchester Medical Society was held on November 5th when a paper on radium in surgery was read by Mr H S Souttar surgeon to the London Hospital He recalled that although radium was discovered thirty years ago it was only within the last few years that it had become of general use in surgery The beta waves were caustic in their effect and must be eliminated by screens of platinum and silver The gamma rays had a selective action on carcinoma and when suitably applied were capable of destroying the cells of a carcinoma without any corresponding injury to the connective tissues Gamma rays appeared to affect the cell at the moment of its division destroying the chromatin which at that moment was in a peculiarly sensitive state The work of Regaud on the seminiferous tubules in the rat was a conclusive proof of its action It was thus essential that a malignant tumour should be exposed for a sufficient time for every cell to have the opportunity of dividing In the clinical use of radium one of the chief objects in view was to obtain a perfectly uniform irradiation, both of the tumour and of the whole lymphatic area associated with it In Mr Souttar's opinion this was best accomplished by the introduction of seeds containing minute amounts of radon and suitably screened These seeds could be introduced in very large numbers by means of a special instrument which controlled their position with great precision Tumours varied greatly in their sensitivity to radium Epitheliomas of the skin and of the mucous linings of the cutaneous orifices were highly sensitive, especially if of the basocellular type Glandular tumours such as carcinoma of the breast were not so sensitive but could in most instances be made to respond Sarcomas were variable, those arising from bone being highly resistant Although it was still too early to form definite conclusions Mr Souttar was greatly impressed by the results so far obtained and thought that radium would ultimately replace surgery over a very large field of malignant disease

Birmingham Dental Hospital

At the prize distribution of the school at the Birmingham Dental Hospital Mr Malcolm Knott chairman of the surgical committee announced that enlargement of the institution was contemplated in view of the continued increase in the number of patients The present students were receiving an exceptionally valuable clinical education in administering anaesthetics and operating under anaesthesia Mr Knott maintained that dentistry had not yet become an overcrowded profession, since so many openings had come into existence for dental work in connexion with school clinics the fighting Forces, and large industrial concerns Sir Frank Colver, who presented the prizes dwelt on the professional and clinical aspects of a dental career He urged the students to pay attention to the scientific side of dentistry in order that advances might be made in knowledge

Correspondence.

MENTAL TREATMENT ACT APPROVAL OF MEDICAL PRACTITIONERS

SIR,—In your issue of November 8th you were good enough to publish a notice issued by the Board of Control in the following terms

> Medical practitioners who desire to be approved by the Board of Control for the purpose of making recommendations in respect of voluntary patients under 16 years of age—Section 1 (3) of the Mental Treatment Act—and temporary patients—Section 5 (3)—can obtain the necessary form of application by writing to The Board of Control Caxton House West Tothill Street London S W and marking the envelope M T D in the top left hand corner As the Act comes into operation on January 1st next intending applicants should write for this form immediately The Board cannot entertain applications for approval from medical practitioners of less than five years standing on the *Medical Register*

A similar notice was printed in other journals and newspapers, but up to the present a very small number of applications have been received from medical practitioners for approval under the Act It will of course be appreciated that the operation of Sections 1 (3) and 5 (3) of the Mental Treatment Act as from January 1st next will be seriously handicapped unless there is a sufficient number of medical practitioners approved by the Board for the purpose of signing recommendations under these sections In particular a temporary patient cannot be received for treatment under Section 5 unless the recommendation has been signed by a medical man who has been approved by the Board of Control for the purpose and if in any area there are no practitioner so approved the medical profession may find themselves in difficulty in securing that their patients shall have the advantage of treatment under those provisions.

It is therefore a matter of urgent importance that an adequate number of medical men throughout the country should be approved, if possible, before January 1st next, and the Board would much appreciate your assistance if, by publishing this letter in the columns of the *British Medical Journal*, you could bring the matter to the notice of the medical profession

Perhaps I might repeat, in conclusion, that medical practitioners seeking approval should write to the Board of Control, Caxton House West, Westminster, S.W.1, for an application form, and should mark the envelope "M.T.D." Applications can only be considered from practitioners of at least five years' standing on the *Medical Register*.—I am, etc.,

Board of Control, Westminster, S.W., Nov. 13th — L. C. BROCK, Chairman

TEMPORARY TREATMENT WITHOUT CERTIFICATE

SIR,—In reply to Dr. Dillon (November 15th, p. 843), the Mental Treatment Act, in my opinion, means what it says. A "temporary" patient is "incapable of expressing himself as willing or unwilling to receive such treatment." If a patient is capable of expressing "unwillingness," then he must be certified to enter an institution. I write as a member of the Parliamentary Committee which considered the Bill.—I am, etc.,

House of Commons, Nov. 15th — A. VERNON DAVIES

SIR,—Our Division recently discussed the new Mental Treatment Act, and the points raised by Dr. Dillon in the *British Medical Journal* of November 15th; there does appear to be a little confusion as to the correct procedure.

One expert considered that a patient should [illegible] Sir Art[illegible] mitted to a mental hospital without certification [illegible] Colour[illegible] ital illness was of such a nature that there was [illegible] real probability of an improvement in a reasonable time, even if the patient was incapable of expressing himself as willing or unwilling to receive such treatment. Another expert pointed out that the patient must be likely to benefit by temporary treatment. In the opinion of certain practitioners, every case of mental illness sent to a mental hospital would be expected to benefit by proper supervision and treatment, even though the disease might be of a progressive nature, and therefore all cases should be admitted on the certificates of two practitioners without recourse to a justice's order. Further information on the matter is most desirable.—I am, etc.,

St. Albans, Nov. 15th — SIDNEY CLARKE

SIR,—The new Mental Treatment Act, Section 5, states that a patient, in order to be eligible for a recommendation for temporary treatment under it, shall, among other requirements, be incapable of expressing himself as willing or unwilling to receive treatment, and a statement to such effect has to be made and signed by both the practitioners making the recommendation. Dr. Frederick Dillon in your last issue doubts whether this section means what it says, and desires an authoritative ruling on the point.

Section 16 of the Act states that where a person has signed such a recommendation he shall not be liable to any civil or criminal proceedings on the ground of want of jurisdiction or on any other ground unless he has acted in bad faith or without reasonable care, surely this implies that if the practitioners, after a thorough psychological examination, come to the decision that the patient is insane, they can safely sign the recommendation. The object of this section of the Act is to obviate the certification of persons as of unsound mind if they are curable cases of mental disorder which are bereft of the power of volition.

Nowadays it is customary to admit almost any case as a voluntary boarder if the patient is able to sign an application form; this will be continued under the new Act, and it is probable that when this Act becomes known many cases which are now certified as of unsound mind will be received under Section 5, so great is the objection to certification among general practitioners and the public. Certification under the principal Act will only be resorted to if the patient does not recover within the time limit. An authoritative ruling on the meaning of the sentence "incapable of expressing himself as willing or unwilling" can only be afforded by the Law Lords; till then the practitioner will have to interpret the sentence to the best of his ability.—I am, etc.,

Darlington, Nov. 17th — L. HARRIS-LISTON

DIATHERMY ENUCLEATION OF THE TONSILS

A Warning

SIR,—I have reason to believe that a number of medical men are practising removal at one sitting of the whole or a large part of the tonsil by means of diathermy. That is to say, they amputate or enucleate with a diathermy electrode in place of the old-fashioned guillotine or dissector.

Now this is not the place to enter into a full discussion on the subject, particularly as I have already done so at some length in my book on *Diathermy*.[1] But I feel it my duty to issue this warning that extensive or complete diathermy removal of the tonsil may be followed by severe haemorrhage during the separation of the sloughs, a week or two after the operation. In these circumstances control of the bleeding is very difficult, and the patient may become exsanguinated.

As I have pointed out elsewhere,[2] if diathermy coagulation is to be used for removal of the tonsils, the operator should confine himself to very modest advances, and should not endeavour to make spectacular changes. In a word, if enucleation at one sitting is desired, the operation is much more safely performed by the ordinary dissector or guillotine, bleeding points being secured by ligature, as in any other surgical operation. To do otherwise is to run a serious, and if I may say so, after this letter, an unjustifiable risk.—I am, etc.,

London, W.1, Nov. 14th — DAN MCKENZIE

COLLAPSE FOLLOWING ANAESTHETIC

SIR,—Some may be surprised that I should be writing on this subject, but as I had the following experience I record it in the hope that it may be of assistance to others situated as I was.

The patient was a girl aged 10, and the operation was a simple appendectomy. Anaesthesia was induced with a small amount of chloroform and ether and then open ether was used. There was no crying or struggling. The operation was completed without incident and the child *put* back to bed. The *cough reflex had returned* and all seemed to be going well. Soon after I went in to see the child. I observed that the breathing was shallow and she was pale, the pulse rate was about 130. Gradually the pallor increased and the respiration became more shallow, when suddenly it ceased, the teeth were clenched and the limbs flaccid. Sitting down on the bed I lifted the child out of bed until her head was hanging perpendicularly downwards, and instantly a bright colour returned to the cheeks and some clear fluid ran out by the side of the clenched teeth—this was evidently from the pharynx and due to failure of the swallow reflex. There was no sickness or sign of spasm of the diaphragm. Respiration at once returned. I laid her back in bed, when a few minutes later the same cycle began again, the respiration becoming increasingly shallow. On this occasion I did not wait for the collapse. Again I placed her with her head downwards and as on the former occasion there was instant return of the colour and the breathing, the teeth were still clenched, but there was no fluid from the mouth on this occasion. Once again I laid her back in bed, when gradually the failure began again. After this third time reflexes all returned and consciousness gradually became established. The third attack was witnessed by the anaesthetist and the child's medical attendant, who had been summoned. There was some vomiting later and the pulse rate remained about 130 for eighteen hours, when it steadily came down and she made an uninterrupted recovery. The chest was x-rayed, but nothing unusual was to be observed.

The child has always tended to develop acidosis, and had had a large dose of glucose the night before and some hours prior to the operation. The gradual cessation of the respira

[1] *Diathermy Medical and Surgical in Oto-Laryngology*. The Anglo-French Library of Medical and Biological Science. London, 1930.
[2] Gradual Diathermy Destruction of the Faucial Tonsils. *Proc. Roy. Soc. Med.*, Section of Laryngology, vol. xxiii, September, 1930.

tion with pallor was clearly due to some change in the central nervous system, and the instant return of respiration, together with the bright colour, when the child's head was allowed to fall forward would strongly point to fall of blood pressure being an active factor.—I am, etc.,

London, W.1, Nov. 15th. MAURICE CRAIG

AVERTIN ANAESTHESIA

SIR,—The correspondence in your columns between Sir Francis Shipway and Dr. Parsons on the subject of avertin has interested me from the surgical standpoint, as I have been constantly using this drug for two and a half years in my surgical practice. I saw its use in Berlin three years ago, and, so far as I know, its properties as a general anaesthetic, especially for "routine work," were never claimed. Dr. Parsons states: "If avertin has to be given along with other anaesthetics the principal object of its use for routine work has disappeared," and that "if it has to be given in conjunction with another anaesthetic it ceases to be of primary importance." If Dr. Parsons holds this view, he is in danger of being criticized as showing a lack of knowledge of its clinical properties. Avertin is a powerful amnesic, and as such we are rid by a very safe means, at the start of psychic shock, *a very important factor to surgeon and patient alike*. The second, and equally important, factor is that by its use other drugs necessary to complete anaesthesia can be used in amnesic dosage, which avoids their inevitable toxic effects following major operations in which they are used alone.

Avertin combined with other drugs which are anaesthetics but which, superimposed in amnesic doses, give a complete surgical anaesthesia, is the ideal for the surgeon. With gas and oxygen, as I saw it used by Sir Francis Shipway at Guy's Hospital, it was a boon to the surgeon and a real delight to the onlookers. With very light ether (amnesic dosage), infiltration anaesthesia, or spinal anaesthesia for major operations in the vicinity of the diaphragm, its use is a godsend. In my own surgical practice during the past two and a half years I have used avertin in combination with other drugs which are not in themselves anaesthetics, but rather amnesics, and I have witnessed a big fall in my mortality rate. This speaks for itself.—I am, etc.,

Bradford, Nov. 10th. BASIL HUGHES

INDICATIONS FOR PERFORMING WILDE'S INCISION

SIR,—I have to thank Mr. Lavton for his reply to my letter on the above subject, published in your issue of October 11th.

As he begins by deserting his quondam leader, Sir William Wilde, whose procedure an incision at least an inch in length *through the periosteum*, was the original subject of discussion, I might leave the matter at that quite satisfactory point. Further, Mr. Lavton remarks that we should probably find ourselves in agreement after half an hour's talk on matters of detail—that is, in dealing with any individual case. This, if correct, would be all that I am concerned with, for good surgery consists in dealing in the best possible way with the patient in hand. I shall look forward to such a talk some day to reconcile *our differences but meanwhile the following are the most important points*.

Mr. Lavton considers that unless one of two very serious symptoms—rigidity of the neck and rigors—is present it is unnecessary to do an immediate mastoid operation. Now these are both late symptoms, and in the hospital which I have the honour to serve are very rare and practically only occur in cases sent in already suffering from mastoid disease. This is because at the first suspicion of bone disease the case is seen by an otologist who operates if he considers the bone is actually involved. These late cases are so rare in our practice that they do not materially alter the general proposition. Each of these should have been operated on long before. The patient would then have been better able to stand the operation.

My colleague Mr. William Wilson wrote in the Monsall Hospital 1926 report, reviewing several years' experience: "In no case have I opened the mastoid without finding gross septic infection. It seems to me that the only way to improve our results is by earlier operation. The danger of operation seems to be practically negligible." Further experience has confirmed this opinion, which has my complete concurrence. Very severe and even fatal cases arise in which neither of Mr. Lavton's "indications" is present.

The argument that unless we advise fever hospital authorities to send for us only in cases which present one of these two symptoms, lest they do not send at all, is to assess their degree of intelligence very low. Most enlightened authorities avail themselves of the special knowledge and skill of an otologist to help them in those surgical emergencies which are his special province. Other authorities should be encouraged to follow their example. Finally, to delay operation on the mastoid till indications of a spread beyond the mastoid are present is not to be in advance of the times, but to be well behind them.—I am, etc.,

Manchester, Nov. 15th. E. S. BURT HAMILTON.

RAYNAUD'S DISEASE

SIR,—Dr. Broadbent's memorandum on Raynaud's disease (November 8th, p. 778) would have had its *interest increased still further had he given not only the* systolic, but also the basic, blood pressure. In the *Journal* for August 23rd of this year I pointed out in my article on Raynaud's disease that the basic pressure was raised and as a result the blood found a difficulty in entering the vasa vasorum for the supply of the muscular fibres of the arterial wall. The patient referred to by Dr. Broadbent had a low systolic pressure, so that a slight raising of the basic pressure would have a disturbing influence on the ratio of the two pressures and bring about the same result as obtains when both pressures are raised considerably.

The point is important, as I have found that the use of parathyroid has a beneficial result in a large proportion of all cases where the basic pressure is raised. This is especially so in cases of rheumatic fever which occur in children whose food has contained too little lime. Such children have unstable constitutions and their blood pressures are quickly driven upwards by the introduction of poison into their blood. These children however respond readily to treatment in the form of lime together with parathyroid. In the October number of the *Medical Review of Reviews* I point out that in chorea the basic pressure is raised, and as a consequence the walls of the cerebral arteries are so affected as to supply the brain with blood in a somewhat erratic fashion, thus giving rise to the irregular movement. It is in these cases, however, that the giving of calcium and parathyroid is found to be so beneficial by reducing the basic blood pressure.—I am, etc.,

Swansea, Nov. 11th. G. ABBOTT STEPHENS.

MEDICAL RECIPROCITY WITH FRANCE

SIR,—In the period before the war, when it was necessary for France to guard herself from the invasion by Russians, Poles, and others, who were anxious to practise as medical men, the conditions for admission became very stringent. It was, moreover, practically impossible to discriminate between British medical men and those of other countries *in the treatment meted out. To-day things have changed*. The susceptibilities of Russia no longer need to be considered. It would be quite possible for France to treat directly with England and for the two countries to arrange new terms of medical reciprocity satisfactory to both.

At present it is necessary for a *British medical man to* pass the examinations for the Bachelor of Arts and of Science, which are preliminary to a medical student's career in France, then all the medical examinations, keep all the terms of residence, and secure from the Minister of Public Instruction a permit to practise in France. As against this a French medical man may practise in England if he passes only the final examination of the Conjoint Board. The Frenchman's task is easy, the Englishman's impossible. There is no reciprocity in it at all.

At the moment very few English practitioners are left in France. Yet they are wanted in Paris, on the Riviera

and would be welcomed in many health resorts, such as Aix, Vichy, Vittel, Brides, Evian, Plombieres, etc, which towns realize their value in attracting visitors It would not be necessary to press for full reciprocity, but an arrangement might be come to with the French authorities to admit up to, say one hundred British medical men who fulfil certain conditions, just as the Principality of Monaco allows four British doctors to practise there I cannot but think that the time is ripe and propitious for reopening the question of reciprocity, to which the French authorities are now in a position to give a favourable response — I am, etc,

Knowle Topsham Devon Nov 5th D W SAMWAYS

Obituary

DR ARTHUR RICHARD FREDERIC EXHAM, who died on October 19th in Market Drayton, at the age of 73 had been conducting his practice until within a few weeks of his death He received his medical education in Trinity College, Dublin, where he graduated M B, B Ch in 1879, and proceeded M D ten years later He commenced practice at Ashley in 1880, but removed in 1882 to Market Drayton, where he took a very active part in the social, as well as the medical life of the town and district He was surgeon to the Cottage Hospital, medical officer to the Post Office and various assurance companies certifying factory surgeon, and medical officer to the workhouse and provident dispensary He devoted fifty years of his life to the Drayton Union, and last March was presented with an inscribed silver salver by past and present guardians and officers as a token of appreciation of the services he had rendered For many years he assisted in the work of the local St John Ambulance Brigade, and in 1910 was prominent in the formation of its Market Drayton division He subsequently became superintendent and, later, district officer, and assistant commissioner In 1926 he was appointed commissioner for the No 7 District, including Shropshire and Hereford, and more recently still he was created Knight of Grace of the Order of St John of Jerusalem Joining the Market Drayton Volunteer Company in 1884 as a lieutenant, he continued until the ending of the Volunteer movement, when he retired with the rank of major, and was awarded the Queen Victoria decoration for long service On the outbreak of the great war he took command of the National Reserves in Market Drayton, and so continued until the armistice Dr Exham was chairman of the Shropshire Panel Committee for many years, a member of the Executive Committee of the Shropshire Branch of the British Medical Association, and a past-president of it also He was instrumental in forming four musical societies in Market Drayton, was a strong supporter of St Mary's Parish Church, president of the Market Drayton Book Society, a governor of the County Grammar School, a keen supporter of the University Extension movement, and a member for many years of the Market Drayton Cricket Club The funeral, on October 23rd, was widely attended by representatives of the societies in which Dr Exham had interested himself so actively

DR GEORGE WILLIAM PEAKE MAITLAND of Oldham, who died on November 7th, aged 54 was born in India in 1876, and was educated at George Watson's College, Edinburgh At Edinburgh University he had a distinguished student career during which he obtained medals in zoology, practical anatomy, and materia medica, and graduated M B Ch B in 1901 On going into general practice he acted as assistant for five years in Manchester, and then settled in Shaw, where he acquired a large practice His civil work was interrupted by the great war, and from the years 1915 to 1918 he was in the R A M C, serving with a temporary commission in Salonika and on the hospital ship *St Andrew*, being twice mentioned in dispatches He retired from the Army with the rank of captain, and again resumed practice, in which he was engaged at his death He was a member of the Oldham Division of the British Medical Association He leaves a widow and four daughters

The following well-known foreign medical men have recently died Professor HENDRIK ZWAARDEMAKER, aged 73, formerly director of the Physiological Institute at Utrecht, and author of a work on the physiology of smell and a textbook on otology, Inspector-General HEUYER, Commander of the Legion of Honour, aged 83, Dr SILVA, professor of ophthalmology at the Grenoble School of Medicine Dr GUSTAV RICHTER, professor of hygiene at Breslau, and author of several works on epidemic diseases Professor FRIEDRICH CARL HERMANN MATTHAEI, director of the obstetrical and gynaecological department, St George's Hospital, Hamburg, aged 66, Professor JOHANNES ILBERG of Leipzig, an eminent medical historian, who was awarded the Leibnitz medal by the Prussian Academy of Sciences in 1910, Dr EMILE VALUDI of Paris, formerly editor of *Annales d'Oculistique* Dr ROY, a Paris ophthalmologist Dr LUIS URRUTIA, an abdominal surgeon of Madrid, and Dr G B UCCHETTI, formerly professor of general pathology at Catania

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THIS week the House of Commons discussed Palestine on Monday, read the Agricultural Land Bill a second time on Tuesday and went into Committee on the Education (School Attendance) Bill on Thursday Mr Culverwell, who had drawn a place in the ballot for Wednesday, gave notice of his intention to move that 'in order to restrict the increase and, if possible to effect a decrease, in the number of mental defectives, procreation by certain defectives should be prevented by such measures as segregation prohibition of marriage, or sterilization" This motion was unlikely to be reached, as others had precedence

Mr Freeman gave notice that on November 20th, he would ask the Minister of Health whether he would consider the amendment of the Medical Act of 1886 with a view to controlling the advertisements of drugs in medical papers

A Workmen's Compensation Bill dealing with the claims of injured men who are certified as fit for light work, received a second reading in the House of Commons on November 14th

Dr Drummond Shiels, Under Secretary for the Colonies, returned to the House of Commons on November 15th after illness Mr Lloyd George, in opening a debate on Palestine referred to the general satisfaction at Dr Shiels's return Dr Elliot also welcomed Dr Shiels, who he understood, had only left his bed that day members of the medical profession knew the strain that that involved

General Medical Service

Replying to Mr Freeman, on November 13th, Mr GREENWOOD said he had received a copy of the proposal of the British Medical Association for a General Medical Service for the Nation The principles on which it was based would receive careful consideration in any further public provision of medical service

Mental Treatment

Mr GREENWOOD said in reply to Mr Kinley on November 13th, that it was impossible within the limits of a parliamentary answer to describe the courses of treatment given in public mental hospitals, these varying according to the needs of the individual patient Until he learned of cases to the contrary, he could assure Mr Kinley that asylums in every case had a definite course of treatment to which patients were subjected Statutory provision already existed under which patients who no longer required institutional treatment could be discharged or released on trial in order to receive treatment by registered medical practitioners or by out patient departments set up by local authorities Patients could also be released from institutions on the application of their friends, provided medical attention was forthcoming outside

Psittacosis

Replying to Mr Clarke, on November 13th Mr GREENWOOD said the number of deaths registered in England and Wales during the period January 1st to September 30th in respect of which psittacosis appeared on the medical certificate as the cause was 15 There were no deaths recorded from this cause in 1927 or 1928, but there was one death in 1929 registered as due

to broncho-pneumonia and septicaemia which as the result of the inquiry made in accordance with the usual practice of the Registrar General was attributed to psittacosis

National Health Insurance

In reply to Mr Stephen on November 12th Mr W Adamson said he would send him a statement of the name of the medical referees for Glasgow under the National Health Insurance Act Their appointment was made with the approval of the Secretary of State for Scotland by the Department of Health for Scotland who selected doctors believed to be qualified in its opinion to act as referees The cost of the referee service was a charge on national health insurance fund There were no regulations for the guidance of medical referees under the Act Cases might be referred to the regional medical officer for his opinion either as to capacity for work or state of health at any stage of illness Medical referees merely expressed an opinion on the question of incapacity The decision whether benefit should be continued or stopped rested entirely with the approved society He would be prepared to investigate inquiries about any referee made without real reason to the regional medical officer

Bellahouston Hospital

Replying to Mr MacLean on November 13th Mr Roberts said the premises and site of Bellahouston Hospital Glasgow were not held on lease but by agreement with the Scottish Red Cross and the Corporation of the City of Glasgow He did not consider that present requirements justified continuance of the hospital beyond January next and had arranged with the committee of Erskine House to increase the number of ex-service patients treated at Erskine House while providing for any out patients at the Ministry clinic in Sauchiehall Street and for cases requiring urgent medical or surgical treatment at the Royal Infirmary These arrangements in no way prejudiced the interests of limbless men or the purpose for which Erskine House was founded They merely extended the constant practice of the last eleven years

International Drug Traffic

Mr Cluses replying to Mr Mander on November 17th said that at the recent preliminary conference of Governments of countries manufacturing drug from opium and coca leaf the Soviet delegation supplied a list of figures for 1927–28 which showed that 76 kilos of heroin 426 of dionine 1,946 of codeine 425 of morphine hydrochloride 24 of pantopon and 447 of cocaine were manufactured In 1928–29 the figures were heroin 31 kilos dionine 234 codeine 1 681 morphine hydrochloride 470 pantopon 145 and cocaine 735 The figures in 1929–30 were heroin 117 kilos dionine 436 codeine 2 854 morphine hydrochloride 632 pantopon 239 and cocaine 1 120 Figures of production of the drugs were not available for Turkey but according to the most recent statistics the annual export of drugs amounted to 5 216 kilos of morphine and 8 652 kilos of diacetyl morphine In India from November 1 to 1924 to October 31st 1925 there were manufactured 140 lb 5 oz. of morphine hydrochloride 2 000 lb of crude morphine hydrochloride 14 lb 11 oz of morphine acetate 2 lb 2 oz. of codeine and 19 lb 15 oz of narcotine From January 1 to December 31st 1926 there were manufactured 224 lb 3 oz of morphine hydrochloride 4 099 lb of crude morphine hydrochloride 4 lb 4 oz of morphine acetate and 23 lb 5 oz of morphine tartrate From January 1 to December 31 1927 the figures were morphine hydrochloride 57 lb crude morphine hydrochloride 281 lb morphine tartrate 8 lb 11 oz and codeine 2 lb 10 oz From January 1st 1928 to December 31st 1928 there was manufactured 159 lb 7 oz of morphine hydrochloride 738 lb of crude morphine hydrochloride 5 lb 6 oz. of codeine and 5 lb of narcotine From January 1st 1929 to December 31 1929 the figures were morphine hydrochloride 119 lb 6 oz. codeine 13 lb 6 oz. and narcotine 10 lb

Cerebro-spinal Fever

Mr Sanders told Lieut.-Colonel Heneage on November 17th that in 1928 in England and Wales there were 9 cases of cerebral *meningitis among troops* with a ratio of 0·11 per 1 000 in Scotland there were 3 cases with a ratio of 0·06 In 1929 in England and Wales there were 25 cases with a ratio of 0·29 and in Scotland 3 cases with a ratio of 0·06 Included in the above figures were 4 cases of cerebro-spinal fever with a ratio of 0·05 in 1928 in England and Wales and in 1929 20 cases with a ratio of 0·23 In Scotland in 1929 there were 2 cases with a ratio of 0·04 Among the civil population in England and Wales 412 cases of cerebro-spinal fever were notified in 1928 with a ratio of 0·01 per 1 000 in 1929 there were 650 cases with a ratio of 0·016 This disease was not notifiable throughout the whole of Scotland but the figures for thirteen of the principal towns of Lanarkshire and Fifeshire showed that in 1928 250 cases were notified being a ratio of 0·10 to 1 000 population In 1929 453 cases were notified with a ratio of 0·17

Poison Gas

Mr Dalton on November 17th told Major Nathan that no representations had been received from foreign Powers about the promotion by His Majesty's Government of experiments in the production and utilization in warfare of poisonous gases and similar noxious substances

Mr MacDonald replying to Mr Wilson on the same day said that the Government had given consideration to the steps which might be necessary for protection of the civilian population in time of war against the use by hostile Powers of asphyxiating poisonous gases No schemes or suggestions had been communicated to the local authorities for the purpose

Mr Sanders on November 17th told Mr Freeman that a comparison of the gross and microscopic appearances of the lungs of men killed by irritant gases in France with those of animals exposed to the same influences showed that the injuries were of similar nature and character Further study of such animal gave evidence of the mode of action of the poison and its effects on vital organs It was thus possible by correlating these experiments with clinical observations on gas patients to formulate curative treatments There was no reason to believe that the connexion between the effects of gas on animal and its effect on human beings which experience in the war established did not continue to hold good

Experiments on Dogs—Sir Robert Gower asked the Prime Minister on November 12th whether he was prepared to grant facilities for the passage during the present session of a bill to make painful experiments on dogs illegal Mr MacDonald replied that in view of the state of public business he could hold out no hope that time would be found for this or similar bill

Instruction on Birth Control—On November 12th Mr Freeman asked whether the attention of the Minister of Health had been called to the recent action of the Warwickshire County Council in authorizing their medical officers to give medical information on birth control to married women Mr Greenwood replied that he had been in communication with the Warwickshire County Council on this matter and had indicated to them the limited extent to which in the view of the Government maternity and child welfare centres might properly be used for this purpose

Milk for School Children—Sir Charles Trevelyan told Mr Alpass on November 13th that in the week ending November 1st 35 600 school children received milk free and 48 600 for payment under arrangement for the provision of meals It was estimated that 500 000 children or about 9 per cent of the elementary school population of England and Wales received a daily supply of milk under schemes organized by the National Milk Publicity Council The corresponding estimate six months ago was 400 000

Imported Cream—Mr Greenwood told General Clifton Brown on November 13th that he would consider his suggestion that imported cream should be subjected to similar examination for tubercle as milk was under the Imported Milk Regulations Most of the cream imported from the Continent was sterilized and the danger of tubercle bacilli in such cream was practically negligible

Muck at Mucking—Mr Greenwood stated answering Mr Oldfield on November 13th that he had been informed by the Hammersmith Borough Council that they had entered into a new contract for the disposal of their refuse at Mucking near Orsett by adequate layering in accordance with any regulations in force relating to the deposit of refuse on the land They were acting within their discretion and as matters stood he had no power to intervene

Preservation of Records of School Children—On November 17th Sir C Trevelyan informed Mr Somerville Hastings that it was left to each local education authority to decide how long they should keep the records of medical inspections of school children He understood however that they were generally kept for about five years after the children had left school

Licences for Experiments on Animals—On November 17th Mr Cluses told Mr Freeman that an applicant for a licence to perform experiments on living animals was interviewed by an inspector who also obtained information from the head of the laboratory where the applicant proposed to work and made any other inquiries that he might consider necessary on the particular case The inspector's inquiries extended both to capacity and to character

Votes in Poor

The number of persons in receipt of poor relief in England and Wales (excluding persons in receipt of domiciliary medical relief only) was 1 107 125 on March 15th and 999 066 on October 25th

Over 51 000 houses were built under the Housing Act 1923 in England and Wales during the year ended September 30th

The Department of Health for Scotland is engaged in an inquiry in the schools of the four large cities in Scotland and of the county of Lanark to ascertain the physical condition of children whose parents have been unemployed for a considerable time

The Services

TERRITORIAL DECORATION

THE King has conferred the *Territorial* Decoration upon the following officers of the Royal Army Medical Corps (T A), under the terms of the Royal Warrant of October 13th, 1920 Major Alexander Leggatt, D S O, Captain John Rowland, *M C*

DEATHS IN THE SERVICES

Colonel Charles MacTaggart, C S I C I E, Bengal Medical Service (ret) died at Campbeltown Argyllshire, on September 18th aged 69 He was born on March 27th 1861, the son of Charles MacTaggart of Campbeltown and was educated at Glasgow University where he graduated M A in 1881 and as M B, C M, with honours, in 1885 Entering the Indian Medical Service as surgeon on April 1st, 1886 he attained the rank of colonel on March 29th 1915 and retired on March 29th 1920 After about three years in military employ he entered civil employment in the jail department in the North West now the United Provinces and served as superintendent of the Central Jails at Benares Agra Allahabad and Lucknow successively In 1902 he was appointed Inspector General of Jails in that province, and held that post until promoted to colonel in 1915 In 1907 he served as a member of the Indian Factory Labour Commission and in 1909 was appointed a member of the Legislative Council of the province On promotion to administrative rank he became Inspector General of Civil Hospitals in the same province and held that post until he retired after five years tour of office He received the C I E on December 11th 1911 and the C S I on June 3rd 1919 He was a keen sportsman both in India and in Scotland and a good shot After his retirement he was made a magistrate for Argyllshire He married Mary daughter of Mr G B M Beatson of Campbeltown

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

At a congregation held on November 14th the degree of M B, Chir, was conferred on COLLEL Vaughan Bradley

AN ordinary Council meeting was held on November 15th, when the President, Lord Moynihan, was in the chair

A recommendation of the Court of Examiners that the Chesterfield and North Derbyshire Royal Hospital be recognized for the twelve months surgical practice required of non members before admission to the Final Fellowship Examination, was approved and adopted

Mr I I Steward was re elected a member of the Committee of Management

The President reported that the term of office of Mr C H Fagge and Mr Russell J Howard on the Court of Examiners would expire on December 10th next, and that the vacancies thus occasioned would be filled up on December 11th together with the vacancy occasioned by the death of Mr T P Legg

The President reported that in accordance with the application to the Home Office, the research laboratories of the College have now been registered as a place at which experiments on living animals may be performed under the Act 39 and 40 Vic cap 77

The President reported that he had granted the use of the lecture theatre for five lectures on Diseases of bacteria by Mr F W Twort, superintendent of the Brown Animal Sanatory Institution, to be delivered on December 1st, 3rd, 5th, 8th, and 10th at 4 p m each day

The congratulations of the Council were offered to Sir Arthur Keith on his election as Rector of the University of Aberdeen

Dr [illegible] and on November 7th,

Honorary Fellowship

[illegible] was educated at Cooking, *M C* LL D, D Sc, M R C S, [illegible] the University he [illegible] in the University of Toronto, was [illegible] College

Dr Frederick Grant Bair obt[illegible] Professor of Medical Research [illegible] *in Australia* elected an honorary Fellow of the C[illegible] [illegible]ce he [illegible] unto [illegible]ted by the [illegible] and

Primary Fellowship Examination

The following assessors and officers nomina[illegible] pro[illegible]e College of Surgeons of Australasia for the Primary Examination for the Fellowship to be held at Melbourne, Australia, in 1931, were appointed Assessor for Anatomy, Professor F Wood Jones, Assessor for Physiology, Professor W A Osborne, Superintendent of the Examination, Associate Professor Summers, Superintendent of Dissections, W A Bailes The date of the examination was fixed for the last two weeks in August It was reported to the Council that Professor G A Buckmaster and Professor William Wright would accept nomination as the examiners in physiology and anatomy respectively for the Primary Fellowship Examination in Australia next year

Diplomas and Licences

Diplomas of Membership were granted to 149 successful candidates

Diplomas in Public Health and in Gynæcology and Obstetrics were granted jointly with the Royal College of Physicians to 22 candidates and 1 candidate respectively

The names of the successful diplomates were given in the report of the comitia of the Royal College of Physicians printed in our issue of November 8th (p 800)

Licences in Dental Surgery were also granted to 53 candidates

Medical News.

THE Glasgow University Club, London, will dine at the Trocadero, Piccadilly, on Friday, December 12th, at 7 30 p m, with His Grace the Archbishop of Canterbury in the chair Any Glasgow University men who, though not members of the club, desire to be present are requested to communicate with the honorary secretaries, 62, Harley House, N W 1

THE National Association for the Prevention of Tuberculosis has arranged for a series of lectures to be given by Dr Harley Williams next week On Monday, November 24th, a lecture will be delivered at the Village Club, Kingsclere, Hants, at 6 p m, on Tuesday at the Town Hall, Eastleigh, Hants, at 7 30 p m, and on Wednesday at the Town Hall, Lymington, at 8 p m

PARTICULARS of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post graduate Courses published in the *Supplement* at page 236 Copies of syllabuses and tickets of admission can be obtained from the Fellowship, 1, Wimpole Street, W 1 The list of special courses arranged for 1931 is now available

UNDER the auspices of the Fellowship of Medicine a course in infants' diseases, with special reference to nutritional disorders and dietetics, will be held at the Infants Hospital, Vincent Square, Westminster, from December 1st to 14th The course is specially designed for medical officers of welfare centres and others interested, and will include lectures, demonstrations, and visits to institutions such as St Margaret's Hospital, the United Dairies pasteurizing plant, Willesden, and the venereal diseases centre in Holborn The fee for the course will be three guineas, and further information may be obtained from the secretary of the [illegible], 1, [illegible]o Street, W 1

A POST GRADUATE [illegible]re on cancer will be delivered in the Halifax Infirmary, in connection with the Halifax Division of the British Medical Association, by Professor Beckwith Whitehouse, on November 24th at 3 30 p m His subject will be uterine haemorrhage, with special reference to malignant disease

THE fourth annual congress and [illegible]hibition of the British Institute of Radiology, incorporating the Röntgen Society, will be held at the Central Hall Westmi[illegible] day Many new types of apparatus will be on view, inclu[illegible] the operator's sets, control tables with devices for say[illegible] stands, combined time, Potter Bucky diaphragms, screen[illegible] portable units, x ray and simple type couches, mobile ap[illegible] tubes, and protection devices The[illegible] will be special displays by film manufacturers, and lectures and technical papers will be delivered in the Congress Hall The annual dinner will be held at the Trocadero Restaurant, Piccadilly Circus, W, on Friday, December 5th, at 7 30 p m

THE twenty first annual exhibition of electrical, optical, and other physical apparatus is to be held by the Physical Society and [illegible]ical apparatus is to be held by the Physical at the [illegible] and the Optical Society from January 6th to 8th [illegible] Imperial College of Science and Technology, South Kensington It will include a trade section, comprising exhibits of manufacturing firms, a section for the work of apprentices and learners, for the encouragement of craftsmanship and draughtsmanship in the scientific instrument trade, and a research and experimental section, which will be arranged in three groups (1) exhibits illustrating the results of recent physical research, (2) lecture experiments in physics, and (3) historic physical apparatus The exhibition committee (1, Lowther Gardens, Exhibition Road, London, S W 7) is inviting offers, from research laboratories and institutions and from individual research workers, of exhibits suitable for inclusion in this research and experimental section

THE municipal council of Rheims has opened a subscription for the erection of a memorial to Dr Langlet, who was mayor of the town during its bombardment

THE third International Congress on Radiology will be held in Paris from July 27th to 31st next year The proceedings are to be divided into six sections—namely, radio-physics radiobiology radio-diagnosis radiotherapy medical electrology and natural and artificial sun ray treatment All papers to be presented to the congress, together with a summary of the contents in French, English, and German must be sent by January 1st next to the secretariat of the Congress 34 Boulevard de Vaugirard Paris XV whence full particulars may be obtained An exhibition of radiological apparatus is to be organized in connexion with the congress

THE two hundred and twentieth dinner of the Edinburgh University Club of London was held on November 12th at the Cafe Royal Sir James Barrie was in the chair for the first time since his appointment as Chancellor He spoke of progress of the life of the University The coming of the ladies had changed the undergraduate's life He had been fascinated at the dances which he had attended and a splendour and polish which academic life had not known in his day But the increasing tendency of students to live away from Edinburgh and travel in by motor bus or bicycle caused him anxiety Dr L F Knuthsen proposed the health of the guests and Lord Moynihan expressed the thanks of a distinguished company in an eloquent speech full of humorous insight Lord Aberconway, in proposing the health of the chairman dwelt on the characters in his plays with the zeal of a true admirer The evening was a great success and the speeches brief and memorable Drs Shires and A Landale Clark were responsible for the arrangements

AT the Cheyne Hospital for Children, Chelsea S W 3 a small private ward has now been set aside for children between the ages of 3 and 13 who require prolonged treatment but whose parents are unable to afford the full nursing home fee, yet are able to pay more than the small maintenance charge made in the general wards of the hospital The diseases for which treatment is available in this ward include osteomyelitis anterior poliomyelitis, dislocated hip, surgical tuberculosis, certain forms of infantile paralysis rickets rheumatoid arthritis chorea, and heart disease Minor operation cases, epilepsy mental derangement, infectious cases, and spastic paraplegia are not eligible A weekly charge of 3 to 5 guineas is made by the hospital, and further particulars can be obtained from the secretary

THE Swedish Medical Society has awarded its Pasteur gold medal to Dr Emile Roux, director of the Institut Pasteur of Paris The award is made every ten years

DR. W E MCCULLOCH has conducted an inquiry into the dietaries of the Hausas and Town Fulani of Katsina Town Northern Nigeria his report was published in the *West African Medical Journal* 1929–30 vol iii, together with observations on the effects produced on the national health and some recommendations This report has now been reprinted in pamphlet form by the Government printer, Lagos

DR PERCY J KELLY (Surgeon General) has been appointed an official member of Executive Committee and of the Legislative Council of the Colony of British Guiana

THE Commonwealth Fund of the City of New York a philanthropic foundation existing since 1918 and supported by gifts from the late Mrs S V Harkness has established for British graduate students a number of fellowships tenable for two years in some recognized branch of learning in an American university In 1930 there were 128 entries, and thirty two fellowships were granted—twenty in the faculty of science, and twelve in that of arts The scientific subjects of study included biochemistry zoology, physics sanitary engineering, and organic chemistry Applicants must be unmarried and not more than 30 years old on September 1st of the year of award For the conditions of appointment and the emoluments available application should be made to the secretary of the committee of the Commonwealth Fund Fellowships 35 Portman Square W.1. Applications for fellowships in 1931 must reach the secretary not later than February 9th

ACCORDING to the *Bulletin de l Office International d Hygiene Publique*, 4 618 cases of small pox with 1,699 deaths, occurred in the various French colonies in 1928

MESSRS GEORGE ALLEN and UNWIN Ltd announce for early publication *Dr Barnardo Physician Pioneer, Prophet*, by J Wesley Bready M A , B D , Ph D

A BUST of the well known laryngologist Dr Lermoyez has recently been unveiled in the Hopital St Antoine Paris by Professor Menetrier president of the Académie de Medecine

DR CLAUDIUS REGAUD director of the Institut du Radium, and professor at the Institut Pasteur of Paris has been created Commander of the Legion of Honour

DURING 1926 103 cases of small pox occurred in Paris, with 22 deaths, a mortality of 20 18 per cent and 63 cases in the suburbs, with 17 deaths a mortality of 26.98 per cent. In 1927 62 cases occurred in Paris, with 18 deaths a mortality of 29 03 per cent and 78 cases with 30 deaths in the suburbs, a mortality of 38.48 per cent This outbreak of small pox in a country where vaccination is compulsory is explained by the fact that the law is not strictly observed especially as regards revaccination Moreover the inspection of immigrants especially from North Africa where small pox is rife, is often carried out in too summary a fashion

A MEMORIAL tablet to the late Professor Paul Lecène is to be affixed to the Hôpital St Louis Paris where he was surgeon Subscribers of 100 francs and upwards will receive a medal of Lecene Subscriptions should be sent to M Georges Masson 120, Boulevard St Germain, Paris VI

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR British Medical Journal British Medical Association House, Tavistock Square, W C.1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager British Medical Association House Tavistock Square W C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 5351 9451 3353* and *9561* (internal exchange four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL Aitiology Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westcent London.*

MEDICAL SECRETARY *Medisecra Westcent London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin) and of the Scottish Office 7 Drumsheugh Gardens Edinburgh (telegrams *Associate Edinburgh* telephone 24361 Edinburgh)

QUERIES AND ANSWERS

Natural Labour after Caesarean Section

"W M" asks whether anyone knows of a case of a woman who e first baby was delivered by Caesarean section (not performed for contracted pelvis) having had another baby naturally

Analgesia in Midwifery

DR A J HAWES (Wisbech) asks for information as to the methods of anaesthesia and analgesia (if any) commonly used in obstetrics by the midwives of the Scandinavian countries—Denmark Norway and Sweden.

Asthma.

"I T S" writes I should be glad to know if any medical practitioner has had experience of the magnesium hypophosphite treatment for asthma. Are there any contraindications to this treatment and would there be any risk in giving it to a case of bronchial asthma of over twenty years duration? This patient has tried all the usual treatments and has been investigated "from top to toe" but with little or no improvement I should be grateful for details of the method—correct dosage frequency of injections and length of treatment

Inexpensive Dressings.

"CH B" writes A few weeks ago someone inquired about cheap dressings for a poor person with a profusely discharging wound In my judgement no thing can beat sawdust bags made of canvas and stuffed with deal sawdust, as recommended by Mr Cathcart of Edinburgh They can be sterilized in a steriliser or baked at home in an oven

Constipation in a Child

"A M" writes in reply to "A" I would suggest that possibly this is a case for wise and understanding nursery management Is the patient a nervous child or the child of nervous parents or perhaps the charge of an unwise nurse? Perhaps he is ashamed of it or regards himself as a wonderfully interesting case Perhaps he is given quantities of sloppy food If he had a direct incentive to do as others do such as making his a condition of remaining at a well liked boarding school or could be persuaded to get his mind right off it he would no doubt succeed Perhaps the child feels hopeless about it or may be

in dread of punishment or disgrace Nervous children will often entirely conceal such feelings Personally I should not give any of the drugs mentioned I find isacon suitable for children, and they like the small size of the tablets One may be taken each night

'J R D' writes My eldest son, now aged 10, began to have fairly severe constipation at the age of 1½ to 2 years, he passed enormous hard stools if the bowels had not been open for a day or two, and even with daily motions the stools were very large, and it was difficult to correct this condition Great care has been taken to go to stool at fixed hours, but paraffin and sometimes also syrup of figs have had to be continued daily When 1 to 2 years old he passed several times a more or less complete bowel cast He still takes about three drachms of paraffin daily, and passes one stool each day, not nearly so large in comparison as formerly About once a week there is no evacuation, and then the laxative syrup is given in addition The only real point of interest is that he is slowly *growing out of it*" He is active and *on the highly strung side* He was a nervous infant, awakening at a sound, and some years ago was for a long period subject to acidosis attacks These are now prevented by alkaline draughts, given at the first warning My other boy is quite normal in disposition and habits

Cyanosis with Collapse

DR T H WIGNALL (*Manchester*), *replying to the inquiry of* Dr L R Lemprière on November 15th (p 848) about his case of cyanosis with collapse, writes In my capacity of works surgeon to the British Dyestuffs Blackley, I have seen many cases of acute aniline poisoning, and the case so clearly described by Dr Lemprière strongly suggests acute anilism The boy was treated quite properly for the condition and recovered, as these cases, when not too severe, do I think arsenic cannot be blamed In any future case I should advise examination of blood for methaemoglobin, and, as a preventive precaution, I should advise boys not to get paint colours in the mouth or on the hands I do not think any medicinal form of aniline derivatives had been taken in this case Acetanilide has produced similar results in susceptible persons, and recovery without detriment usually occurs

"R C writes In reply to Dr L R Lemprière's inquiry The case seems to be one of methaemoglobinaemia (or sulpho haemoglobinaemia) Vide Saville's *System of Clinical Medicine*, fifth edition, p 38

Income Tax

Assessment of Nursing Home

"X X has been in surgical practice for some years, and in April 1929, commenced a surgical home as an adjunct to his practice The consulting room and *x* ray room are on the same premises The inspector of taxes claims to treat the home as a separate matter, which will adversely affect his income tax liability, and an appeal to the Commissioners has been lodged

*** The matter is not free from doubt, and a decision will to some extent turn on the precise facts of the case, but on the whole we think that the inspector has the stronger legal position The home is in the nature of a business run in connexion with a practice, and some of the distinguishing marks of a profession are not present in the ownership and management of a 'home' The two do not necessarily constitute a single unit of assessment because they are under the same control and ownership, and carried on in the same premises The profits of a business are assessable under a different case" of Schedule D from those of a profession, and on the facts the "home' may properly be held to be a 'business' managed and owned by a professional man

Cash Basis

"TAY bought a practice as from August 1st, 1929, and is, of course, assessable in respect of the year 1929-30 on the amount of the profits of the practice for the period from August 1st, 1929, to April 5th, 1930 Can he claim to calculate his gross income at the amount of his cash receipts?

*** No, the correct basis is the amount of the cash receipts plus the amount of the outstanding debts as at April 5th, 1930, but after taking off that sum a carefully estimated allowance for bad debts It will be realized that in such circumstances the adoption of the cash basis would mean deducting eight months' expenses from the equivalent of five or six months' gross income The cash basis is legitimate only when the cash receipts for the earlier years fairly counterbalance that part of the year's bookings which are uncollected at the end of the year

Radium Needles Allowance for Exhaustion

"Y Z's firm has about £1,000 worth of radium in needles, and has claimed 25 per cent wear and tear allowance for income tax purposes on the ground that as used the life of the needles is not more than four years The inspector of taxes declines to allow depreciation, and points out that replacement expenditure can be allowed when the needles are renewed

*** The inspector is probably correct in refusing the depreciation allowance, because that is applicable only to "plant and machinery a phrase that implies something substantial, and having moving parts suffering wear and tear by friction, etc. The replacement allowance applies to loose tools, implements, etc, and, on the whole, does seem to cover such apparatus as radium needles rather more appropriately *But the* result of waiting for the allowance of replacement expenditure—if and when the needles are renewed—imposes a clear hardship, and 'Y Z' is justified in not yielding up his contention without a struggle An alternative contention which appeals to us as more capable of sound argument would be somewhat as follows Both the provisions so far discussed relate to assets which in themselves are permanent, but which suffer wear and tear in use, and the distinction does not work unfairly provided that the 'tools' are individually comparatively inexpensive, which is normally the case Radium needles, however, are different in their nature, in that they have in any case a limited effective life In this they are analogous to 'consumable stores —such as stocks of material, coal, contractors' equipment, etc—the practice with regard to which is to estimate the amount consumed for each respective contract or over the year's working On that line of approach an allowance might be claimed, not as 'wear and tear,' but as the amount 'consumed" it being understood that when renewal does take place an allowance *shall be given of the replacement cost, less the* sums allowed in respect of past 'consumption

LETTERS, NOTES, ETC

Diet and Efficiency of Field Labourers

IN an article reprinted from *Tropical Agriculture* (vol vii, No 2, p 40) Dr E A Seagar, professor of hygiene and sanitation, Imperial College of Tropical Agriculture, gives a preliminary account of an investigation into various influences adversely affecting the efficiency of agricultural labourers in Trinidad, with especial reference to diet, health, fatigue, and psychological factors The inquiry began a few years ago, and included a systematic collection of dietetic and medical records of about 800 East and West Indian labourers on sugar and cacao estates, which was undertaken partly to establish a correlation between diet and disease Among the general results of the survey the dietary of the East Indian labourer appears to be superior in some respects to that of the West Indian, especially in sugar plantations, where the dietary statistics are stated to be consistently better In both groups, however, the staple articles of diet—namely rice, white flour, salt fish, and Irish potatoes—were found to be deficient in fats, proteins, and vitamins The native workers apparently prefer to buy imported and tinned foods rather than cultivate more nutritious products at home Health statistics revealed that a large number of labourers had marked cardiovascular degeneration, which reached an acute stage by the age of 40 This condition is thought to be definitely related to faulty diet and excessive consumption of tobacco and spirits. Some evidence was also obtained that deficiency of vitamin A was chiefly responsible for bronchial asthma and for some of the conjunctival affections among the East Indians The percentage incidences of various diseases, such as ankylostomiasis, malaria, and syphilis, are represented diagrammatically, but the value of the figures is limited by the fact that they were based only on obvious clinical manifestations While the investigators recognize that physical and climatic conditions may lower resistance and indirectly weaken the will to work, they consider that much could be done by instruction in healthy habits of living and by the general adoption of a suitable dietary A more tentative suggestion is the gradual introduction of educational measures to change the attitude of the field labourer towards his methods and hours of work, which amount, on an average, to about twenty hours a week As this question, however involves deeply rooted family and racial traditions, it is doubtful if such habits and customs would be readily abandoned, even if they were, the psychological effect in other directions seems at present incalculable

Varicella and Herpes

"K B C" writes On October 25th I vaccinated a young lady aged 19 On the 26th she developed a typical chicken pox rash, which ran a normal course On November 9th I saw her mother, aged 38, with mild chicken pox, on the 10th her stepfather, aged 39, had developed chicken pox which he has had very severely, running a temperature of 103° F for several days He had also two well marked patches of herpes, one over a right intercostal nerve and one over the course of the left external cutaneous nerve As his illness was severe, the diagnosis was confirmed by the medical officer of health

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 48, 49, 50, 51, 55, and 56 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52, 53, and 54

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 235

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine

457 Paroxysmal Hypertension of Nervous Origin

VARIOUS authorities have stated that arterial hypertension may be due to irritation of the fine terminal branches of the originating plexus of the pneumogastric or of its trunk. F. TREMOLIÈRES, J. LHERMITTE, and P. VÉRAN (*Rev. de Med.* October, 1930, p. 657) fully report a case, followed from its onset to necropsy, which proves that it may also be caused by irritation of the trigeminal. A man aged 28, who had no pathological or syphilitic antecedents, was first attacked by a right frontal zoster-like eruption with slight fever. Three days later a hypertensive crisis with convulsive coma, hyperazotaemia, and albuminuria supervened. These symptoms disappeared in forty-eight hours. At varying intervals during a year four similar attacks of progressively increasing severity occurred. After the third one, definite signs of permanent hypertension, chronic nephritis, and myocardial failing were noted. The patient died two days after the last of these attacks. The post-mortem examination revealed intense, very peculiar lesions (cystic dilatation) of both Gasserian ganglia, considerable hypertrophy of the left ventricular wall, and two small, contracted sclerotic kidneys. From a study of the literature the authors conclude that the patient suffered from a double paroxysmal hypertension, both vascular and of the cerebro-spinal fluid. They believe that the Gasserian inflammatory lesions and the dermatitis were caused by an infecting microbe, and that the dermatitis could only be classed among the zoster-like eruptions and not as a true herpes or zona. Both clinically and anatomically three clinical elements predominated: the recurring facial dermatitis, the vascular and cardiac troubles, and the nephritis, there were three corresponding anatomical elements: the Gasserian ganglionic lesions, the myocardial hypertrophy, and the renal sclerosis. These were chronologically related, and two chief points are emphasized: the priority of the eruption and hypertensive crises and their clear linking and the subsequent development of the chronic nephritis with the simultaneous appearance of permanent hypertension. Since the first renal troubles became manifest eight months after the first hypertensive attack they appear to be the result rather than the cause of the hypertension. The renal lesions were probably due to two causes: the mechanical action of the hypertensive waves and the infection. The hypertensive crises were probably due to the excitation produced by the Gasserian inflammation which, passing by the ascending and descending roots of the trigeminal nerves to the hypothalamic vaso-constrictor centres, caused the attack by a violent vaso-constriction. Besides the symptoms enumerated the patient showed a marked uric acid increase in the blood and the urine, a decided hypercholesterolaemia, and a moderate hyperglycaemia.

458. Sclerosis and Occlusion of the Coronary Arteries.

As the result of a post-mortem study of 44 cases of coronary disease, 26 presenting sufficiently advanced lesions of sclerosis to be termed coronary stenosis and 18 a thrombus in a coronary artery, O. KLOTZ and W. LLOYD (*Canadian Med. Assoc. Journ.* September, 1930, p. 359) arrived at the following conclusions. Cardiac coronary disease usually affects male adults between the ages of 55 and 60 (rarely before 30); it is the outcome of endarteritis associated with atheroma and calcification. The arterio-sclerotic process causes stenosis of the vessel, but complete occlusion results from thrombosis. In no case had thrombosis developed without sclerosis; sclerotic patches in the arteries were multiple, various branches of the right and left coronary being simultaneously involved. A stenosing endarteritis in both coronary arteries intensifies the myocardial damage which results from nutritional disturbances; unilateral coronary affection may progress markedly without causing myocardial injury or cardiac manifestations. If the stenosis progresses slowly the anastomotic circulation between the two coronaries compensates for the vascular derangement when one coronary alone is seriously affected. Rapidly occluding processes as found in thrombosis induce more serious myocardial disturbances than the slowly progressive and compensating stenoses associated with chronic endarteritis. The stenosing arteriosclerosis appears to originate in a primary endarteritis or in an intimal degeneration followed by endarteritis. A direct relation between rheumatic lesions of the arteries and the sclerosis, or between syphilis and the stenosis, was not demonstrable. The manner of distribution of the sclerosis does not support the contention that the arterial lesions result from mechanical stresses due to unique branching of the coronary arterial system. The causative factors of endarteritis and atheroma of the coronary arteries are still undetermined.

459 DISCUSSING various points in coronary thrombosis R. W. SCOTT (*ibid.*, p. 366) states that this condition has as an anatomical basis coronary arterio-sclerosis. The usual case of coronary thrombosis presents fairly typical symptoms, and a correct diagnosis is easy. In doubtful cases particular attention must be paid to the cardiovascular system. A history of hypertension, breathlessness on exertion, tightness in the chest, anginal pain, and indigestion should be carefully scrutinized. Distant heart sounds, a gallop rhythm, pulsus alternans, cardiac disturbances such as extrasystoles, auricular fibrillation, low blood pressure, and feeble precordial impulse are important objective findings. A pericardial friction is indicative of myocardial infarction from coronary thrombosis. In difficult cases electrocardiograms afford valuable information. Characteristic distortions of the ventricular complexes are known to result from infarction of the cardiac wall.

460 Medical Shock.

D. A. ATCHLEY (*Journ. Amer. Med. Assoc.*, August 9th, 1930, p. 385) emphasizes the importance of shock as a fairly frequent serious complication in certain medical conditions. Characterized by vasomotor collapse, fall in blood pressure, and consequent failure of the circulation, it is often confused with other fatal causes such as cardiac or respiratory failure, but is more capable of successful treatment. Whatever the cause may be, a disproportion exists between the blood volume and the vascular bed, the former being decreased through haemorrhage or loss of fluid and the latter increased from capillary dilatation. Two types occur—namely, an hydraemic shock from simple loss of blood volume as in diabetic coma, and toxaemic shock, dependent upon capillary paralysis from some bacterial or protein substance such as occurs in the vasomotor collapse in pneumonia. Treatment is more or less independent of the cause. It aims at rapidly increasing the blood volume by (1) intravenous administration of 50 c.cm. of a 50 per cent. solution of dextrose which draws fluid from the blood stream into the tissues and is more successful in toxic than in anhydraemic shock, (2) intravenous injections of from 500 to 1,000 c.cm. of salt solution, and (3) blood transfusion if necessary. Since the third procedure may turn the scale when the first two have failed every patient likely to develop shock should have his blood grouped early in the illness. Vasoconstrictors such as adrenaline are contraindicated; they are dangerous because they affect blood vessels already constricted to the disadvantage of the capillary circulation. The intravenous route of injection should always be preferred to the subcutaneous or intramuscular owing to the greater rapidity in response; it is important to keep the patient as warm as possible.

Surgery.

461 Tumours of the Cauda Equina.

TUMOURS of the cauda equina present a very special clinical picture depending on their site, duration, size, and association with osseous lesions and often on the inevitably tardy diagnosis. ANDRÉ THOMAS, FERRAND, SCHAEFFER, and DE MARTEL (*Paris Méd.*, October 4th, 1930, p. 292) report a case characterized by another marked symptom—namely, meningeal haemorrhage. A man, aged 33, had had for twelve years attacks of pain in the pelvis, buttocks, and thighs at first intermittent, these became more frequent. For three years sphincter troubles with vesical infection had been present, and for a year he had had permanent spinal rigidity. The pains, most intense in the regions mentioned, radiated along the whole dorsal spine and into the shoulders. The spinal rigidity amounted to an actual opisthotonos with a specially marked curvature in the dorso-lumbar region. It was evidently related to the haemorrhage, since it ceased with the resorption of the blood. The authors consider that this indicates that the rigidity was probably a reflex contracture caused by irritation of the nerve roots by the blood. The most striking characters of the haemorrhage were its persistence and abundance, for eight days the spinal fluid

was almost entirely composed of pure blood Other striking symptoms were abolition of both Achillis reflexes, absence of fever, and a lifelong sexual frigidity The intense spinal rigidity and predominance of the haemorrhage in the lumbar cul de sac suggested that the blood leakage was of low origin, the anaesthesia of the thighs, buttocks, and perineal region, the abolition of the Achillis reflexes, and the sphincter troubles, indicated compression of the sacral roots The authors believe that all the symptoms could be attributed to the growth The tumour was localized by multiple spinal punctures and lipiodol injection, this method is commended by them for localizing tumours in this region Under general ether anaesthesia, laminectomy was performed, and the neoplasm, the size of a large olive, was removed, three spinal roots were intimately adherent to it being first divided The tumour proved to be a benign, very vascular neuroglioma The patient markedly improved after the operation, though an incomplete paralysis of the extensors of the right foot resulted from the division of the spinal roots In view of the high mortality (over 50 per cent) attending these tumours, this is considered a successful result

462 Operative Measures in Lumbo sacral and Sacro-iliac Affections

SINCE their inception W C CAMPBELL (*Surg, Gynecol and Obstet*, September, 1930, p 381) has employed fusion operations in cases with affections of the lumbo sacral and sacro iliac articulations, and mentions the indications for their use Pain low down in the back may be due to various causes, these may be divided into those in which the site of the disease is in the spine and pelvic articulations, and those in which the pain is referred from organs not connected with the spine Only the first group is dealt with in this paper The causative agents which involve the articulations are infection, trauma, postural defects, and congenital anomalies When possible the exact site of the lesion must be determined, it may be in the articular process of the lumbo sacral region, the intervertebral disc, the intervertebral foramina, or in the sacro iliac articulations This can usually be accomplished by a systematic and careful physical examination, which should be made with the patient successively in three positions—standing, sitting, and lying Diagnostic points in this examination are enumerated Radiograms are by no means conclusive, however, differentiation can usually be made by a physical and radiological examination The object of operative procedures in these affections is to fix or splint, by an internal osseous bridge, the affected area, which may be one, two, or all three articulations The methods employed by Campbell have been those of Albee and Hibbs, of Smith Petersen, and one devised by himself, which is described The present author emphasizes the point that conservative measures, when possible, should be employed before fusion operations are considered These operations are indicated in all cases with tuberculous involvement, and they are advisable in cases with persistent symptoms and definite abnormalities as demonstrated radiologically If the symptoms persist and no *x* ray proof of a lesion is obtainable an operation is indicated only when all extraneous causes have been carefully excluded Fusion of the lumbo sacral articulation causes no practical disability, though flexion of the spine may be slightly limited Fusion of the sacro iliac joints gives rise to no disability These procedures should be carried out with precision in order to avoid shock, not more than one hour should be taken for the operation The mortality from fusion of any one articulation is practically nil, and, with sufficient care, should be exceedingly low in all the other operations The excellent results obtained in 63 cases (50 non tuberculous and 13 tuberculous) are indicated in tables

463 Hunner Ulcer of the Bladder

C C HIGGINS (*Urol and Cut Rev*, October, 1930, p 665) records 38 cases of Hunner ulcer, or "elusive ulcer" of the bladder, which was first described by Nitze in 1906, and later by Hunner of Baltimore in 1914 In 29 of the 38 cases the patients were women, and 25 were first noted in middle life, the youngest patient being 26 and the oldest 69 The characteristic symptoms are frequency of micturition both day and night, and usually dysuria and suprapubic pain, they are typically chronic, though remissions may occur Haematuria was present in 6 cases, but is not a characteristic symptom The diagnosis is established by cystoscopic examination, which shows a sharp line of demarcation between the normal bladder mucosa and the inflamed oedematous area, in the centre of this area there are one or more minute red ulcers, on the periphery of which a network of radiating arterioles may be seen Usually the ulcers are small and may be multiple, sometimes they are covered by a small amount of fibrin but they never have a sloughing base as in tuberculosis One of the most important phases of the treatment consists in eradication of foci of infection in the teeth, tonsils, sinuses, or kidneys Fulguration under sacral anaesthesia should be applied intensely over the ulcer, and less intensely to the surrounding area If fulguration is unsuccessful, resection should be performed

464 Treatment of Otorrhoea

R MENNITI IPPOLITO (*Arch Ital di Otol, Rinol e Laringol*, August, 1930, p 386), who records eleven illustrative cases in children aged from 5 to 12, states that in subjects of adenoids many forms of acute and chronic suppurative otitis media can be cured in a relatively short time by removal of the hypertrophic pharyngeal tonsil and infected muco-pus In dealing with cases in which the causation of the otorrhoea is not obvious it is, therefore, a good rule to examine for the presence or previous existence of adenoids. In some cases the operation may not have been a radical one, or post operative cicatrices may have been left round the openings of the Eustachian tubes The good results as regards hearing obtained from the operation are partly due to the improved ventilation and circulation in the middle ear and its adnexa, and partly to facilitation of drainage and destruction of the area of infection It is important that the operation should be performed before mouth breathing has become a habit and the suppurative process in the ear is too advanced, since the less progress the disease has made, and the earlier the operation is performed, the more brilliant the results are likely to be

Therapeutics.

465 Dextrose in Poisoning by Barbital

WHILE working on hyperglycaemia, C A JOHNSON, A B LUCKHARDT, and J A LIGHTHILL (*Journ Amer Med Assoc*, August 23rd, 1930, p 576) noted the apparent rapid recovery of barbitalized dogs when treated with large doses of dextrose solution This led to the use of diuretic measures in one clinical case of attempted suicide with barbital, and to certain experimental work which is now reported In these tests it was found that in dogs receiving 1 litre of 10 per cent dextrose solution the recovery time was reduced in most cases to less than one half The average time required for recovery in the case of dogs receiving barbital alone was between 36 and 39 hours, while in the case of dogs receiving similar doses of barbital followed by dextrose the interval ranged from 14 to 18 hours Gower and Tatum have suggested that, on the basis of the excretion of barbital in the urine, the most rational treatment of acute barbital poisoning is to maintain optimum renal function The above experiments confirm this, and the present authors consider that this method of hastening the recovery time is useful in cases of anaesthesia and poisoning with barbital and other barbituric acid compounds

466 Combined Administration of Arsenic and Gold in Tuberculosis

G F CAPUANI (*Paris Méd*, August 30th, 1930, p 176) recalls the early anxiety of Moelgaard as to the possibility of there being some incompatibility or even antagonism between sanocrysin and other therapeutic substances, particularly because research revealed the occurrence of a very toxic reaction when animals were treated simultaneously with sanocrysin and arsenic anhydride Capuani, however, having treated a patient with sanocrysin and sodium cacodylate with very satisfactory results, repeated this joint administration in 22 other cases without unpleasant sequels In fact, the progress of the patients was similar to that of those treated by sanocrysin alone, except that there seemed to be less loss of weight when the two drugs were thus associated Cases of syphilis and tuberculosis have also been treated simultaneously with arsenobenzol and gold, and also with neocrysol—a compound in which a molecule of arsenic in arsenobenzol has been replaced by gold, no toxic results have been recorded, this is not considered surprising in the latter case, for the gold content is only 4 per cent Capuani has made experiments *in vitro* with sanocrysin on the one hand, and sodium cacodylate, arrhenal, the arsenobenzols, and arsenic anhydride on the other, in the last case reduction of the sanocrysin was observed He discusses the biochemical storage of arsenic in the tissues, and concludes that arsenic anhydride, given after or during treatment with sodium aurothiosulphate, exerts an increased toxicity This effect is not due to chemical reaction between the two substances, but to the fact that the reticulo endothelial system, paralysed by the gold, cannot fix the arsenic and so protect the body against this poison In the case of other arsenical preparations this danger does not exist because they are less toxic, and the defensive role of the reticulo endothelial system is of little importance

467 Digitalis in Lobar Pneumonia

W L Mills and L Wilcox (*Amer Journ Med Sci* September, 1930 p 348) record the results of an investigation carried out continuously during 1928 and 1929 by a committee of the physicians of the Bellevue Hospital New York, into the effects of digitalis in pneumonia. Patients were considered in four groups—namely, those receiving neither serum nor digitalis those who received serum only, those who received digitalis only, and those who received both serum and digitalis The drug was administered rapidly, but in divided dosage to prevent toxic effects During the first year the maximum digitalizing dose never exceeded 0 15 of a cat unit per pound of body weight, this was divided into six hourly doses The administration was stopped if any toxic symptoms occurred such as vomiting or heart block and because of their too frequent incidence the dosage was halved during the second year It was found that for every 100 fatal cases in the control there were 122 deaths in the digitalis treated group, and that in all types except Type II the mortality of the digitalis treated cases was higher than that of their controls In the most severe cases with positive blood cultures the mortality rates in the control and the digitalis treated groups were the same, while in the milder cases with negative blood cultures, the mortality was 14.3 per cent higher for the treated group The committee was unanimous in its opinion that the results of the investigation contraindicate the administration of digitalis in lobar pneumonia, though it suggested that the study of a larger number of cases over a series of years would be valuable

Anaesthetics

468 Spinocain Anaesthesia.

It was noted in the Cleveland Clinic, where spinocain is exclusively used for spinal anaesthesia, that complete anaesthesia was not obtained in about one tenth of the cases, and T E Jones (*Med Journ and Record* September 3rd, 1930, p 226) states that for this reason the original Pitkin method was modified Using this technique many cases developed complete motor paralysis of the extremities with incomplete anaesthesia, and it was thought that this might be due to an insufficient amount of the solution reaching the sensory (posterior) roots Therefore the patient is now turned on his face instead of his back immediately after the injection, and is left there until tests indicate that the anaesthesia has reached the required level For the injection, the spinal canal is entered between the third and fourth interspace While the solution is being injected the patient usually lies on the side opposite to that in which the incision is to be made In cases of middle incisions he may lie on either side After the operation the foot of the bed is raised so that the head is about 10 degrees lower than the feet Before the injection of the spinocain, 1 grain of ephedrine is given and it is repeated if necessary during or after the operation Adrenaline in a dosage of 4 or 5 drops though more transient in its action, is more effective after the introduction of this anaesthetic Spinocain causes slightly less nausea than other solutions The administration of oxygen during the operation often tends to alleviate the nausea and vomiting Inhalation of aromatic spirits of ammonia is also helpful No deaths attributable to the anaesthesia have occurred and the only complication noted (in only three or four cases) has been persistent headache lasting from seven to ten days For all rectal and perineal operations, 1 c cm of spinocain mixed with approximately 2 c cm of spinal fluid is used For pelvic operations, or any below the umbilicus 2 c cm of the solution is required, and for operations below the diaphragm 3 c.cm Spinal anaesthesia has not been attempted in operations above the diaphragm

469 Ethylene Anaesthesia.

J T Nix (*Anesthesia and Analgesia*, July–August 1930 p 171) discusses the present status of ethylene anaesthesia from an experience of 12,000 administrations during the past six years In the obstetrical department of a hospital in New Orleans, with an average of 700 deliveries annually, ethylene has almost entirely displaced chloroform and ether it is being used for all normal cases and for most complications Nix has used it in over 2,500 surgical cases and 250 obstetrical cases and considers the contraindications for its use are fewer than in the case of ether Such contraindications are (1) arterial hypertension and nephritis, since acute nephritis and albuminuria have followed its use in patients with existing kidney irritation or hypertension (2) pulmonary irritation or infection because of the risk of aggravating the condition although no other general anaesthetic would be better in this respect (3) brain cases (4) the presence of a flame cautery, or spark, and (5) a low atmospheric humidity at or below 50 since explosions from static electricity do not occur if the humidity is above 55 The author concludes that ethylene and oxygen without ether is the anaesthetic of choice for almost the entire field of general surgery and obstetrics, in the event of ether becoming necessary during an operation only a minimal quantity is required While chest colds acute bronchitis and pulmonary tuberculosis are unfavourably influenced by its use the "head cold" is improved Nix adds that with complete co-operation between the surgeon and an anaesthetist experienced in its administration ethylene approaches nearest to the ideal of a general anaesthetic for use in southern climates

470 Sodium Amytal-Nitrous Oxide Anaesthesia for Thyroidectomy

F B Ramsey and W D Little (*Surg, Gynecol and Obstet.*, September 1930, p 352) enumerate certain advantages resulting from the combined use of sodium amytal and nitrous oxide as an anaesthetic in thyroid surgery, the reactions during and after its administration in 27 consecutive thyroid ectomies are recorded Comparatively small doses of sodium amytal induced a light sleep which was sufficient for preparation and preliminary measures During the actual operation nitrous oxide gas with an unusually high percentage of oxygen was given This combination makes an ideal anaesthetic when the operation does not require marked muscular relaxation, such as operations on the thyroid and on the chest The cyanosis which so often accompanies nitrous oxide anaesthesia annesthetic depression, and irritation of the respiratory tract did not occur There was freedom from nausea and vomiting, and no signs appeared of post operative mania or excitement Prolonged sleep did not follow The post operative course in general was good, the only complication being auricular fibrillation which occurred in five cases and was satisfactorily controlled with digitalis The sodium salt was administered intravenously in 23 of the cases and by rectum in the 4 others Owing to its greater possibility of control the intravenous method is considered preferable The intravenous dose varied from 12 to 20 mg per kilo of body weight the majority received approximately 15 mg per kilo (1 grain per 10 lb body weight) Considerable latitude in dosage was found necessary in view of individual reactions When given by the rectum the dosage employed was 20 to 30 mg per kilo In addition each patient received a pre operative dose of morphine (1/6 to 1/4 grain) this was combined with atropine (1/150 grain) in eight cases Low percentages (75 to 85 and in some cases 65 to 75 per cent) of nitrous oxide produced satisfactory anaesthesia by this method W Bourne, M Bruger and N B Dreyer (ibid p 356) consider that with the increasing use of sodium amytal greater knowledge of its pharmacological actions is desirable Accordingly they performed a series of experiments relating to its action on various functions of the body The results showed that the drug has very little action on liver function thus comparing favourably with ether It also depresses urine formation much less than ether The combined carbon dioxide and hydrogen ion concentration of the blood are increased the former change being possibly due to the depressed respiration and the latter to disturbed phosphoric lactic acid metabolism Hydraemia and a fall of body temperature also occur

Obstetrics and Gynaecology

471 Treatment of Abortion.

Cpann Petersen (*Ugeskrift for Laeger*, September 4th 1930 p 837) discusses the comparative merits of radical and conservative treatment of abortions in the light of a statistical analysis of material collected in a Danish communal hospital In the period 1914 to 1928 inclusive 1 148 cases of abortion—threatened, complete or incomplete—from the first to the sixth month of pregnancy inclusive were admitted to hospital Approximately 85 per cent (930 out of 1 099) of the patients were in the second or third month of pregnancy whereas only 15 were in the first month As many as 1 118 were given radical treatment most of them (1 016) receiving it on the first or second day of admission while the remaining 102 underwent radical treatment after expectant measures had been continued for two days or longer In 28 cases the treatment was conservative In nearly all the cases receiving radical treatment the abortion was incomplete Among the 1 148 cases there were 7 deaths a mortality of 0 61 per cent there were no deaths among the 755 women who were afebrile on admission The 7 deaths occurred among the 931 cases which were febrile on admission (over 100 5°) or became so before active treatment was instituted the mortality in this class was therefore 1 79 per cent After reproducing various tables, and comparing his own findings with those of others,

Graan Petersen comes to the conclusion that active treatment is superior to the conservative in arresting haemorrhage and in reducing the average duration of fever and of the stay in hospital He favours early evacuation of the uterus instead of waiting a few days, for the percentage of febrile cases was higher among those in which evacuation was deferred than in those when evacuation was prescribed at once He recommends early evacuation (within the first two days of admission to hospital) for both febrile and afebrile cases, since he finds this course the most satisfactory both in relation to haemorrhage and to infection He insists, however, that every case must be judged on its merits

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Sarcoma of the Cervix.

L E PHANEUF (*Surg., Gynecol and Obstet.*, October, 1930, p 500) adopts Piqnand's classification of cervical sarcomata into two groups the racemose, which macroscopically resembles a bunch of grapes, and an ill defined group comprising all other varieties Racemose sarcomata increase rapidly in size and soon fill the vagina, which may become greatly distended, they may even herniate outside the vulva Abundant discharge, often fetid, is present, though the neoplasm does not greatly tend to ulcerate The second group may be subdivided into two large classes sarcomata of the mucosa and of the parenchyma The former are much commoner, and may be diffuse or circumscribed The diffuse form is very rare, it presents an ill defined infiltration with thickening and vegetation of the mucosa, which is wholly or partly involved The tumour rarely invades the uterine body, but extends outward to the vagina In the beginning it is limited to the mucosa, but later the muscular tissue is involved The most frequent of all cervical sarcomata is the circumscribed, which may be sessile or pedunculated The sessile form exactly resembles a papillary epithelioma, differing from it only in its soft consistency, greater size, and its tendency to gangrene and suppuration The pedunculated sarcoma or sarcomatous polyp is of variable size (rarely larger than an orange), and is attached by a pedicle, which is generally implanted in the canal, not usually on the external vaginal surface Parenchymatous sarcoma is rare, and usually takes the polypous form Primary neoplasms of this type are almost always due to sarcomatous degeneration of a fibrous polyp The tumour is rather regular in shape, smooth or bossed, its consistency, variable at different points, is firm Round cell, spindle cell, and ramified cell sarcomata are found Cervical sarcomata always begin insidiously, and may evolve for a long period without any functional symptom As in carcinoma, the chief symptoms are haemorrhage, pain, and serous discharge The average duration of life appears to be from eighteen to twenty four months. Metastases occur in the parametria, vagina, peritoneum, lungs, and the bony and central nervous system Treatment should be radical—abdominal hysterectomy according to the Wertheim technique A case is reported which presents many interesting points The disease was evidently in an advanced stage, though no post operative local recurrence could be found, the patient died of what appeared to be a cerebral metastasis at the end of five months Most cases reviewed in the literature terminated fatally from metastases Possibly earlier recognition of the disease might be followed by better results

473 Treatment of Tuberculous Pyosalpinx

H VIOLET (*La Gynécol.*, August, 1930, p 467) describes a course of treatment which he has found valuable in cases where a radical operation on tuberculous pyosalpinx would endanger the life of the patient Through observing the progress of a woman who had a tuberculous pelvic abscess which had opened spontaneously, the author was led to try the treatment which he has since found successful Following the spontaneous opening no surgical treatment was possible, but a course of radiotherapy succeeded beyond expectations Violet quotes a case in which a large pelvic abscess was relieved by colpotomy The immediate result was good, and there followed a course of ultra violet rays which improved the general condition though the vaginal suppuration continued Complete extirpation was out of the question Eight deep x ray applications were given, after one month there was marked diminution of the discharge, and the adnexal mass was reduced to the size of a nut The author has used a similar method of treatment in 100 cases, and finds the results better than those produced in any other way The contraindications to complete removal are, according to Violet, incomplete localization, invasion of the pelvic cellular tissue, and invasion of the intestine Deep penetrating rays are used, similar to those employed for uterine cancer, one application a week is given until a total of eight is reached

Pathology.

474 The Cerebro-spinal Fluid in Late Syphilis

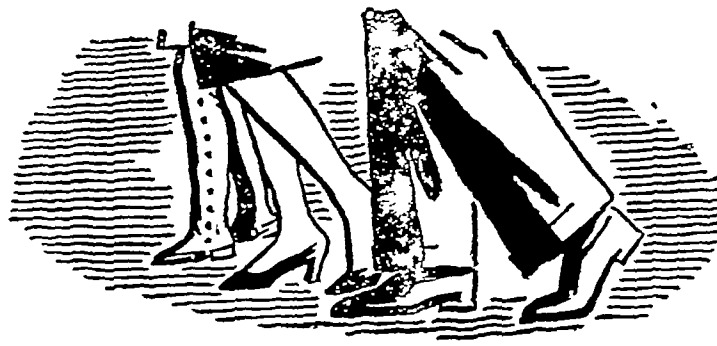
A WITTGENSTLIN (*Deut med Woch.*, August 29th, 1930, p 1474) has investigated the serum reactions and the cerebro spinal fluid of 128 syphilitic patients and observed them over a course of five to ten years All the patients were in a late stage of the disease, but without clinical signs or symptoms at the time of the initial examination In 42 patients the the serum and spinal fluid were both negative, and although in three cases an apoplexy ensued, which may have been related to their syphilitic infection, true neurosyphilis never developed, 30 other patients had negative serums, with pathological spinal fluids, and of these no fewer than 26 showed signs of neurosyphilis Of the sero positive cases, in 15 out of 21 with a pathological fluid, and 2 out of 35 with a normal fluid, neurosyphilis supervened The author concludes that it is thus clear that while the serum reactions afford no guidance in prognosis, the examination of the cerebro spinal fluid is of the greatest importance When repeated lumbar punctures were made it was found exceedingly rare for a normal fluid to become pathological in this stage of the disease, or for a pathological fluid to become normal without treatment As regards latent or developed neurosyphilis, the author finds that a combination of ordinary specific therapy, intrathecal salvarsan, and non specific (for example, malarial) therapy is the most effective If the cerebro-spinal fluid can be made normal by these means, the prognosis appears to be as good as in those cases where the fluid was normal on first examination.

475 Intestinal Bacteria in the Breast-fed Infant.

E STRANSKY and A WASITZKY (*Monats f Kinderheilk.*, August, 1930, p 517), as the result of their investigations, came to the following conclusions The bifidus acidophilus flora of the breast fed infant should be attributed to the abundance of carbohydrates and scarcity of albumin The only ferments detected in the killed organisms were amylase and rennin, proteolytic ferments were entirely absent. It is probable that the bacteria develop their activity in the lower part of the small intestine, where sugar is still present In the large intestine amylase probably exerts its action even in artificially fed infants The significance of the rennin cannot at present be explained Morphological and cultural investigations showed that the bifidus form may be converted into the acidophilus form, and *vice versa* Since the ferments of both resemble one another, it is reasonable to suppose that these organisms are morphologically different forms of the same group which appears in nature as the ubiquitous lactic acid bacillus, and thus gains entrance to the infant's intestinal tract Since the enterococcus also forms lactic acid, it can likewise reach the intestine through the milk

476 Physiological Action of Insulin

THE effect of the intravenous injection of insulin in normal individuals is discussed by K ROHOLM (*Acta Med Scand.*, September 27th, 1930, p 472), who reports the results obtained in nine men and seven women from 17 to 63 years old The effect on the fasting gastric secretion was first examined The amount of gastric secretion, the peptic content, and the total acidity curves corresponded, in that they showed a slight preliminary rise and fall during the first twenty five to thirty minutes, there was then a marked rise to a maximum in about sixty minutes, followed by a gradual fall The amount of gastric juice increased, and there was a rise in the content of hydrochloric acid and of pepsin The blood sugar curve in fasting cases was found to drop for twenty five to thirty minutes after the injection and then begin to rise, more slowly The lowest blood sugar value coincided with the start of the gastric secretion The effect of insulin on the gastric secretion in hyperglycaemia or in normal blood sugar cases, obtained by giving the patient a 50 per cent glucose solution intravenously or through the stomach tube, was next investigated It was found that the blood sugar concentration determined the gastric secretion Hyperglycaemia completely inhibited gastric secretion, which, however, promptly began when hypoglycaemic values were reached Further, it was found that there was a threshold value of blood sugar concentration, 40 to 50 mg per cent, at which gastric secretion commenced A further fall in the blood sugar did not appear to affect the gastric secretion, nor did the rate of fall in the blood sugar concentration have any sure influence upon the gastric secretion Roholm remarks that the nature of the mechanism through which the gastric secretion is induced by hypoglycaemia is uncertain.



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100	"	1/5000 "
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50	"	1/1000 "
50	"	1/500 "
50	"	1/250 "
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*50	" with Cocaine	1/250 "
*50	Cocaine	1/100 "
*50	" (B Ph, 1885)	1/500 "
*50	"	1/200 "
*50	" (B Ph)	1/100 "
*25	"	1/50 "
100	Copper Sulphate	1/25 "
50	Dionine	1/250 "
100	Duboisine	1/100 "
100	Eserine (Physostigmine)	1/5000 "
50	" (B Ph)	1/5000 "
50	"	1/1000 "
50	"	1/500 "
*50	"	1/250 "
*50	" with Cocaine	1/1000 "
*50	"	1/2500 "
25	" with Cocaine	1/1000 "
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100	Fluorescein	1/100 "
		1/1000 "

No in Tube	Medicament	Strength
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50	"	1/500 "
50	"	1/250 "
25	" (B Ph)	1/100 "
25	"	1/50 "
*50	"	1/5000 "
*50	" with Cocaine	1/200 "
*50	" with Cocaine	1/1000 "
*50	" with Cocaine	1/200 "
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*50	" with Cocaine	1/200 "
*25	" with Cocaine	1/100 "
	Hyoscine See Scopolamine.	1/100 "
100	Hyoscyamine	1/50 "
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50	Pilocarpine	1/5000 "
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50	"	1/1000 "
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100	Scopolamine (Hyoscine)	1/100 "
50	"	1/200 "
50	"	1/5000 "
50	"	1/1000 "
*50	"	1/500 "
	" with Cocaine	1/100 "
100	Silver Nitrate	1/5000 "
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100	" "	1/2500 "
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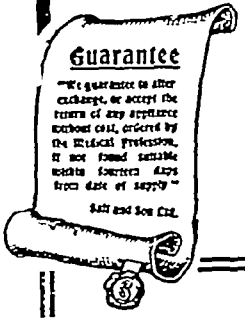
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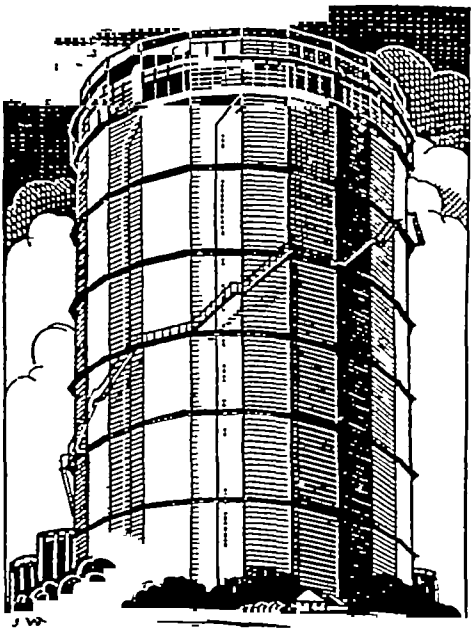
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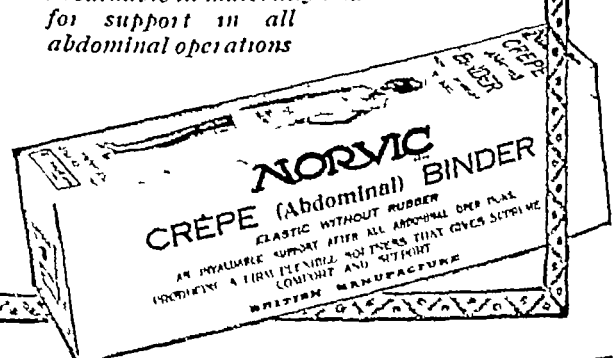
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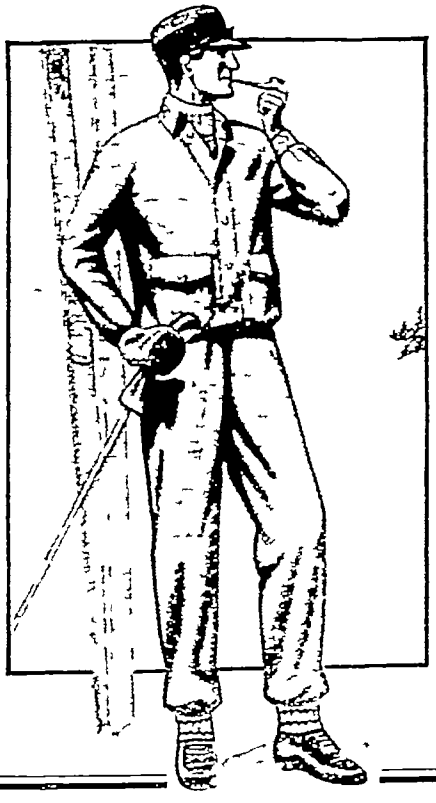
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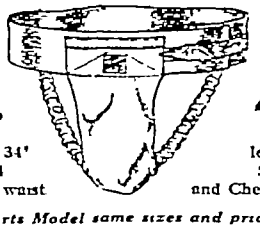
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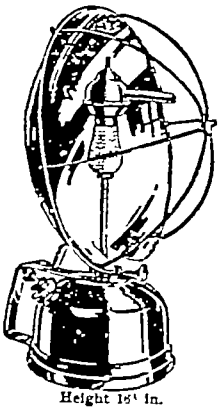
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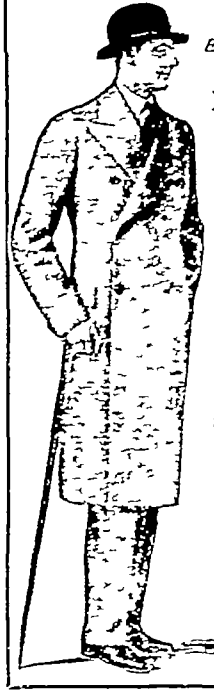
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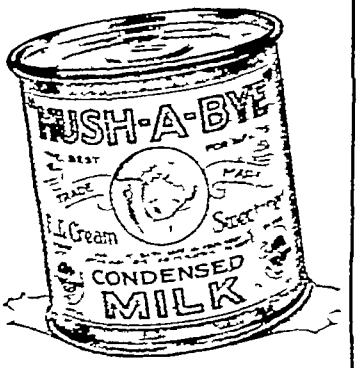
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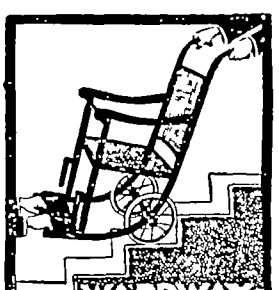
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Special accommodation for Lady Voluntary Boarders is also provided at the MANOR HOUSE which has its own private grounds and is entirely separate from the main Hospital.

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For *terms* etc. *apply* to the Medical Superintendent, J. A. C. HOY M.B. who may also be seen in Manchester by appointment.

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FOR THE UPPER AND MIDDLE CLASSES ONLY

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This registered *Hospital is* situated in 120 acres of park and pleasure grounds. Voluntary Boarders *persons suffering from incipient nervous and mental disorders as well as certified* patients of both *sexes are received* for treatment. Careful clinical, biochemical, bacteriological and pathological examinations. Private rooms with special nurses male or female in the Hospital or in one of the numerous villas in the grounds of the various branches can be provided.

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This is a Reception Hospital in detached grounds with a separate entrance to which patients and voluntary boarders can be admitted. It is equipped with all the apparatus for the *modern treatment* of Mental and Nervous Disorders. *It contains special departments for* hydrotherapy by various methods *including* Turkish and Russian baths the prescribed manners of bath Vichy Douche Scotch Douche Electrical bath Physiotherapy treatment, etc. There is an Operating Theatre a Dental surgery an X-ray room an Ultra-violet Apparatus and a Department for Diathermy and High Frequency treatment. It also contains Laboratories for *biochemical, bacteriological and pathological* research.

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Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat fruit and vegetables are supplied to the Hospital from the farm gardens and orchards of Moulton Park. Occupation therapy is a feature of this branch and patients are given every facility for occupying themselves in farming, gardening and fruit-growing.

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The seaside house of St. Andrew's Hospital is beautifully situated in a Park of 330 acres at *Llanfairfechan amidst the finest scenery in North Wales. On the North-West side of the* Estate a mile of sea coast forms the boundary. Voluntary Boarders or Patients may visit this branch for a short seaside change or *for longer period*. The Hospital has its own private bathing house on the seashore. There is trout fishing in the park.

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Phone 11 Ashton-in-Makerfield.

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Telegrams "Alleviated, London" Telephone Rodney 4741—4742

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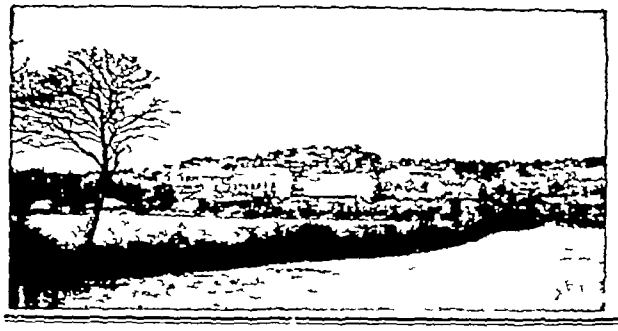
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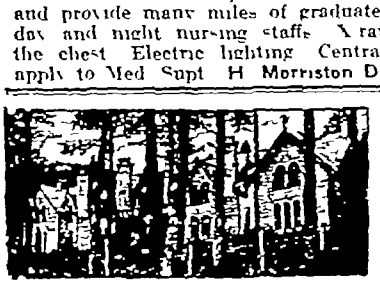
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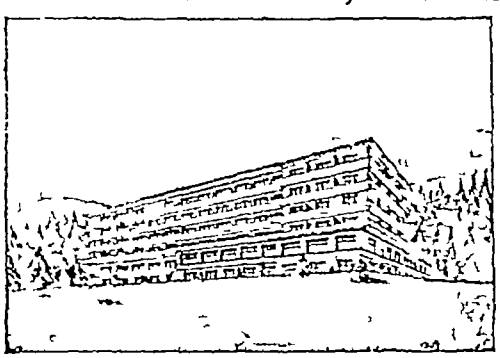
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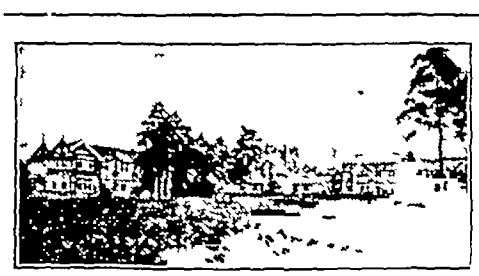
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meets all the requirements of children of middle-class parentage Extensions made necessary by the success of the school have created several vacancies

Only bright and intelligent boys and girls are eligible for admission

Apply to the Medical Supt Colthurst House School, Warford Alderley Edge

CITY OF LONDON MENTAL HOSPITAL, DARTFORD KENT

PRIVATE PATIENTS and certificates and VOLUNTARY PATIENTS are received for treatment at a weekly fee of TWO GUINEAS and upwards —Apply MEDICAL SUPERINTENDENT

Tel & Telegrams "Haynes Brentwood 45"

Littleton Hall, Brentwood, Essex

Large grounds 400 ft. above sea HOME for Ladies Mentally afflicted Voluntary Boarders received Stations Brentwood and Shenfield 1 mile. Liverpool St. 26 min —Apply Dr HAYNES.

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD E C 1

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery and Obstetrical complications Monthly and Fortnightly Courses

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C M B regulations

PRIVATE WARDS for Lying-in patients

MATERNITY NURSES sent out for private cases

TAUNTON SCHOOL,

TAUNTON

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M B Examination University Scholarships in Chemistry Biology etc

Special facilities are offered for the teaching of Chemistry Physics Botany and Zoology

New Science Buildings containing seven laboratories two lecture rooms science library store rooms etc opened in September 1925. Prospectus from Head Master

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd (Candidates for the D T H must possess the D T M of this University)

For particulars apply to the Hon Dean Liverpool School of Tropical Medicine Pembroke Place Liverpool

STAMMERING SPEECH DEFECTS

BEHNKE METHOD Estab 1882. Cases now resident treated at 39 Earl's Court Square, S W 5 and in residence, in the Summer holidays at Miss BEHNKE'S house on the Chilterns.

"Pre-eminent success in the education and treatment of stammering and other speech defects" —"Times." "Thoroughly physiological principles." —"Lancet." "The method is scientifically correct and perfectly effective" —"Guy's Hospital Gazette"

STAMMERING CLEFT PALATE SPEECH LISPING 3/9
of Miss BEHNKE, 39 Earl's Court Sq S.W.5

POST-GRADUATE MIDWIFERY

Qualified Medical Women are admitted to
The Mothers Hospital of the Salvation Army, Lower Clapton Road, E 5
for practical fortnightly Courses in Midwifery These include delivery of normal cases attendances at all abnormal cases operations ward rounds of visiting staff V D clinics and ante-natal clinics. For further particulars fees etc. apply to EDGAR DIBDEN the Secretary

MARLBOROUGH COLLEGE,

Near MACCLESFIELD

Specialises in

CAREERS FOR GIRLS

List and Prospectus from Principal

Special Terms to Medical Men

NORTH EAST LONDON POST GRADUATE COLLEGE

PRINCE OF WALES'S GENERAL HOSPITAL, N.15

The Practice of the Hospital is limited to Medical Practitioners Particulars from T H C BEALE F R C S Dean

Grove House, All Stretton,

Church Stretton Shropshire.

A Private Home for the care and treatment of a limited number of ladies mentally afflicted Climate bracing and bracing

Medical Superintendent Dr McCLINTOCK.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ, LONDON W C 1

(FOUNDED IN 1887.)

Principal Dr E S WEYMOUTH M A (Lond) POSTAL COURSES OF PREPARATIONS FOR ALL MEDICAL EXAMINATIONS

SOME SUCCESSES

M D (Lond), 1901-29 (9 Gold Medals during 1913-29) 319
M S (Lond), 1901-29 (Including 4 Gold Medals) 21
M B, B S (Lond), Final 1905-29 (Completed Exam) 257
F R C S (Eng), Primary 1906-29) 154
Final 149
M R C P (Lond), 1914-29 168
D P H (Various) 1906-29 (Completed Exam) 286
F R C S (Edin) 1910-29 43
M R C S, L R C P Final 1910-29 (Completed Exam) 433
M D (Dur) (Practitioners) 1906-29 37
M D Various By Thesis Numerous successes

Preparation for Medical Preliminary and in Chemistry Physics Anatomy Physiology and final subjects for the Conjoint Board M B (Cantab etc) also D P M D C H D T M & H D L O D C O D M L E L M S A L M S S A etc Numerous successes.

ORAL CLASSES

M R C P Lond M D Final F R C S F R C S (Edin) Final M B B S and M R C S L R C P Museum and Microscope Work. Also Private Tuition

MEDICAL PROSPECTUS (48pp)

CONTENTS —The method and the cost of entering the Medical Profession *Full particulars of all Medical Examinations* Postal Courses and Oral Classes Guidance for the higher Medical Examinations Short notes for the Primary Surgical Examinations Suggestions for the Special Diploma Examinations Practical Courses Preparations for Women Hints for writing Theses Medical Prospectus gratis alone with list of Tutors at on application to the Principal Mr E S WEYMOUTH M A 17 Red Lion Sq London W C 1 (Telephone Holborn 65 3)

F R C S (Edin)

CLASSES with Museum and Anatomical Demonstrations for next Exams will commence shortly Correspondence work as at 25 times Particulars from CHAS WHITTAKER, F R C S., Surgeons Hall Edinburgh.

Medical and Dental Students

Special Classes for Pre Medical and Dental Exams Matric and Primary Chemistry Physics and Biology MANCHESTER TUTORIAL COLLEGE 327 Oxford Road Manchester

F R C S (Edin)

CLASSES at HOSPITAL TUITION —For Preparation Classes with Demonstrations and examination privately Courses for Dec Feb March and the Exam Apply Hon Sec — H C O'D F R C S Surgeons Hall Edinburgh

Refraction and the Ordering of Glasses

CLASSES taught by Practising Ophthalmic Surgeon in London. Fee £ 10 10 s — Address No 125 B.M.A. House Tavistock Square, W.C.1.

University of London

A Course of Five Lectures on '*Diseases of Bacteria*' will be given by Mr I W TWORT, MRCS, LRCP, FRS (Superintendent of the Brown Institution) in the THEATRE OF THE ROYAL COLLEGE OF SURGEONS, Lincoln's Inn Fields, WC (by kind permission of the Council of the College) on DECEMBER 1st, 3rd 5th, 8th, and 10th, at 4 p m

Admission free without ticket

S J WORSLEY,
Academic Registrar

New Zealand

HAWKES BAY HOSPITAL BOARD NAPIER

Applications are invited for position of FULL TIME PATHOLOGIST at NAPIER HOSPITAL Commencing salary £750 per annum, rising by annual increments of £50 to £900 Assistant Bacteriologist and adequate staff employed

Applications will be received by F J REES, Managing Secretary, Hawkes Bay Hospital Board Napier, New Zealand, up to January 10th 1931 Appointee will be required to take up duties on April 1st 1931

Borough of Morpeth

APPOINTMENT OF PART TIME MEDICAL OFFICER

The Town Council of the Borough of Morpeth invite applications for the appointment of a part time Medical Officer of Health for the Borough

The appointment in the first instance will be a temporary one for the period up to March 31st 1931 and subject to the approval of the Ministry of Health

The person appointed must possess the qualifications required by Article 5 of the Sanitary Officers Order 1926

The salary attached to the office will be at the rate of £60 per annum with £15 bonus No travelling expenses or clerical assistance will be provided by the Council

Applications stating age, qualifications, and experience, should be forwarded to the undersigned not later than Monday December 1st

EDWARD C JACKSON,
Town Clerk's Office Town Clerk.
Morpeth Northumberland

County Borough of West Bromwich

HALLAM HOSPITAL.

RESIDENT HOUSE PHYSICIAN

Applications are invited from fully qualified male registered Practitioners (single) for the above appointment

The appointment is for twelve months, but either party may give six weeks notice terminating the engagement The Hospital has 474 beds and is equipped with up to-date special departments There is a visiting staff of eight Consultant Physicians and Surgeons

Preference will be given to applicants with previous Hospital experience

Salary £250 per annum

Canvassing either directly or indirectly, is strictly prohibited and will be deemed a disqualification

Applications, stating age experience and qualifications together with copies of three recent testimonials must be forwarded to the Medical Officer of Health 2 Lodge Road, West Bromwich so as to arrive not later than by the first post on Wednesday November 26th

Town Hall ALFRED WICKHAM
West Bromwich Town Clerk

Lincolnshire (Kesteven) County Council

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

Applications are invited for the post of Assistant Medical Officer of Health

The lady appointed will be required to act as an Assistant Tuberculosis Officer and School Medical Officer

Other things being equal preference will be given to candidates with at least three years standing with special training in the diagnosis and treatment of tuberculosis and with hospital experience including the treatment of diseases of children

The salary of the post will be £500 per annum rising by £25 per annum to £700 per annum subject to satisfactory service, together with expenses in accordance with the County scale

Applications together with copies of not more than three testimonials must be lodged not later than Friday December 5th No forms of application are issued

(Signed) A D PIPER
County Offices Clerk of the Kesteven
Sleaford Lines County Council.

City of Manchester

PUBLIC HEALTH DEPARTMENT

ABERGELE SANATORIUM (262 Beds)

APPOINTMENT OF MEDICAL SUPT

The Public Health Committee invites applications from qualified Medical Men for the position of Medical Superintendent at the Abergele Sanatorium

The Sanatorium contains 210 beds for pulmonary and non pulmonary tuberculosis in children and 52 beds for pulmonary tuberculosis in adults

Every candidate must be a registered Medical Practitioner have had experience in the administration of sanatoria and in the treatment of tuberculosis in children and adults

Salary £900 per annum inclusive of emoluments (house, coal, and light), valued at £116 per annum

Every application, stating fully the training qualifications, and experience of the candidate and his age, with copies of three recent testimonials, and endorsed on the envelope Medical Superintendent Abergele Sanatorium, must be addressed to the undermentioned only, and not to members of the Committee or Council and must reach him not later than December 5th

The successful candidate will be under the general administrative control of the Medical Officer of Health and will be required to pass a medical examination to devote the whole of his time to the duties of his office to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service

Canvassing in any form, oral or written direct or indirect, is prohibited

F E WARBRECK HOWELL
Town Hall, Town Clerk
Manchester November 7th 1930

Monmouthshire County Council

ASSISTANT MEDICAL OFFICERS

The Council invite applications from duly qualified and registered Medical Men not exceeding 35 years of age, holding a Diploma in Public Health and State Medicine for the appointment of Two Assistant Male Medical Officers to undertake mainly the Medical Inspection and Treatment of School Children and in addition, Maternity and Child Welfare work and the investigation of sanitary conditions generally

Experience in the correction of errors of refraction and the administration of anaesthetics will be essential

Salary £500 per annum rising by annual increments of £25 to £750, with third-class rail fares and reasonable subsistence allowance

The successful candidates will be required to act under the direction and supervision of the County Medical Officer to devote whole time to the service of the County Council, and to reside in such place as the Council may determine

The post will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922

A schedule of the duties to be performed, together with conditions of appointment and a form of application, can be obtained from the undersigned, to whom applications, accompanied by copies of not more than three recent testimonials are to be sent by December 8th

The County Hall, D ROCYN JONES,
Newport, Mon County Medical Officer
November 15th, 1930

Nelson Hospital, Merton, S W 20

RESIDENT MEDICAL OFFICER (male) fully qualified required Small General Hospital (62 beds), majority of work surgical Appointment for six months in first instance Salary at rate of £100 per annum all found Comfortable quarters provided near Hospital Further particulars may be obtained from the Hon Secretary Applications with copies of two recent testimonials should be sent to the Hon Secretary not later than December 1st.

General Lying-In Hospital, York Road, Lambeth, S E 1

RESIDENT MEDICAL OFFICER required for January 1st 1931 Appointment for three months £100 per annum, with board Application with three testimonials, to be sent to the Secretary not later than December 8th

Manchester Royal Eye Hospital

JUNIOR HOUSE SURGEON required Salary £120 per annum with residence, board etc

Applications (with copies of testimonials) endorsed House Surgeon to be addressed to the Chairman of the Board of Management not later than November 29th

H R NORTH, Secretary

Lancashire County Council

PUBLIC ASSISTANCE COMMITTEE.

PARK HOSPITAL DAVYHULME, near MANCHESTER.

APPOINTMENT OF JUNIOR RESIDENT MEDICAL OFFICER.

Applications are invited from registered Medical Practitioners for the appointment of a Junior Resident Medical Officer at the above Hospital. Candidates should be unmarried.

Preference will be given to applicants having experience in Midwifery, Gynaecology, and Diseases of Children

The appointment will, in the first instance, be for a period of six months, the successful applicant being eligible for re appointment for a further period of six months at the end of that period

The salary is at the rate of £200 per annum, together with the usual residential allowances.

The Hospital comprises 500 beds of which approximately 300 beds are already occupied

Applications accompanied by copies of not more than three testimonials should be addressed to the County Medical Officer Public Assistance (Hospital and Medical) Department County Offices Preston, not later than December 8th.

GEORGE FFRENTON
County Offices, Clerk of the County
Preston Council.
November 13th, 1930

City of Nottingham

The Health Committee have Two Vacancies for MEDICAL OFFICERS and invite applications from duly qualified Medical Practitioners to fill these posts at the CITY INFIRMARY Hucknall Road Nottingham The Hospital has 900 beds for the treatment of all classes of sick persons. It is a recognised Training School for Nurses and is equipped with all modern requirements. Candidates must possess General Hospital experience, and preference will be given to those having Poor Law experience. The salary will be £350 per annum, rising by annual increments of £25 to £450, with rations and furnished apartments The successful candidates will be required to contribute to the Corporation Superannuation Fund.

Applications on forms to be obtained from the undersigned with copies of not more than three recent testimonials, and endorsed Medical Officer' should be forwarded not later than December 9th

(Signed) W J BOARD,
Guildhall Town Clerk.
Nottingham

The Borough of Richmond (SURREY) and THE HESTON AND ISLEWORTH URBAN DISTRICT JOINT ISOLATION HOSPITAL COMMITTEE.

RESIDENT MEDICAL OFFICER.

The Committee requires the services of a Resident Medical Officer at its Hospital at Mogden

Applicants must be at least 35 years of age. Previous experience as a Resident in a Fever Hospital will be considered an advantage

Salary £400 per annum rising by annual increments of £50 to £500

At present no suitable living accommodation is available at the Hospital but will be provided in due course Until it is provided the person appointed will be required to live within easy distance of the Hospital The place of residence must be approved by the Committee When the accommodation is ready the person appointed will be required to take up residence in the Hospital Until then there will be an allowance at the rate of £130 per annum in lieu of emoluments

The Committee has no superannuation scheme at the moment

Applications accompanied by copies of three recent testimonials, to reach me by Nov 25th.

S C T LITTLEWOOD
14 Church Street, Clerk to the
Kingston on Thames Committee.
November 5th 1930

Borough of Todmorden

[illegible] invited for the position of [illegible] OFFICER OF HEALTH [illegible] CAL OFFICER. Salary £800 per annum The appointment is subject to the Local Government and Other Officers Superannuation Act 1922 Applications, stating age, qualifications and experience with copies of not more than three recent testimonials to reach me on or before December 1st in envelopes endorsed Medical Officer

Municipal Offices, HERBT CARRATT
Todmorden Town Clerk.

Hampstead General and North-West London Hospital, Haverstock Hill N.W.

APPOINTMENT OF HOUSE PHYSICIAN

Applications are invited from unmarried Medical Men for the appointment of House Physician vacant on January 1st next. The salary will be at the rate of £100 per annum together with board residence etc. and the term will be for six months.

Applications to be made on a form which will be supplied by the Secretary together with copies of not more than three testimonials should reach the Secretary not later than noon on December 6th next.

Hampstead General and North-West London Hospital, Haverstock Hill N.W.

APPOINTMENT OF HOUSE SURGEON

Applications are invited from unmarried Medical Men for an appointment of House Surgeon vacant on January 1st next. The salary will be at the rate of £100 per annum together with board residence etc. and the term will be for six months.

Application to be made on a form which will be supplied by the Secretary together with copies of not more than three testimonials should reach the Secretary not later than noon on December 6th next.

Croydon General Hospital

Applications are invited from qualified and registered Medical Men for the post of RESIDENT MEDICAL OFFICER. Salary £200 per annum with board residence etc. and the term will be for one year commencing on January 1st 1931 with the option of reappointment for a second year at the discretion of the Board.

Application stating age qualifications and experience together with copies of not more than three testimonials (which will not be returned) to reach the undersigned not later than Friday November 28th.

GEORGE H. DAMS
November 15th 1930 Secretary

Croydon General Hospital

A vacancy occurs on the Staff of the above Hospital for an HONORARY MEDICAL OFFICER to a Department for the Diseases of Children (Medical) and candidates for the appointment are requested to forward their applications together with statement of their qualifications and experience to me on or before Wednesday December 3rd with copies of three testimonials.

GEORGE H. DAMS
November 15th 1930 Secretary

Ancoats Hospital, Manchester

Application are invited for the following post which will become vacant on December 31st next

MEDICAL REGISTRAR (part time) Salary £100 per annum

SURGICAL REGISTRAR (part time) Salary £100 per annum

Application stating age qualifications experience appointments held etc. together with copies of three recent testimonials to be forwarded to the undersigned on or before Wednesday November 26th next and from whom all particulars may be obtained.

By Order of the Board
HERBERT J. DAFFORNE
Gen. Supt. & Secretary

Ancoats Hospital, Manchester

ORTHOPAEDIC HOUSE SURGEON male or female to commence duty on December 1st next for a period of six months salary at the rate of £100 per annum. Applications stating age qualifications previous experience if any to be forwarded together with copies of three recent testimonials on or before Wednesday November 26th to the undersigned.

By Order of the Board
HERBERT J. DAFFORNE
Gen. Supt. & Secretary

Kent and Canterbury Hospital, Canterbury

HOUSE SURGEON (male) required to commence duties on January 1st 1931. Six months appointment. Salary at the rate of £125 per annum plus board residence and laundry. Application stating age qualifications etc. and accompanied by testimonials should be forwarded to the undersigned not later than November 28th.

W. T. SOUTHWOOD
Superintendent & Secretary

Royal Southern Hospital, Liverpool.

Applications are invited for the post of HONORARY DENTAL SURGEON the duties to include attendance at appointed times for consultation and for the treatment of In patients and Out patients referred by the honorary staff.

Applications and testimonials to be sent addressed to the Chairman of the Honorary Medical Officers Election Committee not later than noon on Saturday December 6th.

EXTRACT RULE 17.—Any candidate shall be disqualified who advertises in the public papers or personally canvasses the members of the Election Committee. But candidates are to be at liberty to send to the members copies of their application and accompanying documents as delivered to the Chairman of the Committee.

ALLEN VALDERETT
Supt. & Secretary

The Royal Infirmary, Sheffield (500 Beds)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON.

The salary attached to the appointment is at the rate of £80 per annum for the first six months and £100 per annum afterward.

There are 68 ophthalmic beds and the post offers exceptional opportunities of gaining experience in Ophthalmology.

Application with copies of testimonials to be sent to the undersigned forthwith.

JNO. W. BARNES F.C.I.S.
Board Room Gen. Supt. and
November 17th, 1930 Secretary

Chelsea Hospital for Women, Arthur Street S.W.3.

There will be a vacancy for a JUNIOR HOUSE SURGEON (male) on January 1st, 1931. Appointment for six months. Salary £100 p.a. He will be expected to proceed to the Senior post (six months, salary £120 p.a.) at the end of his term of office. Candidates must be duly registered and preferably unmarried. Application accompanied by copies of three testimonials shall be sent not later than Tuesday December 2nd to the Secretary, HERBERT H. JENNINGS.

Jenny Lind Hospital for Children, Norwich

Applications are invited for the post of RESIDENT MEDICAL OFFICER. Commencing salary £120 per annum with board residence and laundry.

Candidates (male or female) who must possess registered qualification should forward application stating age, nationality etc. together with copies of testimonials to the undersigned not later than Tuesday December 2nd.

FRANK INCH, Secretary.

Hull Royal Infirmary (270 Beds)

Applications are invited for the post of ASSISTANT HOUSE PHYSICIAN (male) vacant November 27th.

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Salary at the rate of £130 per annum including board residence and laundry.

R. J. CAPLESS
Oct. 25th 1930 House Governor.

Royal National Orthopaedic Hospital

HONORARY ASSISTANT SURGEON

The Committee propose to appoint an Honorary Assistant Surgeon whose duties will include attendance in the Out patient Department on Thursday and Friday afternoon and charge of beds. Application with copies of three recent testimonials shall be sent to the Secretary 234 Gt. Portland St. W.1 on or before Wednesday December 3rd.

The Willesden General Hospital (Incorporated) N.W.10

CLINICAL ASSISTANT to the Surgical Out patient Department (Monday afternoon).

Applications are invited for the above Honorary appointment for a period of six months from December 1st.

Applications must be received by the Secretary of the Hospital no later than first post on Thursday November 27th, from whom details of the appointment may be obtained.

November 8th, 1930

Seamen's Hospital Society

The Committee of Management invite application for the appointment of ASSISTANT SURGEON at the ALBERT DOCK HOSPITAL, Connaught Road E.

Candidates must be Fellows of the Royal Colleges of Surgeons of England or Masters in Surgery of an University in the United Kingdom.

Application to be sent in on or before November 25th to the undersigned from whom further particulars can be obtained.

By Order
R. E. V. BAY
Greenwich. Secretary.
November 1930

The Prince of Wales's General Hospital, London N.15

Appointments of HONORARY CLINICAL ASSISTANTS in the various Departments of the Hospital (Surgical Medical Gynaecological Ear Nose and Throat Eye Skin X-rays and Electrical) for the ensuing year will be made in December.

Application for appointment to any of these posts should be sent to me on or before Tuesday December 2nd next.

J. C. BURDETT, Director.
November 10th, 1930

Royal Victoria and West Hants Hospital, Bournemouth

The Board of Management will after the expiration of one month proceed to appoint an HONORARY ANAESTHETIST.

Applications stating qualifications age and experience should be sent to the undersigned by November 26th. Canvassing personally or otherwise will disqualify.

By Order of the Board of Management,
GORDON M. SAUL,
November 11th, 1930 Secretary.

Wrexham and East Denbighshire War Memorial Hospital (109 Beds.)

The Elective Committee invite applications for the post of HONORARY SURGEON to the Ear Nose and Throat Department of this Hospital.

Application stating age qualifications with experience (only) of not more than three testimonials to be sent to the undersigned not later than first post Monday December 8th.

LESLIE SPENCER
November 11th, 1930 Secretary

Darlington General Hospital (120 Beds.)

Wanted HOUSE SURGEON male or female fully qualified British. Salary £150 per annum with board residence and laundry. Special Department—Eye Ear Nose and Throat Orthopaedic Maternity Ultra violet rays. Application stating age experience qualifications together with copies of two recent testimonials to be addressed to me forthwith.

A. FIDDLE, Secretary.

London Temperance Hospital, Hampstead Road, N.W.1

Applications are invited for the post of CASUALTY OFFICER (male). The appointment will be for a period of six months at a salary of £120 per annum, and will date from December 11th. Preference will be given to those who have held a resident post.

Candidates must submit application stating qualifications age etc. with copies of not more than three testimonials by Thursday, December 4th addressed to the Secretary.

London Temperance Hospital, Hampstead Road N.W.1

Application are invited for the post of HOUSE PHYSICIAN (male). The appointment will be for a period of six months at a salary of £100 per annum, and will date from December 16th. Preference will be given to those who have held resident posts.

Candidates must submit application stating qualifications age etc. with copies of not more than three testimonials by Thursday, December 4th addressed to the Secretary.

Durham County and Sunderland Eye Infirmary

HOUSE SURGEON wanted. Must have Ophthalmic experience. Salary £350 per annum rising by annual increment of £50 to £400 per annum. Applications (with three copies of three recent testimonials to be sent to—

E. & Inderland. JOHN BUTTERFIELD
Sunderland. Secretary

Queen Mary's Hospital for the East End

Stratford 1 15
Telephone—Maryland 2616

Applications are invited from fully qualified and registered Medical Men for the following posts

One RESIDENT MEDICAL OFFICER Salary £200 per annum
Two HOUSE SURGEONS Salary £120 per annum
One HOUSE PHYSICIAN Salary £120 per annum
One OBSTETRIC HOUSE SURGEON Salary £120 per annum
One HOUSE PHYSICIAN and RESIDENT ANÆSTHETIST Salary £120 per annum
One CASUALTY OFFICER Salary £150 per annum

The Hospital contains 216 beds including 47 Maternity Beds and other Special Depts

Candidates should have previously held House appointments

Applications must be sent to the undersigned by testimonials to the undermentioned not later than Wednesday December 3rd

The appointments will date from January 1st 1931 and will be for six months except in the case of the Resident Medical Officer which will be for twelve months

RAPHAEL JACKSON (Major) Secretary

Royal Victoria Infirmary,

NEWCASTLE ON TYNE

The Committee invite applications for the post of HOUSE SURGEON (Male) to the Skin and Venereal Department

The appointment is tenable for five months from December 1st

Candidates must be registered in Medicine and Surgery and must produce evidence of being able to administer anæsthetic

Remuneration will be at the rate of £50 per annum

Before making application intending candidates are asked to apply to the undermentioned for a copy of the regulations governing the appointment

Applications stating age experience and qualifications accompanied by copies of two testimonials should be sent to the undersigned not later than Tuesday Nov 25th mentioned

S DUNSTAN
House Governor & Secretary

Nov 14th 1930

Kent County Ophthalmic and Aural Hospital, Maidstone.

(105 Beds)

Application are invited for the post of OPHTHALMIC HOUSE SURGEON (male) which will become vacant at the end of November The appointment is for six months but may be renewed for a further six months

Candidates must be duly qualified and registered Medical Practitioners single and of British birth and nationality and should have some experience of Refractions

Salary at the rate of £200 per annum with board residence and washing

The Hospital is recognised for the practical work of the Diploma

Applications stating age and qualifications together with copies of three testimonials should be sent to the undersigned

JOHN W STRICKLAND Secretary

South Devon and East Cornwall Hospital, Plymouth (240 Beds)

Applications are invited for the posts of
(1) HOUSE PHYSICIAN (Woman)
(2) HOUSE SURGEON to Casualty and Special Departments (Woman)

Salary £120 and £100 per annum respectively with board residence and laundry Appointments are tenable for six months and are subject to renewal Candidates must be registered under the Medical Acts

Applications stating age and qualifications together with copies of recent testimonials to reach the undersigned by November 24th

ARTHUR R CASH
Nov 7th 1930 Con Supt & Secretary

Children's Hospital, Sheffield

Applications are invited for the post of THIRD RESIDENT MEDICAL OFFICER vacant January 1st 1931 Salary £100 per annum with board residence and laundry

Candidates (female and unmarried) who must possess registered qualifications should forward application stating age etc together with copies of three recent testimonials to the undersigned

The successful candidate will be eligible for the next Senior post when vacant

T H C GAITLAND Secretary

West Riding Mental Hospital, Storrhs Hall Kirkburton, near Huddersfield

Applications are invited from fully qualified men or women for the appointment of ASSISTANT MEDICAL OFFICER age about 30 and unmarried Preference given to candidates possessing the Diploma in Psychological Medicine and who have held a Medical or Surgical House appointment Salary £400 per annum rising by annual increments of £25 to £500 with board apartments laundry and attendance valued for superannuation purposes at £120 per annum In addition of £50 per annum is granted for the possession of the D P M On promotion to senior grade the salary rises to £500 The appointment is subject to the provisions of the Asylum Officers Superannuation Act and the selected candidate will be required to pass a medical examination before appointment Laboratory facilities with trained Assistant for Research and Clinical work

Applications including copies of three recent testimonial to be sent immediately to the Medical Superintendent

November 17th 1930

Brighton, Hove and Preston Dispensary and Hove Hospital

Sackville Road Hove

Applications are invited for the post of GENERAL SECRETARY Applicants who must not exceed 45 should apply in writing stating age qualifications experience and salary required and should at the same time enclose copies of testimonials Preference will be given to those applicants possessing an experience of hospital administration organisation accountancy and clerical work

Hundred a year fare will be paid to those selected for interview

The applicant appointed will be required to enter upon his duties as early a date as possible

R A PENDY
8 Ship Street Hon Secretary
Brighton
November 12th 1930

City of London Hospital for Diseases of the Heart & Lungs,

Victoria Park E 2

(Bus Tram and Rail Cambridge Heath, L N E R Railway)

Applications (with copies of three testimonials) are invited to be sent to the undersigned on or before Monday December 8th for the following posts subject to the rules and bylaws of the Hospital

RESIDENT MEDICAL OFFICER (male) for one year from January 1st 1931, with eligibility for reappointment Salary £250 per annum

HOUSE PHYSICIAN (male) for six months from January 1st 1931 Salary at the rate of £100 per annum

Board, residence and laundry provided

CLORGE WATTS Secretary

Southport General Infirmary

(150 Beds)

Special Departments for Eye Ear Nose and Throat X rays Massage Skin, Pathology etc

Wanted to take up duties on January 1st 1931 a JUNIOR HOUSE SURGEON fully qualified and registered unmarried

Salary at the rate of £100 per annum with residence board and laundry and additional salary of £50 per annum for services rendered in the X D Department

Applications stating age nationality and experience with copies of testimonials to be sent in by December 1st to the Secretary The Infirmary Office Pilkington Rd Southport

Aberdeen Royal Mental Hospital

JUNIOR ASSISTANT PHYSICIAN (male) wanted for the above Mental Hospital Preference will be given to one who has had general Hospital experience Commencing salary £300 per annum with board lodging and laundry

Applications stating qualifications and experience with copies of three recent testimonials should be sent to the Physician Supt

Cheshire Joint Sanatorium, Market Drayton, Salop

HOUSE PHYSICIAN required (male) The appointment will be for twelve months In residence and laundry

Applications to be made on forms obtainable from the Medical Superintendent

Woolwich and District War Memorial Hospital

Shooters Hill London S E 18
(CENTRAL HOSPITAL—112 Beds.)

The Board of Management invites applications from suitably qualified candidates for appointment as

(a) HOUSE PHYSICIAN for a period of six months as from January 1st 1931 An honorarium of £100 per annum will be paid in respect of this appointment plus board residence and laundry

(b) PART TIME ANÆSTHETIST at a salary of £300 per annum

Applications in respect of both appointments should be addressed to the undersigned to reach him not later than first post on Tuesday December 9th and full particulars of experience previous appointments etc together with copies of not more than three recent testimonials, should accompany applications

EDWIN RADFORD
Secretary Superintendent

The Cancer Hospital (Free)

(Incorporated under the Royal Charter),
Fulham Road, London S W 3

The Committee are prepared to receive applications for the post of HOUSE SURGEON Salary at the rate of £100 per annum The appointment is for six months and subject to rules Candidates must call upon each member of the Medical Committee not later than Monday December 8th A copy of the rules and the names and addresses of the Medical Committee may be obtained from the Secretary Previous experience as a House Surgeon is indispensable

Applications with three (copies only) testimonials to be sent to the undersigned not later than the first post on Saturday November 29th.

J COURTNEY BUCHANAN
Secretary

Metropolitan Hospital,

Kingsland Road E 8

The Committee of Management are prepared to receive applications for the appointment of an ASSISTANT MEDICAL OFFICER to the X ray and Electrical Department

Candidates must possess a registered Medical and Surgical qualification of the United Kingdom and must in addition hold the Diploma of Medical Radiology and Electrology

Candidates will be required to call upon Members of the Staff

Five duly applications complete with copies of recent testimonials, must reach the undersigned from whom further particulars may be obtained not later than first post on Saturday November 29th

HERBERT F RUTHERFORD
Secretary & House Governor

Princess Louise Kensington Hospital for Children

St Quintin Avenue North Kensington W 10

(50 Beds)

HOUSE SURGEON male or female required for six months from January 1st 1931 Salary at the rate of £100 a year for first five months at the rate of £100 a year after which should he or she be appointed Senior Resident (of two) the salary would be at the rate of £125 a year With board residence and laundry in each case It is desirable that applicants should have held a responsible Hospital post Applications with copies of three testimonials must be submitted on a form to be obtained from the Secretary Applications must reach the Secretary not later than first post on Monday December 8th

East Suffolk & Ipswich Hospital,

IPSWICH

(265 Beds—7 Residents)

Applications are invited for the post of HOUSE SURGEON Salary £120 per annum Board residence, and laundry Previous experience essential

Applications from British (male) candidates stating age, qualifications and experience accompanied by three recent testimonials to be sent to the undersigned

ARTHUR GRIFFITHS
The Hospital Secretary
Ipswich
August 18th 1930

Taunton and Somerset Hospital

TAUNTON (164 Beds)

HOUSE SURGEON (male) required Two other resident officers Salary of the rate of £100 per annum with board residence and laundry

Applications, with testimonial to—

J J STACEY Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square, W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District	Town or District	Town or District
CONTRACT PRACTICE	**CONTRACT PRACTICE** (cont'd).	**PUBLIC HEALTH**
EBBW VALE, MON. (*Workmen's Medical Society*)	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. (*Workmen's Medical Scheme*)	CORNWALL EDUCATION COMMITTEE. (*Assistant School Medical Officer—Female*)
GILFACH GOCH, GLAMORGAN (*Workmen's Medical Scheme*)	NEATH AND DISTRICT (*Medical Aid Association*)	PORTSMOUTH EDUCATION COMMITTEE. (*Lady Assistant School Medical Officer*)
LOWESTOFT MEDICAL INSTITUTE. (*Male Medical Officer*)	OAKDALE, MON. (*Medical Officer for Medical Aid Association*)	STIRLING ROYAL BURGH (*Medical Officer of Health*)
LLWYNYPIA, CLYDACH VALE, PENYGRAIG, GLAMORGAN (*Workmen's Medical Scheme*)	OGMORE VALLEY, GLAMORGAN (*Wyndham Colliery Medical Aid Society*) (*Workmen's Medical Scheme*)	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. (*Assistant School Medical Officer*)
MARDY, GLAMORGAN (*Workmen's Medical Scheme*)		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association, B.M.A. House, Tavistock Square, W.C.1.

Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch	Town or District	Hon. Sec. of Division or Branch
NEW SOUTH WALES (*All Friendly Society Appointments*)	Dr. R. H. TODD (Hon. Sec. New South Wales Branch, Savings Bank Building, 21 Elizabeth St. Sydney, N.S.W.	**SOUTH AUSTRALIA** (*Lodge Appointment*)	Secretary, South Australian Branch, B.M.A. House, 207 North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND** (*Contract Practice All Friendly Society Appointments*)	Dr. G. F. V. ANSON (Hon. Sec. New Zealand Branch, British Medical Association, P.O. Box 150, Wellington, New Zealand.
QUEENSLAND (*Brisbane Associated Friendly Societies Institute*)	The Hon. Sec. Queensland Branch, British Medical Association, B.M.A. Building, Adelaide St. Brisbane.	**VICTORIA.** (*All Institute or Medical Dispensaries*)	Dr. J. P. Major (Hon. Sec. Victorian Branch, British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA** (*Contract and Lodge Practice*)	Hon. Sec. Western Australian Branch, British Medical Association, No. 6 Bank of N.S.W. Chambers, St. George's Terr., Perth, Western Australia.

November 19th, 1930. By Order of the Council. ALFRED COX, Medical Secretary.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A PART-TIME JUNIOR CASUALTY OFFICER is required on January 9th, 1931, to assist in the Casualty Department from 10 a.m. to 3 p.m. (Saturdays 10 a.m. to 1 p.m.) under the direction of the Casualty Officer.

The work of this Officer includes a large number of Tonsillectomies and other minor operations.

Candidates must be registered Medical Practitioners and have held a resident Hospital appointment.

Gentlemen are invited to send in their application, addressed to the Secretary, before 12 o'clock on Monday, December 1st, accompanied by copies of not more than three testimonials written specially for the purpose.

The appointment is made for six months and is non-resident.

Salary at the rate of £150 per annum with luncheon.

All candidates must be in attendance to appear before the Joint Committee if required at their meeting on Wednesday, December 3rd, at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary at the Hospital.

By Order of the Board of Management,
JAMES McKAY,
Secretary.

November, 1930.

National Hospital, Queen Sq.,
for the Relief and Cure of Diseases of the Nervous System, including Paralysis and Epilepsy.

HOUSE PHYSICIAN.

The Board of Management invite applications for the post of House Physician, which should be sent to the undersigned, accompanied by copies of three recent testimonials, not later than Monday, December 1st. The salary is £150 per annum, with board and lodging. The appointed officer will be needed about the end of December.

GODFREY H. HAMILTON,
Secretary.

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1.

A HOUSE SURGEON and a HOUSE PHYSICIAN are required on January 1st, 1931.

Gentlemen are invited to send in their applications, addressed to the Secretary, before 12 o'clock on Monday, December 1st, with copies of not more than three testimonials given specially for the purpose, and also evidence of their having held a responsible Hospital appointment.

The appointments are made for six months. Salaries at the rate of £100 per annum, laundry allowance £5, board and residence in the Hospital.

Candidates must be unmarried and possess a legal qualification to practise.

All candidates must be in attendance to appear before the Joint Committee if required at their meeting on Wednesday, December 3rd, at 4.45 p.m. precisely.

Forms of application and copies of the rules may be obtained from the Secretary.

By Order of the Board of Management,
JAMES McKAY,
Secretary.

November, 1930.

The Salvation Army,
THE MOTHERS' HOSPITAL,
Lower Clapton Road, Clapton, E.5.

Applications are invited from Medical Women for the post of JUNIOR RESIDENT MEDICAL OFFICER, vacant January 1st, 1931. Salary £60 per annum, with board, residence and laundry. The appointment is for six months. Application with testimonials must be sent to the Secretary on or before November 24th.

EDGAR DIBDEN, Secretary.

Connaught Hospital,
Orford Road, E.17. (100 Beds.)

RESIDENT HOUSE SURGEON (male) required. Salary £100 per annum. Appointment for six months, with board, quarters and laundry. Applications, stating age, nationality, qualifications and experience, accompanied by copies of not more than three recent testimonials, should be sent immediately to the Secretary.

Bolton Infirmary & Dispensary
SECRETARY'S OFFICE.
(24 Beds, including Auxiliary Hospitals.)

Application for the appointment of TWO HOUSE SURGEONS and CASUALTY OFFICER. Salary £150 each per annum, with board, residence and attendance, are invited from Ladies and Gentlemen having a registered Medical and Surgical qualification. The appointment of House Surgeons will be for twelve months, and Casualty Officer for six months, from January 1st, 1931. The Resident Staff consists of five persons.

Application, stating age and nationality, with copies of testimonials, should be forwarded to the undersigned (from whom further particulars may be obtained), not later than Monday, the 24th inst., and the appointment will be made on Thursday afternoon, December 4th.

ALBERT E. BISCOE, Secretary.

Merthyr General Hospital,
MERTHYR TYDFIL.

Applications are invited for the post of RESIDENT HOUSE SURGEON at this Hospital for a period of six months. Salary at the rate of £150 per annum, with board, rooms and laundry.

Applicants must have had experience in administration of anæsthetics.

Application, stating age and qualifications, and enclosing copies (only) of not more than three testimonials, should be addressed to the Secretary, Hon. Medical Staff, Merthyr General Hospital.

The Sheffield Royal Hospital.

Required, OPHTHALMIC HOUSE SURGEON, also RESIDENT ANÆSTHETIST to commence duties at once (males). Salary, for the first six months at the rate of £50 per annum, after which £100 per annum, and board, residence and laundry. There are two Assistant Medical Officers.

Applications should be forwarded, now to—

W. H. BOOTH,
Superintendent and Secretary.

(Appointments continued on p. 54.)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE
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Wanted — Assistant, married man preferred to live at Branch Pheasant house, with salary £350, and rates, etc Industrial country town, N of England Prospects for suitable man Usual bond — Address stating age and other particulars No 7952 B M A House Tavistock Sq, W C 1

Wanted — Assistantship, with view Partnership or Succession in busy Practice by Scotch M B Ch B 28, married Honorary Anaesthetist ex R M O, C O, and Senior H S Good G P experience Excellent refs Surgical scope pref Interview — Add No 7851 B M A House Tavistock Sq W C 1

Wanted at once, Assistant, with view, either English or Scotch for good Practice in South West Should be good at minor surgery Terms by arrangement for suitable man — Address No 7975 B M A House Tavistock Square W C 1

Wanted at once, married Assistant English or Scotch age about 30, to live at Branch (unfurnished) London Salary £400 per annum Com on mids Electric light and gas Send photo — Address No 7974 B M A House Tavistock Square, W C 1

Wanted — Outdoor Assistant, male for private Practice in London Young energetic Salary £7 weekly Usual bond Northern Irishman preferred (Protestant) Full particulars — Address, No 7954, B M A House Tavistock Square W C 1

Wanted immediately — Assistant male single English or Scotch Some experience preferred In a semi rural and rural district Rooms and board Salary £350 Recent testimonials and photograph required — No 8081 B M A House Tavistock Sq W C 1

Wanted — Indoor male Assistant mixed Practice South London one willing to stay at least 12 months Salary £300 p a to begin increasing later if suitable Work light time for reading — Add with full particu No 7930 B M A House Tavistock Sq W C 1

Wanted immediately — Experienced ASSISTANT (married) with view to take charge of Branch and house in N I London Refs essential Particulars for interview — Address No 8079 B M A House, Tavistock Square W C 1

Wanted — Male Assistant, young qualified single for large private and panel Practice in West Riding Salary £300 per annum all found Usual bond — Apply Beta REYNOLDS & BRANSON, Ltd, Wholesale Chemists 13 Briggate Leeds

Wanted — Assistant, indoor or outdoor (latter preferred) for panel and private Practice in East London suburb Usual bond — Address giving all essential particulars No 8075 B M A House Tavistock Sq W C 1

Wanted, an Assistant for a high-class West End London Dental Practice With Medical qualification and knowledge of X ray work preferred — Address No 8080, B M A House Tavistock Square, W C 1

Wanted — An Assistant for Country Practice with some experience Able to drive car and dispense Work light Give full particulars — Address No 7971, B M A House Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male) for Country and Town Practices with and without view State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted — Assistantship by Scot Graduate 32 married Good experience G P and Hospitals Experience mid wifery anaes eyes skin Excell refs Interv — No 7953 B M A House Tavistock Sq W C 1

Wanted by M R C S, L R C P, PART TIME ASSISTANTSHIP Mornings or evenings free North London preferred — Address No 7973, B M A House Tavistock Square W C 1

Wanted — Assistant, outdoor, male under 30 for London N Work light Commencing salary £350 — Address No 7959 B M A House Tavistock Sq W C 1

Wanted — Woman Assistant for London working class Practice either whole or part time Live out — Address No 7976 B M A House Tavistock Sq W C 1

Assistant, with view, wanted for mixed Practice on outskirts of London Income £3 000 with immediate scope for increase Applicant should be English or Scotch about 30 and well qualified — Address No 7979 B M A House Tavistock Square W C 1

Male Assistant wanted — Easy panel Practice in Leeds £300 per annum, with board and residence — Apply Delta REYNOLDS & BRANSON Ltd Wholesale Chemists 13, Briggate Leeds

M. O H Appointment — Wanted by M O H an ASSISTANT with the D P H with the view to early succession to two M O H appointments amounting to £600 per annum A premium out of salary required when succession is obtained Privat practice allowed — Address No 7962 B M A House Tavistock Square W C 1

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PARTNERSHIPS

Wanted — Partnership, good-class non panel Practice, London North West or 30 miles radius by Woman M D M R C P 4 years res appts London Hospitals midwifery dermatology etc Capital available — No 7951 B M A House Tavistock Sq W C 1

A Half Share Partnership in a charming Kentish Village Practice Old established unopposed returning with appointments £2 200 p a Panel 1 200 Succession later — Apply Mr HUISH, 73, Station Road Redhill, Surrey

London, W 6 — For Sale, March 31st — ½ SHARE in well established mixed PRACTICE averaging £4 800 House available rent £75 Two years purchase — Address No 7972 B M A House Tavistock Square W C 1

M B, D T M & H, D P H (Lond) aged 29 married, 4½ years general and hospital experience requires PARTNERSHIP in good class Practice preferably within 50 miles of London Capital available no agents — Address No 7966 B M A House Tavistock Sq W C 1

M B, B S, M R C S, seeks PARTNERSHIP Seven years acute general experience Specialist for medicine midwifery or anaesthetics Hospital experience No agents — Address No 7960 B M A House Tavistock Square W C 1

Midlands — Partnership for Sale in non panel better-class Practice in rapidly developing district averaging £2 800 Work very light and little midwifery One half share (approx) for sale at 1 year's purchase Mod house for sale or rent — Address No 7058 B M A House Tavistock Square W C 1

Partnership — Third Partner in sound South Midland County Practice with good panel and appointments close to three good towns Ex H S or H P Modern house with good garden at rental 2 7th share worth £1 000 p.a. at 2 years purchase First years income of £1 000 guaranteed — Address No 8072 B M A House Tavistock Square W C 1

University Graduate, 34, good standing, Hospital and private practice experience seeks good class PARTNERSHIP (London) Panel not objected to — Address, No 8076 B M A House Tavistock Square W C 1

Yorkshire (W R) — Partnership in good Practice Income £4 235 p.a. Panel 2 841 Good house to rent at £52 p.a. Premium — 1/4 share — £1 150 for quick sale — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

MEDICAL POSTS DISPENSERS etc.

Advertiser (gentleman), free in the evenings and the whole of Saturday and Sunday prepared to undertake ACCOUNTANCY WORK at any address in London Fully experienced All necessary references — Address, No 7964 B M A House, Tavistock Square W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations — Write wire or phone (Park 0969) Secretary 7 Westbourne Park Road W 2

A well known firm of Manufacturing Chemists has a vacancy on its staff for a qualified MEDICAL PRACTITIONER who is able to write first class copy for literature issued regarding its medicinal products Applicants state age and qualifications — Address No 8074 B M A House, Tavistock Sq, W C 1

Birmingham — Wanted, part time WORK (permanency preferred) in panel or private Practice no midwifery live out Telephone Bearwood 1848 — Mervicy Peace Haven 5 Fountain Road Edgbaston Birmingham

Clerk required, must be ex Service man Good shorthand typist essential Preference given to one with previous Institution experience and knowledge of medical terms Salary £3 10s per week rising to £4 — Applications together with copies of three recent testimonials to be sent to the Steward Heatherwood Hospital Ascot

Desired — position as House KEEPER by Doctors Widow with little child who could be sent to a boarding school and own furniture which could be disposed of if necessary Please write particulars — Address No 7965, B M A House Tavistock Square W C 1

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers Secretary Dispensers Nurse Dispensers and Chauffeuse Dispensers. — Write wire or phone Central 3679 THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct, E C 1

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Harley Street Physician recommend LADY SECRETARY well educated shorthand typing account Mornings only —Mr MACPHERSON 8 Glyn Mansion Addison Bridge W.14

Lady Dispenser - Bookkeeper (Hall) 8 years experience private and panel Practices 3½ years last post ex V.A.D. help minor operations dressings typing keen worker tactful cheerful Live out Personal interview Disengaged —Miss FOX Trevone Oldfields Road Uttoxeter Staff

Lady Dispenser - Bookkeeper (Hall) roomy six years good experience in private and panel Practices care of interment etc. requires PERMANENT or LOCUM POST with Doctor disengaged Interview— W., 16 The Uplands Loughton Essex

Lady requires position as SECRETARY to Doctor Few days a week or every day Six years Banking experience also V.A.D. Would drive car if necessary— Address No. 8077 B.M.A. House Tavistock Square W.C.1

Lady Secretary - Receptionist, well experienced in Medical Mathematical and Scientific Manuscript work Shorthand Typing Accounts etc desires POST in or near London Aged 29 — Mr PETRE, 20 Vernon Road S.W.14

Lady seeks post as Receptionist to Dentist or Doctor Trained Nurse London preferred —Address No 7957 B.M.A. Tavistock Square W.C.1

Public School and University Graduate (Scottish) B.Sc., M.B. and B.S. to E.N.T. Dept. Clin. Asst. Central London Throat Hosp. experienced in G.P. would like a POST for the next two months Preferably with a bearing on Throat work —Address No 7957 B.M.A. House Tavistock Square W.C.1

Secretarial position required by Lady to Doctor or Dentist Nursing experience capable stenographer good appearance First-class references —Address No 7968 B.M.A. House Tavistock Square W.C.1

The Royal Army Medical Corps ASSOCIATION 86 Eccleston Square S.W.1 (Telephone Victoria 3722) supplies qualified Dispensers Bookkeepers Laboratory Assistant Sanitary Assistant Male Nurses Mental and Special Treatment Orderlies Dental Clerk Orderlies Porters Caretakers etc without charge to prospective employers

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PRACTICES

Wanted by London Graduate (ex-naval) aged 45 Country PRACTICE OR PARTNERSHIP South or South West of England not seaside Good house fishing and shooting an asset —Address No 7883 B.M.A. House Tavistock Square W.C.1

Wanted —Mixed General Practice by Indian Doctor in London Town preferably London area Income £1,200 —£1,500 How to let Cash available No agents — Address No. 8078 B.M.A. House Tavistock Square W.C.1

Wanted at once — Unopposed Country PRACTICE. £1,100—£1,500 Panel 700 to 1,000 (Ample) capital) Detached house and good garden essential — Address B.M.A. 26 Langham Street W.1

Wanted —Practice in or about Bristol £1,000 p.a. upwards Capital available Full detail in confidence —Address No 7908 B.M.A. House Tavistock Sq. W.C.1

Wanted — Good Panel PRACTICE or PARTNERSHIP York like preferred —Full particulars in confidence to No 7855 B.M.A. House Tavistock Square W.C.1

Cheshire Town near Manchester —Average cash receipts £800 Panel 450 Much scope Excellent modern house 2 reception 4 bedroom Garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Co Tyrone —Woman Doctor's PRACTICE for sale Panel nucleus and small private practice about £250 p.a. in country town Ample scope for increase Suitable resident with modern equipment Good stock drugs.—Address No 7978 B.M.A. House Tavistock Square W.C.1

Death Vacancy —Manchester — Old-established panel and private PRACTICE Average cash receipts £3,006 p.a. Panel 2,586 Assistant kept Good house for sale or rent on lease 2 reception 5 bedrooms Premium— Practice—best offer —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Dundee, Scotland — Excellent opportunity to acquire good general and panel PRACTICE (panel over 1,650) in centre of town (168,000 inhabitants) Immediate sale owing to sudden death.—For further particulars apply to W. B. DICKIE & SONS Solicitors 11 Whitehall Street Dundee

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised Inform free on applic.—4 Adam St. W.C.2.

For Sale —Yorkshire University Town —Old-established panel and private PRACTICE. Average over £1,800 p.a. Panel 1,857 Price £2,700 This Practice has a house in its own ground with trees also a double garage Near to but quite separate from a thickly populated area. Price for house £2,000 £1,250 may stand over— Address No 7969 B.M.A. House Tavistock Square W.C.1

Isle of Man —Seaside Town — Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel) Semi-detached house 3 rooms 4 bedrooms Garden Good schools. Premium—Practice and house— any reasonable offer — BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

Lancs — Unopposed Practice in lovely country Nice house 8 rooms bath garden garage Receipts over £500 much scope. Appointments £150 Price—Practice and house (freehold)—£2,000 part deferred — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Liverpool (near) — Old-estab. Middle-class PRACTICE. Cash receipts 1929 £1,431 Excellent corner house 2 reception 5 bedrooms Garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Liverpool —Old-established non-dispensing PRACTICE. Average cash receipts £3,845 p.a. Panel 2,961 Assistant kept House 2 consulting rooms waiting room, 4 bedrooms Garage Rent £55 p.a. Premium 1 years purchase—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Manchester — Industrial Practice. Average cash receipts £978 Panel 721 Plenty of scope Good house 2 reception 5 bedrooms Rent £50 p.a. Premium 1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Medical Practice (private and panel) in Clyde Coast Resort for sale —Apply CRAWFORD HEPPLE & CAMERON Writers 257 West George Street Glasgow C.2.

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North Midlands — Practice and HOUSE For Sale in rapidly growing district Little competition Receipts £800 Panel 400 Cottage Hospital less than a mile away and General Hospital four Golf Links and Aerodrome very near No 7865, B.M.A. House Tavistock Sq. W.C.

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To Purchasers — Do not buy without expert assistance. With 40 yrs. experience Mr PERCIVAL TURNER can advise in all cases. Terms free on application to 4 Adam St. Strand W.C.2. Telephone Temple Bar 9011 Telegrams Episomian London."

Urgent Sale — Vendor going abroad —Midland Town —Well-established panel and private PRACTICE. Over £470 p.a. Panel 400 Splendid scope House available Central Surgery Reasonably low premium quick sale —Address No 7935 B.M.A. House Tavistock Square W.C.1

Urgent —For Sale in beautiful district Mid Wales Country PRACTICE Panel 320 Appointment £160 p.a. Private practice first 12 months equal £760 Long House rent £50 p.a. Price £600 cash May be sold Insured — No 7961 B.M.A. House Tavistock Sq. W.C.1

Well-established Country PRACTICE in County of Shropshire Average net receipts for last three years over £900 Splendid dwelling house with all modern conveniences including electric light can be rented for £100 per year or purchased if desired Price wanted approximately £1,500 —CORBETT & BYERS W.S. Lockerbie

West of England and Wales — If buying or selling a Practice or Partnership consult the WESTERN MEDICAL AGENCY BRISTOL — DR. BENNETT and PARAMORE, c/o J. GODLO Solicitor 22 High Street.

Yorks —Old-established — Good Long lease garden garage rent and rates. £130 Average receipts £1,510 Panel averages over £500 Much scope Transfer if appointment £160 Price 1½ years purchase part deferred — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Yorkshire (N.R.) — Unopposed Country PRACTICE in pretty district Average cash receipts £750 p.a. Panel 450 Excellent modern house 12 rooms Garage and large garden with tennis court. Rent £42 p.a. Premium 1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Consulting Rooms to Let — Harley St and district —Whole and part time Lists sent on application Rooms wanted in Harley Street Please send particulars to ELGOOD & Co 10 Henrietta St Cavendish Square W 1 Langham 2601

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Consulting Room to Let in Doctor's house use of receptionist reception room telephone Glasgow West All replies treated in strictest confidence —Address No 7956 B M A House Tavistock Sq W C 1

TO MEDICAL PRACTITIONERS MASSEURS AND OTHERS

For Sale — The well-appointed SURGERY commodious RESIDENCE garage and premises formerly occupied by the late Dr J W MANN and situate No 222 Kath rine Street Ashton under Lyne The Surgery has entrance from Cavendish Street and comprises waiting room dispensary, and two consulting rooms The Dwelling house has hall entrance 3 entertaining rooms 4 principal and 3 secondary bedrooms bathroom kitchen and domestic offices central heating electric light —Apply Messrs HIBBERT & POWNALL Solicitors 127 Old Street Ashton under Lyne

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Harewood Chambers, 74 to 80, Gower Street W C near Marylebone Luston St Pancras and King's Cross Quiet comfortable rooms h and c Bedroom, bath table d hote breakfast 7/6 dinner 4/ From 2 gns p w — Phone Museum 3941—2

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127, Harley Street —Large well-lit ground floor CONSULTING ROOM with excellent attendance and joint use of beautifully furnished waiting room £300 per annum — Apply the Secretary Welbeck 7840

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City of Plymouth

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TENDERS are invited for the supply of Beds and Bedding for the equipment of Hospitals.

Conditions of Contract Schedule of Prices, and Form of Tender may be obtained on and as from November 20th from the undersigned to whom Tenders sealed and endorsed Beds and Bedding Contract must be delivered on or before noon November 28th

Municipal Offices R F FITTALL
Plymouth Town Clerk

APPOINTMENTS —Contd.

Coventry and Warwickshire HOSPITAL, COVENTRY (307 Beds)

RESIDENT ASSISTANT HOUSE SURGEON (male) wanted Salary £125 per annum Board laundry and attendance provided Candidates must be duly qualified and registered

Applications to be sent immediately to the undersigned

(Miss) R HOOPER
Secretary

The Royal Eye and Ear Hospital, BRADFORD

Wanted JUNIOR HOUSE SURGEON male Salary £150 with board residence and laundry

Applications stating qualifications age etc with copies of recent testimonials, to be forwarded to the undersigned

F BIGGS
Secretary Superintendent

Manchester Babies' Hospital, Burnage Lane LEVENSHULME.

Applications are invited for the post of SENIOR RESIDENT MEDICAL OFFICER Appointment is for six months Salary at the rate of £125 per annum with laundry Only candidates with previous Hospital experience need apply Applications together with copies of testimonials should be sent to the undersigned marked R M O by Saturday December 13th

ANGLA JOLLY, Secretary

Down Mental Hospital,
DOWNPATRICK NORTHERN IRELAND

ASSISTANT MEDICAL OFFICER

The Committee of Management of above Hospital at its meeting on April 19th will consider applications for vacant post of Junior Assistant Medical Officer Salary £300 per annum rising by annual increments of £25 to £400 per annum and with allowances of furnished apartments ration laundry fuel light and attendance valued for pensionable purposes at £130 per annum A deduction of 3 per cent will be made from the salary and value of allowances under the Asylums Officers Superannuation Act 1909

Candidates must be unmarried and not more than 32 years of age except that a deduction may be made for time served in the Army or Navy during the Great War

Form of application giving further particulars may be obtained from the Resident Medical Superintendent until December 13th

Miller General Hospital,
Greenwich Road S E.10

Applications are invited for the following post

HOUSE PHYSICIAN (Male)
HOUSE SURGEON (Male).

Salary in each case at the rate of £125 per annum with board residence and laundry Candidates must be unmarried

OUT PATIENT OFFICER (Male) who is required to see Medical and Surgical cases Attendance daily (except Sunday) from 9 to 1 Tuesdays 9 to 5 Salary £150 per annum and lunch.

The appointments are for six months from January 1st next There are six Resident Officers Application stating age nationality qualifications and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary as soon as possible

November 18th 1930

Royal Infirmary, Wigan
(180 Beds)

RESIDENT MEDICAL AND SURGICAL OFFICER AND REGISTRAR

Wanted January 1st 1931 a Resident Medical and Surgical Officer and Registrar Candidates must have held previous Resident appointments at a Hospital. Preference will be given to those possessing the F R C S or M S degree The salary is at the rate of £250 per annum with board residence and laundry The appointment is tenable for one year and the officer is eligible for re-election for a second year Application giving proof of registration and not more than three testimonials to be sent to the undersigned as soon as possible

A STANLEY BRUNT
November 18th 1930 Gen Supt & Sec

Loughborough and District
GENERAL HOSPITAL & DISPENSARY

Wanted to commence duties on January 1st next RESIDENT HOUSE SURGEON (female and unmarried) possessing a Medical and Surgical registered qualification Practical experience in the administration of Anaesthetics is required Salary £150 with apartment board and laundry All application stating age etc. with copies of testimonials to be sent to me at once

9 Leicester Road FRANK H TOONE.
Loughborough. Secretary
November 17th 1930

Weston-super-Mare General
HOSPITAL (80 Beds)

HOUSE SURGEON

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months Salary at the rate of £150 per annum with board room and laundry Duties to commence January 1st next. Applications stating age registered qualification and enclosing copies of testimonial should be addressed to the undersigned

LESLIE J FURSLAND
Secretary

West Suffolk General Hospital,
BURY ST EDMUNDS (108 Beds.)

JUNIOR RESIDENT MEDICAL OFFICER required on November 26th. Salary £150 per annum with board residence and laundry

Applicants must be fully qualified and registered. Application giving particulars of experience and enclosing three recent testimonials to be sent to the undersigned

E. E. HALDWICKE.
November 11th 1930 Secretary

Somerset County Council

APPOINTMENT OF MEDICAL SUPERINTENDENT SANDHILL PARK

The County Council invite applications for appointment as Medical Superintendent at Sandhill Park Bishop Lydeard near Taunton Salary at the rate of £850 per annum rising by increments of £50 every two years to £1 062 10s subject to revision and reduction when a residence is provided Travelling expenses when engaged on County Council work will also be paid in accordance with the scale in operation from time to time

Sandhill Park is a Certified Institution and Residential Special School for the training of mental defectives of both sexes. The Medical Superintendent will also have duties connected with the Institutions at Flax Bourton Shepton Mallet and Yatton which are ancillary to the main Institution at Sandhill Park and he will be required to carry out such other work in connection with the Mental Deficiency Service as the County Council may from time to time determine and require

The appointment is subject to the provisions of the Asylums and Certified Institutions (Officers Pensions) Act 1918 and to the Regulations of the County Council in force for the time being

Application which must be accompanied by copies of three recent testimonials addressed to the Secretary Mental Deficiency Act Committee 68 Boulevard Weston-super-Mare endorsed Medical Superintendent must be received not later than December 22nd Full particulars as to the duties and condition of appointment will be forwarded upon receipt of stamped addressed envelope

Hampshire County Council

ASSISTANT COUNTY MEDICAL OFFICER

Application are invited for the post of Assistant County Medical Officer Possession of a Diploma or Degree in Public Health is essential, and previous experience in public health work tuberculosis and medical inspection of school children maternity and child welfare or venereal diseases will be considered an advantage

Salary £600 a year rising by increment to £750 (subject to deductions under the Local Government and Other Officers Superannuation Act 1922) in addition to travelling expenses and subsistence allowances

Applications with copies of not more than three recent testimonials upon a form which, with the conditions of appointment may be obtained from the County Medical Officer The Castle, Winchester should be sent to him not later than December 13th. Canvassing is prohibited.

October 8th 1930

City of Leeds

ASSISTANT RESIDENT MEDICAL OFFICER KILLINGBECK SANATORIUM.

Application are invited from registered Medical Practitioners (male) for the post of Assistant Resident Medical Officer at the Tuberculosis Sanatorium Killingbeck (220 beds) Applicants must be unmarried and preference will be given to those who have held previous Hospital appointments

The appointment will be for one year at a salary of £250 per annum with board residence and laundry

Application on a form to be obtained from the Medical Officer of Health together with copies of three recent testimonial endorsed Tuberculosis Officer should be delivered to the Medical Officer of Health, 12 Market Buildings Vicar Lane Leeds not later than the first post on Wednesday December 3rd.

THOS THORNTON
Leeds Town Clerk.

University College Hospital

Applications are invited for the Honorary post of CLINICAL ASSISTANT to Dr TREDGOLD Associate Physician in Psychological Medicine Candidates must possess a registered Medical qualification and should forward their applications to the Secretary University College Hospital W C 1 by noon on November 29th

University College Hospital

Applications are invited for the Honorary post of CLINICAL ASSISTANT in the Ear Nose and Throat Department for a period of one year from December 16th.

Applications giving evidence of fitness for the post must reach the Secretary University College Hospital W C 1 by noon on Saturday November 29th.

West London Hospital,
Hammersmith Road W 6. (234 Beds.)

Required a Non-resident CASUALTY OFFICER (male). The appointment is tenable for one year from January 1st next subject to one month's notice on either side The appointed candidate will be eligible for re-election for two further periods of one year Salary at the rate of £220 per annum with lunch and tea daily Candidates must be duly qualified registered Medical Practitioners and preference will be given to those who have held a Resident appointment in a General Hospital. Application (which must be made on printed forms obtained from me) must reach me not later than first post on December 12th. Selected candidates will be required to call upon such Members of the Medical Staff as directed and to be in attendance at a meeting of the Medical Council at 4 p.m. on Friday December 19th and the House Committee meeting at 4.45 p.m. the same day when the appointment will be made

H. A. MADGE, Secretary

West London Hospital,
Hammersmith Road W 6 (234 Beds)

Required One HOUSE PHYSICIAN One HOUSE SURGEON and One AURAL and OPHTHALMIC HOUSE SURGEON (Male) The appointments are tenable for six months from January 1st next subject to one month's notice on either side. Salary at the rate of £100 per annum with board, lodgings and washing allowance Candidates must be registered under the Medical Act. Applications (which must be on printed forms obtained from me) must reach me not later than first post on Friday December 12th Selected candidates will be required to call upon such members of the Medical Staff as directed and to be in attendance at a meeting of the Medical Council at 4 p.m. on Friday December 19th and the House Committee meeting the same day at 4.45 p.m. when the appointment will be made

H. A. MADGE, Secretary

Royal Burgh of Kirkcaldy

ASSISTANT MEDICAL OFFICER.

The Town Council invite applications from registered Medical Practitioners having a recognised qualification in Public Health, for the post of Assistant Medical Officer

Salary £500 per annum, rising by annual increments of £25 to £675

The duties will include school medical inspection and a knowledge of Infectious work is essential

The successful candidate will be required to carry out any duties assigned to him by the Medical Officer of Health and must be prepared to commence duty on January 1st 1931

Application stating age with full particulars of qualification experience previous appointment held and with copies of three recent testimonials to be forwarded on or before November 26th, to the Medical Officer of Health, Public Health Department Kirkcaldy

WM L. MACINDOE.
Town Clerk Kirkcaldy

Warwickshire and Coventry
JOINT COMMITTEE FOR TUBERCULOSIS

KING EDWARD VII MEMORIAL SANATORIUM, HERTFORD HILL, near WARWICK.

Applications are invited from duly registered Medical Practitioners (male) for the post of JUNIOR ASSISTANT MEDICAL OFFICER at the above Sanatorium which contains 196 beds for the treatment of all stages of pulmonary tuberculosis Salary £200 per annum with board lodging and laundry

At the end of six months the successful candidate will be eligible for promotion to Senior Assistant Medical Officership at the Institution.

Application further particulars and testimonials should reach the undersigned by November 24th

C CAYDON BUDGE.
Medical Superintendent

The Dewsbury and District
GENERAL INFIRMARY

Applications are invited for the post of SENIOR HOUSE SURGEON Salary £200 per annum and board residence and laundry

Applications stating age and experience together with copies of three testimonials to be sent to the undersigned before Tuesday December 2nd. The appointment commences January 1st 1931.

H. G PRICE.
Nov 12th, 1930 Secretary Supt.

Messrs R SUMNER & Co, Ltd,
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40, HANOVER ST, LIVERPOOL,
have the following PRACTICES for Disposal, and will be pleased to give further details on application

DEATH VACANCY PRACTICE Lancashire Town Receipts £810 per annum Panel 1 000 House on rental

PRACTICE in town in Montgomeryshire Receipts £1 230 per annum Panel 550 Reason for disposal ill health Sell for reasonable offer

CHESTER PRACTICE Receipts £1,500 Panel 1 500 House on rental

LIVERPOOL PRACTICE. Receipts £1,054 Established 31 years Residential district Small panel Reason for disposal ill health

DEATH VACANCY East Coast Town Receipts £1,250 Panel 1 200 House on rental

THE WESTERN MEDICAL AGENCY, BRISTOL

PRELIMINARY ANNOUNCEMENT

All Medical Agency work undertaken under the personal supervision of two Medical Men of many years experience—Drs K H Bennett and W J Paramore, c/o P Godson Solicitor, 22 High Street Bristol

Queen's Hospital for Children,
Hackney Road, London, E 2

HOUSE PHYSICIAN required on January 1st 1930 SIX months appointment Salary at the rate of £100 a year, with board, lodging and washing

Applications must be made on forms to be obtained from the undersigned and must be sent in with copies of not more than four testimonials on or before December 10th

CHARLES H BESSELL
Nov 13th 1930 Acting Secretary

Royal Liverpool Babies' Hospital
WOOLTON

Required immediately RESIDENT MEDICAL OFFICER for the above Hospital The appointment to be for a period of six months Salary at the rate of £90 per annum Applications with copies of testimonials to be sent to the Chairman of the Hospital c/o the Child Welfare Association 9 Copperas Hill Liverpool on or before Saturday November 29th

St George's Hospital, S W 1

Owing to the retirement of the SENIOR and TWO other ANÆSTHETISTS at the end of 1930 the House Committee invite applications for these posts. There are five Visiting Anæsthetists to the Hospital of whom the Senior must not be engaged in General Practice

Applications should be sent to the Secretary not later than December 1st next

J M CHURCHFIELD,
November 5th 1930 Secretary

Aberdeen Royal Infirmary

The Board of Directors invites applications for the post of JUNIOR ASSISTANT SURGEON to the Department for the Treatment of Diseases of the Ear Nose and Throat

Two copies of the application with relative testimonials should be lodged with the Subscriber not later than November 29th

230 Union St JOHN A McCONACHIE,
Aberdeen Acting Clerk & Treasurer

Golden Square Throat, Nose, and
EAR HOSPITAL
London W 1

Applications are invited for the following honorary posts

1 REGISTRAR
2 CLINICAL ASSISTANT

Particulars of the duties may be obtained from the undersigned

J P CARROLL
Nov 12th 1930 Secretary Supt

Midland Hospital,
Easy Row BIRMINGHAM

There is a vacancy for an HONORARY PHYSICIAN on the Staff of the above Hospital Candidates are required to have at least one higher qualification

Application should be forwarded immediately to JAMES O AYRES Secretary

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W J HICKS *Secretary*

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Leics —About £400 p a Scope to young man Panel 350 Good house 5 bed Rent £42 p a Good schools and hunting —No 8763

Favourite South Coast Resort — Average £2 500 Panel 1 500 Fees 7/6 up Excellent house 6 bed, 2 reception, and large garden —No 8762

Somerset — Cy Town — Share worth £700 after preliminary Assistancy Very little midy Visits 3/6 Increasing practice —No 8761

Surrey —£1,600 p a Panel over 1,300 Residential district Fees 3/6 to 21/ Midy discouraged Detached freehold house with large garden —No 8756

Cheshire — Country Town — Over £3,500 p a One third share to start Panel 1,000 Fees 3/6 to 21/ Good house 5 bed, to rent —No 8754

Oxon —Country Practice nearly £1 200 p a Panel over 1,000 Visits 3/6 to 10/6 House, 4 bed, surgery, etc. —No 8753

S. Midlands —Average £756 p a Town of 45,000 Small panel Fees 3/6 to £1 1s Large house and garden. Smaller ones available —No 8750

London S E —Over £800 Cash and panel of 880 Visits 2/6 to 3/6. Shop front surgery, with living accommodation —No 8749

Salop — Country —£1,030 p a Panel and appts £460 Visiting fees 5/ up Modern house 5 bed etc, large garden, to rent Easy terms —No 8747

Hants (15 miles from sea) — Nearly £1 000 p a Panel 240 Scope Fees 3/6 to 15/ House 2 reception 6 bed, surgy, and large garden —No 8744

South Coast — Within 60 miles Over £1 000, increasing rapidly Panel 500 Clinic £50 Fees 3/6 to 12/6 Good house, 4 bed, etc —No 8742

Surrey — Rapidly increasing NUCLEUS Receipts over £830 Panel 580 Excellent house, 8 bed, with large garden to rent —No 8741

Glos — Country —Over £1,200 p a Panel nearly 1,100 Fees 3/6 to 5/ Detached house, 1/4 acre £1,000 down, balance over 4 years —No. 8740

Ulster — Seaside Town, about £750 great scope Panel over 600, increasing Fees 2/6 to 7/6 and up House 5 bed, etc —No 8738

S. Wales — Average £3,360 1/2 share for sale Panel 3 000 Visits 3/6 Good house, 4 bed Premium only £1,500 —No 8736

London, S W — £630 p a increasing Panel 400 Visits 3/6 Midwifery 3 gns up Small house on main road. —No 8730

Devon —Dispensing Practice in large village averaging £940 p a Fees 5/ to 2 gns Surgery 2/6 to 7/6 Large house with an acre and cottage, for £3 000 of which £2,500 could remain, or for sale without house —No 8727

S. W County new Coast —Dispensing PRACTICE over £2 000 p a, chiefly agricultural Visits 5/ up Surgery 2/6 up 1,100 panel —No 8728

North Wales —Old-established —About £900 p a Panel £292 Agricl Cottage Hosp Scope surgery Good house Garage and garden —No. 8692

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SOUTH COAST.—Well-established G.P. situated in growing seaside locality. Excellent scope. Medium-sized house, large garden, garage, etc. available. Receipts approximately £1,600. Small selected panel of 250. Fees 10/6 up. Premium for Practice 1½ years' purchase.

KENT (Seaport).—DEATH VACANCY.—Excellent opportunity for a young and energetic man to acquire small Practice. Receipts approximately £7 per week. Panel nearly 200. Appointments about £60 p.a. In a growing locality where there is undoubted scope for immediate increase. Small-sized house to rent (alternative accommodation available). Premium open to reasonable offer.

HOME COUNTIES (NORTH).—PARTNERSHIP after PRELIMINARY ASSISTANTSHIP three to six months. In old-established middle-class Practice. Receipts average £3,500. Panel nearly 1,200. Suitable house to rent (6 beds) at £83 p.a. Garden. Town Practice. Fees 5/- up. Midwifery 3 gns. up. Two appointments. Excellent educational facilities. 1/3 share is offered with view to half share at 2 years' purchase. Suitable to well-qualified man (preferably married) with Hospital experience and good at Anæsthetics.

MIDDLESEX.—NUCLEUS private non-dispensing PRACTICE with small panel situated in recently developed residential locality. Detached corner house, 9 rooms. Receipts £432. Panel 39. Visits 7/6 up. Consultation 5/- up. Midwifery £5 5s. up. Premium £600. House £2,200, part may remain on mortgage.

LONDON, E.—DEATH VACANCY. Middle and working-class cash and panel Practice. Corner house to rent on lease. Receipt approx. £1,550 p.a. subject to confirmation. One appointment. Panel about 2,200. Fees 2/- up. Mid. 3 gns. Prem. £2,500 or near cash offer.

MIDDLESEX (W.).—Middle and working-class PRACTICE in rapidly growing residential locality. Fees 5/- up. House (9 rooms), freehold property of the Vendor; garden, garage, etc. Receipts nearly £800. Panel 300. Scope for urgent Cottage Hospital. Premium for Practice £1,100. House £1,700 mortgage to remain.

LIVERPOOL (Near).—Mixed G.P. Medium-sized house with large garden. Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for surgery if desired. *Premium 1½ years' purchase.*

BLACKPOOL (Near).—Well-established middle and working-class PRACTICE. Suitable 8-roomed house available with garden, garage, etc. Receipts nearly £1,200. Panel (about) 250. Premium for house and Practice £3,250.

KENT.—Under 50 miles from London.—Well-established rural PRACTICE. Receipts over £2,200 p.a. Panel 1,200. Hospital within easy distance. Fees 3/- up. Half share PARTNERSHIP entertained at 2 years' purchase, or whole Practice may be bought at *terms to be agreed.*

LONDON.—PARTNERSHIP in old-established mixed Practice. Suitable accommodation available to rent. Receipts £6,500. Panel 6,900. Premium for 1/2 share £5,800 cash.

LONDON, W.9.—Lady Doctor's NUCLEUS PRACTICE, established in well-populated residential locality. Receipts nearly £300. Panel 200. Suitable accommodation to rent on lease. Premium £300. Furniture and drugs, etc. at valuation.

KENT.—Within 25 miles of London.—well-established PRACTICE, situated in growing locality with ample scope for increase. Receipts nearly £1,100. Panel over 300. Suitable residence to let. Alternative accommodation available. *Premium £1,600.*

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working class locality. Suitable accommodation available to rent at £76 p.a. inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. Boys admitted. Receipts £385. Premium £600.

KENT (Seaside).—PARTNERSHIP in good middle-class Practice with excellent scope for increase. Receipts nearly £1,900. Panel 700. 1/2 share at 1½ years' purchase. Suitable to experienced Practitioner aged about 27—35.

LONDON, S.W.—Well-established growing PRACTICE, with scope. Situated on main road. House to rent on lease. Branch. Receipt over £6,000. Panel nearly 400. Premium 1½ years' purchase.

BERKS.—Town PRACTICE, within 60 miles of London.—Middle and working-class. Receipts nearly £900. Panel 555. Fees 2/6 up. Midwifery (scope). SUITABLE house available. Premium 1½ years' purchase.

KENT (Seaport).—NUCLEUS G.P. situated in growing locality. Scope for development. Receipt approx. £7 per week (*subject to confirmation*). Panel nearly 200. One appointment worth £50—£60 p.a. Small house to rent (alternative accommodation available). Premium open to reasonable offer.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospital. Good school. Scope for increase. Alternative accommodation available. Premium for Practice £3,640 or near offer. PARTNERSHIP considered.

SURREY (near Windsor).—Well-established middle-class PRACTICE. Double-fronted detached House with charming garden to rent on Lease at £120 p.a., or may be purchased freehold. Receipts over £700 p.a. Panel 220. Fees 2/6 up. Cottage Hospital. Good social life. Good schools. Premium for Practice £900.

SHROPSHIRE.—Country Town PRACTICE, unopposed. Modern house with every convenience to rent at £160 p.a. (*11 rooms*). Large garden (3 acres). Receipts over £1,900 p.a. Panel 700. Visits 6/6 up. Consultations 5/- up. Midwifery £2 2s. up. Three appointments. Premium 1½ years' purchase.

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5. MON.—Well-established PRACTICE. Receipts of share available £1,800 a year. Panel 3,000. Good residence available at rent £65. Half share for sale. Premium £1,500.
6. ESSEX.—Seaside Town.—Well-established mixed-class PRACTICE. Receipts average £550 p.a. including panel £250. Nice house to let at rent £95 p.a. Premium £700 for quick sale.
7. LONDON, E.—Old-established Cash PRACTICE with small panel. Receipts last year nearly £600. Living accommodation and large rent £85. Vendor retiring. Premium £875. Suit Lady Doctor.
8. SHROPSHIRE.—Old-established unopposed PRACTICE. Receipts over £1,000. Panel about 800. House on lease at £100. Premium 1½ years' purchase, or term arranged. Early possession essential.
9. LONDON, N.W.—(Kilburn).—Well-established PRACTICE. Receipts about £275 p.w. including panel 200. Slightly restricted surgery. Rent £65. Premium £350 for quick sale. Suit Lady Doctor.

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Practices and Partnerships for Disposal

Full particulars sent free.

1 HOME COUNTY — Steadily increasing non dispensing PRACTICE about £2 500 p a (about £500 from Surgery) in first rate residential town Small select panel Detached house (5/6 bedrooms) garage and good garden, to rent Vendor on staff of Hospital Premium 1½ years purchase

2 KENT — Partnership in Practice about £4 400 p a in outlying suburban district Panel 2,400 Good house (4 bedrooms) to rent Premium one fourth share 2 years purchase

3 EASTERN COUNTIES — Practice about £2 800/£3 000 p a in small country town Panel 2 100 Nice house (6 bedrooms) with very good garden, to rent Cottage Hospital Premium 1½ years purchase Suit two friends

4 NOTTINGHAMSHIRE —Country Practice of nearly £1 100 p a Panel 700 Good house (6 bedrooms), garage and 1½ acres garden to rent Great scope Premium 1½ years purchase

5 HOME COUNTY — Partnership in non-dispensing Practice £3 200 p a in first rate residential town under 30 miles from London Panel over 4 000 Detached house (6 bedrooms) with large garden, to rent Partner should be aged 30—40 and experienced in anæsthetics Two fifths share at 2 years purchase

6 SURREY — Partnership in good mixed-class Practice about £3 000 p a in Town within 10 miles South of London Small panel Suitable house obtainable Excellent scope Premium one third share 2 years purchase

7 S W OF ENGLAND — Partnership in increasing middle class Practice of about £2 500 in seaport town Panel 870 One fourth or one third share at 2 years purchase Preliminary Assistantship

8 S DEVON — Practice nearly £950 p a in small country town easy distance of the coast Panel 340 Good house and garage in acre of garden for sale All kinds of sport Premium £1 500

9 LONDON, S E —Partnership in Practice £6 000 p a in outlying suburban district Panel 2,000 Premium one sixth share 2 years purchase

10 NURSING HOME in fashionable Inland Health Resort Receipts over £5,000 (net profit between £600—£700) Premises rented on lease Premium £1,000 or near offer Furniture etc at valuation

11 LONDON, E C —Partnership (with Succession) in steadily increasing Practice of about £1 200 p a in the City Majority of consultations £1 1s Excellent consulting rooms Premium one half share 2 years purchase

12 MIDLANDS —Compact middle and working class PRACTICE nearly £2 200 p a in manufacturing town Panel over 2 500 Ten roomed house (with surgery accommodation additional) to rent Premium £3 500

13 YORKSHIRE (W R) — Compact easily worked PRACTICE averaging £1 600 p a in manufacturing town Panel over 1 300 Splendidly situated house (4 bedrooms) for sale Scope Premium 1½ years' purchase

14 N W COAST — Partnership in Practice about £3,000 p a in popular seaside resort Panel over 2 000. Modern house (3 bedrooms) for sale Premium one-fifth share £1,200

15 S COAST — Nucleus of good-class non dispensing Practice about £375 p a in seaside resort No panel Well situated house (6 bedrooms) for sale or rent. Scope Any reasonable offer for prompt sale

16 HOME COUNTY —Practice of £540 p a in small town under 45 miles from London Panel 150 Centrally situated house (4 bedrooms) for sale Scope Premium 1 years purchase

17 EAST COAST —Partnership in non-panel Practice in favourite watering place Partner should be young and with Hospital experience Share of about £1 000 p a at 2 years purchase Preliminary Assistantship

18 KENT —Practice of £1,260 p a in residential outlying suburban district Fair panel Corner house (7 bed and dressing rooms), with large garage and garden for sale Scope Premium 1½ years purchase

19 CORNWALL — Partnership in Country Practice on Coast Convenient house (6 bedrooms) with good garden for sale Share of about £1 200 p a, at 1½ years pur

20 S OF ENGLAND —Practice over £1,200 p a (including clubs and panel over 1 100) in small industrial town House (6 bedrooms) with large garden and garage, for sale Beautiful country around Premium £1 500

21 S E COAST — Partnership in well-established Practice about £2,600 p a, in popular Seaside Resort Small panel House obtainable One third share for disposal Excellent scope

22 EASTERN COUNTIES —Good-class PRACTICE of £1 545 p a in famous Country Town Panel 350 House contains 5 bedrooms etc and would be sold or let Good society and sport Considerable scope Premium 1½ years purchase

23 LONDON, S E —Practice averaging over £1 700 p a in outlying residential suburb Small panel Good and well situated house (6 bedrooms), with small garden for sale Premium—Practice—1½ years purchase

24 KENT —Country Practice about £650 p a in beautiful district Panel about 700 No house but surgery and waiting room to rent Capable of much increase Moderate premium

25 LONDON, S W —Increasing Cash Practice close to West End Receipts past 10 months £1 327 Panel 1 250 (about) No midwifery Excellently situated house for sale or rent Premium 1½ years purchase

British Medical Bureau

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Practices and Partnerships for Disposal (continued)

26 W MIDLANDS —Partnership in Practice about £2 700 p.a. in Market Town. Panel about 800. One-third or one-half share at 2 year purchase. Partner must be well qualified and experienced in General Practice. Preliminary Assistantship.

27 W OF ENGLAND —Assistant required (with view to Partnership) in Town and Country Practice doing over £2 000 p.a. Hospital. One-third share at 1 year purchase to suitable man (English or Scotch).

28 LONDON, E C —Practice of about £650 p.a. in the City. No panel or midwifery. Consultations up to £1 1s. Excellent and newly furnished consulting and waiting rooms to rent on lease. Good scope for increase. Premium £750.

29 W OF ENGLAND —Partnership in Practice of £2,800 p.a., in pleasant Country Town under 130 miles from London. Partner must be young and should have hall Hospital appointment. Premium for a two-fifths share 2 years purchase.

30 LONDON, S W —Practice (carried on by two Medical Men) averaging £5 000 p.a. in suburban district. Panel 1,400 rapidly increasing. Two houses to rent. Or a share up to one-half would be sold.

31 SOUTH AFRICA — Practice in growing seaport and popular Health and Pleasure Resort. Net takings about £1,500 p.a. Practically no night work or midwifery. Nice house (3 bedrooms) with garage and about 1/2 acre of grounds for sale or rent. Equable climate. Premium £1 600 to include consulting room furniture drugs etc.

32 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town. Panel 1 100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years purchase with ultimate succession.

33 YORKSHIRE (N R.) —Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms) garage garden etc. for sale or rent. Very good trout fishing. Premium £1 250.

34 MIDDLESEX — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1 150. Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

35 WITHIN 50 MILES OF LONDON — PARTNERSHIP in Practice averaging over £3,500 p.a. in first rate county town. Panel over 1 100. Good house (7 bedrooms dressing room) to purchase or rent. One-third share at 2 years purchase. Partner should be aged 28 35 and have held H.S. and H.P. appointments. Preliminary assistantship.

36 CHESHIRE —Partnership in increasing best-class non-panel Practice over £4,500 p.a. in first-rate residential district. One-fourth share at 2 years purchase. Partner should be University Graduate who must have held Resident appointments.

37 LANCASHIRE — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200. Panel 250. Very nice compact house (4 bedrooms) garage and garden etc., for sale. Golf. Premium £1 000.

38 S DEVON — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 900. House containing 5 6 bedrooms for sale. Premium one-half share £1 520 to include drugs etc. Work very light.

39 MIDLANDS —Partnership in steadily increasing Practice of nearly £3,500 p.a. in country town and picturesque scenery. Panel 1 700. Nice house (5 bedrooms) with garage etc. Premium on fourth share 2 years purchase. Short preliminary Assistantship.

40 S MIDLANDS —Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bedrooms dressing rooms and attics) garage and half acre of garden for sale. Scope. Premium 1½ year purchase.

41 SURREY — Steadily increasing Practice, averaging £1,355 p.a., in a first rate Country Town. Panel near 1 300. Large attractive old fashioned house (7 bedrooms) for sale. Cottage Hospital. Premium 1½ years purchase.

42 OXON —Practice averaging £1,180 p.a. in residential country district. Panel 1 000. Detached house (4 bedrooms) garage, and good garden for sale. Golf links. Premium 1½ years purchase.

43 S W OF ENGLAND —Middle and better-class non-dispensing PRACTICE over £1 750 p.a. in first rate town. panel. Well-situated non-basement house (7 bedrooms dressing rooms) garage and garden for sale or rent. Good introduction. Premium 1½ years purchase.

44 MIDDLESEX — Steadily increasing non-dispensing PRACTICE in growing district. Receipts past 12 months £420. Panel about 30. Well situated corner house (8 bedrooms) garage and garden, for sale. Good reasons for rapid increase. Premium £500.

45 LONDON, N W —Practice of about £1,450 p.a. in suburban district. Panel 1,150. Corner house (6 bedrooms) for sale. Scope.

46 S MIDLANDS —Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1 000. Suitable house available. Cottage Hospital. Premium one-third share 2 years purchase.

47 WILTSHIRE —Country Practice of £650 p.a. (panel and appointments about £460) in a beautiful part. Good house (company's water main drainage) for sale or rent. Premium £750.

48 LONDON, E —Practice (carried on by Medical Woman) in populous area. Receipts last year £590. Small panel. No midwifery. Six roomed house to rent. Premium £750 to include drugs etc.

49 SURREY —Partnership in Practice about £3,500 p.a. in desirable residential town. Small select panel. House (6 bedrooms) to rent. Premium—one-third share—2 years purchase.

50 ESSEX — Assistantship (with view to Partnership and Succession) in Country Practice of £1,900 p.a. Panel 1,200.

51 LONDON W — Old-established Practice over £850 p.a. in outlying residential suburb. Visits mainly 5s., some 7s. 6d. and 10s. 6d. Practically no midwifery. Nice compact house (2 reception rooms consulting and waiting room 4 bedrooms etc.) Rent £85 p.a. Premium £1 100.

52 W MIDLANDS — Practice over £1,500 p.a. Market Town. Attractive agricultural district. Panel 500. Good house (7 bedrooms etc.) Electric light and gas. Scope for increase. Premium £2,100.

53 S W OF ENGLAND — Practice over £2 000 p.a. in small country town near coast. Panel 1,086. House (5 bedrooms), with electric light for sale. Premium 1½ years purchase.

54 S WALES — Non-dispensing Practice of £760 p.a. in one of the Principal Towns. Panel 620. Corner house in residential part for sale. Good scope. Premium £750.

55 S W OF ENGLAND —Practice averaging £1 666 p.a. in seaport town. Panel over 2,000. House with 5 or more bedrooms, for sale. Premium £2,500.

56 S OF ENGLAND —Practice of £960 p.a. in Market Town under 100 miles from London. Panel 700. House (5/6 bedrooms) garage, and good garden for sale or rent. Cottage Hospital. Premium 1½ years' purchase.

57 ITALY — Season Practice (March to October) in famous City. Receipts from £230/£700 p.a. according to Season. Up-to-date Hospital. Premium £250.

58 MIDLANDS — Practice over £800 p.a. in first rate Town. Panel 500. Suitable house to rent. Premium 1½ years purchase.

59 MIDDLESEX —Rapidly increasing Practice in new developing district about 12 miles from London. Earnings past year £760. Panel 2,0. Very convenient house (4 bedrooms) garden and garage for sale. Great scope. Premium 1½ years purchase.

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1 YORKSHIRE—GOOD TOWN—PARTNERSHIP—A one half share (guaranteed to produce £2,000 p a in first year) is offered in a good middle class Practice Income for the past twelve months approximately £4 000 Small select panel of 430 One appointment worth nearly £650 p a Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

2 ITALIAN RIVIERA—SEASON PRACTICE—Old established and held by Vendor for the past six years Average income about £400 p a Fees 10/ to 20/ approximately Suitable furnished flat, with one large reception room, consulting room, 4 bedrooms, etc Rent on lease £120 p a Premium £500

3 YORKS—LARGE TOWN—Old established middle and working class PRACTICE averaging £1,778 p a Panel of 791 Fees 3/6 to 21/ Mid 2 to 10 gns (about 12 cases yearly) Suitable house, with 2 reception, 4 bedrooms, etc Separate entrance to professional rooms Good schools and sporting facilities Prem 1½ years pur

4 HOME COUNTIES—PARTNERSHIP—A third share, producing about £1,000 p a., is offered in a well established good mixed class Practice situated in very attractive district within 20 miles of London Fees 3/6 to 2 gns Suitable house available Premium 2 years purchase

5 LANCS—PARTNERSHIP—A one fourth share to commence (with increase up to one half later) is offered in a very old established good middle class Practice producing for the last twelve months over £4 700 p a. Panel of 2 730 Appts worth nearly £200 p a Visits 2/6 to 12/6 *Not much midwifery from 2 to 3 gns* Suitable house obtainable, but, if single, purchaser can reside with Vendor, who is a bachelor Premium 2 years purchase

6 CAMBS—PARTNERSHIP—A one half share is offered in a sound mixed class Practice producing last year nearly £2 000 Panel of 765 Situated in pleasant agricultural district, with good sporting facilities Fees 5/ to 21/ Suitable house can be rented at £75 p a Premium 2 years purchase

7 YORKS—In small pleasant market town amidst pretty and prosperous surrounding country very old established mixed class PRACTICE averaging nearly £1,250 p a, including panel and appts worth over £450 Visits 3/6 to 25/ Opposition weak Good house, with ample accommodation and every convenience. Garden Garage Price £1 300, £1 000 on mortgage, or would be let at £80 p a Premium £1 450 Educational and social amenities

8 SOUTH WESTERN COUNTY—Near the Sea.—Old estab easily worked Country PRACTICE, in beautiful district, within reach of Market Town and averaging £1,100 p a including appts and panel producing £450 Exceptionally attractive modernized house in over 3 acres of ground, with ample accommodation, productive fruit and vegetable garden, with tennis lawn etc Water laid on and electric light available shortly Price freehold £3 000, part on mortgage Premium £1,650 Sport of all kinds and schools within reach

9 OUTLYING EASTERN SUBURB—Sound middle and working-class PRACTICE producing about £3 000 p a., including panel of over 2 000 Visits from 3/6 Not much midwifery from 3 gns Very good house, with 2 reception 6 bedrooms, etc. Garden Can be rented on lease Premium 1½ years purchase

10 PARTNERSHIP — LONDON, SOUTH EAST — Outlying Residential Suburb—Owing to the retirement of one of three partners the fifth share of an old estab Practice is for disposal Cash receipts average over £5 300 p a (last year £5 540) including panel of upwards of 2 000 Visits 3/6 to 10/6 Good house can be rented at £80 p a. Premium 2 years purchase

11 GLOS — COUNTRY PRACTICE — Old established PRACTICE in picturesque surroundings averaging about £1 250 p a, including panel of over 1 100 Visits from 3/ Commodious house, with 3 reception 6 bedrooms etc Garden Garage Price for freehold £1 500 £1 000 on mortgage Premium £1 850

12 LONDON S E—Outlying Residential Suburb—Very old established PRACTICE (hitherto carried on by two men in partnership) is for disposal, or half share would be sold with succession to the whole in 12 months time Receipts average about £3 000 p a, including appts worth £330 and panel over 1 500 Two houses available Premium 1½ years purchase Eminently suitable for two friends

13 HANTS—Delightful residential district within easy reach of Coast—Good mixed PRACTICE averaging £970 p a and offering large scope as district rapidly developing Panel of 250 Fees 3/6 to 15/ Well built well situated house with 2 reception 6 bedrooms, etc Garden, with tennis lawn Mod rate premium accepted for quick sale Sport of all kinds and good social facilities

14 LONDON SOUTH WEST—Very sound old established PRACTICE, in thickly populated area averaging over £5 000 p a., including panel of 1 500 but large scope for more Fees 2/6 upwards Choice of houses Rent of surgery on long lease £100 p a. Prem 1½ years pur

15 GLOUCESTERSHIRE—Old established PRACTICE in good residential town in the midst of the Cotswold Hills averaging over £1 300 p a, including panel of about 1 200 Fees from 2/6 Very little mid Good detached house in own grounds with 2 reception, 6 bedrooms, etc Separate entrance to professional rooms Gas and electric light Price freehold £2 000 half on mortgage Prem 1½ years purchase.

16 AYRSHIRE COAST—Village PRACTICE, unopposed and situated in very beautiful district within easy reach of large town Cash receipts last year £740 Panel of 303 Fees 2/6 to 21/ House faces sea in own grounds, and contains sitting room, 4 bedrooms, etc. Rent £40 p a Premium £1 000 part by arrangement

17 NORTH WALES—Unopposed PRACTICE in beautiful agricultural district within 4 miles of Coast Average gross cash receipts for past 3 years £853 Panel of 734 which together with appts and clubs, brings in £750 p a. Fees 2/6 to 21/ Small house, with 1 reception 3 bedrooms, bathroom, etc Garden Rent £39 p a. Larger house available if desired Premium 1½ years purchase

18 OXON—UNDER 45 MILES FROM LONDON—Old established practically unopposed Country PRACTICE within 4 miles of the River Average income £1 180, including panel of over 1 000 Fees 2/ to 10/ Good house with two reception, 4 bedrooms bathroom, etc Electric light One acre of garden Garage for 2 cars Price for freehold £1 600 £1 000 on mortgage Premium £1,750

19 MANCHESTER DISTRICT—Old established middle and working-class PRACTICE, worth last year about £700 p a., including panel of 614 and capable of increase Expenses small Well-situated house, with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted.

20 PARTNERSHIP—HOME COUNTY—Within 40 miles—In very pleasant district (with large surrounding population), the third share (with increase later) of old estab mixed class Practice offering large scope. Present income £3 000 p a., with panel producing over £1 200 p a. and appt worth £160 Visits 3/6 to 2 gns. Good house at moderate rental Good society and sport Ingoing partner should be about 30, *pref married and English or Scotch*

21 LINCOLNSHIRE COAST — Well established mixed-class PRACTICE averaging £2 749 p a (last year £2 868) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly). Newly built modern house, with special professional accommodation central heating etc Garden Garage Price freehold £2 300 part on mortgage Good sport and schools within reach. Premium 1½ years purchase

22 WEST MIDLANDS—Very old established mixed class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty Cash receipts average £2 367 p a. with panel over 1 000 Opposition not strong Very fine house (3 reception 6 bedrooms, bathroom etc.), standing in nearly 3 acres of ground. Beautiful garden tennis lawn, and productive orchard Price, freehold £2,000 Premium 1½ years purchase

23 LONDON, S E—Pleasant residential suburb—Very old-established non-panel (but scope for this) PRACTICE held over 30 years by Vendor who is retiring Receipts last year over £900 Patients mixed but mostly good class Large house (part could be let off for flat). Rent £98 p a. Premium 1½ years purchase

24 PARTNERSHIP—WITHIN 100 MILES NORTH OF LONDON—A one-sixth share (with increase in 2 years) is offered in a very good non dispensing mainly better class Practice, in a large town at present worked by three partners who now require further assistance Gross cash receipts average about £8 000 p a. Selected panel of 700—800 Fees 5/ to 21/ average 7/ Suitable small house with sitting room 3 bedrooms etc. Rent £90 p a Premium 2 years purchase

25 MIDDLESEX—Rapidly developing district, within 20 miles—PARTNERSHIP—A one half share in an old estab good middle-class Practice averaging for the past two years over £3 500 p a Panel of 1,100 and appts bring in £100 p a. Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms, etc Garden Price for freehold £2 100 Premium 2 years purchase

26 KENT—Country PRACTICE near Coast—Old-established mixed-class Practice, averaging about £1,100 p a. Panel of nearly 400 Fees 3/6 upwards Convenient house, with 3 reception 6 bedrooms etc Good garden Rent on lease £75 p a Good sport and schools within reach Premium 1½ years purchase

27 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed class PRACTICE averaging £1 600 p a including £800 from panel and over £100 from clubs Visits 5/ upwards (occasionally 2 gns) Very little midwifery from 2 to 5 gns. Large attractive house, with garden Rent £80 Prem 1½ yrs pur

28 MANCHESTER—Chiefly working-class PRACTICE. Average income £1 000 including panel of 1 000 Moderate expenses Corner house with 3 reception 8 bedrooms etc Garage Rent on lease £65 p a. Premium £1 500 or near offer

29 NEAR HUDDERSFIELD—PARTNERSHIP—A half share in an old established mixed class Practice Income for immediate past year over £4 250 Panel of 3 500 Fees 3/6 to 7/6 Very good house with 4 reception 6 bedrooms etc 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

30 PARTNERSHIP—COUNTRY TOWN within 130 miles North of London—A one-fifth share is offered in an exceptionally sound good mixed class Practice averaging for past 3 years over £6 000 p a Panel of 3 400 Fees from 4/ Not much midwifery House can be rented at £50 p a Premium 2 years purchase

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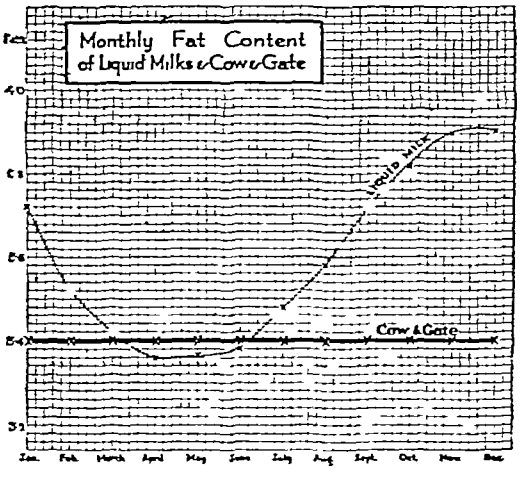
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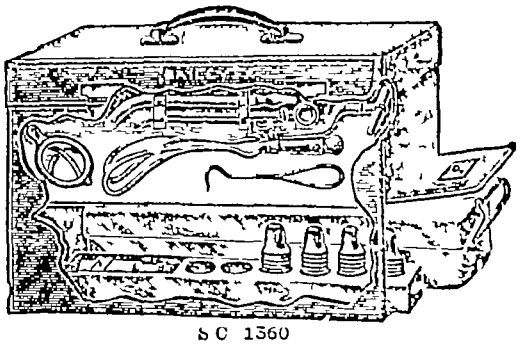
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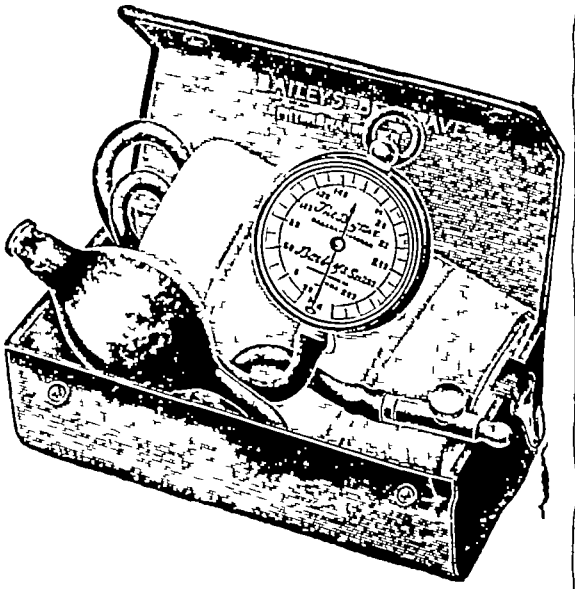
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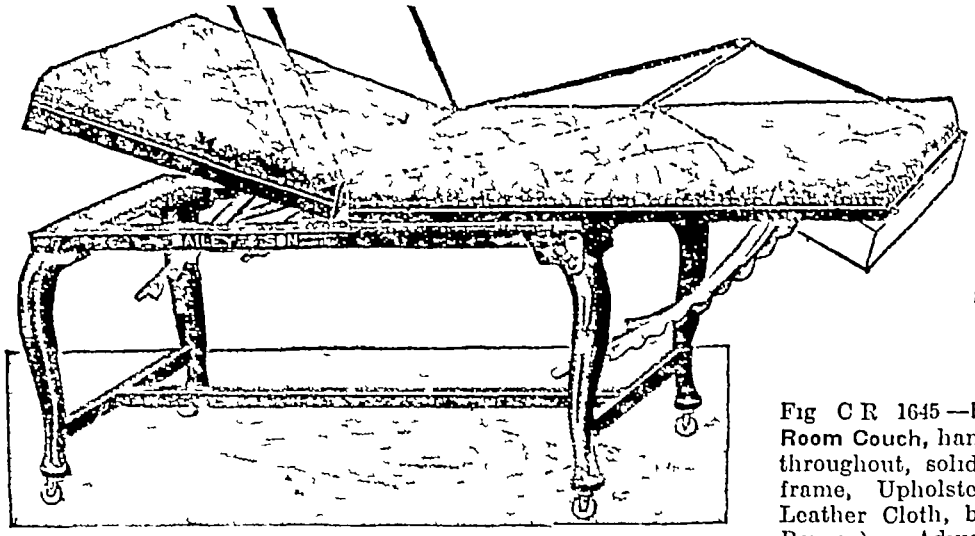
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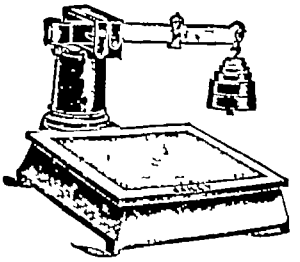
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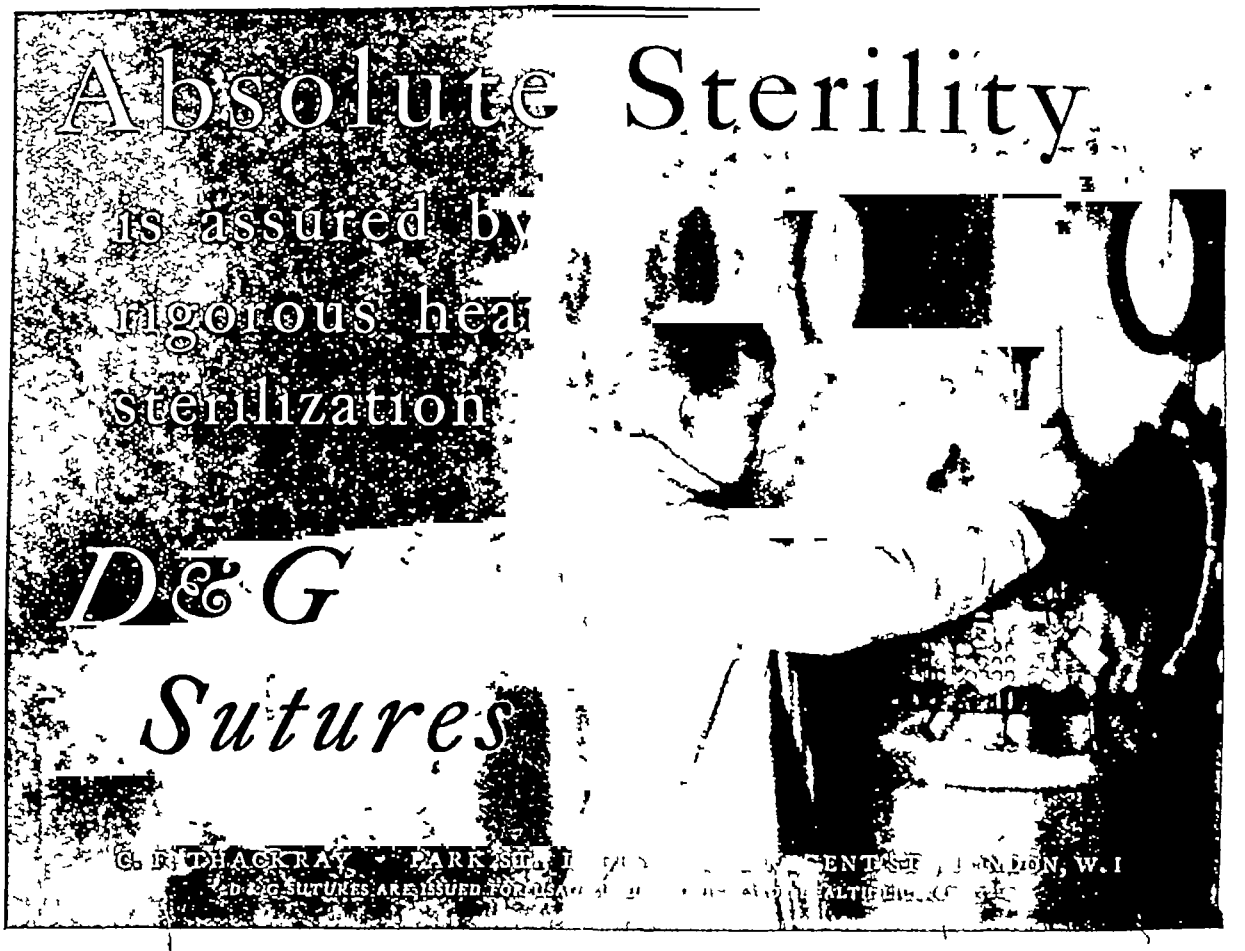
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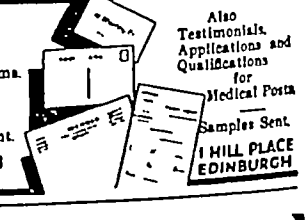


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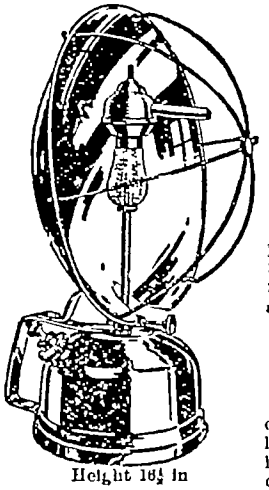
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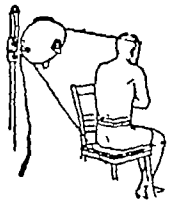
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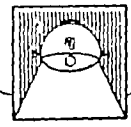
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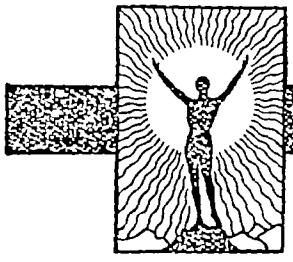
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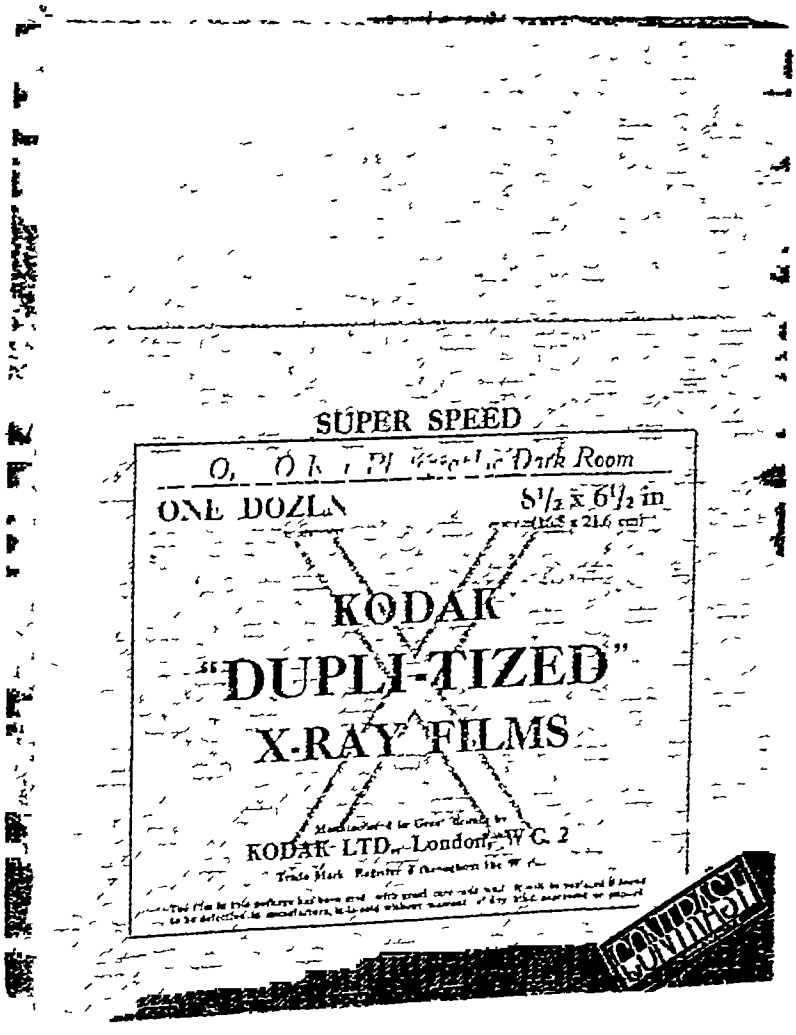
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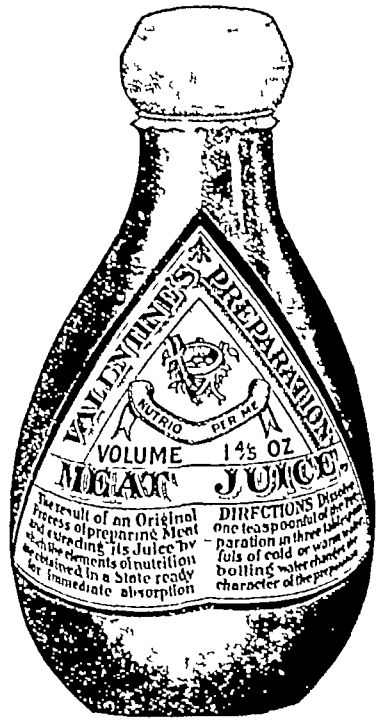
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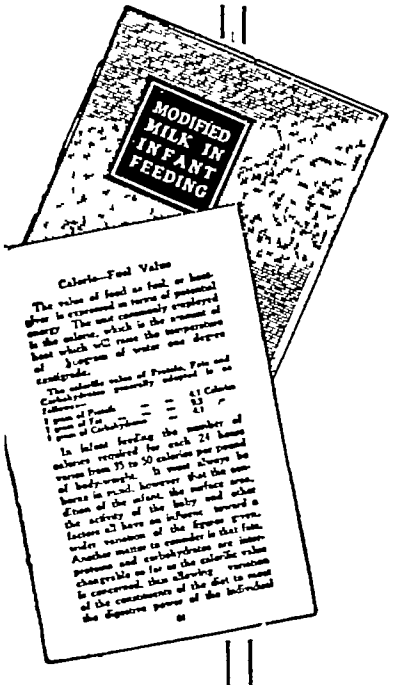
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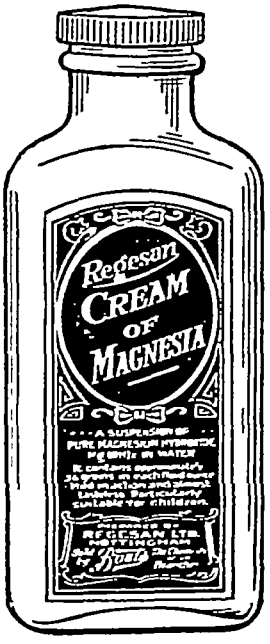
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—(B M J, 1930, 2, 792)

In these terms the Chief Medical Officer of the Ministry of Health in his annual report deplores the fact that in the year 1929 the death-rate from puerperal sepsis was the highest, with one exception, on record

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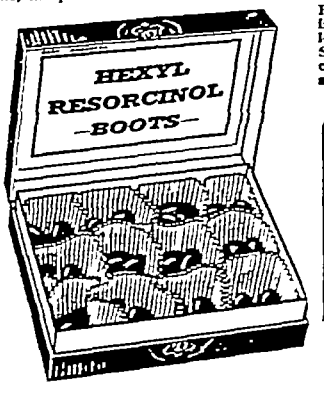
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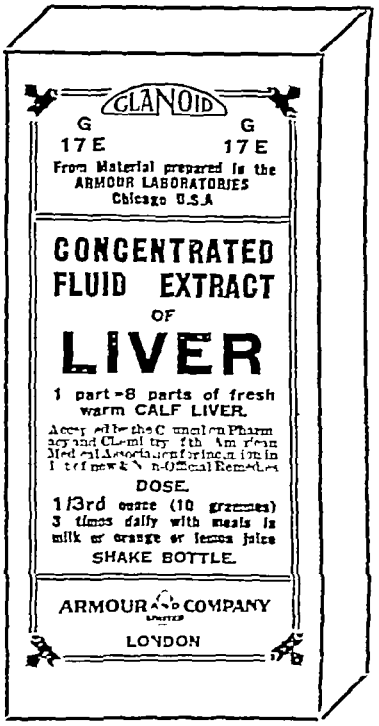
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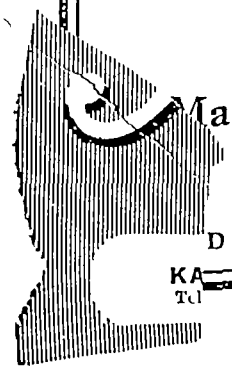
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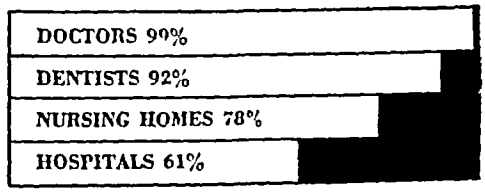
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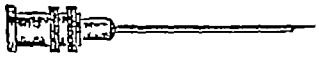
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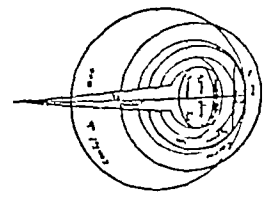
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THE STRUCTURE OF THE EYE, FROM AN ARABIC MS —Vision had been explained by the ancient writers on Optics as the result of emanations from the brain, through the eye passing outwards (the 'sight spirit' of Galen) enveloping the object and returning to the crystalline lens Al Hazen combated this theory, and held that, on the contrary vision was produced by rays proceeding from the object to the eye, this external stimulus was converted into vision in the *humor crystallinus* which he placed in the centre of the eyeball The diagram here reproduced, from a fourteenth century Latin translation of Al Hazen's work, shows, when compared with those of his predecessors that the Arabian's knowledge of the anatomy of the eye was an improvement upon theirs



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AVICENNA THE PERSO-ARABIAN PHILOSOPHER AND PHYSICIAN ONE OF THE EARLIEST TO PRACTICE PSYCHOTHERAPY

Avicenna's Canon of Medicine" which epitomises and codifies the knowledge of the science down to his day contains a section on cerebral diseases and their treatment. Under this heading we find an interesting direction for the cure of "love" by psychotherapeutic means Avicenna seizes upon the irregularities of the pulse as chief symptoms

And through this symptom" he proceeds it is possible—if the patient will not reveal it—to come at the identity of the beloved person. This knowledge will afford one means of treatment. The device by which it is gained is that many names should be repeated while the physician keeps his finger on the pulse and when it becomes very irregular and almost ceases he should repeat the process I have tried this method repeatedly and have discovered the name of the beloved. Then in like manner mention the streets houses arts crafts, families and countries associating with each the name of the beloved, and all the time noticing the pulse so that when it changes on the mention of any one thing several times you will infer from all this particulars about the beloved, as to name, appearance and occupation. We have ourselves tried this plan and have in this way reached knowledge that was valuable"



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An Address
ON
CARDIO VASCULAR SYPHILIS IN GENERAL PRACTICE*

BY

CARY F. COOMBS, M.D., F.R.C.P.,

PHYSICIAN AND IN CHARGE OF UNIVERSITY CENTRE OF CARDIAC RESEARCH, BRISTOL GENERAL HOSPITAL; PRESIDENT BATH AND BRISTOL BRANCH B.M.A.

THIRTY years ago—when I was a student—we were just beginning to realize the essential nature of the relation between syphilis and tabes: no syphilis, no tabes. And in my early out-patient days the art of skiagraphy which has added so much to our knowledge of these lesions, was only just beginning to be applied freely to the diagnosis of aneurysm. Again it was approximately at the same time, about 1907, that Schaudinn first published an account of the *Spirochæta pallida*. This gave a tremendous impetus to the study of syphilis. Within the next two or three years we acquired a new diagnostic weapon in the Wassermann test, and added salvarsan to our therapeutic resources.

It is not surprising therefore that our views as to the frequency of syphilitic injury to the heart should have changed in this period. Formerly thought to be a rare lesion it is now known to be one of the most inevitable results of the infection. This change is due partly to a more accurate understanding of the nature of cardio-vascular syphilis. In those early days we thought of it in terms of gummata; now we think of it in terms of aortitis. Recent experiences in the histology of cardiac syphilis have convinced me that in this change of view we have come nearer to the truth. In the course of a study of cardiac infections I have lately cut sections from a series of fifteen syphilitic hearts. Aortitis was seen in every case, while only once did I find a gumma, and that was a microscopical one.

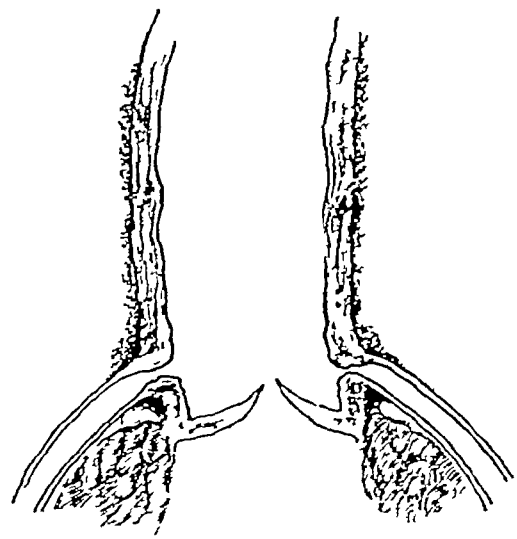


Diagram of the base of the aorta. The syphilitic process is shown surrounding the aorta and the coronary orifices and penetrating the media of the aorta and the bases of the aortic cusps.

PATHOLOGY

For more than one reason it seems clear that we ought to rank these lesions with those of tabes and general paralysis. They fall into the same epoch, a stage of the syphilitic process that is about twenty years after the primary infection. During that period in the vascular as in the nervous system there is no evidence of disease. When symptoms do appear they increase so rapidly as to suggest that lesions have been developing for years without any great disturbance of function, and this impression is confirmed by histological inquiry. Both aortitis and tabes then, develop in the same way and reach maturity at the same period. Moreover they occur in the same kind of person, in the middle-aged man, and in fact often coincide in the same patient, producing the Babinski syndrome more or less full-blown. Then again there are histological similarities: both sets of lesions appear to arise in the lymphatic system and to end in a kind of starvation of the special cells of the part concerned rather than in a direct poisoning of those cells themselves.

So far as the cardio-aortic pump is concerned the most constant lesion is aortitis. Sections of the aortic wall show that this inflammatory process spreads from without inwards (see diagram). Infiltrating the peri-aortic connective tissue masses of cells, mostly lymphocytes, fill the lymph channels and pile up in a dense layer lining the outer aspect of the aortic wall. Through this layer the vasa vasorum pass on their way into the aortic media, and at this point they are surrounded by the lymphocytes. The walls of these small vessels swell so much that their channels are almost closed. More striking still, however, is the investment of lymphocytes, which clings to them as they penetrate into the aortic media. The result is that in the media large collections of lymphocytes can be seen which spread *along planes between the laminæ of elastic tissue*. Later these laminæ break down and large spaces form within the aortic wall, which are filled with inflammatory cells. These spaces perpetrate wide-spread breaches of the medial elastic, and it is not astonishing that aneurysms are apt to form. At the corresponding part of the aortic wall the intima becomes thickened as if attempting to form a kind of buttress or emergency dam at the weak point in the wall.

Even if there were nothing else this breach in the *continuity of the medial elastic is a serious business*. It means that the circulation is deprived of part, at least, of that aortic recoil which constitutes one of the chief agencies forwarding blood to the periphery. The risk of aneurysm is, of course, not to be forgotten but this is occasional, whereas the loss of elasticity is invariable. It must involve an increase in the work which the left ventricle is called upon to do. Even if syphilis did nothing worse than this it would rank high as a cause of cardiac failure.

But it *does* much more. The inflammatory tide which we have described as breaking against the outer aspect of the aortic tube spreads along it towards the heart being checked at the root of the aorta owing to the disposition of the lymph channels. Yet the fact that it is, so to speak, held up here causes that inflammatory wave to spend itself with particular force on two structures that lie at this level—namely the arteries and the commissural mouths of the coronary attachments of the aortic semilunar cusps. The coronary orifices are nipped in a tightening grasp, the result being starvation of the muscle which they supply, with replacement fibrosis and degeneration of the myocardial fibres. Thus the ventricle is compelled to work harder, while starved of its proper nourishment. Further, the aortic cusps infiltrated at their commissural ends, become stiffened and adhere to one another and to the adjacent aorta thus becoming incompetent. Sometimes also they perforate near their bases. About two-thirds of the patients who suffer from cardiac syphilis display signs of aortic regurgitation. It is true that there are parts of the heart that are spared: the right heart is rarely attacked, the mitral valve never. Yet the syphilitic process achieves such a concerted attack on the cardiac functions as to set in motion a whole series of vicious circles and to bring about a failure, which moves with ever increasing velocity to the final catastrophe.

This is in general what we are to expect from the examination of a syphilitic heart. There are, of course, additions, as there are exceptions. The coronary vessels, or the aortic cusps or both may be spared. On the other hand gummata may be added to the changes which have been detailed. On the whole however we should think of cardio-aortic syphilis as conforming to the pattern which I have described and as coinciding in time and in other respects with the taboparalytic phase. Aortitis is in fact,

*Given on September 24th to the Bath and Bristol Branch of the British Medical Association.

a parasyphilitic lesion, and owes its existence to the survival in the body of spirochætes which have resisted treatment

Clinical Aspects

Now, since these lesions do not declare themselves by symptoms till approximately twenty years after the primary infection, it follows that we ought to be on the look out for a large number of cases during the forthcoming decade, for it was during and immediately after the war that the incidence of syphilitic infection greatly increased. It is true that during that period, and since, the treatment of syphilis has been more active and thorough than ever before. Nevertheless, the possibility of this increase in the incidence of cardio-vascular syphilis is partly responsible for the choice of my subject. A calculation based on an analysis of 2,089 cases of organic disease of the heart and blood vessels indicates that at the present time syphilis is the cause, in Bristol at all events, of about 5 per cent. of the cases. If autopsy data are taken, the incidence is even higher—about 8 per cent., according to Dr. Taylor's General Hospital figures. Already, then, it is not unimportant source of cardio-vascular disease.

Discussion of Signs

A majority of the patients whom I have seen have sought advice on account of cardiac symptoms. In a few instances some other effect of syphilitic infection, upon the nervous or other organs, has brought the patient under a general examination, and a cardiac lesion has been found. The usual course of events is a complaint of dyspnœa, or of precordial pain, or of both, by a man in middle life, who is found on examination to show signs of aortic regurgitation. Even in these straightforward cases there are several aspects that deserve some consideration.

The pain complained of is of the cardiac type, being substernal gripping in character, and aggravated by exertion. It is, however, often distributed over unusual areas, such as the front of the right shoulder, and it has a way of arising spontaneously, and without any provocative exertion, that is not so common a feature of the other pain-producing lesions of the heart. Then, again, one has to be ready to recognize aortic leakage on little evidence. It is true that the signs, once established, tend to increase steadily, and that the diagnosis is therefore soon declared. One small point to be remembered in this connexion is that it is worth while listening for the diastolic murmur with the patient in all sorts of positions. It may, for example, become audible when he sits up and leans forward. Dr. Hempath tells me that the use of a wooden stethoscope enables one to hear aortic murmurs that would otherwise escape detection.

Another point which I think receives too little attention is the extreme, and often decisive, value of blood pressure readings. This is particularly true of the incompetence that results from syphilis, which is so rapidly progressive that free leakage may be encountered even before there has been time for a corresponding increase of the ventricular mass. I need hardly add that the significant change is an increase in the pulse pressure. This is sometimes caused partly by increase of the systolic pressure, sometimes by a fall of the diastolic pressure, sometimes by both. More often it is a downward movement of the diastolic figure, which may fall so low as to be unmeasurable by the auscultatory method. In such cases one finds that as the air escapes from the armlet, the critical moment at which the loud arterial sound is replaced by a softer one is not reached at all, or is reached so gradually as to make a definition of its precise level impossible. When these phenomena are encountered, they are to be construed as evidence of a very free leakage.

In making a full diagnosis of cardio-aortic syphilis, as of any other visceral lesion, our object must be to visualize the anatomical and physiological disturbance as a whole. We must therefore compel ourselves to recollect that the disease which has thus injured the aortic valves has also, in all probability, inflicted damage on the wall of the aorta and narrowed the coronary arteries at their mouths. The damage to the aortic wall may be roughly assessed by dividing the cases into those in which there are no direct evidences of aortitis, those displaying signs of general aortic dilatation, and those with a saccular aneurysm.

In mentioning a group in which no signs whatever are found, I have in mind some in which even a careful x-ray examination failed to show any widening of the aorta. It is difficult to understand how this can occur, yet experience proves that it may. A considerable proportion of all cases is included in the second group. The physical signs are not very obvious as a rule. In many there is no more than an accentuation of the second sound, but this is highly significant in the appropriate context, especially in the presence of a normal or low blood pressure. To this may be added an increase in the aortic dullness, which may reveal itself on either side or on both sides of the manubrium. It is also worth while to percuss down the sternum. Ordinarily this should fail to encounter dullness, but if the aorta is enlarged the percussion note is decreased over the upper part of the sternum.

The physical signs of aneurysm are so numerous and so well known that there is no need to describe them here. Perhaps two comments may be worth while. The first is that one should differentiate as clearly as possible between saccular aneurysm and general dilatation of the aorta, since there is so wide a difference between the prognosis and the treatment of the two conditions. It is true that they are merely different stages of the same process, but the simple dilatation is important chiefly because of its implications in regard to circulatory inefficiency, while the aneurysmal sac behaves like a dangerous intrathoracic tumour. My other comment applies both to the aneurysm and to the general dilatation. Although examination with the *x*-ray screen is always helpful, we should practise the art of diagnosis by ordinary physical examination, since it is almost certain that in a majority of cases we shall have to make the first tentative diagnosis without depending on *x* rays.

It is even more certain that ordinary clinical examination must be relied on to furnish a basis on which to form an estimate of the amount of myocardial inadequacy in any given case of cardiac syphilis. Here one must be prepared to accept hints, and not to expect these to be too plain.

For example, a woman, aged 51, seen on the day on which these notes were written, gave a history of repeated miscarriage and of a fortnight's precordial pain arising independently of exertion, and spreading through the left arm to the finger tips. She was seen to be a little breathless on slight exertion, such as sitting up in bed for examination, and the lips were blush. Physical examination disclosed no explanation of the phenomena other than a myocardial one, and there was little but a reduplication of the first sound of the heart over the area of ventricular impulse, an ominous sign of myocardial impairment.

There is the more need for care in looking for such evidence, since the electrocardiographic method is not only difficult of access, but apt, in these cases at all events, to be equivocal in its results. Gross changes of rhythm are not very common in cardiac syphilis. Heart block was noted in three of my 103 cases, total arrhythmia in eight, and auricular flutter in two, with a possible third. The injury which syphilis does to the myocardium is a diffuse injury, since it is at the mouths of the coronaries, and there alone, that the blood supply of the cardiac muscle is cut down. Hence all parts of the cardiac wall suffer equally so far as this process of starvation is concerned, but as it is on the left ventricle that the brunt of the extra work caused by the aortic lesions falls, it is natural that the form of failure common in cardiac syphilis should be that which is described as ventricular. This is manifested by symptoms rather than signs. Yet there are two or three signs whose value can scarcely be exaggerated. First, there is weakening and diffusion of the impulse, and with it a corresponding weakness of the cardiac sounds. In these, again, a cantering rhythm or *bruit de galop* is often heard, and may indicate serious ventricular weakness. The sphygmomanometer may also supply valuable data. By its use we are able to detect alternations of the pulse too slight to be felt at the wrist or recorded on a pulse tracing. Then there is the highly significant shrinking of the pulse pressure gap which is so valuable an index of decreasing ventricular output.

This discussion of signs may now be summed up in a few words. To those which indicate aortic regurgitation we are to add, if we can find them, evidences of

aortic enlargement, and also of myocardial inefficiency When this has been done a mental picture of the extent and distribution of the lesion can be formed

The next question that we have to ask ourselves in any given case is What proof have we that this lesion is syphilitic? The answer is derived from four sources

1 There is the pattern of the disease itself Aortic incompetence in middle life precordial pain on slight exertion dilatation of the aorta—these are patterns which are likely to be syphilitic Other such as mitral stenosis with auricular fibrillation, are almost certainly not syphilitic

2 There is the patient's history I think we lose a good deal of valuable help because we neglect to make this inquiry relying instead on a Wassermann test

3 There is the collateral evidence furnished by signs of syphilis in other organs One or two examples will make this clear

A man admitted for aortic regurgitation was found to have a lump embedded in the right lobe of his liver This disappeared under treatment with potassium iodide In another instance a patient with a cerebral thrombosis and cardiac hypertrophy with high arterial tension showed a characteristic glossitis and again the use of potassium iodide strikingly accelerated his recovery A third case was that of a man with an aortic leak As we were on our way to the house I asked the doctor whether blood ought to be taken for a Wassermann test and he said that a glance at the patient's daughter would do more towards clinching the diagnosis In this man also I found an Argyll Robertson pupil

4 There is the Wassermann test There are one or two reasons why this comes last It is not absolutely infallible, sometimes it is impossible to get a specimen of blood and by relying on this test alone we may lose a good deal of valuable information which would otherwise be obtained

I wish I could add to these four criteria a fifth—namely, the response to treatment We all know how often this proves itself reliable in some forms of late syphilis

For example in the case of a man admitted to the hospital for pneumonia resolution was unaccountably delayed and at the same time precordial pain developed while he was lying at rest in bed This aroused suspicion a history of past syphilis was obtained and his blood reacted positively to the Wassermann test Fortunately the therapeutic test was also positive Under full doses of potassium iodide he improved steadily

Prognosis

Now it would be untrue to say that no benefit results from the treatment of aortic syphilis Signs and symptoms become less pronounced and may even disappear Yet the ultimate prognosis is nearly always disappointing In my own group of 103 cases I was able to trace the outcome, thanks to the help given by colleagues in 88 The results agree closely with the experiences of other We must say to ourselves whenever we establish a diagnosis of cardiac syphilis that its subject is not likely to live more than five years from the onset of symptoms

The risk of sudden death must also be admitted in every case of cardiac syphilis, but I do not think the patient should ever be told about it After all, sudden death does not occur in more than 10 or 20 per cent of all cases of this disease there are no distinctive signs by which we can pick out those that are likely to belong to this group and even if we could would this help us to prevent the catastrophe? For the sake of trying to seem clever it seems hardly worth while to add a burden of constant apprehension to the troubles of the patient

At the same time, it is evident that the outlook is more favourable for those people whose circumstances and temperament enable them to live quietly and avoid excesses especially habitual excesses of exertion and emotion This point has not only a prognostic but also a therapeutic bearing A mental picture of the state of the aortic wall is a powerful aid in correcting a too optimistic estimate of the amount of physical exertion which the cardio-syphilitic subject should be encouraged to undertake

We have to remember that in the decades at which the symptoms of cardiac syphilis begin to be felt the normal deterioration in arterial elasticity has begun It is very striking to see in the microscopy of these hearts a syphilitic lesion which injures the aorta grossly but spares the coronaries, with the exception of their orifices, aided and abetted by an atheromatous degeneration of the coronary trunks and branches High arterial tension is therefore to be feared, since it is apt to accelerate this arterial degeneration I am not, however, going to enter upon a discussion of the treatment of hypertension here but propose to limit my concluding remarks to a discussion of those measures which may be presumed to have some direct action on the syphilitic process

Treatment

1 The most efficacious is potassium iodide It is difficult to adduce evidence in support of this statement yet I am convinced of its truth, not only because this has been my own experience but also of others who have had opportunities of judging No one seems prepared to offer a satisfactory explanation of the action of potassium iodide on the later lesions of syphilis and the allied infections Yet I take it that there is no therapeutic fact of which we are more certain than that potassium iodide gets rid of gummata Now these lesions of the aorta and the cardiac wall are not gummatous Yet the action of potassium iodide in helping to diminish not only symptoms but also signs is I think not to be gainsaid The patient with cardiac syphilis should begin to take potassium iodide as soon as the diagnosis is made, and he should go on taking it for the rest of his life He will of course, have holidays from it but these holidays are to be prescribed for him and not by him One medical man whom I saw with this disease some years ago used to give himself iodine by inunction He thought it upset him less than the salt taken by the mouth It is easy to prove that iodine is freely absorbed through the skin by testing the urine for its presence within half an hour after inunction it can be identified there This method seems worth trying when the oral dosage is not well tolerated

2 Mercury I cannot claim to prove that mercury is more effective than organic arsenic, but it is certainly safer Each is useful by reason of its spirillicidal properties and one should, even at this eleventh hour of the syphilitic day, hunt down spirochaetes with undiminished zeal This is not to say that organic arsenic ought not to be given We give it to almost all cardio-syphilitics in hospital but ever since two of my patients died of exfoliative dermatitis and of gastro-enteritis respectively in both cases during courses of organic arsenic I have thought that these people must have been in some way unusually susceptible Others tell me that they consider organic arsenic may actually increase the cardiac lesion in some of these patients The plan which we follow now therefore is to prescribe the arsenic in relatively small doses at relatively long intervals for example 0·3 gram doses of novarsenobenzol are given at intervals of a week over long period till 5 grams in all have been taken Treatment by iodide and mercury is continuous and a course of organic arsenic is added from time to time

That we fail to do lasting good even by the most careful plan of treatment must, I think be generally admitted, after all this is no more than we should expect What hope is there of persuading ruptured elastic fibres to join up again or closed coronary mouths to open once more? The wonder is, not that treatment does so little, but that it does any good at all No more impressive argument in favour of early and thorough treatment of syphilis could possibly be brought forward than a series of microscopical sections of diseased aortas If there is any achievement of the syphilitic virus that signally deserves the title of "damaged good," it is surely to be found here

Conclusion

This brings me back to the original purpose of these remarks—namely to emphasize the fact that aortitis a distressing and fatal malady is the inevitable lot of the patient in whom syphilis is inadequately treated in the early stage There is good reason for hoping that the campaign against venereal disease which has given to everyone infected with syphilis an opportunity of early and thorough treatment, may succeed in its object and avert these disastrous sequels, but we cannot be confident of this, and it is therefore our duty to be ready for an increase in the incidence of cardio-vascular syphilis in general practice during the next decade or two

NORMAL STRUCTURE OF ENDOMETRIUM AND DECIDUA AND THE MENSTRUAL CYCLE*

BY

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THE mucous membrane of the uterus differs from that of all other organs of the body in that it goes through regular cycles of change during a certain long period of its existence—namely, the reproductive period The menstrual cycle, ovulation, and pregnancy introduce complex normal variations in structure, and when to these are added pathological changes, interpretation becomes very difficult indeed For normal and pathological alike, a knowledge of the time relations to the cycle, the age of the patient, and the history of pregnancy and abortion is most important Conversely, the stage of the cycle to which curettings belong must often be guessed from our knowledge of the normal in cases where no history is available, or where the history is obscure from continuous or irregular bleeding

In the development of the endometrium into decidua there is increase in thickness, which is caused by congestion and oedema, swelling of certain of the stroma cells, and changes in the glands, which increase in size and become tortuous

The earliest change occurs in the glands About three days after fertilization the ovum reaches the uterus, and up to about the tenth day it lies free, being nourished by the secretion of the glands [1] It must then implant itself or perish Only after implantation has taken place do the decidua cells attain their characteristic form, while the glands, their work accomplished, undergo involution

The glands develop, with the prodigality of nature all through the endometrium and the epithelium, for lack of room to expand, forms papilliform ingrowths of such luxuriance that in longitudinal section each side of the gland may present an appearance which has been described as "saw-like" These glandular changes were formerly described as pathological, under the name "endometritis glandularis hyperplastica," although Gebhardt recognized their likeness to "pregnancy glands"

Since the work of Hitschmann and Adler,[1] published in 1908 it has been accepted that these changes represent normal development, which is called "pre-menstrual" "Endometritis glandularis" as an entity has disappeared, but the "pre-menstrual" gland still puzzles the pathologist, and can figure as papilloma or even adenocarcinoma

The menstrual cycle may be conveniently divided into four phases (1) Menstruation, or the breaking down or destructive phase Physiologically the appearance of the bleeding is regarded as marking the end of a cycle, but it is customary and convenient to date from it, as if it were the beginning (2) The post-menstrual phase or period of repair (3) The interval or period of rest during which there is little change in the structure of the membrane (4) The pre-menstrual phase, during which the changes develop We may assume that the proliferation corresponds to the early stage in the development of the endometrium into decidua It is customary to call all degrees of this up to very definite decidua "pre-menstrual," but I desire to be able to say that certain developments are due to ovulation or to ovulation and fertilization of the ovum, or that they *are* pathological To do this involves an attack on the generally accepted theory of menstruation and its relations to the ovary, but I have no compunction about attacking this theory, for I consider that its foundations are unsound in certain respects

The orthodox theory asserts that the menstrual cycle is dependent on the ovaries acting as an endocrine organ through the Graafian follicles and corpus luteum; that the internal secretion sensitizes the endometrium and causes proliferation, and that the proliferative changes are to be regarded as preparation for the reception of the fertilized ovum If the ovum is not fertilized, the menstrual breaking down occurs in due course, and the ripening of a new follicle initiates the period of repair, and ovulation and the development of the corpus luteum again bring about the pre-menstrual reaction If fertilization occurs, the corpus luteum governs the development of decidua and placenta It is clear on grounds of experimental comparative physiology that the corpus luteum is necessary for the establishment and for the continuance of at least the early stages of pregnancy

In the extreme form of the theory it is asserted that (1) there is no menstruation without ovulation—ovulation must therefore go on all the year round in the absence of pregnancy or disease, (2) that ovulation occurs about the middle of each cycle dating from the commencement of the bleeding, (3) that the ovaries work month about

Whether the ovum is fertilized or not the follicle proceeds to develop into a corpus luteum In the case of the normally menstruating female, therefore, it is said to be possible to take a pair of ovaries and count the corpora lutea, and by estimating their state of development or retrogression to arrange them in regular series covering four to six months This can be done, although we have never been able to do it properly But we are of the opinion that such seriation is capable of another explanation (see below)

The chronology of the corpus luteum for the orthodox theory of the cycle has been constructed by study of the ovaries in the living subject at operation and histologically in material obtained by operation and post mortem Gynaecologists differ strongly about the results of counting and dating corpora lutea in the living human subject, and we have found the histological method unconvincing We hold that there is only one method by which the ages of human corpora lutea and decidua can be determined—namely, from the history of properly dated young human ova

The corpus luteum found in the absence of pregnancy is commonly called the "corpus luteum of menstruation" or "corpus menstruationis" We hold that these terms express erroneous ideas, and therefore should not be used A corpus luteum signifies one thing—the ripening of an ovum, its relation to menstruation is problematical

The theory we accept was formulated by Heape more than thirty years ago in opposition to old theories of menstruation, from which the present orthodox theory is descended His main point was that ovulation and menstruation were independent functions in certain fundamental respects The observations were made on wild monkeys, and the work has recently been confirmed and made more precise by G W Corner,[2] Hartmann,[4] and others studying the colony of rhesus monkeys at the Carnegie Institute of Washington, Baltimore They find that in monkeys the occurrence of menstruation *is not dependent on ovulation*, but goes on more or less regularly all the year round, although ovulation, the absence of which is tested by the absence of corpora lutea, is in complete abeyance Moreover, in the absence of ovulation, the cyclical changes in the endometrium do not occur, and the bleeding may take place from an endometrium in the resting stage If ovulation occurs in a given cycle the resultant corpus luteum acts to bring about the so-called "pre-menstrual" changes in the endometrium Corner rejects the term "pre-menstrual" and substitutes "progestational"

Corner refers to cases in which his monkeys although menstruating regularly, showed only one corpus luteum between the two ovaries We have frequently seen this in the human subject, but usually the menstrual history was not obtainable or was uncertain We have, however, a very few cases in which a single young corpus luteum was present in patients who had been menstruating regularly, and Corner refers to similar cases The Teacher-Bryce Ovum No 2, the age of which is reckoned as 19 days, is the earliest specimen in which the whole uterus and ovaries are available for study, and there is only one recent and one very old corpus luteum It is clear that the subject was fertilized at the first ovulation after a period in which that function was in abeyance, but it is not *absolutely* certain that menstruation had been resumed after her previous pregnancy Properly dated this case

* Read in the Section of Bacteriology, Pathology, Physiology, and Biochemistry at the Annual Meeting of the British Medical Association, Winnipeg 1930

would have furnished most valuable information about the chronology of the corpus luteum as well as the endometrium in relation to the menstrual cycle, it is from this side that our strongest objections to the orthodox theory come

In 1908 Bryce and the writer[3] used the precise and trustworthy history of the Teacher-Bryce Ovum No 1 to correlate the data of twelve young ova in the history of which the date of the termination of pregnancy in relation to the menstrual cycle was known These data gave a series in which dimensions and ages gradually increased and supplied a mode of reckoning the age of very young ova which was so clear and consistent that it was accepted and adopted in Keibel and Mall's *Embryology* (1910)[6] A second table was then constructed to ascertain at which periods of the month fertilization and implantation would have occurred in the case of these ova on the basis of the first table The results were inconsistent with the old theories of menstruation and ovulation, but they agreed with the theory of Heape

The statement of the controversy made in 1908 is obsolete but the method of research was taken up by Grosser[7] in 1923 and the tables were reconstructed with much new material, the conclusions being revised in accordance with our present knowledge of menstruation, ovulation, and pregnancy The result is a chronology of the menstrual cycle founded on actual records of dates of coitus and termination of pregnancy which is inconsistent with the accepted theory

The second table shows that ovulation—with which cohabitation and fertilization must be regarded as practically synchronous—can take place at any period from the second to the twenty-fourth day of the cycle No period can be definitely indicated as the usual date of ovulation Fertilization, even as late as the twenty fourth day, prevents the menstrual breakdown while early fertilization produces the decidual reaction We conclude that the fate of the ovum governs the changes in the endometrium and the corpus luteum as well

The second theory, therefore, asserts that (1) The menstrual cycle in the human subject normally proceeds all the year round but ovulation and corpus luteum formation occur only from time to time (2) There is no regular date of ovulation The lunar rhythm of the cycle is therefore not due to ovulation and we are ignorant of its origin (3) In the absence of fertilization it is probable that several ovulations occur in succession, as in polyoestrous mammals like the mare or guinea-pig Possibly they occur at monthly intervals and from each ovary alternately, which would explain why the arrangement of corpora lutea in series can be made in a large proportion of suitable cases (Ruhl[8])

According to this theory the changes in the ovary and the uterus both depend on the fate of the ovum The most momentous occurrence in the life-history of the genital apparatus is the union of the male and female elements and it is reasonable to suppose that this event would communicate some stimulus to the maternal organism Normally it would be picked up by the mucous membrane of the Fallopian tube, and the immediate response of ovary and uterus would be growth of luteal tissue and endometrial glands

Menstruation is a cyclical process which provides for the maintenance of the endometrium in a suitable condition for producing the decidua of pregnancy but the ovum is not dependent on 'pre menstrual' reaction for a suitable nidus The uterus is capable of developing a decidua of conservation whenever it is called upon to receive and nourish a fertilized ovum

The occurrence of light proliferative changes in the endometrium near the end of a period would be interpreted as normal pre-menstrual reaction occurring apart from ovulation Hitschmann and Adler emphasized the invariability of the reaction Aschoff[9] refers to cases, possibly abnormal where it has not developed Probably there is always some reaction A more pronounced reaction at any period would suggest that ovulation and corpus luteum formation had occurred while early decidua would indicate fertilization also We have seen well-developed reaction long before its time on the orthodox view of the cycle, and we could find the ruptured follicle or early corpus luteum but we could not find the ovum Possibly the date of implantation had not been reached

Two other interesting possibilities are (1) failure to implant the ovum, or (2) the rejection of the ovum soon after implantation In such cases menstruation 'would occur from a membrane that could hardly be called anything but early decidua From a medico-legal point of view, however, it would not be justifiable to diagnose the occurrence of pregnancy from the finding of such a membrane Classical decidua or trophoblast must be found

To give an example of the practical bearing of this theory, some of our specimens have come from cases in which curetting was done on account of sterility and the surgeon demanded to know whether he had been so unlucky as to have interrupted an early pregnancy We did not care to assert this, but we hope we were justified in saying that such membranes showed that ovulation was occurring, or in some cases ovulation and fertilization as well Prognosis, therefore, was hopeful In these cases the theory of Heape appears to us more helpful than the orthodox theory

It is obvious that the two theories have much in common but there is sharp contradiction in the time relations For the discovery of the truth we want accurately dated young human ova These may be supplied by the new method of Allen and his collaborators,[10] who have washed free ova out of the tubes at operations, or by the older methods All depends on co-operation between the gynaecologist, the pathologist, and the embryologist so that the material may be found and properly handled

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SODIUM AMYTAL AND OTHER DERIVATIVES OF BARBITURIC ACID *

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APPROXIMATELY two years have elapsed since the first studies were made on the clinical use of sodium isoamylethyl barbituric acid (sodium amytal) In a preliminary report[1] certain clinical observations were recorded and attention was called to the need of further pharmacological and clinical work before definite conclusions could be drawn as to the safety, contraindications and limitation of this compound Since that time various experimental and clinical observations have been made by different investigators so that the status of this drug is now more clearly defined The purpose of this paper is to review briefly the data relating to sodium amytal and similar compound

CHARACTERISTICS COMMON TO DERIVATIVES OF BARBITURIC ACID

All derivatives of barbituric acid have certain characteristics in common which have long been recognized

1 They are primarily hypnotics only occasionally will amounts ordinarily producing hypnosis produce analgesia

* Read in opening a discussion in the Section of Anæsthetics at the Annual Meeting of the British Medical Association at Winnipeg 1930.

or anaesthesia Sufficiently large amounts will induce analgesia and anaesthesia in both animals and man, however, the dosage of such amounts precludes their routine use in man

2 There may be a marked variation in the effects observed with a given amount in the same or different animals Similar variations have been observed clinically, and are, perhaps, more accentuated when larger amounts are employed This variability of action has made it difficult to select the proper dosage

3 The amount required to produce a given therapeutic effect bears approximately the same relationship to the fatal dose in each of these various compounds in their clinical application

4 All members of the barbituric acid series may depress the respiratory and circulatory systems when amounts large enough to produce deep hypnosis are administered

5 Comparatively large amounts of any of the derivatives of barbituric acid may produce hallucinations, and so forth, when the amount excreted or destroyed reaches a certain level

Rate and Manner of Elimination

Apart from the characteristics enumerated above, applying in general to all derivatives of barbituric acid, there are certain differences which pertain very largely to the toxicity, and rate and manner of elimination or destruction

After the administration of moderate doses of diethyl-barbituric acid (barbital) to dogs, as much as 90 per cent of the amount administered has been recovered from the urine during the following seven or eight days[2] With large doses, however, the amount recovered falls to 45 or 50 per cent[3] That there was no retention in the latter instance was shown by the absence of all but traces of the drug in the tissues of the animal In most instances the daily excretion reached a maximum thirty-six to forty-eight hours after the administration[4]

The amount excreted varied somewhat with the mode of administration Fischer and Hoppe[5] found that 74 4 per cent was eliminated after rectal administration, 90 3 per cent after oral, and 92 per cent after subcutaneous administration Fifteen minutes after subcutaneous injection traces of barbital were found in the urine

The amount of phenylethyl-barbituric acid (luminal) recovered falls far below that of barbital Remert[6] reports the recovery of 22 per cent with the excretion persisting for ten days The maximum daily excretion occurred on the fourth day

Recently, Herwick[7] reported that in a series of six dogs given anaesthetic doses of iso-amyl-ethyl-barbituric acid (amytal) orally, and of four dogs that received comparable amounts intravenously, no amytal could be recovered from the urine during a period of five to six days When anaesthetic doses of *n*-butyl-ethyl-barbituric acid (neonal) were given, he was unable to recover neonal from the urine Hence the conclusion was drawn that these barbituric acids are probably broken down almost quantitatively in the body

Koppanyi and Lieberson,[8] from the observed persistent action of barbital and amytal in cats, calculated the average rate of elimination (or destruction) for twenty-four-hour periods Daily doses of 25 per cent of the average fatal dose were given intravenously At the end of five days two of the four cats receiving barbital died, indicating that the animals could not have eliminated (or destroyed) more than 25 per cent of the fatal dose in this period At the end of a week the cats receiving amytal were in the same physical condition as at the start indicating that they must have eliminated (or destroyed) nearly the entire daily dose Further experiments indicated that cats could eliminate (or destroy) an amount of amytal equivalent to from 40 to 50 per cent of the fatal dose in a period of twenty-four hours Animals consistently regain consciousness from a sub-lethal dose of amytal in one-half to three-fifths of the time required by them to recover from a similar dose of barbital

Early in 1929 Campbell and Shoule[9] devised a method which permitted them to recover quantitatively amytal added to the urine The twenty-four-hour specimens of several patients who had undergone operation under amytal anaesthesia were investigated In spite of the fact that large doses of sodium amytal had been administered intravenously, no trace could be detected in the urine Consequently, it was necessary to include the isolation of the possible decomposition products of amytal, which up to that time had not been prepared

When solutions of sodium amytal are allowed to stand, the barbituric acid ring breaks open with the elimination of CO_2, forming iso-amyl-ethyl-acetyl-urea This latter product further breaks down, forming iso amyl-ethyl-acetamide, NH_3, and CO. A few minutes' boiling is as destructive to a solution of sodium amytal as standing for some days at room temperature consequently, sodium amytal solutions cannot be sterilized by heating In addition to iso-amyl ethyl-acetyl-urea and iso amyl-ethyl-acetamide, iso-amyl-ethyl-malonamide was prepared, and the physical properties of all three were determined

Since amytal and the three decomposition products could be sublimed quantitatively without decomposition, they were able to use one general method Specimens of the urine, after acidification, were extracted with ether for twenty-four hours in Friedrich's apparatus[10] The ether extract was dried and concentrated to a small volume in the bottom half of a sublimation tube[11] and sublimed *in vacuo* The sublimate was dissolved in ether and re sublimed, the operation being repeated several times to assure better separation from the lipoid constituents which had been simultaneously extracted Amytal can be separated from its degradation products by its ready solubility in dilute NaOH

In spite of the repeated sublimation, there were usually a few milligrams of lipoid which persisted In each instance this non-crystalline sublimate was tested for the presence of traces of amytal, using, first, Millon's reagent, and secondly, injecting a dilute alkaline solution into mice

The investigators were unable to find amytal in the urine after the intravenous administration of as much as 22 grams of its sodium salt Extractions were made of aliquots of each twenty-four-hour specimen for a period of three to seven days following the operation Furthermore, they were unable to detect any of the three probable decomposition products, and they did not obtain any unknown constituents

Evidently, then, amytal is rapidly and completely destroyed in the body, no trace of it appearing even in the first twelve-hour specimen This is in contrast with the appearance of barbital in fifteen to thirty minutes after its intravenous administration in dogs

The absence of amytal in the urine following its intravenous administration is noteworthy That amytal is probably completely destroyed is indicated by the inability to detect any of the three possible disintegration products in the urine, no study has been made, however, of the faeces, of the content of amytal in the body tissues, or of the rate of disappearance from the blood stream

Pharmacological Action and General Effects of Sodium Amytal

Metabolism

Hines, Boyd, and Liese[11] have shown that amytal appears to lessen the ability of animals to utilize glucose when injected by the continuous intravenous method Hyperglycaemia and glycosuria, associated with a slight lowering of the plasma *p*H, occurred Hines, Liese, and Barker[12] found that approximately the same increase in muscle glycogen occurred in dogs with or without amytal anaesthesia The increase in liver glycogen was about twice as great in the unanaesthetized animals Hinsey and Davenport[13] also report that the glycogen content of unstimulated gastrocnemii of the rat and guinea pig did not decrease under amytal anaesthesia Much controversy has arisen as to whether the blood sugar level is increased under amytal anaesthesia, and opinions are *about* equally divided

Mulinos[14] states that amytal does not affect carbohydrate metabolism in the same chaotic manner as other, and that it allows the mobilizing mechanism of animals to respond to various experimental procedures Experiments, however cannot be said to have been performed on normal animals The glucose concentration in the blood of cats was not raised during the induction stage or for four or

five hours after anaesthesia was complete Moreover, it did not prevent the action of insulin on hyperglycaemia following sensory stimulation Certain clinical studies[13] indicate that sufficient amounts of sodium amytal to produce surgical anaesthesia in man did not increase the blood sugar levels above normal Brill[14] has shown that sodium amytal prevented hyperglycaemia seen following injections of morphine in dog

Bolliger and Maddox[17] state that sodium amytal, given intravenously to 125 dogs for the production of surgical anaesthesia produced a slight rise in the blood sugar levels, no change in the CO combining power, and a slight fall in the blood phosphates The blood urea of the dogs before they were given sodium amytal ranged between 135 and 340 mg per 10 c cm of blood In some instances the blood CO_2 was as low as 30 per cent It was found that less sodium amytal was required for those dogs whose blood urea was exceedingly high These experiments indicate that sodium amytal is not very toxic to the kidneys, even in the presence of uraemia

This is further borne out by the fact that there are only slight changes in the blood non protein nitrogen blood CO_2 combining power, and urine specimens obtained following the use of sufficient amounts of sodium amytal to produce surgical anaesthesia in man [15]

Emge and Hoffman[18] reported that patients who have received sodium amytal and morphine as a preliminary to inhalation anaesthesia take in more fluids in the twenty-four hours following the operation than patients receiving scopolamine and morphine At the same time the urinary output is actually and relatively decreased in the sodium amytal group

Patients receiving sodium amytal took fluid by the mouth more readily on the day of and the day following the operation, because of the greater freedom from nausea In the second twenty four hours the fluid intake in both the scopolamine and sodium amytal groups reached fairly equal levels but the ratio of output was lower in the sodium amytal group In the third twenty-four hours the fluid intake was slightly increased over the scopolamine group and the ratio of output to intake reached more similar levels They concluded from their studies of the glomerular activity of the two groups that there was no essential difference between them in the amount of phenol-sulphonephthalein excreted

The effect of amytal upon the basal metabolism of animals was studied by Deuel Chambers and Milhorat [19] They found it to be slightly lowered after amytal but it usually remained at a constant level despite a fall in body temperature of two to three degrees Lee [9] found that rats given 2 5 mg of amytal to each 100 grams of body weight showed a decrease in metabolism of less than 5 per cent that those given 5 mg showed an average decrease of 8 per cent and those given 7 5 mg an average decrease of 20 per cent It is doubtful in clinical cases if the basal metabolic rate is decreased much below that of normal sleep

Circulatory System

The effects of sodium amytal on the circulatory system are somewhat dependent on the amount rate and manner of administration of the drug It is possible by the rapid intravenous injection of sub-lethal doses of sodium amytal in animals to produce death or an immediate fall in blood pressure to alarming levels By the oral or intraperitoneal routes, the fall in blood pressure is less likely to be as great or as acute in its onset

Liebard Mulinos [1] state that sodium amytal when given intravenously to laboratory animals depressed the circulation and produced a prolonged temporary paralysis of the vagus to the heart which lasted from one to one and a half hour Shafer, Underwood and Gavron have confirmed these findings reported by Mulinos They also found the greatest slowing from stimulation of the vagus in decerebrate animals and the least in those just under amytal while intermediate slowing was observed in dogs under ether The blood pressure increased following stimulation of the vagus under amytal if the vagus carried a greater number of pressor impulses Lundy [2] and others have observed an increase in blood pressure in two cases following the intravenous administration of sodium amytal to surgical patients

As a rule, following the intravenous injection of sodium amytal in man at a comparatively slow rate (1 c cm per minute) a decrease in both the systolic and the diastolic blood pressure occurs, usually during the time the drug is being injected and becomes most marked when the patient loses consciousness Mason Baker and Pilcher [21] reported that the systolic pressure in all but a few instances fell to an average of 30 mm of mercury and the diastolic to an average of 15 mm during the induction of anaesthesia but returned to normal levels early in the operation Patients with hypertension those who are markedly sclerotic, and patients who are debilitated from chronic illness, may show much greater decreases in blood pressure —even to alarming levels

Forbes Wolff, and Cobb [23] observed that the vessels of the brain dilated under amytal anaesthesia following the intravenous injection of histamine and that the cerebro-spinal fluid pressure rose The vessels of the brain reacted to intravenous injection of histamine in a very different manner depending on whether the animals were under ether or amytal anaesthesia Emge and Hoffman [18] found that in nineteen patients who received sodium amytal by the mouth the systolic and diastolic blood pressure decreased in about the same proportion as that observed after the intravenous injection They state, further that this decrease has not given any trouble with haemastasis

Numerous observations have been reported on the effects of the drug on the pulse rate Mason Baker, and Pilcher [21] reported an average increase of fifteen beats per minute Emge and Hoffman [18] found an increase ranging from ten to twenty beats per minute In my experience the response of the pulse rate may be variable, though it is seldom slowed The increase in pulse rate is probably due to the effects of the drug on the vagus nerve

Respiratory System

Animals given fatal doses of sodium amytal died of respiratory failure which usually precedes that of the circulatory system, though failure of both sometimes occurs simultaneously particularly if the drug is injected rapidly

Page and Corvillo [24] have described certain irregularities in the rate of respiration occurring in animal under deep anaesthesia just before death The amounts necessary to produce this degree of anaesthesia in animals is much greater than that used for pre anaesthetic preparation of surgical patients or for other clinical uses

Isenberger [7] in a series of experiments on animals designed to show the effect of narcotizing agents on the function of respiration found that moderate doses of sodium amytal resulted in a slight decline in the rate of respiration accompanied by a compensatory increase in depth There was no change in the minute volume Repetition of this dose in the same animal produced a slight but definite fall in the minute volume of respiration due to a decline in the respiratory rate as the animal passed into a deep sleep The sensitivity of the respiratory centre to carbon dioxide after the second dose of sodium amytal remained practically unchanged from normal

Small doses of morphine given preliminary to sodium amytal seemed to render the action of sodium amytal more uniform as well as more intense and thus reduced the amount of both sodium amytal and morphine required He calls attention to the fact however that morphine may be chiefly responsible for the changes in the respiration observed after morphine and sodium amytal have been given in sequence in therapeutic doses also that basal narcosis as a result of the proper administration of sodium amytal in combination and sequence with morphine preceding the administration of a general anaesthetic (such as ether) and full surgical anaesthesia with relaxation were safely and easily established and adjusted At the same time there appeared to be retained a definitely higher degree of respiratory reserve than when either alone or preceded by morphine alone was used to a state of similar degree of anaesthesia and relaxation In the clinical use of morphine it is well known that patients are occasionally seen with marked impairment of

respiratory function following comparatively small doses, so that great caution should be exercised in the combined use of sodium amytal and morphine

Clinical observation of the administration of comparatively small amounts of sodium amytal for pre-anaesthetic preparation of patients has been described, and follows closely that defined for animals The respirations are usually regular in rate, but are frequently reduced in amplitude There was little change in the colour of the skin, although a slight degree of cyanosis has been noted Mason, Baker, and Pilcher[24] call attention to the development of a flush of the skin, sometimes resembling a febrile reaction

Central Nervous System

Sodium amytal and other commonly employed derivatives of barbituric acid are primarily hypnotics when used in amounts that are considered safe Occasionally one finds evidences of analgesia, and even anaesthesia, in patients who have received comparatively small amounts of the drug On the other hand, relatively large amounts may leave the patient in a hypersensitive state This indicates that either the state of the nervous system or the site of action of the drug may materially affect the results obtained

When the drug is injected intravenously the induction of sleep is rapid and quiet Drowsiness, noted by drooping of the eyelids, yawning, and slurring of words, comes on after the administration of 3 to 9 grains (0 2 to 0 6 gram) Mason, Baker, and Pilcher[24] observed that as the dose was increased the patient became reflexly hypersensitive, and finally entered a profound state of narcosis The pupils became contracted, and in some cases fixed, so that they would not react to light The corneal reflex was diminished, and the gag reflex remained intact The knee-jerks were often exaggerated during the period of hyperaesthesia In this state patients sometimes became restless, if stimulated, and some time was required before they again became quiet

The period of unconsciousness may last anywhere from three to six hours, depending on the amount of the drug given When a sufficient amount of the drug was eliminated or destroyed the patients passed through a mildly restless period of comparatively short duration, in which they were disoriented, moved aimlessly about, and uttered incoherent statements On regaining consciousness the patients may carry on a conversation but fail to remember anything about it when questioned later During the following hours they continued to be drowsy, and slept at intervals, but their co-operation was readily obtained for the administration of fluids, food, and so forth

When the drug is administered orally or rectally, essentially the same effects are obtained as by the intravenous method, except that a somewhat longer time is required

CLINICAL USE OF SODIUM AMYTAL

In our earlier work we used sodium amytal in approximately one hundred cases as the sole anaesthetic It was soon apparent that the marked depression upon the circulatory and respiratory systems carried with it certain dangers which would not warrant its general use The greater proportion of the patients were restless and delirious for a period of time, which added further to the difficulties of its employment as an anaesthetic agent Also there were no clean-cut criteria for judging the dosage when administered in such amounts

Subsequently, this drug and other barbituric acid derivatives have been employed in smaller doses to a definite advantage in the pre-anaesthetic preparation of the patient Holman and Palmer[28] state that the occasional restlessness and the mild delirium after operation are a definite disadvantage, but are usually absent when amytal is administered in smaller doses, ranging from 7 to 12 grains (0 47 to 0 8 gram) In their experience with the intravenous administration of the drug the drop in blood pressure is a distinct disadvantage Even with small doses this drop may be alarming, and may be sufficient to warrant postponement of the operation They think it may be an evidence of an individual idiosyncrasy to the drug, and its possible appearance makes frequent observations on the blood pressure during the administration of the drug imperative They conclude from their experience with its use in 150 general surgical cases that sodium amytal provides the normal induction of a natural sleep without the apprehensive struggling of a conscious patient The preparation of the patient could be performed before the administration of the inhalation anaesthetic There was a marked reduction in the amount of nitrous oxide required, and cyanosis was avoided The amount of oxygen added to nitrous oxide could be increased, varying between 16 and 32 per cent There was noted a marked reduction in the post-operative nausea, struggling, and pain Those patients who had experienced other operations under other anaesthesia claimed that sodium amytal rendered their present operation a pleasant experience in contrast to the ordeal through which they had previously passed In operations upon patients with exophthalmic goitre, and upon very apprehensive, excitable patients, sodium amytal has, they believe, a very definite place in anaesthesia, and may be used in doses of 7 to 12 grains (0 47 to 0 8 gram) with definite advantage to the patient

Mason and his associates,[24 29] using sodium amytal intravenously, called attention to the variation in individual susceptibility to the drug They found that the minimum dosage required barely to erase consciousness varied frequently from 3 to 9 grains (0 2 to 0 6 gram), illustrating the impracticability of estimating the proper dosage Factors of more importance seemed to be the age and general condition of the patient It was found that old or debilitated persons may fall asleep after 3 to 5 grains (0 2 to 0 3 gram) have been given, whilst young robust patients may require 7 to 9 grains (0 47 to 0 6 gram) before they lose consciousness

They used for the injection a very small hypodermic needle attached to a 10 c.cm. syringe During the intravenous injection of the first 3 to 9 grains (0 2 to 0 6 gram), in a room that is perfectly quiet, the patient slips away into a sleep that certainly, to all appearances, closely resembles the physiological state In only one instance was there any evidence of excitement during the induction of sleep by sodium amytal or during the induction of deeper anaesthesia by the superimposed inhalation anaesthetic They observed that the effect was reached immediately upon injection, and by observation of the patient's reaction as the drug was administered, he could with safety be carried to any of three stages desired—namely, co-operative stupor, deeper untruly stupor, or total unconsciousness They thought that the patient should not be allowed beyond the third stage, or the total loss of consciousness The experiences of many others also bear this out

From their experience with its use in 305 cases, they concluded that when the drug was used for the pre-anaesthetic preparation of the patient, with a dose just large enough to make the patient lose consciousness, it gave more satisfaction than any other drug used In patients with hyperthyroidism, and in those who were nervous, sensitive, or apprehensive, it gave the most satisfying results When the drug was given slowly and the administration stopped as soon as the patient lost consciousness, they considered that no serious or untoward effects would be experienced

Heyd[30] reports thirty-five surgical cases in which sodium amytal was used primarily as an adjunct to anaesthesia He suggests the following surgical indications for its use hyperthyroidism, and laparotomies in which it is desirable to have relaxation with ethylene, kidney operations, using sodium amytal supplemented by ethylene, to produce unconsciousness wherever there is an emotional element of any degree before any type of operation, for the control of post-operative delirium or excitement, and as a pre-operative measure to promote rest in highly toxic goitre cases

Lundy[31] reports the use of sodium amytal in 750 surgical patients, to whom the treatment was given by the mouth in doses of 6 grains (0 40 gram) to women, and 9 grains (0 60 gram) to men, one hour prior to operation He observed little, if any, delirium, nausea was rarely seen, and there was no difficulty with respiration

By the intravenous route he used it in large amounts, 457 times, to produce all or part of the anaesthe-

necessary to perform most of the various operations that are commonly done on man He called attention to the dangers of too rapid injection of the drug Following large doses he found that delirium, oedema of the lungs, pneumonia and the inability to raise mucus after thyroidectomy, developed and were definite reasons why the drug should not be employed as the sole anaesthetic

Link[2] reported 460 surgical cases in which sodium amytal was used for the pre anaesthetic preparation of the patient He used an average dose of 12½ grains (0·83 gram) intravenously He concluded that the drug should be given slowly and in amounts sufficient only to produce sleep The amount required was found to vary according to age, weight, and condition of the patient Patients with hyperthyroidism required larger amounts Post-operative nausea or vomiting was seldom seen

Cabot, Maddock, and Lamb[23] reported a series of 172 surgical cases in which sodium amytal was given intravenously in the pre-anaesthetic preparation of the patient, supplemented by inhalation anaesthetics They have given a complete resume of the effects of the drug on the respiration, pulse and blood pressure, with notations of the time required to recover from the effects of the drug Of particular interest were their observations regarding the percentage of lung complications In a series of ninety-three cases given ether, 15 per cent developed lung complications, in a group given ethylene, the percentage was 4, in their series of 172 cases, in which sodium amytal was employed, the percentage was 6·5 There were no deaths directly attributable to sodium amytal

Sise,[24] giving 9 to 15 grains (0·6 to 1 gram) intravenously for the induction of hypnosis preceding the use of intraspinal anaesthesia, found it of definite advantage in a limited number of patients who were hypersensitive and who demanded to be unconscious Brown,[25] Little,[26] Graham,[3] Ranson,[28] Aid,[29] Butt,[10] and others have reported on their experiences with the intravenous administration of comparatively small amounts for pre anaesthetic preparation of the patient

Drabkin Ravdin, Hirst, and Lapham[41] have reported on the use of sodium amytal by the rectal route in 33 obstetrical cases They used comparatively large amounts 25 to 30 mg per kilo of weight In ten cases the results were *good in seven fair, and in two they were poor* They found no effect on the rhythmic contractions of the guinea-pig uterus *in vitro* or *in vivo* The uterus responded to oxytoxic principle

When the drug is administered by the mouth or by the rectum about the same effects are observed as when the drug is given intravenously A somewhat longer period is required to obtain the same effect the drop in blood pressure is not acute as by the intravenous method and the duration of the effects are longer The drop in blood pressure, following its administration by the mouth or per rectum, and the period for recovery from such a decrease is apt to require a longer time

De Takats[4] states that the protracted oral medication of barbituric acid derivatives resulted in just as many different responses as with the other forms of administration

The uses of this drug, for purpose other than preanaesthetic preparation of the patient include the control of convulsions as observed in tetanus eclampsia strychnine poisoning status epilepticus, and cocaine and procaine poisoning It has also been used in controlling patients with delirium tremens, unmanageable mental cases and various post-operative psychoses The reduction of the amount of morphine required for cases of inoperable carcinoma is also very gratifying In one instance the amount of morphine used daily was reduced from 6 grains to 3/4 of a grain by the addition of 6 grains (0·4 gram) of sodium amytal given by the mouth at regulated intervals

Contraindications

In the field of anaesthesia patients who are poor anaesthetic risks may be considered poor risks when odium amytal is used for pre-anaesthetic preparation Patients with hypertension hypotension, generalized arteriosclerosis, elderly persons, and those who are weak and emaciated as a result of chronic illness are poor subjects for the use of sodium amytal If it is to be given to patients of this type, extreme caution should be exercised in the rate of its administration, and particularly in the amount given

Patients with pulmonary infections, lung abscesses, and bronchiectasis should not receive enough of the drug to interfere with the gag reflex, and it is better on the whole to use very small amounts, 3 to 6 grains (0·2 to 0·4 gram), preferably without producing a total loss of consciousness The drug should also be given cautiously, or not at all, following very large doses of morphine, or *in those patients particularly sensitive to morphine and* drugs of a similar nature Patients who are known to be hypersensitive to barbituric acid derivatives should not be given sodium amytal Weiss[42] and others have pointed out the danger of keeping patients unconscious for a prolonged period of time with derivatives of barbituric acid administered by any means

The intravenous administration of the drug should be stopped at once if an acute drop in blood pressure or a marked decrease in the amplitude of the respiration occurs

Discussion

Derivatives of barbituric acid have many characteristics in common but differ largely in toxicity and rate and manner of elimination Lundy[44] has recently made an exhaustive review of the literature on this subject The therapeutic margin of safety, based on experimental animal work has been determined for a great many of these compounds In clinical medicine we are interested to know the proportion of the fatal dose that will be required to produce a given effect For all practical purposes that relationship is about the same for all the commonly employed derivatives of barbituric acid Diethyl barbituric acid (barbital) is frequently cited as being the least toxic of the compounds mainly because the amount required to produce death in animals is relatively large Should one desire to produce a given effect short of the fatal dose the amount of barbital required would bear about the same relation to the fatal dose as that of a compound considered two or three times as toxic Should sub-equent sub-lethal amounts of barbituric acid be given before the entire amount was eliminated each time barbital would ultimately prove decidedly more toxic than those compounds eliminated or destroyed at a faster rate Fitch and his associates[12] state that there seems to be little advantage that can be claimed clinically for the intravenous use of one barbiturate over another, except in so far as the advantage lies in differences in the duration of depression and in the total quantity of the drug that the organism must destroy or eliminate

The clinical reports on the use of sodium amytal and other derivatives of barbituric acid indicate that they have a wide field of usefulness when given in comparatively small doses and for a definite reason

Essentially the same degree of hypnotic action is obtained when sodium amytal is given by the mouth or per rectum, as that observed when the drug is administered intravenously The respiratory and circulatory depression is less acute but the peak effect of the drug may not be obtained when desired and the rate of elimination or destruction is much slower

The intravenous method carries with it certain disadvantages, such as the dangers from too rapid administration more acute respiratory and circulatory depression and the technical difficulties and dangers inherent in intravenous administration of drugs However the effects are obtained almost immediately the minimum amount required for the individual patient may be judged more accurately, and the rate of elimination or destruction proceeds at a faster rate

On the whole I consider that for general use of this compound or other derivatives of barbituric acid it is safer to give it by the mouth or *per rectum, and that the* intravenous use should be reserved for emergencies where the effects are desired immediately or in instances where the oral or rectal administration is not feasible Likewise,

I consider that the intravenous method requires some experience and technical skill, and that the patients receiving such injections should be under close institutional supervision

As is well known, no fixed rule can be used for calculating the dosage, and individual variations exist in man This one point alone is sufficient to contraindicate the use of barbituric acid derivatives in large doses It is considered, however, that doses of 3 to 9 grains (0·2 to 0·6 gram), not exceeding 15 grains (1 gram), are comparatively safe limits for sodium amytal It is seldom necessary to use more than 7½ to 9 grains (0·5 to 0·6 gram)

In the field of anaesthesia there is ample evidence that sodium amytal is useful primarily as a hypnotic for the pre-anaesthetic preparation of the patient, and not as an anaesthetic agent In the field of medicine it is useful for the control of convulsions, unmanageable mental cases, and as a specific for strychnine poisoning

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A COMPARISON OF SODIUM AMYTAL AND PERNOCTON AS PRE-ANAESTHETIC HYPNOTICS*

BY

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The properties and use of sodium amytal are becoming so familiar through the work of Zerfas, McCallum, Kast, Lundy, and others, that more than a brief recapitulation of its advantages and drawbacks is unnecessary This drug, when given intravenously in full doses, will, in many cases, produce complete anaesthesia without the use of any other agent, and, when the normal doses are not exceeded, is apparently without harmful effect When the drug has to be supplemented by other local or general anaesthetic agents a much smaller quantity than usual will produce satisfactory anaesthesia Higher doses cause a considerable fall in blood pressure, as much as 50 per cent in some cases, though the average is 25 per cent

Pernocton is the sodium salt of secondary beta bromallyl-barbituric acid Its pharmacological action and clinical effects resemble very closely those of sodium amytal, with several important exceptions

A number of cases in which hypnotic doses of sodium amytal were given were analysed Dosages varying from 5 to 12 grains and averaging 9 grains, caused an initial fall in systolic blood pressure, which ranged from 10 to 40 per cent , the average fall was 14 per cent Not one of our cases in which pernocton was given showed a fall in blood pressure As the doses were limited to produce only hypnosis all our pernocton cases were included in this series Falls in blood pressure of 5 per cent or less were disregarded as being within the range of error in making the determination

The hypnotic effect of pernocton seemed to be more powerful than that of sodium amytal, the average dose of which required to produce unconsciousness was 9 grains The average dose of pernocton used to produce the same effect was 4½ grains It would seem, therefore, that this drug has about twice the hypnotic action of sodium amytal

The recovery phase comprised three fairly definite intervals The complete unconsciousness following a hypnotic dose of pernocton closely resembled natural sleep, and varied in length up to seven hours with an average duration of two hours From this stage the patient gradually drifted into semiconsciousness, although nearly half were already in this condition, immediately upon leaving the operating table They could be roused to answer questions, or to take fluids, nourishment, and medicine, but would soon lapse into sleep again when left alone Perception of all external stimuli was dulled, and with the attainment of complete recovery there was usually no recollection of events that had taken place previously Restlessness during this period occurred only in 3 per cent of patients, and was easily controlled by small doses of morphine This affords a very marked contrast to patients who had received sodium amytal, half of whom showed more or less restlessness, and several required forcible restraint While it is true that the post-operative excitement seen during recovery from sodium amytal can usually be controlled satisfactorily by the prompt administration of morphine, it requires special nursing and constant vigilance during the whole recovery period

This period merged gradually into a third stage of recovery, in which the patient had full perception and was quite conscious, but felt somewhat drowsy and "dopey" The administration of morphine and other sedative drugs will modify and prolong these stages of returning consciousness In general, the recovery period was of half the length, and was characterized by much less restlessness than is associated with sodium amytal

Two patients in our series vomited considerably one immediately after the injection and one post operatively Though other factors might have been responsible it was felt that pernocton played some part in this post-anaesthetic sickness, and we attributed it to undue haste in making the intravenous injection These were among our first cases, since then we have had over one hundred additional cases, none of whom vomited or showed any tendency to nausea No vomiting followed the use of sodium amytal, and no respiratory depression or pulmonary oedema was seen

* A paper read in the Section of Anaesthesia at the Annual Meeting of the British Medical Association, Winnipeg 1930

Dosage and Administration

Pernocton is administered intravenously in 10 per cent solution It is put up in ampoules containing 2 2 c cm (3½ grains) of the solution, and is ready for injection without any dilution, mixing dissolving or other manipulation As the average hypnotic dose is only 4½ grains it can be seen that the volume of the usual injection will be about 3 c cm It is given at the rate of 1 c cm per minute and this smaller volume results in a saving of time and cuts short a rather tedious procedure

The pH of the solution is 9 8 as is that of sodium amytal, the injection must be given slowly to prevent concentration, and to allow dilution and absorption in the blood stream The dosage as recommended by Bumm averages 1 c cm for every 30 lb of weight, with a total average of 4 to 5 c cm , this dosage presumes that no other anaesthetic is being administered Since the majority of our patients received morphine in some form also we were able to obtain the same satisfactory results with smaller doses of pernocton

As in the case of sodium amytal many fractures could be painlessly reduced with the help of pernocton and other minor procedures be carried out without the aid of any other anaesthetic The use of pernocton in obstetrics will be reported upon subsequently, since we have not yet sufficient cases to draw definite conclusions in this respect

Summary and Conclusions

Pernocton (sodium secondary butyl beta bromallyl barbituric acid) is a synthetic barbiturate resembling sodium amytal in its composition and action It has all the advantages of sodium amytal as a hypnotic, and in addition there is (1) almost complete absence of restlessness and excitement during the recovery period (2) no fall in the blood pressure (3) a more powerful hypnotic effect, (4) a solution prepared ready for injection (5) a smaller volume to be injected (6) a shorter period of unconsciousness, and (7) better and earlier co-operation during the recovery phase

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INTRAPERITONEAL GESTATION WITH RECTAL HAEMORRHAGE

BY

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Although extrauterine gestation is unfortunately not exceedingly uncommon accident cases are rare of such a conception persisting more than a few weeks Death of the ovum with its expulsion as a tubal mole or rupture with its attendant train of acute phenomena, usually terminates the pregnancy or possibly pain and maybe unexpected irregular vaginal loss arouse the patient's suspicions that all is not proceeding as it should For women are learning to-day that the normal pregnancy should follow certain definite lines and that any gross departure therefrom should call for a medical examination

An ectopic gestation persisting for any length of time is bound to cause considerable disturbance in that portion of the abdomen or pelvis within which it is situated How disastrous these disturbances may be is illustrated by the following case

A multipara aged 27 who had had three previous normal pregnancies was admitted to Hackney Hospital on January 26th 1928 stating that she was six months pregnant was suffering from severe pain in the lower abdomen and had that day commenced bleeding per vaginam Her last regular monthly period had been six months previously and though she was certain that she was pregnant her pregnancy had by no means followed a normal course On careful questioning it transpired that her amenorrhoea had not been complete She had had several small attacks of bleeding and a more or less continuous yellowish vaginal discharge All the time she had suffered from malaise and from an almost constant lower abdominal pain and backache This pain had had several exacerbations which necessitated her lying up from time to time but until three days before admission she had not had any really acute attack of pain Her acute history dated from January 23rd when she was seized with a violent pain in the left iliac fossa and felt very ill she was admitted to hospital three days later with a temperature of 101.2° F a pulse rate of 140 and passing clots per vaginam

On examination she looked ill and was very pale The breasts were active All the lower part of the abdomen was held rigidly and was very tender on palpation especially in the left iliac fossa Rising from the pelvis was a tumour reaching almost to the umbilicus and extending over towards the left side of the abdomen It was non fluctuant and dull to percussion A souffle was audible about one and a half inches below the umbilicus but not over the position of the uterine arteries On admission the uterus was not felt apart from the tumour but when the muscles were relaxed under anaesthesia this physical sign as will be seen later proved to have been erroneous The tumour was not felt to contract under the examining hand Foetal heart sounds were not heard nor were movements detected On vaginal examination clots of blood and a vaginal discharge were found to be present there was tenderness in the anterior fornix and the os uteri admitted a finger tip Bimanually movements were not transmitted from the swelling to the cervix

The following day an anaesthetic was administered primarily with a view to a more thorough examination As the patient was being placed in the lithotomy position before the vaginal examination she passed 20 oz. or more of bright blood per rectum A rectal examination revealed nothing to account for this With the abdominal muscles well relaxed the uterus was now felt as a separate entity lying well to the right side and enlarged to about twice its normal size A uterine sound confirmed this In view of the copious rectal haemorrhage an immediate laparotomy was performed

Adherent to the abdominal wall below the level of the umbilicus and above the left broad ligament was a sac which when opened proved to contain a very offensive fluid mass of faeces blood and liquor amnii together with a partially macerated foetus the whole showing evident signs of infection The foetus measured 17 cm from vertex to buttocks and was well formed The placenta was seen in the left lower aspect of the sac Severe haemorrhage from large vessels which lay around the placental site and in the wall of the sac negatived any intervention beyond rapid removal of the foetus marsupialization of the sac and firm packing A blood transfusion of 400 c.cm was given that evening There was little further bleeding from the very offensive wound in the abdomen but there was extensive bleeding per rectum and the patient died on the following evening

A post mortem examination was performed Most of the lower abdomen was found to be occupied with a sac situated in the abdominal cavity above the left broad ligament formed by omentum transverse and descending colon caecum and the anterior abdominal wall The placenta was adherent to the abdominal wall in the region of the left iliac fossa and to the descending colon It measured about three inches in diameter The left tube and ovary could not be identified A perforation which admitted a finger connected the sac with the descending colon and the whole colon and caecum were distended with blood No other perforation existed In spite of the fact that at the operation the general abdominal cavity was opened there was no evidence of peritonitis in the upper abdomen

Certain features in this case appear to call for special comment Communication of the sac of an ectopic gestation with the bowel, particularly the rectum has been recorded previously The remarkable fact seems to be not that such perforation did occur, but that the sac being situated in the position in which it was this rupture did not occur earlier Cairns Forsyth[1] and Schwartz[2] record cases of perforation of an ectopic gestation into the rectum, and in both cases the age of the foetus was about six weeks It is also interesting to note that in both these cases the symptom which most imperatively called for surgical intervention was rectal haemorrhage Schwartz in the description of his case, in fact, remarks "Dans tous les cas, c'est l'existence d'une abondante et subite haemorrhage rectale qui a commandé l'intervention"

Needless to say, except for the close proximity of the rectum and descending colon on the one side, and the caecum on the other, there is no reason why the bowel should be involved more than any other viscus The

bladder has been eroded in more than one case, and Gayet[3] describes a case in which, after two years, a four months foetus was voided piecemeal per urethram, having during that time remained incarcerated in a sac adherent to the bladder, eventually forming a false diverticulum

That there was no definite attack of acute pain during the patient's pregnancy to suggest that at that particular time tubal extrusion had occurred is another curious point The oosperm must have been expelled at a very early date without any very acute symptoms to point to the event, for her pregnancy presented a fairly continuous and uniform story of general malaise and pain persisting until the final very severe attack which resulted in her admission to hospital

Whether a primary abdominal pregnancy ever occurs is very doubtful It is safer and less controversial to assume that a tubal gestation was extruded into the abdomen, the actual moment of extrusion having been missed in the general abdominal pain and discomfort attending the abnormal pregnancy

Again, with the sac containing the foetus situated as it was so close to the bacteria-laden descending colon, it seems rather surprising that infection should have supervened at such a relatively late period For, by comparison of the period of comparative amenorrhoea by which the patient dated her pregnancy with the development of the foetus, the latter must have been lying dead in the sac for a full month That infection does occur and produce serious developments in these cases is shown by a case recorded by Skinner[4] in which the placenta was attached to the liver, and infection of the sac, presumably from the adjacent bowel, ensued with a foetus of the twenty-fifth week It is a great testimony to the resistance of the peritoneum that this infected cesspool, for it was little else, could have remained so localized in the lower abdomen with no inflammation in the remainder of the abdominal cavity

There remains the fact of the massive dilatation of the whole of the large bowel with blood, as discovered at the post-mortem examination, although there was no perforation or haemorrhage discovered into the colon at any point proximal to that described One can only suppose that in the generally collapsed state of the patient shortly before death, continued haemorrhage passively distended the colon, which simply acted as a reservoir, being unable actively to expel its contents owing to the atony preceding dissolution

In conclusion, I should like to express my thanks to Dr W Brander, late medical superintendent of Hackney Hospital, for permission to publish this case

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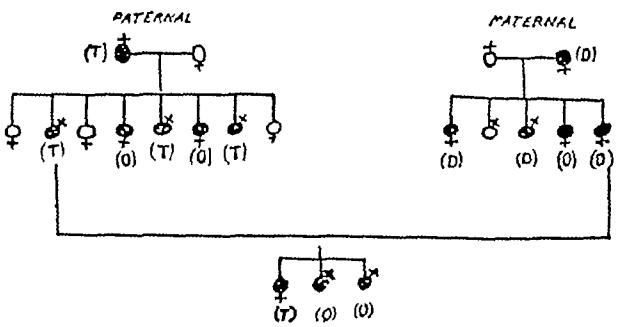
A FAMILY TENDENCY TO TALLNESS OF STATURE, OBESITY, AND DIABETES.

BY

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The family described consisted of a father, mother, daughter, and two sons, the father being a well-proportioned man over six feet in height The mother, aged 44, had had glycosuria since she was 21 years of age It was mild in character, associated with obesity, and was readily controlled by dieting A sugar tolerance test gave a diabetic curve The children showed a disorder of growth and nutrition On inquiry, many of the relatives of both parents were found to be similarly affected The following diagram indicates the occurrence of obesity (O), diabetes (D) and tall stature (T), among the members of both families, paternal and maternal



An opportunity occurred of examining the three children of the present generation, and a short account of each is given

The Daughter

History—Aged 21 Rapid growth in early teens Easily tired and subject to headaches Shy and nervous disposition Menstruation began late, at the age of 17-18, the discharge has always been scanty in amount, scarcely lasting more than an hour, and accompanied by severe pain

Examination—Height 5 ft 10 in , weight 11 st 2 lb (in clothes average weight would be about 10 st 8 lb) Fat not excessive and evenly distributed Tall stature, with broad chest and pelvis Hands and feet in proportion Hair distribution normal but under developed for her age Blood pressure 125/70 mm Hg pulse 88 temperature 98° F Visual fields optic discs, and pituitary fossa normal Urine sugar free A sugar tolerance test (60 grams of cane sugar on a fasting stomach) gave a normal result Fasting, 0 09, 30 minutes, 0 15 1 hour, 0 09, 1 hour 30 minutes, 0 09, 2 hours 0 06, 2 hours 30 minutes, 0 05, 3 hours, 0 07

The Elder Son

History—Aged 18 Tendency to put on flesh was first noticed at the age of 10 In the last year, in spite of dieting, he has gained 2½ stone He is inclined to fall asleep during the day, and has difficulty in wakening in the morning Temperament irritable

Examination—Height 5 ft 10 in , weight 17 st (in clothes, average weight would be 10 st 8 lb) His appearance resembles that of a man of 30 years of age He has copious hair, with male type of distribution Average genital development mature sexual desire Gross obesity, the fat being distributed mainly round the hips and shoulders and on the breasts Blood pressure 138/70 mm Hg, pulse 64, temperature 97° F Visual fields and discs normal An *x* ray examination of the skull revealed a normal pituitary fossa and normal epiphyseal closing in the long bones Urine sugar free Sugar tolerance slightly increased Fasting, 0 09, 30 minutes, 0 14, 1 hour, 0 08, 1 hour 30 minutes, 0 09, 2 hours, 0 09, 2 hours 30 minutes, 0 09, 3 hours, 0 08

The Younger Son

History—Aged 15 Is said to have weighed 14 lb at birth Noticeable gain in weight at 6 years of age Frequent headaches, but no somnolence He is of a placid, gentle disposition

Examination—Height 5 ft 11¾ in , weight 16 st. 2½ lb (in clothes, average weight would be about 11 stone) The skin on the trunk and limbs is hairless and smooth On the pubes the hair distribution is feminine in type The genitals are below the average for his age Gross obesity, with a distribution similar to the elder brother Blood pressure 130/70 mm Hg pulse 88, temperature 98° F Visual fields, discs, and *x* ray film of skull normal Normal epiphyseal closing Urine sugar free Slight increase of sugar tolerance Fasting 0 09, 30 minutes, 0 13, 1 hour, 0 10, 1 hour 30 minutes 0 11, 2 hours, 0 09, 2 hours 30 minutes, 0 09, 3 hours, 0 07

REMARKS

The association of obesity, genital hypoplasia, and lack of growth with a pituitary tumour was first noted by Fröhlich[1], later, the relation of these symptoms to the anterior lobe of the gland was confirmed by the experiments of Paulesco,[2] Cushing[3] and others It was also recognized that such symptoms could be produced by a simple disturbance of function alone without a tumour being present Dott[4] found that the removal of at least two-thirds of the anterior lobe was necessary to produce effects in animals No results followed excision of the posterior lobe, though subsequent increase of carbohydrate tolerance was observed by Cushing In a recent clinical review Engelbach[5] states that increased functional activity of the anterior lobe, before puberty, leads to tall stature and gigantism, and to acromegaly in adult life The

reverse action produces infantilism genital hypoplasia, amenorrhoea and sterility Overactivity of the *posterior* lobe may cause decreased sugar tolerance and glycosuria, and underactivity increased tolerance and obesity

These principles may be broadly applied to the three children examined The daughter grew rapidly at first, but the onset of menstruation was delayed and the monthly loss is now scanty The inference in her case is that there was increased activity of the anterior lobe at first, followed later by underactivity The absence of obesity, glycosuria and a normal sugar tolerance suggests that the posterior lobe is functioning normally In the two sons the main feature is the extreme obesity which is distributed in the pituitary fashion, mainly girdle-wise Sugar tolerance is only slightly increased The skeletal and sex development differ, but both are abnormal in these respects It appears probable therefore that there is a bilobar dysfunction in their cases Except for headache, there were no symptoms of increased intracranial pressure or tumour In all three the symptoms were such as might be expected from a single disorder of function alone Similar cases have been described in a paper by Langmead and Calvert[4] and in another by Gardiner-Hill Jones and Forest-Smith[7] The latter authors noted that the obesity had existed since birth in about one-third of their cases, and that it had often followed an acute infectious fever in the remainder

The family as a whole is of interest in showing a tendency to endocrine disorder Rahilfs[8] has reported a case of three brothers two of whom were obese and under-developed The tendency appeared to have been transmitted from the mother's side Troisier and Monnerot-Dumaine[9] described a family in which obesity had affected the females of three generations In the instance described here there is tallness and obesity on the paternal side, and diabetes and obesity on the maternal Though such tendencies are usually corrected by intermarriage, the union of the two families in the present case has apparently intensified some of the features which they had in common, as is seen in the three abnormal children Their appearance suggests a disturbance of pituitary function and it may well be that the less defined complaints of their forebears were caused by a similar underlying pituitary disorder

Grateful acknowledgements are due to Dr G Bark of Wallasey by whom the cases were referred for investigation and to Mr A. J Leigh who made the estimations of blood sugar

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ULTRA-VIOLET LIGHT IN THE TREATMENT OF THE DULL AND BACKWARD CHILD

BY

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WHEN I first used ultra-violet irradiation for the various physical disabilities of children I was struck with the marked improvement in the mentality in many of the cases treated I am sure that it must be quite a common experience for the actinotherapist to note the change in the clinical picture The puling querulous irritable anaemic self-centred sleepless child who is often pot-bellied and emaciated is transformed into a robust well nourished and perfectly healthy little animal full of life and gaiety all this happens within a few weeks

The following observations were made at one of the Home Office schools which makes a specialty of training and educating dull and backward boys and borderline cases of mental deficiency The school stands on an elevation in Norfolk and is a perfect "sun trap" Due to the hygienic conditions under which the boys live, and the active sympathy and co-operation of the head master and his staff, the results are remarkably successful in regard to both physical and mental development The same standard of improvement could not be expected to obtain in every case, but with the exception of those boys who turn out to be definitely mentally deficient, it is very exceptional to find one who has not shown signs of both physical and mental development

Such a case was brought to my notice a few months ago by the head master who suggested that the boy might accompany a batch of boys who were coming to me for light treatment on account of their skin conditions I append the reports of the school staff at the date of the boy's admission to the school and immediately before the treatment was commenced, the details and dates of the treatment and an extract from the report on the boy's present condition from the same source

On Admission—A B in February 1922 was a miserable sickly child nervous and ready to whine when addressed lifeless and with little interest in games or anything in particular His work in the schoolroom was poor and his power to concentrate was weak He made a certain amount of progress but much less than that of a normal boy

Before Actinotherapy—The only time he showed interest in anything was when he was in the swimming bath he could swim and dive fairly well An interview of any kind was a terrible ordeal for this lad "Yes sir" and "No sir" was about all one could extract from him

Treatment—The mercury vapour lamp used for the treatment of this patient was that designed by Dr Percy Hall General exposures were given both front and back at a distance of 30 inches The durations of the exposures were as follows March 21st 3½ minutes March 25th 5 minutes March 28th and April 1st 7½ minutes while ten minute exposures were given on April 4th 8th 11th 15th 17th 22nd, 25th and 29th

Subsequent Report—A B seems to have begun really to live and enjoy life like a normal boy and he is making much more rapid progress educationally he concentrates better on all his work and especially woodwork. He now takes an interest in games swims and dives with real energy and has added a backward somersault to his attainments in the swimming bath He is certainly much more cheerful going on home leave among his friends never had this effect We are now seriously considering entering samples of his woodwork into an open competition In July 1929 his weight was 68½ lb and his height 4 ft 8 in In October his weight was 69 lb in December 70½ lb., in March 1930 70 lb in June 73½ lb and on August 12th 74¼ lb He has gained one inch in height

If this was the only case so benefited I should not have ventured to plead for further trial by other workers in this field I have had other results equally successful but not so typical and therefore not so sufficiently illustrative of the point I wish to make

From some years of experience I know that splendid results may be achieved simply in the lower class dull and backward child by change of environment plenty of wholesome nourishing food which is temptingly prepared fresh air sunlight (including sun-bathing), and hygienic accommodation When to these is added the assistance of a school staff specially trained to the work, very satisfactory result ensue almost without exception, but, as in the case here reported some little extra treatment may be required to put the exceptional child in the way of becoming a useful citizen In cases of unsatisfactory progress the mercury vapour lamp may prove to be of remarkable value in the therapeutic armamentarium

I make no claim to having had a large experience of this class of case but the results are so satisfying that I cannot urge too strongly that those who have to deal with this type of child institutionally should at any rate give the treatment a fair trial Further it is quite reasonable to assume that even the mentally retarded children of the better classes would benefit by this treatment in the same way as do others At the moment there is no definite line of demarcation between the dull and backward and the mentally deficient type Bearing in mind the present case it is reasonable to assume that patients may be occasionally selected and their standard of mentality be considerably raised by actinotherapy

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NOCTURNAL INCONTINENCE IN CHILDREN

The treatment of nocturnal incontinence in children is eminently unsatisfactory The distress of mind caused to parent and also to child as soon is it is old enough to realize its disability calls for the publication of any method of relief which has proved successful in several cases

The time-honoured method of getting the child to empty its bladder on going to bed and of awakening it in an hour or two to pass water, of withholding all drinks after 5 or 6 p m, and of fixing reels to the child's back to prevent it lying supine, have in my hands proved unsuccessful I have administered tincture of belladonna up to 30 minims three times a day on the advice of textbooks I have consulted, I have removed tonsils and adenoids and given thyroid, I have tried strychnine and arsenic With these methods I have had no success whatever

I have elicited the fact that children who wet the bed at night have also very irritable bladders by day At home they are constantly running to the lavatory, at school they are constantly asking permission to leave the room The obvious prophylaxis, then, is to bring the bladder under control I have therefore insisted on parents training their children to empty their bladders at fixed hours The child is not permitted, at first, to pass water for two hours, then for three hours, then for four, and so on When the child can hold its water for four or five hours, the nocturnal incontinence disappears The bladder becomes trained, just as the rectum can be trained to function properly

Exeter J Perfira Gray

PULMONARY GANGRENE FOLLOWING LINGUAL CARCINOMA

In view of the investigations which are being carried on under the auspices of the British Medical Association into the condition of cancer of the tongue, the following case, complicated by gangrene of the lungs, is not without interest

A man aged 44, came under my care on November 22nd, 1929, with a gummatous ulcer of the tongue of four weeks' duration, it was alleged to have been caused by the irritation of the right lower canine tooth He was given antisyphilitic treatment In April 1930, it was recognized that epitheliomatous degeneration had set in, and the lesion was regarded as inoperable The patient was by then confined to bed

The ulcer was about the size of an almond with heaped up irregular edges, and situated at the right edge of the tongue about its middle Around the ulcer the tissues were indurated Over the surface of the tongue there were marked evidences of leucoplakia The right submaxillary lymphatic glands were enlarged as also were the posterior cervical glands, those on the right side being more prominent than those on the left The tongue could not be protruded beyond the line of the teeth, which were very carious The speech was thick and slurring Sedatives were necessary to alleviate the pain of the ulcer The Wassermann reaction was positive

At 4 30 a m on May 15th the patient was seized with a severe coughing bout which was accompanied by the expectoration of bright red blood Feeling stifled, the patient began to pick bits of lung out of his mouth The attack lasted about forty five minutes The chamber pot, which was shown me when I arrived, was bespattered with bright red blood, and, in addition to pieces of foul, greenish black lung tissue, there was a single piece of lung tissue about 6 inches long and about 4 inches in its greatest breadth It was also greenish-black in colour, parts of it being streaked with thick yellowish mucus other parts with blood The patient, when questioned, alleged he had picked this piece of lung tissue out of his mouth with both hands Immediately the contents of the dish were burned These findings were confirmed by Dr M L M Thomson of Heworth, co Durham

When I examined the patient I found he was lying in bed quite passive His pulse was 106, and the temperature 98° F Rales and rhonchi were scattered over the front of the chest At 11 a m the patient had another profuse haemoptysis, again accompanied by the coughing up of small pieces of lung tissue A foul odour permeated the whole room Thereafter the patient's condition became quite passive, except for the presence of cough, the sputum, in a small receptacle, separated into three distinct layers, there being greenish black shreds at the bottom, above them a brownish purulent layer, and on the top a layer of mucus The patient died on May 25th, there being no further developments prior to his death

The chief interest in the case lies in the relatively large piece of sloughing lung tissue which came away ten days before the patient's death

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Felling-on Tyne, Durham

ECLAMPSIA WITH UNUSUAL SYMPTOMS

The following case illustrates the importance of determining the systolic blood pressure immediately the slightest trace of albumin appears in the urine, and the difficulty of recognizing the potential eclamptic subject

The patient, a 2 para, aged 27, first attended the ante-natal department of the Leeds Maternity Hospital on March 21st Nothing abnormal was noted at this or at subsequent examinations until May 30th, the thirty second week of gestation, when the urine contained a slight trace of albumin The patient's systolic blood pressure at this time was 142, and in the circumstances she was given advice about rest, diet, and danger signals, and told to report again in a week's time On June 6th the amount of albumin in the urine was increased and the patient had some oedema of the ankles and a systolic blood pressure of 170 With great difficulty we persuaded her to come into hospital at once—namely, 11 30 a m The only facts worth recording in her previous history are that she had diphtheria at the age of 9, anaemia at 25, and had had a stillborn child with spinal bifida at full term in June, 1929

When the patient was admitted the regimen prescribed was bed, purgation, and a diet consisting only of water Later the same day she complained of epigastric pain and headache, and at 4 30 p m she suddenly had two eclamptic fits separated by an interval of fifteen minutes Morphine 1/4 grain, atropine 1/100 grain, and veratrone 1/4 c.c.m were administered intramuscularly, and lavage of the colon was carried out At 11.30 p m she had two more fits in rapid succession, and during the second fit was delivered of a stillborn female child with hare-lip and a depressed nose The placenta was small, bluish, and friable, and infarcted in many places, the cotyledons were flattened and the membranes were intact

The next day the patient was jaundiced Small petechial haemorrhages were present over the abdomen and flanks, but she suffered no visual disturbances, and no enlargement or diminution of the liver was detected Her condition gradually improved she took fluids, passed urine, had diminished oedema, and the blood pressure came down lower each day On the fourth day of the puerperium the jaundice was slight, the petechiae had faded, the systolic blood pressure was 148, and the patient's general condition was so much better that she was allowed a little tea and toast The next day, however, she felt not so well, her bowels acted several times, and at midnight she had three successive eclamptic fits without regaining consciousness between Morphine, atropine, and veratrone were given, no colonic lavage Up to date the bowels had been acting three to seven times daily

The following day the jaundice was more marked, the areas of petechial haemorrhage showed large blotches, and at 5 30 p m the patient, who had been rather restless and dazed, vomited bile-stained fluid She passed very little urine, and the amount remained scanty The area of liver dullness was still normal A day later—namely, the seventh day of the puerperium—the abdomen was distended, and gradually, in spite of treatment, became more so The systolic blood pressure was now 125 The patient gradually passed into coma, and on the eleventh day of the puerperium she died The systolic blood pressure had fallen to 98, the coma had deepened, and the abdominal distension had persisted Unfortunately, permission to hold a post mortem examination was not granted Beyond the details already mentioned the treatment consisted of the administration of diuretic drugs, turpentine enemata, and eserine, dry cupping, linseed poulticing to the loins, and the injection of intravenous saline with 5 per cent glucose

The point of special interest in this case is the occurrence of eclamptic fits on the fifth day of the puerperium in spite of (*a*) the absence of marked oedema, (*b*) the fact that the urine was at no time solid with albumin (though the absence of diuresis is to be noted), (*c*) the steady fall in the blood pressure, and (*d*) the ease with which the bowels were made to act Unfortunately we have no answer to the question What would have happened if hospital treatment had been adopted on May 30th?

I am indebted to Mr A M Claye for permission to publish this case

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Reports of Societies.

THE TREATMENT OF HEADACHE

At the November meeting of the Chelsea Clinical Society, with Dr F J McCann in the chair, Dr Anthony Feiling opened an informal discussion on the treatment of headache

In the course of some remarks on syphilitic headache Dr Feiling said that if the headache was dependent upon an acute syphilitic meningitis, or rather acute syphilitic endo-arterial changes, he had seen considerable harm follow the treatment of the patients too actively, in the first instance with salvarsan and other preparations of that kind It was far wiser to give the patients for a week or ten days a preliminary course of iodides in increasing doses before using salvarsan preparations He added that the old statement that syphilitic headache was principally nocturnal was by no means true One very important group of headaches was due to organic affection of the brain These were headaches produced by injuries to the head, sometimes not severe they followed concussion and contusions of the brain They were found nowadays with increasing frequency as the result of motor accidents There was not the least doubt that a great many patients who had suffered from concussion, and in many cases also from contusions of the brain, were improperly treated, not as the result of advice or lack of it by their doctors, but because of their own obstinacy, it was impossible to make them take sufficient rest afterwards Some of these headaches were extremely persistent, and resisted almost every treatment The form of treatment to which he was specially inclined was the use of hypertonic solutions If a hypertonic solution was injected into the circulation, one of its effects was to cause a diminution in the volume of the brain In the type of case to which he was referring —namely these severe post-contusional, or post-concussional states—relief of the headache was obtained with the diminution in the brain volume A number of solutions were available for this purpose A solution might be given of as great a concentration as 30 per cent of sodium chloride in distilled water and it was possible to inject as much as 100 c cm of such a solution intravenously but it was seldom necessary to employ such a highly concentrated salt solution as that Much good resulted from the administration of a 15 per cent solution of sodium chloride in distilled water it was important that both should be pure and that the intravenous injections should be given slowly From 50 to 100 c cm of such a solution might be introduced Another very useful form of hypertonic solution contained glucose a 50 per cent solution could be given in the same way and was specially valuable when dealing with patients who had had more or less severe head injuries and were in a state of cerebral irritability The glucose itself had a certain advantage in combating shock and acidosis as well as a certain nutritive value in patients who were unable on account of coma or semi-coma, to swallow ordinary food In the milder states of these headaches one might get not such rapid, but quite satisfactory results with a highly concentrated solution of magnesium sulphate given by the rectum A 50 per cent solution of magnesium sulphate might be used, and from four to eight ounces be injected into the rectum slowly, with the idea of allowing the fluid to be retained as long as possible When giving injections of hypertonic solutions of this kind it was also important from the practical point of view, that the amount of fluid taken by the patient should be curtailed These injections produced a certain amount of thirst, and if the patient were allowed to satisfy his thirst fully a good deal of the benefit would be prevented

Another form of headache was sometimes called lumbar puncture" headache In many neurological conditions it was very desirable sometimes essential, to perform a diagnostic lumbar puncture and it was most unfortunate if such a procedure should be followed by extremely severe headaches It was therefore very important that every available method be adopted to prevent this, or to render any headache as slight as possible It was essential to perform the puncture with the patient lying down and not sitting up, also to use a proper needle (a great many of the needles sold were quite unnecessarily large and clumsy) The patient should be put to bed afterwards and kept there for twelve hours with the head low Perhaps it was of some value to give a large cup of tea or a pint of water immediately after the puncture Occasionally a commencing headache might be averted by a hypodermic injection of atropine One form of what the patient called "headache" was due to organic affection of the structures covering the head This pain in the head was due to some fibrositis or similar condition affecting the aponeurosis attached to the scalp, and was specially common along the line of the occipital crest It was more common in women than in men, and especially in women of middle age, at about the time of the menopause The most important methods of treatment in these cases were various physical methods such as massage and local applications of heat Vibro-massage was also useful In the more obstinate cases relief might be obtained by the local injection of strong alcohol into the tender points One had almost to shave the area where the pain was felt to make sure that the alcohol, preceded by an injection of novocain was injected only into the very limited area where the tender spot was situated

Dr Feiling next turned to headaches due to high blood pressure One of the most important elements in the treatment of these cases was rest perhaps not so much physical as mental With regard to the drug treatment of headaches due to high blood pressure, whenever possible it was better to do without recourse to drugs of the pure vaso-dilator type, they sometimes made the headache much worse He preferred to rely, in the first instance, on eliminative treatment in the form of purgation, and "blue pill" was often particularly valuable if there were no contraindication to its use in the shape of advanced disease of the kidney In many cases relief of headaches in high blood pressure would follow the use of ordinary bromides He had used two quite old fashioned drugs with considerable benefit in this type of case, especially with chronic interstitial nephritis—namely cannabis indica and antimony wine Diathermy was capable of lowering the blood pressure to a certain extent, and thus relieving many of the symptoms Headaches due to low blood pressure were a great deal more difficult to relieve, pituitary extract might have some value Chlorosis was said to have disappeared from medicine, but he felt sure that there were many minor degrees of chlorosis still to be found and largely unrecognized A considerable number of cases of minor chlorosis were found among young women who worked in banks and shops the chief complaint was headache, and often nothing more On the large subject of mental or emotional causes of headache he could hardly touch, though to the ordinary man in practice these cases made up a large proportion of those or which he was asked to prescribe Whatever theories one might hold about the mechanism of the production or symptoms in migraine there was not the least doubt that every case should be regarded as an individual problem for treatment Migraine in children could often be improved in the sense that the attacks could be rendered less frequent and less severe when they did occur by the adoption of the line of treatment recommended in so many cases of asthma in children—namely, treatment with glucose He had had several cases in children where the regular administration of glucose had certainly seemed to prevent the frequency at any rate of attacks of migraine but in grown-up persons he had not found the treatment to be of any value at all He supposed that migraine was an allergic disease, analogous to asthma Many attempts had been made to identify the particular cause He could not say that he had succeeded in alleviating many cases of migraine along that line of treatment A line of treatment was now being pursued on the hypothesis that the condition was due to some liver deficiency the treatment consisted of the administration of concentrated salts of magnesium sulphate either by the mouth, or, better still, by duodenal

intubation He had not had the opportunity of treating many cases himself, but he thought it deserved more extended trial In migraine there were certain old-fashioned remedies which were of value in diminishing the frequency and the severity of the attacks Small doses of luminal were of great value in many patients

In the course of discussion, Mr C J H Gunning said that very few errors of refraction were responsible for headaches Myopia did not give rise to this complaint When astigmatism caused headache it was usually when the axis of the cylinder was oblique, seldom when the axis was vertical or horizontal, and even in those cases of oblique astigmatism there were some in which full correction would still fail to relieve the symptoms Dr Ernest Young said that the so-called "bilious headache" was in his opinion due to some degree of hepatic insufficiency He found that many sufferers from these toxic conditions were people—girls especially—whose liquid intake was insufficient—less than a pint a day If these patients were put on two or three pints of water a day, together with perhaps a simple rhubarb mixture, the headaches cleared up quite well He believed many cases of migraine to be due to gastro-intestinal toxaemia, produced chiefly by excess of carbohydrate in the diet Dr Crewdson Thomas agreed that many sufferers from these toxic headaches did not take half enough liquid Mr Watkyn-Thomas drew attention to turgidity of the middle turbinate as a cause of headache, particularly in women Dr L D Bailey said that the headaches of high blood pressure could be relieved by the high-frequency current or diathermy, but it was necessary to be careful of the dose In the fibrositis of the occipital aponeurosis he believed the pain to be due to constriction of the blood vessels supplying the scalp and the occipital bone, and that by ionization it was possible to relieve these cases Mr Frank Cork remarked that certain French workers had announced their discovery of definite cases where migraine had been traced to certain specific diets

PRECANCEROUS CONDITIONS OF THE LARNYX

A meeting of the Section of Laryngology of the Royal Society of Medicine was held on November 7th, when Dr Chevalier Jackson opened a discussion on precancerous conditions of the larynx

Dr Chevalier Jackson said that this subject was of the utmost importance in the study of the problems of etiology, prophylaxis, and treatment of the "one disease," as Sir Henry Butlin had called cancer of the larynx The word "precancerous" was faulty, much time had been wasted in discussions by not beginning with a definition, so that the participants were not talking about one and the same thing If the word was employed to indicate a stage always traversed in the transition from the normal to the neoplastic, it was doubtful whether there was sufficient evidence to justify its use If the word was taken to imply only a soil favourable to the development of cancer, little fault could be found, and discussion would be useful The condition of the tissues before the development of cancer might hypothetically be described as a preparation on the part of the cells to do something not already done Metaphorically it might be likened to a large number of the citizens across the border leaving their daily routine and mobilizing preparatory to invasion Similar misbehaviour on the part of the cells that had not yet crossed the border was often visible near an area where invasion constituting cancer had already begun Occasionally it was seen without any subsequent invasion Any inflammatory or irritative condition in the larynx might be called precancerous but such use of the term would be a very loose application indeed The condition was, perhaps, very rarely recognizable as a histologically proven fact To ask the histologist to state from the examination of dead removed cells what the adjacent, living, unremoved cells were going to do was asking much yet occasionally this had been done on the basis of probabilities An illustrative example had been published by Dr Jackson in the *Proceedings* of the American Laryngological Association for 1922 Sir StClair Thomson, Mr Herbert Tilley, the late Mr Hunter Todd, and Dr Jackson, from mirror examinations, had concluded that the condition in the larynx of a man aged 42 was suspicious Histological examination by James Ewing demonstrated a cellular structure to which the term "precancerous" could conveniently be applied, inasmuch as the deeper cells were misbehaving, and showed a sudden transformation of the normal to the hyperplastic, with the appearance of typical epithelial pegs, but they had not yet invaded the submucosa Dr Ewing had added the comment, "This is the stage in which to treat cancer of the larynx, not after it gets well advanced" Laryngo-fissure, with moderately wide removal, completely cured the condition, the patient was now in good health, with a good voice, after fourteen years In contrast with this case were those in which a chronic laryngitis was followed by a stealthily developing cancer after many years, as long as thirty in some of Dr Jackson's cases A precancerous stage might exist in such patients, but it was unrecognizable The clinical indications for treatment were clear, though not always easy of accomplishment Every curable disease of the larynx and upper air passages should be cured, and all incurable conditions should be ameliorated so far as possible Avoidance of all forms of laryngeal irritation was imperative Vocal rest and avoidance of alcohol and tobacco should be insisted upon At the first sign of cancer a microscopical examination should be made, further treatment would be based upon the histological findings

CHRONIC ABDOMINAL PAIN

At a meeting of the Sheffield Medico-Chirurgical Society on November 5th, with the president, Professor Graham Simpson, in the chair, Dr E F Skinner opened a discussion on chronic abdominal pain

Dr Skinner said that in discussing chronic abdominal pain it was essential to define the terms First of all, were they to understand by "chronic" merely a long-continued pain, or might they include recurring pain? Secondly, did the term "abdominal" refer only to the viscera, or did it include the parietes? Thirdly, it must be remembered that what was pain to one patient was mere discomfort to another Two generalizations must be considered when dealing with any question of pain The first was that its intensity varied inversely as the nervous stability of the individual, not only because of the original nervous make-up, but also because of the lowering of the threshold for pain consciousness which ensued in long-continued illness The second was that the significance of pain varied inversely as the richness of its description—the more flowery the language, the less credence was to be placed on its intensity All were familiar with Bramwell's patient "plump as a partridge," who suffered terrible agonizing pains all over the body During the previous two or three years Dr Skinner had been struck with the fact that the patients who complained most of pain suffered from "functional" rather than structural organic disease, patients with definite structural changes made the least complaint Some illustrative cases were described His experience suggested that pain was an uncertain guide to diagnosis in many cases, and he commented on the number of "congested appendices" removed annually from an otherwise healthy abdominal cavity There might not be many, but the speaker suspected that a considerable number of such operations were performed merely on the grounds of chronic abdominal pain The only pain which was really of diagnostic aid was that type of referred pain which had definitely anatomical localization, such cases did not bulk largely in those covered by the title of the discussion Apart from referred pains, chronic abdominal pain as a diagnostic aid was of doubtful value

Mr E Finch said that in order to appreciate the extent of pain complained about it was necessary to know the "language" of the patient and the circumstances of its

origin. Clinically one had to regard pain and disease as synonymous, though the disease was by no means necessarily in the abdomen. From a clinical point of view pain could be regarded as due to tension. The spontaneous pain reported by a patient was as a rule vague and very ill defined. It might become more localized as the peritoneum became involved but it was then usually accompanied by physical signs. At the present time however clinical experience generally had to interpret the cause of pain. Pain being a purely subjective symptom there was a natural tendency to refer the patient at once to the radiologist or to the biochemist for further tests and thus one of the most important method of examination—namely a careful clinical history—was apt to be neglected. Pain in the right iliac fossa in a patient over the age of 50 might be due to a growth of the colon when no other physical signs could be found. Mr. Finch thought that chronic appendicitis could occur in the adult without a previous acute attack though this was not so in the child. He doubted very much whether calcareous glands were a cause of abdominal pain. He referred to the difficulty of assessing the value of adhesions as a cause of pain unless they produced obstructions: he was also doubtful whether visceroptosis *per se* would account for pain. The question of operation for chronic abdominal pain with no physical signs was a matter of weighing up evidence in arriving at a decision the most valuable opinion was that of the family doctor.

Mr. W. W. King said that pain due to retroversion or prolapse was relieved by lying down, if caused by pelvic inflammation endometrioma or the malignant invasion of tissues it was not much influenced by posture and might even be worse at night. Recurrent pains were generally intestinal rather than uterine in origin. Retroversion—actual partial or imaginary—had been blamed for much pelvic pain which was not necessarily caused by it. A mobile retroversion did not give rise to pain in nulliparae or in women after the menopause. Retroversions in parous women were not always painful and the pessary test was valuable in such cases: if the pain was relieved and recurred after the removal of the instrument an operation could be confidently advised. If the pessary test was not applicable to a particular case operation might give relief but it was uncertain. From records he found that he had operated upon six 'untested' patients with retroversion who had complained of abdominal pain: four had been cured while two were not relieved. A failure rate of one third showed that a surgeon should be as careful in advising such operations as in forecasting their results. Endometrioma was one of the commonest and the least generally recognized causes of abdominal pain. The large masses were easily recognized but a small nodule often caused great suffering. The pain was generally described as being more or less continuous and unrelieved by rest: it was liable to exacerbations especially at the periods. The onset was often acute and accompanied by vomiting and thus not infrequently simulated appendicitis or renal or gall-stone colic. The typical symptoms were abdominal pain dysmenorrhoea dyspareunia and rectal pain. In some cases a tender retrocervical nodule or very rarely blue vaginal cysts could be found on vaginal examination. An almost diagnostic sign was thickening and intense tenderness of one or both utero-sacral ligaments. Mr. King had been treating these cases with diathermy and an analysis of the follow-up showed that of thirteen patients so treated ten reported themselves to be cured. The three failures represented either an incorrect diagnosis of the real cause of the pain or a recurrence of the growth.

Dr. Wilkie showed skiagrams and gave the clinical history of cases of abdominal pain caused by lymphatic leukaemia syphilis of the stomach malignant growth of the lung calcification of the pleura and osteo-arthritis of the spine. Dr. A. C. Yates said that chronic abdominal pain might be caused by diseases outside the abdominal cavity. Persistent pain was sometimes due to panniculitis. The thick fold of subcutaneous fat felt indurated and might be mistaken for a more deep seated lesion. It was a good rule always to examine the pupils and the reflexes in cases showing abdominal symptoms. The abdominal crises of tabes might simulate gastric duodenal or other lesions. Nerve root irritation by tumour or spinal caries were other possible sources of error. The functional cases and especially the cases of so-called visceroptosis were perhaps the most difficult of all: they afforded good examples of Adler's organ inferiority. The poor abdominal development narrow chest and acute subcostal angle with displacement downwards of the abdominal viscera constituted a perfect nidus for the development of a psychoneurosis: the pain in these cases though real was psychological, and constituted a means of escape from some intolerable situation. Dr. Archibald Young spoke of the humiliation which the practitioner felt in ascribing the pain to some undetermined gastric disorder. It was often the line of least resistance to accept the patient's own diagnosis of "a gastric stomach." Exact diagnoses by means of x rays and fractional test meals were impracticable for all cases. Years of practice developed a clinical intuition which enabled one to select the right cases for complete investigation. He agreed with Dr. Wilkie that either tuberculous or grinders' phthisis could cause chronic abdominal pain. Early myocardial degeneration was frequently shown by abdominal pain. He believed that chronic constipation was a great cause of pain which often simulated duodenal ulcer: such cases could be cured by paraffin medication. He gave instances of abdominal pain caused by rheumatoid arthritis of the spine. With reference to the toxic causes of chronic abdominal pain lead poisoning had now been almost eliminated but he had had a case of abdominal pain from the surreptitious drinking of laudanum. He did not think that a movable kidney existed frequently without general visceroptosis and added that the greatest disservice which could be done to a patient was to tell her of her misplaced organ. Dr. Harrison had found that certain types of work were liable to cause abdominal pain. He told of cases in which pain had disappeared on ceasing to work a treadle sewing machine.

Dr. Mackinnon saw no reason why the analogy of the hysterical knee where all symptoms often disappeared after an exploratory operation should not apply to the abdomen. In such cases the appendix might be regarded as the surgeon's friend and even the removal of a normal appendix might be held to justify operation. An abdominal operation for "unclear" cases often led to no improvement and such patients frequently underwent repeated laparotomies. A striking feature in these cases was the willingness and even eagerness with which many patients submitted to further operation that possibly might be regarded as some measure of the degree of their suffering. Where pain was the only symptom unless there seemed to be a reasonable likelihood of finding something wrong in the abdomen he thought an operation should not be embarked upon lightly. In a child with a history of chronic abdominal pain nothing could be found to account for it but an x ray examination revealed the presence of calcareous gland. Dr. R. K. Robertson thought that constipation was often due to the patient's ill-advised attempts at self treatment by purgatives. Bony changes in the spine which caused pressure on the nerves deserved more attention. Mr. Finch had justly stressed the importance of tension, probably fewer mistakes would be made in any case of pain if the question were asked whether there was anything causing tension in any of the viscera. Mr. Finch had also instanced pain in the caecal region due to stricture of the gut in the pelvic colon. Professor Wilkie had first called his attention to this nearly twenty years ago.

Dr. Cuthbert Barnes remarked that patient with chronic abdominal pain might be classified as those who had a disorder of function and those who had an organic lesion. The cases could be subdivided into those who had had and those who had not had abdominal operations. Post-operative pain was frequently the expression of an "anxiety or an exhaustion neurosis in relation to the operation. It was often the sensory nerve at the site of the operation which were disordered. Organic causes for post-operative pain were adhesions or ventral hernia. Dyspepsia was the chief cause of pain among those who

had not been operated upon Both hypochlorhydria and hyperchlorhydria could cause chronic pain, the former was rare, but the latter was very common Before ulcer (gastric or duodenal) developed there was apparently a long history of this disorder of gastric function Chronic abdominal pain was caused by constipation in neurotic subjects When there was some organic lesion to account for the pain it might be in the abdominal wall He drew attention to the difficulty in recognizing renal causes for chronic abdominal pain in the absence of other symptoms The PRESIDENT summed up the discussion briefly He suggested that since the causes of abdominal pain were so numerous, and occurred in such diverse regions, the surgeon should cultivate the long abdominal incision after availing himself of all the resources afforded by x rays and the laboratory

CLINICAL AND HISTOLOGICAL CHARACTERS OF PARKINSONISM

AT a meeting of the Pathological Society of Manchester, Professor J S B STOPFORD opened a discussion on Parkinsonism, by detailing the underlying anatomical features of the condition

Professor Stopford first described the cortico-spinal pathway, and then the extra-pyramidal system which was the site of the more important pathological changes in the various diseases giving rise to the Parkinsonian syndrome He gave an account of the basal ganglia, and in particular of the fibres arising in the cells of the globus pallidus, which passed down to the red nucleus and the substantia nigra Some of these fibres from the red nucleus decussated and formed the rubro-spinal tract, while others from the substantia nigra seemed to decussate with the pyramidal fibres, and eventually to form connexions with lower motor neurones

Dr F R FERGUSON referred to the original description of the "shaking palsy," by James Parkinson in 1817 The term "Parkinsonism" was comparatively recent, and referred, not to a disease, but to a syndrome caused by a lesion of the extra-pyramidal tracts, and consisting of three features (1) rigidity, which occurred proximally rather than distally, affected the flexor muscles rather more than the extensors, and was cogwheel in type, (2) disturbance of movement characterized by easy fatigue, slow, irregular, and limited movements, inability to maintain contraction, poverty of movements, and loss of movements of co-operation, and (3) tremor These three features affected different parts of the body, giving the typical picture of Parkinsonism, which Dr Ferguson detailed he concluded by describing the different types of the syndrome and their pathological causation, the commonest type now was the chronic encephalitic type There were also the idiopathic (paralysis agitans), arterio-sclerotic, syphilitic, neoplastic, senile, and a few rarer types

Dr CRITCHLEY described the pathology of the syndrome In true paralysis agitans no part of the central or peripheral nervous system was immune, for changes occurred throughout the cerebrum, cerebellum, spinal cord, and even the neuro muscular junctions The diseased process was exaggerated in certain areas of the brain, notably in the basal ganglia (especially the globus pallidus) and the mid-brain (in particular the substantia nigra) The changes were microscopic, consisting of a diminution of the ganglion cells which had an unhealthy appearance, a disintegration of myelin, and an overgrowth of glia In the arterio-sclerotic type there were obvious naked-eye changes, taking the form of lacunae of disintegration in the basal ganglia Histologically, the changes were those met with in paralysis agitans, but in addition there was evidence of arterio-sclerosis, and a condition of sponginess of the globus pallidus due to focal thrombosis and softening In the chronic encephalitic type subacute inflammatory changes were found in the basal ganglia and mesencephalon There was cuffing of the lymphocytes, and in the substantia nigra masses of pigment could be seen lying free Dr Critchley concluded by describing the pathological processes encountered in certain of the rarer types of Parkinsonism

MOUTH INFECTION AND PUERPERAL SEPSIS

AT a meeting of the North of England Obstetrical and Gynaecological Society, held in Manchester on October 24th, with the president, Dr J W BURNS, in the chair, Dr A S GARDEN (Southport), in a communication on mouth infection as a cause of puerperal sepsis, described a series of four cases which had occurred in the Southport Maternity Hospital of parturient women developing fever from uterine infection The first was delivered normally on January 19th, and developed a temperature of 102 6° F two days later *Streptococcus pyogenes haemolyticus* was isolated from a cervical swab The second patient was delivered by low forceps on January 24th, and two days later had a rise of temperature The third patient on January 29th developed a rise of temperature on the second day, when the fourth case was confined, and her temperature rose on February 11th The throats of the entire staff were then swabbed One nurse was found to harbour haemolytic streptococci without symptoms She was isolated from the wards, all members of the staff then wore masks during confinements and swabbings, and no further rises of temperature occurred

Dr Garden quoted the observations of Mr W W King in an article of the *British Medical Journal* of March 26th, 1930, also Dr Kinloch's report on "Maternal mortality in Aberdeen, 1918 to 1927, with special reference to puerperal sepsis," and said that in April, 1930, he personally supervised a normal delivery with a view to taking observations from this point of view The acting midwife, who wore a mask, admonished and encouraged the patient with words in which there was a frequent use of sibilants and labial consonants He concluded that aseptic and antiseptic precautions are better carried out in a maternity hospital than in the home, that the danger from "spray" in institutions is greater because of the elevated labour bed, and that with more assistance there is more talking and "spray" He stressed the point that dialect plays an important part He recommended that in all cases effective masks should be worn

Cases and Specimens

Dr Garden then described a case of cancer of the cervix complicating pregnancy The patient was treated from the thirty-sixth week as a case of placenta praevia right through the labour, which was terminated by Cæsarean section twenty-four hours after its commencement She died of general peritonitis, and at necropsy the placenta was found to be at the fundus, but the cervix was invaded by a mass of carcinomatous material He presented this case to show the difficulties which might arise in diagnosis, and to seek the advice of the society to avoid such an error in this class of case The case was discussed by the PRESIDENT and Drs FLETCHER-SHAW, MALLAM, BRIDE, DOUGAL, and KING

Dr J W BRIDE (Manchester) showed an abnormally large fibroid, weighing 14 lb, which he had recently removed The patient was aged 52, and her chief complaint was loss of weight and indigestion She had noticed the swelling only for a few months He then described a tumour of the abdominal scar following ovariotomy, to elucidate the conclusion that ovarian cysts should be removed entire through a large incision rather than by tapping Five years ago he had removed two very large ovarian cysts and the uterus by supravaginal hysterectomy from a nulliparous woman, aged 38, in whom he had resorted to tapping first These cysts were reported to be pseudomucinous cysts When he saw the patient this year, she had a small swelling the size of a walnut in the right groin, with a larger one the size of an orange in the abdominal scar The latter, when removed at operation, was found to infiltrate the recti muscles, but did not invade the peritoneum The lump in the right groin was encapsulated and easily removed Dr Bride compared its growth to implantations of endometriomata in abdominal scars The gross appearance of the tumour was one of myxoma Dr DOUGAL, in discussing the case, suggested that it was a pseudomucinous cyst becoming malignant

Dr C P BRENTNALL (Manchester) showed radiograms of general oedema of foetus, and imperfect development of foetal skull resulting in complete extension of head

Reviews

ASPECTS OF MODERN BIOLOGY

Der nordische Mensch Von Halfdan Bryn Munich J F Lehmann (Med 8vo pp 166 126 figures 10 maps M 9)

Man and Animal in the New Hebrides By John R Baker D Phil Oxon London C Routledge and Sons Ltd (Demy 8vo pp xv + 200 43 figure 12 6d net)

Medizinische Anthropologie Von Oswald Schwarz Privat dozent an der Universität Wien Leipzig S Hirzel (6 × 8½ pp xx + 333 M 13)

Biological Principles By J H Woodger B Sc International Library of Psychology Philosophy and Scientific Method London Kegan Paul Trench Trubner and Co Ltd (Demy 8vo pp xii + 493 21s net)

THE four works noted here serve to illustrate how varied the field of modern biology has become

The first is devoted to a study of the people of Norway—their physical characterization, their racial nature, and their origin It is written by Mr Halfdan Bryn, a magistrate of Trondhjem who for many years has devoted his spare time to a systematic and exact investigation of the people of his district, and has earned for himself a high place among those European anthropologists who approach the study of human races from a biological point of view His object in writing the present work is to place before the world a true picture of the Nordic race as seen in the country where it reaches its purest development—Norway The second work written by Dr J R Baker demonstrator in the Department of Comparative Anatomy in the University of Oxford, provides us with an account of the fauna of an isolated group of islands in the Pacific—the New Hebrides Dr Baker is a biologist with a catholicity of interests during his two visits to the New Hebrides he was able not only to extend our knowledge of their corals their mosquito and their bats but also of their native inhabitants and of the pigs bred by them His observations made on the inhabitants should be studied by our statesmen His dissections of pigs throw light on a problem which has a direct interest for medical men—the imperfect differentiation of sex In certain herds or breed of pigs in the New Hebrides over 10 per cent of the young are born neuters—imperfect males In the third work noted here Dr O Schwarz of the University of Vienna applies to the elucidation of human diseases and disorders biological concepts which have been formulated by modern philosophers and psychologists For him medicine is a department—an empirical department—of biology The fourth work on our list like the previous one, is philosophical in nature It is written by Mr J H Woodger lecturer on biology Middlesex Hospital Medical School who in the first page reproduces quotations from Locke's *Essay Concerning Human Understanding*, J S Mill's *Logic* and Professor A N Whitehead's *Science and the Modern World* and thus prepares us for the contents of his book *Biological Principles* Hitherto biologists have been content to observe and record facts, and to give explanation of these facts Mr Woodger is convinced that they must take a third step if biology is to be reckoned a science in the same case as physics they must make certain that their methods of observation and of thinking will pass the criticisms of modern masters of logic and metaphysics Mr Woodger's treatise is a criticism of the dicta accepted as truths in modern biology It is to be feared that if Mr Bryn Dr Baker or even Dr Schwarz had read and accepted the teaching of Mr Woodger they would have hesitated before writing books which if profitable for those in search of knowledge are probably very defective from a metaphysical point of view

In their respective ways all the works just mentioned represent additions to our knowledge of biological processes Norway offers ideal conditions for natural experiments in the evolution of human breeds or type The inhabitants of each narrow long inland valley are semi-isolated inbreeding communities It is in these inland valleys that Mr Bryn finds the most distinctly differentiated Nordic types—types marked by the tallness of their stature the whiteness of their skin the blondness of hair blueness of eyes projection of occiput and narrowness of face In some valleys almost every member of the community is so marked Along the western coast however there are numerous communities in which the Nordic characters disappear and are replaced by hair, eyes, and skin showing grades of pigmentation heads tending to roundness stature to squatness and faces to width rather than to length Mr Bryn seeks for an explanation of the presence and distribution of these two contrasted types of Norwegians in the events of prehistory He regards the blond inhabitants as the first to settle in Scandinavia, and looks upon them as the descendants of people who lived in Europe during the latter phases of the Ice Age The darker, round headed people of the coast are later settlers coming from the south and reaching Norway by sea The same dark, round headed racial element occurs in Wales The narrow Nordic face prevails in Britain as well as in Norway

The black skinned, woolly headed New Hebrideans are the antipodeans of the blond people of Norway and yet, if we are to believe Maddison Grant and his school, these opposite types of humanity present a common problem It is said that the Nordic type is perishing in Europe and America, there can be no doubt that in the New Hebrides the Melanesian type is passing rapidly towards extinction During his two visits to the islands Dr Baker applied himself to the native problem"—Why are the local communities dying out He gives a list of circumstances—twenty-five in number—which are supposed to be concerned in the extinction of native races He admits as valid the introduction of diseases to which natives are highly susceptible and to which white men are more or less immune, and the practice of abortion Symptomatic of racial decay is the predominance of males over females in the general population in native communities Dr Baker found that there were 159 males for every 100 females A hundred mothers had only 128 children among them Whether the women wished to bear children but could not, or whether they could and would not has still to be determined If the people are to be saved Dr Baker is of opinion that it will be necessary to withdraw all foreign settlers isolate the islands and permit the natives to work out their destiny in seclusion and in their own way Whether such a policy if practised in all regions of the world is best for the ultimate good of humanity is a matter which is seriously open to question Hitherto all communities have been exposed to the trying winds of competition

It is very possible that readers may be attracted to Dr Schwarz's book by its attractive title—Medical Anthropology If they expect to find in his pages the fruits of modern anthropology applied to the elucidation of human disorders and diseases they will be disappointed Dr Schwarz looks upon anthropology as another name for the biology of mankind Some day it may become so and when it does it will represent the foundation for a science of medicine Meantime Dr Schwarz is mainly concerned with definition—the definition of 'type" of class" of health' of 'sickness' of what "medicine' is and what it is not His conclusion is that the cure of most modern evils is to be found in psychotherapy

Mr Woodger's *Biological Principles*, like that of Dr Schwarz is a work of great erudition and is primarily intended for the instruction of expert biologists Mr Woodger, in applying the latest concepts of space and time, of the epistemologist methodologist and metaphysician, to an examination of the foundations of modern biology, proves himself to be a destructive rather than a constructive philosopher Of modern physiologists he writes Biological problems always present themselves to physiologists with a childish simplicity which is almost touching" Nor do zoologists fare any better at his hands He asserts that Professor Goodrich's account of variation seems to be very muddled, and yet to the ordinary reader the account cited seems as clear an expression as the English language permits He is even more severe on students of the human brain, and gives "a few illustrations of the horrible confusions into which neurologists are led by mixing psychology (or what they suppose to

be psychology) with their neurology" Indeed, Mr Woodger regards those functions of the living brain we speak of as "mental" as being outside the scope of biological inquiry, and capable of elucidation only by metaphysical methods of inquiry The fact remains that such advances as have been made in our understanding of man's mental reactions are the result of the application of biological methods

We see in these four works on biology a hope for the future They indicate a tendency, as biology expands, to synthesize as well as to specialize It is well, too, that biologists should be conscious of their assumptions as well as precise about their facts

A K

DIAGNOSIS OF DISEASES OF THE CHEST

That a fourth edition of Norris and Landis's *Diseases of the Chest*[1] has been found to be necessary shows that the book has met a demand among clinicians, for whom it is particularly designed It details at some length the physical diagnosis of the heart and lungs in health and disease special emphasis being laid on the pathological condition underlying each physical sign, but no attempt is made to describe treatment or discuss prognosis The present edition has been revised and new material added The book is divided into four parts The first two concern the examination of the lungs and circulatory system respectively and comprise one-third of the volume More than is the custom has been written on the subject of diagnostic acoustics, for the authors believe that only through comprehension of the laws of sound production and transmission can the results of percussion and auscultation be intelligently interpreted The last two sections describe the diseases affecting the two systems, giving a number of important references Each disease is described in detail, and many varities are included Indeed, the authors believe that little of practical value has been omitted, but there does not appear to be a reference to pulmonary asbestosis, a condition which has recently attracted much attention in this country They lay stress on the advantages of using the bronchoscope in the diagnosis of pulmonary disease, not only as a means of seeing the condition of the larger bronchi, but also for removing from the smaller bronchi uncontaminated specimens of secretion for bacteriological study The section dealing with the pericardium, heart, and aorta is the best part of the book, in particular the descriptions and illustrations of pericardial disease being noteworthy There is a good chapter by Dr Krumbhaar on the electrocardiograph The authors endeavour to teach as much as possible by means of illustrations, and have included nearly five hundred in the volume Of these, many are from photographs of frozen sections from the cadaver, previously hardened in formalin, so that the anatomical relations remain as during life Such specimens have been found invaluable for teaching and their inclusion is the novel feature of the volume They are not, however, always used to the best advantage, and this applies also to certain of the radiograms Some show the thoracic viscera viewed from the front while others show the heart apparently on the right side of the chest as though the specimen was being observed from behind, and it is at times difficult to decide at first glance which is the left and which is the right side There is moreover a tendency to overdo the inclusion of these illustrations and in some cases photographs of fresh material would have been more suitable But taking them all round the illustrations are very good

The volume contains much that is excellent, and yet despite this it is somewhat disappointing, for the descriptions are long and are not always clear Yet it is a book that has claims upon the clinician's attention He will find much of interest in its pages regarding the examination of patients, and many of the pictures of frozen sections are striking, and are ideal for teaching purposes

[1] *Diseases of the Chest and the Principles of Physical Diagnosis* By C — William Norris M D and Henry R M Landis, M D Sc D Fourth edition revised Philadelphia and London W B Saunders Company 1929 (Roy 8vo, pp 951, 475 figures 45s net)

TREATMENT OF SKIN DISEASES

A teacher of dermatology is often told by old students how much they regret the lost opportunities of learning more about skin diseases when at hospital In *Modern Skin Therapy*[2] Dr Haldin-Davis has done much to remedy the defect, for in his small book—it has no more than 128 pages—he has succeeded in assembling the principles and technique of treatment of those skin diseases which are usually met with in general practice, and which so often prove troublesome both to the practitioner and to the patient There is no confusion of thought here, the author knows how to use his wide experience for the benefit of others The directions for treatment are clear and succinct, and cover a wide range, including the recent developments in actinotherapy and protein shock methods They are, further, essentially of a practical nature, and, with the exception of radium and x rays, require nothing that is outside the scope and usage of general practice Some writers balk their readers by their dullness Not so Dr Haldin-Davis, whose pleasant style entertains the reader while he seeks instruction There was a very real need of a book of this kind, and the author has hit off exactly what is required The result is an admirable little book which cannot be too highly commended

EPIDEMIOLOGICAL ESSAYS

Among the acute experiences of medical practice in comparatively recent years the recurring epidemics of influenza and the appearance of encephalitis lethargica must be allowed as noteworthy events The latter, after various hurried interpretations, became widely accepted as a "new disease," while at the same time wider experiences showed that not all its forms were attended by lethargy, and that for this and other reasons epidemic encephalitis was a more suitable title In his collected *Epidemiological Essays*[3] Dr F G Crookshank is largely concerned with the claim that, so far from being an isolated and individual clinical picture, epidemic encephalitis is merely one of the forms in which influenza manifests itself, and, further, that in the same series are to be included epidemic poliomyelitis, encephalomyelitis, and various outbreaks of acute disease recorded in the earlier centuries under such names as sweating sickness, frousse-galant, pestilential fever, acrodynia, and perhaps some groups labelled ergotism or botulism The accurate view, it is urged, is the view which recognizes an essential unity between the non-nervous manifestations of influenza and the nervous prevalences which may be, and frequently are, associated with these or substituted for them In other words, influenza is responsible not only for epidemics of catarrhal disturbance, but also for epidemics of nervous disturbance

A further proposition of interest relates to the circumstances in which outbreaks of influenza occur The periodicity of these outbreaks has attracted much attention, and the late Dr Brownlee calculated on the basis of the mortality returns a thirty-three-week periodicity, subject to a certain limited exception With this conclusion Dr Crookshank does not agree After a study of the records of some five hundred years, he concludes that influenza shows a tendency to occur about the time of the equinoxes, that there is an epidemic outbreak every ten or eleven years, and that three times in the course of a century or so the disease assumes a particularly conspicuous activity Moreover, the interest of these conclusions is heightened by the suggestion that there is a correlation between epidemics of influenza on the one hand and general magnetism on the other, and that in this fashion modern observations on cosmic and telluric phenomena are in harmony with the Hippocratic aphorism that "with the seasons, men's diseases, like their digestive organs, suffer a change"

If to some readers all this seems somewhat fanciful, Dr Crookshank may fairly ask for an examination of

[2] *Modern Skin Therapy* By H D Haldin Davis M D F R C S, M R C P Modern Treatment Series London J Cape, Ltd 1930 (5 × 7½ pp 128 5s net)

[3] *Epidemiological Essays* By F G Crookshank M D F R C P London Kegan Paul Trench, Trubner and Co, Ltd 1930 (5½ × 8½, pp ix + 136 7s 6d net)

the evidence. In collecting this he has displayed great industry and critical acumen, and he presents his case in forcible fashion and with a combative zeal that adds brightness as well as vigour to the argument. From the individual text, too, he passes to certain issues which apply widely in the field of medical philosophy, and for our own part we think he preaches much sound doctrine. Some of his essays are in lighter vein, but they are none the less excellent reading. Like the rest of us, Dr. Crookshank has his antipathies, and the "reviewer in medicine" is one of them. Doubtless this is an exhibition of what Charles Lamb called "imperfect sympathies," and with it, therefore, we will find no cause of quarrel.

AFTER CONSULTING HOURS

In the preface to his little book entitled *After Consulting Hours*[1] the author, Dr. CHRISTOPHER HOWARD, says that it consists of "a series of more or less disconnected reflections." He is modest enough to disclaim any particular value for them, but hopes they may cause thought in others, and "play their humble part in the achievement of the truth." This is probably their chief value as well as their ostensible aim, and they may be commended to Dr. Howard's medical brethren as containing a good many wise thoughts and a considerable number of useful suggestions, both about methods of practice in general and as regards the details of treatment in particular cases. Moreover the book is written in excellent English, and is eminently readable. The reflections are sorted into chapters under the headings "medical," "general," "sexual," "therapeutic," "appendicular," "circumcisional," "mixed," and "terminal," but in quite a large number of cases there is no very good reason for placing some pages in one chapter rather than in another. The author of course, has his idiosyncrasies and peculiar preferences; this is part of the charm. He has studied a good deal in France evidently, and so is able to introduce and to commend a number of methods and preparations which are not so well known in this country as they might be. He makes large use of the intravenous or intramuscular methods of administration, and has some sensible words to say about endocrines. Probably he has more faith in the therapeutic virtues of carefully chosen alcoholic drinks than is nowadays common, and he exhibits a strong prejudice against the drinking of coffee after lunch or dinner. He reveals too how he thinks he might be tempted to consider suicide while in Cheshire though it would never occur to him in Suffolk. Altogether this is a pleasant little book revealing an attractive personality, and containing a sufficient number of helpful and common-sense observations to make its reading worth while.

NOTES ON BOOKS

MANY radiologists, especially those engaged in x ray therapy, will welcome a translation into English of the second edition of *Dosage Tables for Rontgen Therapy*[2] by Professor FRIEDRICH VOLTZ. To the first German edition, which appeared eight years ago and was reviewed in our columns on February 11th 1922, many alterations and additions have been made, and the book has been brought quite up to date. After a short introduction the author deals with the question of the spreading, the absorption, and the scattering of x rays. He then discusses seven cardinal points in this form of therapy—namely, the physical dose, the biological dose, the dosage quotient, the percentage deep dose, the effective dose, the practical dose, and the absolute unit of dosage. Following these two chapters a third takes into consideration the three methods of measurement—namely, the iontometric and photographic methods and measurement with the selenium cell. All these chapters are illustrated. The dosage tables, some sixty-five in number, follow in three groups with a few explanatory notes, and the concluding chapter is given up to a consideration of the calibration of x ray apparatus and x ray tubes. As the author says in his short preface, this is not a prescription book; it is directed entirely towards the estimation of physical quantities and its object is to assist the practical radiologist to estimate dosage without the necessity for long measurements and repeated calculations.

A revised and enlarged edition of the *Catalogue of British Scientific and Technical Books*[3] has been issued by the British Science Guild, containing almost 14,000 titles—more than double the number in the original volume published in 1921. As the catalogue is limited to books published by British firms and appearing in their lists up to September 1929, it may be regarded as an up-to-date guide to British scientific literature so far as textbooks and books of reference in the fields of science and technology are concerned. About 600 entries appear in the section of medicine, excluding those under surgery, gynaecology, and dentistry. A detailed description is given of every volume, including the name of author or editor, the title, size, number of pages, date of last edition, publisher, and price. In this third edition the general plan of its predecessors has been followed, but a slight rearrangement has been made to provide a more convenient grouping of subjects and the subdivision of a number of headings. The catalogue is completed by name and subject indices, and can be thoroughly recommended for its practical use both to the specialist and to the general inquirer.

MR. DE VERE STACPOOLE combines the skill of the accomplished story-teller with the grace of the scholar in blending the colour, the fragrance, the bizarre types and the sinister violences of the islands of the Seven Seas. Most of his *Tales of Mynheer Amayat*[4] head of the Tavas Agency of Sandakar and Salong have their setting in the Dutch East Indies. All of them have a genuine thrill, several spring ingenious surprises, but what distinguishes them from the ordinary run of detective stories, apart from the lucid and liquid style, is the fact that the *clou* is usually some abnormal condition or peculiar trait—somnambulism, forms of suggestion, a facial resemblance, colour blindness. The narrative glows with beautiful objects—pearls, sapphires, rose jade carvings—and is full of acute and vivid observation. "Dead Girl Finotte" is macabre in an original way, and "The Amazing Story of Wang" is a fine piece of ironic comprehension. This is an entertaining book; its author (as becomes a member of the medical profession) wearing much knowledge very lightly.

The Child's Conception of Physical Causality[5] is a translation into English of an important series of careful investigations on children carried out by Professor JEAN PIAGET of the University of Geneva. Three previous studies by the same writer have already been made accessible to English speaking readers and are included in the International Library of Psychology, Philosophy, and Scientific Method. In the concluding section of the present work the writer summarizes the conclusions reached in this work and in his last book, *The Child's Conception of the World*.

The biography entitled *The Beloved Physician Sir James Mackenzie*[6] by Dr. R. McNAIR WILSON was reviewed in the *British Medical Journal* of October 30th 1926 (p. 791) when it was recommended especially to the young practitioner for its skilful exposition of Mackenzie's life work. A well printed cheaper edition has now been published containing a portrait.

The second volume of the *Collected Papers*[7] of the Rowett Research Institute, Aberdeen, gives some account of the developments that have occurred at the Institute since the issue of the first volume in 1925. The experimental stock farm, which comprises nearly 1,000 acres, is expected to be completely established in the course of the present year. In 1929 the Imperial Bureau of Animal Nutrition was instituted as a clearing house for information on nutrition and allied subjects for the benefit of research workers throughout the Empire. Owing to the increasing number of post-graduate students and visitors from overseas the governors have decided to build a residence for temporary workers in the vicinity of the Institute. During the last four years members of its staff have been sent to Palestine, New Zealand, and East Africa to co-operate with agricultural or medical departments. The present collection of papers has been added to the Library of the British Medical Association.

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[1] *After Consulting Hours*. By Christopher Howard, M.B., C.S.Eng., L.R.C.P. Lond. London: W. Heinemann (Medical Books) Ltd. 1930. (Cr. 8vo, pp. viii + 204. 7s. 6d. net.)

[2] *Dosage Tables for Rontgen Therapy*. By Professor Friedrich Voltz. Translated from the second German edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1930. (Post 8vo, pp. 120, 21 figures. 7s. 6d. net.)

[3] *A Catalogue of British Scientific and Technical Books*. Compiled by Daphne Shaw. Third edition. London: A. and F. Denny Ltd. 1930. (Demy 8vo, pp. xxii + 754. 20s. net.)

[4] *The Tales of Mynheer Amayat*. By H. de Vere Stacpoole. London: C. Newnes Ltd. 1930. (Cr. 8vo, pp. 256. 7s. 6d. net.)

[5] *The Child's Conception of Physical Causality*. By Jean Piaget. International Library of Psychology, Philosophy, and Scientific Method. London: Kegan Paul, Trench, Trübner and Co., Ltd.; New York: Harcourt Brace and Co. Ltd. 1930. (Demy 8vo, pp. viii + 309. 12s. 6d. net.)

[6] *The Beloved Physician Sir James Mackenzie*. By R. McNair Wilson. Cheaper edition. London: J. Murray Ltd. 1930. (Demy 8vo, pp. x + 315, 1 portrait. 6s. net.)

[7] *Collected Papers*, vol. ii. The Rowett Research Institute. Edited by John Boyd Orr, D.S.O., M.C., M.D., D.Sc. Aberdeen: Edmond and Spark. 1930. (6 × 9¼, pp. xv + 533, illustrated. 21s.)

VITAL STATISTICS FOR ENGLAND AND WALES

THE REGISTRAR-GENERAL'S REVIEW

In a recent memorandum, already referred to in these columns, the Chief Medical Officer of the Ministry of Health emphasized the value of the information contained in the annual statistical review of the Registrar-General for England and Wales, and directed the attention of medical officers to the reduced price at which sections of this publication will be available in future. The cost of the "Tables, Part I—Medical," is 7s. 6d., and that of the text 2s. 6d.

MORTALITY DURING 1928

The first part of the review for 1928[1] is concerned with the deaths registered in England and Wales during that year, of *which 235,542 occurred among males and 224,847 among females*. The total of 460,389 corresponded to a crude rate of 11·7 per 1,000 of the estimated population, or, standardized to correct for the deviation of age and sex distribution, to 9·9—the lowest recorded in this country. Excluding the figures for 1921, 1923, and 1926 the number of deaths in 1928 was the lowest returned since 1862, when the death rate was more than twice as high.

It is noteworthy, however, that while the rate at all ages and for each sex was the lowest recorded, the mortality among males from all causes was higher than that of females by 25 per cent.—exceeding for the first time the percentage recorded in 1916–20. Among the chief causes of the higher male death rate were various types of cancer, accident (violence other than suicide and homicide), pneumonia, and arterio sclerosis. The proportionate excess from tuberculosis was the same as that from all causes. Some forms of mortality other than those associated with maternity were largely restricted to one sex—for example, general paralysis of the insane, peptic ulcer, and genito-urinary disease other than nephritis, as well as suicide and accident, being mainly confined to males, and cancer of the sex organs and diseases of the thyroid to females.

Infant Mortality

The rate of infant mortality in 1928 was 65 per 1,000 live births, which was exactly half of that of seventeen years earlier. Of the total number of deaths registered during the year, 9·3 per cent. were those of infants under the age of 1 year—a diminishing proportion in late years owing chiefly to the falling birth rate. For the second and third months jointly the 1928 rate was the same as that of the previous year, but at all other ages the rates recorded were the lowest attained in this country.

In each year *from 1911 onwards the highest rate has occurred* in the North county boroughs and the lowest—except in 1923—in the rural districts of the South. An unusual feature was that the London rate exceeded the general average by 4 per cent. This is attributed to the high mortality among infants aged 3 months and over, arising mainly from measles and respiratory disease. On the other hand, the continued low mortality in London of infants during the first four weeks of life—for the fourth successive year over 20 per cent. below that for the country at large—suggests that if the maternity conditions existing in London could be extended to the rest of the country this "neo-natal" mortality, which has fallen since 1911-15 by only 20 per cent. in England and Wales, might be reduced at once to the London level.

Illegitimate infants die immediately after birth at a much higher rate than legitimate, and the excess is evidently many times greater from violence and neglect than from any other cause. *Thus, the figures for 1928 indicate that the mortality* among the illegitimate caused by violence and lack of care was over ninety times as high during the first thirty minutes of life as that of legitimate infants, whereas for all other causes it was only about three times as high. Further, in 1928 the mortality among the illegitimate of both sexes on the first day of life appeared to be rapidly increasing coincident with a slight but steady decline in the mortality rate for the legitimate.

Compared with the preceding five years, the infant mortality in 1928 from all causes was less by 10 per cent. Marked declines are noted in the mortality rates from bronchitis and pneumonia, attributable to progress in infant hygiene and favourable weather conditions. The rate for the two diseases jointly—namely, 13·17—was unprecedented. Fewer deaths also occurred from congenital debility and convulsions.

Infectious Diseases

An extensive outbreak of enteric fever took place in London during July and August of 1928. Although the total number of cases recorded in London during the year—595—represented an increase of 85 per cent. over the number of the previous year, the average mortality figure was not exceeded. Notably low mortality rates from this disease were also general throughout the South of England, on the whole, the rate for the South was much lower than that of the Midlands or the North. From a survey of recent years the distribution appears *to be definitely changing from urban to rural areas*. The opposite tendency is recorded in the mortality rate from measles, which continued to be associated with city life. Deaths from this cause numbered 4,302, corresponding to a mortality of 109 per million of population. Small-pox was prevalent in certain coal-mining counties, and although the type was comparatively mild, the number of deaths exceeded that of any other year since 1905.

The fatality rate for scarlet fever was about the same as that of the previous year, the mortality being less than 2 per cent. of that recorded sixty years earlier. Whooping-cough among children yielded a death rate lower by one-third than the rate at the beginning of the century. Statistics for diphtheria and croup at ages under 15 indicate that the mortality rate was higher than in any of the five preceding years but lower than in any year before 1923.

The number of deaths assigned to influenza was 7,754—4,084 of males and 3,670 of females—representing the lowest mortality rates since 1914. For the fifth year in succession the lowest death rate was recorded in London—illustrating a definite gradation of mortality, at a maximum in rural districts and a minimum in large towns. It is suggested that the term "influenza" may be more widely interpreted in rural than urban practice. Of the deaths in 1928, 45 per cent. were associated with pneumonic and 19 per cent. with other pulmonary complications. Notifications of encephalitis lethargica were the fewest since 1923, and the mortality the lowest since that date. Fewer cases, proportionately, were diagnosed in London than elsewhere, and the ratio of deaths to notified cases was smaller than in any other section of the population.

The standardized death rate for tuberculosis fell from 952 per million in 1927 to 909, the death rate for both sexes being the lowest recorded. Females aged 15 to 25 formed the only part of the population in which tuberculosis mortality had not materially declined. The number of deaths ascribed to syphilis—namely, 1,532—was the largest since 1921, though the increase can be partly explained by the introduction of the new form of medical certificate in the middle of the previous year. The mortality in early childhood from this disease continued to fall at a diminishing rate.

Cancer

Deaths ascribed to cancer during 1928 totalled 56,253—26,013 of males and 30,240 of females. For both sexes these figures were the highest returned. The number of deaths from carcinoma was the largest, and that from undefined cancer the smallest, since the record of this distinction was made in 1901. Proportionately, the mortality from sarcoma, compared with the rate for carcinoma, has been decreasing, the ratio of 49 per 1,000 total causes in 1928 being the lowest on record. The standardized death rate for males amounted to 1,032 per million and that for females to 1,000. Both these rate were higher than for any previous year. While the mortality was higher among males for the preceding five years, the number of deaths and the crude death rate remained appreciably higher for females owing to the greater average age of the female population. The features of distribution by sex and age were much the same in 1928 as in the previous year but the London rate for the first time was lower than that for the county boroughs.

[1] *The Registrar-General's Statistical Review of England and Wales for the Year 1928* (New Annual Series No. 8.) H.M. Stationery Office. 1930. 5s. net.

Diabetes Pernicious Anaemia

Mortality rates for diabetes—91 for males and 101 for females—were higher than in the previous year The rate for males was the highest since 1922 (101) and that for females since 1915 (104) Since the introduction of insulin the mortality among males under the age of 55 had been reduced up to 1923 by 37 per cent and that of females by 21 per cent At 25 to 45 years the rate for males had fallen by 45 per cent. The effect of this large reduction, however was masked in the total death rate by the concurrent increase of mortality at ages over 55 No indication is given by the death returns that insulin had had any effect in reducing the mortality in later life It would seem that as phthisis mortality decreases that from diabetes increases the latter being apparently a disease of prosperity and the former of adversity

Satisfactory improvement is recorded in the mortality rates from pernicious anaemia, presumably as the result of the new liver treatment introduced in the later part of 1927 The standardized rates for males fell from 44–50 in 1921–27 to 30 in 1928 and that for females from 54–61 to 39 The number of deaths from pernicious anaemia however was proportionately higher than from all causes jointly at the ages of 45 to 75 in each sex from the ages of 55 to 65 the excess was 110 per cent for females and 72 for males Owing mainly to more frequent certification of degenerative conditions the mortality from heart disease was higher than in the previous year Standardized death rates for diseases of the respiratory system were the lowest on recent record at all ages and for both sexes

Deaths ascribed to pregnancy or childbirth numbered 2 920, corresponding to a rate of 4 42 per 1,000 live births Including associated mortality the proportion was 5 62 As in the preceding year a notable feature was the low mortality in London from septic and other causes The rate for Wales during 1919–28 was uniformly above the average for England and Wales to an extent varying from 19 to 43 per cent

The 656 deaths under or connected with the administration of anaesthetics exceeded the number for 1927 by 60 and was more than double that of any year prior to 1916 Of the total, 102 were associated with cancer and 38 with hernia

POPULATION

At June 30th 1928 the total population of England and Wales was estimated to be 18 826 000 males and 20 526 000 females The population was assumed to have grown by 4 2 per cent over the period since 1921 representing an arithmetical average increase of 0 60 per cent per annum compared with 0 49 per cent per annum during the decade 1911–21. The sex inequality, expressed as 1 096 females per 1 000 males in 1921 was reduced to 1 089 females per 1 000 males in 1928 According to the estimated age distribution the average ages of the mid 1928 population was 31 1 and 32 7 for males and females respectively, compared with averages of 29 9 and 31 2 at the last census. The live births registered in 1928 numbered 660,267, corresponding to a birth rate of 16 7 per 1 000 of population This slight increase is regarded as a reaction from the more than usually depressed rate of last year and of no permanent significance The proportion of male to female births was 1 044 1 041 and 1 044 to 1 000 for legitimate illegitimate and total births respectively Live births exceeded deaths by 199 878 compared with 169 563 in 1927 this rise in the natural increase figure is attributed mainly to the fall in the death rate during a period in which the regular fall in the birth rate was temporarily interrupted The birth rate *in this country attained* its highest value during 1865–1880 when it exceeded 35 per 1 000 population from that time it diminished by gradual and almost continuous stages to 23 8 in 1914 The rate of natural increase—4 3 per 1 000 of population in 1927 and 5 0 in 1928—was lower than that of any earlier recorded periods with the exception of the war years. It may be inferred from a study of the series that even if the fall in the birth rate continues the number of births will exceed the number of deaths for some years and that apart from the results of migration, the population will go on increasing though at a somewhat slower pace Mere excess of births over deaths however does not imply that the perpetuation of current conditions of fertility and mortality would be sufficient to ensure a continuous increase in the national population both now and in the remote future.

MOTOR DRIVERS AND VISION

BY

N BISHOP HARMAN, M A, M B, F R C S

On November 13th Mr Herbert Morrison, Minister of Transport, announced that it is proposed to bring Part I of the Road Traffic Act, with the exception of certain small sections, into force on December 1st The Regulations to be put into force on this date that will most concern the private owner are those affecting the issue of licences to drive The new form of application for a driving licence contains a declaration as to the physical fitness of the applicant * Three specific questions have to be answered The second of these reads

> Are you able to read at a distance of 25 yards, in good daylight (with glasses if worn) a motor car number plate containing six letters and figures?

An applicant who replies "No" to this question is debarred from obtaining a licence

It is evident that the prospective driver may take advantage of the best of the conditions offered He will choose a clean, clear number plate, and preferably one with the letters painted white on a black ground and not one with polished metal letters and figures which give disturbing reflections He will choose good daylight and neither the glare of sunshine nor the dimness of the dusk He will use glasses if they help him If he can read these letters at the required distance and fulfils the other conditions, he may drive Since nothing is said about 'eyes" there is no ban upon the one-eyed man

The letters and figures of a motor car number plate are prescribed in the Statutory Rules and Orders, 1930, No 277, Fourth Schedule, paragraph No 4

> All letters and figures must be three and a half inches high every part of every letter must be five-eighths of an inch broad and the total width of the space taken by every letter or figure except in the case of the figure 1 must be two and a half inches

The prescribed size is practically that of the usual top letter of a Snellen's test card marked D 60 It is the letter which the person with 'normal' vision will read at 60 metres Since the candidate for a driving licence is only required to read at the distance of 25 yards the letters which the "normal sighted read at 60 metres or 65 616 yards (taking the metre as 39 37 inches), the requirement of the Regulations cannot be held to err on the side of severity

Vision satisfactory for driving safely is compounded of many factors So far as acuity is concerned it implies the ability of the driver to recognize objects in the street and to recognize their detail distinctly enough to be able to judge signs of movement One of the best comments on the necessity for good visual acuity I have heard was put thus A distinguished public servant said When I drive I am not content to be able to see a child on the roadside I wish to be able to see the position of the child's limbs and the expression of his face so that I may judge of his probable movements, and drive accordingly"

Prospective drivers who find they cannot see the letters at the required distance will probably apply to ophthalmic surgeons for advice It is with the examination of the sight of such applicants in the consulting room that I propose to deal We shall need to make out subjective tests upon Snellen's test cards It would be inconvenient to make them in the open street

Tests of Visual Acuity

Ophthalmologists are in the habit of recording the visual acuity of a person examined in the form of a vulgar fraction—a convenient but misleading practice A person reading the letters of a number plate of a car at 60 metres would be recorded as having 60/60 vision for he reads the 60 metre line at 60 metres This is equivalent to our common standard of 6/6 when the vision is taken at the convenient consulting room distance of 6 metre Recording the visual requirement of the Regulations in the same form the ability to read at 25 yards the letters which those with normal visual acuity can read at 65 616 yards would be 25/65 6 If these figures of distances in yards be

* See *British Medical Journal* November 22nd, 1930 p 834.

converted into metres according to Snellen's scale, the acuity would read 6/15 74 That is an acuity nearly midway between the common 6/18 and 6/12 I know of no test cards with a line of letters or figures of either 6/16 or 6/15 upon them, but it would not be difficult to construct such lines The letters required would measure 22 7 mm in height, as compared with 6/18 of 26 mm and 6/12 of 17 5 If the surgeon has not provided himself with such lines of letters he can get an approximately equal measure by requiring his patient to read 6/18 promptly and correctly, and at least half the letters shown in 6/12 lines

Muscle Balance and Light Sense

When a patient consults an ophthalmic surgeon on the state of his vision and its sufficiency for driving, it is certain that the surgeon should not confine his examination to visual acuity, though that only is recognized by the Regulations The patient's muscle balance, his light sense, and the effect of the form of the lenses needed to obtain good acuity will come into consideration, and to some extent colour vision also

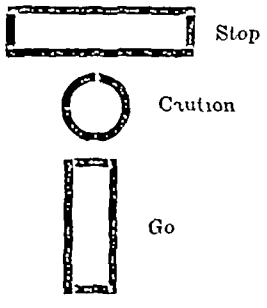
Defect of muscle balance likely to cause diplopia in states of fatigue will require caution In lower degrees of defect the driver will not be likely to be unsafe, but he should be cautioned against lengthy drives, or driving when not in good health In higher degrees of defect with frequent symptoms of diplopia there will be added risks, unless the defect can be satisfactorily corrected, or the driver learns to drive with one eye only It is certain that a driver with diplopia should not drive with both eyes open Most people with this defect are wise enough not to attempt to drive

A good field of vision is of the highest importance, not only to the driver, but for all forms of locomotion A loss of 20 to 30 degrees of the peripheral field renders the subject liable to bump against foot passengers as he walks abroad, and he is certainly unsafe to drive I have never found a patient with this defect who did not recognize his disability for driving

Light sense is of importance in night driving, and in this connexion it is convenient to consider the effect of the form of lenses required to give good visual acuity Myopes, especially those with high degrees of defect, are conscious of their poor vision in the dusk The form of their lenses disperses the rays of light and reduces the light received by the eyes The deficiency, both for the myopes and for those whose defective light sense is purely retinal, can be recognized by the use of the perimeter If the peripheral field be mapped out in good daylight, and then again after the adjustment of the window blinds, so as to reduce the illumination to one-tenth of the full light, the reduction of the field of vision will be evident and demonstrate the risks of the disability Subjects of these defects will be safe drivers in the daytime, but at night they may be dangerous Mostly they recognize the defect and avoid night driving

Traffic Signals and Colour Vision

Defects of colour vision should not constitute any disability for driving either by day or by night But the growing practice among local authorities of placing coloured signal lamps at road crossings has introduced a real difficulty for the colour-blind Signal lamps of red, yellow, green, and white are springing up everywhere A mistake in reading one of these signals may bring the colour-blind driver into conflict with the police, and possibly into collision with other drivers or pedestrians There is no excuse for the lack of thought displayed in the design of these new road signs It would be just as easy for the authorities to make the signals recognizable by shape as by colour They need three signs, for "Stop," "Caution," "Go" If these signs were arranged upon a uniform plan, with a horizontal bar of light for "Stop," a circular light for "Caution," and a vertical bar of light for "Go" they would be more easily recognized by all



The lights might be coloured, or not, as the authorities thought pleasing, but the shape would be the determining character

The advice we may think well to give to our patients upon the state of their eyes and vision apart from the degree of visual acuity, and their ability to pass the standard set by the Regulations, is outside the scope of this note But my experience leads me to believe that advice given in the patients' interests will be well received. Intelligent patients are anxious neither to endanger their own lives nor the lives of others by taking risks that conditions prevent them from controlling

PUBLIC HEALTH CONGRESS

Sir Arthur Newsholme and the Insurance Medical Service

At the first of the sessions of the Public Health Congress, held at the Royal Agricultural Hall, London, from November 17th to 22nd, an address was given by Sir Arthur Newsholme (formerly Principal Medical Officer to the Local Government Board) on the subject of "Medicine and the State"

Sir Arthur Newsholme covered a wide range of discussion in reviewing public health medical activities, and laid down certain generally accepted postulates concerning medical services needed for the mass of the population, but subsequent speakers almost entirely concentrated on his criticisms of the insurance medical service In speaking of voluntary hospitals, he said that, unhappily, in many areas these continued to treat out-patients for whom there was ample medical provision by panel doctors He also stressed the abuse of out-patients by the voluntary hospitals "The vast economic loss of working hours for men and of domestic work for women implied in present conditions would, if capitalized, pay—as is most desirable—salaries to an increased staff of junior hospital physicians and surgeons, who would then be honourably bound to attend at stated hours, and for whose patients an appointment system could be arranged, which would prevent the perfunctory and hasty work now too common" Speaking with regard to tuberculosis dispensaries, he considered that in so far as clinical work was done there, responsibility should ultimately revert to medical practitioners in family practice It had been an unfortunate result of the panel system as now operating in this country that private individual medical responsibility had been too readily abandoned One postulate which Sir Arthur Newsholme laid down was that it was dishonest to assume or continue responsibility for the treatment of a patient unless one had sought to obtain accurate knowledge, determined by detailed examination of his physiological systems, of the patient's fundamental conditions of health This applied to some panel and other private medical practitioners, as well as to much dispensary work, and he thought it should be a condition of receiving an insured person on his list that the doctor should act in accordance with this postulate, besides acquainting himself with the occupational or other risks of his client's life If this condition of honest medical practice were met it would lift the panel practice of a large minority of the medical profession out of "its present quagmire of dangerous superficiality Incidentally, it ought to go far to reduce the present extravagant prescription of unnecessary drugs, for a doctor's prescription is often a mere placebo, covering sometimes an incomplete diagnosis, the completion of which was attainable, and covering perhaps oftener the waiting and watching period before a diagnosis is practicable"

The speaker dealt severely with the conditions of insurance medical practice in this country The fact that the Insurance Act had become a permanent part of social machinery, notwithstanding its many flaws and especially its "propping up an already obsolete type of medical practice," was remarkable testimony to the genius of the civil servants who made it workable though at an expense entirely disproportionate to the benefits received The defects on the medical side were obvious, the most serious of them was the absence of consultative services, the usual failure to provide hospital treatment when needed and

the non inclusion of dependants "There is the further essential defect in the British system that no panel doctor is required or expected to treat any of his patients with skill which is beyond the average medical skill of a general practitioner. In our medical insurance system in this country we have doctors incompetent to give the average care for which they are paid, and we have very many others who discover conditions requiring medical care in their panel patients, with which their medical skill is quite competent to cope, but which they may refuse to treat within the terms of their contract of service." With regard to the burning question of medical certification Sir Arthur Newsholme continued in these terms: "This [the giving of a certificate of inability which meant a cheque to be paid by the approved society] has meant the moral degradation of individual doctors who have certified without thorough examination of a patient, and without realizing their responsibility not to certify merely because the patient desires it. Such cases I am confident, are very exceptional, but borderline cases are numerous, and in such cases the doctor desires to give his patient the benefit of the doubt. How can this sinister association of medicine and money be avoided, or if it is inevitable, how can the weakness of a doctor wilful to please his patient, and the unscrupulous or unthinking desire of the patient to have a rest from work even when he is not incapacitated, be counteracted?" He doubted whether an effective remedy for over-certification was practicable unless sickness insurance societies were regionalized and placed, in many respects at least under county and county borough administration. He concluded with the remark that the success of the contract medical work of sickness insurance was primarily a question of character, preponderantly the character of the insured, but also the character of the panel doctor.

Dr H. B. Brackenbury took up Sir Arthur Newsholme's criticisms on three points. It had become a commonplace, he said, especially for lay people, to ridicule the "bottle of medicine." He could assure any who were sceptical about the matter that he could give them a bottle of medicine, the efficacy of which in a very short time they would not be disposed to dispute at all. There were very many drugs which were of the highest value in the practice of medicine and without which the lives of patients would be very much less comfortable. He protested against the reiteration of this disparagement of the use of drugs which never failed to produce a titter. There were many other ways of treating disease than the use of drugs, but drugs remained a very important part of the science and practice of medicine. Numbers of drugs were specific in the treatment of disease and others led to the amelioration of distressing conditions. In the next place he complained of Sir Arthur Newsholme's reference to "the average medical skill of a general practitioner." The word "average" nowhere occurred either in the Insurance Acts or regulations or the terms of service under which the doctor acted. There was a definition of the scope of the treatment which an insured person was entitled to have under his contract, and that scope was set out as everything which he could expect in the way of medical treatment which did not involve special skill of a kind which general practitioners as a class could not reasonably be expected to possess. There was nothing about the "average" skill of a doctor to which certain doctors did not live up. That was a very serious misunderstanding in this connexion. He also complained of an implication in the address that the work of the insurance practitioner was almost necessarily superficial.

Sir Arthur Newsholme intervened to point out that his reference to the too ready abandonment of individual medical responsibility related solely to tuberculosis.

Dr Brackenbury went on to criticize the words "its present quagmire of dangerous superficiality." He did not understand one of these references, nor did he understand the remark about "propping up an already obsolete type of medical practice." Quite candidly, he had no idea what that meant. There was a general suggestion in the address that a very large number if not the majority of insurance practitioners did not in fact take a thorough interest in their insured patients, and were very liable not to make a complete examination of the patient's condition. These things he repudiated with great emphasis. A comparison between insurance practice and medical practice in general would, in his experience, be favourable to the former. There were all sorts of things in medical practice which they wished were not there, but if the average attention and results obtained in insurance practice were compared with like things in everyday private practice, it would be found that the insurance patient had by no means the worse of it. Moreover, the contractual relationship between the insurance practitioner and the insurance patient was exactly the same *qua* doctor and patient as between a private practitioner and a private patient. (Cries of "No.") Indeed in one respect, the insurance patient had an advantage, because if he, as a private doctor, were asked to attend a private patient he was at liberty to stay at home and decline to go, whereas if he were called to an insurance patient he had no option but to go.

Dr Graham Little, M.P., deprecated on the ground of economy the proposals to extend the national health insurance services, and pointed to the recent great achievements of the voluntary hospitals, without whose help he said, the National Health Insurance Act would have foundered long ago in hopeless chaos. The insured population could count upon that resort to get the treatment which the National Health Insurance Act had not provided for them.

Dr Alfred Cox protested that Dr Graham Little appeared to complain because the insurance system did not give something that it never pretended to give. When Mr Lloyd George came to the British Medical Association in 1911 and was told that his system was not complete he replied, "I know it is not, but I believe in walking before you run. I am starting this system with the provision of the family doctor and you can build the other services up afterwards." The speaker also took up Sir Arthur Newsholme's point about out-patient departments. If these departments were used for accidents and emergencies and for a second opinion in cases where such opinion was needed as well as for giving such specialist attention as could not be obtained elsewhere they would be doing very fine work. They did that but they did a good deal more which was a pure waste of money. Every hospital liked to talk about the great increase in out-patients, but this was very largely due to a class of patients who could perfectly well get their attendance elsewhere and ought to be told to go elsewhere. There was every day at these out-patient departments a constant queue of people who went there simply to get attention for chronic diseases. To reform the out-patient department would be a practical step which might be undertaken very quickly; it would result in the saving of the time of the staff and the money of subscribers, without injuring anybody.

Sir Arthur Newsholme, with regard to Dr Brackenbury's comments, said that he had a warm admiration for him as a medical statesman who had done great things for his profession. On this occasion Dr Brackenbury had departed to some extent from a statesmanlike attitude. He must have regarded him (Sir Arthur Newsholme) as suspect to begin with, and have then read portions of sentences which fitted in with his suspicions. He agreed with what he had said about the bottle of medicine and that medical practice could not get on at all without drugs; even placebos were sometimes necessary for the mental health of the patient. But there was a large mass of unnecessary drug giving in insurance practice. With regard to the point about average skill he had listened to Dr Brackenbury's explanation but it appeared to him to be the difference between tweedledum and tweedledee; they were mere verbal points. There remained the fact that a large number of practitioners did not give all the treatment to their patients which they were quite competent to give simply because they were above the average. By "propping up an obsolete type of medical practice" he meant over-medication by drugs, symptomatic treatment, lack of hygienic advice and too little prevention. Mr Lloyd George had said that national insurance must walk before it could run, to which his reply would be that all it had been doing up to the present had been "hopping around."

Sterilization of the Unfit

An interesting though inconclusive discussion took place at the congress on the subject of the sterilization of the unfit The chair was taken by Mr WALTER HEDLEY, K C, Recorder of Newcastle-on-Tyne Dr C P BLACKER put forward the view of the Eugenics Society, which, he said, did not propose the sterilization of large numbers, nor did it regard sterilization as anything but an auxiliary and additional measure to segregation The safeguards his society proposed included consent of the person (when this could be given), consent of the spouse (if any), consent of the parent or guardian, and consent of the Board of Control The Board took a very cautious attitude to the matter, and that in itself was a great safeguard It was argued that not enough was known about the inheritance of defect to legalize sterilization, but the Board had advocated forbidding the marriage of defectives If enough was known to forbid marriage, enough was known to legalize sterilization It had been held that sterilization would lead to promiscuity and venereal disease, but to forbid marriage was more likely to have this effect, because that was to dam up two instincts the sexual, and the desire for a stable home Sterilization merely prevented parenthood, and was far less likely to remove any bar to promiscuity in a defective than in a normal person fully aware of the consequences of his acts

DR W F MENZIES, speaking for the Royal Medico-Psychological Association, said that that body would have nothing to do with sterilization in mental hospitals, though it agreed that there was something to be said for its application to suitable cases of mental defect under proper safeguards DR A F TREDGOLD, for the Central Association of Mental Welfare, considered that quite a strong case could be made out for sterilization of patients of mental hospitals, who had intermissions during which they carried on normal life, and begot children For mental defectives he thought segregation was indicated, these people could not compete in the normal world, and any contribution they made to their upkeep must be made under sheltered conditions, and therefore they should be segregated He pleaded for an impartial investigation by a Royal Commission before anything far-reaching was decided DR W A POTTS said that he was in favour of sterilization under proper safeguards, but he pointed out that talk about sterilization was being made the excuse by backward local authorities for not getting on with their proper duty of ascertainment and providing colonies for mental defectives

Some lay persons, including a member of the Mental Hospitals Association, spoke strongly in favour of sterilization and a learned Jesuit equally decidedly against

The School Medical Service

SIR CHARLES TREVELYAN, President of the Board of Education, addressed the congress He said that even when all the common and obvious defects of childhood had been adequately dealt with in the schools, the school health service would by no means have reached its full development There must be extension of the treatment of delicate children in open-air schools and by artificial light, further measures must be taken to counteract crippling conditions, and the health of children under school age must be protected in nursery schools and by a regular system of medical examination Local authorities had begun to realize the importance of training in the principles of health, and the reorganization of the elementary schools offered a great opportunity for the definite inclusion of that subject in the school curriculum

A paper on the school medical service was read by DR W M ASH, county medical officer of health and school medical officer for Derbyshire Responsibility, the medical service had led to a vast improvement in the cleanliness and clothing of the children Education in healthy habits and hygienic principles was just as important as the teaching of arithmetic In the discussion which followed, R H CROWLEY, of the Board of Education, stressed the need for [illegible] care of children under 5, and of [illegible]

Voluntary Hospitals and the State

The Incorporated Association of Hospital Officers arranged a discussion on the question of co-operation between voluntary and council hospitals In an opening paper MR A H LEANEY, house governor of the Birmingham General Hospital, asked whether it was desirable and practicable that there should be effectual co-operation between the voluntary hospitals, with their long tradition of unpaid medical service and a "personal" note in the care of the sick, and the municipal hospitals served mainly by salaried and full-time medical men He thought the difference between the two classes of hospitals superficial, now that most of the patients in voluntary hospitals paid towards treatment and maintenance, and the custom of paying medical staffs was beginning to creep in Moreover, the voluntary hospitals were no longer the only schools of training for doctors and nurses, since mental disease, tuberculosis, and infectious diseases were treated in municipal hospitals The voluntary hospital system was open to a certain amount of criticism, particularly in regard to the out-patient departments, and the regrettably long period during which critical cases were often kept waiting for admission to the wards He thought the voluntary hospitals should invite the representatives of public hospitals to meet them in consultation as to the best means of improving on the present wasteful and unsatisfactory dual system

A discussion ensued in which many members of local authorities and hospital boards took part Some advocated amalgamation rather than mere co-operation, saying that the present voluntary system was spasmodic, intermittent, and inadequate A representative from Chester pointed out that the association of voluntary and council hospitals would work differently in different areas In some towns the voluntary hospital would continue to do the highly skilled surgical work, the municipal hospital not being so well provided The voluntary hospitals had their defenders in the discussion, which was wound up by SIR JAMES MICHELL of the Seamen's Hospital, Greenwich, who declared that the voluntary hospital would always attract to itself the most able and brilliant men and women of the medical profession

Maternal Mortality

PROFESSOR EDWARD MELLANBY, at one session of the congress, gave an address on maternal mortality He described the investigation which he had made, with Dr H N Green, through the help of the Medical Research Council, on the cause of the diminished resistance to infection at the time of childbirth For many years he had been interested in the effects of diet in raising and lowering the resistance of animals to infection, and, following upon animal experiments which showed that the addition to the diet of a sufficient quantity of vitamin A prevented the development of septic foci, he had had the opportunity of using vitamin A as a therapeutic agent in certain cases of puerperal septicaemia, and also of giving it prophylactically in the ante-natal department of the Jessop Hospital, Sheffield The cases were too few to establish complete proof of the anti-infective action of vitamin A in puerperal sepsis, but so far as they went they were definitely in favour of this action and bore out the experimental work "I would far rather believe," said Professor Mellanby in conclusion, "that the reason for the fact that whereas the maternal mortality in England is 5 to 5 8, and that of France is only 2 5 and Italy 2 8, is not that doctors and midwives in England are less skilful than those of France and Italy, but that the French and Italians have a better appreciation of the protective value of vegetables, and probably of dairy products, than the English"

Reasons of space permit no more than a mention of other papers and addresses The subjects dealt with included physical education in the new senior schools, the value of the open space in modern social economy, practical aspects of the mental health problem (a subject introduced by Dr T Beaton), the social problem of mental deficiency (brought forward by Dr E S Littlejohn), industrial psychology in relation to public health, and various aspects of sanitary engineering

British Medical Journal.

SATURDAY NOVEMBER 29TH, 1930

CARDIO-VASCULAR SYPHILIS

Syphilis has not always been recognized as a grim figure among the etiological factors in heart disease In fact, the existence of syphilitic disorders of the heart gained no general recognition until Ricord gave his description of gummatous myocarditis eighty years ago The last decade of the nineteenth century saw, especially in France a fresh access of interest in this subject, while the discovery a few years later by Schaudinn of the *Spirochaeta pallida*, and by Bordet and Wassermann of the complement-fixation test provided new implements for the use of the clinician and the pathologist But even with the increasing knowledge of cardio vascular syphilis, attention has been almost exclusively focused upon the aorta, the aortic valves and the coronary orifices until the last ten or twelve years In 1918 Warthin[1] put forward the view that gummatous changes were not valid criteria of the presence of myocardial syphilis and that damage to the heart musele was commonly represented by a mild, diffuse, inflammatory change Since then, interest has been directed to the possibility of differentiating such changes from those attendant upon gradual ischaemic necrosis

With these divergent and often controversial matters assuming an ever increasing importance in medical literature on both sides of the Atlantic, it is valuable to know the mature views of an authority on this subject Elsewhere in this issue (at page 893) will be found an admirable summary by Dr Carey Coombs, of the pathological clinical, and therapeutic problems presented by cardio vascular syphilis In their latency their frequent coexistence in the same individual, and their lymphatic origin Dr Coombs draws a close analogy between tabes and cardio vascular syphilis He considers the latter in terms of aortitis and looks upon the initial pathological process as an inflammatory tide breaking upon the aorta, the brunt of damage falling upon the supravalvular part of the aorta, the valves their commissural attachments, and the orifices of the coronary vessels Even apart from the burden laid upon the heart by aortic incompetence the medial damage and consequent loss of the elastic recoil in the aorta must seriously impair the peripheral circulation Although the blood supply to the myocardium is often reduced in cardio vascular syphilis this is brought about nearly always by constriction of the coronary orifices That these arteries are but rarely involved in their course by a syphilitic process is shown by the infrequency of myocardial infarction due to syphilis Levine found that less than 5 per cent of patients suffering from coronary thrombosis had a positive Wassermann reaction and even in such patients the arterial disease was not necessarily attributable to syphilis

Recalling the increased incidence of syphilitic infection in the years during and after the war Dr Coombs comments on the possibility of large numbers of cases of cardio vascular disease appearing in the forthcoming decade when the usual latent period of fifteen to twenty years has elapsed Clearly the occurrence of such an increased incidence will suggest that the adoption of more widespread and intense antisyphilitic treatment has been without avail at the same time it will impress upon the medical profession and particularly the general practitioner, the necessity for early diagnosis For even if there has been no antisyphilitic treatment or if this has been unsuccessful in preventing cardio vascular involvement appropriate treatment may even at so late a stage delay the inevitable fatal outcome Since the usual initial lesion is an aortitis it becomes necessary to recognize this condition The author comments upon two important points in the symptomatology of the disease at this stage while breathlessness with effort is a common complaint, bouts of nocturnal dyspnoea are not infrequent further the precordial pain which the patient experiences appears definitely to be of cardiac origin, and yet may be unrelated to effort Two other important manifestations of aortitis are the presence of an accentuated aortic second sound in conjunction with a normal or low blood pressure and obliteration of the normal resonance over the upper half of the sternum While the disease is at this stage the x ray may or may not show a dilatation of the aorta Summarizing the points in radiological diagnosis Steel[3] states that syphilitic aortitis can be suspected under the following conditions first when a diffuse dilatation of the aorta, often with hazy borders is associated with a heart shadow of normal size secondly when a dense high, aortic shadow is found in a young individual without previous hypertension, and thirdly when localized dilatation associated with localized increased pulsation is demonstrable

In the early days of the arsenical treatment of syphilis the striking results achieved in many cases of secondary syphilis led to the free administration of these preparations to cardio vascular syphilitics Unfortunately it led also in the hands of many clinicians to a crop of sudden deaths at the time of injection or within forty eight hours A further and later ill effect that has at times been attributable to too intensive use of arsenic is that resulting from the rapid resolution of syphilitic inflammatory tissue that may follow When this occurs the general condition of the patient improves remarkably but an accentuation of the original cardiac defect simultaneously sets in—the therapeutic paradox of Wile Because of these unfortunate effects the arsenical preparations fell into disuse for syphilitic heart disease the old fashioned iodide and mercury taking their place At the present time opinion remains divided on this point some assert that the risks are not justified when cure is impossible and the likelihood of improvement remains questionable others (and these are rapidly becoming the majority) believe that the risks are slight provided small doses are given at relatively long intervals Dr Coombs recommends doses of 0·3 gram of novarsenobenzol at weekly intervals

A contribution to our knowledge of the value of arsenical treatment in aneurysm and syphilitic aortic incompetence has recently been published by Moore and Danglade[4] They found that in a group of patients suffering from aortic aneurysm the duration of life from the onset of symptoms averaged nine months in untreated patients while in those adequately treated there was a prolongation of life to an average of nearly six years Similar results were observed in a group of patients suffering from syphilitic aortic incompetence Two therapeutic principles emerge from the foregoing considerations of treatment first as Dr Carey Coombs points out the

[1] Warthin A S *Amer Journ Syph* 1918 ii 425.
[2] Levine S A. Medicine Monographs xvi *Coronary Thrombosis*

[3] Steel D *Amer Heart Journ* 1930 vi 59
[4] Moore J E. and Danglade J H. Ibid. 1930 vi 143.

importance of adequate antisyphilitic treatment in the early stages of the infection, and, secondly, a careful administration of novarsenobenzol after previous courses of iodide and mercury, in patients suffering from cardio-vascular syphilis These measures offer the best hopes of averting or delaying the too frequent disasters overtaking syphilitics in middle life

CITY NOISE

When, in 1928 and 1929, the press was calling for measures to mitigate the noise nuisance, and the British Medical Association, which had been largely responsible for the public interest in the subject, was formulating proposals to secure this end and bringing them to the attention of the Government departments concerned, it seemed that here, perhaps, was a campaign that would not end till its objectives had been gained The agitation in the newspapers has died down, the Association and the other important public bodies who interested themselves in the subject have passed to other business, the Government has tinkered with one or two of the worst acoustic outrages, but the hooting and rattling, the hubbub and clatter, go on exactly as before That there was some danger of this happening was predicted in these columns two years ago, when the campaign against noise was at its height[1] "The price of freedom from noise," we said then, "is eternal vigilance" But eternal vigilance is just the price that the public is not prepared to pay—at any rate for what must seem to it, judging from its own contributions to the general pandemonium, as but a doubtful blessing Fortunately for those who serve the public, they are not concerned with giving it what it wants, but with finding out what the public ought to want, and striving to secure that, and in this exposition of the technique of democracy rests the justification for continuing a propaganda in which the public has betrayed but a fickle interest

They order, it seems, these matters better in the United States In the most populous city of that country the public health authorities have not only investigated with immense thoroughness the problems created by urban noise, but by the press and the radio, by poster and pamphlet and by every other available means of publicity, they impel the masses, on whose behalf they are working, to be interested in and to approve what is being done on their behalf A report[2] lately published by the Noise Abatement Commission of the Department of Health, New York, is a model of what such a document should be In language that all may read and understand, and with a wealth of illustrations, including photographs, charts, cartoons and simple graphs, it explains to the American public not only the conclusions that have been arrived at by the body of physicians, neurologists, otologists, lawyers, physicists, and engineers of which the Commission is composed, but how, by its own efforts, the public can contribute to the elimination of this unpleasant and even dangerous by-product of our machine age For details of the method which the Commission finally adopted for measuring the intensity of noise, by reference to an arbitrarily chosen unit, the report itself must be consulted, here it may be said that in the absence of such a method the precise survey of New York street noises that the Commission has carried out would have been impossible, and no reference points would have been available in terms of which the efficacy of measures designed to secure noise abatement could be accurately estimated But the Commission's conclusions about the effect of noise on human beings accord so closely with those expressed in the British Medical Association's Memorandum on Noise submitted on October 23rd, 1928, to the Ministry of Health,* that they are worth stating in full The Commission found that (1) hearing is apt to be impaired in those exposed to constant loud noises, (2) noise interferes seriously with the efficiency of the worker, it lessens attention and makes concentration upon any task difficult, (3) in the attempt to overcome the effect of noise, great strain is put upon the nervous system, leading to neurasthenic and psychasthenic states, and necessitating frequent recuperation in the country to maintain mental efficiency and alertness, (4) noise interferes seriously with sleep, even though in some cases it appears that the system is able to adjust itself so that wakefulness does not result, (5) it is well established that, over and above these other evil effects, the normal development of infants and young children is hindered by constant loud noises

This is not the place to describe the proposals of the Commission for restraining the hubbub it has analysed and measured—the noises of horns, sirens, open exhausts, defective engines, pneumatic drills, loud speakers, barking dogs, late parties, and a hundred other sources of disturbance which it has made the subject of its painstaking investigation Here we would only say that most of these proposals are as applicable to our own country as they are to the United States, and that not only the American public, but the public of every country that is now grappling with the noise problem, is indebted to the New York Commission for the most comprehensive study of the matter that has yet been made

SCIENCE MEDALS

A supplement to the issue of *Nature* for November 15th describes the science medals given by learned societies in Great Britain, Ireland, and the Dominions The awards are classified under three main headings general, the physical and mathematical sciences, and the biological sciences, including geology and geography In each case an account is given of the terms of the trust or foundation under which the medal is allotted Scientific achievement in this country is recognized by the award of a medal rather than by a monetary prize, and the tendency is to establish fellowships and post-graduate endowments to provide opportunities for definite research In a brief introductory essay on the art of the medallist it is justly observed that a beautiful design in bronze or silver is more desirable than a mediocre pattern in gold There is no doubt that the exquisite art of medalling has been neglected in this country, partly through ignorance and lack of support The artist in this medium must have a sense of the material and its special technique, a gift for adapting a decorative design to limited space and shape, and a penetrating divination of the achievement to be honoured In this country these essential qualifications are still imperfectly realized Since the revival of the art, which began about 1870, the French artist has been supreme in crystallizing and expressing his ideas, and the medal in France is almost universally esteemed Even there, however, the triumphs of Italian Renaissance masters, like Pisanello and Caradosso, have never been equalled The degeneration of the medal as a form of art, distinct from the coin on the one hand and the sculptured

[1] *British Medical Journal* November 24th 1928 p 918.
[2] *City Noise* Report of the Noise Abatement Commission Department of Health City of New York 1930

[3] *Supplement* November 10th, 1928 p 209.

medallion and bas relief on the other, is explicable only by an inquiry into the social and psychological conditions of the time It might form the subject of an instructive thesis For the modern science medal the artist is usually required to portray on the obverse side the lineaments of some person whose achievements are connected with the raison d etre of the foundation, the reverse being decorated by an appropriate design or device The reverses of most of the medals of earlier centuries drew their inspiration from Greek and Roman coins, and they assist the designer of the science medal in associating pagan derivatives with modern advances in knowledge Thus on the reverse of the Nobel gold medals awarded for physics and chemistry, Nature is personified as the goddess Isis The design, however, may be wholly pictorial The reverse of the gold medal struck in 1907 by the Royal Swedish Academy of Sciences to commemorate the two hundredth anniversary of the birth of Linnaeus depicts a student dissecting a flower Medals of satirical implication were in circulation at the end of the sixteenth and throughout the seventeenth century, and it is rather remarkable that science does not appear to have suffered from this form of abuse While many lampoons and caricatures were published deriding Jenner's discoveries, no satirical medal was issued According to the lists that follow the essay in *Nature*, almost a score of medals are awarded by medical societies alone in Great Britain, so that this "little art," which has been defined as the link between painting and sculpture, is not without encouragement

TRUTH AND SELF INTEREST

Mr Justice McCardie's observations on the spread of perjury have been so widely quoted in the daily newspapers that we need only draw attention here to some of the other parts of his Maudsley Lecture, delivered before the Royal Medico-Psychological Association in the Great Hall of the British Medical Association House on November 20th The announced subject of the lecture was Truth," which the judge defined very broadly as conformity to fact or reality He asked whether psychologists could offer any suggestions as to tests which might be applied by those whose duty it was to elicit the truth in legal proceedings or elsewhere The day had gone by when psychology was a mere aggregate of uncertain data, it was now more than a mere division of philosophy or branch of science it was a practical art Any psychologist who could formulate some means of ascertaining truth in evidence would be a benefactor to the cause of justice In what spirit should the search for truth be approached? Mr Justice McCardie indicated certain enemies of truth The spirit of enthusiasm was often such an enemy Lord Balfour once said truly that enthusiasm was a great thing, but it was a pity that so few enthusiasts could be trusted to speak the truth The psychology of enthusiasm still awaited the attention of expert students of human nature Truth had other enemies—namely, fear, self-interest and bias Lack of courage lay at the root of much that lowered the standard of public life Too many whispered to themselves the words of Voltaire "I am fond of truth, but not of martyrdom" Self-interest sapped the truth in innumerable directions With regard to every controversial utterance written or spoken the question should be asked, What (if any) self interest has the writer or speaker to serve? The history of bias, again, had yet to be written Here was a subtle and powerful enemy to truth with its tentacles spread in every direction Few realized the operation of bias in the great sphere of argument and opinion It worked surreptitiously, and produced effects beyond measurement or calculation How greatly a frank admission of partisanship would weaken the force of many arguments and create a corrective and beneficial mistrust among those who read or heard If partisanship were confessed, the danger would be known and often averted The judge then made the remarks on perjury which have had such wide publicity, adding, however, that a vast amount of incorrect testimony was given every day by the perfectly honest witness It was often assumed that the calm, self-restrained witness was giving truthful testimony, and the nervous, flurried witness false testimony Both these assumptions were untrue Murderers giving evidence on their own behalf in the witness-box usually gave it in a wholly dispassionate way, with singular ease of manner. Broadly, it might be said that the greater the criminal the more able and effective he was as a witness The habitual criminal was probably the best witness of all Nothing could exceed the skill, self-confidence, and audacious reliance on sex that was very often displayed by the intelligent female perjurer, and she had, as a rule, a histrionic sense not possessed by the ordinary man On the other hand, the judge gave two examples of perfectly truthful witnesses, both of whom cut a lamentable figure in the witness-box, and had a manner which would have made many people doubt their evidence The reason for their attitude in both cases was that they feared lest some question by cross-examining counsel, made in order to shake their credibility, should compel them to disclose something in their past life which had nothing whatever to do with the issue then being tried Mr Justice McCardie was proposing to omit the part of his lecture relating to the expert witness, but in response to requests from his audience not to leave this subject untouched he offered a few remarks The expert witness, he said, had been the subject of much criticism and denunciation Such a witness dealt primarily with questions of opinion So far as he asserted facts he stood on the same footing as the ordinary witness The conflict of opinion between expert witnesses was sometimes astounding but, of course it was a fact that experts differed outside as well as inside the courts Apart from the honest and almost unavoidable clash of opinion, there was a tendency sometimes a strong one for the expert in the witness-box to become a partisan and it was this tendency which led to the greater part of the invective often heard against the expert witness The subject of expert testimony' said Mr Justice McCardie is one of singular interest but I will only add and with pleasure, that in my view the quality of that testimony is steadily improving The explanation of this is to be found, not in any greater appreciation of the oath but in the ever-growing standard of integrity, fairness honour, and dignity among the honourable members of the great expert professions"

PAINTING AND THE HEALING ART

The eighth David Lloyd Roberts Lecture, under the auspices of the Royal College of Physicians and of the Medical Society of London, was given at the House of the latter by Mr William Rothenstein M A (Principal Royal College of Art, South Kensington) who spoke from the point of view of an artist on 'Painting and the healing art" Mr Rothenstein said that he found it difficult to believe, when he realized the extraordinary intellectual power of the mediaeval artists that mediaeval science had in it those elements of charlatanism of which so much had been made by the historian Looking at the culture of the Middle Ages it was not easy to imagine that scientific men especially healers, could have been so mixed up with astrology and the baser sciences as was commonly supposed It was probable that the same thing happened among scientific men as happened among artists in every age Just as anybody to-day, visiting a railway bookstall, would find it hard to believe from the literature exhibited

that this was the generation which had produced an Einstein, so probably in an earlier age the popular side of the healing art and of what was now called science in general was chiefly known to the people, while the finer and more serious elements then existing remained in the background, just as they did to-day, so far as the mass of the public was concerned The subject-matter of mediaeval painting was almost entirely religious, yet it was significant how often the lives of the saints enabled the artists to betray their own humanistic sympathies and interests In those early days it was dangerous to be pacific or perhaps even benevolent, but the artists did employ all the latitude allowed them by the Church to reveal their humanistic sympathies Mr Rothenstein observed that always around the saints performing miracles there were represented unusually dignified and noble-looking men whom he took to be, perhaps without justification, the scientific men of the period In view of such gravity in portraiture as was expressed in great mediaeval and Renaissance art, he could not believe that the men there portrayed lived entirely in a world of superstition and charlatanism He showed a series of lantern slides of reproductions of great pictures of the old Italian and Flemish school, and called attention again and again to the splendid representation of the healer or doctor of the time It had to be remembered, in looking at pictures from the standpoint of accuracy of representation, that there had been two main streams of art On the one hand, there was the epic or Miltonic spirit in which the artist dealt with world forces, and realized that the nice precision of detail would take away from the big quality of his theme, and, on the other hand, there was genre painting in which the artist dealt with particular sections of life In the latter, he believed, the artist would be found to be as accurate as any scientific physician could wish him to be During the Renaissance, when medical science was beginning to assert itself, when the scientific spirit was allowed for the first time free expression, the artists also became interested in the more scientific aspects of art—namely, perspective and anatomy He could not believe that Greek learning, coming suddenly into Italy, threw so great and new a light upon Italian learning as the pages of history suggested The truth was that the opinions which men had held in private they were at last allowed to express, and this new Greek learning permitted men who had suspected certain scientific truths to utter them for the first time without fear of the dungeon or the stake This was true both of art and of science The study of anatomy undoubtedly helped artists, like Michael-angelo who were under the necessity of painting figures in violent movement, a movement which they could not study from life, but which anatomical knowledge helped them to express In the representation of still figures, the lecturer did not believe anatomical knowledge to be necessary, because the appearances hid what lay behind them The artist worked with his eye, and the fine eye would see and enable the hand to express what the mind did not understand Intuition, in fact, in Mr Rothenstein's belief, was the basis of both artistic and scientific thought The difference between the intuition of the artist and the intuition of the scientific man was that the artist could oftener in the past express his intuitions fearlessly, while the scientific man went in some degree in fear of his fellows The Einsteins and Newtons probably had their intuitions in a flash, but they had to spend a lifetime interpreting them to others The medical man of former times with an acute knowledge of the human mind and a profound observation of what happened in life, was probably as good a medical man, without modern knowledge as many living to-day It was always possible that the medical man, even when equipped with scientific knowledge, might use formulas to no purpose, whereas a man of finer observation and intuition, and with less book learning, might in the end be of more service to mankind The illustrations shown by Mr Rothenstein in support of his theme ranged from "The Dying Gladiator" in the Capitoline Museum, down to the fine and eager heads of the students in Rembrandt's "Lesson in Anatomy" at The Hague

FAITH HEALING IN THE POTTERIES

A SHARP controversy has arisen in the Potteries as a result of missions conducted by a certain Pastor Jeffreys—head of an evangelistic society working from Bristol—who unites with the usual methods of revivalist preaching a faith healing campaign for which sensational results are claimed It appears that in the course of a mission at Hanley at the end of September, when some people declared themselves miraculously cured of certain ailments, Pastor Jeffreys, after his "treatment," which, he says, consists only of prayer, removed the splints of certain cripples, patients at the hospital of the North Staffordshire Cripples' Aid Society at Hartshill, who had been referred by the local authority to that society for orthopaedic treatment Dr W Mitchell Smith, who is honorary medical officer in charge of the hospital, and surgical tuberculosis officer in the Potteries, brought the matter to the attention of the medical officer of health for Stoke-on-Trent, Dr A Wotherspoon, who laid it before the Health Committee of the City Council Dr Mitchell Smith, as we gather from the *Staffordshire Sentinel*, was quite specific in his allegations Three cripples who attended the meetings and had their splints removed were suffering from tuberculous disease of the spine, these patients were fixed on frames, and the revivalist took off the frames when the condition was such that no orthopaedic surgeon would have dared to do so In another case of tuberculous disease affecting a joint, active and with flexional deformity, which had been fixed in a bed splint and guarding plaster, the appliance, Dr Smith learned, had been removed In yet another case, with a leg shortened to the extent of four inches, which had been fitted with a raised boot and calliper to prevent distortion to the spine, the calliper had been removed, and, again, in a child with a bad knock knee, a plaster cast had been taken away The desire to collect discarded crutches and other appliances as trophies has always been a characteristic of the faith healer, but it is obvious that this cannot be tolerated by any authority responsible for clinical treatment The first reaction of the local authority to these proceedings was to cancel some future bookings by the faith-healer of halls under its control at Burslem, Hanley, and Longton, but on further consideration it was decided by the General Purposes Committee that Pastor Jeffreys would be asked to give an undertaking not to interfere with the splints of children undergoing treatment at the orthopaedic hospital for whom the corporation was responsible, and that in the event of non-compliance the cancellation should take effect This action aroused among Pastor Jeffreys's followers great demonstrations of protest A petition was organized to which, it is stated, thousands of signatures were at once attached The matter threatened to influence the municipal elections The evangelist himself adopted at first a recalcitrant attitude He declared his determination to continue his mission in the Potteries, and said that if the corporation closed its halls to him he would endeavour to acquire privately owned halls, or, failing this, build premises of his own He also stated that he had never personally induced a cripple to cast off a crutch or support, and he had never removed an implement without the expressed desire of the patient and the consent of the parent or other person responsible He challenged Dr Mitchell Smith to furnish him with the names of any who were worse off as the result of his prayers, and declared

that for every such case that Dr Smith could cite, he could bring forward twenty who had received healing and blessing at his services But he expressed himself as prepared to give an undertaking that crippled children wearing leg supports or plasters under treatment by the various authorities should not undergo interference at his hands This undertaking was felt not to go far enough, and a more definite reply was demanded with an extension of the undertaking to exclude altogether the 'treatment" of children for whom the corporation was responsible Upon this, Pastor Jeffreys, declaring that his society placed the salvation of souls on a plane of much greater importance than the healing of the body, gave an undertaking that he would not deal in any manner at his revival and faith-healing meetings with crippled children for whom the corporation is responsible On this promise it was agreed to allow him the use of the halls for his November campaign The Stoke City Council is to be complimented upon maintaining a quite definite position and no less upon gaining its point without giving any real ground for an accusation of intolerance It would be regrettable if the action of the city authorities had resulted in placing a ban upon a work which—these healing demonstrations apart—is by all accounts exercising a beneficial influence upon the life of the community

PROFESSOR ERNST FUCHS

With the passing of Professor Fuchs, one of the great figures of international ophthalmology has gone to his rest, a much respected friend and mentor, who was held in high estimation and affection all over the world Though in his eightieth year, he was active almost to the end of his life for he was present at the thirteenth International Congress of Ophthalmology, held at Amsterdam last year, and he visited the United States after the congress was over to give one of the three addresses with which the Wilmer Ophthalmological Institute was formally opened in the autumn of 1929 Fuchs's name is inseparably connected with Vienna and the Viennese school of ophthalmology, he was a worthy successor of Arlt and Jaeger Under his care the ophthalmic school not only maintained but even increased, the reputation bequeathed to it by those great masters A pupil of Arlt, he migrated to Liège where he was professor of ophthalmology until 1885 It was in the year 1884 that he gained a prize at the fifth International Congress for Hygiene at The Hague for his essay entitled 'The causes and prevention of blindness" In 1885 he returned to Vienna, succeeding Jaeger as professor of ophthalmology, thenceforward the Viennese school was Fuchs, and Fuchs only *Facile princeps* as a clinician and unrivalled as an ophthalmic pathologist he soon became recognized as the foremost teacher of his specialty in Europe A steady stream of papers appeared in the various ophthalmic journals, and many ophthalmic conditions became known by his name—such as the superficial punctate keratitis and the inferior crescent or Fuchs's coloboma His *Lehrbuch der Augenheilkunde* has run through innumerable editions in German, and translated by Duane has been the textbook of the English speaking race for all senior students and practitioners for the past forty years Last year he received the Leslie Dana gold medal for his work on the prevention of blindness, this medal was presented at the congress at Amsterdam and Fuchs was the first man outside America to receive it In the year 1902 Fuchs gave the Bowman Lecture before the Ophthalmological Society of the United Kingdom his subject being his favourite 'keratitis' and from 1903 till his death he was one of the very limited number of honorary members of the society The respect in which he was held in this country is evidenced by the fact that his honorary membership was not disturbed by the great war On retiring from the professorship at Vienna, Fuchs found himself in straitened circumstances, due to the war, his scientific achievements were recognized universally, and he embarked upon a world wide tour of lectures visiting Spain the United States and Latin America By these means he was able to keep the wolf from the door and the ophthalmic world was spared the sad spectacle of one of its foremost representatives living or dying in want All honour to his American colleagues

BRITISH CONGRESS OF RADIOLOGY

An interesting programme has been arranged for the annual congress of the British Institute of Radiology (incorporated with the Röntgen Society), which is to take place at the Central Hall, Westminster, from December 3rd to 5th On the afternoon of the first day the president of the Institute, Mr C F S Phillips delivers his address from the chair The second morning is to be devoted to the discussion of technical papers, on the physical and instrumental side of x-ray work and the third morning to medical papers, one of them by Dr H A Harris entitled 'The growth of bone as illustrated by radiography" and the other which is to be illustrated by cinematograph films by Dr Donald Hunter, on Changes in the bones in hyperparathyroidism and hyperthyroidism' The two memorial lectures which are held under the auspices of the Institute are arranged for congress week The first of these is the eleventh Mackenzie Davidson Memorial Lecture, by Professor C P Thomson, on "Some recent experiments on cathode rays," which is to be given on the afternoon of December 4th and the other, to be delivered on the following afternoon, is the thirteenth Silvanus Thompson Lecture, by Dr A F Barclay whose subject will be "The danger of specialization" Thus a lecture in memory of a medical man will be given by a physicist and one in memory of a physicist given by a medical man The closing event of the congress will be the annual dinner on December 5th at the Trocadero Restaurant About twenty-four firms are contributing to an exhibition of x-ray and electrical equipment and sundries which is to be opened on the first day by Sir Humphry Rolleston

SOCIETY OF BRITISH NEUROLOGICAL SURGEONS

The Society of British Neurological Surgeons has met twice this year—in Paris during the month of June under the presidency of Sir Percy Sargent and in London in November, under the presidency of Mr Donald Armour In Paris the members of the society paid visits to the clinic of Dr Andre Thomas, who showed cases of surgical interest, including a demonstration of the pilomotor reflexes, to our knowledge of which he has contributed so greatly A visit was also paid to the Hopital de la Salpetriere, where cases were shown by Professor Alajouanin M de Martel performed several neurological operations on three days and Dr Clovis Vincent also did a laminectomy for an intramedullary tumour of the cord At the recent meeting in London Mr Bathe Rawling and Mr Wakeley performed operations at the West End Hospital for Nervous Diseases Regent's Park and their colleagues notably Dr Worster-Drought and Dr Carnegie Dickson, made the meeting a most agreeable one by their demonstrations of cases pathological specimens and the like Mr Lambert Rogers made a communication on the nature of the foramen of Magendie The society's dinner was held at the Langham Hotel in the evening

We much regret to announce the death of Professor John H Teacher of Glasgow, whose paper on the "Normal structure of endometrium and decidua and the menstrual cycle" appears by a sad coincidence in our present issue We hope to publish an obituary notice next week.

ROYAL SOCIETY OF MEDICINE

The Duke of York at the Annual Dinner

The annual dinner of the Royal Society of Medicine was held on November 20th, when about 350 Fellows and guests assembled, under the presidency of Dr T Watts Eden, at the May Fair Hotel The principal guest was H R H the Duke of York On the other side of the President was the Bishop of Birmingham (Dr Barnes), and he was supported also by the two immediate Past-Presidents of the Society, Lord Dawson of Penn and Sir StClair Thomson Other guests at the principal table were Lord Moynihan (President Royal College of Surgeons), Sir Farquhar Buzzard, Professor Arthur Burgess (Acting President, British Medical Association), Sir Ewen Maclean, Sir Henry Simson, Sir Francis Shipway, Sir George Buchanan, Dr R A Young (President, Medical Society of London), Dr T Vincent Dickinson, and the editors of the *Lancet* and the *British Medical Journal*

The Duke of York proposed the toast of "The Society," and created a smile by reminding the company that the Society, under the name of the Medical and Chirurgical Society, had its origin a century and a quarter ago in a tavern, not the only great thing in history which boasted a similar genesis After a reference to the Society's long list of eminent presidents, His Royal Highness continued "No one can fail to rejoice that your Society maintains its standard of achievements upon so high a level I specially admire the desire displayed by your council to make the Royal Society of Medicine an institution which shall stimulate and encourage its Fellows in their labours, however far they may be scattered at the outposts of Empire" He mentioned the library, with its information service, saying that he had been told that the librarian, having received an urgent cable from Iraq for medical information, immediately had photographs of valuable scientific papers prepared and dispatched the same day by air mail to that distant spot He spoke also of the usefulness of the Society's *Transactions*, carrying knowledge, through the papers and discussions, to medical men in every part of the globe He concluded by wishing the Society "good fortune and success"

Dr Watts Eden, in reply, made suitable reference to the great interest taken by the Royal Family in organized medicine He claimed for the Sections of the Society that it was there that medical opinion was formed One of the important tasks of the Sections was to examine new methods and departures of all kinds, and assess their value A new idea could not run the gauntlet of informed criticism in the Sections unless it was sound, and many an unsubstantial project had been exploded in that way It must be admitted that medical opinion was a somewhat elusive quantity, necessarily ill defined and difficult to grasp Members of the medical profession were often found to hold discordant or even contradictory views about many things But at least the medical profession was not the only one in which such differences were found It would be better to regard all such differences as evolutionary phenomena The need for a clearing-house of medical research, Dr Eden continued, was never greater than to-day, but the army of original workers was never so formidable From time to time even medical terminology was reduced to emptiness by the progress of science, and discussion in some of the Sections now proceeded in a vocabulary unknown twenty-five years ago Yet the profession must not allow itself to be swept off its feet by the enthusiastic search for something new After all, it existed to render to the community practical service, and, while it was granted that knowledge was in itself a great and desirable aim, some organization was required to translate into comprehensible terms [illegible] in such bewildering profusion The Society collectively could comprehend the whole field, arrange the patchwork results of research into some useful pattern, and formulate the generalizations which were essential for the practical application of experimental results

Dr F M R Walshe proposed the health of the guests, and in one amusing passage sketched that grotesque figment, the doctor of the novelist, the playwright, and the journalist

"An amazing number of components go to make up the doctor of modern fiction, and he is a far more dashing figure that the Doctor Slop who haled poor Tristram Shandy into this world by the nose First and foremost, he must be a surgeon, a surgeon of incomparable skill and strong sex appeal He lets blood copiously with long sensitive fingers and the calm of the strong silent man Incidentally, he is also a famous bacteriologist and a forensic pathologist of world repute When he is not being followed round the wards of his hospital by flocks of adoring students, he runs a busy general practice He never charges his patients any fees He never has wife or encumbrances, but keeps a dark mysterious man servant His spare time is devoted to straightening out the unending complications that punctuate the private lives of his friends, many of whom are mysteriously murdered Finally, and perhaps not altogether surprisingly, he is a source of ignoble jealousy in his professional colleagues I have never seen it explicitly stated, but I am convinced that he wears a fur lined overcoat and travels first class on the railway In this he comes nearest to the true surgical tradition"

The Bishop of Birmingham, in responding to the toast, said that the most exhilarating element in scientific research was that one never knew when a period of exceptionally important advance was at hand or in what region the next great discovery would lie

"It seemed at the end of the nineteenth century—I was discussing this with Sir Oliver Lodge only a night or two ago—when I was an undergraduate, that the great era of physics had closed Yet a greater era than that of Faraday, Maxwell, and Kelvin was just beginning We see now that the physics of the great Victorians was but, as it were, a twilight before the dawn—a dawn made splendid by J J Thomson's electrical structure of matter, Planck's quantum theory, and Einstein's generalized relativity Equally in medicine there may come at any time a group of discoveries in biochemistry which will enable medicine to give to the body an immunity from ill health such as has only been enjoyed by exceptional individuals in the past In fact, in our modern world, in spite of political, social, and moral disorder, it is good to be alive There is among us the joyous and adventurous freedom which burst out at the Renaissance four and a half centuries ago Never since the Golden Age of Greece has mental energy been more fertile than it is now"

Dr Barnes went on to discuss what probability there was that the present era of scientific progress would come to an end—that the Dark Ages would again overwhelm Europe

"Medical skill and public hygiene will ultimately be racially disastrous if they preserve inheritable mental and physical defects in humanity We now know that dysgenic mutations can occur alike in plants and animals, as it were spontaneously, at any rate, knowledge as to their origin is lacking Had we such knowledge, we might, of course, be able to prevent their occurrence But all we can at present say is that, having appeared, they can be inherited, and unless they are eliminated by a hostile environment they remain a permanent menace to the community Now medical science destroys the power of hostile environment, but leaves these inheritable characters untouched To the category of such dysgenic mutations belongs apparently the group which gives rise to mental defect in man The existence of this type of social degeneracy is a grave menace to our welfare as a community, and the families in which the defect is latent make up inferior racial stocks amounting to some 10 per cent of the whole population Accurate genetic knowledge is most urgently needed, and a beneficent millionaire, anxious for the future of his country and humanity in general, could well provide laboratories and chairs in all our great universities"

Finally, allowing the imagination to play with the far future, the Bishop asked whether man would be transient on the earth, like the great reptiles, like many of the most highly organized mammals And if man did pass from this globe would some new form of life, higher in the evolutionary scale, in due course lord it over the earth and reconstruct our achievements and our existence in its schools of antiquarian research? He could ask such questions without anxiety, and would receive the answer without dismay, for he was certain, not only that man's permanent habitation was not on earth, but also that his spiritual achievements were imperishable Aspirations and achievements, moral loyalties, love and service would not vanish as though they had never been

PHYSICAL AND PSYCHOLOGICAL DEFECTS IN CHILDREN

CONFERENCE OF VOLUNTARY ASSOCIATIONS

THE Invalid Children's Aid Association and the Central Council for the Care of Cripples recently held a joint conference in London to consider problems relating to those, especially children, who are handicapped by physical and psychological defects. Representatives of local authorities and voluntary bodies from all parts of the country attended to hear papers read by a number of experts.

The conference was opened by the MINISTER OF HEALTH who paid a tribute to the work of the two convening bodies, and said that he knew orthopaedic surgeons would be the first to admit the value of the educational and propaganda work which the two societies had so successfully undertaken. The societies were early in the field in realizing the enormous importance of utilizing to the full the knowledge, skill, and experience of orthopaedic surgeons. Local authorities had an important part to play in the treatment of little children, but, unfortunately, in spite of the progress which had been made there were still many areas in the country in which no facilities existed for the treatment of crippling conditions. He was personally highly gratified at the response which local authorities had in general made with regard to the provision of schemes for orthopaedic treatment and after-care. He gave some figures illustrating the progress made during the period 1926 to 1930. The number of approved schemes by local authorities for maternity and child welfare had increased during those years from 43 to 193, and similar progress was to be noted in dealing with tuberculosis and in other directions. It would probably be difficult to find such rapid progress in any other branch of the public service, nevertheless there were still many gaps which he hoped would soon be filled. The ideal scheme which he desired to see in operation all over the country was to have central open air hospitals supported by a chain of clinics. He fully realized the many claims on local authorities but he thought it right to urge them in their own interests to develop this extremely important side of preventive work. It was almost impossible to translate human loss and suffering into money, or into terms of the burden upon ratepayers, but it was quite clear that there was enormous material loss caused by the continued existence of crippling diseases which might be wholly or largely removed if treated at an early stage. Local authorities, by reason of their permanence could afford to look ahead. All sections of the public health service were handicapped in particular because the child was lost sight of from the time that the maternity and infant welfare centre had finished with him until he reappeared in the elementary school and came under the care of the school medical service. If the voluntary bodies and local authorities could between them ensure that the child was not forgotten after the first year of life the Minister was certain that much would have been done to cut away the roots of many of the most serious and damaging diseases.

Prevention and Treatment of Crippling Diseases

Sir ROBERT JONES, Bt., who presided over the first session said that much had already been achieved in the training of cripples and in finding them suitable employment subsequently. In a number of cases an effort had been made to start a colony in which such patients could reside and undertake whatever employment they were able. With regard to the adult cripple there seemed to be the greatest difficulty in finding suitable accommodation in hospitals, and there was great necessity for increased effort in that direction.

Mr A. H. WOOD (vice-chairman Central Council for the Care of Cripples) reviewed the progress which had been made since the previous conference in 1926. Those concerned saw with gratitude new hospitals, new clinics and new schemes come into existence; above all they were watching a more enlightened public opinion taking shape, a better knowledge of what was wanted, and a greater willingness to carry that knowledge to practical effect. He believed that this country was alone in having devised a scheme by means of which public authorities and voluntary societies co-operated to their mutual advantage. That was one of the arrangements, in itself entirely illogical which seemed to appeal to people of British traditions, and which would break down at once if it were worked by others of a more logical and orderly mind. The lambs of the Invalid Children's Aid Association and the Central Council for the Care of Cripples had not been devoured by the lions of the county and county borough councils, on the contrary, they had lain down in safety and amity, and there were very few places where the public authority and the local voluntary societies did not supplement each other's work, and this without friction or jealousy. On the administrative side the outstanding progress made during the last four years had been in the linking up of the work of the different agencies. It was a truism to say that the essence of all sound remedial work for children was early discovery of the defect. The school medical service was playing a splendid part in such discovery, but it had become more and more obvious that a service which only began to operate when children were 5 years old did not begin early enough. It ignored those first vital years of a child's life, and from all points of view especially that of the orthopaedic surgeon it was essential that the agencies which came into contact with the early life of the child should be linked up with those which dealt with the child of school age. With regard to results during recent years, the most important fact on the orthopaedic side was the establishment of no fewer than five new orthopaedic hospital schools since 1926. Two of these new hospitals had been established by public authorities (the Derbyshire and Lancashire County Councils) and the others in the Devonshire, Bristol and Nottingham districts, by voluntary effort. Increased attention had been given to the training and employment of cripples, and on the invalid children's side of the work also some encouraging progress was to be reported.

Dame GEORGINA BULLER (Devonian Association for Cripples' Aid) described the work of local orthopaedic associations. An orthopaedic unit she said did not consist as it was at first thought that it should of a hospital with associated clinics. The clinical aspect was and must always remain at the heart of the cripple problem but it was not the whole of it. The cripple must not be considered solely in the terms of a patient. Many went to the hospital more still to the clinic but an appreciable residue went neither to the one nor to the other yet were none the less in need of help. Information as to the number of cripples in the country would never be complete if drawn solely from the records of a hospital or health office. She believed that along the lines of local associations co-operating with each other and co-ordinated on a national basis the true proportion of each part to the whole would be secured and the way prepared for further advance.

The first session concluded with an address by Dr S. J. C. HOLDEN (M.O.H. Buckinghamshire) who spoke on co-operation between child welfare centres the school medical service and hospital schools and suggested ways in which the services of the various county organizations might be enlisted for the ascertainment of defects and for setting in motion the following up machinery.

Rheumatic Heart Disease

The second session over which Sir GEORGE NEWMAN presided was devoted to the prevention and treatment of rheumatic heart disease.

Dr F. J. POYNTON (Hospital for Sick Children Great Ormond Street) dealt with the subject of acute rheumatism in the young (5 years and under). The disease he said, was most frequent round about the tenth year and was said to be rare under 5. There was a danger in that statement because it might lead to a false sense of security in overlooking its occurrence. A good many years ago without much difficulty he collected over fifty cases in young children under his own care, and seventeen more from records. Later he found in a series of 100 cases of rheumatism in his ward that twelve commenced at or

under the age of 5 He had steadily continued his inquiries up to the present time, and had collected more evidence In the last year he had had two fatal cases at Great Ormond Street, and another little girl with a damaged heart, but not fatally so, her rheumatism had commenced at the age of 2 years At University College Hospital he had records of another sixteen cases during the years 1925 30, and thirteen of these had organic heart disease If one searcher could put his hand on so many cases, the suspicion naturally followed that rheumatism was *more* frequent at this early age than was supposed How serious the disease was said Dr Poynton, could easily be illustrated Thus in fifty-two cases there were eight deaths, and five more patients were hopeless invalids, twenty-two made partial recoveries with permanently damaged hearts In round numbers at least 16 per cent of cases proved fatal, many of them in the first attack, these could be contrasted with a series of older children, of whom about 10 per cent died in the year, in which the type of rheumatism was more than usually virulent An important point was that in these young children heart disease might be, and he believed was, the outstanding event, arthritis and muscular pains might be so comparatively slight that the transition was overlooked, though obvious arthritis was also not infrequent It was an axiom in clinical medicine that when one got off the right track in diagnosis of an illness one might miss the obvious, thus it happened that a very young child was thought not to be really ill until suddenly the worst form of rheumatic heart disease developed This feature of rheumatism required a prolonged investigation, not by one individual, but by many all over Great Britain Such an investigation would make it possible, in a few years, to give to the public reliable evidence as to the real frequency of acute rheumatism in the first five years of life, together with its relative mortality

Dr Carey F Coombs (Bristol General Hospital) described the steps taken in his area whereby it had been possible to bring into being a co-ordinated plan for dealing with juvenile cardiac rheumatism It was decided to invite practitioners within a limited area—Gloucestershire, Somersetshire, and Wiltshire—to send in reports of cases answering to a certain definition of rheumatic heart disease occurring in children of school age and arising within a limited period The project was assisted by a grant from the Medical Research Council, as well as by the moral support of the Ministry of Health and the British Medical Association The data, if they were to have any research value had to be submitted to some standardizing authority, and in this respect those concerned were fortunately able to secure the help of colleagues throughout the area chosen, who saw the children referred to them from the public elementary schools for an opinion as to the condition of their hearts Thus it was possible to offer to the public authorities experienced service in the sorting and disposal of their school children with cardiac defects, and in exchange to receive the assistance of those authorities in recording and in further investigation It would take some months to deal with all the observations and assimilate them into a report On the treatment side it was significant that all the local authorities concerned wished the clinics set up for the examination of these children to continue They believed that it had been of enormous value to them to have a court of appeal in cases of doubt and to receive advice as to lines of treatment The experience of treatment, limited though it was, had taught three valuable lessons (1) Patience and perseverance in oversight and control of these children would meet with a certain amount of reward In children who would have become worse without these services the disease appeared to be arrested, or at all events retarded, in a few the signs of disease had practically disappeared (2) For a large number of these children nothing more was needed than repeated examination, if this was frequent enough, it was able to detect recurrences and recrudescences which might otherwise be overlooked, and thus timely treatment could be instituted (3) In a smaller number of cases prolonged treatment in a hospital-school was advisable A serious gap in the organization for dealing with this, as with many other diseases arising in childhood, was the absence of a domiciliary service A formal report had been made to the family doctor on each child examined, and there was reason to think that this step had been of some little value The trouble was that there were many working-class families where the doctor was not called in as often as he should be, for no other reason than that means were lacking Instead, the children were brought to hospitals, where they found the out-patient department an indifferent substitute for the services they ought to be getting at home, for no medical service could care adequately for the health of the nation that was not based on the recognition of the family as a social unit

Dr B E Schlesinger spoke on the great importance of prolonged convalescence for children recovering from a recent attack of rheumatic carditis There must be general agreement, he said, that amidst the ideal surroundings of a country hospital the majority of children improved, and the incidence of relapse was very low He quoted some figures from New York in support of this view 512 children were discharged from five convalescent homes during the year, and of these the general condition was considered improved in 448 Convalescent treatment greatly lessened the number of relapses, and minimized their severity if they occurred

The Backward and Difficult Child

Another session of the conference was devoted to the problem of the backward and difficult child It was presided over by Dr R H Crowley (senior medical officer, Board of Education), who said that a beginning was only just being made in understanding the behaviour of children, the field to be explored was immense Dr G A Auden (school medical officer, Birmingham) opened the subject in an able paper in which he gave examples from history of crippling and deformity in distinguished individuals which had probably resulted in the warping of the mind, with results sometimes, if the victims were in positions of power, of great misfortune to the world The problem of dealing with abnormal children was intensified by the absence of real tests of temperament except by trial and error The difficulty lay in large part in the false values of life which the competitive struggle of the world to-day did so much to foster

Miss L S Fildes (chief psychologist to the Child Guidance Clinic, Highbury) gave an account of some difficulties which arose within, and were partially occasioned by, the school system Dull children were among the most deprived educationally, they were neglected in school for the most part, and so they developed a feeling of inferiority which prevented them from making good in life Dr William Moodie, of the same clinic, said that much of the trouble concerning the behaviour of children was due to lack of foresight He had noticed how often a habit of stammering, which a child had always had in some degree, became worse when the child was just about to leave school and enter employment The reason was not hard to find School was now a very pleasant place, and to leave school and go into employment was for most children an unpleasant thing, so that any symptom which would tend to prevent the individual taking his place in the labour market would be exaggerated just at that time He believed that by an investigation of the environmental situation and adjustment where it was necessary behaviour difficulties could be corrected in 90 per cent of children Dr R D Gillespie pointed out that the manifestations of mental and nervous disability in childhood were not only of interest in themselves but of the first importance for the prevention of definite illness and incapacity He thought it essential that official bodies interested in public health should pay greater attention to the neuroses of children than they did at present Dr Letitia Fairfield commented on the enormously wide range of the subject One of the principal troubles at the back of this psychological problem was the fact that for fifty years there had been a struggle to win a bare minimum of teaching for the average child in the elementary school, a bare living wage for the teacher, and bare average equipment for the school, there had been very little time or money to spare for the equally important problem of seeing that each child had the education which he really ought to have Thus it

happened only too frequently that children leaving school at 14 had passed through the school without having learned anything at all although it was true that many of them made much better adjustments in after life than they did during their school period Nature was very elastic and gave everyone many chances, but it was no light thing to have wasted deliberately the best and most formative years of an individual's life Dr EMANUEL MILLER dealt with the subject of temperament in children, and Miss CLEMENCY PAINE contributed some remarks on the problems of the delinquent child from her experience as probation officer in a children's court The discussion closed with some emphatic remarks by a member of the National Union of Teachers Mr CHUBB, who asked the conference to remember that it was one thing to take an individual child in the laboratory, as some speakers had done and quite a different thing to have the difficult child as one member of a class of thirty or forty children What was wanted was more money to deal effectively with education, and he thanked Dr Letitia Fairfield for her reminder that the children in the schools at present only received the minimum of teaching for the average child

Still another session of the conference was devoted to the industrial outlook of the physically disabled, at which some account was given by Dame AGNES HUNT of village settlements, and by Dr P C VARRIER-JONES of the organization at Papworth The session was presided over by Mr J J LAWSON (Parliamentary Secretary of the Ministry of Labour) who stated that there were now 26 000 employers on the King's Roll, employing 370 000 disabled ex-service men

THE HOSPITAL FOR TROPICAL DISEASES

OPENING OF NEW WARDS, LABORATORIES, AND MANSON LECTURE THEATRE

THE formal opening of the new wards, pathological laboratories and the Manson clinical lecture theatre at the Hospital for Tropical Diseases Gordon Street London was performed on November 20th by Mr WILLIAM LUNN (Under Secretary of State for Dominion Affairs) in the presence of many of the officers and members of the Committee of the Seamen's Hospital Society (whose president Sir ARTHUR CLARKE, acted as chairman) and representatives of the medical and nursing professions the Army and Navy and the Colonial and Diplomatic Services

Sir WALTER FLETCHER secretary of the Medical Research Council spoke on the inspiration of Sir Patrick Manson on reminding his hearers of the founding by Manson of the Seamen's Hospital Society in 1899 At that time a school of tropical medicine had been attached to the Albert Dock Hospital twenty-one years later the coming of age of the combined hospital and school had been celebrated by their removal into the present building which was the gift of the British Red Cross Society and the Order of St John Five years afterwards the School of Tropical Medicine was incorporated with the London School of Hygiene and Tropical Medicine now in Gower Street but the hospital and the school continued to co-operate in their daily work by a free exchange of facilities under a common staff The opening of the new buildings for the school had made possible the expansion and improvement of the hospital at a cost of £13 000 by the provision of additional ward space, a new operating theatre a range of well-equipped laboratories and a new lecture theatre for clinical demonstrations which would be dedicated to the memory of Manson the father of tropical medicine in this country The hospital said Sir Walter Fletcher was doing a great work in the relief of those suffering from tropical diseases, irrespective of class creed, or colour The patients came from all parts of the Empire, and included officers and men of the mercantile marine planters engineers traders, missionaries explorers, and servants of the State The poor were treated free of charge while those who could afford it paid fees in accordance with their means The hospital also afforded opportunities for the training of medical men and nurses for service in the Tropics and for the research work on which the hope of progress in the future was based

Tribute to Manson

Sir Walter Fletcher went on to say that by the death of Sir Patrick Manson many of those present that day had lost not only a great teacher and wise adviser, but also a warm hearted personal friend He died in 1922 the year after the hospital and his own school came to this building The country lost him at a time when the growth and development of tropical medicine here had reached some difficult and critical stages We must not dwell upon the differences it might have made to us if his guiding mind had remained to help for a few years longer But we can find no better pattern and example than those he set before us for the work that lies so urgently at hand What are the chief lessons he taught, not only by word but by his life and work? He showed that the clinician dealing with disease must be prepared himself if he is to advance knowledge to give his own time and to acquire his own skill in pursuing his observations by the technical methods of the laboratory and in testing his results by the method of experiment Manson was not one of those who while pursuing busy professional practice, complain that others are not making researches enough for their aid Amid great difficulties abroad isolated from other workers and from books he made discoveries of epoch making importance When he came to the hard work of practice in London he still led the devoted life of the man of science, giving up time from work of immediate profit in order to read and think, observe, describe and experiment in his own laboratory He gave lavishly of his time to the help of younger men He ought opportunities for them gave them freely of his stores of experience and knowledge and in their successes gave them generous praise and all the credit Both by word and example he taught that a man if he is to make new advances must live for research, and not give it lip service only or distant patronage He reminded the younger worker that he must take his problems about with him always and that he must be ready at any time or place to get the hint of a new clue to be followed or the idea of a crucial experiment to be done This might come to him in his hot bath as easily as in the ward or the laboratory Manson indeed will always have a proud place in that wonderful galaxy of medical practitioners belonging to the later Victorian age—Lister and Horsley among surgeon Hughlings Jackson Gowers Ferrier Mackenzie and Head among physicians—who with burning zeal and self-sacrificing altruism made their professional practice the servant of their scientific work We look round with hope that the attitude and the spirit of men like these may arise among us again in fuller degree within the present reign We can truly apply to Patrick Man on the words that Izaak Walton wrote of John Donne His mind was liberal and unwearied in the search of knowledge with which his vigorous soul is now satisfied'

'Never were we in greater need than now of the legacy he left us of inspiration and leadership The gleams of knowledge we have already gained in the field of tropical medicine, or in any other field do but show us how vast indeed are the spaces of our ignorance We are under constant temptation to sit down satisfied with the first beginnings of new knowledge Let me give you one instance out of many Every schoolboy every Cabinet Minister knows now that malaria is due to a microscopic parasite transmitted by the mosquito The contribution made to this chapter of medicine by the arduous work of Ross under the direct inspiration of Manson is *much too often* described in popular literature and in the press as if it were equivalent to the conquest of malaria You do not conquer your enemy by merely learning who he is how he is posted, or what his transport is The Manson-Ross discovery was made in India a third of a century ago, yet to-day there are more and not fewer, sufferers from malaria in India than then Where is the conquest? What we have learned though we have been slow enough to put it into practice, is that our campaign must be fought

should be met by an increase in the fee chargeable for attendance on pregnancy and labour Any attempt to separate ante-natal supervision from the remainder of the services rendered by the midwives was deprecated The Board considered the question whether three years' general training in a hospital in the British Empire outside Great Britain and Ireland should entitle a candidate to be admitted to its examination after a similarly reduced period of midwifery training It was decided that such training within the Empire, but outside the British Isles, could only be recognized as adequate if the instruction given by the hospital had previously been officially recognized by the Board, or if the general training there would render a candidate eligible for registration by the General Nursing Council for England and Wales The report of the Board for the year ending March 31st, 1930, was approved

Ireland.

Tuberculosis Scheme in County Antrim

The County Antrim County Council, on the recommendation of the Tuberculosis Committee and on the suggestion of Dr C O S Blyth Brooke, chief tuberculosis medical officer, has adopted a scheme for dealing with tuberculosis This scheme includes the following provisions No immediate change is to be made in institutional form of treatment, but domiciliary treatment will be practically discontinued Patients in future will attend tuberculosis dispensaries only for examination and advice, the necessary treatment being given by the Poor Law dispensary doctor or by the patient's private doctor Additional nourishment will continue to be given to necessitous patients, and may be extended Provision is to be made at approved centres for facilities for x-ray examination of patients The reorganization of the dispensary class of treatment is held to be absolutely necessary, in order to supervise more fully the work throughout the county For this purpose the county will be divided into northern and southern districts The southern district will be in charge of Dr Ramsey, and will include the clinics of Antrim, Ballyclare, Carrickfergus, Larne, Lisburn, and Whitehouse The northern district, under Dr Hill, will include the following clinics Ballycastle, Ballymena, Ballymoney Randalstown, and Clough The council approved of the proposal to request the Ministry of Home Affairs to allocate a part of the £19,000 in its hands to the Forster Green Hospital, to help to meet the proposed outlay in purchasing the Galwally property adjacent to the present sanatorium

Town Planning and Hospital Sites

In the course of an address on hospital sites and town planning delivered at the opening of the clinical session of the Meath Hospital, Dublin, Dr Oliver St John Gogarty said that the public did not understand the tremendous difficulties town planning created He did not think that town planning would assist in the location of hospitals or nursing homes, and it would not be feasible to have such institutions in a particular area At present there was a sort of segregation, nursing homes were springing up in the south-east of the city A corporation would be able to make by-laws for a type of dwelling to be built or converted in a particular area It would be useful if, as in Chicago the residents of a particular area were consulted before a building was erected in it, and that something like two-thirds of the residents should be in favour of the erection before sanction was given Killiney, he said, was verdant with greengrocers and blooming with stockbrokers and other valetudinarians, living there because it was healthier They kept sick people in what they called nursing homes and all their hospitals were in the heart of the city They encouraged invalids to come from country places or to "go into a home" Why in face of what they knew, should patients not be given all the advantages of fresh air? Why should there not be a kind of Killiney for cripples and those afflicted not only with tuberculous bone disease, but with any kind of disease, not within the city, but within twenty minutes of it The value of the sites of the mid-city hospitals would, if realized, suffice to pay for an equivalent building on a site more favourable to the nursing of the sick The rateable value of the city area would be increased in direct ratio to the distance of each hospital from the town There was no by-law to prevent anybody with a tin table in a back room from setting up a private nursing home, and nothing to prevent a professional pariah from setting up a lazar house in the centre of the city There was no law to prevent diseased people from drinking from the public fountains in the city parks By holding up the Greater Dublin Act until the Town Planning Bill was passed, they could regulate and direct the growth of the city with the latest scientific knowledge available, and cease to mix the dying and the diseased with the healthy in the same street

Appointment of M O H for the Borough of Limerick

A letter was recently addressed by the Department of Local Government and Public Health to the Corporation of Limerick recommending the appointment of a whole-time medical superintendent officer of health for the city at a salary of £800 per annum This post was rendered vacant by the death of Dr M S McGrath Consideration was given by the department to the importance to the city of problems regarding sanitation, housing, control of infectious diseases, safeguarding of food supplies, and maternity and child welfare, which have to be dealt with by the chief medical officer The letter stated that the sanitary condition of the borough was far from satisfactory, and that the high rate of mortality from accidents of child birth was largely due to preventable causes The corporation decided to adhere to the previous arrangement of a part-time medical officer at a salary of £175

Salaries of Medical Officers

Owing to the present financial condition of the county the committee of Cork Mental Hospital has refused applications from officials for increases of salary, including an application from the resident medical superintendent for good service pay on completion of eight years' work in that position His present salary was stated to be £800 a year with emoluments At a recent meeting of the committee of management of the Fermanagh County Hospital it was unanimously resolved to increase Dr Kidd's salary to £750, and to ask the county council to adopt this sum as his official salary for the future

Scotland.

Proposed New Charter for Glasgow Royal Infirmary

At a meeting of the court of contributors to the Glasgow Royal Infirmary, held on November 19th, it was resolved to seek a supplementary Royal Charter with a view to increasing the scope of this hospital, in consequence of the changes introduced by the Local Government (Scotland) Act, 1929 Dr James M'Farlane, chairman of the Board of Governors, presided, and explained that the authority required referred to the powers given to local authorities to reorganize the hospital facilities at their disposal, and to provide hospital accommodation for the sick of all classes, including the sick poor As it was in the interests of the Infirmary that these additions should be made to its Charter, he moved the adoption of a resolution in favour of presenting a petition, this resolution was carried The powers sought to include authority to enter into agreement with the public authorities in regard to the provision of hospital accommodation, and also power to admit patients in consideration of charges made for their maintenance, accommodation, and treatment in such parts of the institution as the managers may select Glasgow Royal Infirmary is the first of the large Royal Infirmaries in Scotland to take these steps for the admission of paying patients

Officers Nursing Home in Edinburgh.

The new nursing home of the Officers' Association (Scottish Branch) at Belgrave Crescent, Edinburgh, which was recently opened by the Duchess of Atholl, M.P., is intended for officers and ex-officers of the Royal Navy, the Army (including the Territorial Army), and the Royal Air Force. No charge is made for maintenance or nursing, and officer patients may engage their own medical and surgical attendants, to whom they are responsible for payment of treatment. In declaring the home open the Duchess of Atholl said that part of the work done for the sick and wounded during the South African war had been the foundation in London by the Misses Keyser of a hospital for officers, which still carried on its beneficent work. The present home was the fulfilment of a long-felt want for a similar institution in Scotland. It was often difficult for the ex-officer to adapt himself to other forms of work, or even to find other work of any kind. The Duke of Atholl, president of the home, in thanking subscribers, said that the best medical advice and nursing service would be available.

British Empire Leprosy Relief.

An address emphasizing the necessity for financial assistance in combating leprosy was delivered in Glasgow on November 7th by Dr. R. G. Cochrane, Principal R. S. Rait of Glasgow University presided and said that leprosy was not unknown in this country, for there were actually at the present time about fifty cases in the United Kingdom—all, however, imported cases. There was reason to suppose that King Robert Bruce had died of leprosy, and the leper windows in the old churches of England and Scotland, through which the lepers watched the service, were still to be seen in some places. Dr. Cochrane referred to the fact that about seven years had passed since the inaugural meeting of the British Empire Leprosy Relief Association. Every year had opened up new opportunities, but lack of financial resources had prevented the association from taking advantage of some of them. An Indian council had been founded and, as the result of an appeal had secured £150,000, which was entirely expended in India. During the six years of its existence, the association had sent out at least one million doses of antileprotic remedies to workers in every part of the Empire, and had done much to publish information which was designed to assist in a better understanding of the clinical and pathological aspects of the disease. It was tragic that *in the whole of East and Central Africa there was no institution* comparable to the institutions in India, where medical officers and dressers could get a training in the diagnosis and treatment of leprosy. One of the most important branches of this work was the appointment of a special full-time leprosy officer in each territory where leprosy was prevalent. Referring to a visit to the Sudan, Dr. Cochrane said that he had recommended for discharge from leper settlements over five hundred patients who had been cured. He appealed for support for the association as a scientific body and for the generous help of the public, so that this terrible scourge might be controlled.

Central Midwives Board.

The examinations of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee and Aberdeen, have just concluded with the following results. Out of 155 candidates who appeared for the examination, 145 passed. Of the successful candidates, 70 were trained at the Royal Maternity Hospital, Glasgow, 27 at the Royal Maternity Hospital, Edinburgh, 4 at the Maternity Hospital, Aberdeen, 7 at the Royal Infirmary, Dundee, 16 at the Elsie Inglis Memorial Hospital, Edinburgh, 2 at Stobhill General Hospital, 2 at Barshaw Hospital, Paisley, and the remainder at various recognized institutions.

Correspondence

TEMPORARY TREATMENT WITHOUT CERTIFICATE.

SIR,—In the recent correspondence on the Mental Treatment Act Dr. Vernon Davies points out (November 22nd, p. 886) that Section 5 as it stands means that any patient expressing 'unwillingness'—in any form—will have to be certified to enter an institution, even though the unwillingness" may be due to a greater or lesser degree to the impairment of the patient's judgement consequent on the form of mental disorder from which he is suffering and even although the doctor knows that the patient's decision is biased by his mental condition at the moment.

For example, a melancholic may object to going to an institution because 'there is no cure for me in any case, so that I may as well die at home", or an early schizophrenic may object out of sheer negativism. This to my mind, is a serious defect in the wording of the Section for, as Dr. Dillon says (November 15th, p. 843) most of the patients whom the Act is attempting to provide for are likely to be unwilling to enter an institution and, moreover, in such early cases the patients can usually so express themselves.

The purpose of the Act would, I think, have been better served if it had been left to the certifying practitioner to decide whether the patient's state of mind was such that his expression of 'unwillingness' should be accepted. It would seem that at present cases such as the examples quoted above will still have to wait until they are bad enough to be certified.—I am, etc.,

Bradford, Nov. 23rd. H. EDELSTON, M.B., D.P.H.

AVERTIN ANAESTHESIA.

SIR,—In the correspondence on avertin anaesthesia Mr. Basil Hughes says: "With very light ether infiltration anaesthesia or spinal anaesthesia for major operations in the vicinity of the diaphragm its use is a godsend."

A word of warning seems necessary here on two counts. Mr. Howard Jones emphasized a danger in high spinal block when reading his paper on percaine at the Royal Society of Medicine. Put briefly, it amounts to this: When most of the intercostal muscles are paralysed respiration is effected mainly by the diaphragm, and very little lung expansion takes place in the upper lobes. The result is imperfect lung ventilation, leading to anoxaemia. Anoxaemia is a cause of fatigue of the respiratory centre with resultant shallow breathing which increases the anoxaemia. This vicious circle can normally be broken by the inhalation of oxygen-carbon dioxide mixtures or, more simply, by rebreathing; but if the respiratory centre is already narcotized by avertin as well as fatigued, it may not respond, and prolonged artificial respiration will be necessary. I am sure that this is the mechanism of respiratory failure in the majority of high spinal blocks where avertin or large doses of morphine have been given beforehand, and the percaine or novocain is quite unjustly blamed for producing phrenic paralysis.

The other point concerns the prolonged post-operative period with shallow breathing and diminished reflexes. I believe that this conduces to poor lung expansion and subsequent broncho-pneumonia. The following case illustrates this. A woman, aged 50, in fair condition was to have a partial gastrectomy performed for ulcer. She was given avertin, 0·09 gram per kilo body weight, and an abdominal wall field block with 0·25 per cent. novocain and 1 in 200,000 adrenaline. The anaesthesia was perfect and she slept throughout. It was, to quote Mr. Hughes, "a real delight to the onlookers." Her pulse rate at the end of the operation was 80, and her respirations 16 a minute. After being put back to bed she slept for twelve hours and was drowsy for another twelve. On fully waking up she at once began to cough up muco-pus; her chest had moist rales all over, and she died on the third day from *broncho-pneumonia*, a condition which was verified post mortem. It is difficult to avoid the conclusion that avertin contributed to this patient's death.

If a basal narcotic is deemed necessary for high abdominal work, paraldehyde would seem to be preferable to avertin, since in ordinary doses no respiratory depression occurs. For intensely nervous patients, with high basal

methodic rates, however, overturn combined with other things affords an ideal combination for most extra-abdominal operations, and one must cordially agree with Mr Bisdl Hughes that for such a case as partial thyroidectomy for toxic goitre a real advance in anaesthesia has been made.—I am, etc.,

London, N.W.1 Nov. 21st C. LANGTON HEWER

RESULTS OF TREATMENT OF CANCER

SIR,—In a letter to the *Journal* (October 11th, p. 621) pointing out the importance of *x* rays in the treatment of cancer I used the expression that "so far, the results of *x*-ray work in the treatment of cancer have been disappointing to the surgeons." I think that few surgeons will question the accuracy of the opinion, and none have done so. This statement has had, however, an unlooked-for effect, for radiologists have taken exception to it. Two genuine letters have appeared from Drs. Russell Green and Douglas Webster. If I interpret them aright, they wish to prove that surgeons should not be dissatisfied with the results of *x*-ray treatment, but I am afraid that very great improvement must yet take place before any medical man can be content with our treatment of cancer, for the results of all forms of treatment are deplorable.

If these gentlemen wish to imply that the surgeon needs educating as to the results at present obtained by *x* rays, perhaps they are right. The course seems very simple—let us get together and prove this to the disappointed surgeons, I am only too willing to side with the radiologists in the matter, but proof is, of course, essential. With this in view I have written to the secretary of the Electro-Therapeutic Section of the Royal Society of Medicine to suggest that the Section should hold a demonstration of cancer cases treated by *x* rays. It would, of course, be far more convincing if they were treated by *x* rays alone. I would suggest showing six examples each of cancer of the breast, the tongue, the rectum, and the cervix uteri. I think we might leave out skin cases. I would not even place a three years' time limit, simply let the cases be shown. The members of the Surgical and Proctological Sections should be invited to attend. I am led to believe from the letters that this material is available. I know that statistics are not very convincing, but if statistics are used, I suggest that as we have used *x* rays long enough in this country, we should produce some of our own figures. Joint discussions on this subject have been tried with, I fear, little success, but never has a clinical evening been arranged, and if it is held it will be far more interesting and convincing.

There is no need to continue this discussion in the *Journal*. It has already wandered far from the personnel of a radium clinic, let everyone interested in the subject write to Dr. Samsbury, the secretary of the Electro-Therapeutic Section, and offer his help. In this way we shall do something, try to prove something, and I hope carry conviction, and personalities, false quotations, and misrepresentations, which inevitably creep into medical controversy conducted by letter, will be avoided.—I am, etc.,

London, W.1 Nov. 18th DUNCAN C. L. FITZWILLIAMS

SIR,—In your issue of November 15th Dr. Heinaman-Johnson says: 'Statistics are beginning to be available in breast cancer with regard to surgery alone." It is important that the advance of radiology should not be held up by a barrage of fallacy, therefore I call attention to two sets of statistics relating to the surgical treatment of cancer of the breast. In the April number of *Acta Radiologica* Westermark has shown the following percentages free from recurrence after five years as the result of operation by four of the best-known Swedish surgeons: Dahlgren 15.0, Neander, 16.8, Brattstrom, 23.0 (1898–1915) 25.5 (1905–15), Nystrom, 20–23.0.

In the British Empire Cancer Campaign Committee's report for 1927 (p. 59), under the heading of "A statistical inquiry into the results of the operative treatment of cancer of the breast," the results obtained by a group of surgeons are thus stated: alive and well after 5 years, 40 per cent. Which of these sets of figures is accurate?

In the statistics quoted in the Campaign report, one fundamental fact is ignored—namely, the total number of cases operated upon. It is possible to obtain an indication of this figure for the period under review (1910–20 inclusive) as follows. The figures from three hospitals were taken as the basis for the Campaign report, which I designate Hospital A, Hospital B, and Hospital C.

	Breast Amputations	Due to Cancer		Period	No. of Cases
		Number	Percentage		
Hospital "A"	223	202	90	1910-14 (5 yrs.) 1914-20 (6 yrs.) say 2:2	401
Hospital "B"	During 1910–20 478 amputations of breast were performed; applying the 90% factor from Hospital A the number for cancer would be, say				433
Hospital C	No figures available but number of beds much larger than at either of the others with a correspondingly larger staff; it can safely be assumed that the number of operations for cancer of breast during 1910–14 would be not less than the average of the other two, say				417
	Total				1251

The Swedish statistics are expressed as the fraction number of five-year healings divided by total number operated upon.

Adverting now to the Campaign report. 541 cases only are reported on because "only cases in which the presence of cancer had been proved by a microscopic examination were included in the review", 507 cases were finally traced, of which 40 per cent. were five-year healings—that is, 203 cases—and, adopting this figure as the numerator, to the previously determined denominator, we obtain the fraction 203 over 1,250, or 16 per cent.—a figure more in consonance with those of the Swedish surgeons.

The fallacy of the Campaign figures lies in the fact that evidence more weighty than histological examination has been ignored—namely, the subsequent clinical course of the large majority, terminating in death. When, as in this case, less than half the cases are examined microscopically, the effect on the report is to include automatically all those cases which are so early as to need the microscope for their diagnosis, and to exclude those cases whose character is sufficiently advanced as to need no such confirmation.—I am, etc.,

Birmingham, Nov. 19th A. A. RUSSELL GREEN

ANTIMALARIA MEASURES

SIR,—The correspondence on the above subject had, I thought, ended, but the letter of Sir Malcolm Watson, published in the *Journal* of September 13th (p. 447) renders it necessary to re-state the issues.

So far as the references to myself are concerned I will confine myself to stating that the failure of Sir Malcolm Watson to take advantage, on the occasion of his visit to Lahore in 1924, of my offer to explain to him the local malaria problem and the efforts that were being made to solve it caused me no sleepless nights. It did, however, occasion surprise that a man who claimed to be an expert in malaria control should so little realize the imperfect state of scientific knowledge of malaria, and be so well satisfied with existing methods of control as to regard with disfavour any attempts to extend the scope of the one or to increase the efficacy of the other.

But to the real points at issue Sir Malcolm Watson has vouchsafed no reply. It is still not clear whether he has any practicable solution to offer of the problem presented by the control of rural malaria in the Tropics. It is true that he has told us that a knowledge of the mosquito-malaria cycle constitutes the key to the problem, but how this knowledge is to be applied on a large scale he has not attempted to explain. He claims, however, that by antimalaria measures "tens of thousands of lives" have

been saved in Malaya, but to the request that he should substantiate this claim there has been no response "Control," he states, "has spread from small towns to large towns, to estates, mines private undertakings and public works, villages, and many rural areas, and a great organization was created in 1926 to cover the whole country" Yet the principal medical officer of the Federated Malay States, in his last annual report, states that a study of the malaria death rate of the country as a whole during the past ten years, and of the four large towns during the past seven years, "reveals little progress in the mastery of the disease during this period"

Surely Sir Malcolm Watson owes it to science, as well as to himself, to place a detailed account of this great scheme in the hands of malariologists So far, then, as large-scale antilarval measures in rural areas are concerned, the measure of success achieved even in Malaya would at present appear to be equivocal And Sir Malcolm Watson has nothing else to offer He holds that diet, housing, and economic conditions are of little or no importance, and that quininization is almost useless If this, indeed, were a true picture of the position, there would be cause for pessimism, but fortunately this is not so Thanks to the steadily increasing knowledge of the epidemiology of malaria, the modern malariologist realizes that the control of malaria is not solely concerned with the minor problem of "species sanitation," but that it embraces a whole series of measures designed on the one hand to enhance the powers of resistance of the community and on the other to decrease the frequency of infection In self governing communities, where Draconian methods are impracticable, progress on these lines must necessarily be slow but it is on this account the more essential that unwise insistence upon any one measure and extravagant claims in regard to its value should not be allowed to obscure the issue, and to retard progress in a matter of vital importance to the well-being of millions —I am etc,

C A GILL,
Lieut.-Colonel I M S

Lahore Oct. 27th.

SIMPLE PHLEBITIS AND EMBOLISM

SIR,—In the *Journal* of December 1st, 1928 (p 1010), Dr O Hilton writing on this subject concluded by saying 'It would obviously save a great deal of nursing and worry if the three weeks with bed pans and so forth could be avoided It would be useful if others would record their experience and give evidence which would throw light on the problem of whether there is in fact, danger in a patient leaving his bed in such circumstances" It is in accordance with the wish expressed by him that I venture to send this letter to you in the hope that it may catch the eye of Dr Hilton and *save him further anxiety*

I would first ask, Does he inject varicose veins with any sclerosing solution If so does he put his patients to bed for three weeks to avoid embolism? A thrombus or clot is certainly formed in large veins in the legs, and to my mind there is just as much chance of a fatal embolism in these cases as there is in cases of simple phlebitis if a clot becomes detached yet the medical profession as a whole allow their patients to walk about after the operation without any anxiety or worry Has any case been recorded of embolism after an injection for varicose veins? I would next ask him why he keeps his patients in bed for three weeks—why not for six or eight? These patients often get successive thromboses and in fact the more they are kept in bed the more a thrombus is liable to occur so there is no limit to the time a patient may lose and to the needless nursing and expense incurred

It may be argued that the traumatic phlebitis caused by injection, and the phlebitis occurring without any recognizable cause are different in their pathology and require different treatment That the pathology is different I admit, but that in both cases it is safe to allow patients to walk about I hope to prove The traumatic phlebitis caused by a sclerosing solution whether salicylates, quinine or sodium morrhuate originates in an inflammation of the endothelium of the vein a deposit occurs at the site of the injection, and spreads to a small extent locally causing a hard thrombus Thrombosis due to stagnation follows, and a large section of the vein is blocked These clots do not cause emboli The disease recognized as simple phlebitis or thrombo-phlebitis migrans is the result of toxaemia, either acute or chronic Examples of acute thrombo-phlebitis are those which occur during pregnancy or after labour, in enteric fever, and post-influenzal infection or septic tonsilli is In other cases they are usually the result of chronic auto-infection, generally due to intestinal toxaemia

The result of researches made, and published in the *Journal* about two and a half years ago, proves that no organism is grown from the blood—in other words there is no general septicaemia, and the clot is sterile It is on account of the result of the infection on the protein particles in the plasma that clotting or thrombosis occurs as has so often been pointed out by McDonagh From the nature of the changed blood condition it is evident that a precipitation can occur in any vein in any part of the body, and this accounts for a thrombosis in the lung causing so-called pulmonary embolism It is not that a clot has travelled up a vein to the right side of the heart, but a primary focus has occurred in the lung Sometimes the affection in the lung is primary without any thrombus in the veins of the leg

If space permitted I could quote twelve cases which I have treated (with complete and rapid recovery) during the last four years on the lines advocated by McDonagh They have never been put to bed, and have had no embolism The routine treatment of putting patients to bed is probably the worst possible, as it allows local stagnation and increased toxaemia due to loss of elimination It requires some courage to depart from the shibboleths handed down from ancient times but if Dr Hilton is courageous enough to tell his patients to take up their beds and walk, he need have no sleepless nights wondering whether he will lose his patient or attend an inquest The patients will be more than grateful —I am etc,

W W JEUDWINE.

Newport I W Nov 22nd.

PARTURITION PER PERINEUM

SIR,—I was much interested to see the illustration accompanying the case described as 'Parturition per perineum' by Drs Tindal and MacLennan in your last issue (p 863) This is undoubtedly a case of central rupture of the perineum under an unusual title The condition is described in *Queen Charlotte's Practice of Obstetrics* (p 377) with an illustration on page 379 The illustration in the textbook, however, is of the lateral type of rupture

A colleague Dr W M Sadler of Slough fifteen years ago had a case which would undoubtedly have ended in the same way He noticed that the perineum became very thin and blue at a point just anterior to the anus and that the foetal head did not advance towards the vaginal orifice He performed an episiotomy and the child was delivered per vaginam (*in extensis*)!

Drs Tindal and MacLennan are to be congratulated on having secured a photograph of their case —I am etc,

NOEL HYPHER

Slough Nov 23rd.

The Services

29TH GENERAL HOSPITAL DINNER.

THE twelfth annual reunion dinner of the medical officers of the 29th General Hospital will be held at the Trocadero London on Saturday December 6th Lieut.-Colonel S H Withers C M G P A M C (ret) will preside The honorary secretary is Captain A Percy Groves Hermonfield Meadow court Road, Leicester

DEATHS IN THE SERVICES

Lieut Colonel Edward Mulvany Bengal Medical Service (ret) died at the Hotel Brice Nice on October 27th aged 80 He was born on November 21st 1849 the son of Mr Michael Mulvany of Thurles was educated at the Catholic University of Dublin and took the L.R.C.S.I in 1871 and the L.K.Q.C.P in 1872. Entering the I M S as assistant surgeon on March 30th 1872 he became surgeon on July 1st 1873 when the rank of assistant surgeon was abolished, attained the rank of surgeon lieutenant-colonel after twenty years service and retired on July 11th, 1892.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Annual Meeting of Fellows and Members

The annual general meeting of the Fellows and Members of the Royal College of Surgeons was held on November 20th, the chair being taken by the President Lord Moynihan of Leeds About seventy Fellows and Members attended

The President laid the annual report of the Council before the meeting, and drew attention to some of the matters reported therein He said that the primary Fellowship examination had been again held in Canada, and next year would be held in Australia also The first examination for the diploma in gynaecology and obstetrics had been held, there had been five candidates, of whom one had passed Dr E E Ware and Professor F Wood Jones had been elected Fellows under Section V of the Charter The honorary gold medal of the College had been awarded to Professor G Elliot Smith in appreciation of his services to the Museum The final Fellowship examination had been passed by 88 candidates, as compared with 72 last year The Lister Memorial Lecture had been delivered by Dr Harvey Cushing of Boston, who had at the same time unveiled a silver tablet to the memory of Sir Anthony Bowlby, erected by the medical officers of the American Expeditionary Force who had served under him in France A sum of £4 000 had been spent on research laboratories Thanks to the munificence of Lord Beaverbrook, Lord Melchett, and Sir Louis Baron, the College could now offer three scholarships of £500 a year each The College, however, still required £100 000 to build and equip a surgical research institute to work in conjunction with the new laboratories, for there was at present no place in the British Empire where surgical research could be conducted

Dr Richard Gillbard asked what sums had been received for the Membership and Fellowship examinations during the past year

Dr David Roxburgh thought that the result of holding examinations in Canada and Australia must be to degrade the examination The standard of an examination was determined not by the examiners but by the candidates It was unreasonable to hope that the standard of teaching in Australia and Canada would approach that in London He thought the expense of sending examiners over there would be better directed to enabling candidates to come over to London for the examination

The President replied that the expenses of the Membership examination had been £18 085, leaving a balance of £5,692, the Fellowship expenses had been £6,736 leaving a balance of £2,325 The question of holding examinations in the Dominions had been very fully discussed by the Council, and they had decided that it would be to the advantage of the College and of surgery in general to hold examinations in Canada, provided that the right kind of examiner could be sent out and the right kind of machinery provided for the examination

Representation of Members on the Council

Dr F F Ware moved the usual resolution in the following form

> That this forty second annual meeting of Fellows and Members of the Royal College of Surgeons again affirms the desirability of admitting Members, who constitute nine tenths of the College roll, to direct representation on the Council of the College
>
> That the result of the recent poll of Members resident in the United Kingdom and the Irish Free State (taken by the Society of Members in response to reply of the Council December 12th 1929), which is as follows

Cards sent out	12,766
Cards returned undelivered	166
Cards not valid	58
In favour of representation	6,832
Against representation	156
Majority in favour	6 676
By personal canvass in favour	106

> provides indisputable evidence that this change in the constitution of the College is desired by a very considerable number of the Members of the College

He remarked on the antiquity of the form of resolution, and ascribed this to the fact that it expressed a just claim which appealed to all who could think logically Only recently had it been passed with a feeling of good will and amity, but there was no reason for rancour, it was simply a matter of difference of opinion The President had said last year that there was no evidence that this measure was desired by more than a few members Since then several favourable references had been made to the proposal by the Council, the Hunterian Orator, and the journals The funds collected had not been sufficient to take a poll of all the Members, only practising doctors with permanent addresses had been circularized Of the seven thousand who had sent valid replies, only 156 were against the necessary change in the Charter It was proposed that a certain number of Members only, elected by Members alone, should be added to the Council These figures offered indisputable evidence that the change was desired by a large number of Members

The resolution was seconded by Mr Windham L Gillbard who said he was astonished to find that this proposal had been before the Council for so long, although no convincing reasons had been adduced for its rejection On this matter 55 per cent of those addressed had voted—a remarkably high figure for a postal vote among doctors This showed that the Members were more interested in the management of the College than the Fellows Fellows abroad showed great interest in the College, and it was reasonable to suppose that Members abroad would also show this interest It was not good for the College that its Members should regard it as an examination machine with a museum somewhere in the neighbourhood of Lincoln's Inn Fields

Dr F W Collingwood said that the rank and file of the medical profession did a great national work These general practitioners should have a status of which they were not ashamed Dr Haydon also supported the motion

Mr McAdam Eccles asked whether the voting card was accompanied by a letter, what wording had been used and whether it had been stamped (A copy of the card and circular was handed in)

Dr Wilson Parry said that from the legal point of view the Members had no case but the law had its limitations He appealed to a tribunal respected and revered by every medical man—the system of ethics embodied in the Hippocratic oath—and the basis of this system was ethical justice Mr Howard Stratford suggested that it would be pleasant if the visitors to London from all over the world on the occasion of the Centenary Meeting of the British Medical Association in 1932 could learn that Members had been given a part in the management of the College Dr Richard Gillbard said that the atmosphere was very different from that of former meetings Members were hopeful and he trusted that this meeting would not come to an end resembling that of the last chapter of Rasselas—"a conclusion wherein nothing is concluded" Dr Kite said that there was no personal feeling, this was a matter of principle

The President said that the resolution had never been submitted by such temperate, eloquent, and fair minded speeches as on this occasion The Council regarded this as a matter for most anxious consideration, and it had never been decided with ill will or disregard In view of the figures submitted by Dr Ware, the Council had decided to hold a special meeting in committee before the next full meeting to discuss this matter *de novo* (Applause)

The motion was carried by 43 votes to 1

UNIVERSITY OF OXFORD

At a congregation held on November 22nd the following medical degrees were conferred

D M—T C Hunt O R Tisdall

B M—J N O Reilly

UNIVERSITY OF LONDON

Lectures in the History of Medicine

Two lectures, illustrated by lantern slides, will be delivered at University College Hospital Medical School, University Street, W C by Dr Charles Singer, on Mondays December 1st and 8th, at 4 15 p m The subject of the first is the "Fourth centenary of the invention of the word 'syphilis,' and of the second "The eighteenth centenary of the birth of Galen" The lectures are open to all medical students of the University of London

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated

Surgery—E Jacomb L A Riddell W K Schnarr

Medicine—R P Davies L A Riddell W K Schnarr

Forensic Medicine Hygiene and Insanity—G W Hinchliff H G Hind, W A Naidu W W Parry L A Riddell I Sachs S H Thaler

Midwifery—S I Bellgard G I Benjamin C L Ferguson W G Kingston P H W Lyle M S Myles H C Tain

The diploma of the Society has been granted to Messrs P P Davies and L H W Lyle

Obituary

DAME MARY SCHARLIEB D B E H D, M D, M S,

Consulting Physician for Diseases of Women Royal Free Hospital

Dame Mary Scharlieb (nee Mary Ann Dacomb Bird) was born on June 18th, 1845 near London and her mother died ten days later The care of this delicate baby devolved upon the maternal grandparents, but after some years her father married again and it was owing to the stepmother's influence that she received an education that was unusually good for the time At the age of 10 she was sent to a boarding school in Manchester, and while there wrote a story about a child in India This was permitted as a substitute for the daily 'copy," and was her second flight as she had already written a thrilling and tragic tale at the age of 5 Her health being somewhat unsatisfactory, she was moved to a school at New Brighton where she revelled in nature studies and collected seaweeds and zoophytes The third educational venture was to a school in St John's Wood, where she entered enthusiastically into the science language, and literature lessons, besides making progress in music under the tuition of her beloved cousin Henry Bird She was fond of riding but never joined in games and detested dances and parties Before she was 20 she had met Mr Scharlieb who was visiting friends in England and "eating his dinners" at the Middle Temple, preparatory to being called to the Bar The attraction was mutual and in spite of objections from all her relations she coaxed her father round They were married on December 19th, 1865 and soon after sailed for Madras At the end of 1866 her first son was born and two other children followed in 1868 and 1870



Mary Scharlieb

Twelve years were spent in the ordinary routine of domestic cares and duties, combating ill health in a tropical climate and oftentimes uncongenial surroundings She helped her husband in the publication of two law journals and in his work as an examiner It fell to her lot to review Sir Joseph Favrer's *Medical Jurisprudence* and this first aroused her interest in medicine There came to her knowledge also through her husband's clients and clerks, many cases of suffering among Hindu and Mohammedan women and she became convinced of the necessity of women being qualified to attend on them So she obtained permission to enter the Madras Lying-in Hospital for a year's training This she found was not enough, and after much delay and opposition she entered the Madras Medical College with three other women They shared the instruction with the men who were preparing to be surgeons in military and civil employ, and at the end of three years all received the licenciate in medicine, surgery, and midwifery But the hard work involved had so told on her health that a return to England was inevitable It was also necessary to take the children home for the sake of their health and education

The voyage home was a nightmare of horror The ship ran out of coal four times, but in spite of peril illness (aggravated by the smell of the oilseed cargo), and the supervision of the children, she ensconced herself in a recess of the saloon with back to the wall and feet firmly planted against the side of the chimney and fought nausea and mathematical riddles at the same time, and thus prepared for an entry as expeditious as possible to the London Matriculation Letters of introduction to Mrs Garrett Anderson Sir Henry Acland Florence Nightingale and others were presented, and she entered the School of Medicine for Women passing the Preliminary Scientific in 1879 In 1880 she began work in the wards of the Royal Free Hospital and took the final M B the following year, gaining the gold medal and scholarship in obstetrics In January 1883 she decided to go to Vienna to obtain practice in operative midwifery and again her perseverance and determination overcame all obstacles, and she obtained real dexterity in this branch of surgery She attended clinics for diseases of the ear and eye

scorning delights and living laborious days"

At the end of two months he met her husband in Italy and together they returned to England Then followed audiences with Queen Victoria and the Prince and Princess of Wales Queen Victoria insisted on hearing all details of the difficulties and sufferings of the caste and gosha women She listened with the greatest interest, and said How can they tell me that there is no need for medical women in India' She then gave her a message for her future patients

Tell them how deeply their Queen sympathizes with them, and how glad she is that they should have medical women to help them in their time of need'

On her return to Madras in July 1883 she started work as a general practitioner, but soon realized the absolute necessity of a hospital, not only for the poorer patients, but for those of good family whose households included no one capable of carrying out instructions As for colleagues there was no one nearer than Bombay so she taught her sister to administer anæsthetics and her maid to assist to the best of her ability The Government soon came round to a realization of the necessity for a hospital, and this materialized as the Royal Victoria Hospital for Caste and Gosha Women Her days work at this time began at 5 30 a m and continued till the dinner hour at 8 p m Then sleep and bed if possible, but that was frequently interrupted by night calls, and the most trying part was that no matter how ill or over-fatigued she might be she felt she could not rest without causing damage not only to individual patients, but to the work she had set out to do—namely, the teaching of the women of the country to rely on and to use the help that Western

medical knowledge could give them Fortunately an assistant was soon forthcoming, and then she was able to accept the post offered of lecturer on midwifery, gynaecology, and diseases of children at the Madras Medical College She was also appointed examiner in obstetrics and gynaecology to the University of Madras

In February, 1887, she left Madras, never to return She had built up a good practice, earning about £2,000 a year, but heavy expenses had made saving impossible, and now she was faced with the double problem of failing health and the urgent need to earn in order to redeem liabilities undertaken in days of prosperity Mrs Garrett Anderson received her kindly, and put a certain amount of work in her way She became joint lecturer on medical jurisprudence to the School of Medicine for Women, and also physician to out-patients at the New Hospital for Women then in its very early days In February, 1888, she was appointed clinical assistant to Mrs Garrett Anderson, and later was elected president of the University of London Women Graduates' Association In December she obtained the M D degree of London, being the first woman to secure it The following year she accepted the lectureship on the diseases of women at the School of Medicine In 1890 Mr Scharlieb returned to England, but two months later he succumbed to influenza and pneumonia, and died on January 4th, 1891

The period between 1891 and 1902 represents a sort of tableland She had as large a practice as she could manage She was a hospital surgeon and lecturer at the school, and had various outside appointments She was medical referee for most of the big missionary societies whose headquarters are in London, lecturer to the Queen's Nurses and other institutions, as well as examiner to women candidates for the Civil Service A landmark during this period was her achieving the degree of Master of Surgery in 1897 In 1902 came the appointment as gynaecologist to the Royal Free Hospital, which made her the first women to hold a staff appointment in a London general hospital The lectureship on midwifery was also added to that already held at the School of Medicine for Women, and this post she retained until 1908

The next ten years brought but little change in the record of professional life Several books were published, a bad attack of appendicitis weathered, and delightful holidays abroad are recorded In 1910 she was president of the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association, having served as vice-president in 1900 In 1913 she was appointed to serve on the Royal Commission on Venereal Diseases, and with other members of the committee joined the newly formed National Council for Combating Venereal Diseases She was also a member of the Commission on the National Birth Rate, which began its sittings in 1913, and presented its first report in 1916 and its second in 1920 During the war her health forbade her accepting the offer of the charge of one of the women's hospitals in Belgium, but she did a great deal of voluntary work serving on the Council of War Relief for the Professional Classes, attending the patients in the maternity hospital, and lecturing on venereal diseases and rescue and preventive work

In August, 1917, the King conferred on her the honour of the C B E, and in the same year she was elected to the presidency of the London (Royal Free Hospital) School of Medicine for Women In 1924 she presided at its jubilee dinner at the Guildhall For many years she was Deputy Chairman of Convocation and until her death she represented the Standing Committee of Convocation on the Royal Institute of Public Health London University The Congress in 1920, and she was president held a congress in Brussels in 1 was appointed one of the of the Women's Section Shortly the juvenile court under first women magistrates, serving in Holloway also one of the Commissioners in Lunacy Mr Campbell Graham She was for 26 she was created visiting magistrates at Holloway Prison In 1925 Dame of the British Empire, and two years later the honorary University of Edinburgh conferred on her degree of LL D Two notable papers read but must not be forgotten the Norman Kerr Lecture before the Society for the Study of Inebriety in 19

one on "The family the spirit in the Christian home," contributed to the Anglo-Catholic Congress in 1923, when her clear voice and perfect diction could be easily heard all over the Albert Hall The last three years of her life were spent in the house of her son, who is senior anaesthetist at University College Hospital

Dame Mary Scharlieb's personality was no less remarkable than her life story Her appearance was characteristic and unforgettable, with her upright carriage, her hair still dressed in the fashion in which she wore it in the days of Queen Victoria, her bonnet now almost a relic, even for old ladies, and her wonderful hazel eyes full of intelligence, which never lost their youthful sparkle up to the last days of her illness Almost to the day of her death her mind remained clear and active, and her will power was as strong as it had ever been It was that perhaps more than any of her other remarkable qualities which made her what she was, enabling her to overcome difficulties which any other man or woman would have found insurmountable Her energy was inexhaustible Her usual hour for operating was 8 a m, the beginning of a day which seldom ended before 10 p m She was extraordinarily versatile, her interests ranging from women's welfare and journalism to domestic affairs and surgery She was performing major operations two years ago, and kept herself absolutely up to date, worked with amazing rapidity, sometimes making it difficult for her assistants to keep pace with her All new movements for social progress had her active support She was interested in all that made for the betterment of her fellow creatures, especially of women

She was a woman of deep religious convictions, untouched by modern scepticism Her sense of humour never failed, nor was she ever at a loss for an apt quotation or a quick repartee Through her profound knowledge of human nature there ran a deep vein of sound common sense, which well equipped her for dealing with the mental as well as the physical difficulties of her patients Even up to the day of her death patients were wanting to consult her, scarcely believing it possible that she could no longer be accessible to them Patients and friends alike can hardly realize that her indomitable personality has gone Hers is a spirit that has left its mark in a world of suffering humanity in a way that she herself would have wished A favourite quotation of hers may fitly close this memoir, contributed by three friends

"The day is long and the task is great, the reward also is great and the Master presseth It is not incumbent on thee to finish thy work, but thou must not cease from it"

We are indebted to Sir THOMAS BARLOW, Bt, for the following appreciation

During what may be called the middle period of the struggle for the medical education and recognition of women, the Children's Hospital in Great Ormond Street gave facilities to women students to attend the clinical work of the hospital I have a vivid recollection of Mrs Scharlieb's first attendance at my clinic more than forty years ago along with some of her fellow students She had gone through a medical course at Madras, supplemented by a fair amount of practical work, and had come to England for further medical education with the determination to obtain the best qualifications then open to her I was very soon convinced that she was no tyro in methods of physical examination, and by and by I realized that she was a person of decision and purposefulness She was at that time working for the final examination of the M B degree of the University of London She took her degree, gaining the gold medal in obstetrics and honours in other subjects She broadened her knowledge of gynaecology by a course of study at Vienna, and ultimately obtained the London M D and M S She then returned to India and gave herself up to hospital work on behalf of poor and outcast Indian women Hard work led to some failure of health, and eventually she returned to England and entered on private practice in London, devoting herself largely to operative gynaecology I am assured by those whom I can trust that she gained considerable manipulative facility, and she certainly obtained very good results From this time for a while I saw little

of her, but I could not fail to admire her tenacity in pleading for freedom of opportunity for women in medical education. She had not only courage and singleness of purpose but moral fervour in her many undertakings. She spoke with no uncertain sound about alcoholism and medical missions. She was appointed a member of the Government Commission on Venereal Diseases, and for many years she was a working member of the committee for combating those diseases especially during the war. In spite of her pioneer spirit, Mrs. Scharlieb could not be described as an aggressive personality. She was courteous, tolerant, and reasonable. She was distinguished by her readiness and sympathy, and she had a way of inspiring patients with her cheerful and buoyant courage. I can bear witness that as a colleague she was loyal, fair, and generous. She lived to a good old age, and her distinguished career received proper recognition. She rejoiced in the love and attachment of her children, and in the warm friendship of her fellow workers, and they will remember her as a woman of great attainment, of noble purpose, and of singular courage and devotion to principle.

Dr. JANE WALKER writes:

It is perhaps fitting that Dame Mary Scharlieb's oldest living friend among the woman doctors should endeavour to give the readers of the *British Medical Journal* some idea of her. I first made her acquaintance in the spring of 1880. She had recently come from India to put her three children to school in this country, and to pursue her medical studies with a view to obtaining an English degree. The Senate of the London University under the able chancellorship of Lord Granville, had opened the doors of all its examinations to women, and accordingly Mrs. Scharlieb decided to work for the London M.B. Another woman, Miss Edith Shove, was in much the same position, both had some years of medical study behind them, and were really in a position to sit for the first M.B. examination. They applied to be excused from the matriculation and the preliminary scientific examinations, and their application was granted. I believe I am right in saying that this permission was coupled with the *sine qua non* that they should both pass an examination in Latin for their final M.B.! The successes of both these ladies were brilliant and outstanding, and perhaps it is largely owing to their example that the students of the London School of Medicine for Women have always been very numerous in the lists of the medical and surgical examinations at the London University. Mrs. Scharlieb was a very brilliant student both at the school and at the Royal Free Hospital, which had opened its doors to women students of medicine at about the same date as the London University. She and I saw a great deal of one another, although I was at the school and she at the hospital. For one thing, I could get off more easily than she could, and as she had her children on her hands, I and her other three great friends at the school and hospital—Julia Cock, Constance Hitchcock, or Helen Prideaux—used to help her with them by seeing them across London to their schools and in other ways. Another reason was that she was in-patient clerk to Dr. Buchanan Baxter, and I was his out-patient clerk. We both regarded ourselves as among the luckiest people in the world, for he was a truly great man and a magnificent physician. Mrs. Scharlieb returned to India in 1883 and practised in Madras where he was lecturer in midwifery and gynaecology in Madras Medical College and examiner. She was also medical superintendent to the Hospital for Caste and Gosha Women. But she had never been strong, and the climate of Madras together with the hard work of a big practice made it impossible for her to continue in India, and so she returned to London in 1887 to that house at the top end of Harley Street which she shared at first with Professor Schafer, another of our very great and dear friends at the School of Medicine, and where her numerous friends, both medical and lay, and an ever increasing number of patients, knew her till 1924 when the house was pulled down. All her friends were welcome; she was the soul of hospitality and of unbounded generosity, and she gave in all ways of her substance far beyond the traditional tithe.

Several obituary notices have called her a pioneer. In my opinion this is an incorrect description of her. Rather did she become a woman doctor to enable her to help the sufferings of her fellow women. In no sense did she attempt to blaze the trail for medical women coming after. She was a most beautiful operator, but it was all done in such a quiet, modest, unassuming, almost commonplace manner that it seemed, even at the very beginning, to be the most ordinary thing in the world for a woman to be doing big abdominal surgery. It is, of course, true that delicacy of touch and the smallest of hands, as well as knowledge and practice of needlework, were a great asset—(whoever has seen Mrs. Scharlieb quietly knitting at a committee of both men and women could doubt that)—but she had never had an operating knife in her hand till she was turned 40 years of age and yet very soon she became one of the six great abdominal surgeons of the world. That, I think, makes her almost of the nature of a phenomenon. She brought ordinary common sense and naturalness to all she did. She had no peculiarity, she dressed just like other people at a time when all sorts of extravagances were being used in a serious attempt to help "the Cause." All this was of inestimable value at that time in the women's movement. Indeed I should not call her a feminist, at any rate not in the really modern use of the term. She helped the women's movement in what is perhaps the really best way by the excellence of her work. It was not until the latter part of her life that she became a keen suffragist and she was greatly disturbed by what she felt were the excesses of the militants. In spite of Mrs. Scharlieb's delicacy of constitution, she was a tremendous worker although always in a very orderly and methodical way. She was invariably up to time—you could set your watch by her movements—and she never hurried. Her habits and tastes were of the simplest; her own personal requirements very small, her own meals of the frugalest; some would have said sparse; and ten o'clock at night always found her preparing for bed—usually in her bath. Even there she was at work for she did her meditation there.

No notice of Mary Scharlieb would be complete without some reference to her religious faith, for it dominated her whole life. She was a consistent practising High Churchwoman and a member of the Church of St. Mary Magdalene, Munster Square, during the whole time she lived in London.

Dr. LOUISA GARRETT ANDERSON writes:

The name of Mary Scharlieb holds an honoured place among medical women and her passing marks the end of an epoch. Mrs. Scharlieb followed the early pioneers such as Sophia Jex-Blake, Edith Pechey Phipson and my mother, but although their junior she was sufficiently near them in age to share many of their labours, responsibilities and difficulties. She was a loyal and devoted colleague, and to her more than to any other woman is due the credit of establishing a high standard of surgical work among women practitioners. In 1885 during my mother's absence in Australia, Mrs. Scharlieb took charge of the Women's Hospital, which was situated then in the Marylebone Road. When the hospital enlarged and removed to Euston Road she became senior surgeon, a post she held with distinction for many years. She was a courageous and successful surgeon and her manipulative skill was great. Her surgical reputation was an immense asset to the medical women's movement, especially in its early days when inability to deal with important gynaecological surgery would have been disastrous. Mrs. Scharlieb's association with my mother was a very happy one. In most respects very dissimilar, they were good friends and excellent colleagues. Mrs. Scharlieb's generosity and genuine kindness won intense devotion from her patients of all classes. To the world the name of Mary Scharlieb is better known than that of any other medical woman; it has been familiar for half a century. Medical women are proud of all she did and of the record of her life. She has left them an example of splendid professional and public service.

[The photograph reproduced is by Elliott and Fry.]

G H K MACALISTER, M D,

Principal and Professor of Clinical Medicine, Singapore Medical College

We regret to record the death of Dr George Hugh Kidd Macalister, who died in London on November 2nd, after a long illness. The son of Alexander Macalister, professor of anatomy at Cambridge, Hugh Macalister was born in Dublin in 1879, where his father held the chair of anatomy at that time. After an early education at the Perse School, Cambridge, and at Bonn, he obtained a scholarship at Charterhouse, and afterwards at St John's College, Cambridge, thence he went to Guy's Hospital, and, graduating M B, B Ch in 1906, he held several resident appointments. His inclinations, however, led him to the laboratory rather than to practice, and, taking the M D and D P H in 1909, he served in succession as assistant bacteriologist at Guy's Hospital, the Lister Institute, and the Wellcome Research Laboratories. Whilst holding the latter post the death of his first wife struck him so deep a blow that he decided to leave England, and in 1914 he went out to India as pathologist to the Imperial Bacteriological Laboratory at Muktesar. There he spent much time in field work, and published a monograph on kumri, but the war interrupted his work, and in 1916 he went to Baghdad with a temporary commission in the Indian Medical Service, and took charge of a large pathological laboratory. In 1917 he received an offer from the Colonial Office to go to Singapore as principal of King Edward VII Medical School. This gave him the opportunity he wanted, and in 1918 he took up the post that was to provide him with the outstanding work of his life. The steady progress of the school, now the College of Medicine, under his guidance, and the replacement of the old building by the impressive structure of to-day, are an enduring monument to the patient care, the skilful administration, and the tactful enthusiasm with which he tended its growth. In addition to his work as principal he also held the chair of clinical medicine, and he entered into many activities in medical life, he was president of the Malaya Branch of the British Medical Association, and secretary of the Straits Settlements and Federated Malay States Medical Council. Yet it will not be for his official activities so much as for the high ideals which he inspired that he will be remembered and honoured for many a year throughout Malaya. In 1927, during a period of leave, he was Government representative at the League of Nations Conference on Rabies in Paris, and later he went to Sierra Leone as a commissioner to advise on subordinate medical education; in this year also he was elected a member of the Royal College of Physicians.

Quiet and reserved by nature, Hugh Macalister seemed, perhaps, to the casual observer to be somewhat difficult of approach; but when once the ice was broken there lay revealed a depth and tenderness of affection that made him the rarest of friends. No account of his life would be complete without some reference to his second marriage, which took place in Bombay just before he set out for Singapore, for this alone made possible the success that he achieved. No longer did he picture himself an exile, his home went with him, and from it there radiated a happiness that not only made his own life complete, but also contributed in large measure to a beneficent influence that spread throughout Malaya. The sympathy of a wide circle of friends will go out to Mrs Macalister and her children at his early death.

Dr Edwin Gabriel Harris, who died on November 5th, at the early age of 38, received his medical education at the London Hospital, and obtained the diplomas M R C S, L R C P in 1917, having served as surgeon probationer in the Navy during the earlier part of the war. After qualifying he held the posts of house-physician, house-surgeon, resident anesthetist, and clinical assistant in the anal and genito-urinary departments of the London Hospital. He had also made a special study of ophthalmology and was clinical assistant in the ophthalmological department of the London Hospital, and refractionist at the Peckham Treatment Centre of the London County Council. Dr Harris was a Fellow of the Hunterian Society, and a member of the British Medical Association and of the New Cross Medical Society. In 1922 he joined Dr R Tilbury in practice in Peckham, and won wide spread popularity by reason of his conscientious work and great capacity for friendship. He leaves a widow and an infant son.

Medical Notes in Parliament.

[From our Parliamentary Correspondent]

The House of Commons has been in committee on the Education (School Attendance) Bill. Sir Charles Trevelyan announced that the Government would propose that the operation of the measure should be postponed till September 1932. A debate on the recent Imperial Conference arose on November 27th.

On November 25th the Parliamentary Medical Committee was addressed by Dr Blacker and Dr Langdon Brown of the Eugenics Education Society, on voluntary sterilization of the unfit. A discussion followed, and questions were asked, but no resolution was proposed. The Medical Committee authorized Dr Salter and Mr Somerville Hastings to see Mr Greenwood on the proposal to establish a consultative committee on rheumatism.

The Socialist Medical Association met at the House of Commons on November 19th, and decided that it would offer to collaborate with any other association having similar aims. The National Medical Service Association issued, on November 25th, its observations on the British Medical Association's proposals for a General Medical Service for the Nation.

Regulations under the Mental Treatment Act have been circulated by the Ministry of Health to local authorities, and are to lie on the table of the House of Commons, probably after the Christmas recess. Their acceptance is anticipated by the Government, which regards them as being merely consolidatory.

After-career of Mentally Defective Children

Mr Morgan Jones, replying to Major Church on November 24th said that the Board of Education urged all local education authorities which provided schools for mentally defective children to compile records of the after-careers of children who had left, so far as they were able. Nearly all authorities did so but they were not in a position to ensure that those records were complete. An analysis of the records for seven areas would be found in Para. 88 of the report of the Board's chief medical officer for 1925.

Bellahouston Hospital

Replying to Mr McLean, on November 20th, Mr Roberts said repeated intimations had been received from the Glasgow Corporation that the site of Bellahouston Hospital was required for civic purposes, and, though they had extended the Ministry of Pensions occupation on several occasions it was decided that existing requirements did not justify further occupation beyond January next. He was satisfied that Erskine House was entirely suitable as alternative accommodation for the treatment of ex-service men in the West of Scotland, and saw no ground for altering this decision. Erskine House was not a Ministry of Pensions hospital, but was controlled by a governing body of Glasgow citizens, with which the Ministry had for many years had an arrangement on a capitation basis for the care and treatment of medical and surgical cases arising from war disability. He was unaware of any departure from the purpose for which the hospital was established. Ministry patients had been treated in this hospital for years past. The number of beds at present available for the Ministry at Erskine House was sixty-three. During the years 1925–29 limbless and other surgical cases were treated in the Ministry of Pensions surgical centre at Bellahouston, which would shortly be transferred, under the present surgical control, to Erskine House. The number of equipped beds in Bellahouston was seventy-two, and the numbers of in-patients treated during the years 1925 to 1930 were respectively 277, 226, 167, 129, 101, and 93. About 300 out-patients commenced a course of treatment during 1925 and about 100 during the early months of 1926. Since 1926 the out-patient branch of the work had been transferred to Sauchiehall Street, Glasgow, where it was at present, and would henceforth be conducted.

Bodies for Dissection

Mr Greenwood stated in reply to Mr Day on November 20th that his attention had been drawn to the fact that the public assistance committees of several counties had decided that

in future bodies of friendless paupers were to be available for dissection at medical school but arrangements were made by the authorities that when the dissected body was buried the remains of the body would be properly interred Any inmate of an institution might express a desire that his body should be interred without anatomical examination and Section 7 of the Anatomy Act 1832, provided that such a wish would be respected

Tuberculosis on Tyneside.—In reply to Mr Edge on November 20th Mr GREENWOOD stated he was in communication with the authorities of South Shields concerning the prevalence of tuberculosis in that borough He had made suggestions for increasing the hospital provision available for treatment of tuberculosis on Tyneside If local authorities desired a conference with a view to a centralized and comprehensive scheme he would be glad to do anything to facilitate it

Death Certification in absentia.—Mr GREENWOOD said in answer to a question on November 20th that his attention had not previously been drawn to a statement by the Southwark coroner to the effect that there were thousands of doctors who would certify death without seeing the body of the deceased A the subject was fully discussed during the passage of the Births and Deaths Registration Act of 1926 he did not see sufficient reason to introduce legislation making it imperative for doctors to see the deceased persons before death certificates were issued

Advertisements in Medical Periodicals.—Replying to Mr Freeman on November 20th Mr GREENWOOD said he was unaware of any ground for proposing to extend by amending the Medical Act of 1886 the control which he understood was already exercised over advertisements of drugs by the proprietors of medical journal

Suicides.—Mr SHORT told Mr Kinley on November 20th that the number of suicides in England and Wales in the years 1920 to 1929 were respectively 3,573 3 715 3 844 3 919 3 679 4 054 4 408 4 863 4 846 and 4 907

Absinthe.—Mr SHORT said in reply to Major Owen on November 20th that he was not prepared to introduce legislation forbidding the manufacture sale, and use of absinthe in this country

Poisoning by Lead Paint.—Replying to Mr White on November 20th Mr SHORT said that since the new regulations under the Lead Paint Act came into force on October 1st 1927 there had been 87 cases reported including 20 deaths in 1928 75 cases including 10 deaths during 1929 and during the nine months ended in September 43 cases including 9 deaths The regulations were constantly under review having regard to the facts in cases brought to notice

Experiments on Animals.—Replying to Mr Freeman on November 19th Mr SHORT said the cost of keeping a record of the number of animals involved on the basis of the 403,141 experiments for purposes of vivisection performed last year would depend on the amount of detail required to be collected and tabulated and the degree of completeness to be attained in the collection Additional clerical assistance would be needed in any case and the inspectors would have to give a certain amount of the time which at present was available for inspection

Mental Treatment.—Replying to Mr Kinley on November 20th Mr GREENWOOD said that the method of treatment of patients in public mental hospitals was not laid down by the Board of Control but was within the discretion of the medical officer of an institution

Asylum Officers' Superannuation.—On November 20th replying to Mr Rambotham Mr GREENWOOD said the decision to set up an actuarial investigation into the Asylum Officers' Superannuation Act of 1909 was taken in September 1929 and the intervening period had been occupied by the collection of necessary data from the institutions concerned The returns received were before the Government actuary who would carry out the investigation as quickly as possible This would occupy a considerable period and it was not practicable to fix a date for its completion

Medical News.

DR T WATTS EDEN has been appointed chairman of the directors of the *Journal of Obstetrics and Gynaecology of the British Empire*, in succession to the late Sir Francis Champneys

THE annual dinner of the Medico-Legal Society will be held under the presidency of Lord Riddell at the Holborn Restaurant on Friday December 12th at 7 15 p m The honorary secretary is Mr Ernest Goddard, 3 South Square, Gray's Inn W C 1

THE Irish Medical Schools and Graduates Association will hold its annual London dinner in the Georgian suite Piccadilly Hotel W on Thursday December 4th at 7 45 p m The president Dr W Player Kennedy will take the chair and the guest of the association will be Lieut Colonel Sir Frank O Connor Tickets (price 15s exclusive of wines) can be had from Mr James Carver F R C S St George's in the East Hospital The dinner will be preceded by a general meeting of the association at 7 15 p m

THE winter dinner of the Australian and New Zealand Medical Association in England will be held at the Trocadero Restaurant on Friday, December 12th at 8 p m Mr T P Dunhill will preside and the High Commissioner for Australia will be the official guest All medical visitors from Australia and New Zealand whether members of the Association or not are invited to be present The honorary secretaries are Mr E T C Milligan and Mr Philip J Jory, 26, Queen Anne Street, W 1

THE annual dinner of the Yorkshire Association of Graduates of the University of Glasgow will be held in the Great Northern Hotel, Leeds, on Friday December 5th at 7.30 p m The guest of the evening will be Dr Sam J Cameron of Glasgow Any graduates of the University resident in Yorkshire who desire to attend should apply to the honorary secretary, Dr Wm McAdam 40 Park Square, Leeds

THE National Institute of Industrial Psychology will hold a meeting on Thursday, December 11th at 6 p m at the London School of Economics Houghton Street Aldwych, W C , when addresses will be given by Dr W J Pinard on tests of character and by Mr C B Fox on Industrial psychology applied to the blind The chair will be taken by Sir Richard Paget Bt

PARTICULARS of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-graduate Courses published in the *Supplement* at page 244 Copies of syllabuses and tickets of admission can be obtained from the Fellowship 1 Wimpole Street, W 1 The list of special courses arranged for 1931 is now available

THE text of Lord Moynihan's Listerian Oration delivered at Winnipeg on August 29th, under the auspices of the Lister Memorial Club of the Canadian Medical Association has now been reprinted together with Dr John Stewart's introductory speech from the *Canadian Medical Association Journal* The pamphlet has as frontispiece a portrait group taken at Winnipeg, of Lord Lister's three house-surgeons—Dr John Stewart of Halifax, Nova Scotia Sir StClair Thomson, and Mr L Vernon Cargill The proposal to found this oration was first put forward by Dr Stewart at the meeting of the Canadian Medical Association held at Winnipeg eight years ago The first of the series was delivered at the Ottawa meeting in 1914 by Dr Stewart himself, and the second in 1927 by Sir Charles Sherrington at Toronto

SIR WILFRED GRENFELL, K.C.M.G M.D delivered an address on Labrador on November 21st before the Royal Scottish Geographical Society, and received the society's Livingstone medal

THE honorary degree of M D has been conferred on Professor G H F Nuttall F.R.S., of Cambridge, by the University of Liege

DR HUGH S STANNUS has been elected Master of the Worshipful Company of Founders

PROFESSOR PORTMANN of Bordeaux has been elected president of the next International Congress of Laryngology, which will be held at Bordeaux in July, 1931.

THE third edition of the well-known handbook entitled *Stations Thermales de France* has been published by the French Thermal Climatic Federation and may be obtained from the Federation of the Health Resorts of France, Tavistock House North Tavistock Square, W C 1 A fully illustrated practical and interesting account of the various French health resorts and spas is provided in this useful booklet The spas are arranged in alphabetical order and indications are given as regards the maladies treated at each

THE National Institute of Industrial Psychology celebrates its tenth birthday next year, and in every direction its activities have been growing apace Consequently Dr C S Myers who has been director since its inception has asked to be released from the duties of directorship and has been appointed principal in order that he may devote the whole of his time to the Institute's research and educational activities Dr G H Miles has been appointed director

THE October issue of the *Journal of the Canadian Medical Association* contains a report from its Osler Memorial Committee The Simcoe County Medical Association is erecting a memorial window in Trinity Church, Bond Head Sir William Osler's birthplace A triennial Osler Oration is to be delivered Osler clubs established and Osler scholarships founded throughout Canada two scholarships have already been endowed in Osler's old school, Montreal It is suggested that medical societies should hold an 'Osler Day' every February, this month being chosen to commemorate Osler's first contribution to scientific literature, 'Xmas and the microscope, in Hardwicke's *Science Gossip* for 1868

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C.1**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House Tavistock Square, W C 1, on receipt of proofs

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines)

The **TELEGRAPHIC ADDRESSES** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL, Aitiology Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc), *Articulate Westcent London*

MEDICAL SECRETARY *Mediscera Westcent, London*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams *Bacillus, Dublin*, telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

Natural Labour after Caesarean Section

DR SMETON JOHNSON (Kidderminster), replying to the inquiry of W M ' (November 22nd, p 891), writes I have a patient who four years ago was delivered of a healthy living child by Caesarean section, the operation being performed on account of eclampsia Two years later I delivered her of a healthy child, forceps being applied, there was some troublesome post-partum haemorrhage This month she gave birth to a child weighing 9 lb, the labour being perfectly normal and lasting three hours only

DR J L BLONSTEIN (London, S W 11) writes I attended a woman for her second baby in an uneventful labour Her first was delivered by Caesarean section, on account of active tuberculosis of the hip joint I reported this case in the *Medical World* in 1926

DR H R SPARROW (Hull) writes While I was resident medical officer at Leeds Maternity Hospital a woman was delivered naturally (and she had had, if I remember correctly, five previous normal confinements), her first child having been delivered by Caesarean section She explained to me that Caesarean section had been performed owing to obstructed labour, due to a pelvic tumour, which was subsequently removed She had two operation scars in her abdominal wall The nature of the ' tumour I did not ascertain

Magnesium Hyposulphite in Asthma

DR M J FENTON (Stockwell S W 9) writes in reply to ' I T S " (November 22nd, p 891) I have been using magnesium hypo sulphite in cases of asthma for some time past So far, I have found no contraindications to the use of this remedy, having used it in cases of two to twenty five years' standing The treatment consists of intramuscular injection of 10 per cent solution of magnesium hyposulphite, at four day intervals, together with oral doses of elixir magnesium hyposulphite (A and H), two teaspoonfuls (= 15 grams) t d s I am satisfied with the results, and hope to publish them at length later on

Income Tax

Outstanding Debts General Expenses

' R M suggests that it would be fairer to pay tax on fees only when they are received, and asks what is the usual proportion of general expenses—that is, rent, maid's wages, etc —allowed to a medical practitioner

*** It would certainly be more satisfactory in some ways to exclude unpaid fees from the gross income, though it would have the rather awkward corollary that tax would have to be paid after cessation of work on fees subsequently recovered But in any case the legal position is clear — that is, that all bookings should be brought into the computation, less an estimated allowance for probable losses by bad debts The cash basis is, in fact, accepted by the Revenue Department in many cases where the gross income of the practice is steady, so that the cash receipts normally are equivalent to the net value of the year's bookings With regard to the proportion of the general expenses probably one half is as common as any fraction, but so much depends on individual cases that it is impossible to lay down any reliable generalization A useful check on any pro portion is to look at the converse side—that is, to see what is left to cover the private accommodation, service, etc , of the practitioner and his family

Supply of Implements, etc

" V E (Loud) " refers to an answer on page 806 of the *Journal* in which it is stated that sums expended for " the supply of any implements, utensils employed for the purpose of the profession ' are allowable

*** The phrase is quoted from Rule 3 (*d*), applicable to Cases I and II, Schedule D, but should be read—to make clear the meaning to be attached to the word supply "—with Rule 3 (*f*), which prohibits the deduction of " any sum employed— as capital in any profession " If the article supplied is an addition to, rather than a replacement of, the professional equip ment, then there is an introduction of additional capital involved, and the cost is not allowable This extends to the element of improvement, even when there is replacement as where a railway company was not allowed to deduct the *extra* cost involved in replacing rails and chairs by heavier ones—Highland Railway Company *v* Balderston

LETTERS, NOTES, ETC

Lymphatic Leukaemia

DR E P POULTON (Guy's Hospital, S E) writes I should be grateful if any of your readers could put me in touch with a case of lymphatic leukaemia for a special investigation A case that had been under observation for a long time, and yet showed symptoms, would be of particular value

Treatment of Alopecia with Ultra violet Rays

DR ALBERT LIDINOW (London, W) writes During the past five years I have treated six cases of alopecia totalis by means of ultra violet rays, four of these were men and two were women The male patients were between the ages of 32 and 54 years, and had had complete alopecia for over six years before they started treatment with me They have responded very well to treat ment, and have now recovered growth of hair The female patients were both over 50 years of age, and much more refrac tory to treatment I have found that general irradiation of the skin of the body following the technique of short ultra violet ray therapy is of greater importance than just the local treat ment to the scalp and the other hair growing areas Many have suggested that a full erythema or blistering dose of light causing counter irritation gives good results On the whole, I have found that this is damaging, for during the stage when the hair just appears the blistering reaction will be followed by desquama tion, and the young hairs are removed with it The minimal erythema dose is preferable The treatment of complete alopecias is slow and laborious, needing much perseverance both on the part of the patient and of the physician The patients were treated twice a week, the first signs of hair were only seen after two months' treatment, and good growth of hair was observed after nine months' treatment It is difficult to regard this treatment as purely a local counter irritation effect The results suggest that there may be some activation of a hormone which stimulates the growth of hair, for in these cases the pubic hair recovered, and this area never received irradiation The results in isolated patches of alopecia areata are well known and need no further description I have seen some favourable results in cases of early baldness with thinning and loss of hair This has been arrested by irradiation of the scalp combined with general irradiation of the body I feel that the latter is of much importance in the treatment of alopecia

A Paste Bandage for Varicose Ulceration and Phlebitis

WE are informed by Mr C J CELTIAN-JONES, F R C S, and DR KATHERINE CELTIAN JONES that since the appearance of their description of a new paste bandage for the treatment of varicose ulceration and phlebitis in the *Journal* of October 4th (p 560), they have received many inquiries for samples of these dressings, but have been unable to comply with the bulk of the requests, because the preparation of these bandages entails outlay in material and impregnating media They have now arranged with Messrs Cuxson, Gerrard, and Co , Ltd , surgical dressing makers of Oldbury, Birmingham, to prepare a paste bandage strictly according to the published formula, and to pack it in the manner described in the article They add that, apart from dispatching specimen bandages, they will gladly continue to answer letters dealing with the technique of the treatment

Renewal of Driving Licences

THE Automobile Association advises motorists that the practice of certain licensing authorities of issuing reminders about renewal of their driving licences is likely to be discontinued The A A has for many years kept a *Register of Driving Licences*, by means of which any member who furnishes the necessary particulars of his licence receives a postcard reminder seven days before date of renewal Particulars of date of renewal and the address to which the reminder should be sent should be forwarded to the secretary, A A , Fanum House, New Coventry Street, W 1

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 48, 49, 50, 51, 54, 55, and 56 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 52 53, and 54

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 243

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

477 Psittacosis in Denmark

C H WÜRTZEN (*Ugeskrift for Laeger*, September 25th, 1930, p 907) gives an account of how psittacosis came to Denmark, and of the investigations made into its etiology On February 1st 1930, the steamship *Louisiana* came into the port of Copenhagen with a crew of 34 men not including the officers She had left Bahia on January 6th In this port the crew had bought thirty Brazilian parrots Some of them looked poorly at the time of purchase and several died during the voyage Most of the survivors were sold in Madeira, and of the five parrots which reached Copenhagen alive two were ill Nine days after the ship left Bahia one of the crew became ill, and was admitted to hospital in Madeira, where he subsequently recovered Several new cases occurred during the last eight days of the voyage, and six of the crew were admitted to the fever wing of the Oresunds Hospital At the State Serum Institute repeated examinations were made of the blood urine and faeces of all these patients They were examined for the bacilli of typhoid fever, paratyphoid A and B, Bang Breslau, Nocard, Gaertner, suipestifer, paradysentery Flexner D, Flexner H, Sonne and Shiga The results were almost completely negative little importance was attached to the rare positive findings After giving detailed accounts of the clinical course of these cases none of which terminated fatally, Würtzen points out that the uniformity of the symptoms indicated a common causative agent The most prominent feature was pneumonia, which, as has already been pointed out in connexion with psittacosis was characterized by absence of cough expectoration, and pain in the chest, and the occurrence of only slight dyspnœa though there was comparatively severe cyanosis Considering what frequent facilities there must have been for exposure to infection during the voyage, it is noteworthy that out of a crew numbering altogether about 40 only 9 should have contracted the disease including 2 in whom it broke out after the ship had left Denmark.

478 Prognosis of Epidemic Encephalitis in Children

H A. HOWE (*Bull Johns Hopkins Hosp*, September 1930 p 123) records his observations on sixty six children in the Harriet Lane Home for Invalid Children at the Johns Hopkins Hospital who were investigated at periods ranging from one to ten years after the onset of epidemic encephalitis The immediate mortality was 11 per cent complete incapacity was found in 19 per cent partial incapacity in 22 per cent and recovery in 42 per cent The acute illnesses fell into the following three groups (1) somatic (56 per cent), characterized by paralyses or irritation of the somatic or cranial nerves (2) meningeal (16 per cent) in which signs of meningeal irritation predominated and (3) abortive (19 per cent) without any acute illness of the ordinary encephalitic type but with early and frequently unheralded appearance of the characteristic progressive sequels often accompanied by febrile reaction The immediate mortality was highest in the somatic group recovery was almost invariable in the meningitic form and Parkinsonism was most frequent after the abortive form The sequels were divided into progressive and non progressive, the former including hyperactivity, sleep inversion, changes of personality hyperpnœa, and tics while the latter type of sequels was characterized by paralysis choreiform movements, emotional instability, and mental retardation The non progressive sequels most frequently followed the somatic type and with the exception of mental retardation had a good prognosis. The outlook of progressive sequels was unfavourable

479 Train and Motor Travel Sickness.

ACCORDING to J E LEBENSOHN (*Arch of Ophthalmol*, September 1930 p 342) sickness caused by train or motor car travelling is less prevalent than that experienced in a ship or aeroplane children are less subject to sea sickness but more to car sickness than adults There appears to be a familial tendency to this condition The author advises that susceptible persons should preferably ride in the front seats since movement is less there The disorder may be attributable to ocular or labyrinthine stimuli In order to decide which was the true cause patients were required to look at vertical stripes on the inside of a revolving drum while a tracing of the gastric movements was at the same time obtained by means of a swallowed air bladder connected to a water manometer The author found that revolving the drum to and fro instead of in one direction produced rather greater gastric movements Temporary upset of the ocular muscle balance with prisms did not appreciably alter the character of the tracing When the ear was douched with cold or hot water it produced an immediate and definite change in the gastric tone, as also did douching of the auricle and face with cold water From these experiments it is concluded that car sickness was due to labyrinthine stimulation rather than to nystagmus This latter condition is dependent upon fixed attention, and ceases when the attention is withdrawn, which affords another argument in favour of this conclusion Lebensohn nevertheless advises the correction of any error of refraction and muscle balance, since he has already shown that such defects are gastric depressants they must therefore, leave the digestive tract especially susceptible to further depressing influences

480 Meningococcal Meningitis

K C SMITHBURN, G F KEMPF, L G ZERFAS, and L H GILMS (*Journ Amer Med Assoc*, September 13th 1930 p 776) record their observations on 144 cases of epidemic meningococcal meningitis treated at the Indianapolis City Hospital between November 11th, 1929 and April 1st 1930 Of these 56 9 per cent were of the fulminating or hyperacute type, and 68 7 per cent showed cutaneous haemorrhages in the form of petechiae or purpuric blotches In the fulminating type intrathecal administration of serum proved to be inadequate, although rapid improvement took place in the condition of the spinal fluid the intramuscular and intravenous routes were also used for the injection of serum. Intravenous administration of an antiseptic solution was ineffective in spite of its activity *in vitro* Of 119 patients from whom blood cultures were made 76 (63.8 per cent) showed meningococci There was an approximate parallelism between the incidence of petechiae the percentage of positive blood cultures and the mortality rate throughout the epidemic.

Surgery.

481 Congenital Absence of Abdominal Muscles.

J HOFSTEIN (*Gynécol et Obstét* July 1930 p 23) has found only twenty two cases of this condition recorded previously and Schlesinger and Overweg in Vienna discovered only one case among 11 000 children Before 1909 185 cases of absence of the pectoral muscles had been reported while there were only eleven of absence of the abdominal muscles The condition is associated frequently with other congenital deformities, such as atrophy or absence of the bones or of the urogenital organs In Hofstein's patient a female infant and the youngest of six children absence of the muscles of the abdominal wall was the only abnormality, the great majority of children in whom this condition was found have been males The parents and all the other children were healthy and quite normal and the mother's Wassermann reaction was negative When the infant was lying on her back the abdominal wall was flaccid and voluminous In both flanks were seen ridges and prominences On raising the infant the abdomen became pendulous The skin was very thin with a definite transverse striation in the sitting position When the child was lying on her back the skin fell into longitudinal folds there was no sign of muscular contraction except (very feebly) on the right side when the child cried Occasional peristalsis was visible All the abdominal organs could be palpated beneath the skin, and after feeding the stomach outline was prominent The umbilicus was normal The bowels and bladder were emptied frequently without abdominal effort and the bladder appeared to be hypertrophied Respiration was entirely thoracic The child moved her limbs and sucked normally she gained weight. No muscular contraction occurred after electrical stimulation of the abdominal surface Skiagrams showed a normal skeletal development but the diaphragm was quite flat and immobile There was no diaphragmatic hernia nor evidence of progressive muscular atrophy nor of anterior poliomyelitis Electrical treatment has been recommended but Hofstein applied a firm bandage this was replaced subsequently by a belt a form of treatment which has been stated to have effected a cure at puberty in one case The child died suddenly when a few months old, and no necropsy was allowed

482. Spondylitis Infectiosa

H PUHL (*Deut Zeit f Chir*, September, 1930, p 172) describes the clinical, pathological, and radiological characteristics of infective spondylitis, and records six cases in detail The disease is most commonly a sequel of typhoid fever, but may follow paratyphoid, typhus, scarlatinal, measles, influenzal, pneumococcal, and pyogenic infections For a week or two after the primary disease the patient is usually free from symptoms, after which vague pains in the back, and later in the distribution of the spinal nerve roots, appear and rapidly increase in severity Most commonly one of the lower thoracic vertebrae is affected, and becomes sensitive to pressure and percussion There may be local oedema, lack of movement of the spine, which is rigid well above and below the affected vertebra, is pronounced The normal lumbar lordosis may be lost, or be replaced by a slight kyphotic curve The patient climbs up his legs with his hands when assuming the erect posture There may be slight disturbance of reflexes, with atony of the bladder and rectum, but paralysis is rare The degree of general disturbance varies, usually there is moderate pyrexia and leucocytosis, with marked acceleration of the sedimentation rate of the blood The duration of the disease is variable, and a fatal result is very rare The pathology is somewhat obscure, especially the factors which cause what is undoubtedly an osteomyelitis to run such a relatively benign course, usually without gross pus formation Radiological observation of the author's cases indicates four stages At first, as in osteomyelitis, no changes are to be seen In a week or two a diminution in size of the intervertebral disc occurs, usually at one side, so that the disc becomes triangular and the neighbouring vertebrae are tilted Bony changes may be seen at this stage or later, starting in the "end plates" of the vertebral body, near the upper or lower borders Cavities form in the bone, they coalesce, and cause a roughened appearance of the margins Occasionally changes also occur in the transverse processes or vertebral spines In the next stage reparative processes are visible, starting in the region of the periosteum, but the vertebral body now has a "washed out" and indistinct appearance, contrasting sharply with the intense shadow of the new bone Finally, the regenerated bone is partly absorbed, but may extend to fuse with the neighbouring vertebrae The shape of the vertebral body is largely retained throughout, only a slight diminution in size taking place Most characteristic of the disease is its site of origin in the intervertebral disc and neighbouring margins of the bone, although the former changes are first observed, Puhl thinks that the primary focus is in the bone. Diagnosis is usually easy, though the disease bears a strong resemblance to the fibrous form of "benign tuberculous spondylitis" In the final stages the changes are those of spondylitis deformans, but localized to the region of one vertebra Treatment is mostly conservative, and rest in bed in extension or plaster relieves the pain In cases of clear etiology specific treatment may be tried Active surgery is limited to the draining of abscesses, though these do not commonly occur In cases of doubt exploratory puncture should be undertaken Treatment is controlled throughout by x ray examinations, and during the stage of recovery some form of spinal corset may be necessary to relieve pain and prevent deformity

483 Misleading Symptoms in Carcinoma

W BERGER (*Med Klinik*, October 3rd, 1930, p 1476) describes certain symptom complexes seen in cancer cases which suggest another condition, and may even lead to a wrong diagnosis These occur in cases without apparent localizing symptoms of either a primary tumour or metastases, and with nothing suggestive in the history or general condition Three groups of cases are defined The first, or pseudo cardiac, is that of the elderly patient in whom the digestive disturbances of a gastric carcinoma may be attributed to congestion due to a failing heart In apparent cardiac insufficiency with oedema the following features are said to be suggestive of carcinoma absence of history of heart trouble and of definite signs on examination, such as dilatation, arrhythmia, and murmurs, oedema with a normal sized heart absence of cyanosis, and the peculiar skin which characterizes a cancer cachexia In the second group, pseudo septic and febrile types, there is associated with chronic pyrexia some degree of anaemia and no recognizable localizing symptoms, the cachexia, lowered haemoglobin percentage, and the leucocytosis are all common to sepsis and neoplasm In any unexplained fever of long duration carcinoma should be considered, since fever may occur not only in an ulcerated tumour, or with mixed infection, but in an intact one, and most commonly where there are bone metastases, hypernephroma, or bronchial carcinoma The third group, the pseudo rheumatic and pseudo neuralgic forms, exhibit pains in the joints, bones, nerves, and muscles. Metastases in bone are often the cause of the symptoms, if they cannot be explained, and the patient is elderly, a search should be made for the primary tumour or for tenderness in bone An x ray photograph should be taken to reveal metastases in bone, but a negative result is not necessarily conclusive Berger remarks that such cases are not much noticed in the literature or practice They are important, nevertheless, since in the pseudo septic type a diagnosis of carcinoma may be made in time for cure, or at any rate for a correct prognosis and the avoidance of treatment which can do no real good

Therapeutics.

484 Vaccine Therapy in Catarrhal Conditions

H G MURRAY (*New England Journ of Med*, October 9th, 1930, p 727) has investigated the value of vaccine therapy in the common cold occurring in industrial workers in a large manufacturing industry, a stock catarrhal vaccine being injected subcutaneously in carefully graduated doses at intervals of forty eight to seventy two hours Those selected for treatment were persons who had several head colds each year and lost time from work Following inoculation, the majority of the patients had no more than a slight tenderness at the site of injection Only about 1 per cent had a rather severe reaction, which lasted from eighteen to twenty four hours In 1927 83 persons were thus inoculated, the average age of the group being 43 years In 1928 169 persons accepted the treatment, and 61 persons were treated in three successive years Murray's conclusions are that catarrhal vaccine as a preventive for head colds is uncertain in its results In the group which had vaccine treatment for three successive years the total number of colds was reduced from 245 to 95, and the previous yearly average of four colds fell to one and a half The author considers that vaccine treatment seems to be helpful in about 50 per cent of cases, and that such a reduction renders the treatment in industry economically sound

485 Dietetic Treatment in Gall bladder Diseases.

WITH the increase, due to newer diagnostic tests, in the number of gall bladder cases, the diet in these conditions has gained importance M EINHORN (*Med Journ and Record*, September 3rd, 1930, p 227) mentions the diets advocated by various authorities, and remarks that there is no diet known which will prevent the formation of gall stones, or dissolve them after their development The only means of influencing gall bladder affections beneficially is to create a greater flow of bile, this can be achieved by a variety of mineral salts and waters, various cholagogue remedies, and foods In arranging a diet for these diseases they must be divided into acute and chronic affections, without or with jaundice Acute affections of the gall bladder, usually cholecystitis, run a comparatively short course A light liquid diet of milk, gruels, and fruit juices may be given every two or three hours When the patient feels better, cereals, toasted bread, fruit, and cooked vegetables may be added, and later on tender meat While the amount of food taken is not essential, the quantity of fluids should be at least three quarts a day In chronic affections a sufficient quantity of nourishment must be given The following rules apply to all gall bladder cases Meals should be taken frequently, and at not too long intervals, in order to induce complete emptying of the gall bladder quite often Each meal should contain proteins, carbohydrates, and fats in the right proportions Excessive quantities as well as too luxurious meals should be carefully avoided Excess of spice, meat, beer, or wine is to be guarded against Increase of fluid intake should be encouraged The bowels must be thoroughly evacuated daily Outdoor sports and long walks may be undertaken as long as there is no severe fatigue In cases without jaundice, all kinds of foods, except highly indigestible or strongly spiced ones, are permissible In jaundice cases an appropriate diet must be carefully selected Fats here are poorly utilized, and should therefore be given with great moderation, a daily allowance of skimmed milk, wheaten bread, oatmeal flour, and sugar is suggested To this can be added fresh fruit and green vegetables, and later one or two eggs To increase the digestibility of the food, pancreatic ferments may advantageously be given Patients with malignant disease of the gall bladder and biliary ducts must be similarly dieted At first a diet as previously outlined may be employed When the disease is advanced and the patient cannot assimilate the usual foods, liquids and semi solids must be selected An attempt must be made to keep the body from losing too much, but towards the end adequate nutrition is seldom possible All food must be selected so as to give comfort and pleasure to the patient.

486. Treatment of Iritis in Mumps

J M ORTEGA (*Arch de med cir y esp* October 18th, 1930, p 358), who records two illustrative cases in soldiers states that since Combeau in 1867 first drew attention to the ocular complications of mumps not more than half a dozen cases of iritis due to this cause have been described Ortega's first case occurred in a man, aged 22 who developed bilateral iritis ten days after the onset of mumps All other causes such as syphilis gonorrhoea and trauma, could be excluded, and the Wassermann reaction was negative Complete recovery ensued after eighteen days treatment by mydriatics The second patient developed bilateral iritis while the parotid swelling was still present Treatment in this case consisted of injections of lactoprotein associated with the application of mydriatics Some impairment of vision in the right eye persisted, however, owing to the formation of synechiae

Radiology

487 Radiology of the Base of the Skull.

G E PFAHLER (*Radiology*, September, 1930, p 339) ranks study of the base of the skull as one of the most important steps in the investigation o intracranial disease and disease of the nasal accessory sinus Early workers in *x* ray diagnosis of accessory sinus disease referred especially to the opacities in the cavities caused by exudate, but later authorities depend rather on the changes in the bony structures Granger called attention especially to the alterations in the bones forming the roof of the sphenoid sinuses, and Law emphasized the importance of the variations in appearance of the walls of the ethmoid cells For the study of these changes perfect radiographs which show the minute details are necessary A fine focus tube, the smallest possible diaphragm that will include the sinuses, and absolute stillness of the patient and the tube are important factors The sagittal plane must be exactly perpendicular to the plane of the film As a routine procedure Pfahler secures three stereoscopic films anteriorly one lateral film, and one of the base of the skull A special head rest and localizer are used The patient is placed in the prone position with the arms folded in front of the head rest under the chest and with the sagittal plane over the longitudinal line the lower border of the orbit is brought over the transverse line When desirable the posterior part of the base of the skull can be further studied by arranging for the patient to lie prone and to bend the head forward so as to bring the base of the skull parallel with the plane of the film the shadow of the cervical spine which is always demonstrable in the occipital region in the first position is thus avoided Further details of the technique are given The normal radiological findings and those of acute superficial sinusitis and of deep perisinusitis are described The alterations noted so often may be divided into two classes those which affect the sella turcica and those which affect the adjacent structures Pfahler has found these studies of value in determining the cause of obscure neuralgias headaches and ocular disturbances Other pathological conditions demonstrable by this study of the base of the skull are brain tumours fractures of the base anomalous conditions and congenital defects variations in the floor of the sphenoid sinuses and extension of malignant disease from the nose, throat, or accessory sinuses

488. Radium in Intra-oral Cancer

D QUICK (*New York State Journ Med*, September 15th 1930, p 1034) quotes from a report prepared for the Stockholm Congress of Radiology the results of treatment between 1917 and 1927 of 473 patients suffering from cancer of the tongue which he considers as fairly typical of intra oral cancer in general On June 1st, 1928 105 (22.4 per cent.) were free from clinical signs of disease and 23 of them had remained free for five years It is emphasized that methods are changing from day to day, and it must be remembered that failures in the past may sometimes have been due not only to utilizing a technique now out of date, but also to the personal factor of imperfect use of the best technique available at the time. He considers irradiation is the best method for treatment of the primary growth in intra oral cancer the accuracy of the dosage and its placing are of extreme importance Martin and Quimby have measured by physical and mathematical means the exact dosage of radiation delivered to the tumour bearing area in successfully treated cases It has hence been possible to measure in units of skin erythema doses" the amount required for different types of growth Most epidermoid carcinomata require six to ten erythema doses, delivered over a period of two or three weeks embryonal transitional cell" carcinomata or lymphoendotheliomata of the nasopharynx, require least treatment so far as epidermoid carcinomata are concerned, while squamous-celled carcinomata rarely yield to less than ten full erythema doses Radium must not be depended on alone, to the exclusion of associated means of treatment, and high voltage *x* radiation is an essential adjunct in intra-oral cases, unless very large quantities of radium are available for use by surface application Operative surgery is often necessary for access drainage, and dealing with diseased bone The author remarks that there is no place in radiotherapy for the technician" without surgical experience or for the loaning" of radium to un skilled practitioners Operative surgery is indicated in addition to radiotherapy where there is definite early glandular involvement by adult type epidermoid carcinoma Surgical exposure is required for radon implantation in metastatic deposits in the neck when they are of the embryonal epidermoid type and in all cases where the gland capsule has been perforated by growth, in preference to any attempt at block-dissection

489 Intravenous Pyelography

M. JUNGANO (*Rinascenza Medica*, September 1st 1930 p 411) compares the advantages of intravenous pyelography by means of uroselectan with the ordinary ascending method Uroselectan is a derivative of pyridine containing 42 per cent of organically combined iodine it is water soluble and is eliminated by the kidneys in sufficient concentration to throw a shadow The technique is as follows The patient is given castor oil for two days and kept on a farinaceous diet, since gas in the intestines obscures the picture no food is given after the evening of the second day On the third day 40 grams of uroselectan are slowly dissolved in 100 c cm of twice distilled water The solution is filtered twice, autoclaved for twenty minutes and injected into a warm into an arm vein preferably in one dose with a short barrelled 100 c cm syringe The elimination of uroselectan is very rapid the first picture should therefore be taken immediately after the injection and others after fifteen forty five and seventy five minutes In diseased conditions a clear picture may not be obtained for six to twenty four hours The examination is thus a costly process The author does not believe that the method is sufficiently trustworthy to indicate operability but thinks its use is restricted to localization in cases where ascending pyelography is impossible such as occlusion of the urethra and ureters acute and chronic cystitis tumours, and fistulas as well as in advanced pregnancy debilitated patients and small children There appear to be no contraindications even thyroid cases are not affected since the iodine in uroselectan is not broken down and apart from occasional dryness in the throat headache and slight transient febrile reaction no inconvenience is felt by the patient The author reports his findings in twenty nine cases in some the pictures obtained were sufficiently clear to enable an exact diagnosis to be made, but in most instances this was not possible, the *x*-ray photographs being often incomplete He recommends that apart from the special indications intravenous pyelography should be used as an auxiliary or control to the ascending method.

Obstetrics and Gynaecology.

490 Leukaemia and Pregnancy

H O NEUMANN (*Zentralbl f Gynak*, September 27th 1930 p 2443) states that since his collection two years ago of twenty eight cases of leukaemia and pregnancy three new cases have been recorded to which he now adds another of his own In Kaplan's case abortion was induced at the fifth month in a woman, aged 26 receiving *x* ray treatment for myeloid leukaemia In Geller's case chronic myeloid leukaemia hitherto apparently symptomless was diagnosed after death in a woman who succumbed to uterine haemorrhage two hours after cervical Caesarean section In Allen's case acute lymphatic leukaemia developing in the third month of pregnancy in a primipara, aged 20 proved fatal six days after abortion had been induced In none of these cases was leukaemia present in the foetus Neumann's patient suffering from chronic myeloid leukaemia for which the spleen and long bones had been subject to *x* radiation became worse during pregnancy which terminated about the third month in spontaneous abortion with serious haemorrhage she subsequently improved It is concluded that although pregnancy may continue without incident, and labour be normal during the first two years of a chronic myeloid leukaemia this malady constitutes (independently of its severity) an indication for the artificial termination of pregnancy and for sterilization The latter may be effected by *x* radiation of the ovaries conveniently performed at the same time as that of the spleen, or by insertion of radium in the uterus, as

in the present author's recent case In acute lymphatic leukaemia the prognosis is hopeless, so that interference with the pregnancy is of no avail, and is only indicated when there is a chance of foetal survival In chronic lymphatic leukaemia, as microscopic examination of the endometrium shows, conception is impossible

491 Pregnancy and Asthma or Hay Fever

A C WILLIAMSON (*Amer Journ of Obstet and Gynecol*, August, 1930, p 192) records case histories of one or more pregnancies in twenty eight patients who suffered from asthma or hay fever It was noted that many of the asthmatic patients had less frequent attacks during gestation and the puerperium, but that the pollen sensitive subjects showed little variation Premature labours and miscarriages did not occur Several of the asthmatic mothers were comfortable when carrying a male child, but had severe urticaria or food sensitiveness during gestation of a female, or vice versa Two of the asthmatic patients died during the puerperium As anaesthetics in labour both nitrous oxide oxygen and ether were well tolerated As proving the existence of an hereditary tendency it is noted that in the asthmatic group almost all, and in the hay fever group the majority of, the infants showed food sensitiveness, eczema, *and/or development later in childhood of bronchial asthma*

492 Rigidity of the Cervix

JANET M GRAY (*Journ of the Christian Med Assoc of India*, September, 1930) describes cases of rigidity of the cervix as seen in India In two instances after several days' labour an oedematous cervix, with edges 1½ inches thick, and only slightly dilated, protruded beyond the vulva, it was amputated, but neither mother nor child survived forceps delivery In two other cases the cervix, which was moderately dilated, was hanging six inches outside the vulva, but a living child was delivered by forceps, in one of these cases lateral tears were produced during extraction and were afterwards stitched, while in the other instance lateral cervical incisions, three inches in length, were made as a preliminary A case is recorded of persistent cervical rigidity, with delivery of the child through a hole in the posterior wall of the cervix (cervico vaginal fistula) In two cases of rigidity the condition was not relieved by an enema, hot douches, and the administration of chloral hydrate, opium, and potassium bromide The vagina was packed tightly under chloroform anaesthesia, and half a grain of morphine was given hypodermically The patient slept for some hours and expelled the packing, by which time dilatation sufficient to allow forceps extraction of a living child had been secured

493 Rupture of the Membranes during Pregnancy

RHENTER (*Bull Soc d'Obstét et de Gynécol de Paris*, July, 1930, p 500) alludes to a recent communication by Schwaab and Walther recording birth of the living infant 73 days after rupture of the membranes during the fifth month of pregnancy He also mentions records by other writers of labour taking place 52, 62, 63, and 110 days respectively after rupture of the membranes He records a case observed under favourable conditions in the wife of a medical man, in which amniotic fluid was voided intermittently, in large amounts, under considerable pressure, during 130 days from the fifth month of pregnancy Abdominal examination showed excess of amniotic fluid, varying after the successive liquid discharges, without great increase of tension It is concluded that the rupture was situated high up in the uterus A living healthy infant weighing 8 lb 12 oz was delivered at term

Pathology.

494 Association of Diphtheria Bacilli with Chronic Affections of the Nose

R SCHROEDER (*Ugeskrift for Laeger*, October 2nd, 1930, p 927), of the State Serum Institute and of the Ear Department of the Communal Hospital in Copenhagen, has investigated the nasal flora of 262 persons, of whom 209 were 15 years or older, the remainder being under the age of 15 In the first group, consisting of 126 persons, some nasal affection was present In the second group, consisting of 71 persons, affections of the throat existed The third group included 45 patients suffering from diseases of the ear He does not classify the remaining 20 persons Of the 40 persons found to harbour the bacillus of diphtheria (15 65 per cent), as many as 38 belonged to the first group Only 4 harbouring diphtheria bacilli in the nose also had them in the throat In none of the positive 38 nasal cases was there any record of a previous attack of diphtheria The nasal conditions for which these patients had sought medical aid, and had in the process been found to be carriers of diphtheria bacilli, were for the most part of a chronic character All the 16 patients suffering from chronic, atrophic, fetid rhinitis harboured diphtheria bacilli, and this was the case with 16 of the 23 patients suffering from simple atrophic rhinitis, with 2 of the 10 cases of mucous polypi, with 2 of the 18 suffering from diseases of the nasal sinuses, and with 1 of the 9 who had chronic hypertrophic rhinitis The diphtheria negative did not distinguish themselves from the diphtheria positive cases clinically, and it would therefore be unjustifiable, from the clinician's point of view, to employ the term "chronic diphtherial rhinitis" Four cases of chronic atrophic rhinitis, harbouring diphtheria bacilli, were treated with antitoxin, and in 2 of these cases there was temporary clinical improvement, in the other 2 this treatment had no effect In one of the 4 cases the diphtheria bacilli could not be demonstrated subsequently Ten of 39 cultures of diphtheria bacilli obtained from these carriers proved to be virulent for guinea pigs Schroeder concludes that, considering how many persons there are who constantly harbour diphtheria bacilli in the upper respiratory passages, it is not feasible to isolate such carriers The remedy he advocates for this state of affairs is active immunization with diphtheria anatoxin of the neighbours

495 Testing the Virulence of the Diphtheria Bacillus

R SCHROEDER (*C R Soc de Biologie*, October 16th, 1930, p 91) has compared the intracutaneous and subcutaneous methods of testing the virulence of the diphtheria bacillus The intracutaneous method was carried out by injecting 0 2 c cm of a suspension, standardized to 500 million organisms per cubic centimetre, made by washing off a 24 hour ascitic agar culture with saline A positive reaction was characterized by the development of a red infiltration in twenty four to forty eight hours, followed by necrosis one or two days later The subcutaneous test was performed by injecting 1 5 c cm of a 24 to 48 hour broth culture into guinea pigs weighing 300 grams Altogether 229 strains of diphtheria bacilli were examined, of these, 115 proved virulent by the intracutaneous and 159 by the subcutaneous method Two strains proved virulent by the intracutaneous and not by the subcutaneous route The discrepancy between the two methods resembles that obtained by Moshage and Kolmer, who likewise found that the subcutaneous method gave a higher proportion of positive results

496 The Value of Peroral Immunization

R PFEIFFER and H LUBINSKI (*Zentralbl f Bakt*, September 30th, 1930, p 152) have carried out a number of experiments on rabbits to ascertain whether it is possible to produce an active immunity by the oral administration of heat killed bacteria As antigen a thick suspension of El Tor vibrios was used, standardized so that 1 c cm of saline suspension contained 100 mg of bacteria Three doses were given at weekly intervals, and the animals were bled ten days after the last dose In some rabbits the organisms were introduced directly into the stomach by a catheter, in others they were contained in rolls, which were fed to the rabbits in the usual way In some animals sensitization with bile or with sodium benzoate was practised before each dose, in others no preliminary sensitization was attempted The results were very disappointing Not a single animal developed agglutinins as demonstrated by the usual test, a control rabbit, on the other hand, which received a single dose of only 1/25 mg intravenously, gave a titre of 1/160 Examination for bacteri cidins showed that some of the animals which had been given the organisms by a catheter had a moderately bactericidal titre, though very much lower than the animal which had received a single dose intravenously The serum of the animals which had been simply fed with the bacteria was practically devoid of bactericidal action No marked difference was noted between sensitized and non sensitized animals A second experiment was performed in which the organisms were given by a pipette instead of a catheter, so as to avoid any injury to the alimentary mucosa In these animals again no agglutinins were formed, and in contrast to the catheter fed animals of the first experiment there was practically no development of bactericidins The authors conclude that peroral immunization of *rabbits with* killed cholera vibrios calls forth only a minimal antibody response Experiments made on a small number of human volunteers using killed typhoid bacilli, administered along with bile or sodium benzoate, indicated no formation of agglutinins or bactericidins The replacement of the well tried parenteral method by the peroral method of vaccination would, in their opinion, be entirely unjustified

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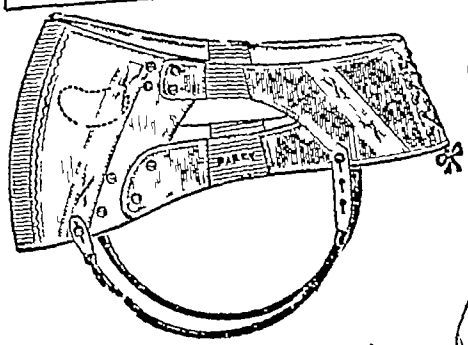
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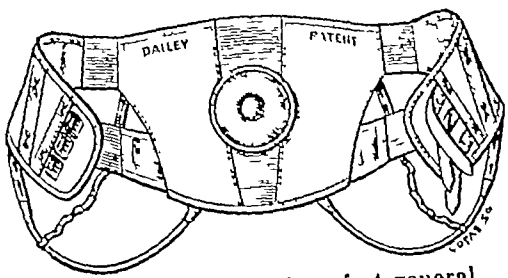
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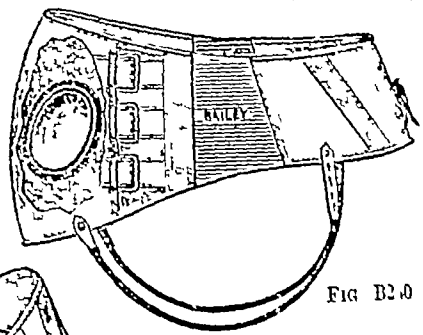


Fig B200

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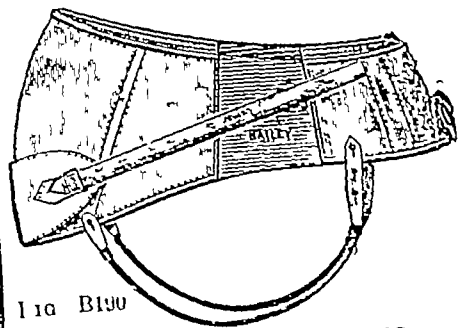


Fig B190

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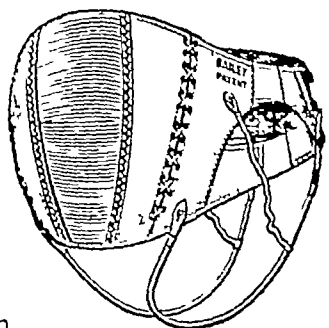
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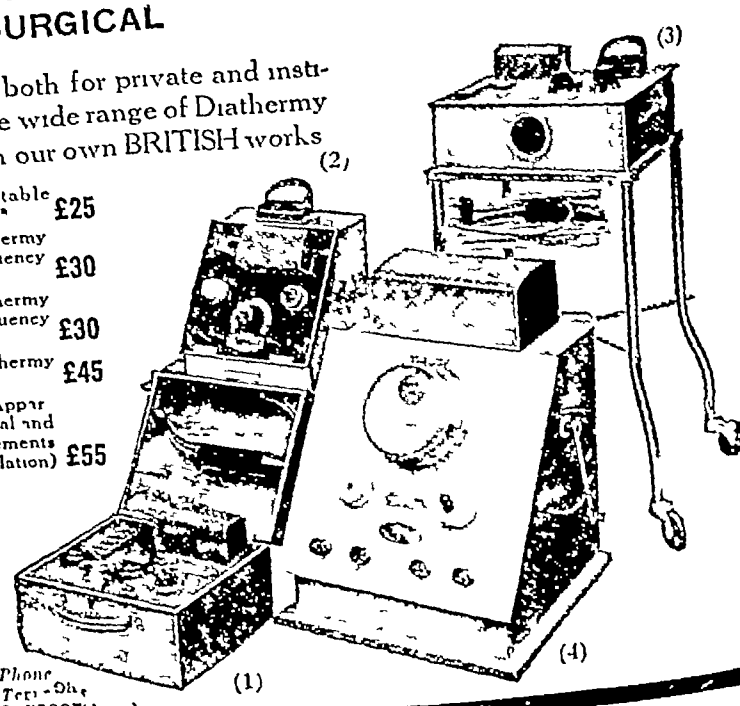
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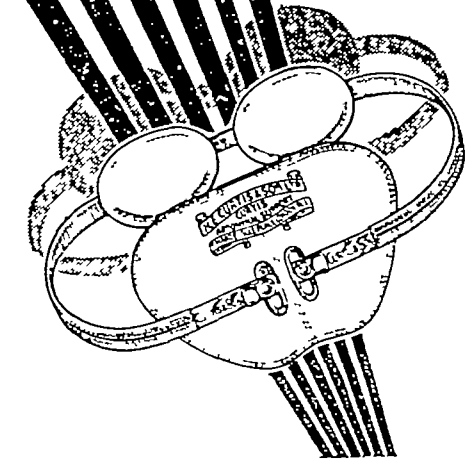
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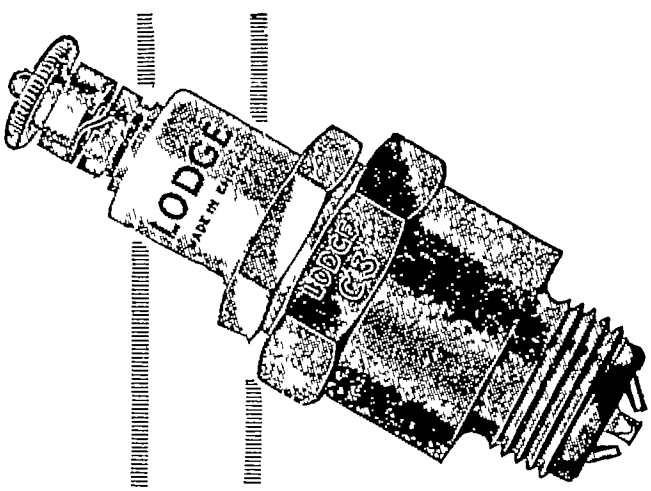
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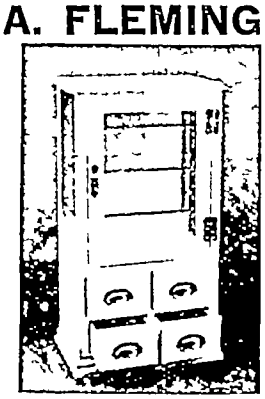
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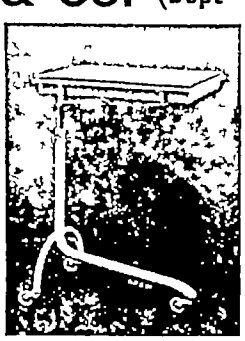
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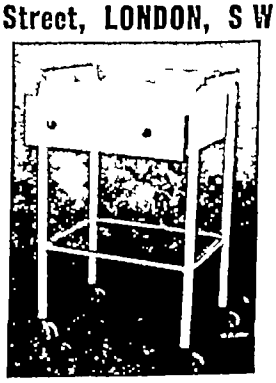
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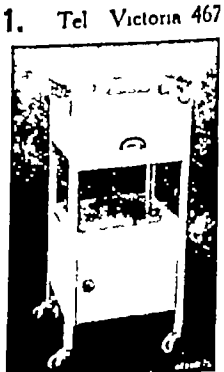
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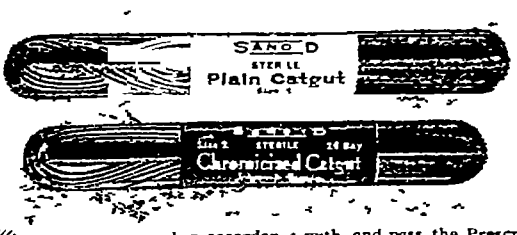
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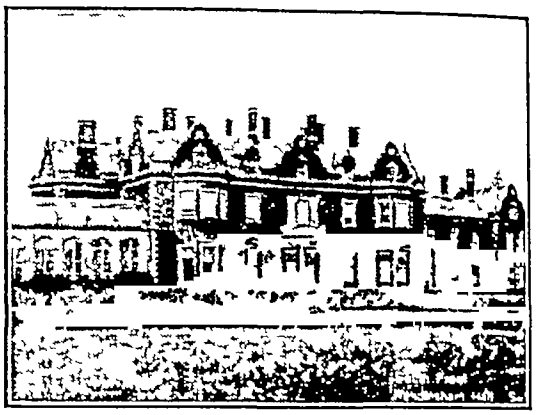
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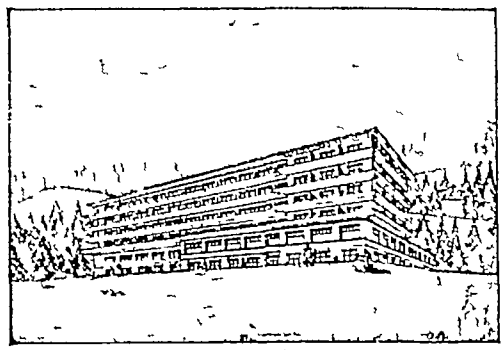
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Royal College of Surgeons of ENGLAND

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Notice is hereby given that the FIRST PROFESSIONAL EXAMINATION will commence on FRIDAY FEBRUARY 6th 1931 and that the SECOND PROFESSIONAL EXAMINATION will commence on FRIDAY FEBRUARY 20th 1931

Candidates are required to give not less than twenty-one clear days notice in writing of their desire to present themselves for these examinations to the Director of Examination Examination Hall Queen Square W C 1 from whom all particular relating thereto may be obtained.

November 24th 1930

University of London

A Course of Five Lectures on *Diseases of Bacteria* will be given by Mr F W TWORT M.R.C.S L.R.C.P F.R.S (Superintendent of the Brown Institution) in the THEATRE OF THE ROYAL COLLEGE OF SURGEONS Lincoln Inn Fields W C (by kind permission of the Council of the College), on DECEMBER 1st, 3rd 5th, 8th and 10th, at 4 p.m.

Admission free without ticket.

S J WORSLEY Academic Registrar

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EDWARD CAREY

November 1930 Registrar

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Candidates who propose to submit published work under the Regulations now in force should apply in writing to the Registrar without delay for detailed instructions as to the procedure they should follow

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Applications on forms to be obtained from the undersigned with copies of not more than three recent testimonials, and endorsed Medical Officer should be forwarded not later than December 9th

(Signed) W J BOARD,
Guildhall Town Clerk
Nottingham

County Borough of Preston

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The appointment is for six months Duties include work in any wards of the Hospital as required and also in the Sharoe Green Maternity Home adjoining

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Town Hall ALFRED HOWARTH
Preston Town Clerk
November 27th 1930

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ST LEONARDS ON SEA SUSSEX

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Applications with testimonials to be sent to the Secretary Buchanan Hospital St Leonards at once

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H. R. NORTH Secretary

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Experience in the correction of errors of refraction and the administration of anaesthetics will be essential

Salary £500 per annum rising by annual increments of £25 to £750 with third class rail fares and reasonable subsistence allowance

The successful candidates will be required to act under the direction and supervision of the County Medical Officer to devote whole time to the service of the County Council and to reside in such place as the Council may determine

The post will be subject to the provisions of the Local Government and Other Officers Superannuation Act 1922

A schedule of the duties to be performed, together with conditions of appointment and a form of application can be obtained from the undersigned to whom applications accompanied by copies of not more than three recent testimonials are to be sent by December 8th

The County Hall, D ROCYN JONES,
Newport Mon County Medical Officer
November 15th 1930

Lancashire County Council

PUBLIC ASSISTANCE COMMITTEE.

PARK HOSPITAL DAVYHULME, near MANCHESTER

APPOINTMENT OF JUNIOR RESIDENT MEDICAL OFFICER

Applications are invited from registered Medical Practitioners for the appointment of a Junior Resident Medical Officer at the above Hospital Candidates should be unmarried

Preference will be given to applicants having experience in Midwifery, Gynaecology, and Diseases of Children

The appointment will in the first instance be for a period of six months the successful applicant being eligible for reappointment for a further period of six months at the end of that period

The salary is at the rate of £200 per annum together with the usual residential allowances

The Hospital comprises 500 beds of which approximately 300 beds are already occupied

Applications accompanied by copies of not more than three testimonials should be addressed to the County Medical Officer Public Assistance (Hospital and Medical) Department County Offices, Preston not later than December 8th

GEORGE J THURTON,
County Offices Clerk of the County
Preston Council
November 13th 1930

Worcester General Infirmary,

WORCESTER (128 Beds)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to commence duties on January 1st 1931 Salary at the rate of £120 per annum, including board residence and laundry

Applications together with three copies of recent testimonials and particulars of age and qualifications to be forwarded immediately to the undersigned

PERCY N CLASS
General Secretary

Chester Royal Infirmary

(211 Beds)

Wanted, HOUSE SURGEON (male) to commence duties December 20th Salary £150 per annum with board lodging, and washing

Application list closes on December 11th

Application forms may be obtained from the undersigned W H GRACE, M D, M R C P
Hon Superintendent of the Resident Medical Staff

Somerset County Council

APPOINTMENT OF [illegible]

The County Council invite applications for appointment as Medical Superintendent at Sandhill Park, Bishops Lydeard near Taunton. Salary at the rate of £850 per annum rising by increments of £50 every two years to £1,062 10s, subject to revision and reduction when a residence is provided Travelling expenses when engaged on County Council work will also be paid in accordance with the scale in operation from time to time

Sandhill Park is a Certified Institution and Residential Special School for the training of mental defectives of both sexes. The Medical Superintendent will also have duties connected with the Institutions at Flax Bourton, Shepton Mallet and Yatton which are ancillary to the main Institution at Sandhill Park and he will be required to carry out such other work in connection with the Mental Deficiency Service as the County Council may from time to time determine and require.

The appointment is subject to the provisions of the Asylums and Certified Institutions (Officers Pensions) Act 1918, and to the Regulations of the County Council in force for the time being

Applications, which must be accompanied by copies of three recent testimonials addressed to the Secretary, Mental Deficiency Acts Committee, 68 Boulevard, Weston super Mare endorsed Medical Superintendent' must be received not later than December 22nd Full particulars as to the duties and conditions of appointment will be forwarded upon receipt of stamped addressed envelope

Lincolnshire (Kesteven) County Council.

ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

Applications are invited for the post of Assistant Medical Officer of Health

The lady appointed will be required to act as an Assistant Tuberculosis Officer and School Medical Officer

Other things being equal, preference will be given to candidates with at least three years standing with special training in the diagnosis and treatment of tuberculosis and with hospital experience including the treatment of diseases of children

The salary of the post will be £600 per annum rising by £25 per annum to £700 per annum subject to satisfactory service together with expenses in accordance with the County scale

Applications together with copies of not more than three testimonials must be lodged not later than Friday, December 5th No forms of application are issued

(Signed) A D PIPER
County Offices, Clerk of the Kesteven
Sleaford Lines County Council

City and Royal Burgh of Dunfermline

ASSISTANT MEDICAL OFFICER

Applications are invited for the joint appointment of Assistant Medical Officer for the Burgh and Resident Medical Officer of the West Fife Infectious Diseases Joint Hospital Dunfermline Inclusive annual salary £400 rising by annual increments of £25 to £475, with board residence, and laundry

Candidates must be registered Medical Practitioners unmarried not over 35 years of age and possess a Diploma in Public Health or equivalent qualification A previous Resident Hospital appointment is essential

Experience in Infectious Diseases School Medical Inspection and Child Welfare work is desirable

Forms of application may be obtained from Dr C BARCLAY RITKIE Medical Officer of Health 24, Queen Anne Street Dunfermline to whom applications, accompanied by copies of three recent testimonials should be delivered not later than December 10th

Canvassing a disqualification
City Chambers, ANDREW SHEARER
Dunfermline. Town Clerk

Queen Mary's Hospital for the
EAST END Stratford E.15
Telephone—Maryland 2016

Applications are invited from fully qualified and registered Medical Men for the following post

One RESIDENT MEDICAL OFFICER Salary £200 per annum
Two HOUSE SURGEONS Salary £120 per annum.
One HOUSE PHYSICIAN Salary £120 per annum
One OBSTETRIC HOUSE SURGEON Salary £120 per annum
One HOUSE PHYSICIAN and RESIDENT ANAESTHETIST Salary £120 per annum
One CASUALTY OFFICER Salary £150 per annum

The Hospital contains 216 beds including 45 Maternity Beds and other Special Depts.

Candidates who should have previously held Hospital appointments must send applications accompanied by testimonials to the undersigned not later than Wednesday December 3rd The appointments will date from January 1st 1931 and will be for six months except in the case of the Resident Medical Officer who will be for twelve month

RAPHAEL JACKSON (Major)
Secretary

Queen Mary's Hospital for the
EAST END E.15

Application are invited for the post of ANAESTHETIST to the Dental Department of the above Hospital

Applications accompanied by copies of testimonials from male candidates only should be forwarded to the undersigned not later than December 3rd

The appointment carries with it an honorarium of £25 per annum and attendance will be required on Monday morning at 9 a.m.

RAPHAEL JACKSON (Major)
Secretary

Miller General Hospital,
Greenwich Road S.E.10

Applications are invited for the following post

HOUSE PHYSICIAN (Male).
HOUSE SURGEON (Male).

Salary in each case at the rate of £125 per annum with board residence and laundry Candidates must be unmarried

OUT PATIENT OFFICER (Male) who is required to see Medical and Surgical cases Attendance daily (except Sundays) from 9 to 1 Tuesdays 9 to 5 Salary £150 per annum and lunch.

The appointments are for six months from January 1st next There are six Resident Officers Application stating age nationality qualification and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary as soon as possible.

November 18th 1930

Wrexham and East Denbighshire War Memorial Hospital
(109 Beds)

The Elective Committee invite applications for the post of HONORARY SURGEON to the Ear Nose and Throat Department of this Hospital

Applications stating age qualifications with copies (only) of not more than three testimonials to be sent to the undersigned not later than first post Monday December 8th.

LESLIE SPENCER
November 11th 1930 Secretary

Darlington General Hospital
(120 Beds)

Wanted HOUSE SURGEON male or female fully qualified British. Salary £150 per annum with board residence, and laundry Special Departments—Ear Nose and Throat Orthopaedic Maternity Ultra violet rays. *Applications stating age experience* qualifications together with copies of two recent testimonials to be addressed to me forthwith.

A RIDDLE Secretary

General Infirmary, Salisbury
(General Hospital—161 Beds)

HOUSE SURGEON (male) required to commence duty at the end of December

Candidates must be unmarried fully qualified and registered Salary £150 with board etc.

Application with copies of testimonial to be sent to the House Governor and Secretary from whom a copy of the rules may be obtained on application.

Down Mental Hospital,
DOWNPATRICK NORTHERN IRELAND

ASSISTANT MEDICAL OFFICER.

The Committee of Management of above Hospital at its meeting on December 20th will consider applications for vacant post of Junior Assistant Medical Officer Salary £300 per annum rising by annual increment of £25 to £400 per annum and with all wances of furnished apartments ration laundry fuel light and attendance valued for pensionable purposes at £150 per annum Additions of 5 per cent will be made from the salary and value of allowances under the Asylums Officers Superannuation Act 1909

Candidates must be unmarried and not more than 32 years of age except that deduction may be made for time served in the Army or Navy during the Great War

Form of application giving further particulars may be obtained from the Resident Medical Superintendent until December 13th.

Hull Royal Infirmary
SUTTON BRANCH

The above Branch will be opened in February next and will be a self-contained modern General Hospital of 100 beds There will be Two Distress posts

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum plus board residence and laundry The appointment will be for *six months* in the first instance and will be terminable by one month's notice on either side

Application stating age qualification and nationality and with copies of testimonials should be sent to the undersigned.

R. J. CARLESS
November 22nd 1930 House Governor

London Temperance Hospital,
Hampstead Road N.W.1

Applications are invited for the post of CASUALTY OFFICER (male). The appointment will be for a period of six months at a salary of £120 per annum and will date as from December 11th Preference will be given to those who have held a resident post

Candidates must submit applications stating qualification age etc with copies of not more than three testimonials by Thursday December 4th addressed to the Secretary

London Temperance Hospital,
Hampstead Road N.W.1

Applications are invited for the post of HOUSE PHYSICIAN (male). The appointment will be for a period of six months at a salary of £100 per annum and will date as from December 16th. Preference will be given to those who have held resident post

Candidates must submit applications stating qualifications age, etc. with copies of not more than three testimonials by Thursday December 4th addressed to the Secretary

Royal National Orthopaedic
HOSPITAL.

HONORARY ASSISTANT SURGEON

The Committee propose to appoint an Honorary Assistant Surgeon whose duties will include attendance in the Out patient Department on Thursday and Friday afternoons and charge of beds. Application with copies of three recent testimonials should be sent to the Secretary 234 Gt. Portland St. W.1 on or before Wednesday December 3rd

King Edward VII Hospital,
WINDSOR. (121 Beds)

HOUSE SURGEON required for six months from date of appointment Applicants must be fully qualified and registered. Salary at the rate of £100 per annum, together with board, residence and laundry

Application stating age qualification and experience accompanied by testimonials should be sent to the undersigned not later than December 6th

ARTHUR E. CHURCHER, Secretary

St Thomas's Hospital
VACANCY

A vacancy occurs in the office of CHIEF ASSISTANT in the Physico-Therapy Department Salary £250 per annum. Applications with testimonials and full details of medical career to be addressed to the Secretary of the Hospital on or before December 9th.

Hampstead General and North-
WEST LONDON HOSPITAL,
Haverstock Hill N.W.

APPOINTMENT OF HOUSE PHYSICIAN

Applications are invited from unmarried Medical Men for the appointment of House Physician vacant on January 1st next. The salary will be at the rate of £120 per annum together with board residence and laundry and the term will be for six months.

Applications to be made on a form which will be supplied by the Secretary to whom with copies of not more than three testimonials should reach the Secretary not later than noon on December 6th next.

Hampstead General and North-
WEST LONDON HOSPITAL,
Haverstock Hill N.W.

APPOINTMENT OF A HOUSE SURGEON

Applications are invited from unmarried Medical Men for an appointment of House Surgeon vacant on January 1st next. The salary will be at the rate of £120 per annum together with board residence and laundry and the term will be for six months

Application to be made on a form which will be supplied by the Secretary to whom with copies of not more than three testimonials should reach the Secretary not later than noon on December 6th next.

The General Hospital,
BIRMINGHAM

Applications are invited for two posts of RESIDENT SURGICAL REGISTRAR

These officers will be attached to Surgical Units and a Surgical Department. The salary will be £100—£120—£140

The appointment will be made for one year in the first instance and be subject to renewal for two further years. Candidates must have held a Surgical post.

Application giving full details of qualification and experience and accompanied by testimonials should reach the undersigned by December 9th.

A. H. LEANEY House Governor.

Bridge of Weir Sanatorium
(15 miles from Glasgow) (165 Beds)

RESIDENT MALE ASSISTANT MEDICAL OFFICER wanted. Duties commence December 19th and include charge of 50 beds for phthisics as well as 75 beds for non-consumptives

The appointment will be for six months in the first instance at the rate of £250 per annum with board laundry etc.

Application stating age qualifications and previous experience and enclosing copies of testimonials should be addressed to E. J. PEILL, *Medical Superintendent, Sanatorium* Bridge of Weir Renfrewshire

Chelsea Hospital for Women,
Arthur Street S.W.3

There will be a vacancy for a JUNIOR HOUSE SURGEON (male) on January 1st 1931 Appointment for six months Salary £160 per annum He will be expected to proceed to the Senior post (six months salary £120 per annum) at the end of his term of office Candidates must be duly registered and preferably unmarried Applications accompanied by copies of three testimonials should be sent not later than Tuesday December 2nd to the Secretary HERBERT H. JENNINGS.

Manchester Babies' Hospital,
Burnage Lane LEVENSHULME

Applications are invited for the following SENIOR RESIDENT MEDICAL OFFICER Appointment is for six months Salary at the rate of £125 per annum with laundry and dates with previous Hospital experience need apply Applications with three testimonials should be sent to the undersigned marked R.M.O. not later than Saturday December 5th.

ANGELA LOPEZ Secretary

The Royal Eye and Ear Hospital,
BRADFORD

Wanted JUNIOR HOUSE SURGEON male Salary £150 with board, residence and laundry

Applications stating qualifications age etc. with copies of recent testimonials to be forwarded to the undersigned

F. BRIGGS
Secretary Superintendent.

Corporation of Glasgow

PUBLIC HEALTH DEPARTMENT

APPOINTMENT OF DEPUTY MEDICAL OFFICER FOR MENTAL SERVICES

Applications are invited from duly qualified Medical Practitioners for the post of Deputy Medical Officer for Mental Services The salary attaching to the appointment is £1 000 per annum rising by biennial increments of £40 to a maximum of £1 200 per annum and the person appointed will be required to devote his whole time to the duties of the office

The successful candidate will also be required to undergo medical examination and if under 45 years of age must join the Corporation Superannuation Scheme, in respect of which deductions are made from salary at the rate of 5 per cent per annum The appointment will also be during the pleasure of the Corporation and subject to one month s notice on either side

The officer appointed will undertake under the direction and control of the Medical Officer of Health such administrative and clinical duties as may be allotted to him in connection with the mental services administered by the Committee on Health and the procedure arising out of the Mental Deficiency and Lunacy Acts His duties will be concerned chiefly with the medical services required under these Acts in their relation to the admission of patients to appropriate institutions the observation wards in general hospitals, the conduct of such services as may be required in respect of clinics and after care of patients co ordination of the functions of the Education, Public Assistance and Health Committees, both as regards lunatics and mental defectives and such other functions as may arise in connection with the work of the Department

Applications, stating age and qualifications and giving full details of previous experience together with copies of not more than three recent testimonials to be sent to the undersigned not later than Monday December 15th next in envelopes endorsed Application for Appointment as Deputy Medical Officer for Mental Services '

City Chambers, Glasgow
November 19th 1930

D STENHOUSE, Town Clerk

Cardiff Royal Infirmary

(Associated with Welsh National School of Medicine)

TWO HONORARY SURGEONS Required

Applications are invited for two vacancies arising in the office of Honorary Surgeon

Candidates must be Masters in Surgery of a University of the United Kingdom or Fellows of one of the Royal Colleges of Surgeons in the United Kingdom and the elected candidates shall not practise Medicine or Midwifery

The present Senior Assistant Surgeons are candidates for the vacancies

Each candidate is required to send fifty copies of his application and testimonials (for circulation amongst the Members of the Election Committee and Medical Board) stating age qualifications appointments held etc and endorsed Honorary Surgeon to reach the undersigned on or before Monday December 8th

LEONARD D REA
Secretary

EXTRACTS FROM RULES

6a No Members of the Honorary Medical Staff shall hold office after attaining the age of 65 years

7 When any Senior Member of the present Honorary Staff vacates his appointment his successor shall hand over one-fifth of the beds of which his predecessor had the care to his Assistant and this proportion of beds shall continue to be under the care of the Assistant in all future appointments

November 24th 1930

City of Leeds

ASSISTANT RESIDENT MEDICAL OFFICER KILLINGBECK SANATORIUM

Applications are invited from registered Medical Practitioners (male) for the post of Assistant Resident Medical Officer at the Tuberculosis Sanatorium Killingbeck (220 beds) Applicants must be unmarried and preference will be given to those who have held previous Hospital appointments.

The appointment will be for one year at a salary of £250 per annum with board, residence and laundry

Applications on a form to be obtained from the Medical Officer of Health together with copies of three recent testimonials endorsed Tuberculosis Officer should be delivered to the Medical Officer of Health 12 Market Buildings Vicar Lane Leeds not later than the first post on Wednesday December 3rd.

THOS THORNTON
Town Clerk.

Leeds.

City of Manchester

PUBLIC HEALTH DEPARTMENT

ABERGELE SANATORIUM (262 Beds)

APPOINTMENT OF MEDICAL SUPT

The Public Health Committee invites applications from qualified Medical Men for the position of Medical Superintendent at the Abergele Sanatorium

The Sanatorium contains 210 beds for pulmonary and non pulmonary tuberculosis in children and 52 beds for pulmonary tuberculosis in adults

Every candidate must be a registered Medical Practitioner have had experience in the administration of sanatoria and in the treatment of tuberculosis in children and adults

Salary £900 per annum inclusive of emoluments (house, coal, and light), valued at £116 per annum

Every application stating fully the training, qualifications, and experience of the candidate and his age with copies of three recent testimonials and endorsed on the envelope Medical Superintendent Abergele Sanatorium, must be addressed to the undermentioned only and not to members of the Committee or Council and must reach him not later than December 5th

The successful candidate will be under the general administrative control of the Medical Officer of Health and will be required to pass a medical examination, to devote the whole of his time to the duties of his office, to contribute to the Corporation Superannuation Fund, and to execute the Deed of Service

Canvassing in any form oral or written, direct or indirect is prohibited

F E WARBRECK HOWELL
Town Clerk

Town Hall, Manchester November 7th, 1930

Edmonton Education Committee

Wanted a fully qualified DENTIST to act as FULL TIME SCHOOL DENTIST under the supervision of the Committee s School Medical Officer The duties will include the inspection of teeth of school children and the treatment of defects Salary £500 per annum, rising by annual increments of £25 (subject to satisfactory service) to £700 The appointment is subject to the Local Government and Other Officers Superannuation Act 1922 Form of application may be obtained from the undersigned and should be returned not later than Saturday December 20th

E O TAYLOR
Director & Sec

Education Offices Bretteham Road Edmonton, N 18 Nov 19th, 1930

Ancoats Hospital, Manchester

Applications are invited for the following posts which will become vacant on December 31st next

MEDICAL REGISTRAR (part-time) Honorarium £100 per annum

SURGICAL REGISTRAR (part time) Honorarium £100 per annum

ORTHOPAEDIC REGISTRAR (part time) Honorarium £25 per annum

Applications, stating age qualifications experience appointments held etc, together with copies of three recent testimonials, to be forwarded to the undersigned on or before Wednesday December 10th next and from whom all particulars may be obtained

By Order of the Board
HERBERT J DAFFORNE
Gen Supt & Secretary

Ancoats Hospital, Manchester

HOUSE SURGEON required (male) for General Surgery and Ear Nose and Throat Department to commence duty on January 1st 1931 for six months Salary at the rate of £100 per annum

Applications stating age, qualifications previous experience, if any, to be forwarded together with copies of three recent testimonials on or before December 17th next, to the undersigned

By Order of the Board,
HERBERT J DAFFORNE
Gen Supt. & Secretary

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES AND CALLOWAY ROYAL INFIRMARY The Institution, which contains over 100 beds is one of the premier Provincial Hospitals in Scotland, and offers exceptional opportunities of gaining experience in all branches of the profession Salary at the rate of £100 per annum, rising to £150 per annum

Applications with testimonials to be forwarded to the Treasurer, Dumfries and Calloway Royal Infirmary, 84 Irish Street, Dumfries, at once.

Salford Royal Hospital

(263 Beds)

Applications are invited for the following vacancies which will occur in the Resident Medical Staff (male) on December 31st next

RESIDENT SURGICAL OFFICER. Salary at the rate of £200 per annum

HOUSE PHYSICIAN Salary at the rate of £125 per annum

HOUSE SURGEON (attached to the Genito Urinary Department) Salary at the rate of £125 per annum

HOUSE SURGEON to Aural Skin and Gynaecological Departments. Salary at the rate of £125 per annum.

CASUALTY HOUSE SURGEON Salary at the rate of £125 per annum

The appointments are for a period of six months with board and residence with the exception of the Resident Surgical Officer, which is for twelve months

Candidates must be registered under the Medical Acts

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognized for the English Fellowship (Final)

Forms of application which may be obtained from the undersigned must be delivered on or before December 10th

By Order of the Board
GEORGE RUDDLE,
Cen Supt. & Secretary

Salford Royal Hospital
November 24th, 1930

City of Sheffield

ASSISTANT TUBERCULOSIS OFFICER (Male).

Applications are invited for the post of Assistant Tuberculosis Officer Salary £500 per annum, rising by annual increments of £25 to £700 Applicants must have been graduated in Medicine and Surgery for not less than three years, and have held a Resident Hospital appointment for not less than six months.

The post has been designated by the Sheffield City Council as an established post for the purposes of the Local Government and Other Officers Superannuation Act 1922 The successful candidate will be required to contribute to th[illegible] ge qualifications, and ex[illegible] copies of three recent testimonials to be sent to the undersigned by December 8th

JOHN RENNIE,
Medical Officer of Health

Town Hall, Sheffield
November 29th 1930

Royal Infirmary, Wigan

(180 Beds)

RESIDENT MEDICAL AND SURGICAL OFFICER AND REGISTRAR.

Wanted January 1st 1931, a Resident Medical and Surgical Officer and Registrar Candidates must have held previous Resident appointments at a Hospital Preference will be given to those possessing the F R C S. or M.S degree The salary is at the rate of £250 per annum with board residence, and laundry The appointment is tenable for one year and the officer is eligible for re election for a second year Applications, giving proof of registration and not more than three testimonials to be sent to the undersigned as soon as possible

A STANLEY BRUNT
Gen Supt & Sec

November 18th 1930

The Royal Infirmary, Sheffield

(500 Beds)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON

The salary attached to the appointment is at the rate of £80 per annum for the first six months and £100 per annum afterwards

There are 68 ophthalmic beds and the post offers exceptional opportunities of gaining experience in Ophthalmology

Applications, with copies of testimonials to be sent to the undersigned forthwith

JNO W BARNES FCIS
Cen Supt and Secretary

Board Room
November 17th 1930

Shropshire Orthopaedic Hospital,

OSWESTRY

Applications are invited for the post of ASSISTANT ORTHOPAEDIC SURGEON on the Visiting Staff of the above mentioned Hospital Salary £450 per annum Duties commence on or about January 1st 1931 and the successful candidate is eligible for annual re election

Applications, together with copies of three recent testimonials and stating experience in Orthopaedic Surgery should be sent to the undersigned by December 10th

JOHN C MENZIES
Secretary Superintendent

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A House Tavistock Square W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary, 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** (*contd.*).	**PUBLIC HEALTH**
EBBW VALE MON (*Workmen's Medical Society*)	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. (*Workmen's Medical Scheme*)	CORNWALL EDUCATION COMMITTEE. (*Assistant School Medical Officer—Female*)
GILFACH GOCH GLAMORGAN (*Workmen's Medical Scheme*)	NEATH AND DISTRICT (*Medical Aid Association*)	PLYMOUTH EDUCATION AUTHORITY (*Deputy Assistant Medical Officer*)
LOWESTOFT MEDICAL INSTITUTE. (*Male Medical Officer*)	OAKDALE MON (*Medical Officer for Medical Aid Association*)	PORTSMOUTH EDUCATIO COMMITTEE. (*Male Assistant School Medical Officer*)
LLWYNYPIA CLYDACH VALE, TENYCRAIC GLAMORGAN (*Workmen's Medical Scheme*)	OGMORE VALLEY GLAMORGAN (*Bridgend Colliery Medical Aid Society*) (*Workmen's Medical Scheme*)	STIRLING ROYAL BURGH (*Medical Officer of Health*)
MARDY GLAMORGAN (*Workmen's Medical Scheme*)		YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. (*Assistant School Medical Officer*)

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B.M.A House Tavistock Square W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES (*All Friendly Society Appointments*)	Dr. R. H. TODD (Hon. Sec. New South Wales Branch) Savings Bank Building 21 Elizabeth St. Sydney N.S.W.	SOUTH AUSTRALIA (*Lodge Appointments*)	Secretary South Australian Branch B.M.A. House 207, North Terrace, Adelaide.	WELLINGTON NEW ZEALAND (*Contract Practice Appointments*)	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch British Medical Association P.O. Box 155 Wellington New Zealand.
QUEENSLAND (*Brisbane Associated Friendly Societies Institute*)	The Hon. Sec. Queensland Branch) British Medical Association B.M.A. Building Adelaide St. Brisbane.	VICTORIA. (*All Institute or Medical Dispensaries*)	Dr. J. P. Major (Hon. Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. (*Contract and Lodge Practice*)	...ton Sec. Western Australian Branch, British Medical Association No. 6 Bank of N.S.W. Chambers St. George's Terr. Perth Western Australia.

November 20th 1930 By Order of the Council ALFRED COX Medical Secretary

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Woolwich and District War Memorial Hospital,
Shooters Hill London S.E.18
(GENERAL HOSPITAL—112 Beds.)

The Board of Management invites applications from suitably qualified candidates for appointment as

(a) HOUSE PHYSICIAN for a period of six months as from January 1st 1931. An honorarium of £100 per annum will be paid in respect of this appointment plus board residence and laundry.

(b) PART TIME PATHOLOGIST at a salary of £300 per annum.

Application in respect of both appointments should be addressed to the undersigned to reach him not later than first post on Tuesday December 9th and full particulars of experience previous appointments etc. together with copies of not more than three recent testimonials should accompany applications.

EDWIN LADFORD
Secretary Superintendent.

Queen's Hospital for Children,
Hackney Road London E.2

HOUSE PHYSICIAN required on January 1st 1930. Six months appointment. Salary at the rate of £100 a year with board lodging and washing.

Applications must be made on forms to be obtained from the undersigned and must be sent in with copies of not more than four testimonials on or before December 10th.

CHARLES H. BENSELL,
Nov. 13th 1930 Acting Secretary.

Connaught Hospital,
Orford Road E.17 (100 Beds.)

RESIDENT HOUSE SURGEON (male) required. Salary £100 per annum. Appointment for six months with board quarters and laundry. Applications stating age nationality qualifications and experience accompanied by copies of not more than three recent testimonials should be sent immediately to the Secretary.

West London Hospital,
Hammersmith Road W.6 (234 Beds.)

Required a Non-resident CASUALTY OFFICER (male). The appointment is tenable for one year from January 1st next subject to one month's notice on either side. The appointed candidate will be eligible for re-election for two further periods of one year. Salary at the rate of £250 per annum with lunch and tea daily. Candidates must be duly qualified registered Medical Practitioners and preference will be given to those who have held a Resident appointment in a General Hospital. Applications (which must be made on printed forms obtained from me) must reach me not later than first post on December 12th. Selected candidates will be required to call upon such Members of the Medical Staff as directed and to be in attendance at a meeting of the Medical Council at 4 p.m. on Friday December 19th, and the House Committee meeting at 4.45 p.m. the same day when the appointment will be made.

H. V. MADGE, Secretary.

The Sheffield Royal Hospital

Required OPHTHALMIC HOUSE SURGEON also RESIDENT ANAESTHETIST to commence duties at once (males). Salary for the first six months at the rate of £80 per annum after which £100 per annum with board residence and laundry. There are twelve Resident Medical Officers.

Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent and Secretary.

West Suffolk General Hospital,
BURY ST. EDMUNDS (102 Beds.)

JUNIOR RESIDENT MEDICAL OFFICER required. Salary £150 per annum with board residence and laundry.

Applicant must be fully qualified and registered. Applications giving particulars of experience and enclosing three recent testimonials to be sent to the undersigned.

E. E. HARDWICKE,
November 11th 1930 Secretary.

West London Hospital,
Hammersmith Road W.6 (234 Beds.)

Required One HOUSE PHYSICIAN One HOUSE SURGEON and One AURAL and OPHTHALMIC HOUSE SURGEON (Male). These appointments are tenable for six months from January 1st next subject to one month's notice on either side. Salary at the rate of £100 per annum with board lodging and washing allowance. Candidates must be registered under the Medical Act. Applications (which must be on printed forms obtained from me) must reach me not later than first post on Friday December 12th. Selected candidates will be required to call upon such members of the Medical Staff as directed and to be in attendance at a meeting of the Medical Council at 4 p.m. on Friday December 19th and the House Committee meeting the same day at 4.45 p.m. when the appointments will be made.

H. V. MADGE, Secretary.

National Hospital, Queen Sq.,
for the Relief and Cure of Diseases of the Nervous System including Paralysis and Epilepsy.

HOUSE PHYSICIAN

The Board of Management invite applications for the post of House Physician which should be sent to the undersigned accompanied by copies of three recent testimonials not later than Monday December 1st. The salary is £150 per annum with board and laundry. The appointed officer will be needed about the end of December.

GODFREY H. HAMILTON
Secretary.

Cheshire Joint Sanatorium,
MARKET DRAYTON SALOP

HOUSE PHYSICIAN required (male). The appointment will be for twelve months. In the first year £250 per annum with board residence and laundry.

Application to be made on forms obtainable from the Medical Superintendent.

(Appointments continued on p. 54.)

ASSISTANCIES

Wanted — Assistant, married man preferred to live at Branch Pleasant house, with salary £350, and rates, etc Industrial country town, N of England Prospects for suitable man Usual bond — Address stating age and other particulars No 7952 B M A House Tavistock Sq, W C 1

Wanted — Assistantship by Indian M B B S 29 good C P experience can drive car used to sole charge of large Practice with or without view London or country —Address No 8207, B M A House, Tavistock Square W C 1

Wanted — Assistantship by Indian Doctor M B D T M, L M Lieut I M S (Ret) 6 yrs charge small hosp, India took Post grad Course F R C S (Ed) married In or outdoor Med salary Exp surg, mid, panel — No 8170 B M A House Tavistock Sq W C 1

Wanted at once, married Assist- ANT, aged about 30 yrs Large Midland City Scotch preferred To live at Branch Must be exper in G P and keen on midwifery Good prospects for suitable man Interview — No 8172 B M A House Tavistock Sq, W C 1

Wanted —Indoor male Assistant (young and unmarried) for Industrial Practice in Northumberland State age, nationality and qualification together with two recent testimonials —Address No 8158, B M A House, Tavistock Square W C 1

Wanted —Indoor male Assistant middle December, ex H S preferred Salary £300—£350 according to experience State full particulars — Address No 8168, B M A House, Tavistock Square, W C 1

Wanted immediately, indoor male ASSISTANT British, for mixed Practice Motor cycle provided Salary £300 per annum —Address giving refs No 8166, B M A House Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male) for Country and Town Practices with and without view State full particulars —British Medical Bureau 33 Cross Street Manchester

Wanted — Assistant, Colliery Practice outdoor £400 p a male Protestant Good Anaesthetist Testimonials and photograph — Address No 8205, B M A House Tavistock Square W C 1

Wanted —Assistant (lady) in an industrial area (Lancs) State essential particulars — Address No 8151, B M A House Tavistock Square W C 1

Wanted — Outdoor Assistant in small country town (with Hospital) North Wales Able to drive car —Address No 8176 B M A House Tavistock Square W C 1

Wanted — Part-time Assistant- SHIP or LOCUM Accustomed to Dispensing Practice London only —Address No 8206 B M A House Tavistock Square W C 1

Wanted — Assistantship, with early view to Partnership or Succession in good private and panel Practice by Scottish M B Ch B aet 26 Five years experience of Hospital and all branches of C P Public Appointments etc Excellent references —Add No 8211 B M A House Tavistock Sq W C 1

Assistant wanted, male, well qualified 30 abstainer preferably unmarried with view Good-class private Practice with surgery Hospital town Outdoor Salary according to experience —Address No 8209 B M A House Tavistock Square W C 1

Assistantship, with view, re- quired by M R C S I R C P 33 single ex Sen H S ex Cynae H S varied G P exp good Anaes excell refs London or South preferred Free now — Address No 8171 B M A House Tavistock Square W C 1

M. B, B Ch (N U I), 1922, desires ASSISTANTSHIP with or without view aged 32 married ex House Physician midwifery anaesthetics Good experience in general practice Highest references —Address No 8166 B M A House Tavistock Sq W C 1

Lady Doctor wishes Assistantship in busy Practice in Midlands or East Anglia. Own car Experienced State salary Free now —Address No 8162 B M A House Tavistock Square W C 1

To London Practitioners — Experienced energetic young man requires ASSISTANTSHIP in Panel Practice with succession next year Capital available Write in strict confidence —Address No 8179 B M A House Tavistock Square W C 1

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Phone Temple Bar 9011 Epsom 9142.

Indian, M B, B S, L R C P (Lond) M R C S (Eng) etc. desires LOCUM or ASSISTANTSHIP (pref in London) Exper in panel and private practice, young energetic abstainer willing to work Free abt Dec 18th —No 8180 B M A House, Tavistock Sq W C 1

M B, woman, desires Locum or ASSISTANTSHIP 4 years G P well received Used to sole charge Free for interview now —Address No 8164, B M A House, Tavistock Square, W C 1

Woman M B, B S (Lond) requires immediately, LOCUM WORK or short ASSISTANTSHIP Ex C O H P H S at London hospitals Can drive a car Free now — Address No 8185, B M A House, Tavistock Square, W C 1

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Tel Temple Bar 1054 Riverside 1254 (*Night Calls*)
Telegrams Reaside Tubercle, Westrand London

PARTNERSHIPS

Wanted — Experienced Jewish Doctor aged 28/30, in sound industrial panel and private Practice Excellent opportunity for one of good address to acquire same Give essential particulars in full confidence —Address No 8174, B M A House, Tavistock Square, W C 1

Wanted —Partnership or Assist- ANTSHIP with view, preferably Manchester or district, by ex H S Senior H P and Hon Anaesthetist, with experience Surgery Eye work and V D also 6 years C P, age 28 —No 8212, B M A House Tavistock Sq, W C 1

Lancs Town —Partnership (half share), view to succession in 2/3 years Approx cash receipts £1 200 p a Panel 1,500 Splendid opportunity for young man —British Medical Bureau, 33 Cross Street Manchester

M. B, B S, M R C S, seeks PARTNERSHIP Seven years sound general experience Scope for medicine, midwifery or anaesthetics Hospital experience No agents — Address No 8159, B M A House, Tavistock Square W C 1

Middlesex — Third Share for disposal of mixed class PRACTICE Total receipts £2 100 increasing rapidly Panel 1 400 Accommodation available Premium required about £1 400 —Apply Peacock & Hadley, Ltd, 19, Craven Street, Strand W C 2

Partner wanted in good general Practice of over £3 000 a year in busy Town in Midlands Fees 5/ to 21/ Appointments £500 a year No panel taken plenty can be had Not much night work Choice of houses 1/4 share for disposal —Apply to Mr Percival Turner 4 Adam Street Adelphi Strand W C 2 who has seen Vendor and can recommend the investment

Partnership, with view ultimate succession old-established Practice outlying London suburb Average income £1 730 Panel and appointments Half share £1 650 Give essential particulars No agents —Address No 8167, B M A House Tavistock Sq W C 1

Yorkshire (W R) —Partnership in good Practice Income £4 230 p a Panel 2 841 Good house to rent at £52 p a Premium—1/4 share—£1 150 for quick sale —British Medical Bureau 33 Cross Street, Manchester

MEDICAL POSTS DISPENSERS etc.

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work also trained in Bacteriological Laboratories of the London College of Pharmacy for Women Preparation for Examinations.—Write wire or 'phone (Park 0969) Secretary, 7 Westbourne Park Road W 2

Appointment required by experi- enced Medical Officer Ten years in Tropics. Either at home or abroad—Address No 8154 B M A House Tavistock Sq W C 1

Birmingham — Wanted, part time WORK (permanency preferred) in panel or private Practice no midwifery live out Telephone Bearwood 1848 —Medical Peace Haven, 5, Fountain Road Edgbaston, Birmingham

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part-time Bookkeeper Dispensers, Secretary Dispensers, Nurse Dispensers and Chauffeuse Dispensers.—Write wire or phone Central 3679, The Reliance Bureau for Dispensers, 12, Holborn Viaduct, E C 1

Dispenser, Chauffeur, seeks situation Willing to perform all duties. Married, no children aged 28 years 10 years experience as unqualified chemist, and driver of own cars —Mr Mitchell, 1 Hornsey Road Anfield, Liverpool

Dispenser —Qualified Lady, excellent testimonials requires POST immediately —Address No 8188, B M A. House Tavistock Square W C 1

Doctor requires Dispenser Book KEEPER, indoors, near large Town and sea, West England Full particulars, salary —Address No 8204, B M A House Tavistock Square, W C 1

Dispenser - Bookkeeper, male (43) desires POST Thoroughly experienced and reliable. Undeniable references Liberty — Dispenser 11, Lanthorne Road, Frizinghall Bradford.

Doctors requiring qualified Dispensers, Nurse Dispensers, Secretary Dispensers or Chauffeuse Dispensers, are invited to write, wire or phone Temple Bar 5858 The Dispensers Bureau, 15 Lindsay House 171 Shaftesbury Avenue London, W C 2.

India — Medical Man in full sympathy with Evangelistic Missionary Work wanted for a HOSPITAL VACANCY in the New Year Must be abstainer and non-smoker If married an advantage Good professional opportunities —Apply, C M O, 189 King's Hall Road, Beckenham Kent

Lady Dispenser - Bookkeeper (Hall) young, six years good experience in private and panel Practices care of instruments etc requires PERMANENT or LOCUM POST with Doctor disengaged Interview — W 16 The Uplands Loughton Essex

Lady (28), owning 1930 Chrysler Saloon seeks WORK with Doctor also help typing German French translation Indoor duties X-ray certificate Small salary —Address No 8178, B M A House, Tavistock Square W C 1

Lady Secretary —Doctor's wife 35 seeks Post as SECRETARY RECEPTIONIST London Shorthand typing book keeping Disengaged Personal interview — Address No 8182, B M A House Tavistock Square W C 1

London experience 31 years in General Practice and Hospitals —Lady DISPENSER (Apoth Hall) young seeks POST in London References — M 17 Ripplevale Grove N 1 or Telephone North 4179

Masseuse (young), fully qualified in massage medical and electric and S R E exp riencd in hospital and private work requires HALF TIME POST in London or environs —Address No 8186 B M A House Tavistock Square W C 1

Lady Dispenser - Bookkeeper (Hall) 8 years experience private and panel Practices 3½ years last post ex V.A.D. help minor operations dressing typing been worker tactful, cheerful Live out Personal interview Disengaged—Miss Fox Trevone Oldfield Road Uttoxeter Staffs

Medical Man, well qualified, with considerable Medical Missionary experience seeks WORK of this character or with a definite Christian object two mornings or two or three evenings weekly —Address No 8153 B.M.A. House Tavistock Square W.C.1

Occupational Therapy —Occupa-TIONS OFFICER (gentlewoman) experienced in handicrafts music care of library requires RESIDENT POST Previous Hospital experience with mental and neurasthenic patients Good tests —No. 8163 B.M.A. House Tavistock Sq. W.C.1

Representative required for X-RAY and ELECTRO-MEDICAL APPARATUS for MIDLANDS office accommodation provided in Birmingham — Address giving full detail of experience salary expected etc No. 8201 B.M.A. House Tavistock Sq. W.C.1

Retired Colonial Surgeon re-quires WORK Excellent refs Much experience Tropics wild country and most kinds of practice Full or Motorist No objection to dangerous expedition —Address 8175 B.M.A. House Tavistock Square W.C.1

The Royal Army Medical Corps ASSOCIATION 86 Eccleston Square S.W.1 (Telephone Victoria 2022) supplies qualified Dispensers Bookkeepers Laboratory Assistants Sanitary Assistants Male Nurses Mental and Special Treatment Orderlies Dental Clerk Orderlies Porters Car takers etc. without charge to prospective employer

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Testimonials Duplicated per return of post Prices per testimonial—12 copies 1/6 50 2/6 100 4/ —Miss NANCY McFARLANE (B.M.J.) 44 Elderton Road Westcliff on Sea.

PRACTICES

Wanted, London preferred, a mixed PRACTICE. Income not less than £1 800 with large panel Medium-sized house to rent (would purchase if necessary). District immaterial providing living accommodation is suitable Lock up considered if flat or house is available within easy distance Premium up to £5 000 cash —Apply THE MEDICAL AGENCY Watergate House Adelphi W.C.2.

Wanted —Practice in London. Income about £2 000 or over with large panel Commodious house and surgery available Replies in confidence —Address No 8190 B.M.A. House Tavistock Square W.C.1

Wanted by M.D., M.R.C.P., PRACTICE in Town or City preferably in South. Small or no panel. Capital available Good house essential. Full particulars in confidence — Address No 8160 B.M.A. House, Tavistock Square W.C.1

Wanted by M.B., B.S. (Lond.), age 28 M.O. H.S. (E.N.T.) also experience in G.P. PRACTICE or PARTNERSHIP Income £1 000 upwards Preferably part panel Replies in confidence — Address No 8155 B.M.A. House Tavistock Square W.C.1

Wanted immediately, sound PRACTICE. Panel about 1 000 Town or country House to rent essential. Full particulars in confidence Cash to deposit £1 000 No agents —Address No 8187 B.M.A. House Tavistock Square W.C.1

Wanted at once, a good mixed PRACTICE, with panel not less than 1 000 and scope Small town or country in South of England Hants preferred.—Address No 8157 B.M.A. House Tavistock Sq. W.C.1

Wanted — Practice or Partner-SHIP in S.W. England producing £1 000 —£1 500 by ex H.S. H.P. aged 28 Country town with Hospital preferred — Address 8175 B.M.A. House, Tavistock Square, W.C.1.

Wanted by exper Graduate, married with £4 000 at command a good genuine PRACTICE or PARTNERSHIP or DEATH VACANCY with about 50 miles of London and income of £1,200—£2 000 a year Free now Good house to rent or buy —Details to 44.2, c/o PERCIVAL TURNER, LTD 4 & 5 Adam Street, Strand, W.C.2

Wanted at once — Unopposed Country PRACTICE, £1 100—£1,500 Panel 700 to 1 000 Ample capital Detached house and good garden essential — Address B.M.P.S. 26 Langham Street W.1

Wanted — Good Panel PRACTICE or PARTNERSHIP Yorkshire preferred —Full particulars in confidence to No 7855 B.M.A. House Tavistock Square W.C.1

Wanted — Panel and Private Cash PRACTICE, within 4 miles radius Camden Town House to rent.—Address No 8203 B.M.A. House, Tavistock Square W.C.1

Death Vacancy —Lancs Town — Average cash receipts £848 p.a. Panel 1 003 Scope Excellent house 2 reception 4 bedrooms Garage and large garden Rent £65 p.a. Premium 1 years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Death Vacancy —Manchester — Old-established panel and private PRACTICE. Average cash receipt £3 006 p.a. Panel 2,586 Assistant kept Good house for sale or rent one large 2 reception 5 bedrooms Premium—Practice—best offer —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Durham — Coast —Old-established PRACTICE for Sale Long introduction No resident opposition Good modern house and garage Gross receipts nearly £1,300 Panel number over 1 200 Capital necessary Price 1 year purchase House by valuation —Address No 8164 B.M.A. House Tavistock Square W.C.1

Dundee, Scotland — Excellent opportunity to acquire good general and panel PRACTICE (panel over 1 650) in centre of town (168 000 inhabitant) Immediate sale owing to sudden death.—For further particulars apply to W. B. DICKIE & SONS Solicitors 11 Whitehall Street Dundee

Eastern Suburb —Old-established cash and panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1 200 part by arrangement — Apply PEACOCK & HADLEY Ltd. 19 Craven Street Strand W.C.2.

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best practices are sold by him without being advertised. Inform free on application.—4 Adam St W.C.2

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For Sale — Private Practice £1 500 per annum including appointment £250 Small panel more refused scope for considerable increase Good house with garage surgery Rent £100 p.a. with option purchase Premium £2,000 Suit Physician Reliable ASSISTANTS required.
GRIFFITHS MEDICAL AGENCY
Trelegar Chambers Newport Mon

Glos — Old-established country PRACTICE for sale Beautiful north Cotswold Panel 1 150 £1,250 p.a. Premium £1 850. Easy terms to suitable man Good detached house £1,500 £1 000 on mortg —No 8210 B.M.A. House Tavistock Sq. W.C.1

Good-class non-panel Practice for sale—near London Doing about £14 per week Fine house garage tennis court Freehold Exceptional prospect Reasonable price —Address No 8181, B.M.A. House Tavistock Square, W.C.1

Isle of Man —Seaside Town — Old-estab. PRACTICE. Receipts average £946 (including £350 p.a. from panel) Semi detached house 3 recep., 4 bedrooms. Garden Good schools. Premium—Practice and house—any reasonable offer — BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

Leeds (near) — Country Prac-TICE. Old-established Income £1,500 Panel £90 Splendid house which is for sale or on rental Premium 1½ years purchase —No. 1004 W.A. WHARRAD (1929 LTD.), Wholesale & Manufacturing Chemists 34 Lady Lane Leeds

Liverpool (near) — Old-estab Mid Medical PRACTICE Cash receipts 1929 £1 451 Excellent corner house 2 reception 5 bedrooms Garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

London E. (5 mins Liverpool Street)—Lady Doctor's PRACTICE Receipts over £4 per week cash and 250 on panel Rent of surgery £2 weekly Premium £350 or near offer — Apply PEACOCK & HADLEY Ltd 19 Craven Street Strand, W.C.2.

London N.W. (Maida Vale) — Well established cash and panel PRACTICE Receipts average £600 p.a. including panel 250 House can be rented Premium £900 —Apply PEACOCK & HADLEY Ltd., 19 Craven Street Strand W.C.2.

Manchester Suburb —Old-estab-lished. — Excellent corner house large garden garage etc., £120 Practice £2 000 Good scope Panel over 1,500 Premium 1½ years purchase or near offer part deferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street.

Manchester — Industrial Prac-TICE. Average cash receipts £978 Panel 721 Limited scope Good house 2 reception 5 bedrooms Rent £50 p.a. Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Manchester —Old-established — Nice house garden rent £50 Receipts (including panel £135) over £600 Great scope Price £1,000 or near offer (to include fittings drugs linoleum coverings and good delts £600) part deferred —MANCHESTER MEDICAL & SCHOLASTIC Assoc., 6 Brown St

Near Leeds — Industrial Town PRACTICE. Average cash receipts £1,280 Panel 1 350 Local Hospital Good house 2 reception 3 bedrooms Premium—Practice—1½ years Purchase —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

North Wales — G.P. wishes to meet Doctor prepared to TAKE OVER 11 PRACTICE immediately Main Line Receipts £700 (panel £300) Personage free rates approximate No capital required House to let —No 8180 B.M.A. House Tavistock Sq. W.C.1

North Wales Coast — Seaside resort—Average income £1 100 Panel 350 Good house Large garden Rent Golf course Premium—Practice—1½ years Purchase —Address No. 8152 B.M.A. House Tavistock Square W.C.1.

North-West Coast — Old-estab mixed PRACTICE. Cash receipts 1929 £1 129 Panel 520 Good Easy working Gross £1 3 reception 3 bedrooms Garage and garden Premium—Practice—1 years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Old-established Practice Average income over £600 Good residential district near London Vendor retiring on retired Member Army Navy or Indian Medical Service House to buy or rent also garage —No 8169 B.M.A. House Tavistock Sq. W.C.1

South Coast —Seaside Resort — Average cash receipts £7—5 Panel 1 700 Excellent house for sale 3 reception 5 bedrooms Premium—Practice—2 years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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Woman's Practice for Sale in industrial area of Midland County established. Panel 1 600 increasing Salary £734 audited. Free to Buyer —Address No 8177 B.M.A. House Tavistock Square W.C.1.

Yorkshire (W.R.) —Large City and district mixed class PRACTICE Average cash receipts £1 178 p.a. Panel 800 Excellent corner house for sale 2 reception, 4 bedrooms Garage etc Premium—Practice—1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester.

Required in the near future, by two experienced Practitioners, good class PRACTICE with panel in town or residential district within easy access of London, and returning approximately £4 000 per annum

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Bournemouth —In a prominent and central position, exceptionally suitable for professional occupation.—Det RESIDENCE for sale, 4 recep, 6 beds, bath, etc Double gar and gard Beaut dec in perfect order —No 8183 B M A House, Tavistock Sq, W C 1

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For Sale — The well-appointed SURGERY, commodious RESIDENCE garage, and premises formerly occupied by the late Dr F W MANN, and situate No 222, Katherine Street, Ashton under Lyne The Surgery has entrance from Cavendish Street and comprises waiting room dispensary and two consulting rooms The Dwelling house has hall entrance 3 entertaining rooms, 4 principal and 3 secondary bedrooms bathroom, kitchen, and domestic offices central heating, electric light —Apply Messrs HIBBERT & POWNALL Solicitors 127, Old Street, Ashton under Lyne

Harewood Chambers, 74 to 80, Gower Street, W C near Marylebone Euston, St Pancras and King's Cross Quiet comfortable rooms h and c Bedroom, bath table d hote breakfast, 7/6 dinner 4/ From 2 gns p w —Phone Museum 3941—2

Oriental or freehold purchase, in charming residential suburb in Kent, specially constructed DOCTOR'S HOUSE recently built Consulting room etc 4 bedrooms bathroom 2 reception rooms 20 mins from London Practice started and increasing on newly developing estate. Good class property —No 8208 B M A House Tavistock Sq W C 1

Queen Anne St —Will shortly BECOME VACANT—A very fine Unfurnished FLAT two rooms and bathroom with whole or part use of handsome Consulting room Suit bachelor —Address No 7856, B M A House Tavistock Square W C 1

To Let —Blackpool — Doctor's HOUSE already fitted Bells speaking tube etc Splendid opening Good district corner house main street Rent reasonable (no ingoing valuation) —12 Green Avenue, South Shore

West London Medical Woman has 1 furnished and from 2 to 6 unfurnished ROOMS TO LET at from 9 to 16 shillings a week each Bath House £98 —Write 89 Stevenson Road W 12

127, Harley Street —Large well-lit ground floor CONSULTING ROOM with excellent attendance and joint use of beautifully furnished waiting room £300 per annum —Apply the Secretary Welbeck 7840

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For Sale — Complete self-contained DISPENSING CABINET in walnut mirroring desk drawers for dressings instruments etc and full range of stoppered dispensing bottles arranged on folding shelves The whole locks up and forms an excellent piece of furniture 4 ft wide 7 ft high Suitable for doctor's dispensary or branch surgery Price £28 (cost about £100) —MAY Chemist Forest Town Mansfield.

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to MEMBERS of the MEDICAL PROFESSION

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For Sale as a whole —Instruments belonging to a deceased Surgeon, including case of oculists lenses astigometer microscope perimeter and various other instruments Inspection before December 5th on application at 7 Hillside, Finchley Road, N W 1

"Percy Hall" Pedestal Model QUARTZ MERCURY VAPOUR LAMP, with Transformer at base and 210 volt A C Burner and shield In excellent condition and almost new 30 gns, or best offer —Apply, MEDICO 78, Bromley Rd, Catford, S E 6

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APPOINTMENTS —Contd

Dr Steevens' Hospital, Dublin

RESIDENT SURGEON and ASSISTANT RESIDENT SURGEON required Applications (before December 15th) to the Secretary

County Borough of South Shields

HARTON HOSPITAL (340 Beds)

Applications are invited for the appointment of Two HOUSE SURGEONS (male) Salary £120 per annum, together with board residence and laundry

Applicants must be registered Medical Practitioners and unmarried

Forms of application may be obtained from the undersigned and should be returned to him completed together with copies of not more than three testimonials on or before noon on Saturday December 13th endorsed How Surgeon

Town Hall J MOORE HATTON
South Shields Town Clerk.
November 25th, 1930

The Royal Infirmary, Sheffield (500 Beds)

APPOINTMENT OF CLINICAL ASSISTANT (Male) to the Ear, Nose and Throat Dept.

OPEN ELECTION

Applications are invited for the post of Clinical Assistant to the Ear Nose and Throat Department which contains 64 beds and a large Out patient Department The salary attached to the appointment is £300 per annum Applicants must have had previous Hospital experience

Applications stating age and particulars of qualifications, etc should be submitted forthwith to the undersigned from whom further particulars may be obtained if desired

JNO W BARNES F C I S
Board Room Gen Supt & Sec
November 26th 1930

Central Hospital, Plymouth (50 Beds)

Applications are invited for the post of HOUSE SURGEON (male or female) which becomes vacant on January 1st 1931

The appointment is for six months but may be renewed for a further six months. Salary £130 per annum with board residence etc

Applications stating age and qualifications together with three recent testimonials should be sent to the undersigned not later than December 13th

WM W URELL, Secretary

Victoria Hospital, Blackpool (132 Beds)

HOUSE SURGEON (JUNIOR) male or female six months Salary £150 per annum with residence board and washing Eligible to apply for Senior post at the end of six months at a salary of £250 per annum Applicants (who must be duly qualified and registered) are requested to send in their applications stating age qualifications and experience with three recent testimonials not later than December 13th endorsed House Surgeon to—

JOHN HACKING Hon Secretary

The Hospital for Sick Children, NEWCASTLE UPON TYNE (92 Beds)

Applications are invited for a RESIDENT HOUSE PHYSICIAN (male or female) to commence duties forthwith until March 31st 1931 Salary at the rate of £100 per annum together with board residence and laundry

Applications stating age and qualifications with copies of testimonials to be sent to the Secretary, Mr NEIL BRODIE 18 City Road Newcastle

November 25th 1930

The Hospital for Sick Children, NEWCASTLE UPON TYNE (92 Beds)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female), non-resident to commence duties forthwith until March 31st, 1931 Salary at the rate of £100 per annum

Applications stating age and qualifications with copies of testimonials to be sent to the Secretary, Mr NEIL BRODIE, 18, City Road Newcastle

November 25th 1930

County Council of Orkney

Wanted a MEDICAL OFFICER for the ISLANDS of WALLS and FLOTTA to take up duties on January 1st 1931

[illegible] with testimonials and [illegible] Commercial

Kirkwall Nov 8th, 1930.

Hampshire County Council

ASSISTANT COUNTY MEDICAL OFFICER.

Applications are invited for the post of Assistant County Medical Officer. Preference will be given to a woman with experience in maternity and child welfare work including maternity centres and ante-natal clinics and in the treatment of venereal disease. Possession of a Diploma or Degree in Public Health is essential and previous experience in public health work tuberculosis and medical inspection of school children will be considered an advantage.

Salary £600 a year rising on approved service by increments to £750 (subject to deductions under the Local Government Officers Superannuation Act), in addition to travelling expenses and subsistence allowances.

Application, with copies of not more than three recent testimonials upon a form which, with the conditions of appointment may be obtained from the County Medical Officer The Castle, Winchester should be sent to him not later than December 20th. Canvassing is prohibited.

November 25th 1930

Staffordshire County Council

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY

A JUNIOR ASSISTANT is required for the above Laboratory. Commencing salary £160 per annum subject to the usual deductions under the Local Government and Other Officers Superannuation Act 1922.

Applicants should have a good knowledge of laboratory routine and the preparation of Media.

Applications stating age and experience and accompanied by copies of not more than three recent testimonials should be sent to the undersigned not later than December 13th.

County Buildings, Stafford. EUSTACE JOY, Clerk of the County Council.
November 25th 1930

Staffordshire County Council

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY

ASSISTANT BACTERIOLOGIST AND PATHOLOGIST

Applications are invited from registered Medical Practitioners for the post of Assistant Bacteriologist and Pathologist.

Salary £600 per annum rising to £800 by annual increments of £50 subject to the usual deductions under the Local Government and Other Officers Superannuation Act 1922.

Special knowledge and experience in general pathology are essential.

Applications stating age and qualifications and accompanied by copies of not more than three recent testimonials should be sent to the undersigned not later than December 13th.

County Buildings, Stafford. EUSTACE JOY, Clerk of the County Council.
November 25th 1930

Staffordshire County Council

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY

An experienced ASSISTANT is required for the above Laboratory. Commencing salary £220 per annum subject to the usual deductions under the Local Government and Other Officers Superannuation Act 1922.

Applicants must have a good knowledge of the technique of section work and the ordinary routine duties of an Assistant in a Pathological Laboratory.

Applications stating age experience and qualifications and accompanied by copies of not more than three recent testimonials should be sent to the undersigned not later than December 13th.

County Buildings, Stafford. EUSTACE JOY, Clerk of the County Council.
November 25th 1930

York Dispensary

Wanted a RESIDENT MEDICAL OFFICER (female) to commence duties if possible not later than January 1st 1931. The Resident Staff consists of Two Medical Officers whose duties are to visit and attend the sick poor in their own homes and to assist the Honorary Staff.

Candidates must be duly qualified registered and unmarried. Some experience of the administration of anaesthetics is essential. Salary £150 per annum with board lodging and attendance and allowance for laundry.

Applications with testimonials to be sent on or before December 6th to JOHN C. PETERS, Secretary 4 New Street York.

London Female Lock Hospital,

283 Harrow Road London W 9

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital. Salary at the rate of £150 per annum with furnished rooms full board, and washing. Candidates who must be doubly qualified and duly registered should send in their applications by December 8th, accompanied by copies of three recent testimonials to the Secretary from whom further particulars can be obtained.

The appointment is for six months commencing January 1st 1931.

By Order of the Board,
HY. J. EASON,
November 25th 1930

The Prince of Wales's General

HOSPITAL, London N 15

Appointments of HONORARY CLINICAL ASSISTANTS in the various Departments of the Hospital (Surgical Medical Gynaecological Ear Nose and Throat Eye Skin X-ray and Electrical) for the ensuing year will be made in December.

Applications for appointment to any of these posts should be sent to me on or before Tuesday December 2nd next.

J. C. BUDDETT, Director.
November 10th 1930

Seamen's Hospital Society,

Greenwich S.E.

HOUSE SURGEON required at TILBURY HOSPITAL, ESSEX for six months from January 1st 1931. Salary £150 per annum with board residence and laundry. Candidates must be male. Applications with copies of three testimonials to be sent in by December 10th to the undersigned.

Greenwich. R. E. V. BAX,
November 22nd 1930 Secretary.

Seamen's Hospital Society,

Greenwich S.E.

HOUSE PHYSICIAN and HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from January 1st, 1931. Salary £110 per annum and a proportion of fees with board residence and washing. Candidates must be male. Applications with copies of three testimonials to be sent in by December 10th to the undersigned.

Greenwich. R. E. V. BAX,
November 22nd 1930 Secretary.

Seamen's Hospital Society,

Greenwich S.E.

RESIDENT MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road, E.16 for six months from January 1st, 1931. Salary £110 per annum, and a proportion of fees with board residence and washing. Candidates must be male. Applications with copies of three testimonials to be sent in by December 10th to the undersigned.

Greenwich. R. E. V. BAX,
November 22nd 1930 Secretary.

Loughborough and District

GENERAL HOSPITAL & DISPENSARY

Wanted to commence duties on January 1st next RESIDENT HOUSE SURGEON (female and unmarried) possessing a Medical and Surgical registered qualification. Practical experience in the administration of Anaesthetics is required. Salary £150 with apartments board, and laundry. All applications stating age etc., with copies of testimonials to be sent to me at once.

9 Leicester Road, Loughborough. FRANK H. TOONE, Secretary.
November 17th 1930

Pontefract General Infirmary

Wanted HOUSE SURGEON (male) January 1st 193-. Workload by surgical 60 beds 1929-30 in patients 1175. Major operations over 500 a year. Salary £150 with board apartments and laundry.

Applications stating age and qualification and three copies of recent testimonials should be addressed to HERBERT HOLMES, Secretary Repergate Pontefract.

The Royal Liverpool Children's

HOSPITAL, Myrtle Street LIVERPOOL.

A vacancy has occurred for One RESIDENT HOUSE PHYSICIAN. Salary at the rate of £100 per annum. The appointment will be for a period ending March 31 1931. Duties to be taken up at an early date.

Application with copies of recent testimonials, to be sent to the Secretary Royal Liverpool Children's Hospital, Myrtle Street, Liverpool.

Administrative County of

LONDON

HOSPITAL SERVICE.

The LONDON COUNTY COUNCIL invites applications from duly qualified Medical Practitioners for appointment to the undermentioned position. The person appointed will be required to carry out such duties as may be assigned by the Medical Superintendent and, should occasion arise, to assist at any of the other establishments or medical districts under the control of the London County Council. The successful candidate will be required to live in the Hospital.

ST. LUKE'S HOSPITAL, LOWESTOFT (on sea front). (205 beds for non-pulmonary adult male and female cases. Light treatment and X-ray facilities.)

JUNIOR ASSISTANT MEDICAL OFFICER. Salary £500 a year. Board lodging and laundry will be provided for which a charge (at present £130 a year) is made. Candidates must have held a Resident appointment in a General Hospital and must be under 30 years of age. There is no accommodation for a married man or for a woman.

The salary and conditions of appointment are provisional and subject to review by the Council.

Forms of application may be obtained (stamped addressed foolscap envelope necessary) from the Medical Officer of Health (Staff Division 4a). The County Hall Westminster Bridge S.E.1 and must be returned by December 12th. Canvassing disqualifies. Inquiries for further details as to the nature and scope of the duties should be addressed to the Medical Superintendent at the Hospital.

MONTAGU H. COX,
Clerk of the London County Council.

Royal Devon and Exeter

HOSPITAL, EXETER.

PATHOLOGICAL DEPARTMENT

Applications are invited for the post of Pathologist shortly becoming vacant at this Hospital.

A retaining fee of £500 per annum will be paid by the Hospital. The appointed officer will be allowed to engage in private practice the Hospital taking a certain percentage of the fees.

Full particulars may be obtained from the undersigned.

Applications together with certificates of birth and registration and original testimonials which twelve copies should be delivered to the undersigned not later than Wednesday December 31st.

S. S. COLE,
Secretary & Manager.

N.B.—Canvassing of any Members of the Elective Committee is forbidden by the Rules of the Hospital.

Central London Throat, Nose,

AND EAR HOSPITAL,
Gray's Inn Road, W.C.1.

ASSISTANT IN THE OUT PATIENT DEPT.

There is a vacancy for an Assistant in the Out-patient Department.

Assistants are graded first, second, and third according to experience in the Chest Department of the Hospital.

The post is an honorary one tenable for one year subject to re-election. A tenure is required on Mondays at 2 p.m. and on Tuesdays at 5 p.m. to assist the Surgeons in seeing patients.

Applications (which may be for one or both of the days mentioned) should be sent to the undersigned immediately.

JOHN H. YOUNG,
Secretary Superintendent.

Birkenhead General Hospital

(156 Beds)

SENIOR HOUSE SURGEON (gentleman) wanted immediately. Salary £100 with board residence.

Application stating qualifications, experience and enclosing with three testimonials to be sent to the undersigned as early as possible.

W. H. DANIELS, M.B.E.,
Secretary Superintendent.

Queen's Hospital for Children,

Hackney Road, London E.2.

HOUSE SURGEON (male or female) required as soon as possible. Six months appointment. Salary at the rate of £100 per annum. Board lodging and washing. Applications must be made on forms to be obtained from the undersigned, and must be sent in with copies of not more than two testimonials.

CHARLES H. BESSELL,
Nov. 24th, 1930 Acting Secretary.

Telephone WELBECK 2728
Telegrams ASSISTIAMO LONDON

NURSES

MALE OR FEMALE

TRAINED NURSES FOR MENTAL, MEDICAL, SURGICAL, AND LIVER CASES

Nurses reside on the premises and are available for urgent calls Day or Night

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29, York St, Baker St, London, W 1

Mrs MILLICENT HICKS *Supt*
W J HICKS, *Secretary*

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GLASGOW 28 *Windsor Terrace*
DUBLIN 23, *Upper Baggot Street*
TELEPHONES
London 1277 Welbeck (Two Lines)
Manchester, 3152 Ardwick
Dublin, 531 Ballsbridge Glasgow, 477 Douglas
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Tactear London Surgical Glasgow
Tactear Manchester Tactear Dublin

ST. LUKE'S HOSPITAL

FOR MENTAL DISORDERS

Private Nursing Staff Department.

Trained Nurses for Mental and Nervous Cases can be had immediately

Apply to Lady Superintendent
19, Nottingham Place London, W 1
Telephone Mayfair 5420
Northern Branch—Apply Lady Superintendent
67 Clarendon Rd Leeds Phone Leeds 26165

Royal Southern Hospital, LIVERPOOL

Applications are invited for the post of HONORARY DENTAL SURGEON the duties to include attendance at appointed times for consultation and for the treatment of In patients and Out patients referred by the honorary staff

Applications and testimonials to be sent addressed to the Chairman of the Honorary Medical Officers Election Committee not later than noon on Saturday December 6th

EXTRACT RULE 17 —Any candidate shall be disqualified who advertises in the public papers or personally canvasses the members of the Election Committee but candidates are to be at liberty to send to the members copies of their applications and accompanying documents as delivered to the Chairman of the Committee

ALLEN MALDRET
Supt & Secretary

St Mary's Hospital, W 2

SURGICAL REGISTRAR

The Board of Management invite applications for the above post Candidates for the appointment must be registered Medical Practitioners and Fellows or Members of the Royal College of Surgeons of England or Graduates in Surgery of a University in the British Empire

The salary is £200 per annum with luncheon and tea Copies of the regulations for the Surgical Registrar may be obtained on application to the Secretary's Office

Applications with copies of testimonials not exceeding three in number should reach the undersigned on or before Wednesday Dec 10th

The successful candidate will be expected to take up his duties on January 1st 1931

W PARKES Secretary

Mildmay Mission Hospital, Antrim St Bethnal Green N 2

Applications are invited for the post of ASSISTANT CASUALTY OFFICER (female) which becomes vacant on January 1st 1930 The appointment is non resident and for six months Salary £125 per annum

Candidates must be registered under the Medical Act and the Mildmay Council is anxious that they should be fully in sympathy with the religious work of the Hospital

Applications with copies of recent testimonial should be sent to the Medical Superintendent before December 9th

British Medical Bureau

NORTHERN BRANCH
(THE S C & M ASSN, LTD).
LATE THE
MANCHESTER MEDICAL AGENCY

33, CROSS STREET, MANCHESTER

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MEDICAL TRANSFER AGENCY,
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Telephone Central 2680

This old established Agency negotiates the Sale of PRACTICES and PARTNERSHIPS on reasonable terms, which can be obtained on application No charge unless sale be effected

LOCUM TENENS and ASSISTANTS supplied free of charge to principals.

THE WESTERN MEDICAL AGENCY, BRISTOL

This Agency undertakes all Medical Transfer work and the supply of Locums and Assistants Personally supervised by Drs K H Bennett and W J Paramore

Telephone Bristol 4689 Phoenix Chambers, 22, Clare Street, Bristol
Telegrams Medgen Bristol

THE MANCHESTER MEDICAL & SCHOLASTIC ASSOCN, Ltd,

The oldest Medical Agency in Manchester,
6, BROWN STREET
Telegraphic Address STUDENT, MANCHESTER.
Telephone 5932 CITY

TRANSFERS and PARTNERSHIPS arranged, and Investigations Valuations &c undertaken ASSISTANTS & LOCUM TENENS SUPPLIED PRACTICES for Sale Particulars on application

Messrs R SUMNER & Co, Ltd,

Manufacturing Chemists,
40, HANOVER ST, LIVERPOOL,

DEATH VACANCY PRACTICE for disposal in Lancashire Town Receipts £810 per annum Number on panel 1,000 Old established House on rental

LIVERPOOL PRACTICE for Sale Receipts £1 054 per annum Number on panel nearly 400 Established 31 years House can be had on rental Reason for disposal ill health

Western Ophthalmic Hospital

SURGICAL REGISTRAR Required

Applications are invited for the post of Surgical Registrar Applicants must have had previous Ophthalmic experience including Pathology, and must possess the F R C S (Eng) or propose taking the necessary examinations There will be an honorarium attached to the appointment Applications with copies of not less than three testimonials, should be sent to me by December 12th

Western Ophthalmic Hospital, Marylebone Road London N W 1
H W BURLEIGH
Honorary Secretary

Huddersfield Royal Infirmary (200 Beds)

Male HOUSE SURGEON required to commence duty January 1st 1931 Salary £150 per annum with board residence and laundry Appointment terminates June 30th 1931 but is subject to renewal for further three or six months

Applications with copy testimonials to be addressed to the Secretary not later than December 12th.

THE OLDEST AND LEADING MEDICAL AGENT

PERCIVAL TURNER, LTD

(Established 50 years.)
4 & 5, ADAM ST, STRAND, W C 2.
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After Office Hours EPSOM 9142.

Terms post free on application.

London Suburb—£2,800 a year PARTNERSHIP and Succession. Old established General Practice Panel 1 900, Detached house and garden Vendor retiring —No 8768

London, W — £5,000 a year PARTNER wanted to replace one retiring Old estab Panel of 4 000 Quarter share at first Good fees Good house avail—No 8/6

Scotland, N — £864, easily worked Panel and appts £614 Visits 3/6 up Detached house, 3 recep 5 bed, etc Rent £25 Prem £800 incl furn—No 8/66

Leics—About £400 p a Stope to young man Panel 350 Good house 5 bed Rent £42 p a Good schools and hunting—No 8763

Favourite South Coast Resort—Average £2,500 Panel 1 500 Fees 5/6 up Excellent house 6 bed, 2 reception, and large garden—No 8762

Somerset — Cy Town — Share worth £700 after preliminary Assistance Very little midy Visits 3/6 Increasing practice—No. 8761

Oxon—Country Practice nearly £1,200 p a Panel over 1,000 Visits 3/6 to 10/6 House, 4 bed, surgery, etc —No 8763

S. Midlands—Average £756 p a Town of 45,000 Small panel Fees 3/6 to £1 1s Large house and garden Smaller ones available—No 8750

London S E—Over £800 Cash and panel of 880 Visits 2/6 to 3/6 Shop front surgery, with living accommodation —No 8749

Salop — Country—£1,030 p a Panel and appts £460 Visiting fees 5/ up Modern house 5 bed etc, large garden, to rent Easy terms—No 8747

Hants (15 miles from sea)—Nearly £1,000 p a Panel 240 Scope Fees 5/6 to 15/ House 2 reception, 6 bed surgy and large garden—No 8744

South Coast — Within 60 mile Over £1 000 increasing rapidly Panel 500 Clinic £50 Fees 3/6 to 12/6 Good house, 4 bed, etc—No 8742

Surrey — Rapidly increasing PRACTICE Receipts over £830 Panel 580 Excellent house, 8 bed, with large garden to rent—No 8741

Glos — Country—Over £1,250 p a Panel nearly 1 100 Fees 3/6 to 5/- Detached house 1/4 acre £1,000 down balance over 4 years—No 8740

Ulster — Seaside Town, about £750 Great scope Panel over 600 increasing Fees 2/6 to 7/6 and up House, 5 bed, etc—No 8738

S. Wales — Average £3,360 1/2 share for sale Panel 3 000 Visits 3/6 Good house, 4 bed Premium only £1,500 —No 8736

London, S W — £630 p a increasing Panel 400 Visits 3/6 Midwifery 3 gns up Small house on main road —No 8730

Devon—Dispensing Practice in large village averaging £940 p a Fees 5/ to 2 gns Surgery 2/6 to 7/6 Large house with an acre and cottage for £3 000 of which £2 500 could remain or for sale without house—No 8727

S W County near Coast—Dispensing PRACTICE over £2 000 p a chiefly agricultural Visits 5/ up Surgery 2/6 up 1,100 panel—No 8728

North Wales—Old-established —About £900 p a Panel £292 Agricl Cottage Hosp Scope surgery Good house Garage and garden—No 8692

SPECIAL NOTICE

FINANCIAL ASSISTANCE to enable purchasers to obtain Practices and Partnerships can be afforded to approved applicants. Full particulars on application to Mr Percival Turner

THE MEDICAL AGENCY

(ESTABLISHED BY J. A. REASIDE IN 1893)

WATERGATE HOUSE, 15, YORK BUILDINGS, ADELPHI, W.C.2

Telephone { TEMPLE BAR 1654 / RIVERSIDE 1254 (*Night Calls*) *Telegrams* REASIDE TUBERCLE, WESTRAND LONDON

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice. Suitable house available. Receipts nearly £3,500. Panel 2,262. Fees 3/- up. Several appointments. Hospital Scope for surgery. Good schools. Premium for 1/3 share £2,030. Terms considered to the right man.

LONDON, W.—PARTNERSHIP in old-established Practice. Busy residential locality (firm of three). Receipts over £5,000 p.a. Panel 4,000. Suitable house to rent on lease. General Hospital in close proximity. Premium for 1/4 share (to commence with) 2 years purchase.

LONDON, E.—Well-established PRACTICE in middle-class residential locality. Corner house to rent on lease (4 bedrooms) garden, garage etc. Receipts just over £800. Books audited. Panel 718. Fees 2/- up. Premium £1,250.

LONDON, N.E.—Mixed General PRACTICE, established 5½ years. Professional accommodation consists of three rooms, centrally situated, held on agreement at £100 p.a. Receipts approximately £530. Fees 2/-. Panel 430. Premium £650 cash. Scope for further development.

CHESHIRE.—Well-established PRACTICE, with excellent scope for panel if desired. Modern semi-detached house containing 4 bedrooms, etc. Garage. Small panel. Receipts approximately £500 p.a. Fees 3/6 up. One appointment worth £150. Midwifery 5 gns. Premium open to reasonable offer.

KENT.—PARTNERSHIP is offered in growing Practice situated within 45 miles of London. The minimum income for the first year should be at least £400, of which £350 is from appointments. Small panel. Suitable to experienced man aged about 26, having held House appointment. Excellent scope. Further details on application.

LONDON, E.13.—NUCLEUS working-class PRACTICE (mostly cash) situated in thickly populated locality. House to rent at £60 p.a. (part sub-let at £26 p.a.). Receipts approximately over £400. Panel 400. Fees 1/6 up. Mid. 2 to 3 gns. Premium £500.

BEDS.—NUCLEUS *middle-class Country PRACTICE. 14-roomed house.* Garden, garage etc. Receipts nearly £500 p.a. Fees 3/6 up. Premium £300 for Practice or £1,000 with house. House could be rented at £63 p.a. Scope.

MIDDLESEX.—RIVERSIDE SUBURB PARTNERSHIP in rapidly growing Practice. Receipts £1,500. Two appointments worth £660. Panel nearly 1,000. Premium for 1/3 share with view to larger share £700. Suitable accommodation available.

EAST MIDLANDS.—PARTNERSHIP in better middle-class Practice. Ten roomed house available. Receipts nearly £2,000. Fees 3/- up. Up-to-date Hospital. Scope for surgery. Premium 1/3 share with view to larger share £1,300. Opposition five.

SOUTH COAST.—Well-established G.P., situated in growing seaside locality. Excellent scope. Medium-sized house, large garden, garage etc., available. *Receipts approximately £1,600. Small select panel of 250.* Fees 10/6 up. Premium for Practice 1½ years purchase.

MIDDLESEX.—NUCLEUS private non-dispensing PRACTICE with small panel situated in recently developed residential locality. Detached corner house, 9 rooms. Receipts £432. Panel 39. Visits 7/6 up. Consultations 5/- up. Midwifery £5 5s. up. Premium £600. House £2,200, part may remain on mortgage.

MIDDLESEX (W.).—Middle and working-class PRACTICE in rapidly growing residential locality. Fees 5/- up. House (9 rooms) freehold property of the Vendor, garden, garage etc. Receipts nearly £800. Panel 300. Scope for surgery. Cottage Hospital. Premium for Practice £1,100. House £1,700 mortgage to remain.

LIVERPOOL (Near).—Mixed G.P. Medium sized house with large garden. Branch Surgery. Receipts £2,500. Panel 2,600. Fees 2/6 up. Scope for surgery if desired. Premium 1½ years purchase.

BLACKPOOL (Near).—*Well-established middle and working-class PRACTICE.* Suitable 8 roomed house available with garden, garage etc. Receipts nearly £1,200. Panel (about) 250. Premium for house and Practice £3,250.

KENT.—Under 50 miles from London.—Well-established rural PRACTICE. Receipts over £2,200 p.a. Panel 1,200. Hospital within easy distance. Fees 3/- up. Half share PARTNERSHIP entertained at 2 yrs. purchase or whole Practice may be bought at terms to be agreed.

KENT.—Within 25 miles of London. well-established PRACTICE, situated in growing locality with ample scope for development. Receipts nearly £1,100. Panel over 300. Suitable residence to let. Alternative *accommodation available. Premium £1,500.*

LONDON, W.10.—Cash and Panel PRACTICE, situated in middle and working-class locality. Suitable accommodation available to rent at £70 p.a., inclusive. Fees 2/6 up. Midwifery 2 gns. up. Panel 300. *Books audited. Receipts £385. Premium £600.*

KENT (Seaside).—PARTNERSHIP in good middle-class Practice with excellent scope for increase. Receipts nearly £1,900. Panel 700. 1/2 share at 1½ years purchase. Suitable to experienced Practitioner aged about 27—35.

BERKS.—Town PRACTICE, within 60 miles of London.—Middle and working-class. Receipts nearly £900. Panel 535. Fees 2/6 up. No midwifery (scope). Suitable house available. Premium 1½ years purchase.

GLOS.—Mixed Town PRACTICE. Receipts over £1,800 p.a. Panel 2,146. Fees 2/6 up. Three Hospitals. Good schools. Scope for increase. Alternative accommodation available. Premium for Practice £3,640 or near offer. PARTNERSHIP considered.

NOW UNDER THE PERSONAL SUPERVISION OF WILLIAM H. GRANT

MR. HERBERT NEEDES,

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(Temple Bar 3873) —— (Estab. 1860.)

This Agency (the oldest in the Kingdom) undertakes the SALE of PRACTICES and PARTNERSHIPS, AUDITS and VALUATIONS, and the SUPPLY OF LOCUMS and ASSISTANTS.

No Charge to Purchasers. All Business receives Mr. NEEDES' personal attention.

1. SOUTH WEST COAST.—Good middle-class PRACTICE of £2,300, including a select Panel of 1,500 in well known resort. Price with efficient introduction £4,000. Convenient residence well adapted for a doctor available at £1,900.
2. COUNTRY PRACTICE near Salop Borders and well known Spa.—Income over £1,000, including panel and appts. £350. House and garage on lease at £60. Prompt buyer can secure same at £1,000 cash to include furniture and car.
3. HANTS.—PRACTICE of nearly £1,000 p.a. in small *pleasant Town with Cottage Hosp.* Small panel. Patients all class. Capital premises, garage and nice garden. For sale or lease granted. Price £1,250.
4. LANCS.—For Sale at £1,500 a *middle-class* PRACTICE of £1,200 in a clean and well to-do town of about 40,000. Panel 900. Fees 3/6 to 7/6. The house is well situated and very convenient with garage. Lease can be had at £75.
5. S. WALES.—PRACTICE of £2,500—£3,000 in mining area. Panel £2,000. Premium £2,000 cash. Details on application.
6. NURSING HOME in Harrow area.—Mainly maternity. Licensed for six cases. Full up for next six months. Fees 6 gns. Excellent premises and ground. Returns over £700 growing. Price to include furniture (valued £400) £700.
7. *REQUIRED in London or other large town* (preferably Midland or South) a PRACTICE of £2,500 with a good panel and *family residence. Money no object if investment is suitable.*
8. REQUIRED on N.W. Coast.—PRACTICE or PARTNERSHIP £800—£1,500 a year by Scotch Graduate. Capital to invest £2,000.
9. REQUIRED by Two Young Medicos PRACTICE of £1,300—£1,500 with panel of not less than 1,500 in the outer circle of London within 30 miles. Details in confidence to Mr. NEEDES.

ESTABLISHED 1877

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The Birmingham Medical Agency, 71, TEMPLE ROW, BIRMINGHAM

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1. NORTH OF ENGLAND — Panel Private, Colliery and Club PRACTICE. Receipts av. £800 p.a. Panel 650. Appts. £350. Good house to rent. Consid. scope for energ. man.
2. MIDLANDS.—Panel and Private PRACTICE. Estab. 5 years. Receipts over £700, panel 350, both increasing. Appointments worth about £70. House to rent. Garage etc.
3. WEST COUNTRY.—SEAPORT TOWN (residential district) — Well estab. better and middle-class PRACTICE. Receipts over £1,225. Panel 303 and ample scope. Attractive house, garage etc.
4. LANCASHIRE. — Well-estab. middle and better-class PRACTICE. Receipts £988, panel 900, both increasing. Appts. £30 p.a., trans. Good house, garage and all conveniences.
5. WEST MIDLANDS.—Well-estab. PRACTICE in market town and agricultural district. Receipts £1,572. Panel 560. Appts. worth £118. Good house, garage etc.
6. BERKS. (Country Town).—PARTNERSHIP 2/5 share with short prelim. Assistant's hip and ultimate Succession). Receipts average £1,146 p.a. Panel about 550 and good scope. Appointments worth about £250. Good fees and house.
7. LANCASHIRE.—Old-estab. Panel and Industrial PRACTICE. Receipts £2,242 and increasing. Panel 1,450. Appointments *worth about £95. Good house to rent.*
8. MIDLANDS — COUNTY BOROUGH — Well estab. better middle-class PRACTICE. Receipts average over £2,700 p.a. Panel recently started, and increasing rapidly. Good fees, house etc.

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(FOUNDED 1880)

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The Association has long been favourably known to the members of the Medical Profession as a thoroughly trustworthy and successful Agency for the transaction of every description of Medical, Scholastic and Accountancy business, and the BRITISH MEDICAL ASSOCIATION have every confidence in recommending its members to consult Mr A V STOREY, the General Manager, in all transactions requiring the services of a Medical Agent

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The business undertaken by the British Medical Bureau is divided under the following heads —

TRANSFER OF PRACTICES, PARTNERSHIPS, etc.

Medical Practitioners wishing to dispose of Practices, or desiring to take Partners, are advised to negotiate the business through the British Medical Bureau Vendors may depend upon receiving introductions only to eligible and bona-fide purchasers All information is treated in strictest confidence Full and trustworthy information regarding Practices, Partnerships, etc , for disposal, supplied gratis to Purchasers

ASSISTANTS AND LOCUMTENENTS

Assistants and Locumtenents can be secured at short notice It is the foremost aim of the British Medical Bureau to ensure that only the most Trustworthy and Reliable Locums and Assistants are sent out

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Medical Men wishing to receive Resident Patients should enrol their names on the books of the British Medical Bureau A large number of Patients are placed yearly through this medium

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The British Medical Bureau has its own staff of fully qualified Accountants wholly engaged on medical work—i e , Investigation of Practices for purchasers, Income Tax, Auditing Books & Accounts, etc

Practices and Partnerships for Disposal **Full particulars sent free.**

1 HOME COUNTIES —Partnership in Practice over £7 000 p a in progressive town within 20 miles of London Panel about 2,000 Partner required for new developing district where suitable house could be purchased Good Hospital and scope for surgery Graduate or preferably F R C S required Share £800/£1,000 at 2 years purchase.

2 LONDON, W — Partnership in Practice nearly £5 000 p a in Western suburb Panel 4 000 House (5 bedrooms etc) with small garden to rent Plenty of scope One fourth share at first at 2 years purchase

3 YORKSHIRE (N Riding) — Practice averaging between £950/£1 000 p a in a beautiful country district Panel 440 House (5 bedrooms) in acre of land, to rent Modern Cottage Hospital and scope for surgery Premium 1½ years purchase

4 MIDLANDS —Partnership in Practice of between £1 800/£2 000 p a in a beautiful district in a hunting centre Panel about 1 000 Good house with 5 bed and dressing rooms garage and one acre garden for sale Smaller one might be obtained Premium one third share 2 years purchase Public School or University man preferred

5 KENT — Partnership in Practice in a Market Town under 45 miles from London Small panel Well situated house (4 bedrooms) to rent Share at present worth about £500 p a for disposal with good scope Premium £800/£1,000

6 SCOTLAND —Sound well-established Practice of £1 800 p a in attractive district easy distance of Aberdeen Panel 1 100 Well built house (5 bedrooms) large garage and acre of garden for sale Salmon fishing and other sport Premium 1½ years purchase

7 S COAST — Partnership in good mixed non dispensing Practice averaging £1 635 p a in Health Resort Panel nearly 900 Excellently situated house (6 bedrooms) in rapidly growing part to rent Partner should not be over 40 years of age Premium one third share 2 years purchase

8 N WALES —Country Practice of £1,230 p a in Welsh speaking district Panel about 550 Convenient and well situated house with electric light etc. for sale All kinds of sport Premium for a quick sale 1 years purchase or even slightly less

9 S COAST —Partnership (after preliminary Assistantship) in well established Practice in Seaside Resort. Share worth £500 p a offering good scope to a suitable (unmarried) man after six months

10 SOUTH OF ENGLAND — Practice averaging about £900 p a in Seaport Town No panel Suitable house. Great scope for increase Premium 1½ years purchase

11 ISLE OF MAN —Non-dispensing Practice in small Seaside Town Receipts average £946 (including £350 from panel) Small compact house (5 bedrooms) with nice garden for sale Sport Premium—Practice and house—£2 000

12 HOME COUNTY — Steadily increasing non dispensing PRACTICE about £2 500 p a (about £500 from Surgery) In first rate residential town Small select panel Detached house (5/6 bedrooms) garage and good garden to rent. Vendor on staff of Hospital Premium 1½ years purchase

13 KENT — Partnership in Practice about £4 400 p a in outlying suburban district Panel 2 400 Good house (4 bedrooms) to rent Premium one fourth share 2 years purchase

14 NOTTINGHAMSHIRE —Country Practice of nearly £1,100 p a Panel 700 Good house (6 bedrooms) garage and 1½ acres garden, to rent Great scope Premium 1½ years purchase

15 HOME COUNTY — Partnership in non-dispensing Practice £3 200 p a in first rate residential town under 30 miles from London Panel over 4 000 Detached house (6 bedrooms) with large garden, to rent Partner *should be aged* 30—40 and experienced in anaesthetics Two fifths share at 2 years purchase

16 SURREY — Partnership in good mixed-class Practice about £3 000 p a in Town within 10 miles South of London Small panel Suitable house obtainable Excellent scope Premium one-third or one half share 2 years purchase

17 S W OF ENGLAND — Partnership in increasing middle-class Practice of about £2 500 in seaport town Panel 870 One fourth or one third share at 2 years purchase Preliminary Assistantship

18 S DEVON — Practice nearly £950 p a in small country town easy distance of the coast Panel 340 Good house and garage, in acre of garden, for sale All kinds of sport Premium £1 500

British Medical Bureau

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Practices and Partnerships for Disposal (continued)

19 LONDON, S E —Partnership in Practice £6 500 p.a. in outlying suburban district. Panel 2 000 Premium one-sixth share 2 years purcha

20 NURSING HOME in fashionable Inland Health Resort Receipts over £5 000 (net profit between £600—£700). Premises rented on lease Premium £1 000 or near offer Furniture etc at valuation

21 LONDON, E C —Partnership (with Succession) in steadily increasing Practice of about £1 200 p a in the City Majority of consultations £1 1s Excellent consulting rooms Premium one-half share 2 years purchase

22 MIDLANDS —Compact middle and working-class PRACTICE nearly £2 200 p.a. in manufacturing town Panel over 2 500 Ten roomed house (with surgery accommodation additional) to rent Premium £3,500

23 YORKSHIRE (W R) — Compact easily worked PRACTICE, averaging £1 600 p.a. in manufacturing town Panel over 1 300 Splendidly situated house (5 bedrooms) for sale Scope Premium 1½ years purchase

24 EAST COAST —Partnership in non-panel Practice in favourite watering place Partner should be young and with Hospital experience Share of about £1 000 p.a. at 2 year purcha e Preliminary Assistantship

25 KENT —Practice of £1,260 p a in residential outlying suburban district Fair panel Corner house (7 bed and dressing rooms) with large garage and garden for sale Scope Premium 1½ year purchase

26 CORNWALL — Partnership in Country Practice on Coast. Convenient house (6 bedrooms) with good garden for sale Share of about £1 200 p.a. at 1½ years pur

27 HANTS — Practice over £1 200 p a including clubs and panel over 1 100) in small industrial town House (6 bedrooms) with large garden and garage for sale Beautiful country around Premium £1,500

28 S E COAST — Partnership in well-established Practice about £2 600 p.a., in popular Seaside Resort Small panel House obtainable One third share for disposal Excellent scope

29 EASTERN COUNTIES —Good-class PRACTICE of £1 545 p.a. in famous Country Town Panel 300 House contains 5 bedrooms etc and would be sold or let Good society and sport Considerable scope Premium 1½ years purchase.

30 LONDON S I —Practice averaging over £1 700 p.a. in outlying residential district Small panel Good and well-situated house (6 bedrooms) with small garden for sale Premium—Practice—1½ years purchase

31 KENT —Country Practice about £650 p a in beautiful district Panel about 700 No house but surgery and waiting room to rent. Capable of much increase Moderate premium

32 W MIDLANDS —Partnership in Practice about £2 700 p.a. in Market Town Panel about 800 One third or one half share at 2 years purchase Partner must be well qualified and experienced in General Practice Preliminary Assistantship

33 W OF ENGLAND —Partnership in Practice over £3 000 p.a. in pleasant Country Town under 130 miles from London Young keen Partner preferably with the F R C S who has had Hospital appointment Premium for a two-fifths or half share 2 years purchase

34 LONDON, S W —Practice (carried on by two Medical Men) averaging £3 000 p.a. in suburban district Panel 1 400 rapidly increasing Two houses to rent. Or a share up to one half would be sold

35 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town. Panel 1 100 Suitable house. Plenty of sport Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment. One-half share at 2 years purchase with ultimate succession

36 YORKSHIRE (N R) —Practice £920 p a in small attractive Country Town Panel 450 Good house (5 bedrooms) garage garden etc for sale or rent Very good trout fishing Premium £1,250

37 MIDDLESEX — Partnership in Practice nearly £3 500 p.a. in rapidly growing residential town under 20 miles from London Panel about 1 150 Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

38 WITHIN 50 MILLS OF LONDON — PARTNERSHIP in Practice averaging over £3,500 p.a. in first rate county town Panel over 1 100 Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years purchase Partner should be aged 28-35 and have held ILS and HP appointments. Preliminary assistantship

39 CHESHIRE —Partnership in increasing better-class non panel Practice over £4,500 p a in first rate residential district. One-fourth share at 2 years purchase Partner should be University Graduate who must have held Resident appointments

40 LANCASHIRE — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1,200 Panel 260 Very nice compact house (4 bedrooms) garage and garden etc., for sale. Golf Premium £1 000

41 S DEVON — Partnership in Country Practice about £1,500 p a in beautiful part easy distance of coast Panel over 900 House containing 5/6 bedrooms for sale. Premium one-half share £1,520 to include drugs etc Work very light.

42 MIDLANDS —Partnership in steadily increasing Practice of nearly £3 500 p.a. in country town amidst picturesque scenery Panel 1 700 Nice house (5 bedrooms) with garage etc Premium one-fourth share 2 years purchase. Short preliminary Assistantship

43 S MIDLANDS —Practice averaging over £1,200 p.a. in Market Town Panel over 900 Pleasantly situated house (5 bed and dressing rooms and attics) garage, and half acre of garden for sale. Scope Premium 1½ years purchase.

44 SURREY — Steadily increasing Practice, averaging £1,355 p a in a first rate Country Town Panel nearly 1 300 Large attractive old fashioned house (7 bedrooms) for sale. Cottage Hospital Premium 1½ years purchase

45 OXON — Practice averaging £1,180 p a in residential country district. Panel 1 000 Detached house (4 bedrooms) garage, and good garden for sale. Good society Premium 1½ years purchase

46 LONDON, N W — Practice of about £1,450 p a in suburban district. Panel 1,150 Corner house (4 bed rooms) for sale Scope.

47 S MIDLANDS —Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1,000 Suitable house available Cottage Hospital. Premium one-third share 2 years purchase

48 WILTSHIRE —Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water main drainage) for sale or rent. Premium £750

49 LONDON, E —Practice (carried on by Medical Woman) in populous area. Receipts last year £580 Small panel. No midwifery Six roomed house to rent. Premium £750 to include drugs etc

50 SURREY —Partnership in Practice about £3,500 p.a. in desirable residential town Small select panel. House (6 bedrooms) to rent. Premium one third share—2 years pur

51 ESSEX —Assistantship (with view to Partnership and Succession) in Country Practice of £1,500 p.a. Panel 1,200

52 S W OF ENGLAND — Practice over £2 000 p.a. in small country town near coast. Panel 1 026. House (5 bedrooms) with electric light for sale Premium 1½ years pur

53 S W OF ENGLAND —Practice averaging £1 666 p.a. in seaport town Panel over 2,000 House with 5 or more bedrooms for sale Premium £2,500

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1 WITHIN 100 MILES OF LONDON.—PARTNERSHIP.—A share producing over £1,200 p.a. with prospects, is for disposal owing to the retirement of one of several partners in a very old-established Practice. Ingoing partner would reside in pretty country district five miles from country town where main practice lies. No opposition. Total income £8,250 to £8,500 including valuable appts. worth about £2,000 and panel. Very desirable residence (ample accommodation) with 2½ acres of ground, on lease at low rent of £60. Premium 2 years purchase.

2 LONDON, SOUTH WEST.—Old established non-panel PRACTICE having good Ophthalmic connection and also scope for Ear, Nose and Throat work. Gross cash receipts for past 12 months over £1,400. Fees from 5/. Practically no midwifery but scope if desired. Good corner house in excellent condition with 4 reception, 5 bedrooms, etc. Price for long lease £1,500. Premium 1½ years purchase.

3 SOUTH COAST.—FAVOURITE HEALTH RESORT.—Well established mixed-class PRACTICE offering good scope. Average gross cash receipts over £700 p.a., including panel of 720. Very good house with 2 reception, 5 bedrooms etc. Nice garden. To be sold or might be let for a time. Premium 1½ years purchase.

4 HOME COUNTY.—PARTNERSHIP.—A share, at present producing about £400 p.a., but with prospects of an early increase as there is large scope is offered in a well established Practice, situated in attractive country district. Suitable house can be rented at £50 p.a. Premium 2 years purchase, part by arrangement.

5 YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle class Practice. Income for the past twelve months approximately £4,000. Small select panel of 450. One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong. Suitable house can be bought or leased. Very good educational and sporting facilities. Premium 2 years purchase.

6 YORKS.—LARGE TOWN.—Old-established middle and working class PRACTICE averaging £1,778 p.a. Panel of 791. Fees 3/6 to 21/. Mid. 2 to 10 gns. (about 12 cases yearly). Suitable house, with 2 reception, 4 bedrooms etc. Separate entrance to professional rooms. Good schools and sporting facilities. Prem. 1½ years pur.

7 HOME COUNTIES.—PARTNERSHIP.—A third share, producing about £1,000 p.a. is offered in a well established good mixed-class Practice situated in very attractive district within 20 miles of London. Fees 3/6 to 2 gns. Suitable house available. Premium 2 years purchase.

8 LANCS.—PARTNERSHIP.—A one fourth share to commence (with increase up to one-half later) is offered in a very old established good middle class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730. Appts. worth nearly £200 p.a. Visits 2/6 to 12/6. Not much midwifery from 2 to 3 gns. Suitable house obtainable but if single purchaser can reside with Vendor, who is a bachelor. Premium 2 years purchase.

9 CAMBS.—PARTNERSHIP.—A one half share is offered in a sound mixed class Practice producing last year nearly £2,000. Panel of 765. Situated in pleasant agricultural district with good sporting facilities. Fees 5/ to 21/. Suitable house can be rented at £75 p.a. Premium 2 years purchase.

10 YORKS.—In small pleasant market town amidst pretty and prosperous surrounding country very old established mixed class PRACTICE averaging nearly £1,250 p.a. including panel and appts. worth over £450. Visits 3/6 to 25/. Opposition weak. Good house with ample accommodation and every convenience. Garden. Garage. Price £1,500. £1,000 on mortgage or would be let at £80 p.a. Premium £1,450. Educational and social amenities.

11 SOUTH WESTERN COUNTY.—Near the Sea.—Old established country PRACTICE in beautiful district within reach of Market Town and averaging £1,100 p.a. including appts. and panel producing £450. Exceptionally attractive modernized house in over 3 acres of ground with ample accommodation, productive fruit and vegetable garden with tennis lawn etc. Water laid on and electric light available shortly. Price freehold £3,000, part on mortgage. Premium £1,650. Sport of all kinds and schools within reach.

12 CLOS — COUNTRY PRACTICE — Old established PRACTICE in picturesque surroundings averaging about £1,250 p.a., including panel of over 1,100. Visits from 3/. Commodious house with 3 reception 6 bedrooms etc. Garden. Garage. Price for freehold £1,500. £1,000 on mortgage. Premium £1,850.

13 LONDON S.E.—Outlying Residential Suburb.—Very old established PRACTICE (hitherto carried on by two men in partnership) is for disposal or half share would be sold with succession to the whole in 12 months time. Receipts average about £3,000 p.a. including appts. worth £330 and panel over 1,500. Two houses available. Premium 1½ years purchase. Eminently suitable for two friends.

14 HANTS.—Delightful residential district within easy reach of Coast.—Good mixed PRACTICE averaging £970 p.a. and offering large scope as district rapidly developing. Panel of 230. Fees 3/6 to 15/. Well built well situated house with 2 reception 6 bedrooms etc. Garden, with tennis lawn. Moderate premium accepted for quick sale. Sport of all kinds and good social facilities.

15 AYRSHIRE COAST.—Village PRACTICE unopposed and situated in very beautiful district within easy reach of large town. Cash receipts last year £740. Panel of 303. Fees 2/6 to 21/. House faces sea, in own grounds, and contains sitting room 4 bedrooms, etc. Rent £40 p.a. Premium £1,000 part by arrangement.

16 BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village near two good towns. Income for last 12 months £1,992 including panel of 1,000 and appts. worth about £150. Fees 2/6 to 10/6. House contains 3 reception 6 bedrooms etc. Sport of all kinds. Premium 2 years purchase.

17 NORTH WALES.—Unopposed PRACTICE in beautiful agricultural district within 4 miles of Coast. Average gross cash receipts for past 3 years £853. Panel of 734 which together with appts. and clubs brings in £750 p.a. Fees 2/6 to 21/. Small house with 1 reception 3 bedrooms bathroom, etc. Garden. Rent £39 p.a. Larger house available if desired. Premium 1½ years purchase.

18 OXON.—UNDER 45 MILES FROM LONDON.—Old-established practically unopposed Country PRACTICE within 4 miles of the River. Average income £1,180, including panel of over 1,000. Fees 2/ to 10/. Good house with two reception 4 bedrooms, bathroom etc. Electric light. One acre of garden. Garage for 2 cars. Price for freehold £1,600. £1,000 on mortgage. Premium £1,750.

19 MANCHESTER DISTRICT.—Old established middle and working-class PRACTICE worth last year about £700 p.a., including panel of 614 and capable of increase. Expenses small. Well-situated house with six rooms in addition to professional accommodation. Large garden. Price for freehold £850. Moderate premium accepted.

20 PARTNERSHIP.—HOME COUNTY.—Within 40 miles.—In very pleasant district (with large surrounding population), the third share (with increase later) of old estab. mixed class Practice offering large scope. Present income £3,000 p.a., with panel producing over £1,200 p.a. and appt. worth £160. Visits 3/6 to 2 gns. Good house at moderate rental. Good society and sport. Ingoing partner should be about 30, pref. married and English or Scotch.

21 LINCOLNSHIRE COAST — Well established mixed-class PRACTICE averaging £2,749 p.a. (last year £2,868) including panel of over 1,700. Fees 3/6 to 21/. Mid. from 2 gns. (about 70 cases yearly). Newly built modern house with special professional accommodation, central heating etc. Garden. Garage. Price freehold £2,300 part on mortgage. Good sport and schools within reach. Premium 1½ years purchase.

22 WEST MIDLANDS.—Very old established mixed-class PRACTICE in small town (largely residential) amidst agricultural district of exceptional beauty. Cash receipts average £2,367 p.a., with panel over 1,000. Opposition not strong. Very fine house (3 reception 6 bed rooms, bathroom etc.) standing in nearly 3 acres of ground. Beautiful garden, tennis lawn, and productive orchard. Price freehold £2,000. Premium 1½ years purchase.

23 LONDON, S.E.—Pleasant residential suburb.—Very old-established non-panel (but scope for this) PRACTICE held over 30 years by Vendor who is retiring. Receipts last year over £900. Patients mixed but mostly good class. Large house (part could be let off for flat). Rent £98 p.a. Premium 1½ years purchase.

24 PARTNERSHIP.—WITHIN 100 MILES NORTH OF LONDON.—A one-sixth share (with increase in 2 years) is offered in a very good non-dispensing mainly better class Practice in a large town at present worked by three partners who now require further assistance. Gross cash receipts average about £8,000 p.a. Selected panel of 700—800. Fees 5/ to 21/, average 7/. Suitable small house with sitting room 3 bedrooms etc. Rent £90 p.a. Premium 2 years purchase.

25 MIDDLESEX.—Rapidly developing district within 20 miles.—PARTNERSHIP.—A one half share in an old estab. good middle-class Practice averaging for the past two years over £3,500 p.a. Panel of 1,100 and appts. bring in £100 p.a. Fees 3/6 to 21/. Good corner house with 3 reception 6 bedrooms etc. Garden. Price for freehold £2,100. Premium 2 years purchase.

26 KENT.—Country PRACTICE near Coast.—Old established mixed-class Practice averaging about £1,100 p.a. Panel of nearly 400. Fees 3/6 upwards. Convenient house with 3 reception, 6 bedrooms etc. Good garden. Price £1,650, part on mortgage. Good sport and schools within reach. Premium 1½ years purchase.

27 PLEASANT CATHEDRAL CITY within 200 miles North of London.—Old established mixed-class PRACTICE averaging £1,600 p.a. including £800 from panel and over £100 from clubs. Visits 5/ upwards (occasionally 2 gns.). Very little midwifery from 2 to 5 gns. Large attractive house, with garden. Rent £80. Prem. 1½ yrs. pur.

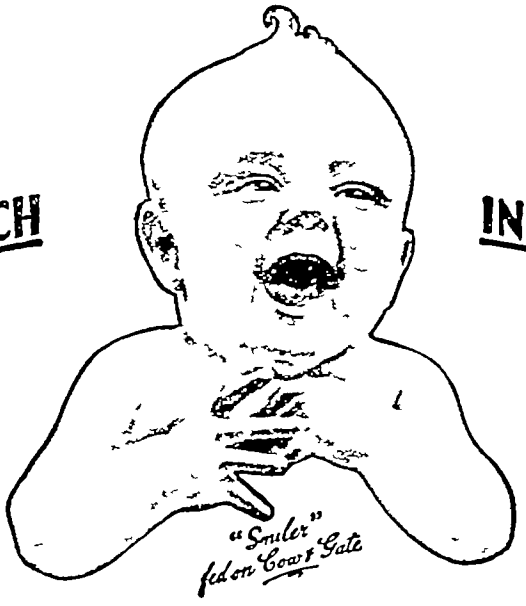
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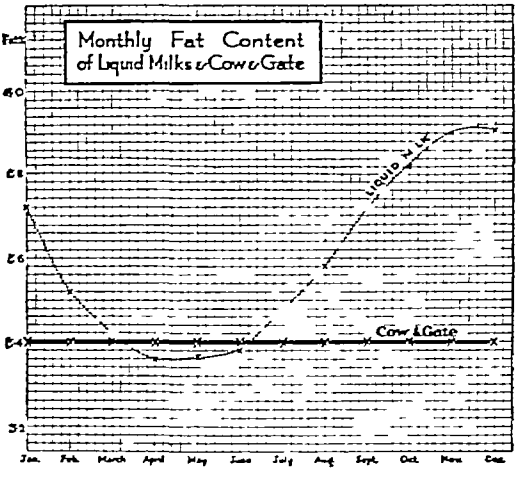
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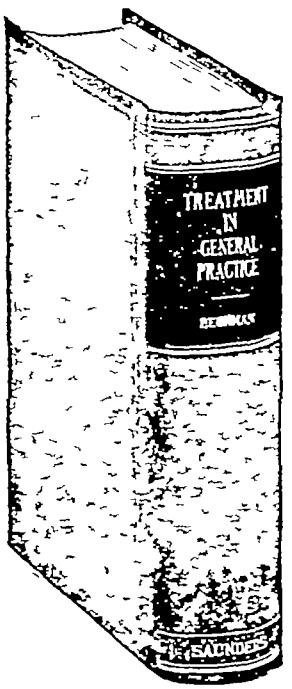
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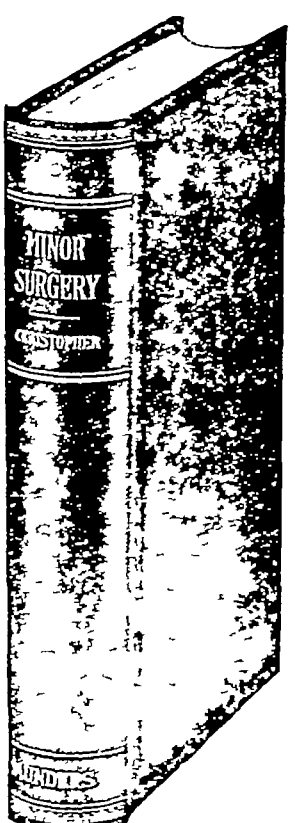
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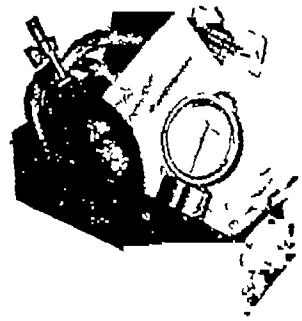
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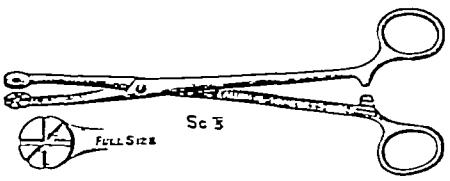
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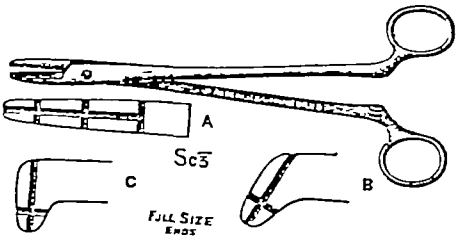
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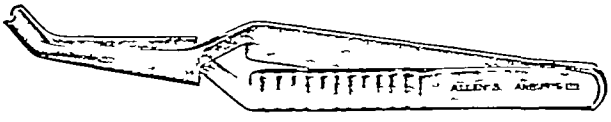
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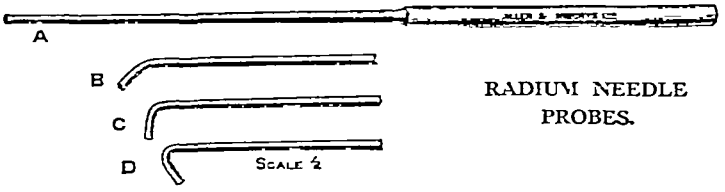
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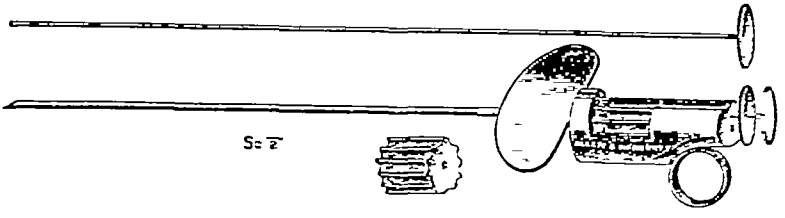
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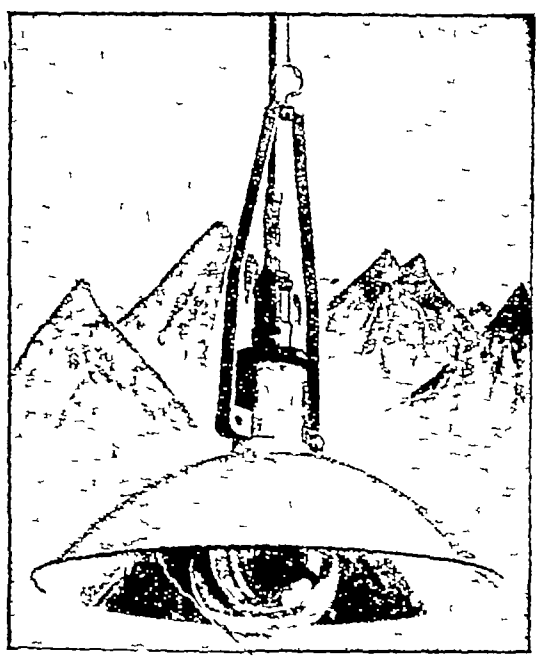
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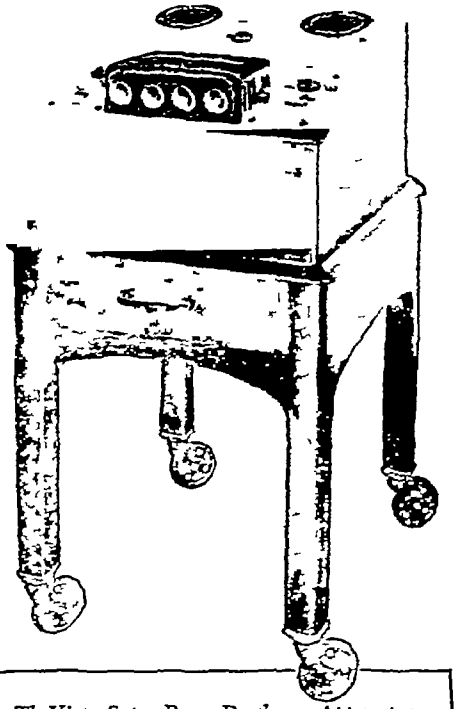
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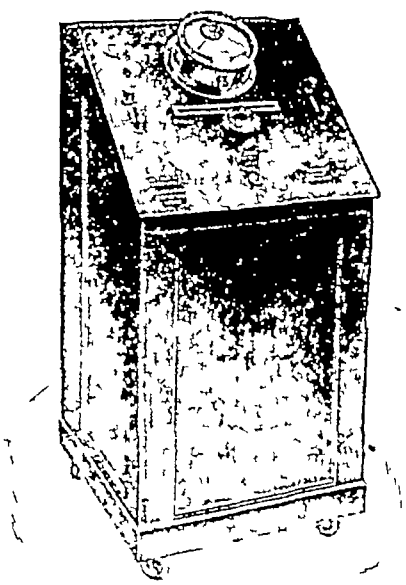
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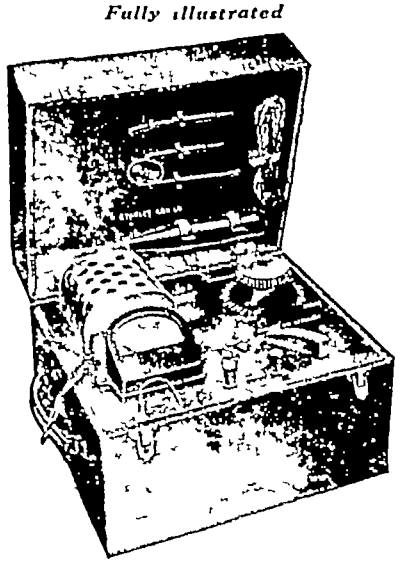
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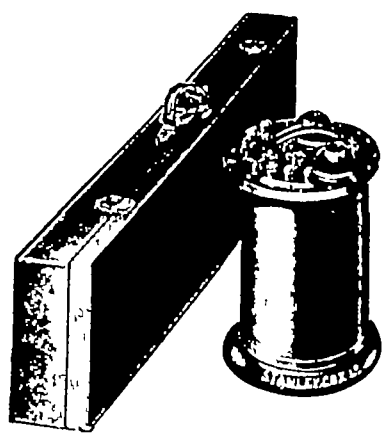
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B influenzae — M catarrhalis — Streptococci — Pneumococci

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Lactose 73%, dextrin 25% —that is the proportion in which these carbohydrates are combined in this new food for changing the intestinal flora Both are more slowly absorbed than other carbohydrates, and both are able to reach the colon in sufficient quantity to cause a luxuriant growth of protective flora An acid reaction of the intestinal contents unfavourable to toxic organisms is thus produced —Lacto-Dextrin being highly efficient in promoting the growth and development of both B acidophilus and B bifidus in the colon In this pure carbohydrate food both lactose and dextrin are presented in a palatable and agreeable combination



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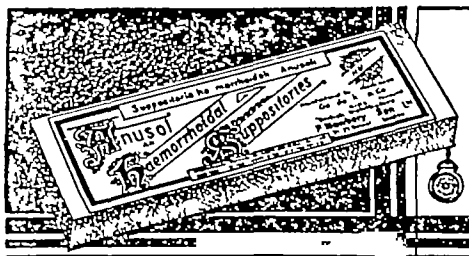
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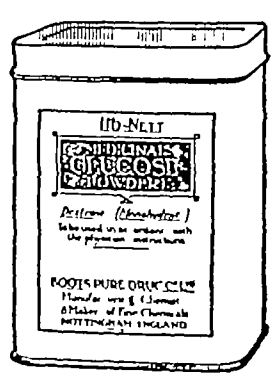
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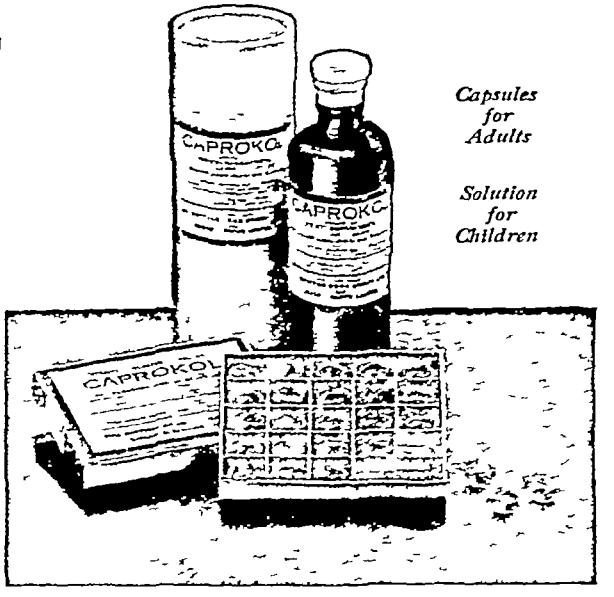
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W Borchardt (*Deut. med Woch* March 28th, 1930 p 521) records the results of his experiments on young dogs in which anaemia had been artificially produced by the removal of about half their blood. In the first series some of the animals were fed with rib-marrow others with marrow from the long bones. Control animals received a corresponding amount either of fat or of liver extract. The basal diet in each case contained a sufficiency of iron (5 mg per cent) Only the animals receiving the red rib-marrow showed a definite increase of weight, and their haemoglobin formation was more rapid than that of the others. In the next series the experiment was repeated but the iron content of the diet was reduced to 1 4 mg per cent The result was similar but more striking the dogs receiving the rib-marrow regaining their haemoglobin far more quickly than the others.

THIS extract from the "Epitome of Literature" published in the "BRITISH MEDICAL JOURNAL," dated May 3rd last, is important as representing in 1930 a complete justification of the formula upon which

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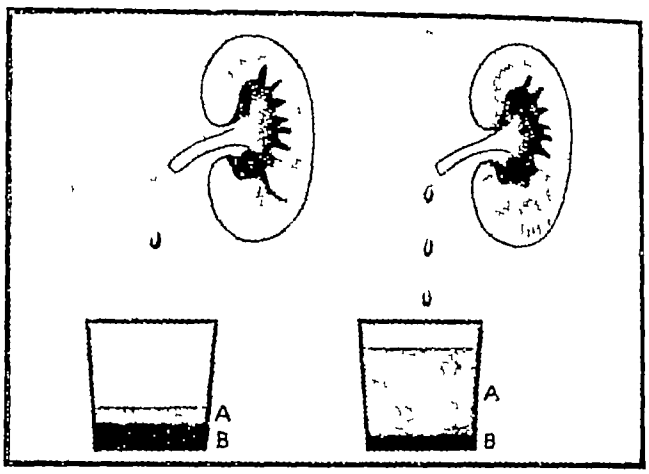
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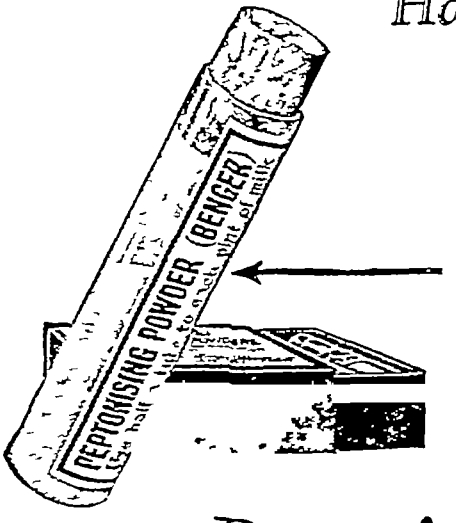
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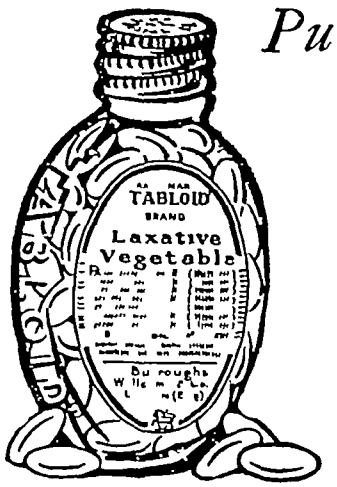
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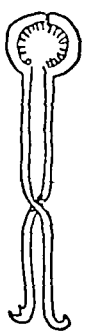
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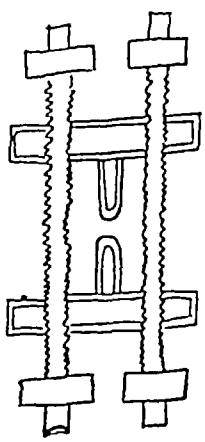
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References —Bulletin de l'Académie de Medecine Feb 18th 1930
Journal de Med de Bordeaux et du Sud-Ouest, March 10th 1930
(Epitome, B M J, May 10th 1930)

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A Paper
ON
THE TREATMENT OF CANCER OF THE RECTUM WITH RADIUM*

BY
SIR CHARLES GORDON-WATSON, K.B.E., C.M.G., F.R.C.S.
SURGEON TO ST. PETER'S, ST. PAUL'S, AND TO THE MARIE CURIE HOSPITAL FOR DISEASES OF THE RECTUM

RADICAL surgery for cancer involves some mutilation of the human body. The appeal which radium makes to both surgeon and patient is the hope of a cure without disfigurement.

In cancer of the tongue, the larynx, the breast this appeal is outstanding. Much has been accomplished to substantiate the claims of radium *versus* surgery in these situations, though they are not yet so firmly established as to be unassailable.

If radium treatment of rectal cancer can be raised to the same level, and if it can supplant radical surgery, it must be able to cure the disease without a permanent colostomy, and to leave a rectum which can function. This ideal, though possible in certain instances, as I have shown, is a long way off. Nevertheless it is on to be aimed at, and justifies intensive research. It is generally recognized that the present method of radical surgery for cancer of the rectum in its early stages cures a high percentage of cases, but they involve the stigma of colostomy.

Spread of Cancer of the Rectum

The recent work of Dr. Cuthbert Dukes on the spread of cancer of the rectum suggests that it is not necessary to excise the rectum completely, and establish a permanent colostomy for an early carcinoma which has not penetrated the rectal wall. Dr. Dukes has shown on histological evidence based on a hundred consecutive specimens of excised rectum that lymphatic invasion does not occur until the growth has *penetrated through the longitudinal* coat, and further that the line of spread is in the main to the retrorectal space and upwards along the superior haemorrhoidal. So far as this series of cases can be relied on to represent the average, the lines of lateral and downward spread along the middle and inferior haemorrhoidals are negligible. These observations, if confirmed in a further series of cases, are of the utmost importance, and have an important bearing on treatment either by irradiation or by radical surgery.

Local Resection for Early Carcinoma

If the growth can be removed freely by some form of local resection, and the rectal passage maintained, this method may be justified on histological grounds, whether or not a temporary colostomy is required. The view which has held ground for twenty years or so, that however early the carcinoma, complete removal of the rectum and perirectal lymphatics is essential, must be reconsidered, and the methods of thirty years ago may perhaps be reintroduced.

Acting on these views I have treated the last three cases of quite early mobile carcinoma of the rectum by local resection, one without a colostomy, and two with a temporary colostomy. Time alone will show whether this procedure, based on histological evidence, is justified by ultimate results. It may be mentioned here, however, that the results of Harrison Cripps over twenty years ago, and Cuthbert Dukes in more recent years, show that results of operations less radical than now usually considered necessary are remarkably good.

Can radium treatment of an early carcinoma compete with a local resection which aims at avoiding a permanent colostomy? These three cases could have been dealt with quite easily and thoroughly by interstitial irradiation. Two of them were amenable to vaginal irradiation, and the other to posterior barrage after resection of the coccyx. That these were not so treated, in spite of some success in similar cases, is due to the fact that it was impossible to give any promise that radium would be successful.

Irradiation of an Early Growth

Sufficient evidence has been obtained in my series of cases to show that an early growth of the rectum can be destroyed with radium without colostomy (or with a temporary colostomy) and without interference with the function of the rectum, though no observations are available, *on a five year basis, as regards recurrence*. If, however, local resection with little or no immediate mortality, and without permanent colostomy, should replace radical excision for similar cases, it would be difficult to advocate radium in preference, because experience shows that adenocarcinomas vary *considerably in radio-resistance and in* their response to radiation, and so, unfortunately, the result which may be anticipated with radium in any given case cannot be predicted.

The ultimate result as regards function of the rectum after irradiation of a growth varies according to the degree of fibrosis which results, and whether a fibrous stricture follows or not. The smaller the growth dealt with, the better the prognosis as regards stenosis. Small growths can be destroyed with little or no deformity of the lumen. The degree of fibrosis depends also on variations in reaction. An overdose may cause necrosis and excessive fibrosis with resultant stricture, but a correct dose may secure a perfect anatomical result. When this happens, new epithelium grows over the irradiated area, and it may be difficult on digital examination to recognize any abnormality of the *lumen beyond a slight projecting ridge*.

Alterations in the lumen of the rectum result from local resections, and fibrous strictures are very liable to follow, unless great care is exercised in avoiding sepsis during healing, and unless any tendency to stricture is checked by careful dilatation during convalescence. Thus if a local resection is preferred to treatment by radiation it is not certain that a permanent colostomy can be avoided.

When the operative risks of radical excision as distinct from local resections are considered especially in cases where the risks are above the average, *the arguments* in favour of radium are more worthy of consideration. If adenocarcinoma, like squamous-celled carcinoma of the *tongue*, can be graded as they have been by Broders into radio-sensitive and radio-resistant, the arguments in favour of radium in selected cases may be enhanced.

Furthermore if research should reveal some method of sensitization which can be relied on, there will be a wider field for the use of radium in preference to surgery. At the present time the number of cases dealt with in this class does not justify a too dogmatic opinion. The result in any given case depends on the delivery of an optimum dose, which is dependent on the correct amount of radium, the correct distribution, the correct filtration, and correct time of exposure.

Several unexpected failures have been encountered in *the irradiation of early growths*. Fortunately in most instances these failures can and have been made good by radical surgery, but unless it can be shown that preoperative radiation increases immunity against recurrence, patients so treated may have cause for complaint. Until a much larger series of early cases comes under review it is reasonable to assume that unexpected failure (such as two apparently similar growths treated on supposed identical lines, responding in one case well, in the other badly) may be explained in part by some error in technique, and not entirely by variation in radio-resistance.

Treatment of an Operable Growth

A small operable growth in the rectum below the peritoneal reflection, and clear of the anal canal, can if it involves the anterior or lateral wall in the female be attacked through the vagina. In the male the best approach is from behind, after removal of the coccyx. The rectum can be mobilized, so that the growth becomes accessible whether posterior, lateral, or anterior. The same approach is employed for the female if the growth is posterior. If the growth, though small, has commenced to ulcerate there is a risk of lymphatic spread, whether

*Read in opening a discussion in the Section of Surgery at the Annual Meeting of the British Medical Association, Winnipeg, 1930.

the posterior or vaginal route is employed the retrorectal space should be radiated

If a very small growth is encountered and found to be malignant, and the mobility of the growth is such that it can be freely mobilized from the muscular wall, it may be treated with some confidence by the introduction of intrarectal seeds without surgical exposure and without glandular attack Nevertheless, local resection without colostomy offers in all probability a more certain cure

During the past five and a half years, up to the end of June, I have treated 121 cases of cancer of the rectum with radium The majority of these have been regarded as inoperable, but lest it should be supposed that radium has been preferred to surgery, when surgery was indicated, it may be mentioned that over sixty cases have been submitted to radical surgery during the same period, and a considerable number have been submitted to colostomy only, owing to the presence of secondary visceral deposits

A few quite small early carcinomas have been treated by intrarectal seeds, or by vaginal irradiation with needles, with complete success, and without colostomy Others, more advanced but still operable, have been apparently cured either by a posterior barrage or by vaginal irradiation, or a combination of the two, some with a preliminary colostomy and others without

On the other hand, as already stated, some of the operable cases which seemed to offer every prospect of cure have responded indifferently, and have been submitted to excision at a later date Undoubtedly, some adenocarcinomas are more resistant than others The rapidly growing adenocarcinoma in a young person is more radio-sensitive than a slow-growing growth in an elderly patient, and is also more liable to recur after resolution

The number of cases definitely regarded as operable which have been submitted to radiation is too small, and the length of time that these have been under observation is too short to enable me to form any very definite opinion as to end-results Excellent results have to be set off against unexpected failures, and at the present time it seems impossible to predict the immediate result in any given case Even in those patients who remain well without colostomies, and with apparently healthy rectums, the question of future recurrence is still *sub judice*, and on a less secure foundation in all probability than after a local resection

Difficulties

The obstacles to efficient irradiation are

1 *Anatomical Difficulties* —In the case of the tongue or breast it is comparatively easy to secure a complete barrage of the growth, the outlines are visible, and the lymphatic areas are reasonably accessible In the case of the rectum, unless the growth is small and low down, there are great obstacles to a complete barrage both of the growth and of the lines of lymphatic spread

2 *Radio-resistance* —Experience seems to indicate that columnar-celled carcinoma is more radio-resistant than other types Anatomical difficulties are no doubt responsible in some measure for the failures recorded and for the unfavourable views which are held on the radio-resistance of this type of growth My experience leads me to believe that the dosage required to secure complete retrogression of columnar-celled carcinoma is very near the margin of tolerance of the healthy tissues Consequently radium burns are difficult to avoid and beta-radiation must be reduced to a minimum

Filtration

Most of my work has been done with filtrations of 0·5 or 0·6 mm platinum Recently I have been using 0·8 mm in some cases, and I intend, when an increased supply is available, to use only this filtration for rectal carcinomas for the present If necrosis results, perforation of the rectal wall and sepsis are liable to follow, and even if a cure follows, the period of convalescence is a very long one By increasing the filtration so that all primary beta rays are excluded, it is possible to employ a much larger dose of radium than with either 0·5 or 0·6 mm filtration without risk of necrosis

I like to leave the radium in for ten days in the hope that every cancer cell will be exposed to radiation of a constant intensity during a period of mitosis Uniform intensity cannot be obtained with radon, this is a great disadvantage in the use of seeds, which in other respects have so many technical advantages

Effect of Chronic Sepsis

It sometimes happens that an operable growth which has been treated without a colostomy retrogresses up to a point and then appears to remain stationary owing to chronic sepsis This is illustrated by the case of a woman with a growth on the anterior wall of the rectum treated at St Mark's by vaginal irradiation without colostomy Response was inadequate, and a second treatment was carried out by vaginal irradiation both with needles and with intrarectal seeds two months later No apparent appreciable change followed after three months, and I excised the rectum Dr Dukes reported that in his opinion the case would have been completely cured if it had been left a little longer, because there was practically no carcinoma active and the few carcinoma cells found were disintegrating The general microscopic characters were those of a chronic inflammatory ulcer Before treatment a section showed that the growth was a typical adenocarcinoma It is probable that this case would have been cured with radium in reasonable time if a colostomy had been done in the first instance

Reaction of Rectal Growths to Radium

One of the disadvantages of radium treatment combined with surgery consists in the length of time (often two months and more) which these growths usually take to retrogress and disappear While evidence of growth remains, there is uncertainty as to the end result When all visible growth has gone, a varying amount of fibrosis remains Uncertainty as to whether any growth remains in the interstices of these fibrous nodules cannot be avoided

Further, when operative exposure from behind has been the method employed, the wound usually takes as long to heal or longer as compared with a radical excision A long operative convalescence can be patiently endured if the prospect of cure is assured, but not so if the prospect remains uncertain throughout

For the early accessible growth there is much to be said for vaginal or intrarectal (or perirectal) irradiation without surgical exposure If this fails, surgery can follow without delay Healing is not inhibited after irradiation, provided that the interval between irradiation and operation is not long enough to allow marked fibrosis and consequent diminution of blood supply

It seems impossible to avoid the conclusion that with the experience available the results which may be anticipated are too uncertain to justify preference for radium to surgery *for the operable case* involving the perineal portion of the rectum (exclusive of anal carcinoma) unless surgery is refused or contraindicated on general ground

The operable cases which have been considered so far are the early carcinomas situated below the peritoneal reflection which are easily accessible to interstitial irradiation on the one hand and to local excision on the other

Two other classes of operable growths remain for consideration (1) Those which are above the peritoneal reflection and must, if treated surgically, be submitted either to perineal or to abdomino perineal excision with colostomy, or, if treated with radium, cannot be satisfactorily dealt with except by transperitoneal attack (2) Operable cases of squamous celled carcinoma of the anus

Supraperitoneal Growths

During the past three years I have employed radium (both needles and seeds) by the transperitoneal route (*a*) to barrage the upward line of lymphatic spread along the inferior mesenteric vessels at the same time as colostomy is performed as a preliminary to radical excision, (*b*) to attack the fixed inoperable growth which is situated above the peritoneal reflection, or to deal with the upper part of a growth which lies partly above and partly below

e peritoneum (c) to attack an *operable* growth above e peritoneum in a patient who is considered too old or o unfit to stand an abdomino-perineal excision, and ose growth is too high for perineal excision

From peritoneal irradiation is a far more risky procedure an perineal irradiation Radium causes a variable amount inflammation of the peritoneum often with effusion of uid in the area attacked and if this area is not protected om the small gut and drained there is a risk of paralytic ius and general peritonitis or of adhesions Further if he lumen of the bowel is penetrated by a needle and a rack is established between the lumen and the peritoneal avity as the result of radium necrosis there is a considerable risk of general peritonitis

I experience has shown that the use of radon seeds within he abdomen causes much less disturbance to the peritoneum han radium needles and is a safer procedure but so far the end results have not been so encouraging In my experience this observation applies to most other regions treated with radon The radon seed can be left *in situ* and have not apparently caused any harm The removal of the needles often calls for a second anæsthetic

(*a*) The use of radium within the abdomen as an adjunct to radical surgery seems rational but it is not possible at the present time to assess its value When colostomy is performed as a preliminary to perineal excision the liver, meso-rectum meso-sigmoid and iliac regions are first examined When no gland are detected and the growth is freely movable and obviously an early one radium is not used If glands are palpable radon seed are inserted along the meso-rectum beside the gland If no glands are felt but the growth is more advanced though considered operable—that is a borderline case—the mesentery is barraged Seeds containing 1 millicurie filtered with 0·5 mm of platinum, are usually employed within the peritoneum and are not removed A certain amount of plastic inflammation follows and radium (or radon) should not be used if an abdomino-perineal or an abdominal resection is contemplated afterwards

(*b*) The use of radium within the abdomen to attack a growth in the upper part of the rectum or the lower portion of the sigmoid when the growth is regarded as inoperable is certainly justified if only by one excellent result in which a growth attached to the bladder and fixed to the sacrum was successfully treated with radium needles This patient remains well and free from all symptoms nearly three years after treatment His bowels act normally no growth is visible he has no colostomy Several similar cases have been helped enormously and the lives of these patients undoubtedly prolonged by the use of radium combined with colostomy In some of these cases the growth does not completely retrogress but becomes quiescent and the patient gains in weight improves in general health and is personally much impressed with the benefits received

(*c*) The cases treated by transperitoneal radiation and regarded as operable (*qua* the growth) have been with one exception regarded as too old or too unfit for radical surgery None of these has been under observation long enough or shown sufficient evidence of retrogression to suggest a cure

Squamous-celled Carcinoma of the Anus

This condition stands on a somewhat different footing to adenocarcinoma of the rectum Early cases which have not infiltrated deeply into the ischio-rectal fossa surrounded the anus or invaded the inguinal glands can I think be promised an immediate initial cure with interstitial radiation combined in some instances with surface radiation The question of permanent cure cannot yet be answered So far results in these cases have been excellent with one exception in which recurrence followed an apparent cure This was the first case of the kind treated (1925) Recurrence occurred wide of the original growth and it is probable that the periphery of the growth was inadequately irradiated

There are distinct advantages in the use of radium in these cases over surgical excision Radical removal of an anal growth involves removal of the sphincters and a colostomy, whereas with radium, in most early cases, complete restoration of rectal function can be secured and a colostomy avoided I can state with confidence that a squamous-celled growth involving the anal canal should be treated with radium in preference to surgery, at any rate in the first instance

THE INOPERABLE CASE

Individual standards as to operability vary, so that the borderline case cannot be defined, but there is general agreement in defining the advanced *inoperable* case—the large fixed annular growth which has infiltrated through the rectal wall in all directions

How far can these cases be helped with radium? We all recognize that in the absence of liver metastasis both the general and the local condition of the patient improve in the majority of cases after a colostomy has been performed If colostomy is followed by irradiation it may not always be easy to say whether the improvement is the result of irradiation or colostomy, or both My experience has shown even in cases which have been submitted to colostomy some time previously that rapid and marked general improvement follows irradiation even in the absence of any marked local changes In a small percentage of these cases the growth ceases to be active, and if it has been effectively barraged it is destroyed and transformed into a fibrous stricture In one such case the patient remains well and free from evidence of growth four years after radiation

The outstanding problem is to secure adequate and uniform radiation To effect this a combination of method is often necessary, and frequently more than one treatment is required

At the time of colostomy if the growth extends above the peritoneal reflection it is essential to treat this portion from the abdomen either with radon seed or with radium needles the former I prefer and the latter I think more efficient The meso-rectum is treated at the same time Subsequently if the growth is also infraperitoneal this portion is dealt with in a variety of ways according to the extent and situation of the growth either by posterior barrage, *vaginal irradiation intrarectal seed* or by a combination of the methods, sometimes with the assistance of the intrarectal tube

Very large and advanced growths should not be dealt with by the posterior open operation The risks of perforation and secondary sepsis are considerable and the prospects of cure too remote These cases often get great relief from perirectal and intrarectal attack I have described these methods fully elsewhere

One example of combined treatment may be cited

> A major aged 36 came under observation in October 1928 with a very large annular cauliflower growth which was mainly infraperitoneal and completely filled the rectum It was evident that growth had been very rapid The patient had quickly lost weight and looked very ill Colostomy was performed and abdominal irradiation with needles was applied to the upper portion of the growth three weeks later perirectal radium needles and intrarectal seeds were used the total dose of the combined treatment being 11 000 gold mg hours Ten weeks later the anterior portion of the growth was given another 4 000 mg hours with seeds introduced through the skin
>
> At the present time more than 18 months after treatment the patient is remarkably well having gained several stone in weight The rectum is extensively fibrosed and it is not possible to say if any growth remains

The prognosis of a rapidly growing cauliflower growth in a man of 36 is extremely bad and I am certain that this patient would not be alive and well to-day without radium

Conversion of Inoperable into Operable Growth

In several instances an inoperable case has been treated with radium with such marked improvement that a radical excision has been carried out subsequently I may mention two cases in which a perforation through the posterior vaginal wall was present at the time of irradiation In both cases the perforation healed the growth becoming smaller and less fixed Both patients are in good health after excision and one has survived four years

The Borderline Case

In view of these experiences it would seem that the borderline case—that is, the doubtful case as regards radical operation—provides a useful, perhaps the most useful, field for irradiation A cure may result from irradiation, or the local condition may be so improved that radical surgery becomes possible

Recurrence Following Radiation

In all branches of surgical irradiation it happens, unfortunately, that cases of apparent cure relapse, or that a tumour shrinks to small proportions and then resumes active growth Such results no doubt will become less frequent with increased experience So far as my own experience goes, a recurrence is more likely to follow the use of radon seeds than needles, it is probable that the diminishing intensity of radon, as opposed to the constant intensity of radium, is the causal factor It may be possible to overcome the factor of diminishing intensity by reinforcement—that is, by adding additional radon seeds at short intervals, which can be done in certain situations, especially when general anaesthesia is not required Another method is to combine intrarectal seeds with perirectal needles, a method which minimizes the loss of intensity, though it does not give a uniform intensity In several instances when retrogression of the tumour has appeared to be complete (or nearly so) and recrudescence has followed, irradiation has been repeated (in a few cases more than once), but in most instances the result has not been very satisfactory

Without doubt, primary irradiation increases radioresistance to secondary radiation Relapses following apparent success become more noticeable as the number of cases increases It is evident that if we are to make further advance we must improve technique and explore the possibilities of radium in combination with x rays, lead selenide, etc, more fully

Conclusions

1 In young people, in increasing ratio from the age of 40 downwards, rectal carcinomas grow rapidly, metastasis occurs early, and the end-results of radical surgery are not good An actively growing carcinoma in a young subject responds well to radium, and far better than a slow-growing carcinoma in an elderly subject End-results in comparison with surgery are not available

2 If a growth is adequately barraged with radium and shows little evidence of retrogression after two months, it is probably useless to repeat irradiation On the other hand if the growth responds to radium and readily retrogresses, though it fails to disappear completely, further irradiation is indicated on the ground that the dose has been insufficient in respect of amount, time, or distribution

3 Secondary irradiations are less likely to produce a good final result than an adequate primary irradiation, and are more prone to produce pain of a neuralgic type, which may be very severe and last for long periods

4 When the growth has been exposed by open operation, an overdose may result in perforation of the bowel with secondary sepsis and when healing takes place be followed by excessive fibrosis and consequent stricture

5 The criterion of a correct dose are absence of sepsis, a well-marked radium film, rapid resolution of growth, restoration of normal epithelium, and limited fibrosis

6 Radon is less efficient than radium, but is valuable within the abdomen and within the lumen of the rectum

7 Apart from the possibilities of cure, radium has its value in improving both the local and the general condition of an inoperable case so that in some instances operation with prospect of a cure becomes possible In cases of local recurrence it is an asset of great value especially if the recurrence is treated early It gives hope to those who are beyond surgical help and in moderate doses has a remarkable tonic effect on the general health

8 For epithelioma of the anus radium is in all probability more efficient than surgery

9 The treatment of cancer of the rectum with radium is still in the nursery stage Time will show whether selection, combined with increased experience and skill [illegible] vastly improve results in radium therapy, or will reveal that radium is too capricious a master and too [illegible] servant to be reckoned with as a serious fighting factor in the campaign against cancer

Research on radio-resistance and methods of sensitization is an urgent need It is not enough to say "Here is a cancer of the rectum, let us excise it or let us treat it radium" We must have an index of sensitivity and a corresponding dose index, and we must develop a technique that allows no uncertainty in the application of the [illegible] cated dose For help on these lines we must look to the physicist, the biochemist, and the pathologist

When we consider how long it has taken to develop the high technical standard which now exists in abdominal surgery—so high that Lord Moynihan has said we ought not to hardly hope to advance it much further—we ought not to be downhearted Medicine in recent years has advanced by leaps and bounds because the biochemist has come to the aid of the physician Is it too much to hope that the "big five"—medicine, surgery, pathology, biochemistry, and physics—will by team work enable the radium worker to conduct his practice on a strictly scientific basis rather than empirically?

We must not be blind to the fact, however, that radium is no panacea for cancer It has very definite limitations, which need emphasizing We know that brilliant results can be secured with radium in a small percentage of cases Can we doubt that further research, increased experience, better technique, and greater skill will reduce the failures and add to the successes?

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RADIUM AND SURGERY IN CANCER OF THE TONGUE*

BY

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Cancer of the tongue embraces one of the largest groups of epidermoid carcinoma For the purpose of discussing this common form of tumour process it may well be taken as illustrative of practically all types

Anatomically, growths of the tongue range from the most superficial papillary outgrowing processes to the deeply infiltrating neoplasm, with little by way of surface manifestation to call attention to it before it is entirely out of bounds Depending upon the location, it may be most accessible or it may be practically impossible of technical approach When cancer is superimposed upon chronic inflammatory processes, notably leucoplakia, luetic glossitis, or both, the anatomical changes may be such as to alter the normal course and type of growth and to present added complications from the therapeutic standpoint as well

Practically every histological type of epidermoid carcinoma is encountered in the tongue, from the papillary squamous-cell growth to the invasive infiltrating tumour of like cellular structure, and from the fully differentiated adult type to the totally anaplastic transitional cell structure Tongue cancer is influenced by all of the various factors of dental and oral hygiene The chronic irritation of irregular teeth or dentures is a well recognized contributory cause in the development of lingual growths The bacterial flora of the ill-kept mouth exerts a profound influence on the otherwise normal course of a growth, if, indeed, it does not actually contribute towards its development

There is a consensus of opinion that tongue cancer [illegible] affords an average cross-section of therapeutic results in comparison with intra-oral cancer in general It is the purpose of this communication to emphasize particularly two points (1) the combined use of radiation and operative surgery offers several advantages in the treatment of

* Read in the Section of Surgery at the Annual Meeting of the British Medical Association, Winnipeg, 1930

rmoid carcinoma in general, (2) the treatment of epi loid carcinoma is steadily approaching a more reason- accurate, and efficient basis

t this stage in the development of radiation therapy is but natural to expect that many conservative eons and some sceptics, will have none of it At the er end of the scale are the extreme radiation therapists, er to cure all cancer by irradiation Radiation therapy established a place for itself beyond question How- r it has never been considered the ideal specific cure all cancer The surgical efforts towards the relief of ncer have fallen short yet they have not been futile by y means It is unfortunate that more attention has t been directed towards combining the best from each ethod for the ultimate good of the cancer sufferer

Histological study of the relative degrees of cellular ifferentiation or potential malignancy of tumour processes as been most enlightening from the therapeutic stand- oint It shows very clearly the chief reason for surgical ailure in many instances and at the same time explains ome of the most spectacular reactions to irradiation The undifferentiated growth highly malignant, prone to early and widespread dissemination through both lymphatics and blood stream is obviously a poor surgical risk On the other hand it is highly radio-sensitive The fully differ- entiated tumour process is more orderly in its development Metastasis occurs as a rule later in the course of the disease and even then tends to remain within a limited area In such cases it is but reasonable to expect relatively better results from operative measures The more adult the growth the more radio-resistant it becomes The reaction to irradiation is not nearly so spectacular and yet if the process be controlled by this means the assur- *ance of permanency of the result is much greater*

The application of these observations on relative radio- sensitivity based on the degree of cellular differentiation of the tumour process is of tremendous practical impor- tance It not only aids in determining the treatment method of choice but if that method be irradiation, it serves as a guide to the necessary intensity of dosage

The work of Martin and Quimby at the Memorial Hospital, on the estimation of relative dosage intensities for different types of epidermoid carcinoma gives a practical basis for dosage estimations They have shown that adult epidermoid carcinoma requires from seven to ten skin erythema doses throughout the tumour-bearing area to produce complete and permanent control of growth The anaplastic growths on the other hand respond completely to a dosage range of three or slightly under to five or six skin erythemas depending upon the relative degree of differentiation

The dosage intensity judged necessary in a given case governs in turn the technical methods employed to pro- vide that dosage The most that can be delivered by external irradiation—radium *x* rays or both—to the mid *line of the oral cavity within a treatment interval of* two to four weeks and consistent with safety on the part of the patient is two and a half to three skin erythema doses External irradiation, therefore, is capable of causing com- plete regression of only the most radio-sensitive growths of the tongue Growths showing any degree of cellular differentiation must have their irradiation intensity in- creased by some means in addition to the maximum of external irradiation Interstitial irradiation must be employed Epidermoid carcinoma lends itself more readily to histological 'grading' than some other types of malignant processes The distinctions are more clear-cut and better defined This together with the fact that the initial dosage intensity studies were carried out in the same group places epidermoid cancer therapy in the forefront at least from the standpoint of accuracy

The problem of tongue cancer which was regarded a few years ago as very fully understood clinically and patholo- gically and dependent for cure on improved technical operative measures, now stands in an entirely different light The relative radio-sensitivity is the guide to selection of the treatment procedures as well as to the prognosis Irradiation is assuming a degree of accuracy and exactness comparable to a nicely adjusted surgical procedure rather than following on in the empiric channels of the earlier radiation therapy

In short the treatment of tongue cancer is not a matter of following a standard technical procedure adopted as a group problem It is a special problem in each individual case, one following certain broad principles but in detail guided by the steadily increasing fund of new information now coming to us

Inasmuch as treatment detail is based largely on histo- logy of growth it is essential that a biopsy be done early and in all cases The theoretical objections to this pro- *cedure are overridden by the advantages of the informa-* tion obtained If done with care, the trauma is negligible A small piece of tissue a few millimetres in diameter, if carefully selected and removed without tearing or crushing is sufficient A clinically cured case is of no value, except to the one who has treated it, unless substantiated by a positive section The Wassermann reaction is of interest and of some practical value Cancer in the presence of a positive blood complement fixation, reacts better if moderate antiluetic treatment is employed All too fre- quently however the matter of diagnosis is closed with the positive Wassermann reaction and cancer is ignored until it is beyond control Altogether the Wassermann reaction has been more of a curse than a benefit to cancer therapy

Before any aggressive treatment is undertaken in tongue cancer rigid oral hygienic measures should be constituted Local sepsis not only depletes the patient's general con- dition and contributes to local necrosis, but it nullifies to a great extent the normal reaction to irradiation In fact irradiation in the presence of any marked degree of local mixed infection is of questionable value Infected and *jagged teeth should be removed unless encroached upon* very closely by active tumour tissue Cleansing methods should be aggressive and efficient, but irritating solutions should be carefully avoided

The last published report on tongue cancer from the head and neck department of the Memorial Hospital was presented to the First International Congress of Radiology in London in 1925 and was published in the *British Journal of Radiology* in March 1925 Since that time we have adhered to the same *principle of treatment* as outlined in that report with the various improvements incidental to further experience additional technical facility and more efficient equipment

Radium emanation or radon in gold capillary seeds with a filtration of 0·3 mm gold has been used for inter- stitial implantation since early in 1925 External irradia- tion of greater intensity than formerly employed is being used as a routine in all cases For the past three and a half years our equipment for external irradiation has been augmented by a four-gram radium element pack The combination of treatment measures is coming more and more to be guided by the histological interpretation of the tumour Dosage intensity is better understood and has been made applicable practically to the routine work The indications for neck dissection are gradually being limited, so that dissection is restricted to a relatively smaller group of cases Most gratifying of all is the steady increase in co-operation and contact between pathologist physicist and clinician The complexities of the problem demand the concerted efforts of a group of workers

In the treatment of cancer of the tongue we depend upon irradiation entirely for direct complete control—or growth restraint only if palliation is aimed at—of tumour tissue in all circumstances except in the operable meta- static cervical nodes of fully differentiated carcinoma In these removal by complete surgical dissection is further restricted if the primary growth is not controlled or if the metastatic involvement is bilateral

All cases accepted for treatment receive as an initial procedure, external irradiation of maximum intensity during the first two weeks This is directed through both sides of the neck and includes within the field of irradia- tion the site of primary growth as well Immediately following this, gold seeds of radon—individual value about 2 millicuries each—are inserted into the base of and round about the primary growth The dose is determined on the

basis of radio-sensitivity of the growth and the established dosage intensity experience previously referred to It is regarded as safer to withhold the implantation until the external irradiation has been completed, or nearly so The growth is smaller and better defined

Necrosis of tissue rarely occurs, except in the presence of uncontrolled local infection If the growth be bulky, fungating, and markedly infected, the implantation of radon is followed in a few days by cautery removal of the condemned area By utilizing the tumour bed as a radium holder the entire tumour bed is heavily and uniformly irradiated It is therefore a safer subsequent operative field By increasing the total strength of implanted radon to compensate for the subsequent sacrifice of the unused portion, the surgical removal may be done before all of the emanation is exhausted It is sometimes simpler to do it this way before the anatomical limits have been obscured by radium inflammation The area removed is only that which might otherwise break down It is not extended to a wide surgical removal, since responsibility for direct control of growth has been placed with the radium The removal is to promote surgical cleanliness only Pain is thus relieved, more rapid healing encouraged, and a minimum of deformity produced

Secondary invasion of bone by growth, infection in bone, or devitalized bone caused by irradiation calls for surgical removal At times the after-care of tumours at the base of the tongue may be facilitated by removal of a segment adjacent to the lower pole of the tonsil, and, of course, after the irradiation has been completed

New growths at the base of the tongue are deserving of special mention The hopelessness of dealing with these surgically has always been considered due to technical difficulties Study of them histology would indicate that it has been due largely to their lack of differentiation Practically all of the anaplastic tongue growths have their origin in or closely associated with the area of the lingual tonsil The transitional cell carcinoma was first recognized from this location Like all growths arising in intimate association with the lymphoid tissue of the pharyngeal ring, they exhibit a degree of radio-sensitivity almost out of keeping even with their degree of histological cellular differentiation This explains the occasional complete regression of type of growth under the influence of external irradiation What has always been regarded as a particularly hopeless only The relative curability of lingual cancer in the other locations—tip, dorsum, and lateral border—is very largely dependent on the anatomical character of the growth together with the ease of difficulty of technical access

Carcinoma developing in a tongue which is the seat of a generalized luetic glossitis follows a course clinically different from the same histological type under normal conditions of tumour bed The rate of growth is slow, it is particularly radio-resistant the tendency is towards multiple lesions probably because the site predisposes to multicentric involvement Because of the limited blood supply and the increased fibrosis secondary necrosis under heavy irradiation is common It frequently calls for a limited surgical removal following interstitial irradiation When it becomes necessary to remove tissue from the tongue as just outlined an ordinary electro-thermic cautery—heavily constructed so that it will maintain a uniform degree of heat without intermittent cooling, and with a flat blade which permits of excising the condemned area of tissue rather than simply burning it out—is employed

We have gone through the experiences with the various equipments for coagulation of tissues by means of currents of a high rate of oscillation These procedures take their place in the cautery field and whether they or the old-fashioned cautery methods are employed is a matter of personal preference The very admirable article by Mr W Douglas Harmer on the use of the high-frequency cautery in the issue of the *British Journal of Surgery* for April 1928 is a most reasonable presentation of this method It is doubtful however if it quite fulfils all that can be accomplished at present in the treatment of mouth cancer and it is possible that the psychological appeal of such equipment, in some quarters at least, may obscure certain fundamental principles of cancer th[illegible] which to-day are fairly well recognized

TREATMENT OF THE NECK

The treatment of metastasis in the cervical lymph n[illegible] is probably of greater importance than that of the pri[illegible] growth Our method of dealing with the neck is based on the premise that the cervical lymph nodes perform a d[illegible] servative function, up to a certain point at least T[illegible] protective reactions within the lymph nodes as obs[illegible] histologically are well known, and further obs[illegible] on irradiated normal lymph nodes strongly suggest th[illegible] this reaction is amplified under the stimulus of radiat[illegible] Whatever may be said of the various glandular type[illegible] cancer, it is fairly well established that metastatic ext[illegible] sion of epidermoid carcinoma is by embolism

When a metastatic deposit makes itself evident it [illegible] usually in one lymph node only, or at most confined t[illegible] one or two adjacent nodes Widespread involvement [illegible] multiple nodes involved rarely occurs until very late [illegible] the course of the disease We believe that in the ear[illegible] stages, with a single palpably enlarged node, the cap[illegible] of which is intact, the disease can be dealt with quite as efficiently as is possible by doing a dissection before the node becomes palpable In other words, routine block dissection of the neck is not practised

All necks are treated by means of heavily filtered external radiation of maximum intensity consistent with tissue tolerance and from both sides, as previously mentioned in discussing the primary lesion For economic reasons heavily filtered high-voltage *x* radiation is used [illegible] preference By preference heavily filtered radium would be used Clinical observations suggest that radium is preferable to *x*-radiation It is only since having at our disposal a four-gram radium element pack, however that it has been possible to carry out this type of radium radiation with maximum efficiency, and that only in the more favourable cases Unless the actual quantity of radium utilized in this manner is equivalent to the quantity of *x*-radiation, then it is preferable to use *x* radiation A good dose of *x* rays is always better than a poor dose of radium

For some time clinical observations seemed to indicate that *x*-radiation and heavily filtered radium could be combined for the neck irradiation to advantage in two ways It was noted that the total quantity of radiation which the skin would tolerate was greater by combining the two than when a comparable quantity of either agent alone was used The reaction within the tumour-bearing area as observed clinically was superior Observations by Dr Ewing on histological preparations of tissues so irradiated have led him to conclude that the effect of *x*-radiation is more pronounced on the connective tissue element, while radium is more effective on the cellular structure

Experiments by Quimby and Pack in the Memorial Hospital biophysical laboratories have confirmed the clinical observations on the skin tolerance There is a difference, dependent apparently on the differences in wave length, which permit of increasing the total quantity of radiation by combining the two ranges of wave-length Patients presenting no palpably enlarged metastatic nodes on admission for treatment are subjected to heavy external irradiation and kept under routine observation If a palpable node of adult type epidermoid carcinoma is present, complete unilateral neck dissection is done under local anæsthesia All the lymph-node-bearing areas from the chin to the collar-bone, and including the submaxillary salivary gland, the jugular vein, and the sterno-mastoid muscle, are removed through a modified Bastianelli incision Before the wound is closed filtered radon seeds are implanted at any suspicious points within the wound, particularly where the lymphatic paths are severed This does not interfere appreciably with the healing of the wound No post-operative irradiation is employed

If the metastatic lymph node be inoperable no attempt is made toward local removal or complete dissection The surgical exposure is utilized to implant filtered radon seeds throughout the tumour-bearing area, and the wound is then closed This procedure, with a minimum of trauma to the blood supply of the local area, is preferred to a partial

moval plus radium for the remainder Any node in ich the disease has perforated the capsule is regarded as ng inoperable even though it may be small and, from standpoint of technique, removable in the gross ether with the adjacent structures All necks with steral metastatic nodes are regarded as being surgically operable even though they may be quite readily remov- le technically Once the disease has involved both sides the neck it is considered as incurable by many means cept in very rare instances For the very advanced tastatic nodes external irradiation only, as a palliative asure, is used

Complete and permanent regression of fully differentiated anmous-cell carcinoma secondary in the nodes, has not en observed from external irradiation alone Metastatic des from anaplastic epidermoid carcinoma even though main within the definition of an operable node are ated by radium alone Usually, filtered radon tubes e implanted as well, just as in the treatment of the imary growth in this group, but the backbone of treat- ent in this type of le ion is external irradiation, and no sort is made to operative surgery for removal The outine external irradiation of the neck is done within a eriod of a fortnight

Unfortunately from the standpoint of statistics we ontinue to treat practically all cases applying at the linic There is no selection, except to decline acceptance f those equal to nursing care only From a humane tandpoint it has been necessary to do this, and, on the ther hand it has always been the feeling that observa ion of all stages of the disease is of value Such a policy, owever precludes a satisfactory comparison of statistics ith radiological clinics where selection is practised, or ith surgical clinics where none but operative methods are mployed

Our reports on tongue cancer, made at the Second Inter national Congre of Radiology in Stockholm in July, 1928, overed a group of 473 histologically verified and clinically *unselected* cases treated during the period from January st 1917 to December 31st 1927 The survivors in this roup have been rechecked to December 31st 1929

The percentages of freedom from clinical evidence of disease are as follows

	Cases	Percentage.
Tip of tongue	6	40
Dorsum of tongue ..	10	17
Lateral border of tongue	54	19
Base of tongue ..	13	11
Recurrent	4	17

Of the total group 97 or 20 per cent , are alive and living active lives Of these 87 or 18 per cent , present no clinical evidence of disease

The intervals of freedom from disease are as follows 39 case five to twelve years 24 cases, three to five years, 24 cases two to three years

Of the entire group 69 per cent are known to be dead A number of these patients died of intercurrent disease and while free from clinical evidence of cancer, 19 lived five years or over 19 lived three to five years, 113 lived one to three years while 179 died within one year

In the group showing no evidence of metastatic involvement of nodes throughout—189 patients—66 have now no evidence of disease The group of 161 patients with gross evidence of lymph node involvement on admission shows only 6 no evidence of disease now and of the 103 developing nodes after admission, 12 only have now no evidence of disease

It is true that all these patients did not die as a result of the metastatic involvement Many were far advanced in the primary site In many others the node involvement was hopelessly advanced The group does not include an appreciable number of our gold tube radon implantation cases The failure to control these cases with metastatic cervical nodes however leaves much to be desired in the treatment of the neck

In the entire group of 473 cases the percentages of surgical operability on admission were as follows

	Percentage
Tip of tongue	60
Dorsum of tongue	25
Lateral border of tongue	46
Base of tongue ..	9

The percentage of freedom from clinical evidence of disease in the entire group of unselected cases—18 per cent —is regarded as comparing favourably with the average of operative surgical statistics in the group of operable cases alone

Summary

1 At the Memorial Hospital radium is the agent of choice for treatment of the primary growth in cancer of the tongue

2 X-radiation is a necessary complement to the treatment of all cases of lingual cancer unless replaced by the use of very large amounts of radon for external application

3 Radium must not be depended upon entirely and in all cases, to the exclusion of other associated measures

4 Operative surgery is indicated in the mouth for access, drainage and in dealing with disease in bone

5 Operative surgery is indicated in the neck in early definite involvement of adult epidermoid carcinoma, in addition to irradiation

6 Surgical exposure in the neck, plus filtered radon implantation, is indicated in a variety of metastatic conditions other than the group operable by complete dissection

7 The election of technical methods and the guide to irradiation intensity is through an appraisal of the relative radio-sensitivity of the growth as judged by the degree of cellular histological differentiation

8 The irradiation must be directed with care and precision The minimum intensity must conform to well-defined standards

9 The best interests of the patient are served through close co-operation between pathologist, physicist, and clinician

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RADIUM TREATMENT OF BUCCAL CARCINOMA.

PRINCIPLES AND SOME RESULTS *

BY

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REVOLUTIONS in medicine and surgery as in anything that matters are rarely successful, but it would appear that the treatment of carcinoma of the mouth and tongue is an exception to the general rule and that it is extremely improbable that we shall ever revert to the older forms of treatment, at any rate for the primary growth This surgical revolution, however, is more apparent than real, and takes no account of the painstaking work of the last two decades in radium therapy It was Dominici—whose death was probably due to excessive exposure to the gamma rays—who drew attention to the importance of filtration in eliminating the direct action of the beta ray and so utilizing the selective action of the gamma ray Later, Regaud showed that the prolonged action of the gamma rays in relatively weak intensities produced in the squamous epithelioma at any rate, a more favourable response than a high intensity for a short time

During the war small unscreened glass emanation tubes 5 to 10 millimetres in length and containing 1 to 2 millicuries of emanation, were used extensively in America for buccal carcinoma These were buried and left permanently in the tissues A very intense local reaction followed owing to the unrestricted action of the beta rays but results were good in such patients as survived the ordeal with its distressing and painful complications It is important to realize that this method embodied the principle of prolonged irradiation of which Regaud is an advocate Later Failla at the Memorial Hospital New York used gold seeds 0 3 mm in wall thickness filled with emanation, which cut off about 50 per cent of the beta ray while

* A communication to the Section of Surgery at the Annual Meeting of the British Medical Association Winnipeg 1930.

still later, Mun invented the removable platinum radon seed We had used the unscreened seed in Manchester, and an analysis of our cases—when I took over the work from Dr Arthur Burrows in 1925—revealed that 80 per cent of our successes with the primary growth had followed this method of treatment As a result, we began to employ the same method of treatment as Regard for the primary growth, screening our source with a minimum of 0 5 mm of platinum, and using as great an active length as possible

Radium has improved out of all recognition the outlook in buccal carcinoma, and it has, I think at the same time enriched our knowledge of the disease The original surgical conception of the disease required the removal of the primary growth, the lymphatic tract to the lymph nodes, and the nodes themselves *en bloc* The operation thus resembled in conception and execution the radical amputation of the breast as it is still performed, but involved a much higher mortality It was realized, however, even before radium was seriously considered as a factor in treatment, that cases could be cured by the ablation on separate occasions of the primary growth and the lymph nodes, and radium treatment has conclusively proved that, in buccal carcinoma, metastasis to the lymphatic glands is by embolism

But radium has done more than this, for the coincident investigations of the histological structure of buccal carcinoma in different parts of the mouth have shown that quite well-marked variations occur with corresponding variation in sensitivity We know now that almost every carcinoma of the base of the tongue will be of an embryonic, undifferentiated, and radio-sensitive type, that consequently there is a good chance of local cure in almost every case, and that the danger lies in the rapid and widespread metastasis The only cases I have seen of pulmonary metastases in buccal carcinoma have been of this type We know that epithelioma of the cheek, lip, floor of the mouth, and anterior third of the tongue are almost invariably of a highly differentiated type, with abundant cell nests They are radio-sensitive, but less markedly so than the preceding type Our own observations indicate that practically every case in which the anterior third of the dorsum is affected the condition is superimposed upon a chronic glossitis of syphilitic origin This interferes with the response to irradiation, and, occasionally, even small lesions do not respond In such cases it is always advisable to point out that diathermy may have to be used later if radium is unsuccessful Such cases strengthen the evidence that tissue reaction is an important factor in the effect produced by radium on malignant tumours

In the middle third of the tongue on the tonsil and fauces and soft palate, both histological types and also intermediate varieties are found

It would seem from the above considerations that all squamous epitheliomata of the mouth and tongue are radio-sensitive some more so than others, and that there is now unanimity of opinion that prolonged irradiation with gamma rays of low intensity yields the best results The problem, then should be mainly one of the insertion or application of the radium

Seeds or Needles

It has always seemed to me that it is infinitely easier to insert a needle of active length, say, 30 mm, than six separate seeds of active length 5 mm, and it becomes the more evident the larger the growth This is a general opinion in England, where we use needles of active length up to 50 mm for the treatment of breast carcinoma I would say unhesitatingly that needles are superior to seeds There occur some occasional complications from radium treatment which certainly do not follow operative methods, involving necrosis of bone or of the soft tissues If a lesion involves bone superficially necrosis is almost inevitable if the disease is to be eradicated, and may be prolonged and distressing If bone is extensively involved it is doubtful whether the disease will ever be eradicated by radium alone, and in such cases radium treatment of the soft parts combined with surgical excision of the affected bone, if possible, is the better procedure

No matter how careful and experienced the operator may be, necrosis of the soft tissues sometimes follows Over-treatment rather than under-treatment should always be our aim, since a second application does not produce so active a response as the first, except after a long interval of time, when it is probably too late

In the preceding remarks it has been assumed that the primary growth is treated first The primary growth must be regarded as a source of embolic infection of the glands, and clinically we know that if the lymphatic flow is blocked by extirpation of the glands on one side of the neck, it is diverted to the opposite side I have seen several cases which demonstrate this Radium treatment is a conservative method which, if successful, restores function almost to normal, little need be said as to its advantages over surgery of the tongue In the cheek, palate, and floor of the mouth little can be seen except slight scarring in the tongue the same may be said, although slight deviation to the affected side with pointing of the tongue to the opposite side is noted in lesions of the middle third Speaking, eating, and drinking suffer no impairment Local recurrence is rare after six months, and cases of so-called "recurrence" are those in which the growth has never really disappeared

The Lymphatic Drainage Area

Although most workers are agreed as to the principle of treatment of the primary growth by radium, there is no method of using radium alone which has established itself as the method of choice in the treatment of the lymphatic drainage area Even with a primary growth confined to one side of the mouth we have to consider the treatment of a wide area bounded in practice by the limits of the anterior and posterior triangles of the neck on the same side, although theoretically, and occasionally in practice, metastases occur in the opposite anterior triangle Needling is a localized method of treatment, and if in the primary growth which is relatively circumscribed, we are compelled to insert some fifteen needles, we ought to implant at least thirty to forty in the much wider secondary area In the majority of cases of buccal carcinoma the upper deep cervical and later the lower deep cervical, groups of glands are invaded and some of these lie posteriorly to the internal jugular vein These cannot possibly be dealt with adequately by the insertion of radium needles blindly through the skin and a thorough exposure of the neck is necessary Similarly, in order to deal effectively with the glands in the posterior triangle and supraclavicular fossa, the sterno-mastoid muscle should be divided and reflected upward I think, therefore, that if all this is necessary for adequate treatment by the implantation of needles, a block dissection might as well be done at the same time, in an operable case With an experienced operator and a regular assistant the operation is not so formidable as it appears and I am convinced that it is one of the best surgical operations in malignant disease The tragedy is that so many block dissections are so only in name

In an operable case the choice rests between the implantation of needles and some form of external irradiation. It is very doubtful if external irradiation, except in the case of the radio-sensitive types which are found at the base of the tongue, has ever cured a case with fixed secondary deposits in the neck Our practice in Manchester is to reflect flaps, as in the case of a block dissection of the neck, and divide the sterno-mastoid Needles are then inserted in the anterior and posterior triangles about 2 cm apart They vary according to circumstances in active length between 20 and 50 mm, and are left in position about eight days Usually thirty to forty needles are required, and the wound has to be reopened under a general anæsthetic for their removal One should never subordinate the position and direction of the needles to ease of removal

There is justification, in my experience, for the adoption of a policy of observation if no glands are palpable, provided the patients are seen at least once a month If means had permitted, these patients would have been subjected to external irradiation by about half a gram of radium at 4 to 7 cm distance At the Fondation Curie a routine block dissection is performed, followed by deep irradiation if microscopical deposits are found in the

nd removed Our own position may be summarized follow

1 If no glands are palpable observation at monthly erval

2 If gland are palpable and removable block dissection her combined with implantation of radium or followed external distance irradiation

3 If the glands are fixed implantation of a large mber of needles, thirty to forty, after thorough exposure the neck

The Results of Treatment

There are very few figures available for the results of eatment by radium alone

Berven of Stockholm published in 1928 the results in patients of whom 13 were alive five years later (59 per nt) These however, were "operable' cases, and dium was not the only factor concerned His practice to use diathermy, either for excision or coagulation, and supplement this with the implantation of radium for venty four hours I do not think that the results should included or compared with those obtained by radium one Any surgeon of experience will recognize that it is npossible to deal adequately by diathermy with any owth of the tongue which involves extensively the middle r posterior third We all recognize that surgery can have good results with early growths of the anterior ird of the tongue but having seen what radium can complish at all stage of the disease by the technique rt advocated by Regaud with no mutilation and a mplete restoration of function we feel that it has established itself as the method of choice in the first instance

Regaud's last published results were ascertained in December 1927 and I have abstracted and summarized them in he following table

	1922	1923	1924	1925	1926
Total ...	33	54	55	69	54
Complete cure ...	6	10	11	17	21
Percentage ...	18 18	18 50	0 00	23 33	38 88

This table therefore gives results at one two three four and five years respectively It will be observed that if a patient survives for three years he has an almost equal chance of living for two more years

The methods we employ in Manchester which are based on those of Regaud were begun late in 1925 and so far the results have been reviewed only on a three year basis They are as follows

	1925	1927	1928
Total	89	71	113
Complete cure ...	18	27	51
Percentage	42 50	47	45 13

For the same periods of time they are approximately the same as Regaud's, but there are several points to which I should like to draw attention It has been our custom at the Manchester and District Radium Institute to issue an annual report, and this is in effect an annual process of examination Although we cannot claim as cures patients treated so recently as three months previously yet by comparison with the same results year by year we discover whether our immediate results are on the upgrade For the primary site in buccal carcinoma our percentages of "apparent cure" for 1926 1927, and 1928 were 38 7, 47 3 and 60 respectively and, where the primary and secondary sites were considered 27 5 35 and 45 per cent respectively In other words our immediate results improved each year Naturally this percentage became lower when the results were reviewed at a later date, although we do not find that recurrences at the primary site are common I think that this improvement is due chiefly to increased personal experience and that it is an argument for the treatment of carcinoma of the buccal cavity at centres where special experience exists Lane Claypon (Reports on Public Health and Medical Subjects, No 59) has reviewed the statistical literature She concludes "It is probably fair to say that some 25 per cent of patients operated upon will be alive and well three years after operation and 20 per cent at five years"

Although the number of cases treated by radium is relatively small the three- and five year results are about the same as those obtained by surgery But the likeness ends there for the results by radium have been achieved not only in operable, but also in inoperable cases, and with no mutilation to the patient and no impairment of function We all appreciate the art of surgery, but the selective action of the gamma ray in certain types of malignant disease and, in particular epidermoid carcinoma of the mouth and tongue with complete restoration of function must be placed on a higher plane if degree is there be The question naturally arises whether we can confidently look forward to improvement in results I think we can if the following points are considered

Early diagnosis is essential, the more so because involvement of lymphatic nodes is early and increases the gravity of the prognosis With the education of the general public particularly with regard to oral hygiene, I think that as the present generation reaches middle and old age the incidence of oral carcinoma will diminish, and that they will seek advice and treatment at an earlier stage when abnormalities exist At the present time in the hospital class of patient, one feels that if the patient will tolerate for many years as he undoubtedly does a mouth filled with carious teeth of all shapes and sizes, the presence of an early carcinoma is an unnoticed incident in his daily life Commonly such a patient with an immobile tongue will give a three weeks' history only!

Secondly I believe in the concentration of radium treatment at large centres I know from my own personal experience that results with the same radiological technique improve with experience, and that only from the follow up of large number of cases can faults be corrected The same remarks I think apply equally to the performance of a block dissection which at present is often an integral part of the treatment of a case of buccal carcinoma Unless the surgeon has opportunities for the frequent performance of this operation I think the results will be poor One must always remember that Nature does not help us a great deal so far as we know in malignant disease whereas in the inflammatory diseases she plays a big part

TREATMENT OF BLADDER TUMOURS BY RADON*

BY

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Attempts to evaluate the application of radium to bladder tumours are beset with difficulty For the purposes of this discussion I will limit myself to an analysis of the case records of thirty two patients who consulted me for malignant bladder tumours from 1922 to 1930 who were treated by radon and in whose records the complete results are shown Diathermy was always employed as a preliminary to prepare the tumour for the seeds Bare glass seed were used from 1922 until July 1926 Since July 1925 glass seeds screened with 0 3 mm of platinum were employed For a knowledge of both these methods I am indebted to the Radium Corporation of New York and to a study of the work of Keyes Barringer and Muir All the tumours treated were clinically malignant though the majority were small and of recent origin Pathological evidence of malignancy continues to prove unsatisfactory In a number of the cases described below the tumour removed were said by the pathologist to be innocent yet the patients died of secondary deposits within a short time The case were selected for radon treatment mainly for four reasons

1 Because the patient refused extensive operation or would only consent to cystoscopic treatment

2 Because the tumours were in a position badly situated for

* A communication to the Section of Surgery of the Annual Meeting of the British Medical Association Winnipeg 1930

partial cystectomy—that is to say, they lay between the ureter and the internal meatus

3 Because in the case of pedicled malignant tumours it was hoped that radon would shorten diathermy treatment and make it more secure

4 Because in the case of some of the sessile tumours it was hoped that cystotomy and radon implantation might prove less difficult and dangerous than partial cystectomy

TECHNIQUE EMPLOYED

1 In early favourable cases of pedicled tumour or small early malignant ulcer, particularly in women, I was able to destroy the body and pedicle, or the floor of the tumour, at one sitting under general anaesthesia To effect this I made use of a special cystoscope which I devised and have described elsewhere[1] (see Fig 1) (This cystoscope

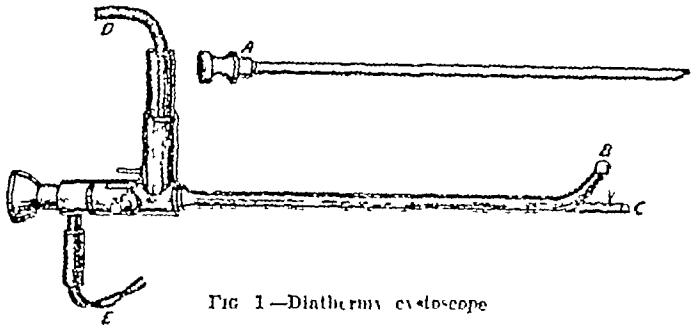


FIG 1—Diathermy cystoscope

has been copied by instrument makers in other countries, sometimes without any acknowledgement) After such treatment a whitened charred ulcer was left, occupying the site of the tumour Around this ulcer at appropriate intervals were implanted through a cystoscopic implanter an appropriate number of radon glass seeds, bare until

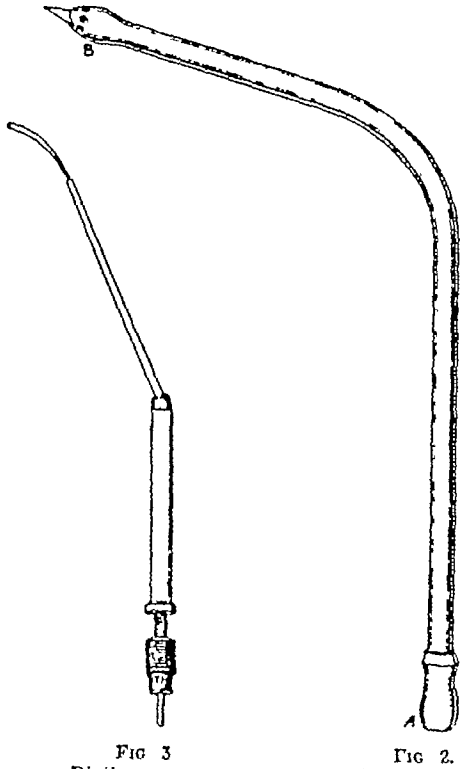


FIG 3
Diathermy snare.

FIG 2.
Suction knife

July, 1926, after that date screened with 0 3 mm of platinum, and containing from 1 5 to 2 5 millicuries of radon These were usually left in position indefinitely, and appeared to give rise to no subsequent trouble The ulcer would take from six weeks to three months to heal up soundly, but it seemed to heal up with less tendency to severe sepsis in a closed bladder than in an open bladder Urinary antiseptics were exhibited by the mouth during this period

2 In more advanced cases with a large, broad-pedicled tumour, and in men rather than in women, the bladder was exposed suprapubically and emptied with a suction knife of my own design (Fig 2) The opening was enlarged to admit a large-bore porcelain cystoscope open end of which the tumour would slip readily thereby cut off from the rest of the wound A diathermy snare (Fig 3) was then introduced pedicle, drawn sufficiently tight, and a full current turned on The pedicle was burnt through the top of the tumour at once withdrawn, caught neatly in the snare A charred ulcer was left at of the pedicle With a gloved finger in the or vagina, to guard these from damage, the ulcer received a further dose of diathermy with a flat electrode Finally, the circumference of the ulcer implanted with threaded screened radon seeds, containing 1 5 to 2 5 millicuries The seeds were 2 cm apart, and one seed was used for each centimetre of growth To estimate both these measurements I used a metal gauge (Fig 4) One end metal rod 2 cm long, the other end has a metal 1 cm in size In such cases there was no need exceed the maximum dose of safety—namely, 2,400 curie hours The gloved finger in the rectum or was kept in place during the implantation of the to assist in guarding those structures and in estimating size of the root of the tumour The bladder was

FIG 4—Radon gauge

up round a large tube The seeds were removed end of ten days Healing was slow, and the wound to be kept open for some time to permit the extrusion sloughs *

3 In more extensive cases of sessile malignant the bladder was opened widely, the surface of the thoroughly cooked with a large flat button diathermy trode, and the edges of the tumour surrounded with of threaded radon seeds at appropriate intervals

RESULTS

Group 1—Pedicled Malignant Tumours

These have thick pedicles, are tough, bald, and fimbriated, they are often covered with fibrinous plu and may be associated with mild cystitis Careful or vaginal examination under anaesthesia may reveal indefinite small area of thickening in the base of pedicle, but this is not found in the majority of cases

Thirteen such cases were treated from August, 192 March, 1930—six males and seven females

Of eight patients treated cystoscopically, two died of rapid recurrences probably induced by radon of bronchitis Both patients were over 80 years of Radon appeared to irritate, and probably accelerated d in both these cases Five patients are alive and without recurrence, in one case seven years, in anot six, and in three cases two years have elapsed since t treatment, but in four of these the radon did not c complete disappearance of the growth, so that they had have further treatment by diathermy, which was success The doses varied from 133 to 999 millicurie hours, th was little trouble with sloughs, apart from a tempor cystitis lasting four to six weeks One woman, aged had a small pedicled growth, and received a dose of millicurie hours, five weeks later the growth had gre increased in size, so that the patient had to be submit to partial cystectomy—an example of increase in rat growth induced by radon The results were two d one alive with recurrence, five alive and well—four whom needed diathermy to complete their cure In o one case can radon be said to have been entirely succes

In five cases treated with cystotomy, diathermy and open implantation of radon, doses varied from 666 1,332 millicurie hours Healing in three cases was som what painful and tedious until the sloughs came away, b the final healing was good Five patients are alive a well—in three cases periods of five, four, and two and half years have elapsed since the operation, and two

* An excellent rule-scale for calculating the dosage of radon seeds has been devised by Mr M V Maynecord, M Sc of the Cancer Hospital London, and made by Cuthbert Andrews, 47, Red Lion Street, Holborn, London, W C 1

two cases In one of these cases a partial cystectomy is performed for the main growth which was a sessile carcinoma the radon being applied to three small papillomata round the internal meatus In four of these five cases radon can be considered to have been successful

It is in this class of case that radon has appeared to have been most helpful but even in this class two tumours proved resistant and were irritated into more rapid growth and in one case death occurred from the irritation and toxaemia produced by the sloughs It is possible to argue that the diathermy employed in all the cases was sufficient to cure the tumours One can only give it as a clinical impression that the radon when it did not irritate gave additional security against recurrence and shortened the time of treatment

Of the thirteen patients treated two died one had a recurrence, ten are alive and well but four of these needed diathermy afterwards to complete the cure and one needed partial cystectomy as well as radon In only five out of thirteen cases can radon be said to have acted entirely favourably

Group 2—Small Early Sessile Malignant Tumours

These are growths without pedicles the size of the tumour varying from less than 1 to 3 inches in diameter, some papilliferous some ulcerating All could be felt to be infiltrating the base of the bladder

Fourteen cases treated from December, 1922 to March, 1930 consisted of seven males and seven females

Patients treated by diathermy and radon cystoscopically numbered four all females Three are alive and well periods of seven and a half years, two years and four months respectively having elapsed since the treatment All three tumours were very early and small, but were definitely malignant and infiltrating tumours One patient died within four months of multiple deep secondary deposits pyelitis, and uraemia Here the local growth was small and early certainly not larger than a threepenny piece A dose of 999 millicurie hours was given cystoscopically This is one of the five cases in which I have gained the impression that radon has directly caused early and extensive internal recurrences and has hastened death

Nine cases were treated by cystotomy diathermy and radon implantation—six males and three females Two fairly extensive cases were definitely cured by radon Two patients died directly as the result of the treatment Four died of extensive deep internal recurrences three within a few months the recurrences being apparently hastened by the irritation of the radon In one case (a man weighing 16 stone) the radon cured a fairly extensive tumour of the left side of the bladder but eighteen months later a fresh tumour appeared in the right kidney the removal of which led to death from pneumonia

One patient treated by partial cystectomy for the main tumour followed by implantation into the fresh site of the tumour was alive and had no recurrence three and a half years later

Of the fourteen patients treated six survived—one seven and a half years one four and a half year two three and a half years one two year and one six months after operation Eight died—two as the direct result of the treatment four from rapid internal recurrences apparently induced by radon and two from late internal recurrences In only six of the fourteen cases could radon be said to have been successful

It is suggested that radon is more likely than not to be unsuccessful in this class of case Its application has a high mortality and may irritate the tumour and increase the rate of growth Its successes in extensive cases appear as rather lucky shots in the dark I have no doubt in my own mind that I should have obtained better results had I submitted the majority of these cases to partial cystectomy Only six patients out of fourteen are alive and well and in only five of these can the result be attributed to radon In only three cases did radon cause a growth to disappear that was at all extensive In six cases I have no doubt that radon hastened death In two cases however it appeared definitely to delay for a time the fatal issue

Group 3—Sessile Malignant Tumours

One case, that of a woman with a tumour of the right bladder base was treated cystoscopically The tumour completely disappeared as a result of one treatment—a most impressive result Four and a half years later she developed a carcinoma of the right kidney and ureter, which I removed She is alive and well, but is likely to suffer from recurrence

One case that of a man who for a long time refused operation was treated by radon followed by cystectomy The tumour was healed over for nearly two years, then it recurred deeply After an almost complete cystectomy the patient was able to return for a time to normal life but a year after his operation he died of internal recurrences

One case treated by partial cystectomy with radon implantation into a fresh wound was that of a man who died a week later of uraemia death being in all probability accelerated by the radon

Two cases both males, were treated by cystotomy and radon implantation One died of exhaustion from sloughing five months later he would probably have been more comfortable and lived longer if he had been left alone One survived eighteen months the growth in his bladder shrank to small dimensions and he was relieved of his bladder symptoms but he died of deep recurrences

Of the five patient treated four died one is alive and well, but likely to develop recurrences

SUMMARY OF RESULTS

In twelve out of the eighteen patients still alive radon following diathermy appeared to destroy a bladder tumour but in only four of these cases was the growth at all extensive In the other six cases it was unsuccessful In eleven of the fatal cases radon either caused death directly or appeared to accelerate the progress of the disease In only three of the fatal cases did it appear to delay the final issue The chances therefore seemed to be about even as to whether radon would act as a cure or to act as a dangerous irritant Of the twelve cases cured by radon a cure might have been obtained in eight had they been submitted to diathermy alone or to excision alone one wonders whether we are justified in employing radon in bladder tumours except in exceptional cases where the growth is in a difficult position or when the patient refuses other treatment Once the word radium is mentioned in any particular case the patient knows he has cancer and thinks he is doomed If radium proves unsuccessful the state of the case is often rendered more painful and distressing Nevertheless it is hoped that increased experience and improved technique may lead to more successful results Radon must be kept as one of several weapons for attack and used in the cases where experience teaches us that it is likely to help

COMMENTARY

Radium and radon are physical agents that by giving off gamma rays may destroy cancer cells in their immediate neighbourhood just as the knife diathermy or the endotherm needle can destroy cancer cells by cutting them away or by overheating them Radium at first sight appears to destroy cancer cells with less mutilation than any of these other agents but the results are often fallacious The superficial parts of a tumour may disappear while the underlying portions are left to carry their ravages to deeper structures One gains the impression that if the deeper portions of a tumour are not destroyed then it may in certain cases extend more rapidly than if it had not been treated by radium It is suggested that radon in such cases damages the natural defences of the tissues against cancer cell

In the case of bladder tumour if it were possible to know beforehand the exact susceptibility of each individual tumour to gamma rays and to estimate the exact extent and size of the growth so as to be able to seed the growth not only superficially but deeply with accurately spaced doses and if it were possible, which it is not to exclude secondary beta radiation and so entirely prevent burning and sloughing and if it were possible to use very large doses of radium without damaging the neighbouring

organs of the body as a whole, then we should have in radium an ideal agent for dealing with the problem. Unfortunately none of these criteria can be fulfilled with certainty, so that the application of radium tends to be rather a shot in the dark, even in the hands of those who have had considerable experience with it. The unfortunate thing is that if radium is used and it fails, the state of the patient may be more miserable than if it had not been used at all.

Radium has shown such promise in dealing with early cases of cancer of the lip, tongue, and cervix that it was hoped it might be equally helpful in early cancer of the bladder. But it appears that the problem of applying radium in the bladder produces certain effects which may be of grave consequence, effects which are not troublesome when a cancer opens on to the skin, mouth, or vagina. In such situations, if burns or sloughs are produced, there is a free exit for dead or septic material. In the case of the bladder there is no such free exit, even if a large tube is placed in the bladder and kept there for some months.

It seems to be accepted that in the average case a screened seed containing 1·5 millicuries of radon, acting for ten days, can destroy 1 c.cm. of malignant tissue around it. It is to be noted, however, that some tumours are less susceptible than others. At first sight, then, the problem would appear to be a simple one. Estimate the number of cubic centimetres in any given case, and implant a sufficient number of screened seeds at a distance of 2 cm. apart, and you should destroy all the growth. But things do not always work out so simply in practice. The gamma rays stimulate the fibroblasts, so that scarring is produced, which may be harmful. They also produce obliterating endarteritis in the vessels supplying a growth, so that an excessive amount of sloughing may occur, and sloughs in the bladder may prove troublesome and even dangerous. However heavy the screening, a small percentage of beta rays always leaks through the screens. Apart from this, the gamma rays themselves set up secondary beta rays when they strike the tissues. Beta rays destroy and irritate the normal tissues and cause burns, which in the bladder may become septic.

It is difficult to estimate the exact size of a bladder tumour, and so estimate the dose of radon required for its treatment. Cystoscopy gives little help, as the apparent size of a growth, as seen by the cystoscope, varies with the distance at which the lens is held away from the growth. Attempts to estimate the size with a finger in the vagina or the rectum are liable to error. Even with the bladder open it is often difficult to estimate the extent of the deeper portions of a growth. The nearest approximation that can be made to estimate size is to take X-ray pictures with the bladder filled with air or with some opaque medium. These shadows, however, exaggerate to a certain extent the exact size of a growth, and do not give more than an approximate idea of the size of the root of the tumour.

The size of the growth having been roughly estimated, it appears that it is best to implant the growth with a number of seeds each containing a small dose of radon. These were usually left in to allow them to act for a long time. Small doses applied for a long time over a wide area are much more effective than large doses applied for a short time.

The difficulties of estimating and regulating the dose account for some of the failures.

Diathermy

Diathermy how large a dose of radium is safe to use for the bladder in particular. In July 1926 after that he agreed that it is not safe to use platinum and containing 20 millicurie hours to a tumour. radon. These were usually left in to allow them to act for a long time. Small doses applied for a long time over a wide area are much more effective than large doses applied for a short time. The difficulties of estimating and regulating the dose account for some of the failures.

3 In cases of early infiltrating carcinoma whether papilliferous or ulcerating confined to one side of the bladder I shall return to my original practice which I have employed since 1910—namely wide extraperitoneal resection of the bladder wall with reaction and reimplantation of one or even both ureters Into the fresh wound so made I shall hesitate to implant radon seeds, as I fear that these will delay or prevent proper healing Experience has taught me that the mortality from resection is no higher than if as high as the mortality that results from attempts to treat such growths by ruder while when it comes to permanency of cure radon is simply not in the same street with resection I have obtained a large number of cures with resection for this type of growth many of the patients being alive and having no recurrence for fifteen to twenty years after their operations whereas it is only in the most exceptional circumstances that one sees advanced cases free from recurrence for more than three to four years after an attempt to treat them by radon (four out of fourteen cases) The explanation seems to be that by resection we do often actually remove all the growth present while with radon we tend to treat the superficial parts of the growth only with the result that though the growth heals over for a time yet later on it recurs in the depth and gets beyond hope of cure

4 When it comes to the question of dealing with extensive infiltrating carcinomata I believe that it is dangerous to open the bladder and attempt to implant the growth with a maximum dose of radon The results in such cases seem to be disappointing Though the bleeding may be stopped for a time yet extensive and painful sloughing may occur, and this may lead after three or four months of permanent suprapubic drainage to a painful and trying death Suprapubic drainage in such cases is of doubtful value, and a more comfortable ending is secured if the ureters can be transplanted into the rectum In suitable cases a total cystectomy can occasionally be performed If the patient refuse to submit to such procedure I believe that it may prove a wiser plan to implant these extensive growths with a medium dose of radon cystoscopically and to repeat the dose in three to four months Some months later the case might be submitted to deep x ray therapy which may turn out to be more effective if applied after a tumour has been treated with mild doses of radon than it is if employed alone at the beginning of the treatment

Many years of patient observation must elapse before we can get a final judgement on the difficult question of radium treatment So far, radon has not come up to my expectations and I do not yet feel disposed to recommend it as a first line of defence I shall continue to put my trust in diathermy and resection as the two most effective weapons against bladder growths

In regard to the application of radon to the bladder I cannot help asking Is it as safe as it is said to be? Is it not rather alarming that radon should kill some patients quickly, should accelerate the rate of growth in others and, even when it causes delay, should not infrequently add to the patient's suffering? Are we justified in using it despite these results because it occasionally produces a striking but rather lucky cure? Are we not in danger of forgetting the remarkable results that can be obtained by resection in our enthusiasm for a new method, which is so much easier to apply but which we may be tempted to employ to save ourselves the earnest endeavour needed to fit ourselves to carry out resection?

REFERENCE.

[1] *Lancet* December 15th 1928 p 1282

THE RADIUM TREATMENT OF GENITO-URINARY CANCER*

BY

A CLIFFORD MORSON, O B E F R C S,

SURGEON TO ST PETER'S HOSPITAL FOR URINARY DISEASES

At St Peter's Hospital, London, during the past five years 100 cases of carcinoma of the bladder, prostate, and penis have been treated with radium by my colleagues and myself This research has been carried out with the support of the Medical Research Council and the Empire Cancer Campaign Of the 100 cases 58 were bladder growths, 35 were carcinomas of the prostate, and 7 penile cancer

CARCINOMA OF THE BLADDER

With regard to bladder growths various techniques have been tried They include the introduction through a cystoscope of emanation seeds, the latter being left in position until voided in the urine or retained permanently in the bladder wall

An extended trial was given to the following technique A suprapubic cystotomy was performed and needles containing the radium salt were buried in the growth in such a manner as to give homogeneous irradiation of the whole mass This is possible only if the needles are inserted into the periphery of the tumour outside the bladder as well as on its mucous surface, and applies to the ulcerative variety only

In the cauliflower type the tubes were buried in the base only The spacing of the tubes was about 2 cm and the quantity of radium element in each either 1 mg or 5 mg, the time of exposure varying from one to six days Screenage used was platinum 0 5 mm thick

Modifications of this technique consisted in removing the cauliflower mass down to its base with the diathermy knife before inserting the radium, and also injecting the tumour with 2 per cent fluorescein

The only advantage gained by the cystoscopic method is that the bladder is not opened Apart from the obvious danger of leaving foreign bodies in the bladder wall which collect phosphatic deposits around them (see drawing) it is absolutely impossible to determine the extent of the growth with the aid of the cystoscope alone Excluding the use of the microscope and the x ray tube the limits of any cancer can be defined only by digital exploration Experience alone develops this cancer touch in the fingers On these grounds therefore, the technique may be dismissed as inefficient

Of the fifty-eight bladder growths, thirty were treated by myself, by open operation over a period of five years Not one of these cases can be said to have been cured, though it must be made quite clear that the cancer was in an advanced stage A portion of growth was removed at the time of operation to prove the presence of an infiltrating tumour and to exclude the diagnosis of papilloma



A drawing of a phosphatic calculus which contained two radon needles and was adherent to the bladder wall

On the credit side two facts stand out First with few exceptions, for a space of six to eighteen months, the distressing symptoms of urgency and pain on micturition were in abeyance but they then reasserted themselves, with the result that there was a steady decline in the general state of health Cystoscopy during this period showed a bullous oedema of the area of mucous membrane irradiated and when the tumour was of large size a mass of dead growth surrounded by a raised edge and covered by what looked like normal mucous membrane As time goes on the patient dreads dilatation of his bladder and cystoscopy, even under an anesthetic affords little assistance for the study of pathological changes

The second fact—and it is a remarkable one—is that however severe a haemorrhage may be it can be controlled by irradiation of the whole malignant mass, but the dosage must be comparatively large—that is, tubes containing not

* A communication to the Section of Surgery at the Annual Meeting of the British Medical Association Winnipeg, 1930.

less than 5 mg of the element should be left in position for twenty-four hours A small quantity with a long exposure is useless in these cases I know of no agent—chemical, thermal, or electrical—which is so reliable a haemostatic as radium I recall two cases where it was feared that the patients might die of exhaustion before the growth could be irradiated Blood transfusion appeared to give each patient the necessary strength to withstand the operation of suprapubic cystotomy The control of haemorrhage by irradiation was complete within twenty-four hours

One had hoped that better clinical results would have been obtained by the use of needles containing 1 mg each of element, with an exposure of about six days, but it has been found very difficult to keep the tubes buried in the growth for longer than two or three days They then fall out into the cavity of the bladder The displacement appears to be due to two causes—namely, the necrosis of cells immediately in contact with the needle and the muscular act of defaecation

It is a striking fact, confirmed by numerous observers, that bad results are to be expected from radium irradiation where severe sepsis has intervened upon a malignant tumour I know of no exception to this rule In vesical carcinoma, complicated by infection, after irradiation, the disease makes rapid progress, and a temporary control of haemorrhage is the only advantage gained by the use of this method

It was hoped at one time that the painting or injection of fluorescein into the tumour, when the cells are exposed to irradiation, would improve our results, but there is no proof that the patient benefited in any way from this technique On the other hand, the combination of diathermy with radium, in removing a large mass of growth within the cavity of the bladder at the time of operation has given immediate relief

CARCINOMA OF THE PROSTATE

An account of the results of the radium treatment of carcinoma of the prostate does not encourage the hope that patients suffering from this type of the disease can be cured by this method In the majority of cases, when the disease is detected by the doctor the growth is no longer hemmed in by the capsule of the prostate, and no local-acting agent like radium will destroy it

If radium has no curative effect upon this type of glandular carcinoma, can symptoms be relieved and life prolonged by its use?

Seventeen years ago I commenced a study of the radium treatment of prostatic cancer, and between 1913 and 1923 inserted radium tubes by the perineal route into fifteen patients The immediate results were satisfactory, the tumour shrank in size, and in some cases seemed to have disappeared There was a reduction in the frequency of micturition, and in two cases of retention normal micturition recommenced As the months passed, however these patients returned, complaining of increasing difficulty in passing water, and later some of them developed retention, requiring suprapubic cystotomy Very few of these patients survived two years, and all except one were dead within four years Post-mortem examinations carried out on two patients on whom suprapubic cystotomy had become necessary, following irradiation revealed contraction of the ureteric orifices and atrophic kidneys

That radium often destroys the malignant mass I have not the slightest doubt, but the anatomical position of the prostate is a stumbling-block Whether a small dose of radium is employed over a long period, or a large quantity for only a few hours, there is a stimulation of the connective tissue cells by the rays The resulting formation of fibrous tissue leads to serious complications in tiny ducts like the ureters

A study of the pathology of prostatic cancer has revealed to me that the lower ends of the ureters are commonly encased in malignant tissue The danger, therefore, of replacing the carcinoma cells by even a minimum of fibrous tissue is obvious I have performed a post-mortem examination in a case of carcinoma of the cervix, treated by the most fashionable technique in England to-day, where the radium had completely destroyed the malignant growth but left the ureters contracted by fibrous tissue The clinical manifestations of this fatal complication had occurred two years after the patient had been discharged from the gynaecological clinic as an apparent cure I have now entirely abandoned the perineal route, as by it homogeneous irradiation of the cancer, which has extended far beyond the boundaries of the prostate, is impossible I am carrying out the technique advocated by Herbst of Chicago who performs suprapubic cystotomy and irradiates the bladder base and prostate from within the bladder An additional advantage of this method is that the surgeon is able to determine whether the disease has extended beyond the interureteric bar If it has, radium treatment is out of the question As yet I do not feel justified in expressing an opinion on the results of radium treatment by the suprapubic route, but I must frankly admit that at the best it is unlikely to be as satisfactory as the radical operation of excision of the gland and bladder base

CARCINOMA OF THE PENIS

A study of the effect of irradiation upon carcinoma of the penis brings us much nearer the possibility of cure than that of cancer of any other genito-urinary organ The reasons for this optimism are as follows

1 Cancer of the penis is a local disease, and never gives rise to general dissemination, as is observed in a glandular carcinoma I wish to stress the point that lymphatic involvement is confined to the inguinal glands This observation has met with criticism from some distinguished urologists, but I am unshaken in my belief that I have given a correct picture of the clinical course of this disease in my paper read before the Section of Urology of the Royal Society of Medicine in January of this year It has a most important bearing on prognosis

2 The most sensitive of the carcinomata to irradiation is the squamous-celled variety, which is the type met with on the penis

3 In cancer of the penis, being a surface growth, more than one application of radium can be given without any disturbance to the patient, such as occurs in the deep-seated tumours of the urinary tract

4 This disease of the penis can be cured by amputation Therefore if radium causes disappearance of the primary lesion it is strong presumptive evidence that the final results will be as satisfactory as that produced by surgery

It is unfortunate from the research worker's standpoint that in England carcinoma of the penis is a rare disease During the past five years seven cases have been treated at St Peter's Hospital with radium In one of these, which was very septic and had a most offensive odour, irradiation failed to produce any result, and eventually the organ had to be amputated All the other patients benefited enormously by radium treatment The tumours disappeared, and thus permitted both the genital and urinary functions to act normally

The technique to date has been to use platinum needles, 0·5 mm thick, with over-all length of 22·5 mm, each containing 5 mg of the element, and to bury them in the growth about 2 cm apart, so as to produce homogeneous irradiation of the whole tumour For the initial exposure each needle has been left in position for twenty-four hours, for every subsequent one, thirty-six hours In order to protect the skin of the scrotum and testicles from the rays a lead plate must be placed between these structures and the penis The plate should be sufficiently long to allow each end to rest on the thigh For the introduction of the needles local anaesthesia suffices The changes in the tumour, which can be observed with the naked eye, commence about the third day after irradiation In the papillary variety the projecting parts of the growth become smoothed out, and a thin whitish film, due to keratinization, appears over the whole surface If a lethal dose has been given the tumour will have disappeared in a fortnight When a malignant ulcer is treated the base is replaced by healthy granulation tissue in the course of from ten to twenty-one days, and normal squamous epithelium commences to grow in from the edges The complications of treatment by irradiation are difficulty in micturition, caused by oedema of the urethral mucous

membrane, sloughing—the result of overdosage—and stricture of the external meatus

It is a striking fact that in all except the advanced cases of penile cancer the removal of the primary lesion results in a decrease of the size of the inguinal glands, and in some cases complete disappearance This of course, means that the enlargement is due principally to sepsis, and not to malignant disease The treatment of these enlarged glands depends upon the clinician's interpretation of the pathological processes at work My view is that to dissect out the lymphatic tissue at the same time as the primary growth is eradicated is a most dangerous practice First lymphatic oedema may result, comparable to the condition known as "brawny arm," following the radical operation for carcinoma of the breast secondly, there may be an extensive cellulitis, due to operative intervention in tissues heavily charged with infection

As the malignant cells do not penetrate beyond the inguinal regions it is perfectly safe to allow three months to elapse after the removal of the growth of the penis, in order to observe any changes in the lymphatic tissues As I have already stated, sepsis is the chief factor in causing the glands to enlarge and the elimination of the primary focus will cause the disappearance of the adenitis within a few weeks If at the end of three months the glands are still larger than normal, and the skin over them is thickened, we can be quite certain that these changes are due to malignant disease It is my practice, then, to excise the diseased tissues, rather than to speculate with radium

Surgical Removal of Primary Growth

Finally, we have to answer the all-important question When is the primary growth to be irradiated, and when is it to be removed by operation?

Surgeons are unanimous in their opinion of the value of the Gould operation in eradicating the disease The functional result, so far as micturition is concerned, is also satisfactory There is complete control Narrowing of the external meatus frequently occurs and requires intermittent dilatation with bougies This defect and the loss of the whole organ, are the two great disadvantages of this method of treatment

On the other hand by irradiation the penis is preserved, and though stricture of the external meatus may sometimes result, its frequency is not comparable to that observed after amputation If irradiation fails we can still fall back upon amputation with the knowledge that delay in surgical removal has not eliminated the hope of cure

OPTIC ATROPHY WITH RETINAL CHANGES, CAUSED BY HIGH-TENSION CURRENT

BY

W BAINBRIDGE, M B , Ch B Ed , D P H ,

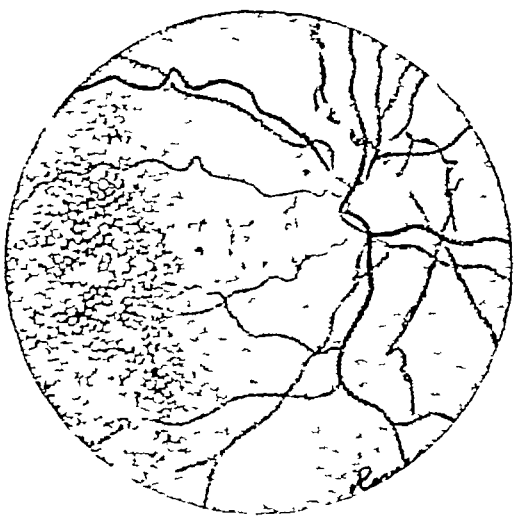
HONORARY OPHTHALMIC SURGEON HULL ROYAL INFIRMARY
OPHTHALMIC SURGEON HULL EDUCATION COMMITTEE.

I PUBLISH the following case because similar cases must be rare and it deserves to be recorded The history was given to me as follows

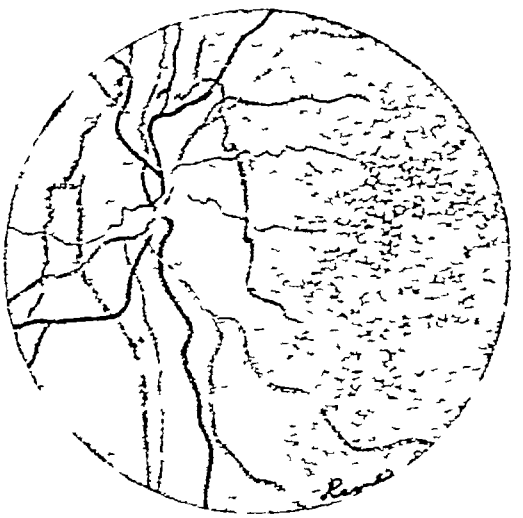
In June 1927 the patient aged 31 an acetylene burner by trade was going into an electric crane to do some repairs when he happened to take the wrong lead to the crane and got a shock with a current of 480 volts A C He was taken to the local hospital His left wrist was burned and also his toes His eyes were bloodshot for four month He received no treatment for them in the hospital because he did not complain about them they did not hurt him and his sight was not affected He was in the hospital for a month or five weeks Six or seven months afterwards his eyes became misty and used to hurt him He went to his doctor about them who advised him to see the nearest eye specialist who tested his eyes and prescribed glasses As his eyes still troubled him he again visited his doctor who sent him to the Hull Royal Infirmary where I first saw him on October 8th 1929 Regarding the family history he has three sisters and five brothers all with good sight his father and mother have also good sight.

The condition of his eyes when first seen was as follows Pupils active to light and accommodation Conjunctivae and corneae normal Right eye vision 6 36 The fundus examination showed the disc to be pale and atrophic and the arteries slightly smaller than normal There were a large number of rounded white area in the macular region surrounded by pigment To the nasal side of the disc there was an angioid streak The retina appeared healthy in the periphery Left eye vision 6/24 upper part of the disc pale There were similar rounded areas to those seen in the right eye and angioid streaks on either side of the disc The periphery showed retinal degeneration A small degree of myopic astigmatism was present in the right eye and a small degree of myopia in the left Both fields of vision contracted all round

Wassermann reaction negative urine normal He was examined by Dr Muir honorary physician to the Hull Royal Infirmary who reported that he could find no disease of the central nervous system I saw him again on October 15th 1929 January 10th 1930 and May 13th but the condition of his eyes has remained the same



Right eye.



Left eye

As the case was one of peculiar interest I sent him up to London to see Mr A H Levy surgeon to the Central London Ophthalmic Hospital who reported as follows

The fundi show most peculiar changes Besides the optic atrophy which is well marked in the right there are macular changes and also vascular changes The brown lines look somewhat like angeoid streaks except for their colour and the whole gives me the impression of a very slow non-infective inflammatory process

Mr Levy considered that the condition had definitely been caused by the accident

Ocular injuries through electricity are not common, as shock of sufficient severity to produce fundus changes is generally fatal The modes of injury are as follows lightning, exposure of the eyes to electric flash, and electric shock

The following fundus changes have been reported

(*a*) Hyperaemia, oedema, changes in calibre of arteries and veins

(*b*) Localized lesions, including scar formation observed round disc (Terrieu), near macula (Haab) Hole at macula with pigmentation at periphery (Kramer)

(*c*) Fully established choroido-retinal changes, with and without gross interference in visual acuity (Lundsgaard, Junius, Schirmer, Robinson, and Terrieu)

(*d*) Choroido-retinitis leading to detachment (Lundsgaard)

(*e*) Detachment in one eye and optic neuritis in the other (Pfahl)

(*f*) Optic atrophy (Ulbrich, Hess, Junius, Dor)

I am greatly indebted to Mr Levy for his assistance in looking up the references to reported cases also to Messrs Rayner (Hull) for making drawings of the fundi reproduced

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MAJOR DERMATOSES OF CHILDREN.

BY
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PHYSICIAN, SKIN DEPARTMENT, LONDON HOSPITAL

A "dermatological bad bargain" must be our first consideration Chronic seborrhoea capitis is not dramatic, it is unpleasant to look at, inveterate in its resistance to ordinary treatment, it is a bar to the education of its owner, a hindrance to its possessor's marriage or employment, and, throughout its course, a means of reproach to the profession I shall first describe the clinical picture as we see it in young children, outline its clinical variations and complications, and suggest a line of treatment that I have most frequently found to be efficacious

CHRONIC SEBORRHOEA CAPITIS

The disease appears, when developed in a child of 5 or more years of age, as a scalp condition whose history is seldom definitely obtainable The scalp is red or pink, scaling all over, and generally dry Moist patches from exudation of clear serum are covered with heaped-up minor aggregations of damp, yellowish scales Over the greater part of the head the pink surface is dry, and covered with copious, easily detached white scales The hair has no lustre its surface, if dark, is grey Generally the hair is plentiful, but at times in an exacerbation of the disease there may be a general loss of hair producing notable alopecia, regrowth is the rule Were the condition confined to the scalp it would be bad enough, but extensions on to the body are frequent, particularly to the flexures The folds of the groins, the umbilicus and the armpits, although hairless, are red, and covered with copious, easily detached white small scales At times all these sites may be moist exude freely, and show scabs and macerated epidermis heaped over the reddened surface as a pale yellow malodorous and pultaceous accretion During acute phases it is common for a moderate adenopathy to develop in the neck and groins These children otherwise are well, but particular attention should be called to a hall-mark of skin chronicity which they invariably show The eyelids are reddened at their margins, while yellowish crusts are formed at the roots of the eyelashes The lids are pink and roughened from frequent rubbing matted bunches of eyelashes are often seen, and a considerable disfiguring loss of eyelashes takes place also In about one-third of the cases two further extensions can be seen First, the eyebrows may be involved their site is reddened and scaling, or moist and scabbed Secondly, behind the ears red fissures may develop, the surface of the ears is thickened, while stiff and matted scales and caked exudate often cover a retained wax crescent of attachment of the auricle to the scalp Both sexes are afflicted with an equal incidence The disease is far more common in hospital and institutional practice than in private practice For this, the factors of heredity, uncleanliness, a disinclination on the part of the parents to perform unpleasant dressings, and improper feeding must be taken into account Although superficial pustular dermatitis speedily clears up when removed into the hospital surroundings, nevertheless the scaling erythema of scalp and flexures remains, apparently responding to changes in diet, climatic changes, or to variations in the general health It is soon borne upon the observer that these patients have a fragile skin, they are placed sensitive, and exposure to the sun on a bright day rather pink skin red, and red areas moist These patients respond by aggravation if they are washed with any household soaps, or if mercurial ointments are applied in an attempt at antibacterial treatment Such children are not of the nervous type so brilliantly described by Cameron They do not suffer from dental sepsis there are no signs of intestinal toxaemia, and their differential blood count is normal They are not anaemic, or wasted, or mentally dull, although they have a strange tolerance of their persistent malady

In treatment, personal cleanliness is of the first importance underclothing and bed linen should be changed and boiled daily We can assume that by the time these cases have reached the specialist's hands, bland treatments, such as bran baths, calamine liniment, various zinc ointments, soft paraffin dressings, a period of salt free and also of low sugar dietaries, have already been tried without success Thyroid extract and ergosterol may have been exhibited, and yet the disease remains My practice is to order an x-ray epilation to the whole scalp at once If the child is an inmate of an institution, or under the care of an authority through which such a treatment is not easily obtainable, I prescribe thallium acetate 8 5 milligrams per kilo of body weight, dissolved in a draught of sweetened water Whilst awaiting the epilation that should occur after a latent period of three weeks I swab the scalp and any other lesions with a 2½ volume peroxide lotion This is speedily mopped away with both Sir Lenthal Cheatle's malachite green, which is a solution composed of equal parts of 2 per cent malachite green in 80 per cent alcohol, and 2 per cent mercuric chloride in 80 per cent alcohol This application is, to some patients, painful for a short time at first, but it is an invaluable aid for infected dermatoses The scalp should be cropped closely before the application of x rays or giving of thallium, so that local medication may be facilitated The backs of the ears, the axillae, and the groins should also be sprayed Frequent application of white lint fomentations for twenty-four hours, or a starch poultice, is occasionally needed before a direct attack can be instituted in this manner Application of unguentum hydrargyri oxidi flavi to the eyelids twice a day is also advisable A watch must be made for bed wetting, and naturally constipation will receive proper treatment It is a common tradition that soap and water is bad for the patients Hard water and common soaps undoubtedly are, but I have never regretted bathing these patients daily, using Midgley's or Allen and Hanburys' basic over-fatted soaps, a second water is always used, however, to remove any curds from the skin, and hot, soft towels are advisable to lessen the need of skin friction and to shorten the washing process, since, in winter, these children frequently develop attacks of bronchitis

During treatment, patients are kept in bed, and at the last stage in the latent period after x-ray treatment, it is highly advisable to use the weapon of protein shock therapy This is best given on the nineteenth evening after the x-ray treatment, so that the period of fever corresponds to the time of epilation The customary dose

I employ is 0 1 c cm of T A B injected intravenously The febrile reaction is treated with general heat, hot drinks, sal volatile and aspirin When the hair falls, I change over to lotio glycerini plumbi subacetatis applied to the head and to the other lesions thrice daily until the pink flu h has gone and the skin texture is natural This treatment is truly severe but the dreadful outlook of these patients—if not cured—demands courage and resource on the part of the physician in no way different to that needed by a surgeon dealing with a grave malady

Flexural Prurigo

The second major affection of children is flexural prurigo Essentially this condition starts at the teething age with a few, or many papules of strophulus that are often termed 'lichen urticatus" or papular urticaria of infants From the onset of this usually minor malady the child is seldom completely free from skin trouble Sometimes the mother says the child s skin is affected when exposed to the sun and to the east wind, others say the child is only free when at the seaside in the salt water But, as the years go on the malady changes and presents an eruption of a constant type it is found commonly at the bends of the elbows knees, and wrists less so in the groins rarely on the scrotum and penis, sometimes the skin is harsh purplish and thick, while small boils and excoriation may be present or absent The parents or nurse will always volunteer the statement that the child scratches whenever it is not busily occupied The patient is always of a nervous, sensitive, irritable, emotional make up teeth grinding is common, nail biting and bed wetting are also frequently present In some ca es the parents will giv a history of epilepsy, of asthma, or of migraine in the family Pallor of the skin is often a common concomitant ichthyosis may be pre ent In this connexion we must remember however, how Dr H Barber of Cur s has stressed the unity and importance of the eczema asthma-ichthyosis-prurigo complex The patches of thickened skin or lichenification that we are considering may be small defined round areas 3 to 4 cm in diameter they may be bands along the course of the borders of the popliteal space they may be large quadrilaterals filling the skin area of the bend If, as seems to be the case prurigo is now accepted to be not a disease of the skin but essentially a subjective irritation in which the skin appearances are secondary to rubbing scratching and medication then these cases are truly prurigo The differentiation between pruritus as a symptom and prurigo as an eruption accompanied by itching is artificial The existence of a primary papular *localized pathological skin change* that cau es intolerable itching is a disease conception which many dermatologists will not concede If the importance of the itching and the *unimportance of the physical signs* be realized the term "eczema" will not be applied to these ca es for we are dealing essentially with a nervous malady a *disorder of sensation in which a highly suggestible* child has developed a "tic" of scratching, the scratching causes itching, and a vicious circle is perpetuated

In treating these patients it is well to separate them from a highly nervous watchful, over sensitive mother The affected lesions should be enclosed in pasta zinci or in Unna s paste The arms should be splinted with tubes of corrugated cardboard extending from the axillae to below the fingers Sedative drugs are certainly helpful A child of 5 will derive benefit from the administration of 10 grains of potassium bromide night and morning There is no objection to bathing these children with a bland superfatted soap provided that the dressings are laid out so that immediately after the bath the skin is protected from variations of temperature and is made inaccessible to the child s eyes and fingers movements of air or the touch of clothing will easily bring on spasms of uncontrollable irritation and blood can be drawn in two seconds by an active child Pix liquida is often a most helpful local application itching ceasing after the first twenty-four hours treatment whilst the mother may be entrusted in a minor ca e with a small bottle of pigmentum chloral co which consists of equal parts of chloral hydrate menthol and camphor, and she can rub a drop or two of this into irritable spots at bedtime to ensure a quiet night Autohaemotherapy is of service, 20 c cm of blood is withdrawn from a vein at the bend of the elbow and injected immediately into the buttock muscle This should be done twice a week for three weeks care being taken to grease the plunger to prevent clotting Two spaced exposures each of one third of an erythema dose, of *x* rays to all the affected areas of skin at an interval of a fortnight will be most helpful in refractory cases

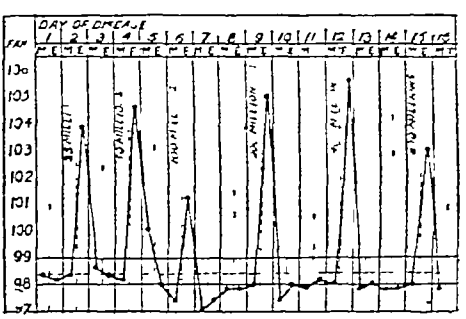
Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NON-SPECIFIC PROTEIN THERAPY IN ELEPHANTIASIS

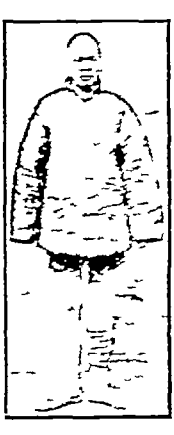
I am prompted by the interest taken during the last few years in this form of therapy to record the following case of elephantiasis in which great improvement followed the administration of protein shock injections

A male Chinese beggar was *admitted to the Civil Hospital on* November 22nd 1929 uffering from a solid oedema of the left leg confined to below the knee Unlike most of his brethren he regarded his deformity as an encumbrance rather than an



acquisition and asked if anything could be done for him The affected limb was fully twice the size of the other and the skin was coarse and thickened digital pressure made not the slightest impression upon it

The patient a native of Tai-nan-fu in the west of Shantung where according to Maxwell *elephantiasis is rare gave a history* of two years duration He was put to bed and the limb was firmly compressed by a crêpe cotton bandage next day he was given an intravenous injection of T A B vaccine containing 25 million organisms and suitably diluted with normal saline solution On the fourth sixth ninth twelfth and fifteenth days increasing doses were given—namely 50 100 200 400 and 800 millions The reactions though severe were never alarming and in each case subsided within twenty four hours From the first a steady diminution in the size and a marked change in the consistency of the leg were apparent the bandage had to be readjusted daily as it became loose



The photograph reproduced here was taken on the sixteenth day when he decided to leave hospital and resume his wanderings As can be seen the limbs are practically identical in size That elastic pressure played a large part in the result is evident from the marks of the bandage which show up clearly in the picture but I am convinced that elastic pressure alone could not have induced such a favourable effect in so short a time even in a case admittedly mild as these cases go

I think that two departures from the usual technique may have been factors in the success which was achieved (1) the shorter interval between the injections and (2) the larger doses of the vaccine I regret I did not take a photograph before commencing treatment but the latter was purely empirical, and I did not anticipate such a happy result

Weihaiwei. LEO MCGOLDRICK M B,
Senior Medical Officer

Reports of Societies.

THE PREVENTIVE VALUE OF HYDROLOGY

At the meeting of the Section of Balneology and Climatology of the Royal Society of Medicine on November 21st, Dr F G Thomson of Bath, the new president, delivered the annual address from the chair

Dr Thomson said that the treatment of certain definite diseases by what was now called medical hydrology appeared to be one of the oldest forms of practical therapeutics, and the fact that certain previously sick people derived benefit from a course of baths and waters had been observed from early times Certain disorders had come to be regarded as specially suitable for this form of treatment Most of the chronic diseases were preceded by a more or less prolonged stage, in which errors of function were the main, and in many cases the only, feature, and when the truism was repeated, that the earlier the stage of the disorder at which the patient sought advice the more chance was there of cure, it was meant that the benefits from any form of treatment were mainly confined to the correction of functional disorder The aims and objects of hydrology were to increase elimination to train the cutaneous responses to heat and cold, thereby improving the circulation of the blood in the cutaneous areas, to secure the irrigation of the muscles and subcutaneous tissue with a free and more active circulation of blood, to improve the adaptability and elasticity of the peripheral circulation, and to improve nervous tone and general metabolism A course of hydrological treatment might be said to constitute a comprehensive and, on the whole, a very efficient form of physiological training and it was a question of how far it might be adapted to serve the ends of preventive medicine Discussing the pre-rheumatic child, Dr Thomson said that, so far as his own experience went, it was almost unknown for children to be sent to a health resort for a course of treatment, such luxuries were almost invariably reserved for their elders and betters, yet he ventured to think that much more good might often be done in these ordinary cases by the course of treatment A great deal could be done to train his cutaneous reactions by simple measures carried out in the child's own home Clinical evidence went to prove that a large proportion of the less severe cases of muscular rheumatism were due either to an accumulation of fatigue products or to autogenous vaccines of gastro-intestinal origin It had been proved that if baths were instituted early enough this treatment might be said truly to be preventive of many of the most painful and crippling effects of fibrositis

It was such conditions as obesity, gout, glycosuria, and metabolic diseases of the menopause which offered the widest field to hydrology as a preventive measure The onset of obesity was not always to be explained by food and lack of exercise Many men and women began to put on weight at middle age simply because, for some reason or other, their sympathetic endocrines became relatively inefficient Among the causes chronic infection, intestinal or otherwise, must be seriously considered The main indications in addition to regulation of diet and removal of any cause of chronic infection, were to promote the metabolism of fat by hot immersion or radiant heat baths and to promote endocrine activity by the stimulating action of massage, douches, needle baths, and so forth The treatment of gout by hydrology had always been regarded as one of the most successful applications The essential treatment of gout must always be the removal of gastro-intestinal putrefaction The preventive treatment of gout offered a wide field for useful activity at many health resorts Although in theory the climacteric must be regarded as a normal phase in the life of a woman and should entail only trifling and temporary inconvenience a large proportion of women at the "change of life" suffered from definite metabolic disorders The middle-aged woman of increasing weight, with a general thickening and loss of elasticity in the subcutaneous tissue, was sufficiently familiar to everybody, and presented disabilities which, if allowed to go on, were going to impose a serious handicap upon her for the rest of her There was no class of patient for whom treatment balneological and allied methods was likely to prove beneficial Relatively hot immersion baths formed a valuable factor in treatment especially when combined with massage douches Finally, Dr Thomson mentioned hyperpiesis or idiopathic high blood pressure All these were themselves capable of wide and active variation in calibre He thought it not unreasonable to assume that the capillaries played a much more important part in determining the blood pressure than was usually recognized and then functional disuse and ultimately organic might be a primary etiological factor The good results of hydrological treatment in the early stages were due to the restoration of the patency of the capillaries

Dr Leonard Williams, in proposing a vote of thanks, said that he had little doubt that the human race in the future would find the adequate and scientific application of hydrology one of the best methods of preserving health and strengthening resisting powers and Dr J F Halls-Dally, in seconding, agreed with Dr Thomson that the increasing knowledge of the capillary system in dealing with arterial pressure cases was likely to be productive of something very useful from the point of view of treatment

THE TEETH AND THE STOMACH

At the meeting of the Section of Odontology of the Royal Society of Medicine on November 24th, with Mr Cecil Schelling in the chair, a paper by Dr A F Hurst was read, in the absence of the author through indisposition, by Dr J F Venables

Dr Hurst said that the normal activity of the small intestine played a part of such fundamental importance to the body as a whole that it was fortunate that the body had a double line of defence to protect it—namely the mouth and the stomach The majority of people were provided with a first line of defence—the mouth—which was potentially capable of epilation to a not make sufficient use of it, food was immune of all being chewed with the result that the membrane was subjected to mechanical chemical, and thermal irritation The gastric juice dissolved connective tissue and it softened though it did not break up, lumps of unchewed carbohydrate The stomach did its inadequate best to perform the functions which the teeth should have carried out In most individuals the second line of defence proved adequate, even when the individual did not trouble to use his first line of defence, or when the latter was impaired When the stomach was all used as a result of insufficient activity of the first line of defence it was unlikely to suffer greatly unless it owner was one of the 10 per cent of people in whom less than the average amount of gastric juice was secreted Achlorhydria was present in a large proportion of cases of chronic appendicitis and infection of the gall bladder it was a very important predisposing cause of intestinal infection, such as typhoid and paratyphoid and was a constant source of danger to residents in tropical countries Pyorrhoea alveolaris, and to a less extent an inadequate chewing surface, thus played an important part directly in the pathogenesis of chronic gastritis and indirectly in that of a large number of other diseases Turning to hyperchlorhydria, Dr Hurst said that dental infection of all kinds had an important influence on the pathogenesis of gastric and duodenal ulcer in individuals who were predisposed by having a constitutional tendency to hyperchlorhydria The treatment of pyorrhoea alveolaris and the extraction of teeth with infected roots were not only important but the successful treatment of ulcer, but played a still more important part in preventing recurrences Much could be done by effective dental hygiene to prevent the swallowing of infective material If this could not be prevented, the stomach should be washed out periodically, otherwise an acute exacerbation of the ulcer might occur

There was a great deal of evidence to indicate that cancer of the stomach was never a primary disease, it was secondary to chronic gastritis or less frequently, to chronic gastric ulcer, so that the prevention and treatment of these conditions might be regarded as an indirect

Dr Hurst added a few
and abdominal operations
on the alimentary tract
prorrhoea which might be
rate temporarily overcome
from an abdominal operation
of the motor secretory function
and the result was that a
is produced, so that the oral
roved when swallowed Prob-
of those gastro-jejunal ulcers
immediately after the gastro-

F

paper a clinical demonstration was

PREVENTIVE OF DISEASE

pidemiology and State Medicine of the
Medicine on November 28th, with Pro-
Nwood in the chair, a paper on food as
isease was read by Dr J M Hamill
said that well-being was dependent on
redity and environment—and of these
a part which was often underestimated
irate and powerful of all environmental
food, by means of proper food an indi-
ditary equipment could be developed to
tage than by any other environmental means
hen properly fed and well nourished had
powers of resistance to disease The incidence
is in a community appeared to be closely
he food supply It diminished when the food
ample, and increased when the quantity and
he diet became inadequate Troops could with
t hardship when the rations were sufficient and
their needs During the Middle Ages the relation-
een famine and pestilence was well understood
t a simple matter to say with certainty what
nt and suitable food or when a diet might be
s completely satisfactory Man would seem
have eaten everything of an edible nature avail-
ecent researches had shown that the keynote of
diet was variety It was only by variety that
ould obtain all the various constituents essential
n Milk, one of the few foods expressly manu-
by an animal for an animal, was a perfect food
oung and even for the adult milk and milk
formed some of the most valuable foods obtain-
urrent view supposed that primitive man was in
more favourably situated with regard to food
man of to-day but Dr Hamill did not think
l be substantiated Primitive man had to be
rth whatever food was available, and this must
e been scanty, difficult to obtain, and not always
ietetically In this country, in former times
urces were very limited, but to-day the world
s larder Nevertheless, a considerable propor-
he population was living on diets not to be
s ideal Among large sections of the com-
ice was an important factor in determining the
n of diet, and ill-balanced diets were not un-
Inadequate diet conduced towards maldevelop-
lack of resistance to disease Specific instances
ts defective teeth scurvy beri-beri pellagra
a peculiar form of ophthalmia These diseases
he advanced stages in a long train of disordered
activity which in its earlier stages produced
light as to elude all means of detection at
ailable Most of these disorders resulted from
in diet but in the production of rickets a
tor contained in cereals might also play a part
factor in the causation of rickets was deficiency
D but it was impossible to say what degree of
as necessary to produce rickets without taking
t other factors such as the supply of calcium
Vitamin D occurred most richly in the liver
d in fat fish such as the herring also to a less
gg yolk and milk products Milk contained
unt of calcium and consequently there was
of the conditions for calcium and vitamin D

If a diet contained a generous amount of milk it was probable that the supply of vitamin D would be adequate in most cases for the needs of the body Cereal must constitute a large part of the diet of man, and instead of condemning them because they might be unsatisfactory in certain respects, cereals should be used with other food such as milk and fat fish, capable of compensating for their deficiencies It was now possible to reinforce the vitamin D content of food by adding to it ergosterol, or simply by irradiating the food itself with ultra-violet rays There was on the market a margarine to which vitamins A and D had been added with the object of making the product approximate more closely to butter in nutritive value

Another aspect of nutrition was the damage which might be done to important constituents of food as a result of processes which food might undergo in its preparation Until recently it was thought that the canning of fruit and vegetables necessarily destroyed vitamin C By modern improved methods of canning whereby air was excluded less destruction of vitamin C occurred, and tomatoes and fruits were very little affected in this respect by canning The pasteurization of milk was now widely practised and the chemical and physical properties of milk were not perceptibly affected by a temperature of 145° F with the exception that about 2 per cent of the calcium might become indiffusible and some of the small amount of vitamin C which milk contained might be destroyed The degree of destruction of vitamin C during pasteurization appeared to depend in part on the metal in which the milk was heated, aluminium was said to have much less destructive action than copper It was less easy to justify the destruction of the colouring matter of flour by bleaching This colouring matter was carotene which would seem to be a precursor of vitamin A and it might be that in certain circumstances the body relied upon this carotene for an important proportion of its vitamin A supply The treatment of fruit by means of hydrogen cyanide for the destruction of insect life exerted an inimical effect upon the living cells of the fruit and possibly impaired the nutritive value During the long ages of evolution a variety of materials had been pressed into the service of nutrition and the body metabolism had moved along such lines as made it now absolutely dependent on a supply of these materials When a metabolic process had once been established it was not readily to be put aside or modified *Biological research tended more and more to emphasize the importance of the infinitely little in the processes of metabolism Slight changes in the composition resulting from manipulation might produce changes out of all proportion in the nutritive value of a food*

Sir GEORGE BUCHANAN said that while the vitamin supply in the case of growing children and adolescent was beyond all doubt he wondered in the case of adults on ordinary mixed diet whether the presence of a certain amount of a particular vitamin was a very essential thing to be watched An exaggerated importance seemed to be attached in the case of adults to getting vitamins in quantity when, as a matter of fact, a very small amount of vitamin was all that was necessary to metabolism

Sir WILLIAM HALE-WHITE said that he was sceptical with regard to a good deal of the work of vitamins until he had the experience of the war which was very arresting. People in institutions, who had not the opportunities of adding to their food rations certainly showed an increased liability to certain ills, and the incidence of infectious diseases so

Dr KINGSTON BURTON said that the contemporary view as to rickets appeared to be going back to the view which was held fifty years ago At that time it was believed that rickets was due to nothing more than excess of starch and the children with rickets seen in private practice had been invariably stuffed with bread undercooked flour and the various patent foods of the period Some physicians in those days showed that if starch were boiled cooked or converted to dextrine it could be made much less harmful for children

Dr W CRAMER said that deficient diets not merely produced specific diseases but a train of ill health before those diseases emerged the early stages being so elusive that no disease could be diagnosed The reason why this was more obvious with children was that when a child was

ill from any kind of disease it stopped growing He added that in his experiments he had never been able to convince himself that vitamin D was necessary for the adult, it seemed to be solely concerned with ossification

DR THOMAS CARNWATH recalled the Irish labourers whom he knew during his residence in Ireland many years ago Their normal diet consisted of potatoes and buttermilk, with perhaps sometimes a little pork and some tea, but they were fine strapping fellows When they came over to England to help in the harvest they were overfed with protein, and it took them a couple of months to recover He added that it was only by intensive investigation of diets that the food habits of sections of the community could be ascertained, then defects considered, and the slight modifications necessary to bring them into conformity with scientific principles could be made

DR S A MONCKTON COPEMAN pointed out the importance, in addition to vitamins, of what he called the aesthetics of nutrition There was not the slightest doubt that if a person enjoyed his food he was more likely to get benefit from it Dr Copeman also mentioned that for the first time the Zoological Gardens in London were now able to rear lion cubs This was made possible because of a modification of the diet of the carnivora, who were now given small animals newly killed and without preparation The result was that there were now half a dozen thriving young lion cubs in the gardens

DR H C CORRY MANN pointed out the vast improvement in the health of London children of recent years, although the housing conditions in the slums of the metropolis were not greatly altered Two food modifications were responsible, in his belief, for the change One was the introduction of pasteurized milk, and the other was the fact that now a large supply of fruit (oranges and apples) was assured practically throughout the year As a result, summer diarrhoea had practically disappeared, and so had abdominal tuberculosis He also laid stress on the importance of drinking water He believed that water was very important, because it allowed the necessary alkaline bases to be kept in suspension in the tissue fluids

DR H S STANNUS believed that in many of the deficiency diseases there was a positive, not merely a negative, factor He was convinced that pellagra was not a deficiency disease, it was a disease, unmasked in the absence of vitamin, due to the action of a toxin, and he thought the same was true of rickets and of beri-beri

FLEET SURGEON W E HOME recounted some recent work carried out in Hamburg on the relation of food to the incidence of epidemic diseases, and mentioned that it had been found that infectious diseases were less likely to occur in the families of people who had gardens

DR J D ROLLESTON asked whether any guidance could be given as to the much-vaunted vitamin content of wines and alcoholic drinks, a matter on which many statements were made, but authoritative information was lacking

PROFESSOR MAJOR GREENWOOD, in summing up the discussion, remarked that the really practical question was that in this country, which was not self-supporting in the matter of food, but would starve very quickly if left to its own resources, the people did not receive the food they liked but the food they were forced to buy as a result of the commercial conditions existing Whether they always liked what they should like was another question

AMYLACEOUS DYSPEPSIA

AT a meeting of the Liverpool Medical Institution on November 20th, DR L J PICTON read a paper on amylaceous dyspepsia

Dr Picton said that dyspepsia was noticed to follow starchy meals A starch-eating "habit" was recognized, and cure followed abandonment of the habit The form of starch was important, unburst granules occurring in the gluten framework of the bread sponge were insusceptible to the influence of ptyalin Slimy gastritis might be caused by excessive especially unburst, starch as well as by infective catarrh Delay might be caused not only by slimy gastritis, but also, normally, by eating starch and meat together (Pavlov) as in the conventional dietary Satiety necessary for the tranquillity of the stomach was achieved by meat and greens, and an equal filling of starch and meat involved unnecessary digestive labours as well as delay Greens pass quickly (Beaumont, 1833) Ptyal digestion in the mouth and stomach "hopper" may start the cycle of digestive preparation A peristaltic and metabolic "gradient" (Alvarez) was described, and the site of its pacemaker discussed Inhibition of the pacemaker by sensitivation and toxic influences—for example, excess of starch—was suggested Symptoms were due to delay, constipation, and peristalsis in the wrong direction to an abnormal degree through flattening or reversal of the gradient Starch at one meal, meat and greens at another, were advocated in such dyspepsia

Hirschsprung's Disease

MR J B OLDHAM reported two cases of Hirschsprung's disease on which lumbar sympathetic ganglionectomy and ramisection had been performed two years ago with excellent results The first patient, a girl aged 4, whose bowels were only opened every three to fourteen days in spite of prolonged medical treatment, had the left second, third, and fourth lumbar ganglia, with their rami and the intervening cord, removed, and since then the bowels had acted daily without the aid of drugs The second had been attending hospital regularly for eleven years Her bowels acted very irregularly She frequently had to be admitted to hospital with attacks of acute obstruction On many occasions faecaliths 4 to 7 inches in diameter had to be removed, and she had undergone colotomy, coloplication, colostomy, entero-anastomosis, and partial colectomy, but the condition always recurred After bilateral lumbar sympathetic ganglionectomy and ramisection the bowels had continued to move regularly every day without the aid of drugs or diet The technique of the abdominal approach to the sympathetic chain was described, and spinal anaesthesia was recommended An account was given of the varying forms of surgical and medical treatment that had been tried from time to time and the unsatisfactory results they had produced The similarity between Hirschsprung's disease, cardiospasm, congenital pyloric stenosis, and hypertrophic ileal obstruction was described, together with the physiological basis for the hypothesis that all these conditions were due to a hyperactivity, real or comparative, of the sympathetic nervous system Mr Oldham suggested that the excellent results obtained by sympathectomy in Hirschsprung's disease gave proof of the truth of this hypothesis

In the discussion which followed, DR C ALLAN BIRCH said he was interested in lumbar sympathetic ganglionectomy for peripheral vascular diseases, and asked whether this *operation ever produced* any effect on previously normal bowel movements DR NORMAN CAPON remarked that earlier diagnosis of the condition was desirable, and pointed out that in the young baby abdominal distension was by no means invariable It was noteworthy that at least one case had been reported in which severe vomiting and constipation had led to a mistaken diagnosis of congenital pyloric stenosis MR PHILIP HAWE said that it seemed clear that sympathetic resection should have much more chance of success in conditions such as dilatation of the colon, in which sympathetic hypertonia was probably to blame, than the use of sympathetic resection in the treatment of spastic paralysis (Royle) where the underlying physiological principles are far from clear There was some reason to expect that this operation would be extended to conditions of intestinal disorder other than Hirschsprung's disease He had been associated with Mr Monsarrat in a case of advanced colonic stasis which resisted medical treatment for years, but responded in a most convincing way to a lumbar sympathetic ramisection

RENAL RICKETS

AT the November meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, with the president, DR H F MOORE, in the chair, SIR WILLIAM WHEELER, opening a discussion on renal rickets, referred to the literature on renal infantilism, on uraemia following osteotomy, and on the connexion between rickets and chronic interstitial nephritis Within recent years a definite picture had been painted of an entity classified as renal rickets, in which the clinical *x*-ray and post-mortem findings

were typical There were, however, greater variations, especially in the x ray appearances and biochemical findings

The first case he mentioned was that of a child aged 7 in which renal rickets was suspected owing to the presence of albumin red blood cells and casts in the urine combined with polyuria There were rachitic changes in the chest and cessation of growth The child had blue sclerotics, a condition not associated with rickets X ray appearances of the bones were not suggestive of the renal type of rickets and finally the blood examination was against the diagnosis the Wassermann reaction was strongly positive The case was an unusual one but congenital syphilis probably explained all the phenomena The albumin was intermittent or transitory as it was not found at a later date

In another case the patient suffered from double congenital hydronephrosis Tests were made with intravenous injections of uroselectan There was a stone in the left kidney The stone was removed and the kidney was found atrophied and cystic with a dilated pelvis The x ray report stated that there was pronounced dilatation of the pelvis and calyces on the right side with moderate dilatation on the left which contained the stone The child had undergone five operations for rachitic deformities The x ray appearances of the bones approximated to the description of renal rickets given by various writers After removal of the stone albumin disappeared from the urine but reappeared after an interval The patient was aged 17 but was only 4 ft 3 in in height no taller than an average child of 10 The prognosis was bad

Antirachitic treatment, such as sunlight and cod-liver oil was believed by some authorities to precipitate uraemia Most of the cases recorded had come from the industrial areas in England

Dr A G THOMPSON said that there could be distinguished four clinical types of rickets: ordinary infantile rickets, late rickets, and two peculiar types associated with infantilism—namely, with coeliac disease and with renal infantilism Nearly 90 per cent of the inorganic matter of the bones of young children consisted of tricalcium phosphate, and if calcium and phosphorus were supplied in adequate amount in the diet good bone was laid down In infantile rickets there was a negative balance with regard to these metals as much being excreted as was absorbed In addition the blood phosphorus was very low (2 to 2 mg per cent) although the calcium was usually normal Hence there was an upset of the calcium-phosphorus ratio with consequent failure of ossification This might result from several factors—for example faulty diet lack of vitamin D and sunshine and bad hygienic conditions In renal infantilism although the conditions might be perfect, a peculiar type of rickets frequently developed This was due to retention of phosphorus by the damaged kidney with consequent upset of the Ca P ratio He showed tables giving the chemical constitution of the blood in both the cases compared with that of a normal child a normal adult typical active rickets and typical renal infantilism Dr Thompson did not think that either of these cases was one of renal rickets, although both were very interesting and obscure types of infantilism The first was probably mainly syphilitic, with perhaps a rickety element superadded The second might be a case of healed rickets

Dr R E STEEN mentioned a case of renal rickets which he had seen in Great Ormond Street Hospital and said that the thing which struck him about it was the marked arterio-sclerosis of the vessels The blood urea in this case was high and the blood pressure also was raised He agreed with Dr Thompson that owing to the blood picture in these cases, it was uncertain whether they could be regarded as examples of true renal rickets It was easy to see how antirachitic remedies would be useless in cases of renal rickets In some of these cases some hyperplasia of the thyroid had been noted

Diabetes and Phthisis

Dr J LAIRD showed a case of diabetes mellitus complicated with phthisis

The case was a girl aged 14 who had apparently suffered from untreated diabetes for over six months before entering hospital Soon after admission she developed pyrexia and a cough X ray examination showed early cavitation of the left lung in two places and the sputum contained tubercle bacilli She had an acute and rapidly progressive tuberculosis and the general condition was becoming gradually worse in spite of careful treatment for the diabetes He induced artificial pneumothorax on the affected side and though he did not at first succeed in obtaining complete collapse owing to adhesions the child's general condition began at once to improve Later on he found it necessary to use high pressure of air (about 20 cm water) in the pleural cavity so as to stretch the recently formed adhesions and now (about five months after induction) the left lung was almost completely collapsed Recently a small but harmless pleural effusion had appeared on the collapsed side which possibly assisted treatment The diabetes was well under control

The PRESIDENT said that in 1914, when Allen was working out the dietetic treatment of diabetes, Joslin noticed that in diabetic patients who developed tuberculosis and lost weight the diabetes improved, and in some cases there was a great increase of the glucose tolerance Dr F T FREEMAN said that it was remarkable to find such tolerance to high pressure in a child especially on the left side The patient had a fairly large cavity, which was relatively superficial and the danger of pyopneumothorax was never far off With regard to the effusion if it could be increased in size and brought up to the level of the cavity in the lung, it was a great safeguard against rupture of the cavity

Polycythaemia Vera Rubra

Dr CYRIL MURPHY in showing a case of polycythaemia vera rubra especially discussed its therapeutics The case was as follows

A cooper aged 51 had complained since April 1922, of inflammation of various joints at different times with later the development of pain in the left upper part of the abdomen of headache of lightness of the head and of vomiting on one occasion In late 1923 physical examination revealed the following cyanose-coloured lips lobes of ears and finger tips and a purplish corneal tint The venules of the face seemed engorged a feature still noticeable The spleen extended four fingerbreadths below the left costal margin and was very tender on examination The left knee subsequently became swollen in a spindle-shaped manner while the veins of the leg stood out in relief and the left knee became almost cyanotic This was accompanied by intense febrile reaction which lasted for about fourteen days uninfluenced by salicylates Other joints more particularly of the great toes and wrists were subsequently involved and arthritis became the chief symptom Subsequent examination of the blood showed a negative Wassermann reaction and a red blood cell count of over 11 million per c.mm Later blood counts were 1925 9 million with 30 000 leucocytes 1927 8 million with haemoglobin content of 125 per cent Benzol and various anodynes were of no value in the treatment Later sodium carbonate was given in 10 gram doses three times a day in an attempt to diminish the acidity of the blood This treatment seemed to relieve the condition somewhat and given over a period of a year lowered the blood count by 1 million X rays to the long bones seemed to aggravate the symptoms so that this form of treatment was early discarded Venesection gave temporary benefit The ingestion of phenylhydrazine hydrochloride as used at the Mayo Clinic was tried 0 1 gram of the drug being given per week for over a year The spleen was still enlarged and tender and there was also a slight cyanose hue noticeable on the lips His blood pressure which had been 168 systolic and 97 diastolic was now 142 systolic and 81 diastolic the blood count reading red blood cells 4 500 000 while blood cells 13 200 haemoglobin 80 per cent colour index 9

The PRESIDENT said he had treated four cases of this disease in the last three years—one woman and three men—his results coinciding in the main with those of Dr Murphy One man aged 42, was given phenylhydrazine but with little result X rays were tried also with little result, and then phenylhydrazine was tried again and after about four weeks' treatment the patient began to improve It was now found that 1/10 gram every seven to ten days was enough to keep the blood approximately normal The second man aged 44, had probably had an attack of thrombo-angiitis obliterans in the left radial artery a condition described as a complication of polycythaemia but supposed to be very rare This patient had a course of x ray treatment for three months but the result so far as the blood was concerned was absolutely negative He was now having phenylhydrazine and was improving Dr Moore thought that in these cases x ray treatment rendered the bone marrow more vulnerable to the action of phenylhydrazine

Reviews.

FUNCTIONAL DYSPEPSIA

By *Nervous Indigestion*,[1] which is the title of this book, Dr ALVAREZ means any form of indigestion not due to organic disease. This, of course, is not the meaning always attached to the term. It is more usual to speak of dyspepsia not attributable to organic disease as "functional," and to reserve the term "nervous," if used at all, for those cases in which neither organic disease nor any alteration of the secretory or motor functions of the stomach can be demonstrated. To Dr. Alvarez, however, the presence or absence of alterations in the gastric functions is of no real importance, and it is significant that, throughout the book, such common terms as hyperchlorhydria, atony, and so forth, are not to be met with. He regards all disturbances of digestion which cannot be shown to be due to organic disease as being of "nervous," by which he means psychical, origin, and it is the object of the book to expound this thesis and the treatment which follows from it.

The first chapter is properly devoted to a consideration of the ways in which emotion can affect the digestive tract, with many illustrative examples, both experimental and clinical. In the second chapter a brief but sufficient account is given of the varieties of organic disease which must be eliminated before a diagnosis of nervous indigestion is arrived at, and it is interesting here to note that the author regards cholecystitis as now the commonest disease of the digestive tract. In making the diagnosis of the organic dyspepsias the importance of the clinical history is rightly emphasized, and some useful hints are given on history-taking. Radiography and other special methods are regarded as of secondary importance, and test meals are not even mentioned. The nature of the nervous factors—fatigue, emotional stresses, and so forth—which may lead to disorders of digestion are then considered in some detail and with numerous clinical examples, and the rest of the book is mostly taken up with treatment. The author describes admirably and with considerable humour the handling of nervous patients, and his directions for symptomatic treatment are clear, simple, and entirely free from fads. The over-use of roughage in the diet and of paraffin as a laxative are condemned, while stress is laid on the benefits derived from rest, a smooth diet, and sedatives. In a final chapter—which, along with the quotations at the beginning of each section, might have been omitted—suggestions are given for "further reading," in which among the authors recommended are to be found such curious juxtapositions as H. C. King, J. B. Nichols, D. H. Tuke, Hippocrates, and R. L. Stevenson!

We can cordially recommend this book both to the specialist and to the general practitioner. It treats of a difficult subject with clarity, humour, and common sense, and it expounds and illustrates the sound doctrine that the treatment of functional dyspepsia must be mainly by the methods of psychotherapy.

"ROSE AND CARLESS"

DESPITE increasing competition, *Rose and Carless' Manual of Surgery*[2] still remains first favourite with the average medical student and is to be found upon the bookshelf of most practitioners. No book that had not exceptional virtues could reach a thirteenth edition (indeed, if reprints and foreign translations and editions be included the present is the twenty-fifth edition) without suffering some diminution of popularity, and we believe, therefore, that this work, taking it as a whole, supplies the needs of the student and of the practitioner more closely than any other.

The present edition marks a definite milestone in the history of the book, owing to the retirement of Mr. Albert Carless from active participation as editor-in-chief. As he says in his valedictory preface: "The constantly recurring testimony of those whom I have met in all parts of the English-speaking world makes me realize with much gratitude that this effort has not been in vain. . . . The old title will be retained, and I am glad to think that my name and that of my colleague Rose will still be remembered. The work has been my main contribution to the profession which I have loved so truly and striven to serve faithfully." Mr. CECIL WAKELEY, who has assisted in the production of the last two editions, now becomes editor-in-chief, and Mr. J. B. HUNTER has joined him as collaborator. The general arrangement of the book, with which most are familiar, remains, but since the eleventh edition was reviewed there have been considerable changes in detail. Many of the chapters have now been revised or written by specialists in particular branches, thus the opening section, on pure pathology, is in the hands of Dr. Carnegie Dickson, and the fresh illustrations of microscopical sections by Mr. Richard Muir are here particularly noteworthy. Mr. Negus has undertaken the section on diseases of the ear, nose, and throat, while the new chapters on the surgical affections of the eye and the surgery of the female genital organs have been written by Mr. Bishop Harman and Mr. Eardley Holland respectively. The chapter on military surgery appearing in previous editions has been omitted, but its place is taken by one on tropical surgery by Sir Frank Connor, the final chapter, on anæsthesia, has been brought up to date by Dr. Hadfield.

Radiograms seldom give good reproductions on ordinary paper, and in recent editions of "Rose and Carless" this difficulty has been overcome by the use of special art paper plates grouped together at the end of the volume. The radiograms thus collected are actually fewer in the present edition, but Dr. Graham Hodgson and the engravers and printers are to be congratulated on having produced one of the best sets of radiographic reproductions appearing in an English book. In the main part of the work there has been little alteration of text, but here and there paragraphs have been added to bring the matter up to date, and others describing ideas now obsolete have been deleted. The treatment of malignant disease by radium, of varicose veins by injection, and of burns by tannic acid have all received notice. The size of the page has been increased, and the familiar binding has given place to one of maroon cloth with gold lettering. We miss the dedication to Lord Lister—an omission breaking that tradition of continuity with the greatest of English surgeons which the book formerly upheld.

The medical student as well as the practitioner will find the latest edition of "Rose and Carless" a faithful vade-mecum.

TUBERCULOSIS IN CHILDHOOD

THE second volume of ENGEL and PIRQUET'S Tuberculosis in Childhood[3] worthily completes a great undertaking—the survey and full record of modern knowledge of the disease in all its aspects. The first volume, of which a review appeared in this *Journal* on April 26th, dealt with bacteriology and pathology and with all the clinical expressions of the disease in their bewildering variety. There still remained the special methods of diagnosis, questions of prognosis, and therapeutics by prophylaxis and by treatment of the disease in its latent and active forms. These and other fragments of the subject form the material of the present volume, which, although hardly so big as the first volume, runs to 700 pages, and is the combined work of nearly forty contributors.

The importance of the subject, the careful editorial plan of the book, the reputation and authority of most of the contributors, and the lavish use of illustrations, have already been emphasized in our review of the first volume, and these qualities also mark the second volume. Thoroughness and copiousness (sometimes tending to overflow) are the hall-marks of the whole book. Thus, in the section on diagnosis, there is a careful account of all the methods

[1] *Nervous Indigestion*. By Walter C. Alvarez, M.D. London: W. Heinemann (Medical Books) Ltd. 1930. (Pp. xvi + 297. 15s. net.)

[2] *Rose and Carless' Manual of Surgery*. Thirteenth edition, edited by Cecil J. Wakeley, F.R.C.S.Eng., F.R.S.Ed., and John B. Hunter, M.C., M.Chir., F.R.C.S.Eng. London: Bailliere, Tindall and Cox. 1930. (6½ × 9¼. pp. xii + 1692. 664 figures, 19 plates, 43 figures in x ray supplement. 30s. net.)

[3] *Handbuch der Kindertuberkulose*. Herausgegeben von Prof. Dr. St. Engel und Prof. Dr. C. Pirquet. Zweiter Band. Leipzig: G. Thieme. 1930. (Imp. 8vo, pp. x + 887–1591, 170 figures. M. 1.0.)

for using tuberculin in diagnosis and also a detailed description of more recent tests complement-fixation, flocculation, and sedimentation, the discussions on prophylaxis are enriched by a large series of observations upon children at the age of 7 years infected and non infected and upon the fate and condition of the same individuals at the age of 20 The climatic treatment of tuberculosis is detailed with great elaboration first, the physical qualities and physiological effects of sea air and mountain air then a series of chapters dealing with sanatoriums all round the seaboard of Europe and over the Alps There is a chapter on the climatic treatment of extra pulmonary tuberculosis by Dr Bernhard of St Moritz and special surgical measures both orthopaedic and the more recent surgical operations in pulmonary tuberculosis, are fully described in two other chapters Lastly may be mentioned epidemiological studies, based on mortality statistics, post-mortem examinations, and the Pirquet test and an account of the laws and statutes and the medical and social organizations for the control of the disease both in the Old and in the New World

This enumeration, not complete of the subjects of the second volume will suffice to indicate the aim and the scope of the whole book—the complete presentation of modern knowledge of tuberculosis in childhood The book is a great and valuable storehouse of information on a great and important subject Both editors and contributors deserve the thanks and the congratulations of the medical world on the conclusion of their labours

THE HAIR AND ITS TROUBLES

Dr O Donovan's treatise on *The Hair*[1] is the most interesting on the subject that has been published for some time He describes the development of the hair and all the curious variations in pattern of growth pigmentation etc which are found and also quotes instances of the rare abnormalities and freaks to which it is subject such as ichthyosis follicularis and monilethrix He has not neglected however the more practical side of the subject The diagnosis and treatment of ringworm alopecia areata and the other conditions commonly brought to the notice of both the general practitioner and the dermatologist are fully discussed in the light of the author's own wide experience Writing on the vexed question of the thallium treatment of ringworm he advises that this should only be used for children too young to be submitted to *x* ray epilation He gives a good summary of the treatment of hypertrichosis with a warning that cannot too often be repeated against the dangers of employing *x* rays for this condition Although the medical profession is now well aware that *x* rays must never be used for the destruction of superfluous hair there is good reason to believe that quacks are still able to persuade a good many women especially in America to submit themselves to the rays in order to rid themselves of this distressing disfigurement Dr O Donovan also has an interesting chapter on hair dyes and dermatitis a matter on which dermatologists are continually being consulted His advice is quite sound but we rather think that he is unnecessarily sweeping in condemning all metallic hair dyes as potentially dangerous On the other hand there is no doubt about the risks to which those who employ the phenylene diamine derivatives are exposed and in consequence hairdressers nowadays habitually test their clients in advance by applying the dye to a small area of the skin over the mastoid process Very properly Dr O'Donovan draws attention to the public health aspect of barbers' shops, and quotes the model regulations for the conduct of hairdressers' saloons in the City of London It is a great pity that such regulations are not in force universally in this country Many barbers shops are a source of great danger The American public health authorities are much in advance of ours in this matter

In conclusion we must add that this is a well written and very readable account of the subject the only criticism we have to make is that here and there it is a little difficult to be certain whether the author is stating his own opinion or quoting that of others There is one curious slip on page 9 where it appears that ultra-violet and polarized light are identical The volume is well printed, and the numerous illustrations are well reproduced and appropriate We commend the book to the profession

[1] *The Hair* By W J O Donovan O B E M D Lond M R C P London London and New Churchill 1930 (Demy 8vo pp x + 218 40 figures 12 6d net)

"DE MORTUIS"

Dr C MacLaurin who was formerly lecturer on clinical surgery in the University of Sydney publishes under the title *De Mortuis*[2] a series of essays on the conditions, pathological and otherwise, which may have influenced the lives of many persons eminent in history The essays have already met with general approval the first group he called *Post Mortem* It was published in 1923 and has been reissued nine times the second appeared as *Mere Mortals* in 1925 and a second impression was called for within the year It is clear, therefore, that there is a large circle who wish to know more about the personal life and illnesses of historical personages The present volume contains 276 pages, with 12 whole page illustrations but needs an index It is written in a light vein and the style sometimes becomes colloquial It is intended more for the general reader than for the specialist in the history of medicine The author living at a distance from original documents has been obliged to content himself with what others have said—not always correctly—and to draw his conclusions from their statements In many of the essays however, he has elucidated his problems by knowledge drawn from clinical experience as a medical man in hospital and in private practice Throughout the book Dr MacLaurin shows that he has read widely, and he puts his reading to excellent purpose It is notorious that doctors differ but everyone will agree that he is rather hard upon Sir Thomas Browne about whom he says 'I might almost feel justified in saying that *Religio Medici* is generally considered by doctors to be a farrago of quackery mysticism credulity and astrology put into gorgeous and quite unnecessarily obscure language full of sound and fury signifying nothing Probably Browne was unconsciously remembering the teachings of some old lady who had impressed the truth upon him in early infancy probably with her slipper' Of such sentences it can only be said with a sigh *Sic transit gloria mundi*

The net result of Dr MacLaurin's essays is that syphilis and arterio-sclerosis explain many of the tragedies of history He accepts without reserve that Henry VIII acquired syphilis In the light of the latest researches the fact is no longer tenable and if it is untrue the whole story of The tragedy of the Tudors' falls to the ground for Dr MacLaurin attributes the early death of Edward VI to tubercle grafted upon a syphilitic inheritance Mary he thinks died of degeneration of the heart and arteries not necessarily but probably syphilitic and inherited from her father' The difficulties in connexion with the life and actions of Queen Elizabeth he explains by saying that "her endocrine balance was abnormal' without further comment though this does not carry matters very far Ivan the Terrible—a criminal lunatic—was in Dr MacLaurin's opinion a syphilitic and to a spirochaetal infection of the brain the worst of his actions are attributed But his father was at least a borderline" case and Ivan had an imbecile brother Benvenuto Cellini on the other hand is acquitted of having acquired the disease in spite of his own confession to the contrary In considering the illnesses of Mr and Mrs Pepys Dr MacLaurin states correctly that there is no evidence of syphilis but omits to draw the conclusion that Mrs Pepys had an attack of bartholinitis Dr Johnson appears to have been a psychasthenic and his convulsive ties were the result of the unconscious memory of a sensitive little boy shrinking from the ordeal of being touched for the King's Evil by Queen Anne It is all very interesting and may or may not be true The whole book gives food for thought and is well worth reading

[2] *De Mortuis* By C MacLaurin M B C M F R C S Ed LL D London J Cape 1930 (Post 8vo pp xiv + 276 12 plates 7 6d net)

NOTES ON BOOKS

FIVE years have passed since the fourth edition of DR LETHEBY TIDY'S *Synopsis of Medicine*[6] was published, thus in the fifth we find much new material and many small changes The result is the production of a thoroughly reliable catalogue of all the diseases within the province of the physician The author makes no claim to erudite literary achievement His aim is to give to students a quick and efficient reference to systematic medicine, and he succeeds admirably

We have received for review the twenty first edition of HARE'S *Text Book of Practical Therapeutics*[7] The popularity of this work is indicated both by the number of editions and by the fact that it is only three years since the twentieth was reviewed in these columns The general form and arrangement of the textbook have been left unaltered, but it has been carefully revised As the author points out in his preface, it is really remarkable how many valuable new methods of treatment appear in the course of a few years For example, the following new methods are described in this edition the use of salvigan, of calcium salts, and of ammonium chloride as diuretics, the treatment of chancroids by tartar emetic, the use of viosterol in rickets and of ventriculin in pernicious anæmia, the separate employment of the oxytocic and vasopressor principles of the posterior lobe of the pituitary These examples also show that the author has taken care to keep abreast of the most recent advances in medical science He claims as his first object the provision of a textbook useful to students and to practitioners, and it is evident that his efforts have met with very general appreciation

Ephedrine and Related Substances[8] by CHEN and SCHMIDT, is No XVII of Medicine Monographs The book summarizes the results of experimental and clinical investigations on this important new drug, and also contains a full bibliography that occupies twenty three pages This important work was discussed in an annotation in our issue of May 10th (p 873), and its appearance now as a separate monograph is very welcome

A little book by Lady WILLISON of Toronto will be of interest to some of our readers It is called the *Golden Treasury of Famous Books*,[9] and is intended to be an encouragement to good reading, and an introduction, especially of boys and girls, to the world of worthy books It should be successful in its object, for it surveys a very wide field and offers a surprisingly varied choice where tastes must necessarily differ so greatly The author seeks to interest young people, not merely in certain famous books, but also in the personalities and lives of their writers, and offers guidance both in the wise choice of tales which are commonly regarded as appealing specially to boys and girls, and also among most of those other literary types which may afford at least equal delight to young people who can be led to understand their form and purpose These are matters not entirely remote from the functions exercised by a family physician in his daily practice, and doctors and patients alike may well find help in Lady Willison's pages

I *German English Technical and Scientific Dictionary*,[10] by A WEBER is much wider in its scope than the title suggests It includes many words which, though not technical in themselves are likely to be met with in technical works and papers, and some whose place in a technical and scientific dictionary seems rather difficult to account for To take a few examples at random, definitions are included of *feier, gram* (meaning grief or aversion), and *Lurz*, and of a good many other words which are adequately defined in the ordinary German English dictionary This tendency to overload dictionaries is to be deplored The English speaking reader of German technical and scientific papers does not need to turn to a dictionary for the meaning of everyday words, and their inclusion only serves to add to his labour in looking up the words he does want In appendixes the author gives a list of atomic weights, specific gravities, melting points, and boiling points of elements, tables of technically and commercially useful abbreviations, signs, and symbols, and a large botanical section of over five thousand references, containing in triple column pages of scientific terms with their English and German equivalents Roman type is used throughout the volume, and the printing, paper, and get up are excellent

In a thesis on the treatment of pernicious anæmia with desiccated hog's stomach[11] Dr J D G DU PREEZ gives an account of the work of Sturges and Isaacs, Connor and others, and records his observations on the application of the treatment in Professor Snapper's clinic at Amsterdam The series studied consisted of eleven patients—seven females and four males—of ages ranging from 31 to 71 all of whom were subjected to the treatment and derived remarkable benefit from it Dr DU PREEZ concludes that the treatment is specially suitable for patients who do not react to liver therapy and has the added advantage that hog's stomach is much cheaper than liver

In his monograph on atrophic rhinitis[12] Dr MONSERET presented in elaborate description of the etiology, symptomatology and complications of this disease This includes the geographical and hereditary background on the one hand and every possible associated condition on the other The book, *however, is really a plea for treatment by potassium iodide* based on the theory that it is associated with varying degrees of thyroid insufficiency, and often with goitre The author seems to have had much success with the method advocated and claims 95 per cent of cures It is curious that in recent years this disease, which formerly was the bane of out patient departments for diseases of the nose and throat has almost disappeared It is now only seldom seen even in a mild form, and patients never present themselves in the repulsive state so common fifteen to twenty years ago The disease therefore has now lost much of its importance in this country but the author seems to find it still frequent in the mountainous districts of France

[6] *Synopsis of Medicine* By Henry Letheby Tidy, M D, B Ch Oxon F R C P Lond Fifth edition, revised and enlarged Bristol J Wright and Sons Ltd London Simpkin Marshall, Ltd 1930 (Cr 8vo pp xv + 1032 21s net)

[7] *A Text Book of Practical Therapeutics* By Hobart Amory Hare B Sc, M D *Twenty first edition, enlarged, thoroughly revised,* and largely rewritten London H Kimpton 1930 (6 × 9¼, pp x + 1104 145 figures 6 plates 36s net)

[8] *Ephedrine and Related Substances* By K K Chen and Carl F Schmidt Medicine Monographs vol xvii London Baillière Tindall and Cox Baltimore The Williams and Wilkins Company 1930 (Med 8vo pp 121 11s 6d net)

[9] *Golden Treasury of Famous Books* By Marjory Willison Toronto The Macmillan Company of Canada Ltd 1929 (Cr 8vo pp xvi + 264)

[10] *German English Technical and Scientific Dictionary* By A Weber London C Rattenbury and Son Ltd 1930 (Sup roy 8vo, pp viii 867 36 net)

[11] *Behandeling van pernicieuse anaemie met poeder van gedroogde varkensmagen* Door J D G Du Preez Amsterdam N V Swets and Zeitlinger 1930 (6 × 9¼, pp 79)

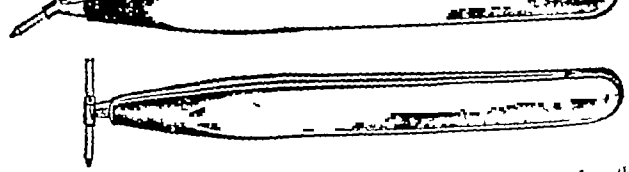
[12] *La Rhinite Atrophique et son Traitement* Par H Monseret Paris N Maloine 1929 (5½ × 7¼ pp 228, 20 fr)

PREPARATIONS AND APPLIANCES.

FORCEPS FOR HOLDING RADIUM NEEDLES AND RADON SEEDS

DR ROY WARD (Radium Institute, London) writes

Frequent manipulation of radium needles or radon seeds will sooner or later produce inflammatory changes on the fingers and hands of radium workers unless adequate precautions are taken When the gamma rays of radium pass through metal screens or strike metallic surfaces, secondary rays are produced, these rays are of the soft beta type and capable of causing a chronic dermatitis



In order to minimize these risks, forceps covered with bakelite have been designed for this purpose The ends of the needle holding forceps are either T shaped or set at an angle The radon seed holding forceps are made in such a way that a seed once grasped cannot jump out

These instruments are boilable, and have been in use in all departments of the Radium Institute for nearly a year They were made for me by the Genito Urinary Manufacturing Company, Devonshire Street, W 1

SOLUBLE COFFEE POWDER

We have received from the Bantam Products Ltd (Worthy Leeds) a sample tin of Bantam coffee, which has the advantage of being prepared in the simplest possible fashion It is in powder form, all waste grounds have been extracted, so that it dissolves instantly in hot water or milk, and quite *readily in cold* water The manufacturers claim that when a patient is beginning to tire of the routine of milk a small quantity of Bantam coffee makes it much more palatable We found that a test cup was free of the harsh tang too often associated with ordinary coffees, and, moreover, there were no troublesome grounds to dispose of Those who have no time to spend over the correct and satisfactory preparation of coffee on old fashioned lines should welcome this product

THE HEALTH OF LONDON

REPORT FOR 1929

THE report of the county medical officer of health and school medical officer, Dr F N Kay Menzies, records the state of the public health for London during 1929

Births and Deaths

The population of the County of London in the middle of 1929 is estimated by the Registrar-General to have been 4 430,000, including 12,100 non-civilians, there has been a decrease of 37,700 of the civilian population since the middle of 1928 The births were 70,089 equivalent to a birth rate of 15 8 per 1,000 as against 16 2 in 1928, this is the lowest birth rate ever recorded in London the number of births being fewer by 887 than in 1918, when the influence of the European war was at its height The City of London has the lowest birth rate, 7 7, then follows Holborn 10 2, with the City of Westminster very close 10 5 Chelsea has a birth rate of 11 7 At the other end of the scale are Shoreditch, 20 1, Bermondsey, 19 18 Poplar, 19 2, Finsbury, 19 0, and Bethnal Green 18 7 The deaths were 62 889, giving a death rate of 14 2 per 1,000 *compared with 12.1 in 1928 this marked increase* was due to the severe influenza epidemic, associated with an unusually rigorous winter, and in addition, the epidemic prevalence of whooping cough, which was mainly responsible for the rise of the infantile mortality rate from 67 in 1928 to 71 in 1929 For the whole of the county the death rate from whooping-cough was 0 26 per 1,000 of the civil population The highest death rate occurred in Paddington, where it was 0 50, the next in Finsbury with 0 41, in Shoreditch, Islington, and Kensington the rate was 0 40, and in St Pancras it was 0 37, Lewisham and Stoke Newington escaped with a rate of 0 10, and Hackney with 0 11

Although the weather conditions in the year under review were such that an epidemic of infantile diarrhoea might have been anticipated the rise was small compared to the result of such weather conditions in 1911 A closely reasoned review of the apparently high tuberculosis mortality of mental hospital patients shows that considered in the light of the death rate from all causes, the mortality from phthisis in the L C C mental hospitals does not differ materially from that of the general population Fatal street accidents continued to increase in number, the total being 814 in the fifty-two registration weeks of 1929, as against 747 in 1928

Small pox

The mild type of small pox which invaded London during 1928 became established in many parts of the metropolitan area during 1929 no fewer than 1908 cases were notified. The eastern boroughs Stepney (489) Bethnal Green (262) Shoreditch (246) Poplar (158), with Southwark (153) and Camberwell (117), had the largest number of cases, the western boroughs almost escaped, Fulham and Chelsea having none, in the northern area St Marylebone had only three, and Hampstead none

The discovery of cases in the in-patient and out patient departments of hospitals was of frequent occurrence, and led to much dislocation of hospital regime several cases occurred also among employees of large firms and business houses and a number of common lodging houses (especially in Stepney) were affected No vaccinated child under 11 years of age contracted small-pox Nine deaths occurred in cases admitted to the Metropolitan Asylums Board's hospitals The *Tuscania* outbreak of forty five primary cases of virulent small pox causing eight deaths is reviewed, no deaths occurred in London among those who were infected on the ship One fatal case of small pox occurred in Woolwich shortly after this time, possibly connected with small-pox introduced by shipping The fact that the virulent variety of small pox is comparatively seldom introduced into London, and that, even when such cases do occur the disease rarely spreads to any material extent, provides eloquent testimony to the vigilance of the port authorities and to the energetic measures taken by the metropolitan boroughs

Diphtheria

The notified cases of diphtheria numbered 11,788 in the registration year, an attack rate of 2 7 per 1,000, the number of deaths was 350, as opposed to 399 in 1928, making a case mortality for 1929 of 3 per cent During the year immunization clinics were started in the thirteenth and fourteenth boroughs to adopt this procedure, fifteen metropolitan health units have not yet moved in this direction In the aggregate, in metropolitan and Greater London, about 26,000 individuals, the great majority under the age of 15 are now known to be or are being protected against diphtheria by means of the toxoid-antitoxin inoculation

Enteric Fever

A further diminution in the incidence of these diseases is recorded 351 notifications were received in the fifty-two registration weeks, as compared with 580 in 1928 The deaths in the calendar year numbered 45, as against 51 in 1928 A short account is given of the outbreak which occurred during the latter part of September in Lewisham, Beckenham and Penge, there were 124 cases seven being fatal *The evidence strongly suggests that the outbreak* was caused by a "carrier" infecting cooked food (ham) but by the time the probable source of infection was traced this carrier condition had ceased

Acute Rheumatism in Children

Dr Mabel Russell writing on rheumatism as it can be explored by the medical inspector in the schools during special inquiry, states that her figures relating to 632 girls in two Chelsea schools show that roughly one-third of those with a history of "growing pains had clinical signs—that is, degrees of anaemia and myocardial debility —which were possibly due to subacute rheumatism That acute rheumatism in children is simulated by many other diseases is shown from the fact that to the Queen Hospital Clinic children have been sent with lymphatic leukaemia, osteomyelitis traumatic myositis ossificans fracture of the tip of a malleolus an ossifying haematoma round the ankle joint flat-foot cervical rib psoas abscess tonsillar sepsis, pyelitis cystitis and muscular weakness after illness Every medical practitioner will sympathize with the school doctor who sent a child to the rheumatism clinic with one of the following heart conditions which Dr D W Winnicott agrees require close examination congenital heart disease systolic murmurs at the base end of the apex which can be ignored irregularities originating in the sinus and not indicative of disease premature contractions of unknown causes but not rheumatic attacks of paroxysmal tachycardia tachycardia or temporary dilatation or pain in the heart region due to pathological anxiety Cases are seen at rheumatism supervisory clinics at the Hospital for Sick Children Great Ormond Street Royal Waterloo Hospital Queen's Hospital for Children Hackney Elizabeth Bullock Centre and Downham Centre Authorities other than the London County Council have established clinics at Paddington, Kensington, and Marylebone Other centres open now, or to be opened shortly are, or will be at Woolwich, Hammersmith, Putney and at King's College Hospital Special arrangements are made for in-patient treatment at Queen Mary's Hospital Carshalton where there is a set or "unit" of acute cases, and another set of subacute cases At High Wood Hospital, Brentwood, subacute cases are dealt with In doubtful rheumatic cases and in rheumatic cases between attacks in the absence of active carditis the authorities very logically try to get a holiday for each debilitated child when the debility seems to be largely the result of home conditions

Over pressure in School Children

The report bears out the view held generally by school medical workers that while the public elementary school child does not suffer from over-pressure the secondary school child does We hear again the same tale—home work and long-distance travel to school Dr Menzie does not say in so many words that there should be co-ordination among a child's teachers as to the amount of home work

[1] London County Council. Annual Report of the Council 1929 Vol. iii Public Health (including the Reports for the year 1929 of the County Medical Officer of Health and School Medical Officer Main Drainage and Housing). London P S King and Son Ltd. or through any bookseller 1930. No 2731. 2s 6d.

set—nor does he point out that as much as possible all school children should come to school for the day and not for the session "For healthy development children want spaces of free and undisturbed time" (Lord Grey of Fallodon) If this be so a change may be wanted in our great public schools, where we are told by their medical and teaching staffs that almost every minute of the day is filled up

Chronic Invalidity among School Children

A valuable measure of the morbidity of the children of the nation is provided by the chronic invalidity returns relating to school children The school attendance department reports each month the names of all children who have been absent from school entirely on account of health for three months and upwards Each year the number of sick children remaining on the list in the month of November is analysed The numbers remain constant 1929, 2,210, 1928, 2,200, 1927, 2,006 1926, 2,239 Rheumatism and associated conditions, including heart disease, account for 30 8 per cent

Mental Deficiency Acts, 1913–27

At the end of the year the Council was dealing with 5,560 cases Of 841 alleged mental defectives medically examined, 342 were over 16 years of age some of these latter were children leaving special schools for the mental defective as cases to be considered by the Education Committee with a view to notification relative to supervision, guardianship, or institutional care The numbers of individuals over 16 years of age otherwise dealt with is apparently not given One person (over 16 years of age) out of the 841 was found to be a moral defective, sixty were found not to be mentally defective Eight occupation centres are provided by the London Association for Mental Welfare and the Central Association for children unable to benefit by the education provided at the special schools for the mentally defective altogether 154 of these children were medically inspected by the school doctors during last year from the comparative figures and other information given they seem to have better teeth than the ordinary school children, but more discharging ears, more deformities, and more squints The L C C has made a grant towards the cost of employment of guides where necessary to convoy children to and from the centre

Other valuable items in Chapter II of the report include an analysis of the causes of death and premature retirements for ill-health during the ordinary working period of a teachership occurring among the teaching staff, made by Dr Letitia Fairfield More or less untimely deaths occur in one man teacher in 244, but less in women, one in 317 but while only one man in 525 breaks down, in women the figure is one in 194

Nursing Homes Registration Act, 1927

At the end of the year there were 278 premises on the register of nursing homes, apparently, in addition, there are 118 other premises which are not conducted for profit, and which are exempted for periods of a year from the provisions of the Act by the Council A number of premises are being used for the accommodation of certified mental patients Such premises are under regular supervision by officers of the Board of Control, and, in order to avoid unnecessary dual inspections of such premises, it was decided that, provided that the premises used for the accommodation of patients in "single care" were not used for the accommodation of any other type of patient, it would be unnecessary for owners of such premises to make application for the registration of their premises as nursing homes Arrangements have been made to keep the Board of Control informed of all premises throughout London which appear to be used for the accommodation of mental cases whether certified or not The new by-laws issued by the London County Council were approved on March 1st 1929 One keeper was prosecuted successfully for failure to exhibit the certificate of registration in a conspicuous position, and also in respect of obstruction of the Council's inspector in the execution of his duties under the Act In London three part-time assistant medical officers carry out the work of inspection and reinspection of premises used as general nursing homes, the premises used mainly for the reception of maternity patients are inspected by the assistant medical officers who superintend the midwives Inquiries with regard to unregistered premises suspected as being used as nursing homes are carried out by inspectors attached to the department these inspectors, who are qualified sanitary inspectors, also inspect all premises in respect of which applications are received for registration as nursing homes with a view to obtaining detailed information as to the sanitary conditions and the general maintenance of the premises

Sanitary Administration

The systematic examination of the water in the Thames by the chemical staff of the L C C showed that the "drought" experienced more or less during the first nine months of 1929 had a prejudicial effect on the condition of the water, especially in the vicinity of the sewage outfall Here as much as 60 per cent of the water at high tide is sea water This figure indicates how much the removal of sewage effluent from the river is retarded during seasons of drought Fortunately the L C C has now embarked upon a policy of installing successive purification units In out door swimming baths not filtered with a filtration plant much difficulty was experienced in keeping the water in good condition, the loss of transparency is due not only to soiling of the water, but also to the separation of calcium carbonate as the result of photosynthesis It is no easy task to destroy green growths by chemicals In addition to the experiments with the modified two-tier channels for the treatment of sewage with activated sludge, some work has been done on digestion of ordinary sewage sludge such as is sent to sea It was found that the behaviour, on digestion, of sludge from the Council's works was similar to that observed at other places in this country and in Germany and the United States of America After a rather long preliminary period gas formation began, and although not at first combustible, the gas, after a time, contained a larger proportion of combustible constituents, the calorific value of the gas obtained during this period being about 750 British thermal units per cubic foot The production of carbon dioxide during the early stages of digestion can be greatly reduced by the addition of air slaked lime to the fresh sludge The production of gas goes down to inappreciable amounts in cold weather During the acid stage of digestion much separation of solid matter takes place, but as the solid matter cannot be relied upon either to settle to the bottom or to rise to the surface no practical means of de-watering has yet been based on these observations These experiments were on a very small scale, but the results are sufficiently promising to show the desirability of further investigations on a works scale

In addition to the maintenance of deposit gauges in six open spaces in the county, observations of visibility have been made Examination of the horizontal range of visibility to the fog shade indicated on Owen's recording filter shows that the mean monthly distance of the farthest visible objects falls off rapidly until a mean monthly fog shade of 1 (=0 02 mg suspended carbon per cubic metre) is reached when the limit of visibility is about a mile Greater amounts of soot have a lessened effect on visibility, and it is clear that some such point must be reached, since the possible range becomes very small and there are degrees of invisibility A real but less marked correlation was observed between the total deposit collected in a gauge near the County Hall and the sulphate in that deposit and the visibility in the direction of the gauge

Housing

Dr Menzies considers that the first step to be taken to diminish the unsatisfactory housing conditions in London is the comparatively inexpensive one of closing basement rooms "Without any question certain underground dwellings in London are the most insanitary houses to be found in the metropolis The most insanitary areas do not, and never have provided such intense degrees of insanitariness as are to be found in the case of the underground rooms under consideration" There are about 30,000 basement dwellings in London which are considered unfit for human occupation, not all of them separately occupied, they are housing some 100,000 persons

British Medical Journal.

SATURDAY, DECEMBER 6TH, 1930

THE USES OF RADIUM IN SURGERY

In his recent broadcast talk on The future of surgery Lord Moynihan remarked that surgery had taken radium into partnership The remark is significant as indicating the attitude of the titular head of the surgical profession towards a method of treatment which until a comparatively recent date was regarded as the special province of the radiologist a method moreover which had but little part in dealing with those forms of disease in any degree amenable to surgery During the last eight years the surgical standpoint has shifted until at the present time surgeons have definitely abandoned more than one operation in favour of radium treatment being satisfied that the selective powers of radium can do what cannot be achieved by the unselective scalpel But even eight years is a brief period in which to establish precisely the best methods of applying the newer forms of radium treatment and to assess accurately their curative value in relation to that of surgical operations

Radium technique is still changing year by year in its detail as evidence accumulates, and the workers in the different clinics where radium is at all extensively used must frequently meet to exchange ideas and experiences and to present to the world their interim reports on the results obtained Of great value therefore is the series of papers printed in this issue of the *British Medical Journal* containing communications made to the Surgical Section of the British Medical Association under the presidency of Lord Moynihan at the Winnipeg Meeting The subject under discussion was primarily the radium treatment of malignant disease and the greater part of this field of investigation was well covered by surgeons who are acknowledged experts in their particular branches of radio-surgery It is obvious that radium implantation can never be expected to perform the miracle of controlling malignant disease which has progressed beyond the stage of localization in accessible parts of the body so that many patients will not be cured although the outward and visible signs of disease have disappeared This unavoidable limitation is partly responsible for the wave of disillusionment which is clouding the estimation of the value of radium in the popular mind at the present time Mass opinion always prone to rush from one extreme to the other acclaimed radium a year ago with exaggerated hopes the cold douches recently administered in pronouncements emanating from the Radium Commission have been a wholesome corrective but it is probable that these have for the time being pushed mass opinion too far in the other direction Meanwhile the medical profession must soberly examine the evidence laid before it, and await the final verdict which only time can give

Radium treatment has unquestionably achieved its highest successes in dealing with carcinoma in the buccal cavity reported upon by Dr Douglas Quick, Mr Stanford Cade, and Dr Birkett and with carcinoma of the cervix In these two regions the mutilating operations formerly practised have been virtually abolished This is a great step forward even though final mortality rates may not have been materially altered In the case of carcinoma of the cervix, progress is still limited by the difficulty of irradiating the lymphatic extension of the disease in the pelvis In buccal carcinoma where the primary disease has proved remarkably amenable the lymphatic extensions, under the jaw and in the neck are accessible, but have so far for no very obvious reason not been easily controlled by irradiation Dr Birkett even goes so far as to advocate two methods of approach neither of which calls for the use of radium If no enlarged glands can be felt he believes that no treatment of the neck should be undertaken If at any stage enlarged glands are present then he asks a surgeon to carry out a very extensive dissection of the neck Dr Quick and Mr Cade on the other hand advocate treatment in every case by x ray therapy or with the radium bomb or by the use of radium either by blind needling as prophylactic treatment or by needling after exposure of the glands where they are enlarged Where practices are so divergent as these clearly no settled opinion can be expected for some time to come, but in the meantime the sufferers may at least be allowed to keep their tongues In treating carcinoma of the rectum Sir Charles Gordon Watson is still unable to recommend radium treatment when operation is possible owing to the uncertainty of its effect Radium is therefore chiefly reserved for those patients in whom an inoperable lesion may be made operable and for the palliation of very advanced disease An exception however is made in favour of radium for squamous-celled carcinoma of the anal margin Here the results have been almost uniformly satisfactory Some novelty was introduced into the discussion by the reports upon radium in genito-urinary disease presented by Mr Frank Kidd and Mr Clifford Morson It appears that in treating carcinoma of the bladder results are still very indefinite and in certain cases Mr Kidd has found that the disease was accelerated by the treatment so that he ends his report on a note of warning Mr Morson on the other hand was able to report very satisfactory results in treating carcinoma of the penis and it is likely that here another mutilating operation is about to be abolished

As the success of radium treatment of cancer clearly depends to a large degree upon the accessibility of the possible lymphatic extensions it might reasonably be expected that carcinoma of the breast at any rate in its earlier stages would be particularly open to attack It is therefore the more to be regretted that exigencies of time and space did not allow of the presence of anyone at the meeting who could speak with authority on the radium treatment of this region of the body such as has been in progress for some years at St Bartholomew's Hospital and elsewhere The whole discussion at Winnipeg avoided any undue show of enthusiasm for radium treatment but it demonstrated that solid advances have been made and that further advances may be looked for in the future

SCIENTIFIC HONOURS

RATHER more than a year ago we recorded the award of the Nobel Prize for Medicine to Professor Eijkman and Professor Sir Frederick Hopkins. A few weeks ago Professor Eijkman died. In him the world, as well as Holland, has lost one of the pioneers of modern science, and his countrymen will certainly have the sympathy of his fellow workers in every land. The Nobel Prize is one of the very few scientific honours that carry with them substantial material reward, unmixed with heavy duties and responsibilities. It is said that, coming to him as it did at the end of an active life, Eijkman should have had only so brief a period to enjoy his success. To Eijkman's colleague, Sir Frederick Hopkins, has fallen yet another honour, that of the Presidentship of the Royal Society. If the Nobel Prize is the greatest international honour to which a scientific man can aspire, that of President of the Royal Society is perhaps the greatest that (if he be an Englishman) his countrymen can bestow upon him. A glance at the list of past Presidents of the Royal Society is sufficient assurance that he who fills that office adds his name to a roll which, stretching back into the seventeenth century, includes a group of scientific men, whose collective achievement overshadows that of which any other country can boast. There have been forty-two presidents since 1663. For the first century or so, the choice was by no means confined to men of science, for in the list the first dozen names include those of Sir Christopher Wren and Samuel Pepys, as well as Sir Isaac Newton. Sir Frederick Hopkins is the seventh medical man to fill the office.

It is a source of great satisfaction to the medical profession that it can claim Sir Frederick Hopkins as a member. His path has always followed the lines of pure research, yet his sympathy with, and interest in, the practice of medicine has always been prominent, and much of his work has had a direct medical bearing. On the occasion of the award of the Nobel Prize, we made mention of some of the most outstanding of his contributions to science, and perhaps there is no need to recapitulate on this occasion. Suffice it to say that he is still a most active worker. As a teacher, his name stands among the first of the Cambridge school. His "Part II" lectures—those dealing with the more advanced, as opposed to the elementary, aspects of his subject—have a unique quality of freshness and inspiration. He has the power, to a remarkable degree, of making his hearers feel that there is always more to be done, and, above all, that it is well-worth the doing. Medicine need have no doubt that the Presidentship lately held by such a distinguished physicist as Sir Ernest Rutherford, will be worthily filled by its present occupier.

For those interested in any aspect of biology, Sir Frederick Hopkins's election is an important event, but one cannot avoid noticing the extreme apathy shown by the public at large towards scientific affairs. To the award of the Nobel Prize last year even newspapers which would scorn the epithet "popular" devoted but a few scanty and rather inaccurate paragraphs. In Germany (and it happened that none of the recipients were of German nationality) several important newspapers gave the event a prominence that here would be vouchsafed only to an actress or a hockey. Even in France, some considerable space was devoted to the matter, while, naturally, in Sweden the papers for a few days contained little else. As a matter of fact, English science has, in the past, got along very well without popular support. The time has come, however, when it has assumed tremendous national importance, and it is surely not that the public should take a little interest in its progress, and in the honours bestowed on those to whom it owes its advance.

THE METHYLATED SPIRITS REGULATIONS, 1930

THE Commissioners of Customs and Excise have recently made new Methylated Spirits Regulations which will come into force on January 1st next. The general principle on which the Regulations are based would appear to be to permit the use of ordinary spirit free of all duty for any scientific or trade purpose whatever, provided that the revenue is adequately safeguarded against the use of duty free spirit as a beverage or in the manufacture of perfumes. As a study in intricacy the Regulations are worthy of investigation, but for ordinary purposes this is unnecessary, as the Commissioners have thoughtfully issued three explanatory notices drawn up in terms of comparative simplicity.

In future, methylated spirits will be available in four forms: (1) mineralized methylated spirit, coloured blue, (2) industrial methylated spirits, colourless, (3) industrial methylated spirits (pyridinized), also colourless, and (4) power methylated spirits coloured red. Of these only the second—industrial methylated spirits—is of special interest to medical men, this will consist of 95 parts of ethyl alcohol denatured with 5 parts of wood naphtha, and may be obtained in various strengths, including a strength corresponding to that of absolute alcohol. It may be obtained by any medical practitioner, dentist, veterinary surgeon, hospital, or nursing home, in quantities not exceeding half a gallon at one time, from any wholesale chemist or dispensing chemist who is authorized to sell it, merely on a written order signed by a medical practitioner, dentist, or veterinary surgeon. Hospitals and nursing homes should arrange for a doctor, to whom they are known, to sign orders for them. This provision will satisfactorily meet all the ordinary requirements of the medical profession, but larger amounts may be obtained, where desired, by making application to the nearest officer of Customs and Excise for a formal authorization to receive industrial methylated spirits, which will enable the holder to buy unlimited amounts on requisition on an official form. Industrial spirits received in either of these ways may be used in making up articles to be dispensed for medical, surgical, dental, or veterinary purposes, or may be used or dispensed without admixture or diluted with water for any medical, surgical, dental, veterinary, or scientific purpose. The only material restrictive conditions are that bottles dispensed to a patient containing industrial spirits or articles made from them must be labelled "for external use only," or "not to be taken," or words to the same effect, and that no greater quantity than one pint of industrial spirits alone or as an ingredient may be dispensed to any person at one time.

All the requirements of the medical profession are thus met with a minimum of official safeguards, and for this thanks are due to the Commissioners of Customs and Excise, who have readily accommodated themselves to the points raised by representatives of the British Medical Association at conferences of interested bodies.

THE TERCENTENARY OF QUININE.

IN 1630 one Camzares, a Spanish magistrate in Ecuador discovered the efficacy in fevers of the bark of what was known as the 'fever tree," actually trees of the quinine-yielding species indigenous to South America He recommended the bark to the Countess of Chinchon, wife of the Viceroy of Peru This lady was cured at Lima of a fever by the administration of the bark, and more than a century later Linnaeus named the genus "cinchona" in memory of the countess (He was misinformed as to the spelling of her name and omitted the first "h") When the countess returned to Spain in 1640 she brought with her a supply of the bark, and the valuable properties of the countess's powder," as it was called became known in Europe Quantities of the bark were also sent from Peru to Spain by the Jesuit fathers, and when distributed by their European brethren it was known as the 'Jesuit's powder' In England Charles II was cured of a fever by the application of the bark and knighted Robert Talbor author of *Talbor's wonderful Secret for curing Agues and Fevers* who brought it to his notice A more scientific knowledge on the subject of these rubiaceous trees and their distribution was forthcoming in the latter half of the eighteenth and the first half of the nineteenth centuries when various French and Spanish expeditions visited the forests of the Andes In the middle of the nineteenth century efforts at transplantation were made, and eventually cinchona was successfully introduced into India where now between 3 000 and 4,000 acres are under cinchona yielding about 40,000 lb of quinine every year Of the many species in the genus only three are worthy of consideration from the medical point of view, and of the twenty or more alkaloids obtainable from the barks, only five have much medical interest The discovery of quinine and its application is altogether a romantic story, about which a book might well be written, telling of the pioneer explorations of the venturesome Spaniards in South America, and, not less thrilling the research expeditions of later scientific investigators The Wellcome Historical Medical Museum in Wigmore Street, London is celebrating the tercentenary in a very interesting manner An extensive collection of exhibits has been arranged to illustrate the history of this most valuable discovery in materia medica The exhibition is designed to bring out the historical development from the time of the first introduction of the bark until the present day when experimental research on its active principles is still continuing There are also to be held four receptions at the Museum on the afternoons and evenings of December 8th and 10th On the first afternoon under the chairmanship of His Eminence Cardinal Bourne an address is to be delivered by the Spanish Ambassador, and it is hoped that the French Ambassador and the Peruvian Minister will also speak In the evening under the presidency of the Netherlands Minister an address will be given by Archbishop Goodier and other speakers will be the American Ambassador and Professor Van der Wielen of Amsterdam University On December 10th Dr H S Wellcome himself will preside at the afternoon gathering when the principal address will be delivered by Sir David Prain who has had much to do with the development of the Indian cinchona plantations The final reception, on the evening of the 10th will be of a medical character Sir John Rose Bradford President of the Royal College of Physicians is to preside and the principal address will be delivered by Sir Humphry Rolleston Regius Professor of Physic in the University of Cambridge other speakers being Mr A R Melhuish, President of the Pharmaceutical Society and Colonel C T Samman, Master of the Society of Apothecaries

CINCHONA FEBRIFUGE.

THE cost of drugs is a matter of no small moment in the successful treatment of diseases endemic among poverty-stricken tropical populations, and this is particularly true of the treatment of malaria Italian experience has shown that a low standard of living may in itself be a prominent factor in increasing susceptibility to malaria, hence it is idle to recommend the use of an expensive drug to a population whose poverty favours the incidence of the disease For this reason cinchona febrifuge is an important remedy in tropical countries Salts of quinine have many advantages over cinchona febrifuge for the treatment of white populations, but unfortunately they are expensive, for example, a recent wholesale price quoted for quinine sulphate is 2s 3d an ounce and at this rate the alkaloid costs about twice its weight of silver The whole sale cost of the drug used in the treatment of a case of malaria of average severity is between 6d and 1s Not a large sum perhaps, but in this country if quinine were needed in large quantities to combat malaria the drug allowance under the National Health Insurance scheme would have to be increased In tropical countries the cost of quinine is an important factor limiting its use Cinchona febrifuge has two advantages, it costs less to prepare than quinine salts and all the alkaloids in cinchona bark are utilized The latter is a point of much consequence for India because the *C. succirubra* is a hardy tree that gives a heavy yield of bark with mixed alkaloids, and is therefore suitable for providing a large yield of cinchona febrifuge at a low price, whereas the varieties of *C. ledgeriana* which have been evolved by selective breeding to produce a high quinine content are more delicate trees There are really two problems involved first the relative value of quinine and the other alkaloids of cinchona bark in the treatment of malaria and secondly whether it is possible to prepare a cinchona febrifuge of uniform composition The latter problem is very important for the first requirement of successful therapy is the possession of a drug of uniform potency Papers recently published from the Wellcome Research Laboratories give information on both these points The action of the cinchona alkaloids has been tested systematically on bird malaria [1] The author found that hydroquinine was the most active followed by quinidine, quinine cinchonidine and cinchonine in descending order but the differences between the last four were slight Previous clinical investigations have borne out the chief conclusion—namely that there is only a small difference in the therapeutic activity of the four last-mentioned alkaloid This conclusion is of great practical interest because it suggests that the separation of quinine from the other three alkaloids is wasteful from the economic standpoint Analyses of cinchona febrifuge how however that at present the composition of this preparation varies in an extraordinary manner The authors have detected a number of errors in previous methods used to isolate the individual alkaloids but their corrections only accentuate the variations in the composition of the total alkaloids present in different samples The proportion of quinine in the three specimens was 15·6 1·8 and 5·5 per cent respectively whilst the crystallizable alkaloid varied from 2·5 to 5·2 per cent These figures confirm the conclusions of previous workers who have shown that there is no uniformity in the composition of cinchona febrifuge Apparently cinchona febrifuge represents the residue left behind after the alkaloids of chief commercial value have been removed and the proportion removed depends on a number of variable factors chief among which is the price of quinine The preparation of a cheaper but efficient

[1] Goodson Henry and Macfie *Biochem. Journ.*, 1930 xxiv 5
[2] Growden and Henry *Quart. Journ. of Pharmacy and Pharm.*, 1930, iii 2-3.

substitute for pure quinine is certainly a matter of importance to the British Empire, cinchona febrifuge is at present the only likely substitute It is used already on a large scale in India, and it would appear practicable to employ it on a much larger scale both in India and in some of our tropical colonies The preparation of a cinchona febrifuge of rigidly uniform composition would be difficult, if not impossible, owing to the variations in the alkaloidal content of cinchona bark There is, however, no adequate reason for the extreme variations that occur at present If the use of cinchona febrifuge is to be extended widely, it is obvious that some means of standardization must be devised which will ensure that the preparation has a much more uniform composition

A MEDICAL SUNDAY SCHOOL IN PARIS

Leçons du Dimanche was reviewed in our columns on May 4th, 1929 (p 822), on its first appearance last year, and the second (1930) series of lectures[1] is very welcome It is particularly interesting to us because it serves as a mirror of current medical interests in France, and we can see the subjects which so attract the general practitioner of Paris that he is willing to spend eleven of his Sunday mornings at the Hotel-Dieu The lectures cover a wide field of physiology, pathology, medicine, surgery, and therapeutics It is impossible to review each lecture, but a few of them may be mentioned here Carnot, the editor of the series, begins them with a most interesting account of the substances, mineral and humoral, which induce cell proliferation in the animal body One set of experiments shows how the injection of serums from animals repeatedly bled aids in blood regeneration in human cases of anaemia, and may have important therapeutic bearings, which, although tested in France, have attracted little attention in England Binet gives a summary of his now well-known work on the functions of the spleen, which is important in relation to Barcroft's work in Cambridge Villaret's lecture on the use of acetyl choline in the treatment of Raynaud's disease, obliterative arteritis, and kindred conditions, is perhaps the most interesting of all Villaret, though he makes no claims to earlier work on the physiological properties of this substance, states that he is the originator of its use in practical clinical medicine He not only gives a full account of the drug and its action, but goes most carefully into the practical difficulties of its administration and particularly of its dosage and frequency of repetition under different circumstances We look forward to the annual appearance of these most interesting lessons"

THE LEEDS MATERNITY HOSPITAL

SOME account was given in the *British Medical Journal* of August 1921 (p 249), of the development of the teaching of midwifery in connexion with the Leeds School of Medicine where it was pointed out that many years ago the students had to depend on Poor Law officers and on private practitioners for their midwifery experience Reference was also made to the fact that in 1885 the Leeds General Infirmary—ever anxious to co-operate with the School of Medicine—started an extern maternity department which was later supplemented by a small intern department at the Hospital for Women and Children At the time of its institution the Leeds Maternity Hospital had only sixteen beds, and was little more than a nursing home The accommodation soon became too limited, and the trustees were fortunate in enlisting the sympathy of Mr J J Pepper, who handed over to them his house in Hyde Terrace—the nucleus of the present hospital In 1910, by reconstruction and by building a new wing accommodation was secured for thirty-three patients and for a nursing staff of twenty-seven During the first year after the reconstruction of the hospital, 398 confinements took place within its walls Other activities included the foundation and development of various centres concerned with the care of women during their confinements at their own homes This work was done with the complete approval of the Infirmary authorities, and on the understanding that the whole of their extern maternity department would in time be taken over by the new hospital In 1914 the hospital was recognized by the Local Government Board and by the Leeds City Council, and received substantial grants from both of these bodies A further enlargement was carried out in 1918, and some adjoining property was secured in order to provide a home for the nursing staff, the accommodation for patients having increased to seventy-five beds In recent years there has been complete co-operation between the Maternity Hospital, the University of Leeds, and the General Infirmary at which the students do most of their clinical work and avail themselves of its facilities for obtaining experience in midwifery As a result, the entire teaching of obstetrics, apart from the lectures at the School of Medicine, has been confidently entrusted to the Maternity Hospital This co-operation and identification of interests is illustrated by the fact that the tutor in obstetrics and gynaecology, who is appointed by the University to supervise the instruction of the students, does most of his work within the hospital In 1923, however, it had to be recognized that, in spite of all that had been done in Leeds and elsewhere in the country, the maternal death rate was as high as it had been a quarter of a century before, and the board of management boldly decided to extend the hospital on such a scale as to include (*a*) a new ante-natal department (*b*) a new labour ward, (*c*) a new operating theatre and anaesthetic room, (*d*) increased accommodation for lying-in patients to a total number of 108 beds, (*e*) new kitchens, dining rooms, etc , (*f*) improved laundry accommodation, and extended accommodation for the staff It also considered that there was a great need for an isolation block, and that facilities should be secured for research The sum estimated to carry out all these requirements, involving a considerable extension of the hospital, was about £64,000, of which £56,000 was received by October 31st The success of the appeal owed much to the ladies of Leeds, especially to those on the board of management, who showed a remarkable vigour and versatility in the collection of funds The extended hospital was formally opened by Mrs Stanley Baldwin on November 25th, and is now in full occupation The internal arrangements of the building are excellent in every way, and Leeds is to be congratulated in possessing a first-class maternity hospital, well equipped as a charity and as a teaching institution for medical students, nurses, and for those who desire, by post graduate study, to extend their knowledge of obstetrics As a part of their training in this subject the students of the University have to give evidence that they have devoted three months to work exclusively in connexion with the Maternity Hospital They live in an adjoining University hostel, and can be called upon at any hour, so that they have every opportunity of assisting at all kinds of normal and abnormal labours, and of taking part in the ante natal work, which is increasing in importance To meet requests for post-graduate instruction, and to provide qualified practitioners with opportunities for gaining additional experience, arrangements have been made for the accommodation at the hostel of a limited number of post graduate students and of those desiring to specialize in obstetrics

[1] *Leçons du Dimanche* Deuxième Série Clinique Médicale de l'Hôtel Dieu Professeur Paul Carnot Paris J B Baillière et Fils 1930

ORIGIN OF THE AUTOMATIC MICROTOME.

As various erroneous accounts of the invention of this instrument which was such an important technical advance in histological methods have gained publicity Sir Richard Threlfall[1] has now recorded the history as it occurred at Cambridge since 1882 In that year W H Caldwell when working at embryology by the method of embedding in paraffin and cutting sections as was the then best available method noticed that if the paraffin was of the right consistency in relation to the temperature, the section adhered to the sharp edge of the razor, and further that a second section cut without moving the first welded itself to the first and pushed it away and similarly with a third and others so that the new familiar ribbon was formed Caldwell communicated this to Threlfall and they agreed that a sectional cutting machine might thus be elaborated Threlfall who generously ascribes the inspiration mainly to Caldwell, then worked out the mechanical details of the machine, which was completed in 1883 and worked admirably the original model being used though with some modification, up to at least 1898 in the laboratory of comparative anatomy at Cambridge The late Sir Horace Darwin of the Cambridge Scientific Instrument Company subsequently brought out the rocking microtome which was a simpler machine than the original model An account of the method for fixing the section and dissolving the paraffin is given and Sir Richard Threlfall describes a remarkable instance of what may politely be called plagiarism He communicated to a demonstrator in comparative anatomy at Strasbourg whose name he has charitably forgotten" the details of the construction of the microtome and the method of section mounting and received rather a shock when towards the end of my stay in Strasbourg I found that this man had written a paper in which he published all the information I had given him under his own name and without any reference whatever to the source from which it had been acquired No doubt a claim will be put in some day for this invention to the credit of the person in question or it may have been made already At all events several German instrument makers began to make automatic microtomes very shortly afterwards each of them of different design"

GINGER PARALYSIS

An epidemic of paralysis involving thousands of cases is reported to have occurred in the United States as a result of drinking adulterated ginger wine Some years ago the Prohibition Bureau decided that the U S A *Pharmacopoeia* fluid extract of ginger was a non-potable beverage The preparation contains some 80 per cent of alcohol and this decision removed all restrictions from its sale Thenceforward the inhabitants of a large area in Ohio and Tennessee acquired the habit of using the extract as a substitute for whisky For some years no harmful results were observed but an epidemic of paralysis suddenly commenced in February this year it reached its peak in March and declined in April having attacked hundreds if not thousands of persons The clinical picture is that of a lower motor neurone paralysis of the distal muscles of the limbs Foot-drop and wrist-drop are two of the most obvious symptoms *Popular rumour incriminated* the fluid extract of ginger and this belief has been confirmed by the investigations of Smith and Elvove Apparently the damage was done by one large consignment of adulterated ginger Samples of this produced paralysis in rabbits and calves but not in monkeys and dogs The investigators believe that the toxic principle is a cresolphosphoric acid ester The direct and indirect complications produced by prohibition have been numerous and varied but ginger paralysis is one of the most curious that has yet been recorded

A BIBLIOGRAPHY OF FOOD INVESTIGATION

THE *Department of Scientific and Industrial Research* has performed a considerable service in issuing an *Index to the Literature of Food Investigation*[1] of which the first and second numbers of the second volume have been published this year It is a commonplace that modern conditions of life have imposed upon civilization many artificial conditions of food supply not the least important of which is the extensive use of tinned and preserved foods of all descriptions On the whole, of course, such methods are of immense economic value to mankind but they bring with them certain potential dangers, for which it is within the province of the medical profession to watch and against which it is its duty to guard the public Investigation of the deleterious effects upon food of various methods of preservation naturally falls within the purview of the manufacturer himself and of various public bodies which are set up to assist him But the medical man must from time to time be faced either with practical problems or with requests for information dealing with such matters and it will be of the greatest assistance to him to know that there exists such an index as that under consideration, by means of which he can easily and rapidly track down the information he desires

THE Medical Research Council is issuing to-day the eighth of its series of reports summarizing the results of research work in the treatment of malignant disease which has been done during the past year with radium salt entrusted by the Government to the Council (Special Report Series No 150 H M Stationery Office 9d net) This stock of radium is distributed on loan among the various centres participating in a scheme of research work under the general supervision of the Radiology Committee appointed jointly by the British Empire Cancer Campaign and the Medical Research Council We hope to publish an account of this latest summary of reports from research centres for 1929 on the medical uses of radium

UNDER the provisions of the Mental Treatment Act 1930 the Board of Control will be reconstituted as from January 1st 1931 to consist of the chairman and four other senior Commissioners Mr L G Brock chairman of the present Board will be chairman of the Board as reconstituted The King has approved the appointment of the following to be members of the Board Mr C J F Macleod K C on the recommendation of the Lord Chancellor and Sir C Hubert Bond M D Dr Arthur Rotherham and Mrs Ellen Pinsent, on the recommendation of the Minister of Health

THE *Lancet* is setting up a commission of inquiry into conditions of service in the nursing profession with special reference to the recruitment of suitable student nurses We are sure that the medical profession will welcome an investigation of nursing conditions and of the reasons for a decline in the number of entrants and as our contemporary has made such inquiries in former years it seems fitting that it should do so again The chairman of the commission is Lord Crawford and Balcarres

[1] *Biological Reviews* Cambridge 1930 v 357–361.

[1] Smith and Elvove Pharmacological and Chemical Studies of the Cause of the So-called Ginger Paralysis Reprint No. 1356, Public Health Reports vol. xlv No. 30 July 25th 1930. U S Treasury Department Washington.

[1] Department of Scientific and Industrial Research *Index to the Literature of Food Investigation* Vol. II No 1 and No 2. Compiled by Agnes Elisabeth Glennie B.Sc. London H.M. Stationery Office 1930. 2s. net each Copies may also be obtained from the British Library of Information 5 East 45th Street New York.

THE ROYAL SOCIETY.

ANNIVERSARY MEETING

THE 263th annual meeting of the Royal Society was held on December 1st, St Andrew's Day falling this year on a Sunday The outgoing President, SIR ERNEST RUTHERFORD, O M , was in the chair, and delivered the usual anniversary address, in the course of which he mentioned the fourteen Fellows who had died during the year, and stated the grounds for the award of the Society's medals He also reviewed briefly some aspects of the history of the Society since the war, and showed how its responsibilities and work had increased during that period, referring in particular to the use made of the benefactions received from Sir Alfred Yarrow, and the late Miss Lucy Foulerton, Dr Rudolph Messel, and Dr Ludwig Mond The Foulerton bequest was made specifically for promotion of research in the medical sciences, the late Professor E H Starling was the first Foulerton professor, Professor A V Hill the second, and Dr E D Adrian succeeded Professor Starling In addition to the six professorships supported from trust funds obtained since the war, the Society now offers for the encouragement of young workers eight studentships and fellowships The funds held in trust by the Society for furtherance of research in various branches of science now amount to more than £600,000

The newly elected President, SIR FREDERICK G HOPKINS, D Sc , F R C P , Professor of Biochemistry in the University of Cambridge, took the chair at the anniversary dinner held in Lincoln's Inn Hall on the evening of the same day, with the Prince of Wales as the guest of honour

Dawson Williams Bequest

The report of the Council for 1930 recorded that Sir Dawson Williams for many years Editor of the *British Medical Journal* had left his residuary personal estate, subject to two life interests, to the Society for its general purposes These life interests having now ceased, the Society would benefit to the extent of approximately £8,000

Research Appointments

Among the research professorships and appointments made during the year have been the Smithson Fellowship, awarded to Dr P D F Murray, for researches in experimental embryology the Foulerton Studentship to Dr A S Parkes, for research on the physiology of reproduction, a Moseley Studentship to Mr G S Adair, for research on the proteins of blood, the Lawrence Studentship to Lieut Colonel E C G Maddock for research on tuberculosis, and the Tyndall Mining Studentship to Mr A G R Whitehouse, for research on the loss of salts from the body in sweating, and the passage of water through the skin with and without sweating

Research into Tropical Diseases

The investigation on the bacterial complications of filariasis and on the nephritis believed to be endemic in British Guiana having been brought to a conclusion, the Tropical Diseases Committee with the aid of the Anonymous Bequest Fund, has instituted a research into kala azar in Mediterranean countries With the consent of the Hebrew University of Jerusalem Dr Saul Adler has been placed in charge of the investigation which will be spread over two periods of six months each The Italian Government has afforded facilities for certain stages of the work to be carried out at Catania, and from communications already received from Dr Adler, the investigation would appear to be making satisfactory progress

Cost of Publications

As a result of careful examination of the costs of printing the Society's publications the Council has decided to raise the selling price by 50 per cent This increase will meet only part of the rise in costs since 1914 but it is anticipated that with reduced dimensions the demands on the Messel Mond Funds to meet the annual deficit on publications will be reduced to small dimensions It is hoped that a further economy may be effected by a careful revision of the 'exchange' list

IMPERIAL CANCER RESEARCH FUND

REPORT FOR 1929-30

IN the twenty-eighth annual report of the Imperial Cancer Research Fund, just published, the work of the year 1929-30 is reviewed.

The report deals with some of the most controversial problems of the nature and causation of cancer Many of these have only been clearly formulated by a study of the experimental and naturally occurring tumours of animals While it is possible to deal with certain of the questions of the origin of cancer by a study of the disease in man, the long duration of life in the human species limits the possibilities of successful attack and makes new extended observations inordinately expensive Hence in every country where cancer is studied systematically, organizations and institutes on the same model as that of the Imperial Fund have been set up to acquire new knowledge by study on short-lived animals in order to economize time and money When it is further realized that the whole group of tumours which can be transmitted specifically without the intervention of living cells can only be studied at the present in the domestic fowl, it is clear that the restriction of the main endeavours of the Imperial Cancer Research Fund to the experimental study of cancer under laboratory conditions is imperative both on scientific and on financial grounds One of the most discouraging features of the world-wide activity in cancer research during the last ten years has been the publication of new methods of treatment which have not fulfilled the expectations of their authors and of sufferers from the disease Those responsible for the work of the Fund believe that a more extended and critical use of the methods and material made available by experimental cancer research, before advancing to the crucial, time-consuming experiments on man, would not only be the means of avoiding much unnecessary human suffering, but would accelerate progress which, in a subject of such difficulty and subtlety, is of necessity painfully slow It has been the practice of the Fund to welcome collaboration with workers in other laboratories The lists of workers and institutes to whom have been supplied material and from whom assistance has been given indicate the extent to which this policy is carried out by the scientific staff

DIRECTOR'S REPORT

The director, Dr J A Murray, F R S , in reviewing the work of the year, states that the staff has been chiefly occupied in the preparation of the ninth scientific report shortly to be published, which includes sixteen papers and communications by the research workers engaged The other papers issued from the laboratory during the past year and not included in the ninth scientific report are to be dealt with on a future occasion

Dealing first with fowl tumours, Dr Murray says that, in the Rous I sarcoma, the filterable endothelioma (M H 2), and the filterable fibrosarcoma (M H 1) we now possess three growths of the fowl microscopically distinct Biologically they form a graduated series, Rous I being the most malignant and M H 1 the least It is believed that the detailed comparative study of the process of tumour induction in these three tumour strains will help to elucidate the mechanism by which their specific non cellular transmission is accomplished

Dr Cramer has attempted a solution of the problem of the non-cellular transmission of mammalian malignant neoplasms, approaching the problem from a new angle Starting from the well-known fact that repeated freezing and thawing leads to very efficient disintegration of protoplasmic structure and cell death in normal tissues, he has studied its effect on transplantable tumour cells of the mouse and rat The result has been that the majority of the sarcomata and all the carcinomata studied lose their transplantability after alternate freezing and thawing four times, *but two mouse sarcomata* and one rat sarcoma are, on occasion, still able to give tumours The positive results are not uniformly distributed over the whole series of experiments as isolated exceptions but especially in the case of one mouse sarcoma high percentages

of positive results occur in individual experiments, the preceding and succeeding series being completely negative Dr Murray indicates the need for regarding the results with reserve as there are many difficulties in the possible inferences discussed and although both tissue culture and study of the respiration of the thawed emulsion at body temperature gave negative results, survival of small numbers of especially robust cells cannot be excluded Drs Cramer and Foulds therefore carried out a series of parallel experiments with the Rous I sarcoma of the fowl It was found that, whereas Rous I in the filterable phase gave frozen and thawed emulsions of high potency, the same procedure robbed some of the non filterable tumours of their perfect transmissibility by means of grafts not previously damaged in this way The result illustrates the successive dilemmas which are encountered when the attempt is made to interpret the mammalian tumour findings either by an *ad hoc* assumption of exceptional resistance of some tumour cells or by postulating a non-cellular tumour producing agent in them

Experimental Carcinogenesis

Dr Cramer has continued his work on the subject of experimental carcinogenesis His attempts to duplicate Deelman's results had not been successful, and the experiments were extended to clear up the discrepancy Partial excision of the tarred area as soon as papillomatous nodules appeared only exceptionally led to the development of new proliferative centres either in the scars or near them The attempt was made to induce rapid malignant transformation of apparently quiescent warty growths by subcutaneous trauma This was done either by thermo-cautery or by lunar caustic pencil, the deep surface of the papilloma being reached by a flap incision In a considerable number of the warts treated a change in rate of growth set in within two weeks and active malignant growth ensued The result is interpreted as showing the existence of a local resistance to the malignant transformation residing in the adjacent connective tissues, which can be broken down by sufficiently severe damage

Dr Foulds has made a careful histological study of neoplasm in the mouse derived from the endothelium of blood vessels and he has demonstrated that all the resultant tumours present a classical picture of haemangioma some of them showing evidence of low-grade malignancy It is thus clear that the action between the spread of the haemangiomata of the human being and the pre-existing normal vessels is established

Other Researches

Dr Cve had noted certain anomalies in the strain of mouse carcinoma 63 maintained in his laboratory in its reactions to the tissue immunity following injection of normal embryonic emulsions A reinvestigation of the phenomena of concomitant immunity in this and other strains of transplantable mouse tumours was therefore undertaken by Dr Foulds and it was found that

> while our own strain of carcinoma 63 produced practically no concomitant immunity to reinoculation the Gve strain did so inhibiting successful reinoculation in 40 to 50 per cent of the animals bearing progressively growing tumour Having become accustomed to grow in animals with acquired resistance the strain had become insensitive to the resistance produced by inoculation of normal emulsion A similar change was even more strikingly exemplified in the case of mouse carcinoma 206 This strain for many years has been characterized by a rapid initial growth on transplantation followed by complete regression of the majority of the tumours some of which may have reached a weight of two or three grams Recently this regression has become less pronounced and in many series the majority of the mice have presented progressively growing tumours When their immunity reactions were tested against our laboratory strain of carcinoma 63 they were found to be highly resistant reinoculation being completely negative Reinoculation with carcinoma 206 however gave the opposite result all or nearly all reinoculations being successful The change in behaviour in the strain is therefore clearly due to a loss of sensitiveness to the resistant condition which the inoculation of this tumour still set up in normal mice Attention is drawn to the significance of the results and the necessity for a detailed knowledge of the concomitant immunity reactions of any strain used for therapeutic experiments.

In a paper demonstrating the subepithelial plexus of the normal mouse skin Dr Ludford presents a careful study of the problem of the existence of a functional innervation of malignant new growths He has also undertaken an examination of the chromosome constitution of transplantable tumour strains and his work may show the way to a clearer understanding of the nuclear constitution of cancer cells in which the late Professor Boveri considered that the chromosome constitution was defective

Dr Murray's paper on a polychrome staining method for histopathological material concludes the ninth scientific report

Treasurer's Report

Sir George Makins in his report as honorary treasurer of the Fund points out that the fixed income fell short of the ordinary expenditure by £3 645, and, were it not for Lord Atholstan's grant of £2,000 per annum and also other donations the financial position would be a very difficult one Unfortunately the Fund can count on only two more instalments of Lord Atholstan's grant and therefore the treasurer appeals to others to assist in pursuing the researches to a successful termination

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

ANNUAL COURT OF GOVERNORS

THE annual meeting of the Court of Governors of the London School of Hygiene and Tropical Medicine was held on November 28th SIR HARRY GOSCHEN, chairman of the Board of Management, in presenting the sixth annual report referred regretfully to the illness of Sir Andrew Balfour, director of the school for whom a further prolonged period of sick leave had been necessary The Board had appointed Professor W W Jameson to be dean of the school in his absence In referring to the reception to the Colonial governors given at the school in July last Sir Harry Goschen said that this was preliminary to a visit to the Colonies by the director from which visit the school had high hopes The school and its predecessor had rendered most valuable services to the Colonial Governments in the staffing of the Colonial Medical Service with properly trained men, and the high standard of the courses of study in tropical medicine and hygiene was being maintained

With regard to the financial situation Sir Harry Goschen said that this was satisfactory up to a point The Court of London University had secured to the school an Exchequer grant for a term of years at the rate of £40 000 per annum. The school however had to supplement this by voluntary effort not only to meet the cost of the present programme but of developments especially in regard to industrial medicine and hygiene which were already pressing for attention It was essential that a university institution such as the school with large and increasing responsibilities should be able to expand and develop and for this it must possess a large endowment independent of any Government grants, and be free from hampering financial anxiety

Professor W W JAMESON the dean presented a report on the working of the school during its first year of occupation of the present premises in Gower Street The report consisted principally of contributions by the heads of the various divisions and departments, summarizing the work done He spoke of the way in which the various divisions of the school had been equipped the staffs completed the students enrolled and the methods of teaching re designed In the first academic year, 217 post graduate students had been enrolled 144 of this number attending the courses in tropical medicine and hygiene, and 51 those in public health Rather more than one third of the students had come from the Colonial Services. In addition 75 non medical persons proceeding to the Tropics, including Indian Civil Service probationers had attended the lectures in tropical hygiene Out of 84 competing 50 had gained the D T M and H Eng

The dean went on to refer to the valuable assistance afforded by the Seamen's Hospital Society whose recent extension of the Hospital for Tropical Diseases provided a centre for the teaching of tropical medicine in association with the school of which the whole Empire might be proud He commended to the Court the school's activities in the divisions of medical

zoology, of bacteriology, of biochemistry and chemistry, and of epidemiology and vital statistics As regards the public health division, which he described as the general utility division of the school, a valuable liaison was being rapidly established with the public health services, not only in this country, but in all parts of the world A beginning had been made with the teaching of industrial physiology and medical industrial psychology, in both of which branches of study considerable problems were pressing for the attention of the school The first year's experience of working with his colleagues in the new building led the dean to remark that no one of them had a single doubt as to the contribution which this school could make, whether by teaching or by research, or even by merely providing a meeting place for students with community of interests in the great allied subjects of hygiene and tropical medicine

NEW LAWS FOR MOTORISTS.

SUMMARY OF CHANGES

WITH the exception of certain provisions relating particularly to commercial vehicles, Part I of the new Road Traffic Act came into operation on Monday, December 1st The Automobile Association has prepared the following summary of the main provisions and changes in the law, which amplifies in various respects the information given by Mr Stenson Cooke in our issue of November 15th (p 830)

Driving Licences

The minimum qualifying ages are for motor cars, 17 years (no change), for motor cycles, 16 years (previously 14), for heavy motor vehicles exceeding 2½ tons in weight unladen), 21 years (previously 17) Existing licences will be valid for their unexpired period, except in the cases of motor cyclists under 16 years of age and the drivers of heavy motor vehicles under 21 Persons in these categories will be granted a new licence subject to their satisfying the authority that they were in the habit of driving a vehicle of that particular class during the six months ended December 31st, 1929

The licence must be produced for examination on the request of any police officer, to enable him to ascertain the name and address of the holder of the licence the date of issue and the authority by which it was issued If unable immediately to produce the licence, the driver must produce it in person within five days at any police station he may specify at the time of the request for production

When the licence is granted the holder must forthwith sign it with his ordinary signature The necessary forms can be obtained from the county or county borough council where the applicant resides

Physical Fitness

A declaration of physical fitness must be made at the time of application for a driving licence (see *British Medical Journal*, November 22nd p 882) Epilepsy liability to sudden attacks of disabling giddiness or fainting, and inability to read a motor car number plate with six letters and figures at a distance of 25 yards in good daylight (with the aid of glasses if worn) are disabilities described as a bar to obtaining a driving licence Any person suffering from a disability other than those stated above may if refused a licence claim the right to a driving test unless he is able to declare that he has driven safely for six months preceding his application when he will be granted a licence without test (fee 10s) A learner's licence will be obtainable at a fee of 5s Every applicant refused a licence has a general right of appeal to the police court in the neighbourhood where he resides and the court has power to reverse or affirm the decision of the licensing authority

Dangerous and Careless Driving

Dangerous driving penalties are increased to a maximum fine of £50 or up to four months imprisonment for the first offence and a maximum fine of £100 or up to four months' imprisonment or to both such fine and imprisonment, for the second or subsequent offence A person cannot be convicted of dangerous driving unless (*a*) he was warned at the time the offence was committed or (*b*) the summons was served within fourteen days or (*c*) either he or the owner received within fourteen days a notice of intended prosecution giving the essential details Persons charged with this offence may elect to be tried by jury

Driving without due care and attention, or without reasonable consideration for other road users is a new offence punishable by a maximum fine of £10 for the first offence and a maximum fine of £20 or imprisonment up to three months for the second or subsequent offence

Driving under Influence of Drink or Drugs

Driving or attempting to drive, or being in charge of a motor vehicle, on a road or other public place, when under the influence of drink or drugs, to such an extent as to be incapable of having proper control, is punishable, for the first offence by a maximum fine of £50 or imprisonment up to four months, and for a second or subsequent conviction a maximum fine of £100, or up to four months' imprisonment or to both such fine and imprisonment Persons charged with this offence may elect to be tried by a jury

Accidents

If an accident occurs causing damage or injury to any person, vehicle, or animal, the car must be stopped immediately and the driver must give his name and address, also the name of owner and car number, if requested by any person having reasonable grounds for requiring the information If an accident occurs, and the driver for any reason does not give his name and address, he must report the facts to a police station or to a police constable, as soon as reasonably practicable, and in any event, within twenty four hours

Driving off Highways

Driving without lawful authority on to common land, moorland, or any land not forming part of a road or any highway, or foot way except for a distance of 15 yards, for the purpose of parking, is prohibited

Miscellaneous Provisions

Other paragraphs of the A A's summary refer to pillion riding, and to the prohibition of unauthorized use of cars ("joy riding"), tampering with motor vehicles, and racing and speed trials

The operation of the remaining provisions of the Act, including compulsory third party insurance and the abolition of the twenty mile speed limit, is deferred until the New Year Meantime, following the recent issue of its preliminary booklet, the legal department of the Automobile Association is preparing a comprehensive book dealing in simple language with the whole Act and Regulations

MEDICAL CONGRESSES, 1930-31

THE following congresses and conferences on medical and allied subjects have been announced for 1931 and the remainder of this year Particulars are given below in the following order: date, name of organizing body, place of meeting, name and person to whom inquiries should be addressed More detailed information about these meetings is given from time to time as it becomes available, in the news columns of the *British Medical Journal*

December 11–13—Central Association for Mental Welfare London Secretary of Association, 24, Buckingham Palace Road S W 1

December 27–30—Pan Russian Congress of Microbiologists Moscow Office of Congress, Povrouska 44, Moscow

April 9–10—German Psychiatric Society Breslau

April 12–16—Congress of Psychology Hamburg

April—German Balneological Society Bad Ems

May—Royal Institute of Public Health Frankfurt Secretary of Institute, 37, Russell Square, W C 1

June 8–13—International Hospital Congress Vienna Professor Tandler, 9, Rathaussstrasse, Vienna

June—International League against Trachoma Budapest

July 4–11—Royal Sanitary Institute Glasgow Secretary Institute, 90, Buckingham Palace Road S W 1

July 21–24—British Medical Association Eastbourne Financial Secretary of British Medical Association, Tavistock Square, W

July 27–31—International Congress of Radiology Paris Secretary of Congress, 34, Boulevard de Vaugirard, Paris VI

August 4–8—International Dental Congress Paris Mr A F Rowlett, 165, London Road Leicester

August—International Congress for Industrial Medicine General Mr G L Perry, Industrial Welfare Society, 51, Palace Street S W 1

August 31–September 4—International Congress of Neurology Bern

September 21—Faraday Centenary London Secretary of Royal Institution, 21 Albemarle Street, W 1

September 23–30—British Association Centenary Meeting London Secretary of Association, Burlington House, Piccadilly W 1

October 11–18—International Congress of Comparative Pathology Paris Dr Grollet, 7, rue Gustave Nadaud Paris 26

1931—International Congress against Alcoholism Warsaw

1931—International Congress of Military Medicine Budapest.

Scotland.

Edinburgh Royal Infirmary

THE twelfth annual meeting of the League of Subscribers to the Royal Infirmary of Edinburgh was held on November 25th under the presidency of Mr James Campbell, who remarked that despite the industrial depression, the total contributions for twelve years had amounted to over £220 000 which showed the power of the workers' penny. Mr Russell Paton, the organizing secretary, stated that in the past year £21,662 had been received from employees engaged in public works, business establishments, staffs of banks, insurance offices, schools, etc., and that these subscribers included more than 120 000 wage-earners. Several firms in the city and country districts subscribed one pound for every pound raised by their employees. Family circle members of the league were also specially desirable. Lord Murray, in presenting a statement of the year's work in the Royal Infirmary, said that during the past year over 20 000 patients had been treated in the wards—nearly 700 more than the highest previous number. The manager regretted that the only possible way to reduce the waiting list was to extend the building itself, it was therefore all the more necessary for everyone concerned to work for this extension. Lady Findlay referred to the valuable assistance given to the Infirmary by the League of Subscribers, whose record indicated the genuine affection of the public towards an institution which it had come to regard as its own. The help of the league was needed to raise £500,000. At present the nurses' accommodation was strained to its utmost, in the extension scheme it was necessary to bring the nurses together in one building and to give them the advantages of a community life. A building for the maternity hospital was also required, since its work was being carried out with great difficulty.

Glasgow Maternity and Women's Hospital

The fourth annual medical report of the Glasgow Maternity and Women's Hospital, prepared by Dr. J. S. Cruickshank, registrar to the hospital, and following the plan adopted in previous years, contains tabulated records of the work done during the period under review, arranged in accordance with the standard scheme suggested by the committee appointed by the Royal Society of Medicine for the unification of the clinical reports of maternity hospitals. Of the 114 beds in the hospital twenty-five were reserved entirely for the ante-natal department, but as a number of extra beds were always in use the average number of patients in residence per day was no fewer than 143. By arrangement with the Glasgow Parish Council a number of beds were made available in Stobhill Hospital, thus enabling the Maternity Hospital to continue its policy of not refusing treatment to any woman in labour. The ante-natal department works in co-operation with the ante-natal dispensary, from which many cases are admitted either to the ante-natal wards or to the obstetrical department. Combined with this ante-natal dispensary are a post-natal dispensary and a child welfare centre, at all of which the total attendances during the year numbered 17 857. A certain number of emergency cases are admitted to the wards from "the district," others are sent to the hospital by medical practitioners and midwives, and even by other institutions. Finally, included among the admissions is one group of patients who have come to the hospital after the onset of labour without having been seen by a doctor or a midwife. In these circumstances, states Dr. Cruickshank, the simple division into "booked" cases and "emergencies" cannot easily be applied to this hospital, and it has been found necessary for the purposes of record to place cases into three categories—those that have been under ante-natal supervision, emergencies, and those cases, other than emergencies, that have not had ante-natal supervision. Of the 3 841 patients admitted to the hospital 1,346 came within the first category, 1,671 within the second, and 823 within the third. Besides these the hospital treated 3 820 patients in their own homes, and 821 in the beds specially reserved at the Stobhill Hospital.

Past and Present Aspects of Therapeutics.

The opening meeting for the session of the Pharmaceutical Society of Great Britain was held in the Society's Hall, Edinburgh, on November 28th, when Mr. Charles Sump (Aberdeen) occupied the chair. In the course of his inaugural address Professor Ralph Stockman (Glasgow University) said that treatment involved two important considerations—namely, the principles on which treatment was based and the method by which they were applied. Referring to certain aspects of present-day therapeutics he said that account must be taken of the influence exercised by manufacturing drug firms upon current practice by persistent and specious advertising of their own special products. The elaborate quasi-scientific and clinical dissertations which were freely showered upon the medical profession were not guarantees of a profound knowledge of pharmacology or of therapeutics. It had to be admitted, however, that the medical profession owed the introduction of some good remedies to manufacturing chemists, who also deserved gratitude for furnishing reliable preparations of proved and attested remedies; but they should not adopt the role of teachers of pharmacology and therapeutics. Treatment by serums and vaccines, and the development of endocrinology had a very dubious record from the point of view of therapeutic activity. A weakness in the medical curriculum was that the student received a large amount of mere description and had to do an equal amount of mere memorizing, there was a minimum of such mental discipline as was provided by mathematics or physics which tended to develop reasoning power. This training was specially required in therapeutics, which demanded an early cultivation of clear ideas of the principles and methods on which individual cases were treated. Treatment should be given as much prominence as diagnosis in clinical teaching, and some actual experience in treatment during a student's course was desirable. If a medical court with medical judges, solicitors, advocates and juries was instituted to pronounce on the worth of new drugs, treatments and operations it might be of incalculable benefit to the medical profession and a protection to the public.

Ultra-violet Rays in Medicine.

A health lecture upon the influence of sunlight on fresh air and nutrition was delivered at Edinburgh on November 26th by Dr. John B. King, who said that reference to the subject of radiations had been greatly simplified in recent years by the increasing familiarity of the public with this idea in the form of wireless waves, and with the extended use of x rays in medicine. In spite of the keen interest in the whole question of treatment by light, ultra-violet rays, x rays and radium, however, it was not very widely realized that all these forms of radiation were essentially of the same nature, differing only in their wave length. One of the best-known effects of the ultra-violet rays was the formation of vitamin D by their action on the skin. That rickets was due to a deficiency of sunlight began to be recognized about the beginning of the present century. The artificially produced ultra-violet rays were not used in medicine until 1893, when Finsen started his clinic for the treatment of lupus at Copenhagen. Ten years later Rollier established a centre at Leysin for the treatment of bone and lung tuberculosis, since that time both these clinics had done excellent work, so that sunlight clinics had been established in every country in the civilized world. About 1925 a surprising boom in artificial ultra-violet ray treatment started in Great Britain, which at first was taken up by untrained workers, with inevitable results. A reaction had set in, and ultra-violet ray treatment had come to be regarded as the fad of unbalanced enthusiasts. Nevertheless, this form of treatment had a very definite place in therapeutics, as would be recognized in time. Great interest had recently been aroused in the irradiation of food, irradiated milk had proved a potent agent in the curing of rickets.

Ireland.

Vital Statistics for Northern Ireland

During the quarter ended September 30th, 6,513 births were registered in the twenty-seven superintendent registrars' districts in Northern Ireland. This number represents an annual birth rate of 20·9 per 1,000 of the estimated population, the equivalent figure for England and Wales being 16·6, and for Scotland 18·7. The rate in Northern Ireland is 0·2 above the rate for the corresponding quarter of 1929, and 1·8 below the average rate for the third quarters of the ten years 1920 to 1929. Deaths registered during the quarter numbered 3,486, or an annual rate of 11·2 per 1,000, being 0·2 above the rate for the corresponding quarter of 1929, and 1·2 below the average rate for the third quarters of the ten years 1920 to 1929. The urban mortality from the principal epidemic diseases recorded during the quarter was equivalent to an annual rate of 0·5 per 1,000 of the population, the death rate from these diseases being 0·2 for the remainder of Northern Ireland. Deaths from cancer numbered 330, or an annual rate of 1·06 per 1,000, compared with an average rate of 1·09 for the third quarters of the previous five years. The number of deaths of infants under 1 year of age was 34·9, or 10 per cent of the total number of deaths registered. This quarterly return includes the usual notes on the weather during the three months, supplied by the director of the meteorological office in Belfast.

Inquiry in County Galway

The failure of the County Galway Board of Health to appoint an assistant county medical officer of health was the subject of a recent inquiry, held in Galway by Mr. A. Delaney, inspector of the Local Government Department. The secretary said that a resolution was passed by the board stating that it only desired to save the county from being saddled with expenses which it could ill afford. The appointment of a medical officer of health cost the county £1,400, of which £400 was recovered from national funds. It was now asked to meet an additional expenditure amounting to £1,300, and it was satisfied that if the plan were carried through it was only the beginning of a scheme which would land the county in bankruptcy. It had already established a first-class hospital service. In England the Public Health Act of 1929 had granted local autonomy to the county councils in all health matters within their areas. The secretary read a considered opinion of the medical staff of the Galway Central Hospital, that if the scheme were put into operation in the 367 schools in County Galway it would cost over £10,000 per annum. An alternative scheme suggested was that the county medical officer of health should attend the various tuberculosis dispensaries in the county as part of his work, and that the medical department of the Central Hospital should be responsible for Galway Sanatorium, or that the dispensary doctors of the areas should attend at the dispensary for tuberculous patients. With regard to child welfare, the poor children should be treated by the dispensary officers, and the children of the rich would have the treatment provided by existing medical services. They would advise the board to terminate the appointment of the two nurses whom the Ministry had ordered to be appointed in connexion with the county medical officer's appointment.

Dr. Butler O'Beirne, county medical officer of health, said that it was absolutely necessary that an assistant should be appointed. Before his appointment he had been county tuberculosis officer, and looked after the sanatorium in Galway, a dispensary there, and six dispensaries throughout the county. If the assistant were appointed, this would be part of his duties, but as no one had been appointed he was attending to the sanatorium and to the Galway Dispensary while the others were being neglected. The local dispensary doctors looked after the tuberculous patients as well as they could in the dispensary districts. Replying to Mr. A. Lynn, who, with Mr. Conor Maguire, appeared for the Board of Health and County Council, he said he had prepared his scheme for examination of school children, and it would involve an enormous amount of work, which it would be impossible for him to do along with his other duties.

Mr. Lynn contended that they were not legally bound to appoint an assistant medical officer of health, in the case of the nurses, the department could have referred the matter to the Appointments Commissioners, who would have appointed them, but for some obscure reason a different attitude had been preferred. The board could show that it was doing the work with an efficiency not excelled by any board of health. It was grotesque to suggest that two nurses could look after an area so large as County Galway, or that even the county medical officer of health and an assistant could do it efficiently. The alternative scheme put forward by the Galway Hospital doctors was the only feasible one, and would enlist the services of the existing dispensary doctors who would work as a team under the county medical officer. In this way they would save a considerable amount of money, and the health of the county would be looked after more efficiently.

Dr. Thomas Walsh, professor of pathology in Galway University, and an ex-chairman of the Galway Board of Health, gave evidence in support of the alternative scheme put forward by himself and his colleagues. They had the existing machinery, and it was only a question of co-ordinating it. What he felt about the department's proposal was that they had an exact knowledge of its extent. If they inspected schools and set up child welfare centres, it would be useless unless there was treatment of all defective scholars. An effective scheme of this kind would mean that four or five extra doctors would be required, and he did not think this expense was justified. The great obstacle in County Galway was poverty, but, unfortunately, they could not touch it.

Salaries of Medical Officers

At the last meeting of the Wexford County Health Board a letter was read from the Department of Local Government and Public Health stating that the scale salary of £200 a year, increasing by £5 to £250 a year, proposed to be adopted by the board for medical officers of dispensary districts in the county, was inadequate, and compared very unfavourably with the salaries in operation for similar duties in adjoining counties. The Minister requested the board to reconsider this matter, and to adopt a scale for these officers having a maximum of at least £300 a year.

England and Wales.

Hospital Saving Association

The Prince of Wales attended the annual meeting of group representatives of the Hospital Saving Association, which was held on November 25th, at Kingsway Hall, London. His Royal Highness remarked that he himself, as president of the King Edward's Hospital Fund, took part in some of the consultations which led to the launching of the Hospital Saving Association, and was present at meetings when Sir Alan Anderson, Lord Knutsford, and others suggested the scheme. The growth of the association during seven years had been amazing, there were now over 800,000 contributors, and he saw no reason why the million mark should not be reached within a year. The secret of this rapid growth, the Prince continued, lay in the fact that this was a voluntary movement for the help of the hospitals and for the mutual help of the contributors. The "threepenny bits" which made up the staple of the contributions had come in with a regularity "which might cause envy to the tax collector." The association was laying down a very sound basis of finance for the voluntary hospitals. He emphasized the altruistic side of the endeavour, that the contributions were made, not merely or chiefly as an insurance for the contributor, but to "help the other fellow," and as a token of thankfulness that one did not need hospital treatment one's self. He reminded the gathering that these sums did not meet

the full cost of hospital provision, which the modern methods of medical science caused continually to become more expensive, but the association did enable the hospitals to maintain an open door and eased the anxiety of those responsible for their management. Lord Knutsford and Mr. A. V. Alexander (First Lord of the Admiralty) briefly spoke, the former remarking with regard to the new council hospitals, that he hoped they would be able to take many of the cases which for lack of accommodation had been too long awaiting admission to the voluntary hospitals. Mr. Alexander confessed that after the war he and many of his colleagues thought the situation of the hospitals so serious that there would have to be a much wider provision of State hospital service than had hitherto existed. But there had been an extraordinary recovery in hospitals and hospital finance, especially in the provinces. He wanted to see a complete co-ordination between the voluntary hospitals and those now described as council or municipal. Mr. Stanley L. Duff, secretary of the National Conference of Approved Societies, also addressed the meeting.

The eighth annual report, which was presented, showed that during the twelve months ending in July the number of contributors increased by 158,431, now reaching a total of 810,474. The amount of contributions paid during the year was £438,354, *compared with £320,714 in the previous year*. During the year 238,929 contributors or their dependants had been treated at voluntary hospitals, and of these 44,340 were in patients, who were in hospital for a total of 911,873 days, an average of 20·1 days per case. The revenue account for the year showed a credit balance of £22,059. The total payment made for hospital services for the year would be after the final distribution had been made £325,781, of which £264,324 was direct payment to voluntary hospitals, £37,899 direct payment to rate-aided institutions, and the remainder refunds of hospital payments made by contributors.

Care of Feeble-minded in Birmingham.

In his report for the year ended March 31st, 1930, Dr. A. M. McCutcheon, medical superintendent of Monyhull Colony and Monyhull Residential School for Feeble-minded and Epileptic Children, takes the opportunity of the year under review, being the last in which the work was carried out under the authority of the board of guardians, of recording briefly the history of the colony since its establishment in 1908. Important developments took place in 1912, when new homes were planned, in 1914 when the 'Haunch' was leased for adult female patients, in 1924 when 'Trostery" was bought and equipped for the same purpose, in 1925 when two new homes were built, and in 1928 when provision was made for the night nurses' home. But Monyhull as a modern specialized mental hospital developed mainly from 1921, in that year receiving recognition as a training school for nurses and a year later similar recognition by the University of London as a place of study for the diploma in psychological medicine. In 1923 it was incorporated in the Birmingham Joint Board of Mental Research. During the year under review 1,346 patients were dealt with in the colony and residential school, 1,206 of these remaining in residence on March 31st. An analysis of the discharges shows that 47 patients were transferred to the adult section, 19 to their parents and other authorities, 37 to hospitals and other institutions, and 1 on licence. In addition there were 17 cases of absconding, 2 of failure to return from leave, and 17 deaths. Applications for discharge work out at 1 in 74 of the average daily population, a satisfactory figure when allowance is made for the fact that some parents, failing to appreciate the true mental condition of their children, make repeated demands for discharge, to which in most cases the Board of Control finds itself unable to accede. Of the patients in residence 9 are classified as idiots, 248 as imbeciles, 931 as feeble-minded and 18 as sane epileptic. Included in the first three categories are 259 patients with epilepsy as an added defect. In the circumstances the figures relating to occupational training are very satisfactory, during the year under review all the shops were busily occupied, the patients—namely 373 males and 449 females—showing the greatest interest in their work. Only 19 males and 11 females are classified as not suitable for regular employment. In the school 429 children were dealt with during the year, of these 72 have been discharged, in every case with appropriate recommendations as to future training and control.

Medical Examinations of the L.C.C. Staff

The London County Council is considering the question of the arrangements to be made for the conduct of the medical examination of the council's staff after the retirement in February next of Sir John Collie, the present medical examiner. The General Purposes Committee has come to the conclusion that the most satisfactory arrangement would be to entrust the work of medical examination, with certain exceptions, to the medical officer of health and school medical officer who at present acts in this capacity in respect of the teaching and certain other staff under the direction of the Education Committee. This would ensure a common standard of examination, all records would be in common form, and the great resources which the council now possesses in respect of consultants, laboratory facilities, hospital accommodation, etc., would be readily available. Medical examination in the council's service takes place before admission, after a prolonged period of sickness, after accident on duty, and when the question of physical fitness to remain in the service is in question. The number of examinations amounts to over 20,000 a year. The adoption of the proposal will involve the appointment of one additional principal medical officer. The report of the committee adds: 'We think it proper to state that the medical officer is suffering very severely at the present time from intense pressure of work arising out of the Local Government Act, 1929, and for this reason hesitates to undertake additional work of a very responsible character as he feels he could not conscientiously discharge his duty to the council in connexion with it unless the facilities mentioned (certain details regarding staff and adaptation of accommodation) are available.

India.

Standardization of Medicinal Drugs.

THE Government of India, after obtaining the approval of local Governments, has now decided to appoint a small committee to explore and define the scope of the problem of the standardization and preparation of medicinal drugs. It is further instructed to ascertain what measures may suitably be taken to regulate their subsequent supply to the community. The terms of reference to the committee are as follows:

1. To inquire into the extent to which drugs and chemicals of impure quality or defective strength, particularly those recognized by the *British Pharmacopœia* are imported manufactured or sold in British India and the necessity in the public interest of controlling such importation, manufacture, and sale and to make recommendations.

2. To report how far these recommendations may be extended to known and approved medicinal preparations other than those referred to above and to medicines made from indigenous drugs and chemicals.

3. To inquire into the necessity of legislation to restrict the profession of pharmacy to duly qualified persons and to make recommendations.

The committee, which will have as its chairman Lieut.-Colonel R. N. Chopra, I.M.S., professor of pharmacology in the Calcutta School of Tropical Medicine and Hygiene, will visit important centres in the provinces and will collect evidence in this respect. It will also prepare a questionary for issue to persons and corporate bodies likely to be able to throw light on the matters at issue.

The Pasteur Institute, Calcutta.

According to the annual report for 1929 of the Pasteur Institute, Calcutta, over 24,000 patients have received a complete course of treatment since the institute was established in 1924. In five years the total number of patients has increased from 1,995 to 9,576—apparently the highest

number recorded in any Pasteur institute in India There is evidence, however, that many deaths occur every year among those who do not, or cannot, attend the institute for treatment In Bengal alone, excluding patients who received treatment, at least 400 deaths from hydrophobia were reported in 1928 The report states that, since about one in every sixteen of the untreated cases is estimated to develop this disease, probably about 6,000 persons in Bengal infected by rabid animals received no treatment during the year This figure is expected to be reduced as vaccine treatment becomes more widely available Good results appear to have followed the broadcasting of information about rabies by the Department of Public Health Out of 7,529 persons treated, only 54 died of hydrophobia—a rate of 0 72 per cent This is the lowest in the history of the institute

Medical Services of the G.I P Railway

The annual report of the medical department of the Great Indian Peninsula Railway for 1929–30 is chiefly concerned with the incidence of malaria among the railway's employees, who number as a rule over a million In recording a decrease of 10,000 cases during the year, Dr R J L Sliden, principal medical and health officer, states that the expenditure incurred on the treatment of this disease was nearly a fifth of the total cost of sickness Compared with the figures of the previous year, the most noticeable improvement evidently occurred in the Jubbulpore district, where the number of cases decreased by more than a thousand Among the anti-malaria educational measures adopted, large-scale maps were used to exhibit the results of malaria surveys, and breeding places shown on the maps are reported to have been regularly and systematically dealt with Influenza was prevalent among the staff throughout the whole system, the total number of cases recorded was 5,814, an increase of 1 9 per cent over the figure of the preceding year Employees suffering from pulmonary tuberculosis are considered unfit for continued employment, and are generally invalided out of the service the rate of mortality from this cause is estimated to be 12 out of 149 A slight increase is reported in the number of patients treated for venereal diseases, but it is suspected that information is sometimes withheld through fear of publicity and punitive action During a small-pox epidemic, which lasted from January to March of this year, arrangements were made at all the hospitals and dispensaries belonging to the Peninsula Railway to vaccinate the members of the staff and their families free of cost Primary and secondary vaccinations for the year numbered 10,678 compared with a total of 4,212 in 1928 Another section of the report deals with injuries caused by accidents, these amounted to 213 incurred by passengers, and 2,018 in the case of railway servants, the occurrence of fatal accidents per 100,000 passengers carried being 0 01 To give effect to a resolution passed at the eleventh International Labour Conference regarding the prevention of industrial accidents and the organization of "safety first" propaganda a central safety council has been established, consisting of representatives of the transportation, engineering mechanical, commercial, and medical departments, committees have also been set up at seven local centres As their object is to provide a means of educating employees in matters affecting their own safety, an opportunity is given for making suggestions and for discussing the results obtained by the various measures Rapid progress continues to be made in educating employees in first aid work Up to the end of the period under review the total number successfully trained was 2,739, which was equivalent to about 2 49 per cent of the staff

Correspondence.

MENTAL TREATMENT ACT, 1930

SIR,—With reference to the Explanatory Memorandum on the Mental Treatment Act, 1930, published in the *Supplement* of November 29th, may I point out two inadvertent mistakes, one of commission, and the other of omission

Under the section "Voluntary patients," and again under the section "Temporary patients," it is stated that these temporary patients are to be admitted under certificates from two medical men This should read recommendations as the word "certificate" is thought likely to offend the susceptibilities of the public

Under para 3 relating to certificated patients there is an alteration inasmuch as the provision for Urgency Orders is extended to all patients certified under the Lunacy Acts instead of being confined to those who are to be dealt with in private institutions—I am, etc,

Bath Nov 29th R C GORDON

SIR,—I trust that you will be good enough to allow me to point out that in the very serviceable Explanatory Memorandum on the Mental Treatment Act 1930 drawn up by the British Medical Association, there are several minor inaccuracies which, if uncorrected, may give rise to some misapprehension among medical practitioners

First, with regard to the medical recommendation required in the case of a person under 16, on whose behalf a written application is made for voluntary treatment, this must be made by the patient's own doctor, or by a practitioner approved by the Board of Control or *approved by the authority within whose area the person to whom the application relates then is*

With regard temporary patients, the Act is careful to avoid the word "certification" in this respect The application must be accompanied not by two medical certificates as stated, but by two recommendations It is as well to add also that no recommendation shall have effect on the expiry of fourteen days from the date on which the person to whom the recommendation relates was examined by the two medical practitioners, or, if he was examined on two different dates, on the expiry of fourteen days from the later of them

And lastly, the memorandum states that the procedure is not altered for certified patients That is so, except in respect of the Urgency Order Hitherto, the use of Urgency Orders has been confined to private patients, but by Section 17 of the Mental Treatment Act, 1930, it will be possible to admit a rate-aided patient to a public mental hospital under an Urgency Order signed by a duly authorized officer of the local authority within whose area the patient is This is a wise and beneficial provision—I am, etc,

T M DAVIE,
Medical Superintendent
East Riding Mental Hospital

Beverley, Yorks, Nov 29th

SIR,—In the *Supplement* with to-day's issue of the *British Medical Journal* an Explanatory Memorandum in regard to the new Mental Treatment Act is published The document is not signed and consequently one cannot appreciate the authority behind it It is at all times most difficult to state in concise sentences the relevant fact of any Act of Parliament This memorandum is inaccurate and misleading, and should be withdrawn May one express a hope that this communication will be published and so act as a warning to the medical profession in regard to the Explanatory Memorandum—I am, etc,

F ROWLAND ROTHERHAM

Hove Nov 29th

*** We have referred this correspondence to the Medical Secretary, who writes The memorandum was drawn up as directed by the Council As regards its alleged inaccuracies see the letter by Dr Gordon, one of its authors Unfortunately time did not allow of his seeing a proof

TEMPORARY TREATMENT WITHOUT CERTIFICATE

SIR,—The correspondence of the last few weeks on temporary treatment without certification brings out very clearly the confusion that exists concerning the meaning of Section 5 of the new Act, which deals with the question. If Dr Vernon Davies's interpretation is accepted—and he is in an exceptional position to give an interpretation—that the form of word, "incapable of expressing himself as willing or unwilling to receive treatment" means literally what it says, then it would appear that the intentions of the promoters of the Act have been practically nullified, for I do not think the section so interpreted will apply to 5 per cent of the admissions to mental hospitals.

The carrying out of the section however will depend upon the view taken by the Board of Control. That the Commissioners may not hold the same opinion as Dr Davies is indicated by the reference in their last report to the epoch-making character of the change caused by this section. Having regard to the obscurity of the situation, the importance of the point at issue, and the short time that now remains before the Act comes into force it would be helpful to all concerned for the Board to make known its official interpretation.—I am, etc,

London, W.1, Nov. 29th. FREDERICK DILLON.

ROLL OF BIO-PHYSICAL ASSISTANTS

SIR,—Will you allow me space to express the appreciation of the council of the Chartered Society of Massage and Medical Gymnastics of the steps taken by the British Medical Association to bring the Roll of Bio-physical Assistants to the notice of medical practitioners. The inclusion of the topographical section of the Roll in the *Supplement* to the *British Medical Journal* of November 15th is certainly a practical way of making known this register of 'persons competent to dispense the direct current, ionization, faradic currents, sinusoidal currents, diathermy, high-frequency currents, light and heat, and ultra violet light."

The majority of those admitted by the Society of Apothecaries to their register of lay assistants have qualified first in massage, and being members of the Chartered Society of Massage and Medical Gymnastics, are entitled to use the distinctive title of Chartered Masseuse or Chartered Masseur. The privilege was allowed by the Privy Council with a condition that the title was used only *without abbreviation*, and in view of this understanding the council was concerned to find that the initial letters have been used in the reference made in the Roll of Bio-physical Assistants as it appears in the *British Medical Journal*. There was not an opportunity to correct the omission before publication but our regret for the occurrence, together with a reference to the circumstances, has been conveyed to the Privy Council, and has been accepted by it. The council is glad to have this opportunity to inform readers of the *British Medical Journal* that the designation allowed to members of the Chartered Society must be used by them in full—Chartered Masseuse or Chartered Masseur.—I am, etc,

R. C. ELMSLIE,
Chairman of the Council of the C.S.M.M.G.

London, Nov. 25th.

THE WORK OF LABORATORIES

SIR,—My friend Sir Walter Fletcher, speaking of me in to-day's issue of the *British Medical Journal* (p. 928) says that when opening the Banting Institute of Toronto I "took occasion to belittle the work of laboratories." What I wrote of laboratory experiment was (*Lancet*, 1930, ii, 779): "Yet when fullest allowances are made the method remains one of extreme importance, of most fruitful results of a value indeed second in accuracy and relevance only to that of direct hominal research itself with which, whenever possible, it should be combined . . . and again: "Let no one for a moment suppose that I am critical of the methods or results of collateral experiment or of their great value in illustrating and elucidating the problems of hominal disease." Is this "belittlement"?

A further charge is made that I "thought that the idea that the laboratory workers did, or could, hand over new weapons for the physician to use was laughable." My statement with regard to laboratory workers was in the nature of a comment upon the following question asked in the annual report of the Medical Research Council: "Is scientific work by the physician or surgeon limited to the application in his art of scientific results worked out elsewhere in the laboratory, and delivered to him for use?" "and I said: "The assumption inherent in the question that ready-made weapons are fashioned in the laboratory and handed over with magisterial authority to the physician who humbly acquiesces in their prescribed use, is too amusing for serious discussion."

Sir Walter Fletcher is here twice guilty of grave offence. He garbles a story to deny it. It is not true that I took occasion in my address to belittle the work of laboratories. I praised such work and pleaded for its extension to human problems. It is not true that I was laughing at "the idea that laboratory workers did, or could, hand over new weapons," but it is true that I found the question as to whether the scientific work of physicians and surgeons was *limited* to the application of laboratory results very amusing. There is all the difference between my statement and the corrupt versions given by Sir Walter Fletcher, who, to my sorrow, has so egregiously failed to capture the spirit of my address.

Sir Walter Fletcher is Secretary of the Medical Research Council and research implies a disinterested pursuit of truth. He should therefore be quick on the scent of truth and be its guardian and apostle. I am wounded in the house of my friend when I find it agreeable to his standards of accuracy even in so small a matter as this, to injure truth so wantonly.—I am, etc,

London, W.1, Nov. 29th. MOYNIHAN.

ANTIMALARIA MEASURES

SIR,—Colonel Gill has now defined his position clearly. The reports, articles, and books on antimalaria work in Malaya speak with *no meaning to him*. To him the results are "equivocal." Major Walker, R.A.M.C. published in the January number of the *Journal of the R.A.M.C.* an excellent article entitled "Antimalarial measures in Malaya." *In it he says*:

> The result of all the work has been the opening up of vast tracts of hitherto forbidden land, the saving of thousands of lives and dollars, and of necessity a tremendous improvement in the general economic condition of the country. Millions of dollars have been expended on this work, but they have been returned a hundredfold.

Governments, Councils, State Boards, directors of companies, officials and unofficials, private citizens, Europeans and Asiatics, have spent millions over a period of thirty years. If Colonel Gill is right they have been in spending this money very foolish. If they have been right, what are we to say of Colonel Gill? I leave it to your readers. But can we be surprised that the work in Malaya has no lessons for him in India?—I am, etc,

Ross Institute, S.W.15, Dec. 1st. MALCOLM WATSON.

RESULTS OF TREATMENT OF CANCER

SIR,—As there may be delay in arranging such an exhibition of cases as Mr Fitzwilliams suggests in his letter published on November 29th, may I say that I am quite ready to accept his challenge to exhibit cases of breast cancer treated by x rays. My colleagues would probably agree to certain of their patients being shown at a Sectional meeting of the Royal Society of Medicine. Might I suggest that my work is not conducted in the dark? For the past nine years at the Middlesex Hospital I have seen cancer and other patients treated by x rays in a follow-up clinic at 2.30 p.m. on Wednesdays; radium patients are now seen on Mondays at 11.30. Any medical man who wishes to see patients is welcomed.

As regards tongue, rectum, and cervix cases my experience is almost entirely confined to "prophylactic" radiation after operation or to patients inoperable or with inoperable recurrences. Dr Hernaman-Johnson some years ago replied to a somewhat similar challenge from Mr Victor Bonney by showing how limited the gynaecological material sent to radiologists is in this country.

Mr Fitzwilliams mentions three sites in which radium is generally accepted to be of greater value than *x* rays (that is than the *x* rays of the present, and as now employed) Had he instanced cancer of the thyroid, of the testicle, and cranial tumours his challenge would have been more generously framed, and could have been more easily replied to

I propose to give a further paper on the treatment of operable cancer of the breast by *x* rays and radium at the Third International Radiological Congress next July in Paris, this will review my work to date, and show some five-year results At the same congress I believe there will be remarkable results brought forward from the *x*-ray treatment of cancer of the oesophagus, by a new technique from a Continental clinic We advance by degrees, and Mr Fitzwilliams might be gently admonished to ponder on Renan's saying that "La verite consiste dans les nuances" —I am, etc,

London W 1, Nov 29th J H Douglas Webster

GLYCERIN IN MIDWIFERY

Sir,—In all confinements there is a certain amount of injury to the perineum varying in degree—for example, bruises, lacerations, and tears Tears are stitched The only other treatment seems to be cleansing with weak antiseptic lotions by the nurse in attendance Bruised, lacerated, and oedematous tissue is the most likely field for micro-organisms to flourish in During the puerperium the damaged tissues are constantly bathed by lochia and vaginal secretion The reaction of the latter is altered These and the close proximity of the anus tend to favour the presence and growth of bacteria

It seems desirable in such cases to use an application which would inhibit the growth of bacteria, reduce oedema, encourage healing, and at the same time be soothing and comforting to the patient To obtain these results I find warm glycerin the most effective Glycerin does not evaporate, is powerfully hygroscopic, and inhibits the growth of bacteria, particularly the cocci and *coli* group, the causal organisms of puerperal sepsis

I first used glycerin in the puerperium for its soothing effect on haemorrhoids I was so pleased with its healing effects on the perineum that I now use it as a routine practice at every confinement Cases treated by this method showed no signs of sepsis —I am, etc,

Ronald Mackinnon, M B,
November 24th Honorary Pathologist Oldham Royal Infirmary

CYANOSIS WITH COLLAPSE

Sir,—Blue sickness, or cyanosis, occurs to-day in quite a number of chemical industries, and its significance varies with the cause In mild cases—nitrous fume inhalation, for instance—there is merely a loose linking up of the oxyhaemoglobin with the nitric body to form a nitric-oxide-haemoglobin, a forerunner of methaemoglobin, and such cases are very easy to re-oxygenate Occasionally there is an observable cyanosis, with normal blood and perfect health, a not uncommon state in T N T operatives In the benzene group conditions are altered, and become pathological Both the amido and nitro derivatives discharge the haemoglobin from the red cells and fix the oxyhaemoglobin Aniline, which is amidobenzene, possesses this toxic property and the nitro-anilines, and particularly para nitraniline an important body in many technical processes has this toxicity in much greater amount than aniline Nevertheless, I doubt very much if methaemoglobinaemia is the diagnosis for Dr Lempriere's case (*Journal* November 22nd, p 892) There is not enough benzene chemical (nitro or amido) to bring about this issue in one drop of dye The details are "Some on his lips and a drop in the mouth, immediately washed"

We have to remember that before clinical signs of poisoning by methaemoglobin appear a very considerable quantity has to be present W J Dilling places it at 40 per cent of the oxygen present, and states that it is only when this figure is reached that the characteristic bands show up the spectroscope Seen thus, the case is "Can 40 per cent of the oxyhaemoglobin present in a boy of 14 years be fixed by the atoms present in a drop of an aniline dye?" The only answer is, "Yes, by catalysis", and while this might appeal to a chemist as a reasonable answer, it is from a medical standpoint a *reductio ad absurdum*

But Dr Lempriere's letter has the great interest that it points to another possible form of aniline poisoning Many industrial physicians believe that particularly the nitro derivatives of benzene poison the central nervous system, and that not all of the complex symptoms including brain lesions, can be explained by the anoxaemia and it may well be that this case in point supports the idea My impression of what happened is as follows The boy was probably using a pipette (his lips were stained), and drew some of the aniline dye into the fibre stopping in the incisor socket It may have been one of the more toxic preparations, such as para-nitraniline This would dissolve the lipoids in the incisive nerve, whence there is a direct track to the pons I think the boy suffered from early narcosis and poisoning of the central nervous system, and that such a case might have been fatal—I am, etc,

Stevenston Ayrshire, Nov 24th Harry M Roberts, Medical Officer Nobel's Explosives Company Limited.

PARTURITION PER PERINEUM

Sir,—The case described in your issue of November 22nd (p 863) under the above heading is certainly very rare, but I had an almost identical case over twenty years ago, which was reported in the *Transactions* of the Glasgow Obstetrical and Gynaecological Society (vol v, p 148)

In my case, which was a persistent occipito-posterior presentation in a young primipara, I had applied the forceps in the usual way, when quite suddenly the perineum gave way in front of the anus, and the head appeared, to my consternation, through the "central tear," carrying the blades of the forceps with it I had hardly time to get the forceps out of the way before the child was delivered "*through the laceration*" The anterior and posterior boundaries of the perineum remained intact, and the laceration began in front of the anus and ran obliquely forwards to the left side of the fourchette and fully two inches beyond that point

The tear was carefully sutured, but the sutures had to be removed on account of sloughing With rest in bed, however, and frequent bathing of the parts with a weak solution of perchloride, rapid healing took place, and the patient bore several children afterwards without any recurrence The only explanation I can think of is the prolonged pressure of the head against the perineum No anaesthetic was used, and very little, if any, traction was necessary —I am, etc,

Alex J Wilson, F R C S Ed, D P H
Airdrie, Nov 24th

Sir,—I should like to record that four years ago I had a confinement case similar to that described by Drs Tindal and MacLennan in the *Journal* of November 22nd I was called to the case by a midwife, and on arrival found the child born, with the umbilical cord passing through a gap in the perineum of corresponding bearings to that in their patient The placenta followed spontaneously by the same passage, and the gap subsequently was closed by catgut sutures I am pleased to say that the gap healed and the patient got on well

The woman was a multipara, and gave the same history of having been badly torn at the previous confinement The perineum had been stitched, but evidently the distal sutures had not been inserted deeply, thus causing a dip in the upper portion of the vaginal passage, and a very attenuated perineal surface —I am, etc,

R Boyd Ronson, M B, Ch B
Seven Kings, Ilford, Nov 25th

Sir,—The memorandum by Drs Tindal and MacLennan is most interesting but the accident is by no means unique Sir J Y Simpson recorded a case of "Perineal fistula left by the transit of the infant through the perineum" in the *Edinburgh Medical Journal* (1855, i, 1)

The patient a primipara was first seen by him a year after the confinement An illustration was published along with the communication and it was reproduced in the *Manual of Gynaecology* by Hart and Barbour In his paper Simpson referred to two other cases The first of these described by Marter of Konigsberg was also a primipara, but in spite of the fistula remaining patent, her second child was born naturally by the vulva The second case was described by Halmagrand of Paris who repaired the perineal tear Her next child was born naturally It is not stated whether she was a primipara or a multipara In addition to these, the names of seventeen other medical men who have reported similar cases can be found in *Anomalies and Curiosities of Medicine* by Could and Pyle (pp 121-22) One of the cases quoted by them was recorded by Brown in the *Lancet* (1860, i, 496) —I am etc ,

D P BLAIR

Waterloo, Liverpool, Nov 25th

DIATHERMY ENUCLEATION OF TONSILS

SIR —I am astonished at Dr Dan McKenzie's "warning" (as he rather rigorously styles it) against the growing practice of enucleating tonsils by means of diathermy (*Journal* November 22nd) He further states that this is not the place to enter into a full discussion on the subject, and ends by saying unkind things about anyone who unjustifiably disregards his letter

Now I have a copy of Dr McKenzie's excellent book at hand, and I note on page 64 Enucleation by dissection can be safely and successfully accomplished by the diathermy knife' A description of his method and the control of haemorrhage follows, with the advice that 'this method of inducing haemostasis by diathermy' may be used in the ordinary tonsil operation On page 71 where he describes how tonsils can be diathermized easily and comfortably under local anaesthesia," we find If the patient is nervous and the tonsil small, we limit ourselves to a *single* application of diathermy" Page 72 emphasizes my own observation that the patient's endurance is never seriously taxed page 75 adds that he had had no personal experience of serious haemorrhage

In view of the general interest in this work among practitioners, I should like to state briefly my experience of the last four years One or two applications of diathermy are invariably sufficient when the technique described by me in the *British Medical Journal* of June 14th is carried out Cocaine anaesthesia is always used *without* adrenaline This latter addition appears to favour oozing, I believe the blood normally present in the vessels helps, when coagulated, to prevent bleeding I do not agree with Dr McKenzie's technique in this respect, and I personally feel that one month should elapse before the second treatment, should one be required I hope my own experience will encourage others in a method which I believe to be as safe at any age as any treatment could possibly be —I am, etc ,

WARNER COLLINS

Putney Hill, S W 15 Nov 22nd

NOCTURNAL INCONTINENCE IN CHILDREN

SIR —In regard to Dr Pereira Gray's memorandum in your issue of November 29th (p 906) I have found ergot the only satisfactory drug in many cases of this distressing disorder The liquid extract in five-minim doses to a child of 5 years combined with half the quantity of liquorice and a drop of peppermint, often brings about permanent relief in a fortnight, and is worth a trial in most patients so afflicted The prescription was published some years ago and it is at last beginning to find its way into the textbooks where belladonna and the bromides reigned for a century in masterly inactivity —I am etc ,

ALEX PATTON

Widnes, Dec 1st

SIR —Having extensive experience in genito-urinary surgery in a land where stone in the bladder was very prevalent—two-thirds of the stone in India is in children under 12 years of age—it was a very common thing for people to bring me children, and when asked what was the matter the reply came promptly Stone in the bladder" The villagers are familiar with the symptoms The child is constantly fingering his penis and having erections and incontinence and these are the symptoms common to stone and nocturnal incontinence In this case considering the prevalence of stone, the first thing to do is to examine for stone but no stone being found, the condition reduces itself to the prepuce, which will not retract, and is not improbably adherent A circumcision is then done and the irritating secretion underneath the prepuce removed, and the symptoms of stone and the incontinence disappear at once In my experience these cases of incontinence disappear after circumcision, and I am surprised that this fact has not yet been recognized in teaching institutions I have been consulted about similar cases in this country in which circumcision was followed by a similar result —I am etc

HENRY SMITH, C I E

Lieut-Col, I M S (ret)

Slough, Nov 30th

COLLAPSE FOLLOWING ANAESTHETIC

SIR,—Sir Maurice Craig's experience (described by him in your issue of November 22nd, p 886) recalls the following to my mind

About the year 1884 one of the house-surgeons at St. Bartholomew's Hospital chloroformed a cat When it was apparently dead he took it by the tail and carried it out for burial As he went across the square the cat recovered He told Mills the chloroformist" about it and I think it was after that that inversion was used in chloroform collapse The matter was discussed with Henry Power a keen physiologist who said that the treatment was physiologically incorrect On being asked what treatment he would adopt in such cases, he replied Oh invert by all means *but it's wrong*"

In my own experience I have seen three cases of collapse after chloroform in children They all recovered rapidly on being treated by complete inversion —I am, etc

PRIDEAUX G SELBY

Lyndhurst, Nov 26th

LOTTERIES SWEEPSTAKES AND HOSPITAL FINANCE

SIR —Is the time not ripe for the British Medical Association to express an opinion on lotteries sweepstakes and hospital finance The Hospital Police of the Association is silent on this aspect of the hospital question Why? Surely the medical profession will never consent to cure physical disease by propagating moral disease and that is the meaning of financing hospitals by lottery and sweepstake Gambling is an odious perversion of a natural and healthy instinct—the sporting or adventurous instinct —and its extension among the people of this country will sap their moral fibre, pervert their sense of value, and lower the prestige of the medical profession It the hospitals cannot be financed by voluntary contributions let them be put on the rates and taxes at once The "bookie" must be kept out of the hospital question at all costs, and the British Medical Association should see to this —I am, etc ,

J S MANSON

Warrington, Nov 26th

Universities and Colleges

UNIVERSITY OF OXFORD

THE Francis Gotch Memorial Prize for 1930 has been awarded to F E S Hirschfield (New College)

UNIVERSITY OF LONDON

THE Paul Philip Reitlinger Prize offered this year for the best essay embodying the result of some research work on a medical subject carried out by the candidate has been awarded to Joseph Adler a student of King's College and Charing Cross Hospital Medical School for his essay on "The action of histamine on gastric secretion after partial gastrectomy" The prize of the value of £30 was founded with funds given to the University by Mr Albert Reitlinger in memory of his son a student of Middlesex Hospital Medical School who died December 3rd 1911 Next year the prize will be awarded for the best essay on "The long poem in the twentieth century"

DR J R Lord, C B E F R C P , lecturer in clinical psychiatry has been recognized as teacher in psychiatry at the London (Royal Free Hospital) School of Medicine for Women

J W M Alexander has passed the examination for the Diploma in Psychological Medicine, with special knowledge of psychiatry

UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

THE following candidates have been approved at the examination indicated

FINAL MEDICAL EXAMINATION.—*Part II. Medicine* G F Ennis, D J O Ryan W Caldwell T H Dockrell C H Adderley H H G Dorman, D Nolan C Bowesman C M Elliott A J O Connor Kathleen A Wilson C Ryan *Surgery* G F Ennis D J O Ryan W A Robinson I S Duthie H H G Dorman N A Kinnear W Caldwell J B Sc [illegible] Kennedy H S North *Midwifery* *Margaret D Gregg *Marjorie L [illegible] I G L Ford J C M Brambell H V T [illegible] T J O Donnell E S Samuels T M R Ahern M G Leane T J O Sullivan F C Jackson N H Leask R C Sutton L Morrison J A Page D H S Boyd

* Passed on high marks

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

AT a special meeting of the College held on November 21st the undermentioned successful candidates at the Winter Conjoint Final Examinations, 1930, of the Royal Colleges of Physicians and Surgeons, Ireland—namely, Patrick James Doyle, Eugene Robert Duggan, Robert James Randall, Abraham Louis Stein, Cecil John Conrad Wilson—were duly admitted to the licences in medicine and midwifery

Obituary.

JOHN HAMMOND TEACHER, M.A., M.D.,

St Mungo (Notman) Professor of Pathology, University of Glasgow

PROFESSOR JOHN HAMMOND TEACHER, who died on November 21st, was born near Glasgow in 1869, his father, the late Mr William Teacher, being a prominent figure in Glasgow business circles for many years He was educated at Glasgow Academy and University, graduating in arts in 1889, and in medicine with high commendation in 1893 After holding the posts of house-physician and house-surgeon at the Western Infirmary, he took up for some time the study of physiology under the late Professor McKendrick Pathology, however, proved a superior attraction, and he moved to the pathology department of the Western Infirmary under the late Professor Coats

Dr Teacher soon established a reputation for painstaking and tireless research, developing a bent towards gynaecological pathology In 1896 he spent an interesting year in Rio Tinto, where he was responsible for the control and treatment of malaria in the district Returning to Glasgow in 1897, he undertook the arduous task of classifying and arranging the anatomical and pathological preparations of William Hunter The masterly catalogue, which he published in 1900, is classical of its type, its value having been somewhat tardily discovered in recent years While engaged in this work he was appointed pathologist to the Sick Children's Hospital, and assistant pathologist at the Western Infirmary He became a Fellow of the Royal Faculty of Physicians and Surgeons in 1900 The outcome of his early researches in gynaecological pathology conducted in Glasgow and Vienna was a thesis for the degree of M.D., for which he chose chorion-epithelioma as the subject A tribute to the completeness of his research is the fact that little of note has been added to knowledge of this subject since its publication For this thesis he received an Honours M.D., with a Bellahouston gold medal for special excellence Continuing his researches, Dr Teacher was rewarded by the discovery of the earliest complete human ovum known The description of the Teacher-Bryce ovum No 1 is now a classic In 1907 he was appointed lecturer in pathological histology under Professor Muir, and two years later he received the appointment of professor of pathology at St Mungo's College Glasgow Royal Infirmary In 1911 when the new University chairs were founded in the Glasgow Royal Infirmary he became the first professor of pathology, a position which he filled with distinction till his death

During the last nineteen years of his life Dr Teacher was mainly occupied in organizing his new institute of pathology collecting around him an efficient staff, and placing on a sound and comprehensive basis the teaching of pathology at the Royal Infirmary He also created a pathological museum containing many unique and interesting specimens as well as the ordinary teaching preparations At the time of his death he was engaged in the preparation of a complete museum catalogue During the war Dr Teacher's duties multiplied enormously, for, in addition to the work arising from the almost complete depletion of his staff, he undertook many military duties involving much exposure and anxiety He felt this to be his duty as an old and enthusiastic Volunteer In 1924 a second early ovum—Teacher-Bryce No 2—was discovered and described For nearly thirty years Dr Teacher had collected, classified, and criticized innumerable preparations of gynaecological pathology, and he anticipated publishing his collected conclusions in the form of a book within the next year His untimely death will delay, but, fortunately, not preclude, this publication During last summer he attended the Annual Meeting of the British Medical Association at Winnipeg, when he made a communication, which was published in the *Journal* of November 29th (p 896) In the course of this rather strenuous visit he consulted with many leading gynaecological pathologists in the United States and Canada, exchanging views on many important and partially clarified problems in their particular specialties

Professor Teacher had many interests outside his professional life His favourite pastime was yachting and he devoted most of his leisure time in summer to this He was an active member of the Royal Clyde Yacht Club and the Clyde Corinthian Yacht Club Before the war his interest was mainly in the old 19-24 feet class, and when this class ceased to exist he compiled a historical "In Memoriam" volume, which was published in 1926 He then transferred his allegiance to the 6-metre class, taking part in the international yacht races held on the Clyde in 1928, when he sailed *Fiviola* in the winning team As recently as last summer he again participated in 6-metre racing on the American side An old Rugby player, he was president for some years of the University athletic club, and was largely responsible for the post war expansion of its activities As consulting pathologist and member of the Board of the Glasgow Maternity Hospital, he worked strenuously and whole-heartedly to increase its efficiency and to check reaction in the management of the institution He had a lifelong interest in the Marine Biological Station at Millport, stimulated originally by his association with the late Professor Young, and at his death he was a member of the Board of Management For many years he acted as pathologist to the Glasgow Royal Cancer Hospital, latterly in a consultative capacity He was a member of the Glasgow Radium Committee and of the Board of the Cancer Hospital, devoting much time and thought to the problems in connexion with the efficient application of radium therapy In politics he was an enthusiastic and uncompromising Conservative In private life Professor Teacher was singularly happy, and a wide circle of friend and acquaintances will extend their sincere sympathy to his widow

J A C B

Professor ROBERT MUIR writes I gladly avail myself of the invitation of the Editor to write about the late Professor Teacher, my friend and colleague

I came to know him first when I began work in Glasgow in 1899 At that time he was assistant in physiology to the late Professor McKendrick, and was just completing his descriptive catalogue of the anatomical and pathological specimens in the Hunterian Museum—an able work, characterized by clear description and faithfulness to detail Drawing his inspiration from his teacher, the late Professor Coats, he was interested chiefly in pathology, and on a vacancy occurring in the University department of pathology in 1903, I was glad to be able to secure his services He worked with me there, first as assistant and afterwards as lecturer on pathological histology, till he became pathologist to the Royal Infirmary, being appointed shortly afterwards to the newly founded Notman Chair of Pathology in 1911 His main interest lay in the morphological side of pathology, and his knowledge became both wide and accurate At an early period he was specially attracted by the problems of gynaecological pathology and though he published articles on various subjects, these problems constituted his main subject of research His papers on chorion-epithelioma attracted much attention,

they afford a good example of the high qualities of his work. The monograph by him and Professor Bryce on the early stages of development of the human ovum has been acknowledged as a masterpiece of its kind and is still fittingly spoken of as 'classical.' For some time before his death he was engaged on a book on gynaecological pathology. I hope this may still be published for in my opinion no one was better fitted for the task than he. His last communication, on the endometrium was made at the British Medical Association Meeting at Winnipeg.

As has been indicated Teacher's original work was mainly in pathological histology, in which field he had an unusually full command of technique. In carrying it out he spared no pains to attain accuracy and was always fully alive to the difficulties of interpretation connected with observational methods. His standard was thus exacting as regards both labour and time. His conclusions did not come easily but when arrived at were always reliable and worthy of attention.

Teacher took a keen and active interest in the students of the University both in their work and in their play and his knowledge of them and of their affairs often struck me as remarkable. He was a good friend to the athletic club and had a large share in the endeavours which led to the acquisition and equipment of the new athletic ground. As a teacher of his subject he was faithful and successful and I can testify to his excellence as an examiner. He was tactful just and considerate. A man of sterling character and generous nature upright in all his dealings and full of kindliness with no small fund of humour he was held in high esteem and affection alike by his students and his colleagues. He will be much missed in many sphere of University activity.

Professor W. BLAIR BELL writes:

I should like to be associated with any tribute that may be paid to the memory of my old friend John Teacher. Circumstance almost chance ordained that he should come to be regarded as a pathologist specially allied to obstetrics and gynaecology. His outstanding work on the physiology and pathology of the implantation of the ovum will always be classical, and it is to me a pathetic coincidence that his paper—published in the *British Medical Journal* last week, after his death—should deal with this subject and express views which I myself have always held. I understand that Teacher has left much valuable manuscript on gynaecological pathology. I sincerely trust that this will be collected and published. Teacher was to have presented the pathological aspect of ovarian tumours at the discussion on the pathology and clinical features of ovarian tumours to be held in Glasgow next April during the British Congress of Obstetrics and Gynaecology. Three weeks ago I heard he had had a breakdown and that he might not be able to fulfil this engagement. Within a few days I learned of his untimely passing. We who were his friends will miss him greatly and our special subject has lost a brilliant student of a particularly difficult aspect of it.

DAISY ANNABELLA GALE, M.D.

By the death of Dr DAISY ANNABELLA MURDOCH GALE (*nee* CLARK) at her home at Diss, Norfolk, on November 23rd Glasgow University has lost one of its most brilliant women graduates. The memoir that follows has been contributed by Dr. Elizabeth Sloan Chesser and Dr. Elizabeth Fraser Butler.

After a distinguished college career she graduated M.B., Ch.B., and B.Sc. in 1900 and was then awarded a studentship in biology at Newnham College, Cambridge. At the close of her Cambridge career Dr. Clark applied for a resident post at Macclesfield Infirmary. The Governors had advertised the post without any proviso in the matter of sex and since Dr. Clark was in their opinion the best of the applicants they offered her the post. The immediate sequel was the resignation *en bloc* of the visiting staff, there being nothing personal in this action but only the expression of opposition to women being doctors. Dr. Clark would have relinquished the appointment but she was strongly urged by the Governors and by her colleagues and teachers at her own university to take up her duties and demonstrate that a woman was capable of filling the post. With great courage she shouldered the task, remaining there for several months while the "boycott" lasted, and while newspapers and the general public fought her battle, her name appeared frequently in headlines, posters and cartoons—an experience from which she shrank with all the dislike of a sensitive nature. During this period the entire work of the hospital was left in the hands of Dr. Clark and another young house surgeon (a man). Since a deadlock had been reached in the affairs of the hospital, and she thought a sufficient protest had been made she decided to retire from the post and to commence practice in the town. The Governors reluctantly accepted her resignation and at the same time made her a gift of £100 in order to demonstrate to the world their satisfaction with the "lady doctor." This title had now become a household word in the town, and when Dr. Clark (together with Dr. Elizabeth Fraser who had consented to join her as a partner for the first difficult years) put up her brass plate it was found that there was already a large general practice awaiting her coming. There can be few instances where a doctor has found such a practice ready made and unbought—a practice comprising rich and poor, and consisting of men, women and children. The influence of this test case and Dr. Clark's masterly handling of it did a service to the future generations of women doctors which it is impossible to overestimate.

After leaving Macclesfield Dr. Clark went out to the East where she married Mr. C. Gale of Hong-Kong. She had two children, a boy and a girl; the husband and daughter survive her. During part of the war he held the post of deputy medical officer of health for Hong-Kong and did excellent service in connexion with an epidemic of cerebro-spinal meningitis, of which there were no fewer than 1,000 cases in three months. This work formed the basis of her thesis for her M.D. which she obtained with commendation in 1920. She was always interested in research and has published papers on the basal metabolic rate and other scientific subjects. In recent years she held the post of medical officer of the Carshalton maternity and child welfare centre and of the North Lambeth child welfare clinic. She resigned these posts in order to devote herself to her son who had sustained serious injuries as a result of a flying accident and who was ill for about eighteen months in hospitals and nursing homes.

During the last few months when Dr. Gale was facing the prospect of a painful death she showed the same dauntless courage and cheerfulness that characterized her through all the vicissitudes of life. Annabel Gale was an exceptional woman with a brilliant mind and a strong sense of humour. In her personality determination was united with kindness and her critical outlook was associated with an immense tolerance and charity.

The death occurred on November 20th at Seaford of Mr. T. F. HUGH SMITH, F.R.C.S., in his seventy-fifth year. The eldest surviving son of the late Henry Smith, F.R.C.S., surgeon to King's College Hospital, Hugh Smith was educated at King's College, Strand, and later entered his father's hospital. In 1877 he qualified as M.R.C.S., L.S.A., and became house-surgeon to Kings. In 1882 he became a Fellow of the Royal College of Surgeons. After a period of study in Paris and after holding the post of house-physician at Brompton Hospital he decided to take up general practice and joined the late Dr. Ashurst at Farningham, Kent. There he speedily built up a large and widespread practice which was certainly "general" in that it included every variety of work and all classes of society. And it was characteristic of Hugh Smith—a characteristic which endeared him to everyone—that whether in cottage or castle the patient of the moment was his only patient and received all the skill and care which he had to offer. He was an excellent surgeon and in his earlier years when motors had not bridged the distance between London and Farningham he found ample scope for his talents. He held the office of surgeon to the Kettlewell and Parkwood Convalescent Homes at Swanley, and was also medical officer to the Dartford Union. Hugh Smith was an active member of the British Medical Association and a former chairman of the Dartford Division.

He was twice married Seven years before he retired to Seaford he was joined in practice by his elder son, Major Sumner Hugh Smith, *M C* On his retirement in 1927 he was presented by his patients and friends with an address and a handsome cheque, the presentation being made by Sir William Hart Dyke on behalf of several hundred subscribers Hugh Smith was once described by a former assistant as "the finest G P in England" Certainly to all who knew him in and around Farningham he stood out as the very highest type of country doctor They realized his great professional skill, and they appreciated the simple sincerity and selflessness of his character With him medicine was in truth a vocation, and the reward he valued most came from the hearts rather than the pockets of his patients

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DR THOMAS WOOD LOCKET died at Bratton, Wilts, on November 18th The son of George Locket, he was born at Mill Hill sixty-two years ago He was educated at Christ's College, Cambridge, and Middlesex Hospital, and graduated M A, M B, B Ch in 1893, afterwards becoming house-surgeon at the Royal Berkshire Hospital, Reading He then practised in Atherstone, and in 1902 settled down in Melksham, where he soon acquired a large practice From the beginning he took an active interest in the work of the British Medical Association, and was chairman of the Trowbridge Division from 1921 to 1924 He was a member of the Wilts Panel Committee and the secretary from 1913 to 1924 When he resigned the secretaryship the medical men of the county presented him with a silver salver This was a well-deserved appreciation of the good work that he had done for the profession, both as secretary and as a member of the Insurance Acts Committee, and especially of the Rural Practitioners' Subcommittee The money subscribed for the salver was more than enough, and with the balance he bought a silver cigarette box for the use of the chairman of the Division Everyone realized his thoroughness, his unfailing attention, his sound judgement, and his good nature, he was everybody's friend, and can have had no enemy Dr Wood Locket retired from practice four years ago, and took up scientific fruit growing His farm at Bratton was well known throughout the West of England, and he did a lot of useful work in promoting better methods of fruit culture He always took an active interest in Church work, and especially in the various men's societies associated with the Church, both in Wiltshire and in neighbouring counties His wife was a devoted nurse during his last long and painful illness, so much so that she tired herself out and died from an attack of pneumonia less than forty-eight hours before her husband When he was told of her death he said "There will be no one to meet her there" These, his last words, were characteristic of the man and his life Husband and wife were cremated at Bristol, and at the same time a memorial service was held at Bratton The large attendance of people of all classes and many medical men was evidence of the affection and esteem in which he was held by all who knew him

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE House of Commons this week agreed to a resolution for increasing the Treasury loan to the Unemployment Insurance Fund It also discussed the School Attendance Bill, and the Expiring Laws Continuance Bill, in committee

On December 1st the Public Health Advisory Committee of the Labour party, and the Education Committee of the same party formed jointly a subcommittee on the health of school children, with Mr Somerville Hastings as its chairman This subcommittee will take evidence on tuberculosis, rheumatism and orthopaedics Witnesses will be heard from the Society of Medical Officers of Health The subcommittee is to report on the efficiency of examination and treatment under the school medical services It will also consider the nutrition of school children and the health of the child below school age

The Health and Housing Committee of Conservative members of Parliament discussed housing on December 1st

Physique of Recruits

Mr T SHAW, replying to Major Glyn on November 25th stated that for the recruiting year 1928-29, the latest period for which information was available, the main disabilities leading to the discharge of recruits were disease of the middle ear, defects of the lower extremities, disease of the heart, and defective vision An investigation now being carried out in the London area appeared to show that the general physical standard of the recruits actually accepted in that area was, if anything, higher than that of recruits accepted before the war He was informed by the Army medical authorities that the physical development of recruits during their first six months of training was satisfactory and that weight was put on at the depots to the average of 6½ lb Figures were not available as to the weight increase after three months' training, but both the general physical development and increase in weight were steadily and evenly progressive

Poison Gas

On November 25th Mr SHAW, replying to several members said that he could not say when finality would be reached in the research and experiments in defence against gas The work had purely defensive measures in view Every endeavour was made to ensure the strictest economy No soldiers were "gassed" at Porton in the ordinary sense of the word Volunteers averaging some six a week, underwent tests with the object of proving the efficacy of preventive and curative treatment for skin burns and of confirming the adequacy of the protection afforded by respirators The comparative effects of the poison gas on lung, animals and human beings were studied in the laboratories and by practical tests

Fatalities following Diphtheria Inoculation

Mr GREENWOOD, replying to Mr Freeman on November 27th, said his attention had been called to newspaper reports of the deaths of sixteen children at Medellin, Colombia, alleged to have resulted from the administration of diphtheria toxin instead of antitoxin, but he had no official information Mr Freeman asked if the Minister would prohibit similar operations on children in this country The Minister, in reply, said that none of the deaths from similar causes during the last few years detracted in any way from the value of the practice of the active immunization of persons shown to be susceptible to diphtheria, when undertaken with suitable safeguards He had no power to prohibit similar operations, even if it were desirable to do so Mr Smithers asked how many lives had been saved by this operation The Minister did not reply

Replying to a further question by Mr Freeman on the same day, Mr GREENWOOD said he had had inquiries made into the case of a girl of Upminster, aged 13, who died on October 2nd, 1930, following a serum inoculation against diphtheria This was an accident in private medical practice Fatalities following the prophylactic use of diphtheria antitoxin were very rare, and, save in the most exceptional cases of extreme susceptibility, the risk was negligible He had no power to interfere with the discretion of medical practitioners in the treatment of their patients

Mental Deficiency

On November 27th, in reply to Dr Tinsmanile Mr GREENWOOD stated that during the last five years the total number of mental defectives ascertained by local authorities under the Mental Deficiency Act had increased from 48,778 to 71,430—that is from 1·29 to 1·81 per 1,000 of the total population of England and Wales The ascertainment was not complete, and results varied in different areas In these circumstances it was impossible to say whether the number of defectives was increasing in proportion to the total population or to frame a conclusive estimate of the present number, but in certain areas the ascertainment by local authorities had reached 5 per 1,000

In reply to a question on November 27th, Mr GREENWOOD said that information on the success or otherwise of measures for the sterilization of mental deficients in foreign countries was received from time to time, but most of the legislation was of recent date and he was not in a position to estimate its value The issue was not one which could suitably be made the subject of a separate inquiry

Vaccination

In reply to Mr Groves on November 27th, Mr GREENWOOD said that thirteen deaths occurred among the small pox cases tabulated on page 70 of the report of the chief medical officer of the Ministry of Health for the year 1929 The deaths were distributed as follows 3 among persons successfully vaccinated, none among persons successfully revaccinated, 9 among persons unvaccinated, 1 death of a person whose vaccinal condition was doubtful

On the same date Mr FREEMAN asked Mr Greenwood whether, in view of the continued occurrence of deaths from post vaccinal encephalitis and other post vaccinal diseases notwithstanding the changes which were made in the method of vaccination on

October 1st 1929 he would consider legislation at an early date to repeal the compulsory clauses of the Vaccination Acts Mr Freeman further asserted that for many years vaccination had been a greater cause of death among children than small pox Mr GREENWOOD said he had under consideration the whole subject of vaccination but could not in present circumstances undertake to introduce legislation dealing with this question

Medical and Dental Benefit—On November 27th replying to Mr Rhys Davies Mr GREENWOOD stated that he did not consider any revision was required of the present method of charging approved societies for regional medical and dental service The services were equally available to all societies and proper recourse to them was desirable in the interests of good administration Mr Rhys Davies remarked that some societies utilized these services to a much greater extent than others causing inequalities in the charges on their funds Mr Greenwood answered that this point was sufficiently met by the payment by the society of a fee for each case referred

Change of Doctor—Mr GREENWOOD on December 1st told Mr Rhys Davies that he had come to the conclusion that he ought to modify the relevant part of the Medical Benefit Regulations so as to require a longer period to elapse before effect was given to a notice by an insured person of his desire to transfer to another insurance doctor Details of the procedure would be discussed with the representative bodies concerned as soon as possible

Inspection of Maternity Homes—Replying to Dr Bentham on November 27th Mr GREENWOOD stated that the routine inspection of voluntary maternity homes was carried out by the responsible local authorities Maternity homes which were in receipt of grants from his Department for the training of midwives were inspected periodically by a medical officer of the Department He had retained the right to instruct his officers to visit any maternity home as occasion arose

Lotteries and Hospitals—On November 26th Sir Nicholas Grattan Doyle asked the Prime Minister whether seeing the success attending the Irish lottery on behalf of the Dublin hospital he will give facilities for the passing of legislation to legalize in this country the holding of sweepstakes or lotteries in aid of London hospitals or for kindred purposes Mr RAMSAY MACDONALD I can hold out no prospect of time being found for discussion of this subject

Infant Mortality—Mr GREENWOOD in reply to the Duchess of Atholl on December 1st gave figures of the number of deaths of infants under 1 year of age per 1 000 live births in England and Wales as follows 1910 105 1913 108 1920, 80 1921 83 1922, 77 1923 69 1924 and 1925 75 1926 and 1927 70 1928 65 and 1929 74

Notes in Brief

During the first ten months of 1930 there were 831 deaths from accidents in coal mines and 3 119 persons were seriously injured *The death rate per 1 000 persons employed* was 0 86 *compared* with 0 95 for the first ten months of 1929

Replying to Mr White on November 27th Mr Greenwood said that the work of the *British Red Cross Society's clinic for* rheumatism was making satisfactory progress He was always prepared to consider any scheme put forward by local authorities or others for the treatment of rheumatism

Medical News.

PARTICULARS of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post-graduate Courses published in the *Supplement* at page 252. Copies of syllabuses and tickets of admission can be obtained from the Fellowship 1 Wimpole Street, W 1 The list of special courses arranged for 1931 is now available

AT a meeting of the Pharmaceutical Society of Great Britain to be held at the Society's House (17, Bloomsbury Square, W C) on Tuesday December 9th at 8 30 p m, a lecture on endocrine organs will be given by Professor D M S Watson F R S, of University College London

A DINNER meeting of the Hunterian Society will be held at Simpson's Restaurant 77 Poultry, Cheapside E C, on Monday December 15th at 7 30 p m At 8 30 a discussion on puerperal infection will be opened by Dr Remington Hobbs and Mr M Oldershaw

THE next award of the Hunterian Society's medal will be made in 1932 The object of the medal is to encourage individual efforts among general practitioners in advancing the science and art of medicine The competition is open to all general practitioners resident within Great Britain, Ireland, and the Channel Islands whether Fellows of the Society or not The medal will be awarded for the best essay on some subject, chosen by each candidate within the province of medicine, surgery and midwifery All essays must be received on or before December 31st, 1931. The rules governing the award may be obtained on application to the honorary secretaries Dr D C Norris, 14 City Road, E C 2 and Mr Andrew McAllister, 79, Wimpole Street W 1

THE next election to the research scholarships of the Grocers' Company for encouraging original research in sanitary science will take place in May next The scholarships are each of the value of £300 a year, tenable for one year but renewable, together with an allowance to meet the cost of apparatus and other expenses in connexion with the work Forms of application and further information may be obtained from the clerk of the Company, Grocers Hall E C 2

THE *Portsmouth Insurance Committee* has elected a medical practitioner Dr Montague Way as its chairman and a pharmacist as its vice-chairman In returning thanks for his election Dr Way recalled the fact that in 1923 he succeeded his cousin Dr F Way, as a member of the Insurance Committee, and before that he was chairman of the Panel Committee His election indicated the excellent feeling which existed in Portsmouth between medical practitioners chemists and approved societies Harmony had always characterized the work of that committee and there was a gratifying absence of complaints submitted to the Medical Service Subcommittee in spite of the fact that the insured persons numbered about 77 000

THE November issue of *King's College Hospital Gazette* celebrates the centenary of the college It contains an interesting historical survey by Dr H Willoughby Lyle and Dr G F Still and Mr H Tyrrell Gray have collaborated in the composition of *Carmen Scholae Medicinae* "both words and music being published in this issue In addition to the centenary features the usual articles and news paragraphs are included, the whole making up an attractive production

THE Cambridge University Press is publishing this week *Lord Balfour in his Relation to Science*, a short memoir written at the request of the council of the Royal Society by Lord Rayleigh The book is limited to an account of Lord Balfour's scientific and philosophical thought and his administrative work for scientific, industrial, and medical research

THE twenty-first of Messrs J and A. Churchill's series of books on recent advances in medical and scientific subjects is on *Entomology* by A D Imms D Sc, F R S chief entomologist at the Rothamsted Experimental Station, Harpenden

THE International Exhibition of Hygiene at Dresden which was closed on October 13th, will be reopened next year from May 15th to September 30th

ON the occasion of the fiftieth anniversary of the discovery of the haematozoon of malaria a memorial tablet to A Laveran was unveiled on November 6th, in the hall of honour of the Val de Grâce Military Hospital Paris The ceremony was presided over by Dr Roux, director of the Institut Pasteur, and was attended by Mme Laveran and representatives of the Institut de France Académie de Médecine and various learned societies

THE National Homecroft Association has decided to erect a memorial to the late Dr G Vivian Poore, formerly professor of medicine at University College London and a pioneer of rural hygiene and sanitation by the establishment of an example of Dr Poore's principles of sanitation in working order If funds can be obtained it is proposed to erect a memorial cottage school on the association's settlement near Cheltenham All interested are asked to communicate with Professor J W Scott, University College, Cardiff

A BILL has been introduced into the House of Commons authorizing county councils and local authorities in distressed areas in England and Wales as determined by the Minister of Health to take such steps as they consider necessary for the provision of footwear for children under school age Similar provision may be made by local education authorities for children attending public elementary schools within their areas where, in the opinion of the Board of Education acute distress prevails These authorities are further empowered to assess the capacity of parents to pay for or contribute to the cost of footwear furnished to their children and such payment may be summarily recovered as a civil debt The measure is referred to as the Children (Provision of Footwear) Act 1930, and will continue in force until December 31st 1931.

THE current issue of the *Norsk Magasin for Laegevidenskaben* is dedicated to Dr Theodor Frolich formerly professor of paediatrics at Oslo on the occasion of his sixtieth birthday, and is devoted entirely to diseases of children

DR FRIEDRICH STOTZ of Heilbronn, the inventor of synthetic adrenaline who recently celebrated his seventieth birthday has been nominated doctor *honoris causa* by the medical faculty of Marburg University

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House Tavistock Square, W C 1, on receipt of proofs

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

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The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus, Dublin* telephone 62550 Dublin), and of the Scottish Office 7, Drumsheugh Gardens, Edinburgh (telegrams *Associate, Edinburgh*, telephone 24361 Edinburgh)

QUERIES AND ANSWERS

Myxoedema

D R asks if acroparaesthesia is a frequent complication of myxoedema and if there is any objection to giving parathyroid in the morning and thyroid in the afternoon in such a case

Aphonia in Parkinson's Disease

"P M G" writes A patient of mine, a man suffering from Parkinson's disease, periodically loses his voice for about ten days at a time Can anything be done to prevent this happening or to relieve it?

Magnesium Hyposulphite in Asthma

As numerous inquiries have reached him regarding the dosage of magnesium hyposulphite when given intramuscularly, Dr M J FENTON has written to say that he recommends 5 c cm to be given at the outset, increased to 10 c cm if necessary

Natural Labour after Caesarean Section

MR GRAHAM W CHRISTIE, L R C S Ed (Ulverston, Lancs) writes With reference to the query published on November 22nd (p 891), I can give the following instance as a suitable answer On December 9th 1928 I performed Caesarean section for a primipara, aged 23 who was admitted to hospital suffering from ante partum eclampsia She was in profound coma, was extremely oedematous, had had several fits just before admission, and had almost complete suppression of urine, which was thickly loaded with albumin She made a complete recovery Nine months ago a healthy child was born *per vias naturales* before the arrival of the doctor She is now in excellent health

DR A Z C CRESSY (Wallington, Surrey) writes in reply to the inquiry of W M I performed Caesarean section for eclampsia on February 24th 1913 I have since attended the woman in two normal confinements I reported the case in the *British Medical Journal* on October 19th, 1918 (p 433)

Income Tax.

Assessment of Practice

"A H had until January 1st, 1930, a half share in a partnership, and assumed the whole practice as from that date The past assessments have been on a cash basis How should the liability for periods subsequent to January 1, 1930, be calculated?

*** If A H and the retiring partner join in electing to have the practice regarded as ceasing at December 31st, 1929, and commencing anew the assessments for 1928-29 and 1929 30 can be adjusted to the actual profits of the firm for those years, and A H will be assessable for the last quarter of 1929-30 and for the year 1930-31 according to the profits made in his first year as a sole practitioner If that election is not made, the amount of the assessment for 1930-31 will be computed according to the amount of the profits of the firm for the year 1929 We understand that the former alternative applies In that case it is important that the basis of computation shall correctly represent the earnings of the actual year, and the cash basis —which relies for its fairness on the fact that all earnings received in cash will eventually come into the figures, though not necessarily in the correct year—is not applicable The most common way of computing the "earnings" of any particular year is to take the amount of cash received in that year and add the value of the debts outstanding at the end, and deduct the value of the debts outstanding at the beginning of that year

Expense borne by Partner

"H," with a view to improving the organization of the practice in which he has a share has purchased a small property, which is being used as a branch surgery He receives 10s per week from his firm and 3s 6d per week from the caretaker, but pays rates and taxes Can he treat these payments as professional expenses?

*** "H" receives £35 2s per annum in rents and pays £ in rates, the difference—less expenditure on repairs—represents his net income from the property, and if that amount does not exceed the amount of the net assessment under Schedule A of the property, he is not called on to pay tax in excess of what is fairly due If, however, the Schedule A assessment does exceed that income, there is some inequity, but it appears to be one for which no remedy is provided The assessment under Schedule D is on the profits of the firm, and the surgery rent is a firm's expense, the amount of which is fixed by voluntary agreement and no additional sum is deductible in respect of the same item of expense

LETTERS, NOTES, ETC

The 'Medical Register

THE Registrar of the General Medical Council (44, Hallam Street, W 1) writes I desire to remind those who find it essential to know whether a practitioner is *legally* qualified or not that in order to facilitate their work, the Council publishes an Octavo Edition of the *Medical Register*, printed on inexpensive paper and bound in boards This edition contains precisely the same names and lists as the official edition It is issued from this office at a special charge of 10s, post free, but no copies can be issued unless they are ordered and paid for prior to December 31st I shall be happy to send an order form upon application The *Medical Register* is the official publication, issued under the Medical Acts, and contains the names of all legally qualified practitioners, there is no other publication which takes its place The Council also issues each month a list of additions to and deletions from the *Register* The charge for these will be furnished upon application

Bronchitis caused by Exhaust Fumes

"FUMES" (Hampshire), in the course of a letter on the above subject, writes The experience of one of my patients, who was troubled by bronchial asthma during periods in which he was driving about in a car, and was relieved of his symptoms when he adopted other methods of travelling, has suggested to me that exhaust fumes might produce irritative bronchitis, and perhaps be the unsuspected cause of this condition in a large number of persons In my own patient the condition began four years ago, the symptoms then being cough, slight expectoration, and some dyspnoea During the winter months the patient would sometimes be confined to bed several times on account of extreme breathlessness and slight pyrexia, when his temperature had fallen to normal he would again get about in his car, though walking more than a few yards would again bring on an attack of breathlessness In the summer of 1928 he went on a motor tour, during which the symptoms became so distressing that he had to take to his bed and remain there several weeks In the summer, however, after another motor tour which had been followed by a similar exacerbation of symptoms, the patient himself discovered that his malady was always worse after a journey by car He immediately disposed of his car, and having taken to travelling by train, tram, etc, has had no return of the trouble During the past three months he has been able to walk several miles daily without suffering dyspnoea I should like to know what the fumes that caused my patient's illness are exactly are, and if there are any means of avoiding the risks which they so long subjected him

Symbols of Sex

DR G GREGORY KAYNE (Salford) writes Dr R Sydney Allison in his interesting article A family tendency to fullness of stature, obesity, and diabetes,' published in the *British Medical Journal* of November 29th (p 904), indicates males and females in the genealogical table by the symbols ♂ and ♀ respectively I have always been under the impression that ♂ was the symbol to be used for the male

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals will be found at pages 68, 69 70, 71 72 73, 76, and 77 of our advertisement columns, and advertisements as to partnerships assistantships and locumtenencies at pages 74 75 and 76

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 201

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine.

497 Meningeal Form of Acute Poliomyelitis

R DUPÉRIÉ (*Gaz hebd des Sci Méd de Bordeaux* September 21st, 1930 p 595), who records five illustrative cases in patients aged from 9 to 19, states that meningeal symptoms in poliomyelitis may be classified in the following three groups (1) meningeal symptoms of the prodromal or pre-paralytic stage occurring in the ordinary case of polio myelitis in the form of headache somnolence, backache painful nuchal rigidity and Kernig's sign (2) an abortive form of poliomyelitis characterized by meningeal symptoms only without paralysis, and (3) a form in which the meningeal symptoms predominate at the onset or during the course of the disease Except in epidemic times the meningeal forms of poliomyelitis are commonest in older children adolescents or adults They are distinguished from tuberculous meningitis by their sudden onset the predominance of spinal symptoms such as nuchal rigidity, Kernig's sign and pain in the back and limbs, and absence of cerebral symptoms and vasomotor changes The cerebro-spinal fluid in these cases in the paralytic stage is clear it contains a normal quantity of chlorides and sugar Microscopical examination reveals a hyperleucocytosis in exceptional cases and principally during the first hours as an excess of polymorphonuclear cells, but more frequently up to the third day as a mixture of polymorphonuclears and lymphocytes in which the latter predominate, while after the fourth day there is an almost pure lymphocytosis The albumin in the spinal fluid is moderate or slightly increased and Pandy's reaction is positive There is no relation between the involvement of the meninges and the severity of the disease Although two of Dupérié's cases were fatal death was due to paralysis of the bulbar nuclei and not to the presence of meningitis

488 The Incubation Period of Epidemic Jaundice.

E SYLVEST (*Ugeskrift for Laeger* October 2nd, 1930, p 936) published in 1926 an account of an epidemic of sixteen cases of acute contagious hepatitis all of which could be traced to one and the same source of infection He could not however, determine the length of the incubation period in these cases, but thinks now that he has succeeded in the case of a boy, aged 8, who became ill on January 2nd 1930 On January 5th and the following days he suffered from repeated attacks of vomiting and jaundice was associated with a dark urine On January 8th, at 4 p m he was visited by a 15-year old girl who shook him by the hand, and who stayed in the house for about a quarter of an hour She did not visit him again nor come in contact with any other patient On the morning of January 26th she fell ill and suffered from attacks of shivering The temperature in the evening was 102 5° It remained raised during the following days the stools became grey the urine dark and the skin jaundiced The jaundice passed off after about ten days the urine remaining dark for some more days The point which the author wishes to emphasize is that epidemic jaundice is so highly infectious that it can be transmitted merely by the shake of the hand of a patient who has been ill for six days When such cases are admitted to hospital they should be referred to fever and not to general wards

469 Auricular Preponderance in Mitral Stenosis

I CHVARTZMAN (*Arch des Mal du Cœur* September, 1930, p 603) refers to the earlier work of Lewis and others on the electrocardiographic changes in mitral stenosis He has investigated 52 patients 44 of whom suffered from mitral stenosis either alone or combined with aortic lesions the remaining 8 patients had either enlargement of the left auricle apart from mitral disease, or congenital heart disease with right heart strain The modifications observed in the electrocardiograms were alterations in the P waves and variations of ventricular preponderance An absolutely normal P wave was found in only two patients with pure mitral stenosis and in these the lesions were minimal An increased amplitude of the P wave occurred mostly in mitral lesions when found in other conditions it was always accompanied by radiographic evidence of auricular enlargement Notched or bifid P waves were commonly also widened and occurred most markedly in Lead II It was found that alterations of form accompanied by increase in amplitude only appeared when the myocardium was severely involved Successive tracings in the same patient further showed that progressive enlargement of the P wave corresponded to improvement in the clinical condition while flattening indicated incipient or increasing myocardial insufficiency In many patients there was no preponderance of either ventricle, but if any disparity was demonstrated right ventricular preponderance was the rule In only two patients was there preponderance of the left ventricle, and in these aortic incompetence and hypertensive disease respectively were present in addition to mitral stenosis In general the appearance of right sided preponderance corresponded to a greater or less degree of myocardial insufficiency The changes in the P wave with or without evidence of right or left ventricular strain, may appear in patients sustaining auricular damage whatever its cause In these cases the significance of the tracings can only be assessed in the light of exact clinical data

500 Enlargement of the Thymus in Mumps

E ESQUIVEL (*Journ Philippine Isl Med Assoc*, August 1930, p 316) records seven cases of mumps complicated by enlargement of the thymus No x-ray examination was made but the diagnosis of thymus enlargement was based on the increased dullness on both sides of the manubrium sterni and the marked bulging on the suprasternal notch The swellings were so prominent as to attract immediate attention they were painless and not tender the skin over them was normal and there was no pitting The thymus swelling appeared with or after the swelling of the parotids lasted from three to five days, and then subsided Enlargement of the thymus does not appear to have hitherto been described as a complication of mumps

501 Diphtheria as Cause of Late Heart-block.

S BUTLER and S A LEVINE (*Amer Heart Journ* June 1930 p 592) who record three illustrative cases in patients aged 22 32, and 52 respectively, state that in a group of twenty patients with proved heart block without the usual causes such as coronary artery disease, digitalis, fever and rheumatic infection, 50 per cent gave a history of diphtheria in childhood, as compared with a history of only 6 per cent in 600 consecutive contact surgical cases The average age of the patients with a history of diphtheria was 11 years younger and their systolic blood pressure 40 mm lower, than was the case with those without such a history The authors conclude that diphtheria is an etiological factor in the development of heart block in later years They suggest that this infection, after a variable latent interval, either brings about in some way the impairment of the conduction apparatus as the sole cause of the heart block or predisposes the heart to the insidious process of sclerosis, which in the absence of diphtheria would have occurred at a later stage

Surgery.

502. Diaphragmatic Hernia.

WITH radiology diaphragmatic hernia is being increasingly recognized the symptoms offer a fairly definite syndrome S W HARRINGTON (*Surg Gynecol and Obstet* October 1930, p 504) presents complete reports of eight cases and a brief summary of thirty cases on which he has operated during the last four years The ages of the patients of whom 13 were females and 17 males, ranged between 7 months and 70 years The symptoms are often complex because of the various structures involved and depend on such factors as the amount of interference with the functions of the herniated abdominal viscera Gastric haemorrhage is not common and is usually associated with severe gastric incarceration It is caused by erosion of the mucosa at the angulation and fixation to the hernial opening or to a thoracic structure In chronic cases this erosion may progress to definite ulceration The duration of symptoms in this series was from five weeks to twenty four years, with an average of seven years The cases were divisible into two groups those in which the stomach alone was involved and those in which several abdominal viscera were complicated The first group comprised 20 cases of which 18 were of the oesophageal and 2 of the traumatic type The second group consisted of 10 cases 8 being of traumatic origin with the opening in the left diaphragmatic leaf Oesophageal hernias are usually congenital and the symptoms may begin at birth or at any time during life they are those of intermittent or progressive gastric incarceration Strangulation of the stomach due to the hernia has never been noted possibly because of the powerful musculature and rich blood supply in the gastric

wall Chronic cases often show severe secondary anaemia and rather marked loss of weight In most traumatic cases the colon is involved, this is indicated by obstinate constipation with gaseous distension of the colon, or by periodic attacks of partial or complete obstruction In mild cases of oesophageal hernia treatment may be conservative In severe cases, where the risk of serious complications is great, surgical intervention should be instituted unless contra indicated by the patient's condition This consists in replacing the herniated viscera and repairing the abnormal diaphragm atic opening Preliminary paralysis of the diaphragm by phrenicotomy is often of value, this may also be used as a palliative measure in those cases in which radical operation is contraindicated Harrington employs intratracheal ethylene gas anaesthesia, with preliminary intravenous and oral administration of sodium amytal Post-operative care is most important in cases with marked pulmonary collapse In this series 19 patients recovered from the operation and have had no recurrences There were four post-operative deaths

503 Treatment of Intrapulmonary Abscesses and Bronchial Fistulae

E Holman (*Western Journ of Surgery*, September, 1930, p 489) describes the fundamental principles underlying the treatment of intrapulmonary abscesses and persistent bronchial fistulae, and illustrates his remarks with several clear diagrams Like abscesses elsewhere, the healing of intrapulmonary abscesses depends largely on the resistance of the patient, the virulence of the infection, and on the simplicity or otherwise of the bacterial flora Abscesses caused by a single type of organism probably heal more readily than those containing several types Perhaps almost more important, however, are the mechanical principles which include efficient drainage, gradual shrinkage of the abscess cavity, and collapse of the walls, together with the re expansion of the surrounding lung tissue Whenever possible the abscess should be drained by postural treatment in bed, and treatment should be begun as early as possible to avoid thickening of the walls of the abscess Where the chest wall has to be opened for drainage, the sizes of the external and internal orifices are of importance The natural cure is by coughing away the pus, but this method loses its efficacy when there exists a widely patent fistula The author discusses the various methods which have been adopted in the attempt to close persistent bronchial fistulae, and advocates extensive mobilization of the chest wall by resection of the ribs over the underlying cavity, together with the removal of neighbouring ribs Relaxation of the fibrous tissue lining the cavity is absolutely necessary to ensure cicatricial closure of the open bronchus

504 Cavernous Haemangioma and Trauma

J G Downing and G K Mallory (*Arch Derm and Syph*, September, 1930, p 414) report a case of haemangio endothelioblastoma occurring after trauma in a patient previously free from skin lesions, the condition developed exactly in the injured areas A man, aged 35, was rendered unconscious by a shell explosion, to find, upon recovery, his neck, face, and shoulders bandaged, upon removal of the dressings the left side of his face, neck, and shoulder was covered with crusts and serous fluid The abrasions healed rapidly, but the shoulder always showed signs of injury, and the neck and shoulder felt stiff and occasionally painful on movement About three months after the injury a deep swelling developed on the left side of the neck, and subcutaneous purplish areas and nodular swellings appeared at the site of the trauma On microscopical examination true tumour growth with reduplication of the endothelial lining of the blood vessels was seen Mitoses were present, and the tumour extended in papillary projections in veins, this growth and invasion being characteristic of a true tumour, its microscopic appearance placed it in the group of cavernous haemangio endothelioblastomas Cases quoted from the literature are also discussed, and a provisional classification of such tumours is given

505 Desmoid Tumours

J B Mason (*Ann of Surg*, September, 1930, p 444) reviews fifty cases of desmoid tumours treated at the Mayo Clinic from 1910 to 1929 These tumours are described as benign fibromata arising from musculo aponeurotic structures They may occur in any part of the body, but are most common in the abdominal muscles The tumour is discrete, firm, rounded, and of variable size, it may be situated subcutaneously or on the posterior surface of a muscle Desmoid tumours are liable to increase in size rapidly, due to interference with the blood supply and consequent oedema and mucoid degeneration, the larger tumours often give evidence central softening Symptoms are usually slight until the tumour is large, when pain and a dragging sensation from the weight of the tumour are felt Treatment, which must be surgical, depends for its success on the complete removal of the tumour, if strands of interfibrillar desmoid tissue are left the tumour is liable to recur in the primary site, no distant metastasis having ever been noted Radium and x ray treatment should be used as adjuncts to operation in the case of the larger tumours, and of those which have recurred In thirty five cases surgical operation was the principal method of treatment, there was recurrence in four of these

Therapeutics.

506 Bacteriophage Therapy in B Coli Urinary Infections

Despite the scepticism of certain authorities as to the value of the bacteriophage in the treatment of colibacillary infections of the urinary tract, L Michon (*Paris méd*, October 18th, 1930, p 356) maintains that this form of therapy gives quick results which are better than those obtained by other procedures, he believes that by perfecting the technique still greater effects will be attained Owing to the extreme difficulties in preparing autogenous strains of the bacteriophages stock preparations are employed Many cases of colibacillary cystitis and pyelonephritis have been thus treated, with great benefit, five of these are here recorded Though the results in cystitis are less favourable, they are nevertheless better than those following the exhibition of silver salts The failures may be partly due to the urine not having been previously rendered alkaline, a point which Sauvé has emphasized The bacteriophage should be given in the form of instillations into the bladder or renal pelvis In the first of these the bladder is emptied and then 10 c cm of the bacteriophage is instilled, this should be retained as long as possible The dose is repeated every other day until six to twelve instillations have been given In the case of instillations into the kidney the dose varies with the capacity of the renal pelvis, each should be preceded by a lavage with the same bacteriophage In some cases a single instillation will suffice, in others three or four are necessary Subcutaneous injections have never given good results, Sauvé suggests that this is due to the formation of antiphages which neutralize the bacteriophage before it reaches the lesion through the circulation Oral administration has also proved ineffective During this treatment no other medicaments, such as silver salts or urinary antiseptics, should be given Since colibacillary infections are almost always associated with digestive troubles, a strict watch should be kept on these, and a suitable regime be instituted In cases complicated by appendicitis or cholecystitis operation is indicated, the bacteriophage being used merely as an adjuvant Cure by the administration of bacteriophage is not to be expected when the infection is secondary to vesical stasis (prostatic enlargement, etc), to pelvic stasis (ureteral torsion), to a calculus, or to a tumour, with the removal of such causes the infection frequently disappears spontaneously When operative measures are necessary the administration of bacteriophage serves as a palliative or expectant measure which permits surgical intervention under the most favourable conditions

507 Milk Injections for Tic Douloureux

C R Ball (*Minnesota Med*, August, 1930, p 556) has observed in a large number of cases of tic douloureux that alcohol injections and the surgical removal of nerves are not seldom followed by distressing paraesthesias, described by the patient as being sometimes worse than the original pain The tic is most commonly found in neurotic patients, and this factor must be taken into account when assessing the severity of these paraesthetic sequels It is important to remember in dealing with tic subjects that "trigger areas" of sensibility often exist, not necessarily in the area of distribution of the nerve trunk which produces the pain When injecting with alcohol the physician must endeavour to abolish sensation in the "trigger area," since these spots may shift from day to day, this is often a very difficult matter, and cases have been known where each division of the trigeminal nerve has been injected in turn in pursuit of the elusive area Ball thinks that focal infection is a doubtful factor in the etiology, for every one septic tooth removed with relief of symptoms, thousands of good ones have been sacrificed without benefit He has gradually come to the conclusion that nervous instability is the leading factor in this complaint, in common with migraine, asthma, and epilepsy, and that all these are allergic manifestations He has employed pyretotherapy, 5 c cm of sterilized milk being deeply injected into the gluteal region on four successive days, the dose is increased daily by 5 c cm or less according to the reaction

Definite fever production is aimed at and temperatures should reach 102 and sometimes 104 or 105 during and after the treatment Capsules of 0 5 to 0 75 grain of phenobarbital with 10 grains of calcium lactate are given after each meal Up to the present ten cases have been treated, all of which were of long duration and had failed to respond satisfactorily to alcohol injection In one case a single milk injection was followed by a severe febrile reaction there was great improvement The patient required no further alcohol injections, though pressure on "trigger areas continued to evoke pain, and the capsules were taken regularly The remaining nine patients remained free from pain after a varying number of milk injections in every case there were numerous trigger areas difficult to locate Ball concludes with a warning that this method of treatment is still on trial and must not be expected at present to supplant the alcohol injection of nerves

508. Serum Treatment of Typhoid Fever

J MARTIN (*Thèses de Montpellier* 1929-30 No 3), who reviews the literature and records two personal cases maintains that Rodet s serum, which is obtained by injecting horses with living cultures of the typhoid bacillus constitutes a specific treatment for the disease Its action, however, is not absolutely constant since it is essential that the treatment should be started before the temperature has reached the level of 104 and the typhoid state has set in This condition considerably restricts the application of the method, but if it is observed the best results can be obtained In many cases the serum may cut short the disease, almost always it attenuates the symptoms, reducing the number of complications and the incidence of relapses Serum sickness is a constant occurrence but is usually not sufficiently severe to contraindicate the use of the method

Disease in Childhood

509 Undulant Fever in Childhood.

ACCORDING to W TOBLER (*Jahrb f Kinderheilk* , September, 1930, p 72), previous records of undulant fever due to *Br abortus* have almost all been in persons between the ages of 15 and 50 Kling and Madsen found that by far the most frequent age period affected was 20–40 Kristensen (1928) whose youngest patient was aged 13 as the result of inquiries sent to children s hospitals was unable to discover a single case of infection in childhood Habs (1928) also states that nothing is known as to the disease attacking young children Since then, however Kling has reported a case in a child aged 8 The immunity of children from undulant fever is all the more remarkable since they are the chief consumers of milk. It is true that the milk supplied to children is usually boiled, but in many places it is given them raw Larsen and Sedgwick (1913) examined the blood of 425 children by the complement fixation test and found a positive reaction in 17 Many of these cases also gave a positive agglutination reaction but none of these children showed any signs of undulant fever Tobler now records a case of undulant fever in a girl aged 8, who was probably infected by the consumption of raw milk and cream Her resistance to infection had been diminished by chronic ear disease, which had required repeated operations The clinical picture was typical, and the agglutination test was positive for *Br abortus* (1 in 2,000) and *Br melitensis* (1 in 200) Recovery ensued after about three months illness

510 Sepsis with Leucopenia (Agranulocytosis) in Children

J A BICLER and J BRENNEMANN (*Amer Journ Dis Child* , September, 1930 p 515) report nine cases (four boys and five girls, whose ages ranged from 2 to 11) presenting strikingly the same syndrome—namely, gradual onset of sepsis fairly short course with fatal termination, fever, severe anaemia petechial haemorrhages with a low platelet count and leucopenia with a decrease in granulocytic cells Blood cultures were positive for staphylococci in three cases but negative in the others A history of frequent sore throats was usually obtained, the tonsils being enlarged in eight cases Loss of appetite, weakness, pallor, and pain in the joints were the usual initial symptoms, with a gradual increase in severity and periodic exacerbations Cardiac murmurs were present in eight cases In the later stages the temperature was always high and septic Petechial haemorrhages occurred late In the three necropsies performed the cardiac valves were found to be normal The duration of the illness varied from two to four months, being longest in the older children The anaemia was always severe, the red cells being as low as 870 000 per c mm in one case the haemoglobin percentage was invariably below 30 Moderate anisocytosis and poikilocytosis with some achromasia were the rule No nucleated red cells or megaloblasts were found Platelet counts made only in six cases were markedly reduced even as low as 4 000 The bleeding time was considerably increased The most striking feature was the leucopenia which was persistent and progressive there was a marked relative increase of the small lymphocytes The polymorphonuclear neutrophil count always fell below 12 per cent , in four cases as low as 1 per cent No other granular cells were seen The small lymphocytes numbered over 85 per cent of the total cell count No lymphoblasts were seen The differential diagnosis of aplastic anaemia aleukaemic leukaemia essential thrombopenia, malignant endocarditis pernicious anaemia, myelophthisic anaemia, and agranulocytic angina is discussed No form of treatment seemed to be of any value

511 Hysterical Amblyopia in Children.

J M ROBINSON (*Minnesota Med* September 1930 p 618) reports two cases of hysterical amblyopia in children A boy, aged 10 suddenly became blind in one eye after a sister returned from a school for the blind A fortnight later vision in the right eye was normal, while he could only count fingers with the left eye at two feet A girl, aged 12 was involved in a motor accident in which her father was killed A month later she complained of poor sight Neither patient had any objective symptoms functional tests indicated psychic disturbance, and both patients recovered completely Many authorities have referred to the considerable number of children aged from 7 to 14 who complain of dim sight A Russian writer states that 4 per cent of Russian children exhibit this amblyopia at one time or another Robinson thinks that it is as common among American school children In a consecutive series of 250 refractions 'psychic amblyopia" was the chief factor in ten cases In all refraction errors were inconspicuous and correction of these failed to produce normal vision Nine of the ten patients were girls, and two had monocular diplopia—a definite proof of hysteria The author believes that ocular manifestations predominate in children Hysterical diplopia produces curious phenomena but it can be differentiated from diplopias of true paralysis Contraction of the visual fields should arouse suspicion when organic disease and poisons such as alcohol, tobacco and quinine can be eliminated Robinson discusses the pathology of hysteria—a clinical entity which is neither imagination run riot nor malingering It is not due merely to suggestion though hysterical patients are most suggestible It is probably a defence-reaction since children are most frequently affected during school time Adults react thus to an intolerable situation Minor hysterical manifestations are especially frequent in pre adolescence If one of these children sees double in one eye alone or the visual field is concentrically or otherwise contracted, the case is almost certainly one of hysteria

Obstetrics and Gynaecology.

512. Metastasis in Cervical Cancer

FORMERLY metastases in cervical cancer were considered rare, and few cases were reported before radium therapy became general Some authorities believe that radium induces cellular embolism others attribute the increased number of metastases to the prolongation of life following radium treatment G JEANNENEY, Ch WANGERMEZ and ROSSET BRESSAND (*Gynécol et Obstét* August 1930 p 97) have collected many reports from the Bordeaux cancer centre and classify them in three categories metastases in the regional lymph nodes retrograde metastases in the vagina and vulva distant metastases due to transmission by lymphatics or veins Earlier writers held that in cervical cancer adenopathy was delayed, and only followed parametrial infiltration, Wertheim believed that adenopathy preceded such infiltration in one-third of the cases the hypogastric and sacral lymph nodes being first attacked with secondary extension to the iliac and lumbo-aortic nodes The present authors agree that these metastases are more common since the introduction of radium treatment but point out that surgery is employed in early localized cases when the chances of metastasis are very small while radium therapy is reserved usually for advanced cases, often exhibiting lymphatic infiltration Retrograde metastases have been recorded by many observers and distant metastases are always due to cancer emboli conveyed by lymphatics or veins Three French authors have recorded cases of cervical cancer inducing unilateral or bilateral metastasis in the supraclavicular lymph nodes while many examples of ovarian or vertebral metastases have been recorded The authors agree that metastasis in cervical carcinoma is rare and does not exceed 2 per cent , frequency appears to vary with the histological type, venous distal metastasis occurring

more frequently in the endodermal (adeno carcinoma) than in the ectodermal (baso- and spino-cellular) type To elucidate the question whether radium therapy increases the percentage of metastases, the present authors refer to seventy eight necropsies in which visceral metastases were found in sixteen cases Ten of these patients had not received radium therapy, while six had been so treated Other statistics show but slight disparity in the percentages of metastasis in treated and untreated cases Since the numbers of cases treated with radium exceed greatly the numbers submitted to operation, it is clear that if radium therapy induced metastasis there should be a much higher figure of metastases in the former category, especially as it includes very many inoperable cases Again, in certain cases the local cure permits latent distal metastases to develop It is possible that, rarely, massive doses or faulty application may induce embolism The authors therefore advise gentle manipulation, avoiding causes of local trauma, such as curetting and dilatation under anaesthetics, they condemn massive doses, and always treat the adjacent lymphatic area after radium therapy, even when it appears healthy

513 Anaerobic Streptococci in Puerperal Infection.

THE fact that bacteriological examinations of cases of puerperal infection are frequently negative has directed attention to anaerobes T K BROWN (*Amer Journ Obstet and Gynecol*, September, 1930, p 300) gives a report embodying the results of five years' investigation on these lines Blood and uterine cultures were incubated under aerobic and anaerobic conditions Results showed that anaerobic streptococci played a major part in puerperal infection Brown concludes that puerperal infections due to ordinary pathogenic organisms are, in most instances, introduced infections, whereas those due to anaerobic streptococci are usually endogenous The organisms probably do not live in the blood stream, but must be obtained in culture at a time when dissemination from some focus is taking place The organisms found are non haemolytic streptococci growing under anaerobic conditions, and producing gas with a characteristic foul odour They are also proteolytic, as shown by the digestion of meat media The odour of the cultures is similar to the odour noted at the bedside The pathogenicity of the organisms is apparently proportional to the proteolytic property of the organism In the twenty one fatal cases in the series twelve gave uterine cultures of anaerobic streptococci The practical method of attack against these anaerobes is to apply vaginal antiseptics Brown has used the following mixture for instillation in the vagina during labour 15 grams mercurochrome crystals, 5 c cm of tincture of iodine diluted to half strength in 500 c cm of glycerin For the past two years the mixture has been employed by Brown in all his ward cases, 7 c cm are instilled into the vagina, and the procedure is repeated about every twelve hours if labour is prolonged In waiting cases in which the membranes have ruptured before the onset of labour the same amount is injected daily Brown concludes, and quotes tables to show, that both the morbidity and mortality have been appreciably reduced by the use of this antiseptic preparation.

514 Clinical Features of Rupture of the Uterus

V LAZARENIC (*Zentralbl f Gynak*, September 27th, 1930, p 2466) remarks that in certain cases of spontaneous rupture of the uterus *sub partu* wide deviations are shown from the typical signs and symptoms He described one such case and stresses the importance of the sign which led to speedy correct diagnosis The patient was a 3 para, aged 25, who had had two living children The membranes having ruptured early in her third labour, she was given at home two intravenous injections of pituitary extract, the few weak pains which followed ceased in fifteen minutes, and she was sent to hospital During the three hours' journey a severe attack of pain was experienced, but on admission she was free from pain, shock, or signs suggesting haemorrhage The uterus was oblique, the cervix taken up, and the presentation occipito posterior No uterine contractions were noted during the ensuing eleven hours, and none was induced by two further intravenous injections of pituitary extract Laparotomy showed the placenta and half the foetus to have passed into the peritoneal cavity through a tear 12 cm long, the head and breech remaining in the utero cervical canal Bleeding, external or internal, was absent until abdominal extraction had been performed The patient recovered Indication to operation and the diagnosis of uterine rupture in this case were given solely by Hoehne's sign—the absence of uterine contractions following the intravenous injection of pituitary extract Such a sign is not present in every case of rupture of the uterus, and it is not known why this condition is associated with a varying response to injections of pituitary extract, the maintenance of placental attachment is possibly the deciding factor

Pathology.

515 Dietary Deficiencies of Milk.

J E BECKER and E V MCCOLLUM (*Amer Journ H*, September, 1930, p 503) have for several years been studying the nature of the dietary deficiencies of milk. Numerous workers have observed that when young growing rats are restricted to a diet of milk alone, development is soon arrested and anaemia develops It was found by Hart and Steenbock that the addition of copper and iron to such a diet results in prompt relief of the anaemia The authors chose as their basal diet a mixture of 60 per cent whole milk powder and 40 per cent dextrinized starch In most of their experiments they replaced part of the dextrin by a natural food, in order to find out which of the natural products employed possessed the greatest value in supplementing the deficiencies of milk The criteria studied were growth curves, reproductive behaviour, and the general progress of the animals The results indicated that on the basal diet progress was not normal, the growth curves showed a tendency to flatten out after about three months, and normal reproduction was seldom observed Of 38 diets in which milk powder was used at a 60 to 85 per cent level in combination with other substances only 24 sufficed for production of young, and only 4 for the production of fifth generation animals The supplementary substances in these cases were cooked dried beef liver (4 to 5 per cent), yeast (5 per cent), and a combination of ferric citrate and copper sulphate Recent investigations have shown that liver is rich in copper and iron Since the rats thrived so well on milk supplemented by ferric citrate and copper sulphate, six generations having exhibited normal growth and normal fertility, the authors conclude that it is the richness of liver in these two elements which makes it an effective supplement to milk

516 The Intradermal Test in the Diagnosis of Undulant Fever

C DUBOIS and N SOLLIER (*C R Soc de Biologie*, October 24th, 1930, p 191) have used the intradermal melitine test not only on patients with undulant fever, but also on healthy persons and patients suffering from other diseases Burnet's technique was followed exactly Of 10 patients with pulmonary tuberculosis, none reacted Of 10 patients suffering from various diseases, 2 gave slight reactions Of 12 patients with undulant fever, 11 reacted positively, (the remaining case was frankly negative, even though the patient was diagnosed clinically as suffering from undulant fever and his serum had an agglutinin titre of 1/500 Similar results obtained by other workers lead the authors to conclude that the intradermal test is not infallible in the diagnosis of undulant fever, and that it should not be employed to the exclusion of blood culture and agglutination, which they regard as the methods of choice The intradermal test was practised on 63 apparently healthy persons, who were, however, probably exposed to infection from time to time They comprised veterinary surgeons, shepherds, small proprietors, and agricultural workers who looked after goats and sheep infected with *Br melitensis*, of these, no fewer than 11 gave a positive reaction None of these positive reactors had to his knowledge ever suffered from undulant fever, nor were they in the incubation period of the disease, for when they were examined one to two months later all of them were in excellent health The existence of a positive skin test in the absence of clinical disease probably indicates, in the authors' opinion, the presence of a latent infection, and may therefore be expected in healthy carriers.

517 Latent Infections of Man with Brucella abortus

F A LENTZE (*Zentralbl f Bakt*, October 20th, 1930, p 36) examined the employees on a number of farms round Breslau for agglutinins to *Br abortus* Of 49 milkers, 11 agglutinated this organism to a titre of 1/120 to 1/240 or higher, of 5 persons who were occasionally employed in the cowsheds, 2 gave a similar titre, of 10 persons who drank considerable quantities of raw milk, which was proved by animal inoculation to contain living *abortus* organisms, none contained agglutinins Careful questioning revealed the fact that only one of the positive reactors had suffered from clinical illness which could be attributed to *abortus* infection On any given farm it was noticed that, if more than one person reacted, the titres recorded were generally higher than on farms in which only one reactor was found This may be taken to mean that the greater the amount of infection the larger will be the number of infected persons, and the higher their titres are likely to rise This investigation, though carried out on only a small scale, indicates that the danger of infection from milk is very much less than from contact with aborting animals, and that a considerable proportion of those who are exposed to infection do not develop clinical disease

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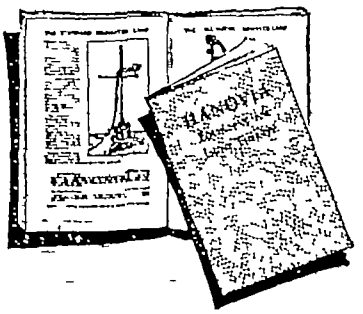
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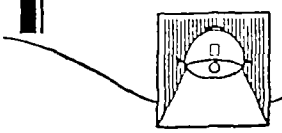
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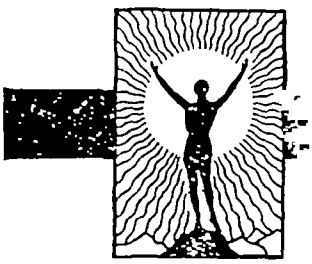
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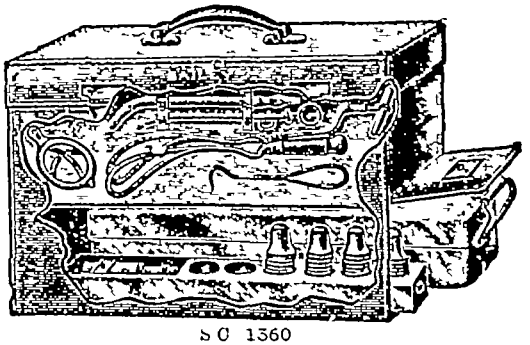
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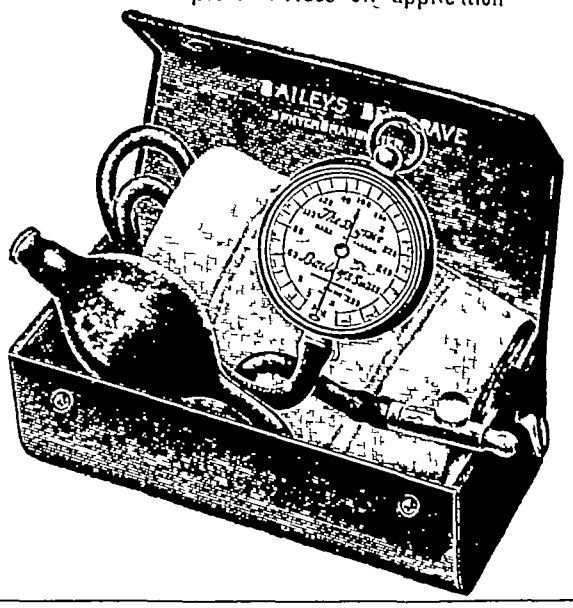
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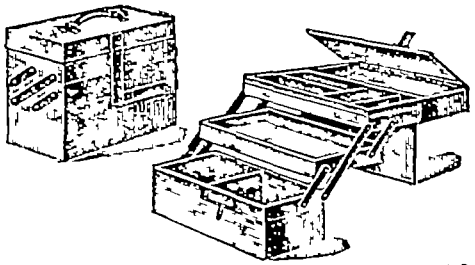
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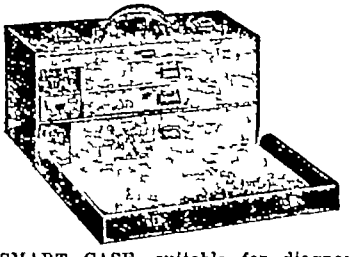
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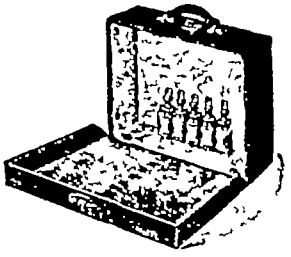
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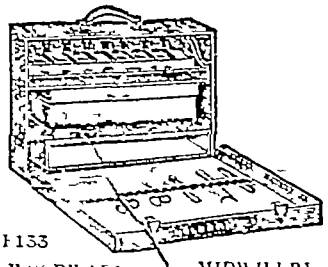


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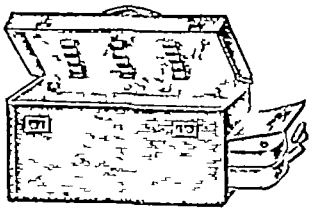
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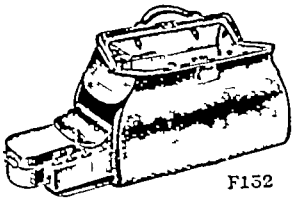


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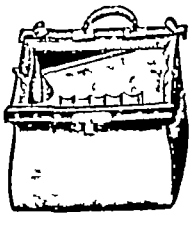


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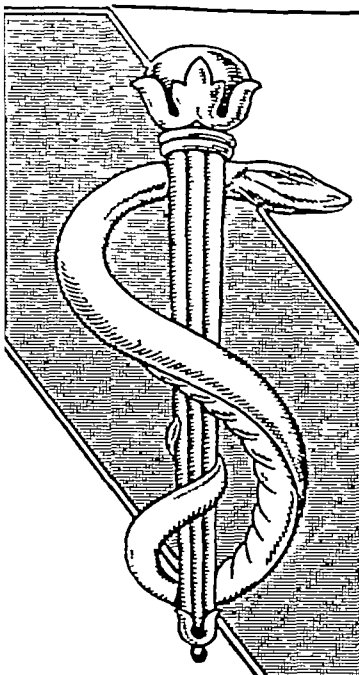
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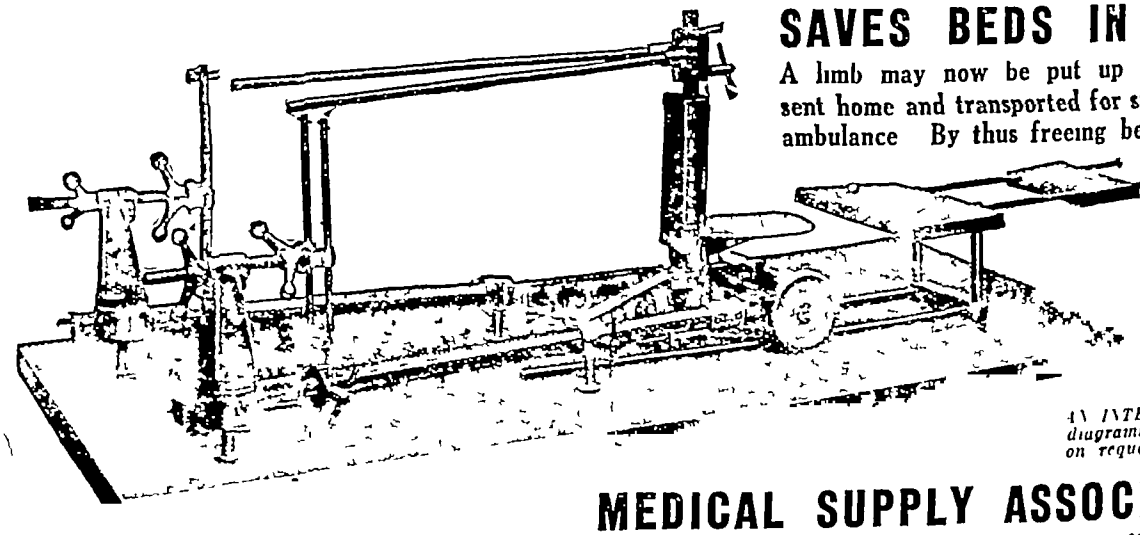
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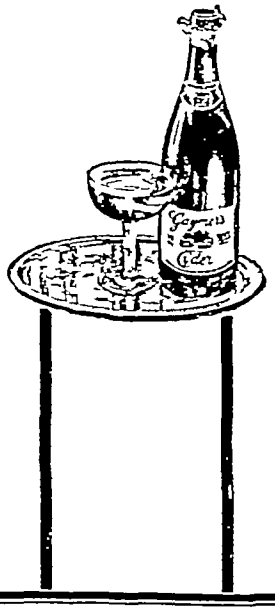
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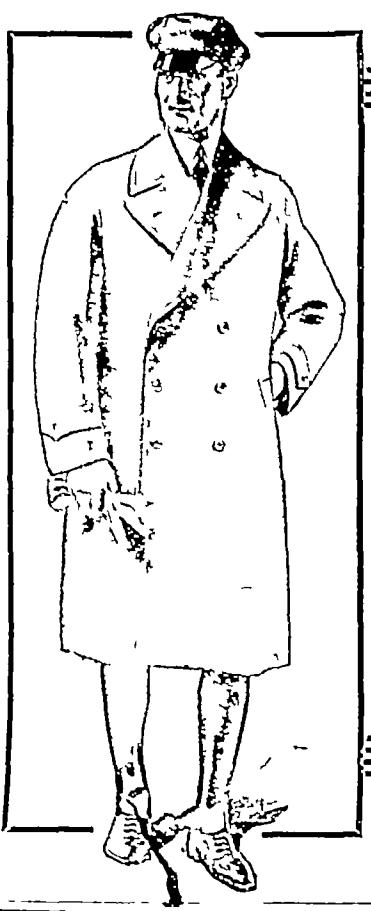


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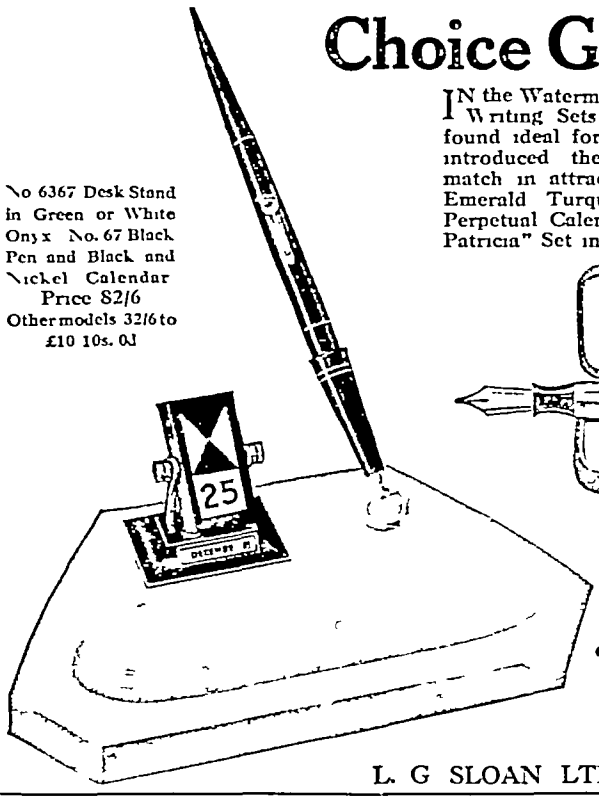
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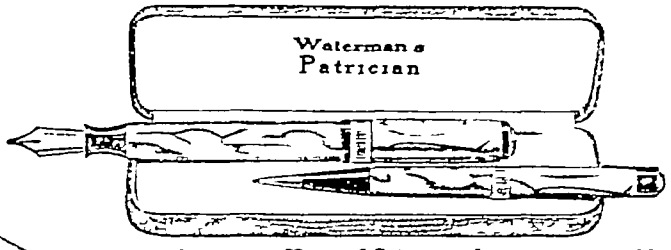
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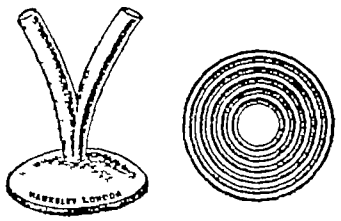
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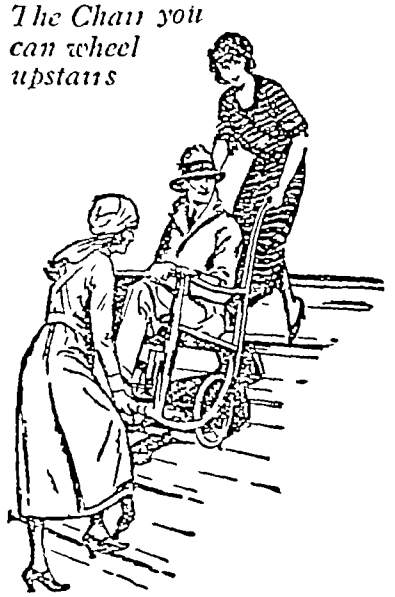
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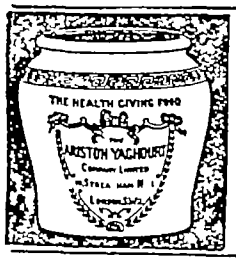


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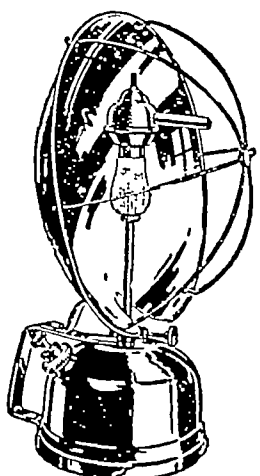
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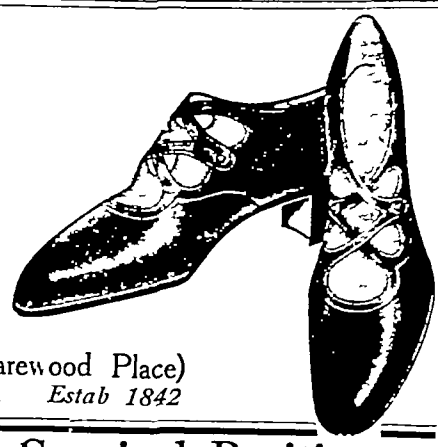
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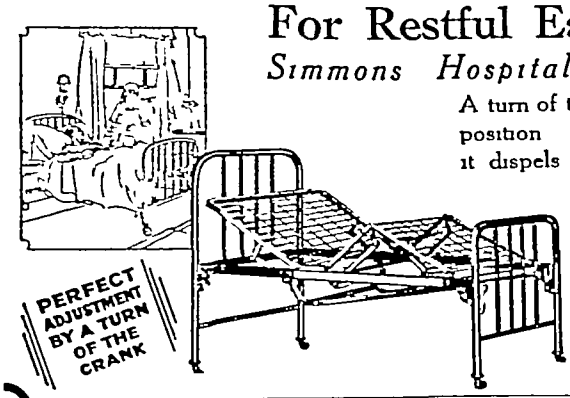
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Fees 2 and 3 guineas weekly.

Particulars from the MEDICAL SUPT.

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FOR THE UPPER AND MIDDLE CLASSES ONLY

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Medical Superintendent DANIEL F. RAMBAUT M.A., M.D.

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Two miles from the Main Hospital there are several branch establishments and villas situated in a park and farm of 650 acres. Milk, meat fruit and vegetables are supplied to the Hospital from the farm gardens and orchards of Moulton Park. Occupation therapy is a feature of this branch and patients are given every facility for occupying themselves in farming gardening and fruit growing.

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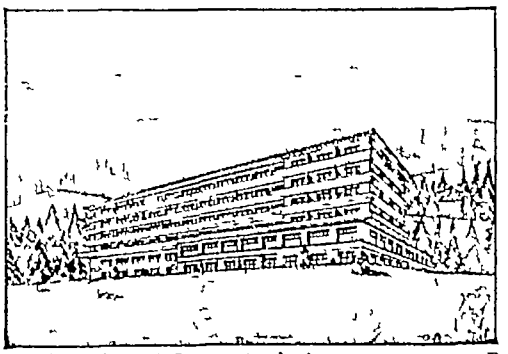
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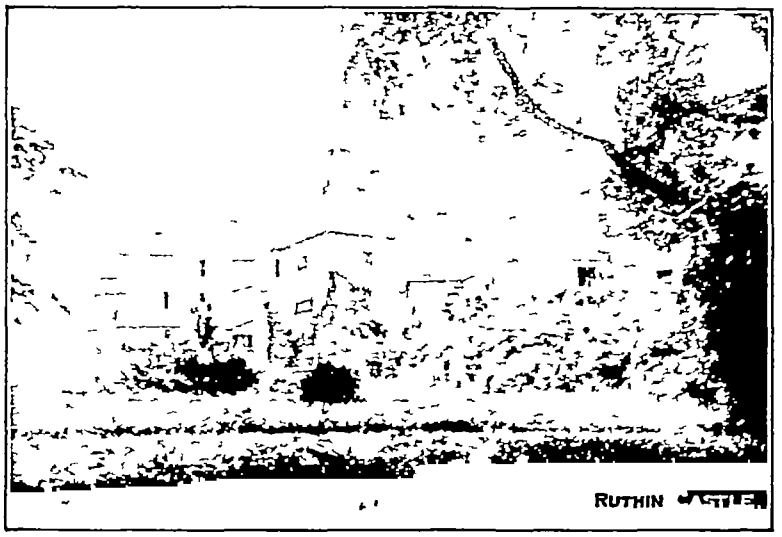
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Reg Tel. Address Bethlem Beckenham *Telephone* Springpark 1180—1181.
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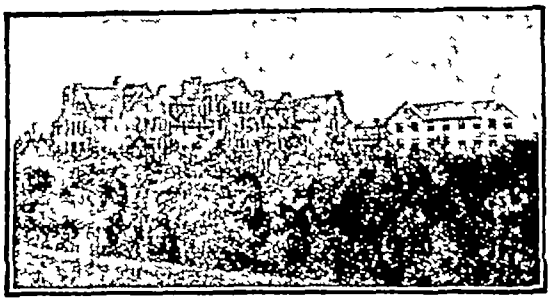
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The buildings face S S W and are sheltered from the sea by a pine-clad ridge The sunshine record and dry air complete a perfect site The medical equipment is of the latest kind, and there is a day and night nursing staff

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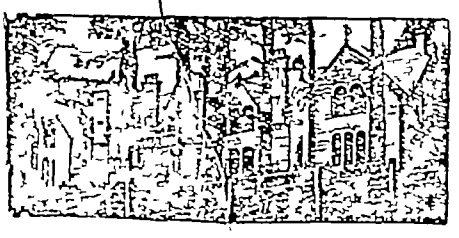
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M.S. (Lond.),	1901-29 (including 4 Gold Medallists)	21
M.B., B.S. (Lond.),	*Final* 1906-29 (Completed Exam.)	257
F.R.C.S. (Eng.),	*Primary* 1906-29	154
	Final	149
M.R.C.P. (Lond.),	1914-29	168
D.P.H.	(Various) 1906-29 (Completed Exam.)	286
F.R.C.S. (Edin.),	1918-29	43
M.R.C.S., L.R.C.P.	*Final* 1910-29 (Completed Exam.)	433
M.D. (Dur.)	(Practitioners) 1906-29	37
M.D.	Various By Thesis	Numerous successes

Preparation for Medical Preliminary and in Chemistry, Physics, Anatomy, Physiology and final subjects for the Conjoint Board, M.B. (Cantab., etc.), also D.P.M., D.O.M.S., D.T.M. & H., D.L.O., D.G.O., D.M.R.E., M.M.S.A., L.M.S.S.A., etc. Numerous successes.

ORAL CLASSES

M.R.C.P., M.D., Final F.R.C.S., F.R.C.S. (Edin.), Final M.B., B.S., and M.R.C.S., L.R.C.P. Museum and Microscope Work. Also Private Tuition.

MEDICAL PROSPECTUS (48pp.)

CONTENTS.—The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations.* Postal Courses and Oral Classes. Suggestions for the higher Medical Examinations. *Suggestions for the higher Surgical Examinations.* Suggestions for the Special Diploma Examinations. Refresher Course Openings for Women. Hints for writing theses. Medical Prospectus gratis, along with list of Tutors, etc., on application to the Principal, Mr. F. S. WEYMOUTH, M.A., 17, Red Lion Sq., London, W.C.1. (Telephone: HOLBORN 6315.)

F.R.C.S. (Edin.)

CLASSES with Museum and Anatomical Demonstrations for next Exam. will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Medical and Dental Students

Special Classes for Pre-Medical and Dental Exams., Matric. and Prelims.
Chemistry, Physics, and Biology Labs.
MANCHESTER TUTORIAL COLLEGE
327, Oxford Road, Manchester.

F.R.C.S. (Edin.)

CLASSES or POSTAL TUITION.—Full Preparatory Classes with DEMONSTRATIONS will commence shortly. CORRESPONDENCE COURSE for March and later Exams. should begin now.—H. C. ORBIN, F.R.C.S., Surgeons' Hall, Edinburgh.

East London Hospital for CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.1

Applications are invited for the post of HOUSE SURGEON (male). The appointment is for *six months from January 1st 1931*. Board-residence and laundry provided. Salary at the rate of £125 p.a. Applications with testimonials should reach the undersigned on or before Wednesday, December 17th.

W. M. WILCOX, Secretary.

General Infirmary, Salisbury
(General Hospital—161 Beds.)

HOUSE SURGEON (male) required to commence duty at the end of December.

Candidates must be unmarried, fully qualified and registered. Salary £150 with board, etc.

Applications with copies of testimonials to be sent to the House Governor and Secretary, from whom a copy of the rules may be obtained on application.

LONDON SCHOOL OF DERMATOLOGY
St. John's Hospital for Diseases of the Skin,
Leicester Square, W.C.2

Conducted by the Honorary Staff of the Hospital together with the Physicians in charge of the Dermatological Departments of the London Teaching Hospitals. Lectures and Demonstrations every Tuesday and Thursday at 5 p.m. from October to March, and four times weekly during May. Clinics daily at 2 p.m. and 6 p.m., Saturdays 2 p.m. only. Pathological Laboratory for Instruction or Research work.

For further particulars, fees, etc., apply to J. E. M. WIGLEY, M.B., Dean.

CITY OF LONDON MATERNITY HOSPITAL,
CITY ROAD, E.C.1

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery, and Obstetrical complications. Monthly or Fortnightly Courses.

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C.M.B. regulations.

PRIVATE WARDS for paying patients.

MATERNITY NURSES sent out for private cases.

TAUNTON SCHOOL,
TAUNTON

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M.B. Examination. University Scholarships in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany, and Zoology.

New Science Buildings, containing seven laboratories, two lecture rooms, science library, store rooms, etc., opened in September 1929. Prospectus from Head Master.

The King Edward VII Welsh NATIONAL MEMORIAL ASSOCIATION

Required at the SOUTH WALES SANATORIUM, TALGARTH, BRECONSHIRE (304 beds for Pulmonary cases) ASSISTANT RESIDENT MEDICAL OFFICER (male). Salary £250 per annum plus maintenance. This appointment is limited to a period of one year.

Applications stating age, qualifications, and previous experience, together with copies of three recent testimonials, should reach the undersigned not later than Thursday, Dec. 11th.

Memorial Offices, Westgate St., Cardiff. D. A. POWELL, Principal Medical Officer.

Torbay Hospital, Torquay
(146 Beds.)

HOUSE PHYSICIAN wanted for January 21st 1931, or earlier. Salary £175 per annum, with board, residence and laundry. Candidates must be fully qualified, registered and unmarried.

Applications stating age, nationality, qualifications and experience must be sent forth with to the undersigned with copies of not more than three recent testimonials.

E. L. GRIST, Secretary.

December 1st 1930.

The Kidderminster and District GENERAL HOSPITAL (120 Beds.)

HOUSE SURGEON Required.

Salary £150 per annum with residence, board and laundry. Applications with not more than three testimonials to be sent to the Assistant Secretary, Miss SUSAN SMITH, South Cliff, Kidderminster.

St. Thomas's Hospital

VACANCY

A vacancy occurs in the office of CHIEF ASSISTANT in the Physico-Therapy Department. Salary £250 per annum. Applications with testimonials and full details of Academic career to be addressed to the Secretary of the Hospital on or before December 9th.

The Royal Dental Hospital of LONDON, 32, Leicester Square, W.C.2

The post of HONORARY RADIOLOGIST and LECTURER in RADIOLOGY is vacant. Attendance two sessions per week. Candidates who must hold a Medical or Dental qualification should send in 50 copies of their application and testimonials by Saturday, December 20th.

W. J. WADHAM, Secretary.

All Saints' Hospital (for Genito-URINARY DISEASES)

In-patient Dept., 91, Finchley Road, N.W.3.
Out-patient Dept. and Secretary's Office, 49/55, Vauxhall Bridge Road, S.W.1.

HOUSE SURGEON (male) required [from] January 1st, 1931, for period of three [months] as Junior House Surgeon (non-resident) [to be] followed subject to the approval of the Board of Management, by a period of three months as Senior House Surgeon (Resident). Salary will be at the rate of £150 per annum with board and laundry during the resident period. The duties of the non-resident House Surgeon consist of attendance at the Out-patient Department every afternoon and three evenings weekly.

Applications stating age, qualifications, experience and enclosing copies of recent testimonials should reach me not later than December 17th.

D. H. FADE, Secretary.

Queen Charlotte's Maternity HOSPITAL, Marylebone Road, N.W.1

ASSISTANT RESIDENT MEDICAL OFFICER (male) required to commence duty on January 1st 1931. Applicants must be registered. Appointment for three months. On completion of this appointment the selected candidate will be expected to proceed to the post of Senior Resident Medical Officer (for three months) on the recommendation of the Medical Staff.

The salary of the Assistant Resident Medical Officer is at the rate of £80 per annum and of the Senior Resident Medical Officer £160 per annum with board, residence and washing allowance (4/- weekly). Applications with copies (not originals) of not more than three testimonials will be received by the Secretary up to December 11th.

Canvassing is prohibited.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity HOSPITAL, Marylebone Road, N.W.1

HONORARY ANAESTHETISTS

The Committee of Management propose to appoint Two Honorary Anaesthetists for duty at the new Hospital, Goldhawk Road, Hammersmith, and they invite applications. Candidates should be Graduates of a University of the United Kingdom and applications accompanied by copies of three testimonials should be sent to the Secretary not later than December 22nd. A fee of two guineas will be paid for each case.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity HOSPITAL, Marylebone Road, N.W.1

HONORARY PSYCHIATRIST

The Committee of Management invite applications for the appointment of Honorary Psychiatrist. Candidates must be Graduates in Medicine of a University of the United Kingdom and Fellows or Members of one of the Royal Colleges of Physicians of the United Kingdom.

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity HOSPITAL, Marylebone Road, N.W.1

HONORARY DENTAL SURGEON

The Committee invite applications for the appointment of Honorary Dental Surgeon. Candidates who must be Members of the Royal College of Surgeons of England, are requested to send their applications, accompanied by copies of three testimonials not later than December 22nd, to—

ARTHUR WATTS, Secretary.

Queen Charlotte's Maternity HOSPITAL, Marylebone Road, N.W.1

RESIDENT ANAESTHETIST required to commence duty on January 1st 1931. Applicants must be registered. Appointment for six months. Salary at rate of £100 per annum with board, residence and washing (4/- weekly). Copies (not originals) of not more than three testimonials will be received by the Secretary up to December 11th.

ARTHUR WATTS, Secretary.

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY. The Institution which contains over 100 beds is one of the premier Provincial Hospitals in Scotland and offers excellent opportunities of gaining experience in all branches of the profession. Salary at the rate of £100 per annum rising to £150 per annum. Applications with testimonials to be forwarded to the Treasurer, Dumfries & Galloway Royal Infirmary, 84 Irish Street, Dumfries, at once.

THE MEDICAL AND DENTAL DEFENCE UNION OF SCOTLAND, LIMITED

Secretaries and Registered Office Millar, Thomson & Dunlop, C.A., 113, St Vincent Street, Glasgow

ANNUAL SUBSCRIPTION £1 — **ENTRANCE FEE 10/-**

No entrance fee to those joining within 12 months of obtaining qualification. Benefits include defence of claims for alleged negligence in professional work including indemnity of £2,500 and costs and advice on professional difficulties.

Particulars and forms of application can be obtained from the Secretaries at the above address.

Corporation of Glasgow

PUBLIC HEALTH DEPARTMENT

APPOINTMENT OF DEPUTY MEDICAL OFFICER FOR MENTAL SERVICES

Applications are invited from duly qualified Medical Practitioners for the post of Deputy Medical Officer for Mental Services. The salary attaching to the appointment is £1,000 per annum rising by biennial increments of £40 to a maximum of £1,200 per annum and the person appointed will be required to devote his whole time to the duties of the office.

The successful candidate will also be required to undergo medical examination and if under 45 years of age must join the Corporation Superannuation Scheme in respect of which deduction are made from salary at the rate of 5 per cent per annum. The appointment will also be during the pleasure of the Corporation and subject to one month's notice on either side.

The officer appointed will undertake under the direction and control of the Medical Officer of Health such *administrative* and clinical duties as may be allotted to him in connection with the mental services administered by the Committee on Health and the procedure arising out of the Mental Deficiency and Lunacy Act. His duties will be concerned chiefly with the medical services required under these Act in their relation to the admission of patients to appropriate institution, the observation wards in general hospitals, the conduct of such services as may be required in respect of clinics and after-care of patients, co-ordination of the functions of the Education Public Assistance and Health Committees both as regard lunatics and mental defectives and such other functions as may arise in connection with the work of the Department.

Application stating age and qualifications and giving full details of previous experience together with copies of not more than three recent testimonials to be sent to the undersigned not later than Monday, December 15th next, in envelopes endorsed "Application for Appointment as Deputy Medical Officer for Mental Service."

CITY CHAMBERS, GLASGOW. D. STENHOUSE, Town Clerk.
November 19th, 1930.

City and Royal Burgh of Dunfermline

ASSISTANT MEDICAL OFFICER

Applications are invited for the joint appointment of Assistant Medical Officer for the Burgh and Resident Medical Officer of the West Fife Infectious Diseases Joint Hospital, Dunfermline. Including annual salary £400 rising by annual increments of £25 to £475 with board, residence and laundry.

Candidates must be registered Medical Practitioners unmarried, not over 35 years of age and possess a Diploma in Public Health or equivalent qualification. A previous Resident Hospital appointment is essential.

Experience in Infectious Diseases, School Medical Inspection and Child Welfare work is desirable.

Forms of application may be obtained from Dr C. BARCLAY LEEKIE, Medical Officer of Health, 24 Queen Anne Street, Dunfermline, to whom applications accompanied by copies of three recent testimonials should be delivered not later than December 10th.

Canvassing a disqualification.

CITY CHAMBERS, DUNFERMLINE. ANDREW SHEARER, Town Clerk.

The Radium Institute,

Riding House Street, London, W.1.

Applications are invited for the post of HOUSE SURGEON. Candidates must be fully qualified and unmarried. The appointment is for a term of six months, and the successful candidate will be required to take up his duties as early as possible.

The salary will be at the rate of £150 per annum with board, lodging and laundry.

Application stating age, qualifications and experience, with copies of three recent testimonials, must be received at the Institute not later than December 12th.

Canvassing, either directly or indirectly, is not permitted.

THOS. A. GARNER, Secretary.

Staffordshire County Council

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY

ASSISTANT BACTERIOLOGIST AND PATHOLOGIST

Applications are invited from registered Medical Practitioners for the post of Assistant Bacteriologist and Pathologist.

Salary £600 per annum, rising to £800 by annual increments of £50, subject to the usual deductions under the Local Government and Other Officers Superannuation Act, 1922.

Special knowledge and experience in general pathology are essential.

Application, stating age and qualifications and accompanied by copies of not more than three recent testimonials, should be sent to the undersigned not later than December 13th.

County Buildings, Stafford. EUSTACE JOY, Clerk of the County Council.
November 25th, 1930.

Staffordshire County Council

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY

An experienced ASSISTANT is required for the above Laboratory. Commencing salary £220 per annum, subject to the usual deduction under the Local Government and Other Officers Superannuation Act, 1922.

Applicants must have a good knowledge of *the technique of section work and the ordinary* routine duties of an Assistant in a Pathological Laboratory.

Applications, stating age, experience and qualifications, and accompanied by copies of not more than three recent testimonials, should be sent to the undersigned not later than December 13th.

County Buildings, Stafford. EUSTACE JOY, Clerk of the County Council.
November 25th, 1930.

Staffordshire County Council

BACTERIOLOGICAL AND PATHOLOGICAL LABORATORY

A JUNIOR ASSISTANT is required for the above Laboratory. Commencing salary £160 per annum, subject to the usual deductions under the Local Government and Other Officers Superannuation Act, 1922.

Applicant should have a good knowledge of laboratory routine and the preparation of Media.

Application, stating age and experience, and accompanied by copies of not more than three recent testimonials, should be sent to the undersigned not later than December 13th.

County Buildings, Stafford. EUSTACE JOY, Clerk of the County Council.
November 25th, 1930.

County Borough of South Shields

HARTON HOSPITAL. (340 Beds.)

Applications are invited for the appointment of TWO HOUSE SURGEONS (male). Salary *£120 per annum*, to, *inter alia*, board, residence and laundry.

Applicants must be registered Medical Practitioners and unmarried.

Forms of application may be obtained from the undersigned, and should be returned to him completed together with copies of not more than three testimonials on or before noon on Saturday, December 13th, endorsed "House Surgeon."

Town Hall, South Shields. J. MOORE HAYTON, Town Clerk.
November 25th, 1930.

Worcester General Infirmary,

WORCESTER. (128 Beds.)

Wanted, a JUNIOR RESIDENT MEDICAL OFFICER to commence duties on January 1st, 1931. Salary at the rate of £120 per annum, including board, residence, and laundry.

Application, together with three copies of recent testimonials and particulars of age and qualifications, to be forwarded immediately to the undersigned.

PERCY N. GLASS, General Secretary.

Hampshire County Council

ASSISTANT COUNTY MEDICAL OFFICER

Applications are invited for the post of Assistant County Medical Officer. Preference will be given to a woman with experience in *maternity and child welfare work, including* maternity centres and ante-natal clinics, and in the treatment of venereal diseases. Possession of a Diploma or Degree in Public Health is essential, and previous experience in public health work, tuberculosis and medical inspection of school children will be considered an advantage.

Salary £600 a year, rising on approved service by increments to £750 (subject to deductions under the Local Government Officers Superannuation Act), in addition to travelling expenses and subsistence allowance.

Applications, with copies of not more than three recent testimonials, upon a form which, with the conditions of appointment, may be obtained from the County Medical Officer, The Castle, Winchester, should be sent to him not later than December 20th. Canvassing is prohibited.

November 25th, 1930.

City of Nottingham

The Health Committee have Two Vacancies for MEDICAL OFFICERS and invite applications from duly qualified Medical Practitioners to fill these posts at the CITY DISPENSARY, Hucknall Road, Nottingham. The Hospital has 900 beds *for the treatment* of all classes of sick persons. It is a recognised Training School for Nurses, and is equipped with all modern requirements. Candidates must possess General Hospital experience, and preference will be given to those having Poor Law experience. The salaries will be £350 per annum, rising by annual increments of £25 to £450, with rations and furnished apartments. The successful candidates will be required to contribute to the Corporation Superannuation Fund.

Applications on forms to be obtained from the undersigned, with copies of not more than three recent testimonials and endorsed "Medical Officer," should be forwarded not later than December 9th.

(Signed) W. J. BOARD, Town Clerk.
Guildhall, Nottingham.

County Council of Orkney

Wanted a MEDICAL OFFICER for the ISLANDS of WALLS and FLOTTA to take up duty on January 1st, 1931.

For particulars apply with testimonials and references to the County Clerk, Commercial Bank Buildings, Kirkwall.

Kirkwall, Nov. 8th, 1930.

Darlington General Hospital

(120 Beds.)

Wanted HOUSE SURGEON, male or female, fully qualified British. Salary £150 per annum with board, residence and laundry. Special Departments—Eye, Ear, Nose and Throat, Orthopaedic, Maternity, Ultra-violet ray. Applications, stating age, experience, qualifications, together with copies of two recent testimonials, to be addressed to me forthwith.

A. RIDDLE, Secretary.

Chester Royal Infirmary

(211 Beds.)

Wanted HOUSE SURGEON (male) to commence duties December 26th. Salary £150 per annum with board, lodging and washing.

Application list closes on December 11th.

Application form may be obtained from the undersigned. W. H. GRACE, M.D., M.R.C.P., Hon. Superintendent of the Resident Medical Staff.

Connaught Hospital,

Orford Road, E.17. (100 Beds.)

RESIDENT HOUSE SURGEON (male) required. Salary £100 per annum. Appointment for six months, with board, quarters and laundry. Applications, stating age, nationality, qualifications and experience, accompanied by copies of not more than three recent testimonials, should be sent immediately to the Secretary.

WEST AFRICAN MEDICAL STAFF.

Vacancies at present exist for MEDICAL OFFICERS in the WEST AFRICAN MEDICAL STAFF

Qualifications Candidates must be British subjects of European parentage and under 35 years of age They must possess a double qualification and be on the British Medical Register Preference will be given to candidates who have held Hospital or Public Health appointments, or who have special knowledge of anaesthetics, radiology, surgery, medicine, ophthalmology, gynaecology and midwifery, diseases of the ear, nose, and throat, venereal diseases, etc

Salary £660 per annum, rising by annual increments of £30 per annum to £720 per annum, and then, on confirmation, £720 per annum, rising by annual increments of £40 to £960 per annum, together with a seniority allowance (payable only in West Africa) at the rate of £72 per annum After three years' service on £960, the salary may be raised to the scale of £1,000 per annum, rising by annual increments of £50 to £1,150 per annum, together with a seniority allowance at the rate of £100 per annum

Quarters Free quarters are provided or an allowance is given in lieu

Outfit Allowance An outfit allowance of £60 is granted on first appointment

Passages Free first-class passages are provided for the officer only both on first appointment and when proceeding on or returning from leave A married officer will, in certain circumstances, be granted half the cost of his wife's passages to and from West Africa

Terms of Appointment The appointments are pensionable, subject to a probationary period of three years in the first instance

Tour of Service The normal tour of service in West Africa is approximately 18 months, though vacation leave may be granted by the Governor after 12 months, and is followed by leave, with full salary, at the rate of one week for each completed month of residential service, plus the time necessarily spent in the voyages to and from England

Course of Instruction in Tropical Medicine Selected candidates will normally be required to attend a course of instruction in Tropical Medicine and Hygiene before proceeding overseas

Duties Though Medical Officers are appointed in the first instance for general service, there are good opportunities for work in special branches of medicine and surgery and for research

Further particulars and forms of application may be obtained, on application in writing, from the Private Secretary (Appointments), Colonial Office, 2, Richmond Terrace, Whitehall, London, S W 1

University of Cape Town

ASSISTANT ANATOMIST

Applications are invited for the above post
Salary—£750 per annum (but for pension purposes on the scale £500—£25—£650)
Engagement—In the first instance for three years
Qualifications—Applicants must have a registrable medical qualification and must have had experience in teaching anatomy
Transport—£50 will be allowed for transport subject to a proportionate refund in the event of resignation before the expiry of three years
Applications and copies of testimonials (all in triplicate) must be lodged with the Secretary Office of the High Commissioner for the Union of South Africa 73 Strand W C (from whom forms of application and further particulars may be obtained) not later than December 17th 1930

Metropolitan Hospital,

Kingsland Road E 8

The Committee of Management are prepared to receive applications for the appointment of an ASSISTANT MEDICAL OFFICER to the X-ray and Electrical Department (Male)
Candidates must possess a registered Medical and Surgical qualification of the United Kingdom and must in addition hold the Diploma of Medical Radiology and Electrology
Candidates will be required to call upon Members of the Staff
Twenty applications complete with copies of recent testimonials must reach the undersigned (from whom further particulars may be obtained) not later than first post on Monday December 29th

HERBERT F RUTHERFORD
Secretary & House Governor

Aberdeen Royal Infirmary

OPHTHALMIC SURGEON

The Board of Directors invite applications for the following appointment to the Honorary Staff—viz JUNIOR ASSISTANT OPHTHALMIC SURGEON
Each candidate should submit a full statement of his qualifications and experience and three recent testimonials Two copies of each should be lodged with the Acting Clerk and Treasurer Aberdeen Royal Infirmary 230 Union Street Aberdeen not later than December 24th

New Zealand

PROFESSOR OF MIDWIFERY AND GYNAECOLOGY

OTAGO UNIVERSITY, DUNEDIN

Applications are invited for the position of Professor of Midwifery and Gynaecology Salary £2 000 per annum Conditions of appointment are obtainable by sending addressed foolscap envelope to the High Commissioner for New Zealand 415 Strand, London W C 2 by whom applications will be received up to and including January 31st, 1931

New Zealand

HAWKES BAY HOSPITAL BOARD, NAPIER

Applications are invited for position of FULL-TIME PATHOLOGIST at NAPIER HOSPITAL Commencing salary £750 per annum, rising by annual increments of £50 to £900 Assistant Bacteriologist and adequate staff employed
Applications will be received by E T REES, Managing Secretary, Hawkes Bay Hospital Board, Napier New Zealand up to January 10th 1931 Appointee will be required to take up duties on April 1st 1931

Weston-super-Mare General

HOSPITAL (80 Beds)

HOUSE SURGEON

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months Salary at the rate of £150 per annum, with board rooms and laundry Duties to commence January 1st next
Applications stating age and qualifications and enclosing copies of testimonials should be addressed to the undersigned

LESLIE J TURSLAND
Secretary

St Luke's Hospital, Hebron,

PALESTINE

Wanted a well qualified Medical Man for the above Medical Mission Hospital which is under the Anglican Bishop of Jerusalem A good opening for Surgical and Ophthalmic work Engagement for three years in the first instance
For particulars as to duties salary etc, apply to the Rev E M BICKERSTETH, 12, Warwick Square S W 1

Bridge of Weir Sanatorium

(15 miles from Glasgow). (185 Beds.)

RESIDENT MALE ASSISTANT MEDICAL OFFICER wanted Duties commence December 19th and include charge of 90 beds for epileptics as well as 75 beds for male consumptives.
The appointment will be for six months in the first instance, at the rate of £200 per with board laundry etc
Applications, stating age, qualifications and previous experience and enclosing copies of testimonials should be addressed to F J PELL, Medical Superintendent Sanatorium Bridge of Weir, Renfrewshire

Harrogate Infirmary

Applications are invited from British subjects (male) for the posts of SENIOR and JUNIOR HOUSE SURGEONS for the period commencing January 1st 1931, and terminating August 1st 1931 Salary at the rate of £150 and £125 per annum respectively, with board and lodging Applications, to be made on official form to be had from the undersigned should be sent in not later than December 13th. (The Junior House Surgeon is a candidate for the Senior post)

CFO BALLANTYNE
The Infirmary Harrogate Secretary

Harrogate General Hospital

Applications are invited from British subjects (male) for the post of HOUSE PHYSICIAN for the period commencing January 1st 1931 and terminating August 1st 1931 Salary at the rate of £150 per annum with board and lodging Applications to be made on official form to be had from the undersigned should be sent in not later than December 13th

CFO BALLANTYNE
The Infirmary, Harrogate Secretary

Royal Infirmary, Wigan

(180 Beds)

HOUSE SURGEON (male) required immediately for a period of six months Salary £150 per annum with board apartments and washing Applications stating age and qualifications with copies of three recent testimonials should be addressed to the undersigned as soon as possible

A STANLEY BRUNT
Gen Supt & Sec.
Dec. 1st 1930

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service. In other respects the terms will be as detailed below.

Candidates must be British subjects under 32 years of age at the time of application and must be registered under the Medical Acts in force in Great Britain and Northern Ireland.

CAREERS

The Indian Medical Service offers wide opportunities of medical experience including *clinical preventive* specialist and research work. At the beginning of his career an officer is employed on the military side which has medical charge of the Indian Army. Promotion is on a time scale up to the rank of Lieutenant Colonel and by selection to the ranks of Colonel and Major General. An officer may apply after one year's Indian service to have his name registered for transfer to the civil side from which appointments are made to Civil Surgeoncies which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes; to specialist (for example public health and bacteriological) services; to research posts and to professorships at the Medical Schools.

PAY

The monthly rates of pay for European officers in the Service who have a non-Asiatic domicile are as follows:

Rank.	Service in Rank	Basic Pay	Overseas Pay	Year of Total Service.
1	2	3	4	5
		R	R	
Lieut.	—	600	120	1st
			120	2nd
			120	3rd
Capt.	(i) During first 3 years service as Captain	650	120	4th
			£15	5th
			£15	6th
	(ii) With more than 3 and less than 6 yrs. service as Captain	750	£20	7th
			£20	8th
			£20	9th
	(iii) With more than 6 years service as Captain	850	£20	10th
			£25	11th
			£30	12th
Major	(i) During first 3 years service as Major	900		
	(ii) With more than 3 and less than 6 years service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut.-Col.	(i) Until completion of 23 years total service	1400	£30	13th and over
	(ii) During 24th and 25th years service	1600		
	(iii) After completion of 25 years total service	1700		
	(iv) When selected for increased pay	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service. Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service.

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer or in a position usually filled by an officer may be counted as service for increments of pay, promotion, retirement and retired pay, but not for gratuity.

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only.

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions. Past service in certain hospital appointments may also render candidates eligible for an antedate of one year. Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year. The maximum period of antedate secondment or antedate and secondment combined admissible under this paragraph is limited to one year.

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50.

PRIVATE PRACTICE

With the exception of Administrative Officers military or civil and officers holding certain special appointments officers are not debarred from taking private practice so long as it does not interfere with their proper duties.

LEAVE

Leave can be taken at reasonable intervals and adequate rates of leave pay are provided. Extra leave (known as study leave) which may not exceed 12 months in all during an officer's service may be granted to officers desirous of pursuing special courses of study of a post-graduate nature. During such leave study allowance at present fixed at the rate of 12s. a day in the United Kingdom, £1 a day on the Continent of Europe and £1 10s. a day in the United States of America is granted to an officer in addition to ordinary rate of leave pay.

PENSIONS

The rates of pension are as follows	Per annum
	£
After 17 years service for pension	400
18	430
19	460
20	500
21	540
22 "	580
23	620
24 "	660
25	700
26	750
27	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent. in all, the revision being undertaken triennially. With effect from July 1st 1929 a reduction of 5½ per cent. has been made on this account from the amounts shown.

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments.

PASSAGES.

An officer on appointment is provided with free passage to India. The wives and families of officers who are married prior to the date of the officer's embarkation on first appointment will also be provided with free passage to India subject to the payment of messing charges.

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service.

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot lasting approximately six months prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S.W.1. The Selection Committee will meet at the India Office early in January next, and the selected candidates will be required to join a course of instruction commencing early in February 1931 prior to sailing for India in the Autumn of 1931. Applications should be submitted as soon as possible.

Salford Royal Hospital
(263 Beds)

Applications are invited for the following vacancies which will occur in the Resident Medical Staff (male) on December 31st next
RESIDENT SURGICAL OFFICER Salary at the rate of £200 per annum
HOUSE PHYSICIAN Salary at the rate of £125 per annum
HOUSE SURGEON (attached to the Genito Urinary Department) Salary at the rate of £125 per annum
HOUSE SURGEON to Aural Skin and Gynaecological Departments Salary at the rate of £125 per annum
CASUALTY HOUSE SURGEON Salary at the rate of £125 per annum
The appointments are for a period of six months with board and residence with the exception of the Resident Surgical Officer, which is for twelve months
Candidates must be registered under the Medical Acts
The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognized for the English Fellowship (Final)
Forms of application which may be obtained from the undersigned must be delivered on or before December 10th

By Order of the Board
Salford Royal Hospital GEORGE RUDDLE Gen Supt & Secretary
December 1st, 1930

The Royal Infirmary, Sheffield
(500 Beds)

APPOINTMENT OF CLINICAL ASSISTANT (Male) to the Ear, Nose and Throat Dept

OPEN ELECTION

Applications are invited for the post of Clinical Assistant to the Ear Nose and Throat Department which contains 64 beds and a large Out patient Department The salary attached to the appointment is £300 per annum Applicants must have had previous Hospital experience
Applications stating age and particulars of qualifications etc should be submitted forth with to the undersigned from whom further particulars may be obtained if desired

JNO W BARNES FCIS Gen Supt & Sec.
Board Room
November 26th 1930

The Royal Infirmary, Sheffield
(500 Beds)

The Weekly Board of Management invite applications for the undermentioned posts
HOUSE PHYSICIAN
HOUSE SURGEON
ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON
ASSISTANT CASUALTY OFFICER
The appointments will be tenable for six months from January 1st 1931 The salary attached to each post is £80 per annum rising after six months service to £100 per annum, together with board and residence
Applications together with copies of testimonials to be sent to the undersigned immediately

JNO W BARNES FCIS Gen Supt & Secretary
Board Room
November 27th 1930

The Royal Infirmary, Sheffield
(500 Beds)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON
The salary attached to the appointment is at the rate of £80 per annum for the first six months and £100 per annum afterwards
There are 68 ophthalmic beds and the post offers exceptional opportunities of gaining experience in Ophthalmology
Applications with copies of testimonials to be sent to the undersigned forthwith

JNO W BARNES FCIS Gen Supt and Secretary
Board Room
November 17th 1930

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON AND CASUALTY OFFICER (male)
Salary at the rate of £175 per annum with residence board and laundry
The appointment is for six months and is renewable
Duties to commence on January 9th 1931
The Resident Staff consists of a Resident Surgical Officer and two House Surgeons
Applications accompanied by not more than three recent testimonials to be sent to the undersigned
Dated this 2nd day of December 1930

ARTHUR H LIMB Secretary

Miller General Hospital,
Greenwich Road, S E 10

Applications are invited for the following posts
HOUSE PHYSICIAN (Male)
HOUSE SURGEON (Male)
Salary in each case at the rate of £125 per annum with board residence and laundry Candidates must be unmarried
OUT PATIENT OFFICER (Male) who is required to see Medical and Surgical cases Attendance daily (except Sunday) from 9 to 1, Tuesdays 9 to 5 Salary £150 per annum and lunch
The appointments are for six months from January 1st next There are six Resident Officers Applications stating age, nationality qualifications and experience accompanied by copies of not more than three recent testimonials to be sent to the Secretary as soon as possible
November 18th 1930

St Peter's Hospital for Stone, ETC
Henrietta Street, Covent Garden, W C 2

CLINICAL ASSISTANTS are required by the following members of the Honorary Staff who attend the Out patient Department as indicated

Mr Swift Joly	Mondays 2 to 6 p m
Mr Clifford Morson	Saturdays 2 to 7 p m.
Mr Barrington	Tuesdays 2 to 5 p m Thursdays 3 to 7 p m
Mr Ogier Ward	Wednesdays 3 to 6 p m Fridays 2 to 5 p m (Women and Children)
Mr Alban Andrews	Mondays 5 to 7 p m. Fridays 5 to 7 p m

Appointments are made for six months from January 1st 1931 a fee of five guineas being payable to the Hospital
Applications will be received by the undersigned up to the first post on Tuesday, December 16th 1930

BEECHEY ROGERS Secretary

Ancoats Hospital, Manchester

Applications are invited for the following posts which will become vacant on December 31st next
MEDICAL REGISTRAR (part time) Honorarium £100 per annum
SURGICAL REGISTRAR (part time) Honorarium £100 per annum
ORTHOPAEDIC REGISTRAR (part time) Honorarium £25 per annum
Applications stating age qualifications experience appointments held etc together with copies of three recent testimonials to be forwarded to the undersigned on or before Wednesday December 10th next and from whom all particulars may be obtained

By Order of the Board
HERBERT J DAFFORNE Gen Supt & Secretary

Ancoats Hospital, Manchester

HOUSE SURGEON required (male) for General Surgery and Ear Nose and Throat Department to commence duty on January 1st 1931 for six months Salary at the rate of £100 per annum
Applications stating age, qualifications previous experience if any to be forwarded together with copies of three recent testimonials on or before December 17th next, to the undersigned

By Order of the Board
HERBERT J DAFFORNE Gen Supt & Secretary

Western Ophthalmic Hospital

SURGICAL REGISTRAR Required

Applications are invited for the post of Surgical Registrar Applicants must have had previous Ophthalmic experience including Pathology and must possess the F R C S (Eng) or propose taking the necessary examinations There will be an honorarium attached to the appointment Applications with copies of not less than three testimonials should be sent to me by December 12th

H W BURIFICH Honorary Secretary
Western Ophthalmic Hospital
Marylebone Road London N W 1

Royal Northern Hospital,
Holloway, London N

Applications are invited for the post of HOUSE SURGEON The appointment is for nine months (six months as House Surgeon and three months as Casualty Officer) from January 15th 1931 Salary at the rate of £70 per annum with board residence and laundry
Applications with copies of testimonials, should be sent by December 12th to the undersigned from whom forms of application and rules can be obtained

GILBERT G PANTER Secretary

London Female Lock Hospital,
283 Harrow Road London W 9

The Board of Management invite applications for the post of HOUSE SURGEON (male or female) at the Female Lock Hospital Salary at the rate of £150 per annum with furnished rooms full board and washing Candidates who must be doubly qualified and duly registered should send in their applications by December 8th accompanied by copies of three recent testimonials to the Secretary from whom further particulars can be obtained
The appointment is for six months commencing January 1st 1931

By Order of the Board,
H J EASON
November 25th 1930

Hull Royal Infirmary
SUTTON BRANCH

The above Branch will be opened in February next and will be a self-contained modern General Hospital of 100 beds There will be Two House Surgeons posts.
Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £150 per annum plus board residence and laundry The appointment will be for six months in the first instance and will be terminable by one month's notice on either side
Applications stating age, qualifications and nationality and with copies of testimonials should be sent to the undersigned

J J CARLESS House Governor
November 22nd 1930

Hull Royal Infirmary
(270 Beds)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear, Nose and Throat Departments vacant December 31st
Salary £150 per annum, plus board residence, and laundry
The appointment will be for six months in the first instance and will be terminable by one month's notice on either side
Applications with copies of testimonials, should be sent to the undersigned on or before December 17th

R J CARLESS House Governor
Dec 1st 1930

Victoria Hospital, Burnley
(120 Beds)

TWO HOUSE SURGEONS (Male).

Applications are invited for the above posts which become vacant on January 1st next The appointments are for six months in the first instance and carry a salary of £150 per annum with board etc This Hospital is approved by the London University for the purpose of the M B and M S examinations
Applications giving full details of qualifications and experience and accompanied by testimonials should be addressed to the undersigned forthwith

CEO W COOLING Secretary Supt.
Nov 28th 1930

Royal Victoria and West Hants
HOSPITAL BOURNEMOUTH
(Boscombe Branch—170 Beds—3 Residents)

CASUALTY OFFICER AND HOUSE SURGEON (male British nationality) required Salary £150 per annum with board lodging and washing The appointment is tenable for six months and candidates must be registered according to the provisions of the Medical Act
Applications stating place of birth with copies of three testimonials to be sent immediately to the undersigned
Women and married men are ineligible

GORDON M SAUL Secretary
Nov 25th 1930

Pontefract General Infirmary

Wanted HOUSE SURGEON (male) January 1st 1931 Work largely surgical 60 beds 1929 30 In patients 1 175 Major operations over 500 a year Salary £150 with board apartments and laundry
Applications stating age and qualifications and three copies of recent testimonials should be addressed to HERBERT HOLMES Secretary Ropergate Pontefract

King George Hospital, Ilford

Applications are invited for the appointment of HONORARY PHYSICIAN to the Hospital from gentlemen who are Fellows or Members of the Royal College of Physicians Further particulars may be obtained from the undersigned to whom applications should be addressed not later than December 20th

G AUSTIN HIPPISLEY Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A. House, Tavistock Square W C 1 (in the case of Scottish appointments with the Scottish Medical Secretary, 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	COP WALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	PLYMOUTH EDUCATION AUTHORITY *(Deputy Assistant Medical Officer)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE, TENGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District	Hon Sec. of Division or Branch	Town or District.	Hon Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES *(All Friendly Society Appointments.)*	Dr R. H. TODD (Hon Sec., New South Wales Branch Savings Bank Building 21 Elizabeth St. Sydney N S W	SOUTH AUSTRALIA. *(Lodge All Districts.)*	Secretary South Australian Branch, B.M.A. House, 207 North Terrace Adelaide.	WELLINGTON NEW ZEALAND *(Contract Practice Appointment)*	Dr G. F. V ANSON (Hon. Sec. New Zealand Branch, British Medical Association P O Box 150 Wellington, New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon Sec. Queensland Branch), British Medical Association B.M.A. Building Adelaide St. Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr J P Major (Hon Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon. Sec., Western Australian Branch, British Medical Association No 6 Bank of N S W Chambers, St. George's Terr., Perth Western Australia.

December 3rd 1930 By Order of the Council ALFRED COX Medical Secretary

West London Hospital,
Hammersmith Road W 6 (234 Beds)

Required a Non-resident CASUALTY OFFICER (male). The appointment is tenable for one year from January 1st next subject to one month's notice on either side The appointed candidate will be eligible for re-election for two further periods of one year Salary at the rate of £250 per annum with lunch and tea daily Candidates must be duly qualified registered Medical Practitioners and preference will be given to those who have held a Resident appointment in a General Hospital. Applications (which must be made on printed forms obtained from me) must reach me not later than first post on Friday December 12th. Selected candidates will be required to call upon such members of the Medical Staff as directed and to be in attendance at a meeting of the Medical Council at 4 p.m. on Friday December 19th and the House Committee meeting at 4.45 p.m. when the appointments will be made

H A MADGE Secretary

The Sheffield Royal Hospital

Resident SURGEON to commence duties at the rate for the first six months per annum after which £100 per annum with board residence and laundry There are twelve Resident Medical Officers

Applications should be forwarded at once to—

W H BOOTH
Superintendent and Secretary

Queen's Hospital for Children,
Hackney Road London E.2.

HOUSE SURGEON (male or female) required as soon as possible Six months appointment Salary at the rate of £100 a year with board, lodging and washing Applications must be made on forms to be obtained from the undersigned and must be sent in with copies of not more than four testimonials

CHARLES H BESSELL,
Nov 24th 1930 Acting Secretary

West London Hospital,
Hammersmith Road, W 6. (234 Beds)

Required One HOUSE PHYSICIAN One HOUSE SURGEON and One AURAL and OPHTHALMIC HOUSE SURGEON (Males). These appointments are tenable for six months from January 1st next, subject to one month's notice on either side Salary at the rate of £100 per annum, with board lodgings, and washing allowance Candidates must be registered under the Medical Act Applications (which must be on printed forms obtained from me) must reach me not later than first post on Friday December 12th. Selected candidates will be required to call upon such member of the Medical Staff as directed and to be in attendance at a meeting of the Medical Council at 4 p.m. on Friday December 19th, and the House Committee meeting the same day at 4.45 p.m. when the appointments will be made

H A MADGE, Secretary

London Hospital, E1

Applications are invited for the post of SURGICAL FIRST ASSISTANT and REGISTRAR Candidates must be Fellows of the Royal Colleges of Surgeons The salary is £300 per annum which is paid by the Hospital and Medical Colleges jointly The appointment is for one year but is renewable annually on application for two further periods of one year

Application should arrive at the Hospital not later than by the first post on Saturday January 17th 1931

Further particulars may be obtained from the House Governor

A C ELLIOTT
House Governor

Birkenhead General Hospital
(156 Beds)

SENIOR HOUSE SURGEON (gentleman) wanted immediately Salary £150 with board residence

Application stating qualifications experience and nationality with three testimonials to be sent to the undersigned as early as possible

W H DANIELS A.C.I.S.,
Secretary Superintendent.

Woolwich and District War Memorial Hospital,
Shooters Hill London S E.18
(GENERAL HOSPITAL—112 Beds)

The Board of Management invites applications from suitably qualified candidates for appointment as

(a) HOUSE PHYSICIAN for a period of six months as from January 1 1931 An honorarium of £100 per annum will be paid in respect of this appointment, plus board residence and laundry

(b) PART TIME PATHOLOGIST at a salary of £300 per annum.

Applications in respect of both appointments should be addressed to the undersigned to reach him not later than first post on Tuesday December 9th, and full particulars of experience previous appointments etc., together with copies of not more than three recent testimonials should accompany application

EDWIN RADFORD
Secretary Superintendent.

Royal Devon and Exeter Hospital, EXETER

PATHOLOGICAL DEPARTMENT

Applications are invited for the post of Pathologist shortly becoming vacant at this Hospital

A retaining fee of £500 per annum will be paid by the Hospital The appointed officer will be allowed to engage in private practice in the Hospital taking a certain percentage of the fees

Full particulars may be obtained from the undersigned

Application together with copies of birth and registration certificates and testimonials should be delivered to the undersigned not later than Wednesday December 31st

S S COLE,
Secretary & Manager

N.B.—Canvassing of any Members of the Executive Committee is forbidden by the Rules of the Hospital

(Appointments continued on p 76.)

ASSISTANCIES

Wanted — Assistantship (outdoor or indoor) by Woman M B B Ch, D P H, aged 31 Experienced panel and private Excellent testimonials Interview Free in London Locums considered —Address No 8275 B M A House Tavistock Square W C 1

Wanted at once, married Assistant aged 28—40 years. Large Midland City To live at Branch Must be exper in C I and keen on midwifery Good prospects for suitable man Interview — Address No 8264 B M A House Tavistock Square W C 1

Wanted immediately, indoor (male) single ASSISTANT, English or Scotch, for panel and private Practice in semi rural dist in Yorkshire Salary £300, all found Some exper pref, but not essential —Parties to No 8275 B M A House Tavistock Sq W C 1

Wanted — Indoor Assistant, in sound private Practice preferably with experience in Eye work Small panel no mids motor car Usual bond State essential parties and give height Photo (returnable) — No 8267 B M A House, Tavistock Sq, W C 1

Wanted —Indoor male Assistant (young and unmarried) for Industrial Practice in Northumberland Salary £300 per annum State age nationality and qualification, together with two recent testimonials — No 8158 B M A House, Tavistock Sq W C 1

Wanted — Assistant, indoor, Country Practice, South Able to drive car and dispense Salary £300 a year —Address with photo etc, No 8258, B M A House Tavistock Square W C 1

Wanted — Assistant, married preferred to live at and develop Branch Cash Surgery 10 miles Piccadilly £350 and option of Branch Partnership later —Address No 8268 B M A House Tavistock Sq W C 1

Wanted — Assistantship, with view by Scotsman age 38 City panel Practice preferred Experienced in hospital and panel practice — Address No 8287, B M A House, Tavistock Square W C 1

Wanted — Assistantship, with view or Partnership in London district by Scottish Graduate Experienced Small capital — Address No 8256, B M A House, Tavistock Square W C 1

Wanted immediately, indoor male ASSISTANT working class Practice, East London Scotch preferred Usual bond — Address with particulars No 8383 B M A House Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male) for Country and Town Practices with and without view State full particulars —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Wanted — Male Assistant English or Scot age about 30 London suburb Salary £350 p a com on mids, furnished rooms C I and attendance —Address No 8277 B M A House Tavistock Sq W C 1

Wanted —Outdoor male Assistant single for Country Town Practice in North of England State age nationality and other particulars Usual bond —Address No 8265 B M A House Tavistock Sq W C 1

Assistant wanted, male, well qualified 30 abstainer preferably unmarried with view Good-class private Practice with surgery Hospital town Outdoor Salary according to experience —Address No 8209 B M A House Tavistock Square W C 1

Assistant, indoor, male, required for January 1st 1931 for industrial and panel Practice in Yorkshire East Riding Salary £300 or more to suitable man —Address No 8255 B M A House Tavistock Sq W C 1

Assistantship wanted by M B, Ch B aged 29 single Well experienced in Hospital and G P Now at liberty Please state full particulars — Address No 8260 B M A House Tavistock Square W C 1

Woman Doctor, M B, wishes ASSISTANTSHIP outdoor or part time or will take occasional Surgeries or any part time work in London Reliable aged 32 Five years exp C I and Hospital Free now —Address No 8382 B M A House Tavistock Sq W C 1

Wanted — Woman Assistant, good Lancashire town either whole or part time, live out work light Send photo State essential particulars —Address No 8282, B M A House Tavistock Square W C 1

Wanted — Outdoor Assistant in small country town (with Hospital), North Wales Able to drive car —Address No 8176 B M A House Tavistock Square, W C 1

PARTNERSHIPS

Wanted — Partnership or ASSISTANTSHIP with view North of England by Scotsman aged 29 M B, Ch B (Glasgow) 5 years G P Married Own car Capital available —Address, No 8261, B M A House, Tavistock Square W C 1

Wanted, Partnership or PRACTICE in country town preferably Cheshire or near Income £1,000—£1 500 Good detached house and garden rent if possible Capital available —Address No 8283, B M A House Tavistock Square W C 1

Doctor with other interests desires energetic youngish PARTNER with view to succession in two years in rapidly growing, little opposed, middle-class Practice London suburb, or would sell outright Share about £750 Six roomed house Excellent opportunity and generous terms to right man but must have some capital —Addr No 8270, B M A House, Tavistock Square W C 1

Half Share Partnership given to energetic hard working young man in new Branch Surgery in working-class district S E London Living accommodation if required — Address No 8380, B M A House, Tavistock Square, W C 1

Lancs Town —Partnership (half share), view to succession in 2/3 years Approx cash receipts £1 200 p a Panel 1 500 Splendid opportunity for young man —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Partner wanted in good general Practice of over £3 000 a year in busy town in Midlands Fees 5/ to 21/ Appointments £500 a year No panel taken plenty can be had Not much night work Choice of houses Quarter share for disposal —Apply to Mr PERCIVAL TURNER, 4 Adam Street Adelphi Strand W C 2, who has seen Vendor and can recommend the investment

Partnership with view to Succession working class district North London Half share cash and panel, worth £650 Small house branch surgery Total panel 1 900 Two years purchase —Address No 8289 B M A House Tavistock Sq W C 1

Yorkshire (W R) —Partnership in good Practice Income £4 235 p a Panel 2 841 Good house to rent at £52 p a Premium—1/4 share—£1 150 for quick sale —BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

LOCUMS

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER, Ltd The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals 4, ADAM ST, Strand, London, W C 2
Teleg Epsomian Lond' 'Phone Temple Bar 9011
After Office Hours Epsom 9142

Locum Tenens now free for engagements qualified 1907 St Barts Experienced in G P and Panel work Recent references —Apply MEDICUS The Red House Lancing Sussex Phone Lancing 57

M B, Ch B (Edin), desires LOCUM between Dec 20th and Jan 3rd (incl) Six years experience G P, private and panel At present in Glasgow Country preferred but not essential —Address No 8263, B M A House Tavistock Square, W C 1

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM GRANT)
WATERGATE HOUSE, 15 YORK BUILDINGS, ADELPHI W C 2 Tel { TEMPLE BAR 1054 / RIVERSIDE 1254 (Night Calls)
Telegrams
REASIDE TUBERCLE WESTRAND LONDON

For Reliable Locums and Assistants
AT SHORT NOTICE, CONSULT
British Medical Bureau
(Northern Branch),
33, CROSS ST, MANCHESTER
Telegrams— LOCUM, MANCHESTER
Telephones—CENTRAL 3925 after 6 p.m. hours 2549 RUSHOLME

MEDICAL POSTS DISPENSERS etc.

Wanted — Junior Resident PHYSICIAN (unmarried) at PENMAENMAWR CASTLE NORTH WALES Must have held House Officer Salary £200 per annum with board and lodging Quarters provided in or near the Castle Appointment may be renewed at the end of six months
Apply stating age experience and give personal references, to Secretary, Ruthin Castle North Wales

Wanted — Resident M O for small Private Sanatorium Work very light Would suit young Doctor convalescent from Tuberculosis and anxious to combine cure — Address No 8252 B M A House Tavistock Square W C 1

Wanted — Part-time Work, London Morning or evening, surgery Experienced panel and private Free now Interview —Address No 8266 B M A House Tavistock Square W C 1

Wanted, at home or abroad, APPOINTMENT as PHYSICIAN Applicant has D T M & H Several years experience in the Tropics — Address No. 8288 B M A House Tavistock Square W C 1

Woman Dispenser - Secretary (Apothecaries Hall) seeks POST with Doctor or in Hospital London or near Some exper in dispensing Typewriting and shorthand certifs own typewriter Interview —No 8284 B M A House Tavistock Sq W C 1

A Lady Dispenser-Bookkeeper supplied immediately on request qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write wire or 'phone (Park 0969) Secretary 7, Westbourne Park Road W 2

Anaesthetics — Private Instruction in ANAESTHETIC WORK wanted during the winter months by Practitioner of Post graduate work in London No previous experience in Anaesthetics —Address No. 8 B M A House Tavistock Square W C 1

Appointment required by Medical Officer with considerable experience of general practice in Tropics Good references and recent testimonials —Address No 8286, B M A House Tavistock Square W C 1

Appointment required by experienced Medical Officer Ten years in Tropics Either at home or abroad —Address No 8154, B M A House Tavistock Sq W C 1

Bacteriologist (trained) wanted to ASSIST in laboratories with RESEARCH WORK Part time post Salary £5 p w Interview by arrangement —Address No 8 B M A House Tavistock Square W C 1

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers and Secretary Dispensers Nurse Dispensers and Chauffeuse Dispensers —Write wire or phone Central 3679 THE RELIANCE BUREAU FOR DISPENSERS, 12, Holborn Viaduct E C 1

Doctors requiring qualified Dispensers Nurse Dispensers Secretary Dispensers or Chauffeuse Dispensers, are invited to write wire or phone Temple Bar 5093 THE DISPENSERS BUREAU, 15 Lindsey House 11 Shaftesbury Avenue London W C 2

Expert Microscopist, with 12 years experience in teaching of Histology and Pathology, desires work as DRAUGHTSMAN in connection with illustration of text monographs, etc Museum specimens also undertaken Samples of work forwarded on request — Address No 8253 B M A House Tavistock Square W C 1

Medical Officer returned from abroad requires PART TIME Work in London district, or would do LOCUMS —Address No 8262 B M A House Tavistock Square W C 1

Lady Dispenser (Apoth Hall), young Gordon Hall trained 3½ years experience private practice and hospital seeks POST in London — C 1" Ripplevale Grove N 1 Telephone North 4179

Lady Secretary required for the RADIUM DEPARTMENT of the LONDON HOSPITAL Good shorthand and typing essential—Apply House Governor London Hospital E.1

Lady Secretary requires Post with Consultant or Specialist Experienced and interested in medical work Good personal references—Address No 8269 B.M.A. House Tavistock Square W.C.1

Lady young, educated, desires position as PRIVATE SECRETARY to Doctor in West End. Qualified Queen's College Harley Street W.—Address No 8285 B.M.A. House Tavistock Square W.C.1

The Royal Army Medical Corps ASSOCIATION 85 Eccleston Square S.W.1 (Telephone Victoria 2722) supplies qualified Dispensers Bookkeepers Laboratory Assistants Sanitary Assistants Male Nurses Mental and Special Treatment Orderlies Dental Clerks Orderlies Porters Caretakers etc without charge to prospective employers

Typewriting —Expert undertakes Theses Testimonials etc Numerous letters of appreciation from Doctors —BEATRICE RADFORD 341 Finchley Road N.W.3. Phone Hampstead 6430 (any hour)

Testimonials Duplicated per return of post Prices per testimonial—12 copies 1/6 50 2/6 100 4/ —Miss NANCY MCFARLANE (B.M.J.) 44 Elderton Road Westcliff-on-Sea.

PRACTICES

Wanted by exper Graduate, married, with £4 000 at command a good genuine PRACTICE or PARTNERSHIP or DEATH VACANCY within about fifty miles of London and income of £1 200—£2 000 a year Free now Good house to rent or buy —Details to 44.2 c/o PERCIVAL TURNER Ltd. 4 and 5 Adam Street Strand W.C.2.

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For Sale with preliminary Advertantship—Rapidly increasing middle class PRACTICE averaging over £2 000 p.a. (1930 over £2 200 One appointment £110 possibly transferable Panel over 2 000. Premium £3 000 cash following 6 months as Intantship Indoors at £300 p.a. to start January 1st 1931—Address No 8280 B.M.A. House Tavistock Square W.C.1

For Cash Sale —Northern County Town General PRACTICE, panel over 3 250 plenty of scope for improvement. Suit two partners. Houses available — Address No 8279 B.M.A. House Tavistock Square W.C.1.

Wanted — Panel and Private Cash PRACTICE within 4 miles radius Camden Town House to rent—Address No. 8203 B.M.A. House Tavistock Square W.C.1

Cheshire Town, near Manchester —Average cash receipts £800 Panel 450 Much scope Excellent modern house 2 reception 4 bedroom Garage and garden Premium 1½ years purchase — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Death Vacancy —Lancs Town — Average cash receipts £848 p.a. Panel 1 003 Scope Excellent house 2 reception 4 bedrooms Garage and large garden Rent £65 p.a. Premium 1 years purchase—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Death Vacancy —Old-established PRACTICE in West Riding Town population over 50 000 Audited receipt for the past three year average £1 150 p.a. Panel over 1 000 House can be purchased—Apply 25" REYNOLDS & BRANSON LTD Medical Transfer Agent 13 Briggate Leeds

FRCSE, aged 35, desires to purchase PRACTICE with inc me about £2.000 Modern e panel, large house scope for surgery and educational facilities essential No agent — Address No 8271 B.M.A. House Tavistock Square W.C.1

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable Nearly all the best Practices are sold by him without being advertised Inform free on applic.—4 Adam St. W.C.2.

Lancs Town — Excellent and old-established Good house central position 2 surgeries garage Average receipts £1 700 great scope Panel over 1 500 Price—Practice and property—£5 750 part deferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street

Liverpool (near) — Old-estab Middle-class PRACTICE. Cash receipts 1929 £1 431 Excellent corner house 2 reception 5 bedrooms Garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Manchester — Industrial Practice. Average cash receipts £978 Panel 721 Plenty of scope Good house 2 reception 5 bedrooms. Rent £50 p.a. Premium 1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Medical Practice in Aberdeen for immediate disposal Excellent private and panel connection Dwelling house may be purchased if desired.—Further particulars from Messrs BURNETT & REID Advocates 12 Golden Square Aberdeen

Near Leeds — Industrial Town PRACTICE. Average cash receipts £1,280 Panel 1 350 Local Hospital Good house 2 reception 3 bedrooms. Premium—Practice—1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Old-established panel and private PRACTICE, Yorkshire University Town Panel 2 156 One appointment £90 Average part three years £2 626 To October 31st 1930 £2 411 Good corner house sale or let 1½ years purchase £2,000 cash essential No agent Address No 8272 B.M.A. House Tavistock Square W.C.1

South Devon (not on coast) — Wanted in May 1931—A small Country PRACTICE of about £600 p.a. by a middle-aged energetic Medical Man experienced in Hospital and general practice A small house with 5 bedrooms electric light garden and garage — Address No 8381 B.M.A. House Tavistock Square W.C.1

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Yorkshire (W.R.) —Large City —Old-estab mixed class PRACTICE Average cash receipts £1 778 p.a. Panel 800 Excellent corner house for sale 2 reception 4 bedrooms Garage etc. Premium—Practice—1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Death Vacancy Practice for Disposal — Lancashire Town — Receipts £810 per annum Panel 1 000 Practice established 25 years House can be had on rental—For further particulars apply Messrs R. SUMNER & CO Ltd Manufacturing Chemists 40 Hanover Street Liverpool

Woman's Practice for Sale in industrial area of Midland Co Well established Panel 600 increasing Takings last year £734 audited Freehold £0 —Address No. 8177 B.M.A. House Tavistock Square W.C.1

Yorks —Old-established — Good house large garden garage rates and rates £130 Average receipts £1 010 Panel averages over £500 Much scope Transferable appointment £100 Price 1½ years purchase part deferred — MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION 6 Brown Street

Yorkshire (N.R.) — Country Town PRACTICE. Average cash receipts £894 p.a. Panel 450 Excellent house (5 bedrooms) garage and large garden for sale or rent Premium £1,250—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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APPOINTMENTS—Contd

South London Hospital for WOMEN
South Side Clapham Common, S W 4

The Board of Management invite applications from fully qualified Medical Women for the undermentioned appointments

Three HOUSE SURGEONS Each for a period of six months from February 1st

Salary at the rate of £100 per annum, with board residence, and laundry Candidates are expected to call on Members of the Hon Medical Staff before Saturday December 20th Further particulars to be obtained from the Secretary at the Hospital to whom applications and copies of testimonials should be forwarded on or before December 22nd

Woking and District Victoria HOSPITAL
(General Hospital—50 Beds)

Female RESIDENT MEDICAL OFFICER (unmarried) required for January 1st 1931 Applicants must be doubly qualified and registered Salary £100 per annum, with board, residence, and laundry

Appointment for six months, and renewable for further six months

Applications stating age, etc and accompanied by *copies of recent testimonials to be addressed to the undersigned, from whom* all particulars may be obtained They must be received on or before December 12th Personal canvassing not allowed

Woking & District R MANNING DRIVER
Victoria Hospital Hon Sec

Royal Berkshire Hospital, READING (243 Beds)

Wanted on January 9th 1931 ONE HOUSE PHYSICIAN and TWO HOUSE SURGEONS

Candidates must be fully qualified and registered The appointments are for six months and the salaries are at the rate of £150 per annum with board residence and laundry

Applications with copies of testimonials should be addressed to the undersigned on or before December 16th

F A IYON
December 6th 1930 Secretary

Connaught Hospital *(100 Beds)*
Orford Road, Walthamstow E.7

RESIDENT HOUSE SURGEON (male) required Salary £100 per annum with board quarters and laundry Appointment for six months (to date from January 1st 1931) Applications stating age nationality qualifications and experience accompanied by copies of not more than three recent testimonials should be sent immediately to the Secretary

Weymouth and District HOSPITAL WEYMOUTH
(86 Beds and Cots)

Wanted HOUSE SURGEON fully qualified male (European) for January 1st 1931 Salary £180 per annum, with board residence and laundry

Applications stating age qualifications and copies of testimonials, should be sent to the undersigned not later than December 17th

MORRIS LODGE
Hon Secretary

West Herts Hospital, HEMEL HEMPSTEAD HERTS
(24 miles from Euston)

Applications are invited for the appointment of a SENIOR RESIDENT MEDICAL OFFICER to commence duties on January 1st 1931 Salary £150 with rooms, board, and laundry There are 110 beds

Particulars to be obtained of and applications stating essential particulars and enclosing copies of recent testimonials to be sent at once to—

ROPT I BUTTERFIELD
Clerk to the Hospital

County Borough of Ipswich
ASSISTANT RESIDENT MEDICAL OFFICER (Female)

The Public Assistance Committee invite applications from fully qualified Medical Women for the appointment of Assistant Resident Medical Officer at their Poor Law Institution known as the Borough General Hospital Heathfield House, and St Johns Hospital for Children Salary £250 per annum with board and residence The appointment is subject to termination by six weeks notice on either side and is limited to a period of 12 months

The accommodation of the Borough General Hospital is for about 330 patients and at Heathfield House about 250 inmates The number of children in St Johns Home is about 150

The candidate appointed will be required to act generally under the direction of the Visiting Medical Officer and to give lectures to the Probationer Nurses

Applications stating age qualifications and experience accompanied by copies of not more than three testimonials to be sent in sealed envelopes endorsed Assistant Resident Medical Officer not later than Monday December 15th

Public Assistance Department L W CREFNHATCH Chief Officer
19 Tower Street
Ipswich December 1st 1930

Cumberland and Westmorland MENTAL HOSPITAL, GARLANDS CARLISLE.

JUNIOR ASSISTANT MEDICAL OFFICER required

Applicants must be registered Practitioners male unmarried not over 30 Salary £ per annum rising by annual increments £25 per annum to £450 together with the usual emoluments at present valued for the purpose of the N H S at £100 per annum. £ additional will be given on obtaining the D P H (facilities for study leave with a view to obtaining the D P M are granted on recommendation of the Medical Superintendent)

The appointment to be subject to two months notice on either side The successful candidate must be free to take up duty on January 3rd 1931 Applications, stating age qualifications religion etc together with copies of three recent testimonials to reach the undersigned not later than December 18th

THE MEDICAL SUPERINTENDENT

Derbyshire Royal Infirmary

APPOINTMENT OF NON RESIDENT RADIOLOGIST

Applications are invited from duly qualified and registered Medical Practitioners for the appointment of Non Resident Radiologist to the Derbyshire Royal Infirmary Honorarium £1 per annum Candidates will be required to take charge of the X ray Department in the Deep X ray Therapy The appointment is subject to such regulations as the Board may from time to time determine Applications must be received by the undersigned not later than Thursday January 8th 1931

WALTER BANKS
December 1st 1930 Supt & Secretary

The Royal Waterloo Hospital FOR CHILDREN AND WOMEN
Waterloo Road S E.1

There will be a vacancy on January 1 1931 for a HOUSE SURGEON (male) at the Hospital The appointment is in the first instance for a period of six months Salary at the rate of £100 per annum with board and residence Application with copies of testimonials should be forwarded not later than Tuesday, December 16th to the Secretary at the above address from whom further particulars can be obtained

The Hospital for Sick Children, NEWCASTLE UPON TYNE (92 Beds)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female) to commence duties forthwith until March 31st 1931 Salary at the rate of £100 per annum Applications stating age and qualifications with copies of testimonials to be sent to the Secretary Mr NEIL BRODIE 18 City Road Newcastle

Peace Memorial Hospital, WATFORD HERTS

RESIDENT SURGICAL OFFICER (male) £150 per annum Appointment for six months eligible for re-election

Applications stating age and qualifications with at least three recent testimonials to be received by the Secretary not later than December 17th No canvassing Date Duties to commence January 9th next

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Shropshire Orthopaedic Hospital, OSWESTRY
Applications are invited for the post of ASSISTANT ORTHOPAEDIC SURGEON on the Visiting Staff of the above-mentioned Hospital Salary £450 per annum Duties commence on or about January 1st 1931 and the successful candidate is eligible for annual re-election
Applications together with copies of three recent testimonials and stating experience in Orthopaedic Surgery should be sent to the undersigned by December 10th.
JOHN C MENZIES
Secretary Superintendent.

Seamen's Hospital Society, Greenwich S.E.
HOUSE PHYSICIAN and HOUSE SURGEON required at DREADNOUGHT HOSPITAL, Greenwich, for six months from January 1st 1931 Salary £110 per annum and a proportion of fee with board, residence and washing
Candidates must be male Applications with copies of three testimonials to be sent in by December 10th to the undersigned
Greenwich R. E. V. BAX
November 22nd 1930 Secretary

Seamen's Hospital Society, Greenwich S.E.
RESIDENT MEDICAL OFFICER required at ALBERT DOCK HOSPITAL, Connaught Road E.16 for six month from January 1st 1931 Salary £110 per annum and a proportion of fees with board residence and washing Candidates must be male Applications with copies of three testimonial to be sent in by December 10th to the undersigned
Greenwich R. E. V. BAX
November 22nd 1930 Secretary

Seamen's Hospital Society, Greenwich S.E.
HOUSE SURGEON required at TILBURY HOSPITAL, ESSEX for six months from January 1st 1931 Salary £150 per annum with board residence and laundry Candidates must be male Applications with copies of three testimonial to be sent in by December 10th to the undersigned.
Greenwich R. E. V. BAX
November 22nd 1930 Secretary

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St Mary's Hospital, W 2
SURGICAL REGISTRAR.
The Board of Management invite applications for the above post. Candidates for the appointment must be registered Medical Practitioners and Fellows or Members of the Royal College of Surgeons of England or Graduates in Surgery of a University in the British Empire
The salary is £200 per annum, with luncheon and tea. Copies of the regulations for the Surgical Registrar may be obtained on application to the Secretary's Office
Applications with copies of testimonials not exceeding three in number should reach the undersigned on or before Wednesday Dec 10th.
The successful candidate will be expected to take up his duties on January 1st 1931
W PARKES Secretary

Bury Infirmary, Lancashire
(A General Hospital of 170 Beds)
Applications are invited for the post of THIRD HOUSE SURGEON who must have both Medical and Surgical qualification The appointment is for six months at a salary at the rate of £150 per annum with board residence and laundry
Applications stating age qualifications and nationality with copies of three recent testimonial to be sent to the undersigned not later than December 12th endorsed Third House Surgeon
ALEX W MAITLAND
Honorary Secretary

Cheshire Joint Sanatorium, MARKET DRAYTON SALOP
HOUSE PHYSICIAN required (male). The appointment will be for twelve months In clusive salary £250 per annum with board residence and laundry
Applications to be made on forms obtainable from the Medical Superintendent.

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Outlying Suburb, W — Nearly £1 300 Panel 1 540 increasing 25 30 mid £4 4s Visits 4 and 5 Small house with surgery garage etc. and room to build. —No. 8772
Cheshire —£490 p.a. Panel 100, discouraged. Appt. £150 N much mid Visits 5 to 10 6 House 4 bed. etc. Good will £500 or near —No. 8770
London Suburb —£2,800 a year PARTNERSHIP and Succession Old established Genl Practice. Panel 1 120 Detached house and garden Ventilated surgery —No. 8768
London, W — £5,000 a year PARTNER wanted to purchase interest in Old-estab Panel of 4 000 Quarter share at first Good fees Good house avail —No. 8767
Scotland, N — £864, easily worked Panel and appts £614 Visits 3,6 up Detached house 3 recep 5 bed etc Rent £25 Prem £800 incl furn —No. 8765
Leics —About £400 p.a. Scope to young man Panel 350 Good House 5 bed Rent £42 p.a. Good schools and hunting —No 8763
Favourite South Coast Resort — Average £2 300 Panel 1,500 Fees 7/6 up Excellent house, 6 bed 2 rec plus and large garden —No. 8762.
Oxon —Country Practice nearly £1,200 p.a. Panel over 1 000 Visits 3,6 to 10/6 House 4 bed. surg rm etc. —No 8753
S Midlands —Average £756 p.a. Town of 45 000 Small panel Fees 3 6 to £1 1s Large house and garden Smaller ones available.—No 8750
London S E —Over £800 Cash and panel of 880 Visits 2 6 to 3/6 Shop-front surgery with living accommodation. —No. 8749
Salop — Country —£1,030 p.a. Panel and appts. £460 Visiting fees 5/ up Modern house 5 bed. etc. large garden to rent. Easy terms.—No. 8747
Hants (15 miles from sea) — Nearly £1 000 p.a. Panel 2-0 Scope. Fees 3 6 to 15/ House 2 reception 6 bed., surgy and large garden —No. 8744.
South Coast — Within 60 miles Over £1 000 increasing rapidly Panel 500 Clinic £50 Fees 5/6 to 12 6 Good house 4 bed. etc.—No. 8742.
Surrey — Rapidly increasing PRACTICE. Receipts over £830 Panel 580 Excellent house 8 bed. with large garden to rent.—No. 8741
Glos — Country —Over £1,250 p.a. Panel nearly 1,100 Fees 3 6 to 5/ Detached house 1/4 acre. £1 000 down balance over 4 years.—No 8740
Ulster — Seaside Town, about £750 great scope. Panel over 600 increasing Fees 2 6 to 7/6 and up House, 5
Devon —Dispensing Practice in large village averaging £940 p.a. Fees 5/ to 2 gns. Surgery 2/6 to 7/6 Large house with an acre and cottage for £3 000 of which £2,500 could remain on for sale without house.—No. 8727
S W County near Coast —Dispensing PRACTICE over £2,000 p.a. chiefly agricultural Visits 5/ up Surgery 2/6 up 1,100 panel.—No. 8722
North Wales —Old-established —About £900 p.a. Panel £292. Agricl. Cottage Hosp Scope surgery Good house. Garage and garden — o. 8692.

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2 DEVON COAST.—Practice worth £1,000 p.a. in favourite resort Panel 1,550 Well situated house (5 bedrooms) garden and garage Premium—house and Practice—£4 000

3 MIDLANDS.—Practice, over £1,700 p.a., in important city Panel 1,570 Centrally situated house (7 bed and dressing rooms) with garage and garden, for sale Scope for increase Premium £2,250

4 CHESHIRE Chiefly non-dispensing PRACTICE of nearly £500 p.a. in residential town Panel 100 New semi-detached double-fronted house (4 bedrooms) for sale Scope for considerable increase Premium £500

5 MIDLANDS.—Practice of about £350 p.a. in manufacturing town Panel 350 House contains 5 bedrooms etc Rent £42 p.a. Scope for increase Premium £350

6 LONDON, E.—Cash and Panel Practice (held by Medical Woman) in densely populated area Receipts £350 p.a. Panel 290 Small house to rent Premium £450

7 HOME COUNTIES.—Partnership in Practice over £7 000 p.a. in progressive town within 20 miles of London Panel about 2 000 Partner required for new developing district where suitable house could be purchased Good Hospital and scope for surgery Graduate or preferably F.R.C.S. required Share £800/£1 000 at 2 years purchase

8 LONDON, W.—Partnership in Practice nearly £5 000 p.a. in Western suburb Panel 4 000 House (5 bedroom etc.) with small garden to rent Plenty of scope One fourth share at first at 2 years purchase

9 YORKSHIRE (N. Riding).—Practice averaging between £950/£1 000 p.a. in a beautiful country district Panel 440 House (5 bedrooms) in acre of land to rent Modern Cottage Hospital and scope for surgery Premium 1 years purchase

10 MIDLANDS.—Partnership in Practice of between £1 800 £2 000 p.a. in a beautiful district in a hunting centre Panel about 1 000 Good house with 5 bed and dressing rooms garage and one acre garden for sale Smaller one might be had Premium one third share 2 years purchase Public School University man preferred

11 KENT.—Partnership in Practice in a Market Town under 45 miles from London Small panel Well situated house (4 bedrooms) to rent Share at present worth about £700 p.a. for disposal with good scope Premium £800/£1 000

12 SCOTLAND.—Sound well-established Practice of £1 800 p.a. in attractive district easy distance of Aberdeen Panel 1 100 Well built house (5 bedrooms), large garage and acre of garden, for sale. Salmon fishing and other sport. Premium 1½ years purchase

13 S. COAST.—Partnership in good mixed non dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900 Excellently situated house (6 bedrooms) in rapidly growing part to rent Partner should not be over 40 years of age Premium one third share 2 years purchase

14 N. WALES.—Country Practice of £1,230 p.a. in Welsh speaking district Panel about 550 Convenient and well situated house, with electric light etc for sale All kinds of sport Premium for a quick sale 1 years purchase or even slightly less

15 S. COAST.—Partnership (after preliminary Assistantship) in well established Practice in Seaside Resort Share worth £500 p.a. offering good scope to a suitable (unmarried) man after six months

16 SOUTH OF ENGLAND.—Practice averaging about £900 p.a. in Seaport Town No panel Suitable house Great scope for increase Premium 1½ years purchase

17 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town Receipts average £946 (including £3.6 from panel) Small compact house (5 bedrooms) with garden for sale Sport Premium—Practice and house—£2,000.

18 KENT.—Partnership in Practice about £4 400 p.a. in outlying suburban district Panel 2 400 (approx) house (4 bedrooms) to rent Premium one-fourth share 2 years purchase

19 NOTTINGHAMSHIRE.—Country Practice of nearly £1 100 p.a. Panel 700 Good house (6 bedrooms) garage and 1½ acres garden, to rent Great scope Premium 1½ years purchase

20 HOME COUNTY.—Partnership in non dispensing Practice £3 200 p.a. in first rate residential town under 30 miles from London Panel over 4 000 Detached House (6 bedrooms) with large garden to rent Partner should be aged 30—40 and experienced in anaesthetics Two-fifths share at 2 years purchase

21 SURREY.—Partnership in good mixed class Practice about £3 000 p.a. in Town within 10 miles South of London Small panel Suitable house obtainable Excellent scope Premium one third or one half share 2 years purchase

22 S.W. OF ENGLAND.—Partnership in increasing middle-class Practice of about £2 500 in a sport town Panel 870 One fourth or one third share at 2 years purchase Preliminary Assistantship

23 S. DEVON.—Practice nearly £950 p.a. in small country town easy distance of the coast Panel 349 Good house and garage in acre of garden, for sale All kinds of sport Premium £1 500

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Practices and Partnerships for Disposal (continued)

24 LONDON, S E.—Partnership in Practice £6 600 p.a. in outlying suburban district. Panel 2 000. Premium one-sixth share 2 years purchase.

25 NURSING HOME in fashionable Inland Health Resort. Receipts over £5 000 (net profit between £600—£700). Premises rented on lease. Premium £1 000 or near offer. Furniture etc. at valuation.

26 LONDON, E.C.—Partnership (with Succession) in steadily increasing Practice of about £1 200 p.a. in the City. Majority of consultations £1 1. Excellent consulting rooms. Premium one-half share 2 years purchase.

27 MIDLANDS.—Compact middle and working-class PRACTICE nearly £2,200 p.a. in manufacturing town. Panel over 2 500. Ten roomed house (with surgery accommodation additional) to rent. Premium £3 500.

28 YORKSHIRE (W.R.) — Compact easily worked PRACTICE, averaging £1 600 p.a. in manufacturing town. Panel over 1 300. Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ year purchase.

29 EAST COAST.—Partnership in non-panel Practice in favourite watering-place. Partner should be young and with Hospital experience. Share of about £1 000 p.a. at 2 years purchase. Preliminary Assistantship.

30 KENT.—Practice of £1 260 p.a. in residential outlying suburban district. Fair panel. Corner house (7 bed and dressing rooms) with large garage and garden for sale. Scope. Premium 1½ years purchase.

31 CORNWALL — Partnership in Country Practice on Coast. Convenient house (6 bedrooms) with good garden for sale. Share of about £1 200 p.a. at 1½ years pur

32 HANTS — Practice over £1 200 p.a., including clubs and panel over 1 100) in small industrial town. House (6 bedrooms) with large garden and garage for sale. Beautiful country around. Premium £1,500.

33 S.E. COAST — Partnership in well-established Practice about £2 600 p.a. in popular Seaside Resort. Small panel. House obtainable. One third share for disposal. Excellent scope.

34 EASTERN COUNTIES.—Good-class Practice of £1 545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms etc. and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years purchase.

35 LONDON, S.E.—Practice averaging over £1 700 p.a. in outlying residential suburb. Small panel. Good and well-situated house (6 bedrooms) with small garden for sale. Premium—Practice—1½ years purchase.

36 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house but surgery and waiting room to rent. Capable of much increase. Moderate premium.

37 W. MIDLANDS.—Partnership in Practice about £2 700 p.a. in Market Town. Panel about 800. One-third or one-half share at 2 years purchase. Partner must be well qualified and experienced in General Practice. Preliminary Assistantship.

38 W. OF ENGLAND.—Partnership in Practice over £3 000 p.a. in pleasant Country Town under 130 miles from London. Young keen Partner preferably with the F.R.C.S., who has held Hospital appointment. Premium for a two-fifths or one-half share 2 years purchase.

39 LONDON, S.W.—Practice (carried on by two Medical Men) averaging £5 000 p.a. in suburban district. Panel 1 400 rapidly increasing. Two houses to rent. Or a share up to one-half would be sold.

40 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town. Panel 1 100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One half share at 2 years purchase with ultimate succession.

41 YORKSHIRE (N.R.).—Practice £920 p.a. in small attractive Country Town. Panel 450. Good house (5 bedrooms) garage garden etc. for sale or rent. Very good trout fishing. Premium £1 250.

42 MIDDLESEX — Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

43 WITHIN 50 MILLS OF LONDON — PARTNERSHIP in Practice averaging over £3 500 p.a. in first rate county town. Panel over 1 100. Good house (7 bed and dressing rooms) to purchase or rent. One third share at 2 years purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

44 CHESHIRE.—Partnership in increasing better-class non-panel Practice over £4,500 p.a. in first rate residential district. On fourth share at 2 years purchase. Partner should be University Graduate who must have held Resident appointments.

45 LANCASHIRE — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Receipts last year nearly £1 200. Panel 260. Very nice compact house (4 bedrooms) garage and garden for sale. Golf. Premium £1 000.

46 S. DEVON — Partnership in Country Practice about £1,500 p.a. in beautiful part, easy distance of coast. Panel over 950. House containing 5 6 bedrooms for sale. Premium one-half share £1 320 to include drugs etc. Would survey light.

47 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics) garage and half acre of garden for sale. Scope. Premium 1½ years purchase.

48 SURREY — Steadily increasing Practice, averaging £1 355 p.a. in a first rate Country Town. Panel nearly 1 300. Large attractive old fashioned house (7 bedrooms) for sale. Cottage Hospital. Premium 1½ years purchase.

49 OXON.—Practice averaging £1,180 p.a. in residential country district. Panel 1 000. Detached house (4 bedrooms) garage and good garden for sale. Good society. Premium 1½ years purchase.

50 LONDON, N.W.—Practice of about £1,450 p.a. in suburban district. Panel 1,150. Corner house (4 bedrooms) for sale. Scope.

51 S. MIDLANDS.—Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1 000. Suitable house available. Cottage Hospital. Premium one-third share 2 years purchase.

52 WILTSHIRE.—Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water main drainage) for sale or rent. Premium £750.

53 LONDON, E.—Practice (carried on by Medical Woman) in populous area. Receipts last year £580. Small panel. No midwifery. Six roomed house to rent. Premium £750 to include drugs etc.

54 SURREY.—Partnership in Practice about £3,500 p.a. in desirable residential town. Small select panel. House (6 bedrooms) to rent. Premium—one third share—2 years p.p.

55 ESSEX.—Assistantship (with view to Partnership and Succession) in Country Practice of £1,500 p.a. Panel 1 200.

56 S.W. OF ENGLAND — Practice over £2 000 p.a. in small country town near coast. Panel 1 050. House (5 bedrooms) with electric for sale. Prem 1½ years p.p.

57 S.W. OF ENGLAND.—Practice averaging £1 666 p.a. in a sporting town. Panel over 2,000. House with 5 or more bedrooms for sale. Premium £2,500.

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All Advertisements and Communications intended for publication in our issues of December 20th and 27th 1930, should reach this office by the following dates

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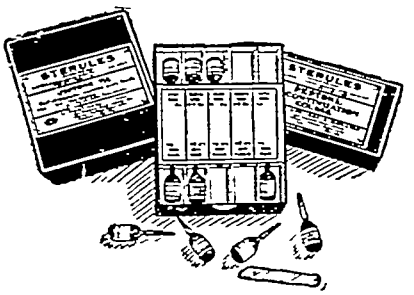
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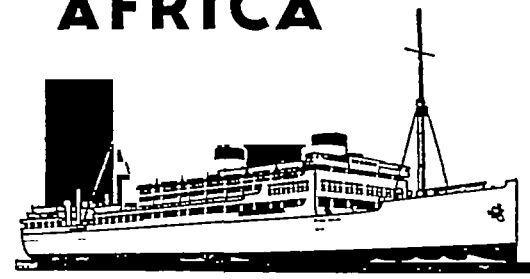


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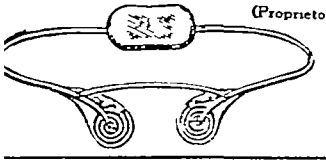


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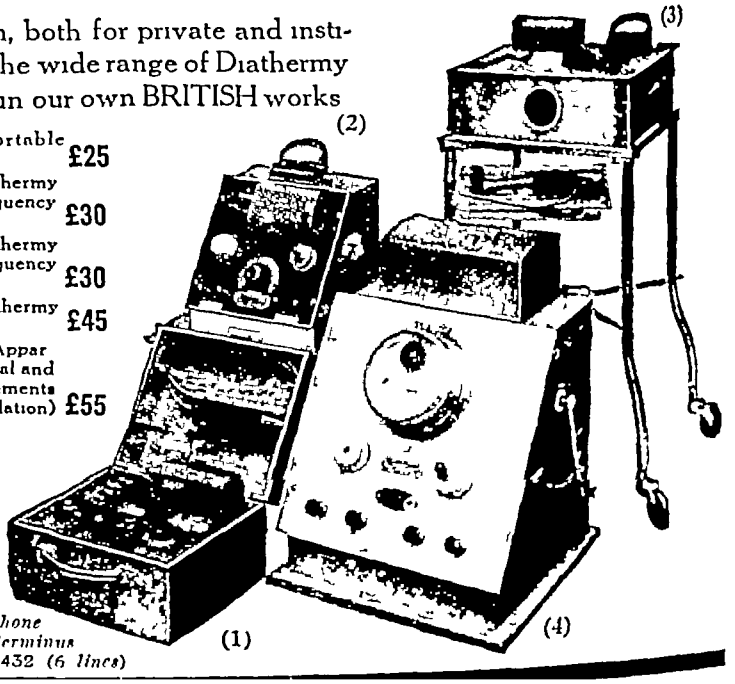
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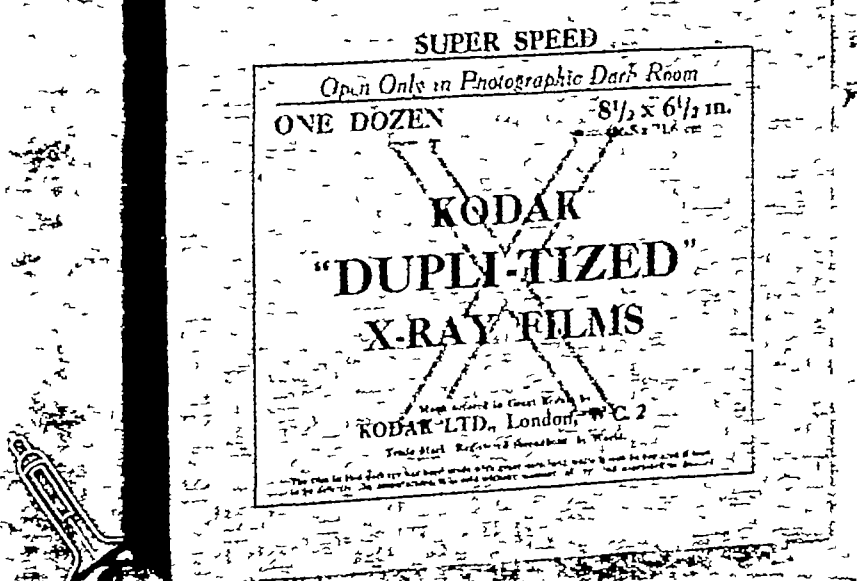
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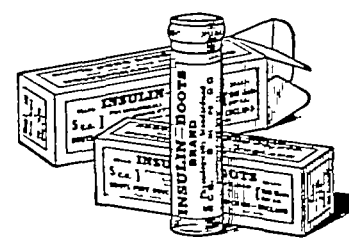
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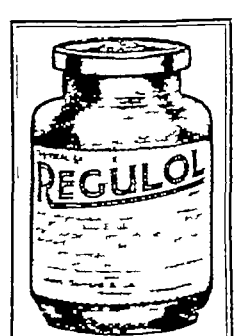
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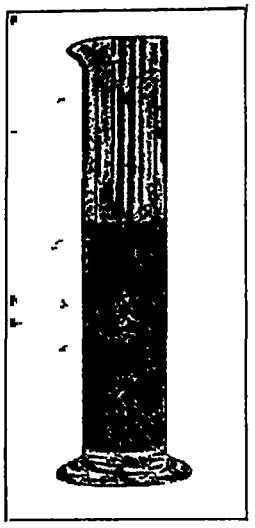
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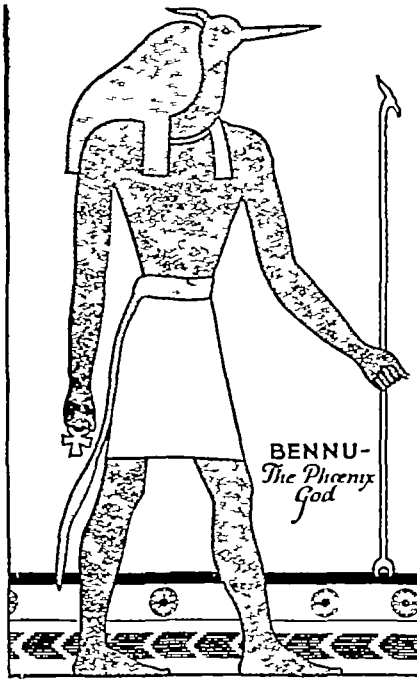
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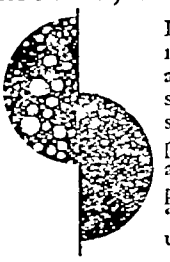
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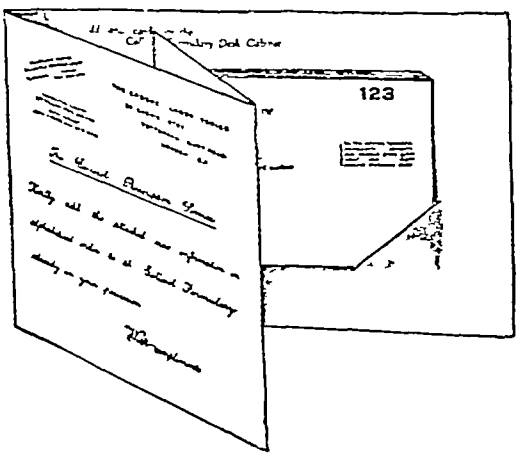
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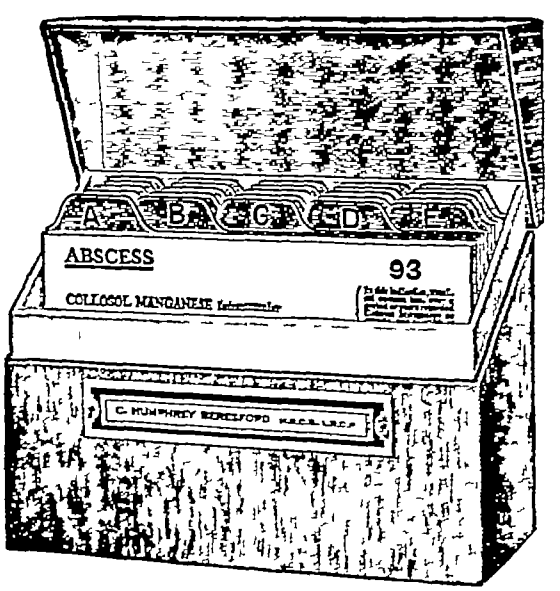


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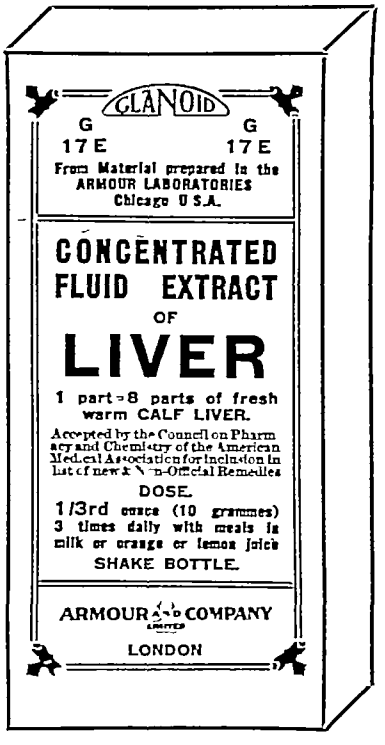
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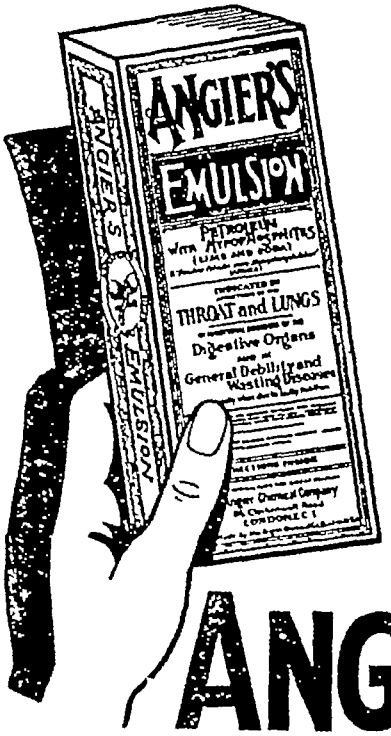
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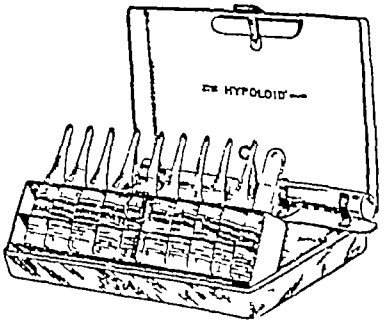
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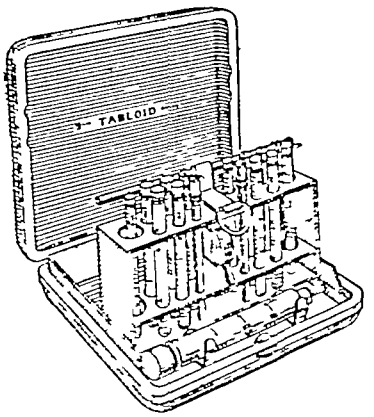
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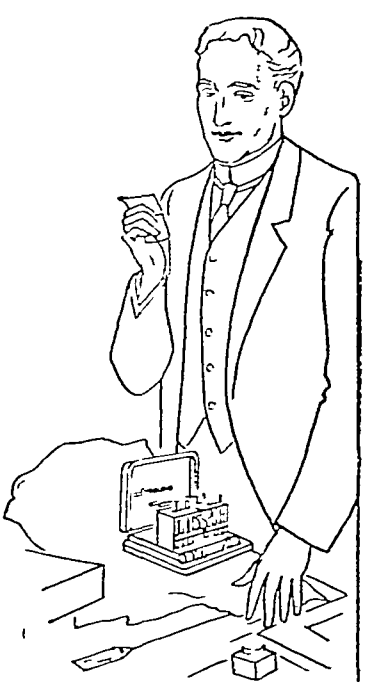
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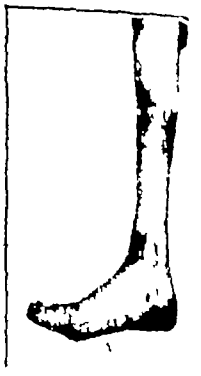


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A Paper
ON
NERVOUS AND MENTAL MANIFESTATIONS OF THE CLIMACTERIC

BY
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THE climacteric or involutional period is that phase of life during which the reproductive functions diminish and become finally extinct. The most obvious manifestations of it in women are the disappearance of menstruation and power of conception, but associated with it, and, in fact, forming an essential part of it, are a series of bodily and mental changes, the appearance of which frequently precedes the onset of menstrual irregularity, and which often continue for a time after menstruation has stopped. Those of them which will form the basis of this discussion are more or less transient but others are permanent, and are the hall-marks of middle age. Such are wrinkles, grey hair and a calmer, if more conservative and less romantic, outlook on life.

The majority of women pass through the climacteric with its psycho-physiological adjustments without great discomforts, and in some, who are specially favoured perhaps with a balanced natural equipment and a happy environment it hardly causes a ripple in their lives. Others however are less fortunate, and to the nervous and mental disorders which beset them special attention will be given.

Men, as well as women are compelled by nature to experience this period of involution, but in them it begins about ten years later, and on the whole the reactions are less intense. It is an easier transition, unaccompanied by flushes and other discomforts of vasomotor origin and although their waist line increases, and they lose their youthful vigour middle age is apt to be accepted more philosophically, perhaps because their interests are more diffuse and absorbing and the loss of the power of reproduction means less to them than to women. But in general, the mental and physical changes at the climacteric are of the same order in men as in women, although because of the later age at which it occurs, and the greater liability to arterial degeneration complicating psychoses more often merge into the pre-senile degenerative mental states. I propose therefore, to confine my contribution to the discussion to the nervous and mental phenomena in women at the natural climacteric and to do no more than indicate, when occasion arises features that distinguish the artificial menopause from ovariectomy in young women.

PHYSIOLOGY OF THE CLIMACTERIC

Involution is essentially a physiological process, a general reaction to ovarian deprivation. It commences, as a rule between the ages of 40 and 50, and lasts for two or three years. There is much that is yet unknown about the nature of the reaction but it is clear that the primary response is due to other endocrine glands, more particularly those that are in most intimate functional relationship with the ovaries. Of these the suprarenals, pituitary and in *particular the thyroid, play a leading part. Involved in* the reaction is the nervous system, through the autonomic or vegetative portion of it, which is delicately influenced by and in turn influences the so-called ductless glands, *especially the thyroid and suprarenals.*

From the available experimental and clinical evidence it would appear that the glandular reaction may be towards increased or diminished activity which however, is not uniform but in general varies with each gland, and also with the constitution of the individual. According to Marañon,[1] whose work ought to be studied by those who are interested in the subject, there are usually signs of overaction of the thyroid in the normal climacteric, to which, with lowered threshold of response the sympathetic nervous system may be attributed such symptoms as emotionalism, palpitations, tachycardia, sensations of discomfort in the chest, sweating, loss of weight, and occasionally goitre. Less often, manifestations of diminished thyroidal function appear, with signs of myxoedema such as lethargy, sluggish mental reactions, dryness and inelasticity of the skin, slow pulse, loss of hair, and increased sensitiveness to cold. They are more common after castration than in the natural climacteric (Marañon). My personal observations agree with those of Marañon and have led me to believe that the affective reactions at the change of life are, although other important factors come into play, the result of dysthyroidism. If the obesity of middle age can be attributed to the pituitary, this gland reacts to ovarian insufficiency more often by diminished than by excessive activity. Examples of acromegaly, however, do occur and I have at present two patients under my care at the London Hospital.

In regard to the suprarenals it has been shown by Hannan[2] and others that the flushing of the climacteric can be provoked by subcutaneous injections of small doses of adrenaline and in fact in their symptoms, resemble the reactions to adrenaline in pre-climacteric people. It is possible also that the transient hypertension and glycosuria common at the change of life are due to hyperadrenalism, a view that is held by Culbertson.[3]

The functions of the cortex of the suprarenals are still imperfectly understood but the development of masculine features in cases of adenoma of this portion of the gland may indicate that the occasional growth of coarse hair on the chin, legs, and trunk a deep voice aggressiveness, and other supposed male attributes may be due to excessive functional activity of this portion of these glands.

The physiological basis of climacteric symptomatology can therefore be said to consist of instability of certain endocrine glands and through them, of the autonomic nervous system the whole train of events being set agoing by ovarian insufficiency. This state of physiological unrest temporarily upsets the mental as well as the physical balance of the individual by giving rise to emotionalism, with a general tendency towards gloominess apprehensiveness and irritability. In all probability it is to dysthyroidism that the affective reaction is mainly to be attributed.

SYMPTOMS OF THE NORMAL CLIMACTERIC

After ovariectomy at the pre-menopausal age arrest of menstruation is the first of the train of events that follow abolition of ovarian function, but in the natural climacteric, occurring at the usual age, other symptoms and signs, notably emotionalism and flushes commonly precede menstrual irregularities, and persist for a time after menstruation has ceased. It is for this reason that Marañon[1] has rightly insisted on the recognition of three stages in the clinical picture of the climacteric (1) pre-menopausal, (2) menopausal, and (3) post-menopausal.

In briefly describing the phenomena of the normal climacteric I will mention only the more usual symptoms and signs which come within the field for discussion. Of these the most constant can be grouped under the headings of emotional instability, vasomotor reactions and change in sex feelings. As an illustration let us take the case of a married woman who has had, on the whole a healthy *life, a small well-doing family, a moderate share of difficulties,* and has dealt with them courageously and successfully. At the onset of the climacteric slight changes in temperament are noticed by the members of her family and her intimate friends. She becomes more easily worried and upset by trifles, is apt more than before to take a gloomy view of events and to be obsessed with the difficulties that crop up in ordinary domestic and social life. Phases of depression distress her, and she surprises her friends by breaking into tears for insufficient reason. She becomes irritable and fault-finding especially with her husband, children, and servants and may at times be

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peevish and complaining, so that nothing seems to be right She appears to live in a state of mild anxiety and apprehensiveness, and will say that she does not understand what has come over her Her sleep is disturbed by flushes, dreams of domestic difficulties trouble her, and she is liable to wake early with her mind full of worries As the day goes on she improves, and by the afternoon is almost herself again In spite of it all, she manages to run her house, see her friends, and carry out her other duties in an apparently competent fashion, but she and her family feel the strain

When her periods become irregular, and in time cease, she knows that she is going through the change of life, and bears it more or less philosophically Gradually she regains her accustomed emotional balance, her flushes become less frequent, till at last, usually some time after the menopause is over, this rather disturbing crisis is passed, and peace is restored

The flushes which form so common a feature of the climacteric and act as an irritant, compelling attention to the bodily state, warrant a separate, if brief, description They occur in attacks, momentary or lasting for minutes, which vary in frequency and intensity, but are often worse in the night, probably because they are excited by warmth in bed In the longer attacks they may be preceded by headache, palpitation, or a sense of oppression in the chest, symptoms which disappear with the onset of the flush This consists of an erythema, which is distributed chiefly to the head and neck, and is accompanied by a general sensation of warmth, with or without waves of heat These waves spread rapidly In the night attacks there is often a sense of suffocation that compels the woman to sit up to breathe Flushes are often spontaneous, but may be provoked by emotional disturbance, by increase in the external temperature, or by taking food The slight attacks are much milder, and consist only of a sensation of warmth, followed by mild sweating, that gives rise to little distress

Other nervous symptoms, such as headaches, pains in different parts of the body, giddiness, and itching, either general or in the external genitals, are common and distressing enough, but are less frequent than flushes, and may be mentioned here only in passing With the flushes they are, however, important, not only on account of the physical discomfort to which they give rise, but even more because they aggravate the tendency to emotional instability the development of a fear of mental and physical disease and a gloomy outlook on life At the same time I would stress that although the phenomena just described may be looked upon as being within the limits of the normal climacteric reaction, many women pass the transition to middle age so easily that their symptoms barely disturb 'the even tenor of their way"

Factors Determining Mental Disorder

Some women, however, are harder hit, and break down mentally at the change of life Before entering upon a discussion of these complications, it would be profitable to consider the factors that appear to determine their development

Constitution and Temperament

In the first place, it will be generally agreed that a history of mental disorder in the family or in the previous life of the individual has an important bearing on the occurrence of psychoneuroses or psychoses at the climacteric She may pass through it unscathed, but the dice are set against her The odds are not easy to estimate, not only because of the difficulty, especially in the poorer classes of getting correct information about relatives with whom they may be out of touch, but also on account of the varying standards of different investigators

Emotional and Physical Background

That causation is never simple is true of all diseases, and is all the more so in mental illnesses of the kind we are considering They are reactions that are evoked by circumstances that may be mental or physical, or both, but the fact that such stimuli only occasionally precipitate an abnormal response clearly indicates the importance of individual background

The constitution as influenced by heredity is admittedly important, and from it temperament cannot be separated The emotional nervous type of woman, who has imperfectly stood up to the ordinary wear and tear of life, will be more apt to be affected adversely by the upheaval of the climacteric than the woman of more phlegmatic temperament So also educational equipment, in so far as it has led to cultivation of real interests outside herself, whether in regard to the welfare of her family or in intellectual pursuits, will help to prevent unhealthy introspection

The severity of environmental difficulties has equal significance Worry or poor health, especially prevailing the menopausal period, is apt to lead to trouble The healthy mother, happy in her family circle, or the single woman with suitable occupations and friends who satisfy her emotionally and intellectually, is likely, if of good stock, to have little trouble at the change of life

Preconceived Notions of the Climacteric

It is a popular belief that the change of life in women is associated with illness The fear that this belief engenders may lead to much unhappiness by accentuating the emotional instability natural to the climacteric Unfortunately, physicians in this respect are not entirely free from blame, for they are perhaps too inclined to forget, when discussing the climacteric, that, as a rule, it is associated with only slight disturbances Thoughtlessly they may also, as a ready means of getting out of a diagnostic difficulty, attribute symptoms which they cannot explain to the climacteric

Varieties of Mental Disorder

Mental complications may be divided into two groups (1) psychoneuroses, (2) psychoses While such a classification is justifiable, everyone with experience of abnormal mental states at the change of life will admit the difficulties in differential diagnosis, particularly between anxiety neuroses and the early phase of psychotic depression In fact, the difficulties are not limited to this field, for, looked at from the point of view of psychological reaction, the main difference in the mental manifestations of the normal climacteric, the psychoneuroses, and involutional melancholia is in essence only one of degree They are, so to speak, a continuity, differing in quantity but not in quality, with their symptomatological background of apprehension, depression, and emotional instability Essentially affective reactions, they are slight or severe according to the woman's inheritance, mental toughness and adaptability, the stresses to which she has been subjected, and perhaps also to the balance of her endocrine reaction at the climacteric The presence of delusions and hallucinations may indicate no more than an emotional disturbance of unusual severity and duration

Psychoneuroses

Anxiety, gloominess of outlook, and physical discomfort are the basic psychoneurotic symptoms which, as has been said, differ only in degree from the disturbances that can be regarded as normal at this time of life In consequence it is difficult to delimit normal reactions, but, for practical purposes, one might consider that the line has been crossed when emotionalism is persistent and severe enough to lead to more or less pronounced change in behaviour and to invalidism She has full insight, but cannot, without help, overcome her difficulties

Strictly speaking, the term "psychoneurosis" ought to be confined to those anxiety states which have been precipitated by domestic or other worries or by fear of the menopause and its consequences, and which, at the same time, do not present psychotic features Such cases, of course, occur, and differ from the anxiety neuroses of the early years only in so far as they are coloured by the significance of the menopause and its physical discomforts

All will, however, admit the difficulties of differentiating psychoneuroses from early depressive psychoses, and there can be little question but that many cases labelled

neuroses are really examples of psychotic depression either mild or at the prodromal stage

The clinical picture of the psychoneuroses at the change of life need not be described but attention might be drawn to the frequency, as in the psychoses with which thoughts and obsessions have a sexual colouring The suspicions jealousies and false accusations directed against the husband are, when without justification, due to faulty adjustment to the loss of reproductive power and ideas of diminished physical attractiveness fostered by the appearance of grey hair wrinkles, and other signs of middle age Women who are naturally suspicious, and whose marital relationships have not been felicitous for imagined or real reasons, are especially liable to develop such symptoms They thirst for attention look for slights demand concessions, become spiteful and unjust to younger women and seem to get a vicarious satisfaction in causing trouble At the same time the desire for sexual intercourse may diminish even to frigidity or it may increase or become perverted, although this is unusual

Psychoses

While the proportion of cases of serious mental disorder that can apparently have any connexion with the change of life is small in relation to the number of women who pass through the climacteric yet this period is admittedly, like puberty and pregnancy a crisis during which insanities are apt to appear in susceptible women In men the so-called involutional psychoses develop later, and are more prone for that reason, to merge into the presenile and senile psychotic states

Jones and Minague[4] have plotted a curve of incidence of insanity in women on the basis of age They found that there is a progressive rise up to about the age of 40, after which there is a short descent followed by a plateau which is continued to the age of 65 There is then a rapid rise due to senility From the statistics of the Lunacy Commissioners of England and Wales in the three years preceding 1912, Percy Smith[5] considered that the change of life was a cause or associated factor in 8·2 per cent of insanities in female patients admitted to public or private mental hospitals

Melancholia

Of the psychotic syndromes at the climacteric, melancholia is by far the most common For example in Percy Smith's series of 219 cases it formed 66 per cent Large as this proportion is it is I believe really greater, for asylum statistics do not include the majority of milder cases nor can they be relied upon to indicate the duration of the disorder, except when it is severe Admission to a mental hospital especially under certificate is delayed as long as possible—at all events in Great Britain—by relatives and family physician alike The stigma attached to it is real and cannot well be overcome until the law is altered Even then many patients requiring institutional care would be better placed in hospitals suitably equipped and staffed for dealing with those afflicted with mental illnesses in which the prognosis is good but from which patients requiring certification are prohibited Further psychiatrists like asylums come under the ban and, in consequence many patients with mild psychotic depression, who recover relatively quickly without symptoms that might demand certification come to the neurologist or general physician rather than to the psychiatrist

Apart from the frequency and duration of psychotic depression at the change of life there is the debatable question whether there is such a condition as melancholia peculiar to the climacteric and apart from manic-depressive psychosis The diagnostic difficulty lies largely in the fact that the evidence is clinical rather than pathological and that the reactions of the individual with a varying background of life history cannot be constant Nevertheless there is considerable reason for adopting the view that there is a syndrome of involutional melancholia First there is the absence of previous history of mental disorder in a large proportion of cases In Jones and Minague's series this amounted to between 70 and 80 per cent and in Percy Smith's[5] to 67 per cent Secondly, mental and physical retardation in a considerable proportion of cases of depression is relatively absent, restlessness being more common Thirdly, attacks may appear to be precipitated more often by mental and physical disturbances and so tend less to develop without apparent reason than clear manic-depressive attacks Lastly, according to the evidence put forward by Hoch and MacCurdy,[6] involutional melancholia, if severe, may run a more chronic course characterized by almost constant peevishness, hypochondria, ideas of death and poverty, and insufficiency of affect

The differences in the reactions of involutional melancholia and manic-depressive insanities may depend on constitution heredity and mental adaptability alone or there may be the additional factor of emotional responsiveness in abnormal fashion to endocrine instability such as occurs at the change of life There is this to be said in favour of the latter view although solely on clinical grounds—that depression and anxiety severe enough to be looked upon as psychotic and appearing for the first time at the climacteric, differ only in degree from reactions which may be considered normal or neurotic at this time of life

It would be out of place in a short paper to describe fully the clinical picture of involutional melancholia, but attention might be drawn to certain important features of it

In the first place, prodromal symptoms are commonly present, often in the premenopausal stage of the climacteric which from their character may lead to wrong diagnose Anxiety manifested either as vague apprehensiveness or special fear—for example, of cancer—with mild depression irritability sleeplessness headache and a sense of fatigue are frequently looked upon as neurotic, until gradually the depression becomes more severe, and delusions develop Not uncommonly the symptoms of which the patient complains most direct attention to the viscera, and she may only with reluctance admit of a morbid outlook because of the suicidal ideas associated with it Such symptoms as anorexia indigestion, constipation, breathlessness, tachycardia, and pains in different parts of the body, lead the patient to the general physician rather than to the neurologist or psychiatrist It illustrates the importance of patience and care in history-taking in diagnosis

Again as the clinical picture of depression evolves certain features tend to be outstanding It is essentially an affective reaction and although the depression may be profound and continuous there is little, if any mental impairment except when the illness becomes chronic Hypochondriacal complaints referred to imperfect functioning of the intestinal tract heart, or other organs are almost constant and delusions and hallucinations occur at some time or another in all but the milder cases Delusions tend to be associated especially with ideas of unworthiness death and poverty and are apt to have a strong sexual colouring Hallucinations of any of the special senses occur Phases of inactivity, which may amount to stupor are broken into by periods of agitation, when the patient, the picture of extreme misery wanders about aimlessly wringing her hands and appealing to God in some stereotyped phrase Impulses to strike and to use abusive and filthy language are not rare The danger of suicide is ever present and is probably greatest when the depression is less severe as at the beginning and towards the end of the illness For this reason the sufferers should never be left to themselves

In considering melancholia at the change of life it is usual to differentiate various clinical types such as simple anxiety, stuporose and delusional For prognostic reasons there is some justification for this plan if it is not too rigidly applied but as Henderson and Gillespie assert predominance of one group of symptoms over another is probably determined largely by the essential character of the individual Thus the naturally suspicious will develop ideas of reference and so on

Other Examples

Brief mention only need be made of other varieties of mental illness met with at the climacteric because of their relative infrequency compared with melancholia It is

interesting that mania is comparatively rare, even in obvious cases of cyclothymia, and is suggestive of the bias towards gloominess at the climacteric When present, it may be acute, with delusions of persecution and hallucinations *Chronic paranoid psychoses characterized* by persistent ideas of reference, without much affective change, and sexual delusions of indecent suggestions and assault, occasionally occur There is usually some degree of mental deterioration Confusional insanities, with disorientation, hallucinations, and noisy episodes, may occasionally follow extreme exhaustion or septic infection, and mental disorder, with or without polyneuritis from alcoholism, has to be kept in mind The climacteric age is also the usual period for dementia paralytica in women

PROGNOSIS

Vasomotor and nervous symptoms, including emotional *instability, tend to disappear, and with the passing* of the change of life women commonly enter a period of serenity, which has been happily termed "the autumnal peace of middle age"

The outlook in those suffering from psychoneuroses largely depends upon how far the environmental incompatibilities can be overcome, and the attitude of the woman adjusted to the disappearance of youth and reproductive *functions Domestic happiness, intellectual interests,* and physical health are invaluable assets, and much can be done by wise psychotherapy

The prospect of recovery from psychoses depends upon several factors, most perhaps on the reaction type of the illness, but also upon the physical health and general management and care of the patient

In manic-depressive states recovery is to be expected as well as in those cases of melancholia appearing for the first time in which unfavourable reactions are not present Henderson and Gillespie[7] give six to nine months as the average duration of the illness, and Hoch and MacCurdy[8] a little longer It may be shorter, and is often longer The *prognosis is worse* if agitation, delusions, and stupor are pronounced and persistent, and is largely due to the difficulty of keeping the patient sufficiently nourished

Inadequate emotional reaction, constant peevishness, narrowing of the mental horizon, auto-erotic behaviour, aimless wandering with stereotyped complaints and ridiculous hypochondriacal delusions, may appear for short *periods in benign cases, but according to Hoch* and MacCurdy, if persistent, are of bad omen

The prognosis in chronic paranoid states is grave, but in cases of alcoholic and confusional psychoses recovery will occur if the toxic cause can be eliminated

With dementia paralytica and other neurosyphilitic disorders the outlook, with treatment, is the same as in non-involutional periods of life

Whatever the mental illness may be, if it is *complicated* by cerebral arterio-sclerosis, the prognosis is worse

TREATMENT

Prophylaxis

Since poor health, *either mental or physical,* seems definitely to aggravate the psycho-physiological disturbance of the climacteric, women who are approaching this period of life should be protected as far as is possible from anxiety, and their general bodily hygiene kept at as high a level as possible At the same time, the physician should be careful to dispel dreads of illness that are so often in their minds, and help them to realize that "the change" is a normal process, *which is safely endured* by the majority of women without much discomfort

Glandular Therapy

The climacteric is an endocrine reaction to deprivation of ovarian hormones The rational treatment of those symptoms which are due to endocrinal insufficiency should therefore include active preparations of the glands which are *functionally deficient* Up to the present, however, this ideal has been only partially fulfilled, because of the want of reliable standardized preparations, except in the case of thyroid The drug market is flooded with substances which, on trial, give the most inconstant r[illegible] or none at all Nevertheless, ovarian preparations [illegible] as those of the corpus luteum, and the dry ex[illegible] the gland, are beneficial, especially for flushing and vasomotor disorders Marañon[1] considers that th[illegible] also of great help in reducing emotional instabilit[illegible] uses them, along with other measures, in the treat[illegible] of psychoneuroses and involutional melancholia

The dose advised by manufacturers is often too [illegible] and because of the variable efficacy of the different [illegible] parations the adequate dose in each case is a matter [illegible] experiment

Ovarian grafts have proved to be unsatisfactory, [illegible] perhaps, because of their rapid absorption

Thyroid is invaluable when there are signs of myxoed[illegible] but it is often used indiscriminately with harmful re[illegible] The presence of even mild hyperthyroidal symptoms, su[illegible] excitability, tachycardia, flushing, and loss of weight, is a definite contraindication, and Marañon's rule that it sh[illegible] not be given if the basal metabolic rate is higher th[illegible] +20, or the pulse rate is consistently over 100, is com[illegible] There is no special treatment for hyperthyroidal sta[illegible] during the change of life, except in so far as ovarian preparations may be considered advisable Rest, bromid[illegible] belladonna, quinine hydrobromide, and so on, are to [illegible] used as in medical treatment of hyperthyroidism in your[illegible] people

Pituitary and suprarenal preparations are sometim[illegible] employed, apparently with benefit, but I have no perso[illegible] knowledge of their effects in the climacteric

Psychotherapy

In dealing with the minor anxiety states that may co[illegible]plicate the climacteric, psychotherapy on common sense lines is unquestionably beneficial, because it helps the patient t[illegible] understand and overcome many of her fears, and so get r[illegible] of other attendant symptoms At the same time, I a[illegible] convinced that deep mental analysis, by which attempts are made to delve into unconscious processes, is not only unwarranted, but actually dangerous Believing as I d[illegible] that the essential mental changes, fear and depression, a[illegible] the emotional counterpart of endocrine upset, especially overaction of the thyroid, I would assert that it is unreasonable to hope to relieve these symptoms at the climacteric by psycho-analysis as it would be in a patient suffering from similar complaints with exophthalmic goitre The danger is more acutely realized if the view is accepted that many of the apparent psychoneuroses of the climacteric are really mild states of involutional melancholia As can well be understood, psychotherapy yields most fruitful results in cases of neurosis brought on more by fear of the change of life than when it is an abnormal psychological counterpart of endocrinal imbalance

Treatment of Psychoses

What has just been said of psychological treatment applies all the more to the psychoses occurring at the climacteric Depressed psychotic patients are often, but not always, helped by being allowed to talk freely about *their anxieties and dreads,* but the depth of the psychological disturbance prevents them from accepting [illegible] assurance Apart from general care and attention to adequate nourishment, sleep, and regulation of the bowels, much cannot be done, unless, in involutional melancholia ovarian preparations are found to be beneficial The danger of suicide in states of depression has always to be kept in mind, particularly in milder cases Full psychotics are better managed in special homes, away fr[illegible] their relatives—whether under certificate or not depends upon the circumstances in each case

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IRRADIATION AND THE LEUKAEMIAS

A KEY TO MORE SUCCESSFUL TREATMENT

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TREATMENT of the leukaemias by deep ray therapy has several distinct advantages over the older methods of irradiation.[1] The chief of these are:

1. The danger of dermatitis is reduced to a minimum.
2. After the preliminary stay in hospital the patient can usually return to work, and need only occasionally report for examination or a short treatment, the interval in some cases being many months.
3. Patients will occasionally still respond well to deep therapy when further reduction of the white count is found to be impracticable by ordinary *x* rays.

Dosage Control

In the past dosage control has largely depended upon the rise and fall of the actual white cell count in the blood, but this was often found to be misleading since it did not explain why in some cases the effect of irradiation was beneficial from the start, while in others, with more or less identical blood counts, and subjected to exactly the same dosage, there was marked constitutional reaction, and occasionally severe delayed effects with infective complications.

The real need, therefore, has been for some more reliable guide to dosage control. With this end in view we have during the last eighteen months attempted to devise and utilize some simple and safe haematological test which would give the desired information.

In a previous note[2] we described our earlier results when directly estimating the phagocytic power of leucocytes in leukaemic patients. In the present note it is our object to indicate, from the results of controlling in this way the treatment of sixteen cases of leukaemia, the assistance which we believe can be derived from estimating the number of actively phagocytic leucocytes in the blood as compared with the total white cell count.

The Phagocytic Test

The technique of the test in its simplest form has been described in *Guy's Hospital Reports*,[3] but it is clear that, instead of observing the phagocytosis of washed staphylococci as adopted in our experiments, any suitable particulate material may be used, provided conditions are carefully standardized. If it is considered preferable to concentrate the leucocytes this may be done as in the familiar opsonic index technique or by Ponder's[4] method of causing the cells to collect on and adhere to, a clean glass slide. Whichever technique is preferred we would emphasize that the point to be determined before the patient is irradiated is the number of white cells per volume of the blood, which have when in contact with his own serum, a normal fully effective phagocytic power.

By making this estimation at the start and at intervals during treatment it seems possible to obtain direct evidence in answer to the following questions:

1. Is irradiation likely to produce undue reaction clinically or haematologically?
2. When treatment is once started how long and how strongly may it be continued?
3. What is the prospect of a good response and return to a more normal blood picture?
4. When should irradiation be repeated?

Results of Application of Test

We have recorded our results not as in the opsonic index in which the average number of organisms per leucocyte is recorded but as the percentage of cells which contain more than twenty bacteria, between twenty and ten bacteria, less than ten bacteria, and none at all. In a normal person at least 85 per cent. of the polymorphs are found to contain more than twenty cocci and extremely few are non-phagocytic. For simplicity, only the percentages of leucocytes falling in the strongly phagocytic group will be referred to in the following summary, because in practice we have found that it is necessary to consider only the percentage of polymorphs which are at any particular time phagocytically normal.

In all our cases the myeloblasts and myelocytes have been entirely non-phagocytic, and most of the immature leucocytes have been markedly deficient in this respect. We have found in each case that the number of actively phagocytic cells is lower in the haematologically more severe cases, in agreement with the generally accepted dictum that the severity of a case of leukaemia is to be judged by the percentage of immature cells present, rather than the actual increase in the total white count. As Piney[5] has pointed out, many cases of splenomedullary leukaemia contain many times the normal number of normal polymorphs, and the results of the phagocytic test fully bear this out. In early cases, with very high polymorph counts, phagocytosis may be very active but as the disease progresses the percentage of phagocytes slowly falls.

It will be generally agreed that, during irradiation of leukaemias, the most lasting results, and the most rapid initial fall in the total white count are obtained in those cases in which the percentage of frankly immature cells is relatively low. Disappointing results are most frequently associated with the more advanced and myeloblastic cases. Between these extremes many intermediate cases occur in which from clinical and haematological considerations, it is most difficult to forecast the response to irradiation treatment. In these we find the phagocytic test definitely helpful. The higher the percentage of actively phagocytic neutrophils present at the outset of, and during irradiation the more quickly does the blood picture improve and the spleen decrease in size, and the less likely is reaction to ensue.

Thus in a series of ten patients with splenomedullary leukaemia all of whom responded extremely well, suffered no significant reaction and are all following their normal occupation at the present time, the average total white cell count at the start was 208,000 per c.mm., of which 82,500 were actively phagocytic; six to nine months later the average total white count was 14,500 per c.mm., of which 7,200 were actively phagocytic. Two cases of lymphatic leukaemia, similarly tested, gave initial counts of 45,000 white cells per c.mm. (12,000 phagocytes) and 70,000 white cells per c.mm. (14,000 phagocytes) respectively; four to six months later the corresponding white counts were 25,000 per c.mm. (6,000 phagocytes) and 16,000 per c.mm. (4,400 phagocytes). It will be noted that at no time did the total phagocytic count in these cases fall to or below that met with in a normal blood—namely, about 4,000 per c.mm. It seems that during, and for some time after, irradiation a good supply of fixed and circulating phagocytes is necessary for satisfactory resolution of the tissue zones damaged by the ray, and the phagocytic test appears to be a satisfactory method of estimating this supply.

Description of Typical Cases

If we now turn to an actual summary of the first three cases of leukaemia given below, which have shown marked constitutional reaction and responded badly to deep therapy treatment, they are seen to have a relatively low phagocytic power. Case III illustrates how successful treatment of this type of case may be achieved by the use of relatively small doses of rays, and Case IV shows how the phagocytic test may give guidance as to the possibility of successful irradiation in spite of the patient's general condition being extremely bad.

CASE I.

A woman aged 50. Splenomedullary type. On September 30 h. 1929: haemoglobin 51 per cent. Total white count 13,200 per c.mm. (polymorphs 25 per cent., myelocytes 8.5 per cent., and myeloblasts 0.5 per cent.). Total active phagocytic only 420 per c.mm. After two irradiations of spleen: white count 12,800 per c.mm. with a total phagocytic count of only 350 per c.mm. Very marked reaction: vomiting, highly toxic state and marked pyrexia—maximum 104.5° F. No reduction in size of spleen. Nine injections given. Temperature slowly fell and phagocytes rose to 550. No improvement in blood count.

CASE II

A man, aged 53 Splenomedullary Total white count 120,000 per c mm At first (April 18th, 1927) good response to deep therapy, spleen reduced gain in weight, count fell to 30,000 per c mm By September 3rd, 1928, white count again rose to 105,000 per c mm and in spite of further irradiation, was still 164 000 on February 20th, 1929 No reaction occurred in 1928 during occasional irradiation, but slight fall of white count recorded after each irradiation At the beginning of 1929 a steady fall of phagocytes began, until, on November 12th, there were less than 1 000 phagocytes per c mm, and a total white count of 200,000 per c mm (myelocytes 40 per cent, polymorphs 32 per cent, myeloblasts 0 5 per cent) Spleen very large The patient at this point became markedly intolerant to deep therapy, and only medical treatment was possible subsequently He died early in 1930

CASE III

A man, aged 36, with typical splenomedullary leukaemia, was first seen on July 8th, 1929 Total white count 115,000 per c mm (myelocytes 30 per cent, polymorphs 42 per cent, nearly all phagocytic) Full doses deep therapy White count fell to 8,500 per c mm spleen much reduced (September 16th) Three months later white count again rising, and, in spite of occasional irradiation, count on March 29th, 1930, was 170 000, spleen very large, marked oedema of legs Phagocytes now only 4,000 per c mm compared with about 40,000 when first seen Subsequent irradiation produced very marked constitutional reaction, vomiting, and pyrexia A moderate fall resulted in the white count, but this immediately rose again to 120,000 Evidently response to deep therapy was beginning to fail, but by using smaller doses of deep therapy—one quarter usual size—it has been possible up to the time of writing to avoid serious reaction and to prevent the white count from rising far above 100,000, but it is impossible to bring the count down as before

CASE IV

M H aged 44 Typical splenomedullary case Total white count 400,000 per c mm (myelocytes 42 per cent, polymorphs 30 per cent) on June 14th, 1930 Marked oedema and ascites, much loss of weight, complete prostration Before admission splenic irradiation from Coolidge tube had produced reaction and some burns, so discontinued When admitted, total phagocytes 90,000 per c mm Therefore, in spite of previous reactions, it was decided to give deep therapy in full doses No reaction followed On July 12th patient walking, no oedema or ascites, spleen much reduced, white count total 100,000 per c mm, of which 60,000 were phagocytic Patient is still quite tolerant of deep therapy, and white count is remaining below 100,000 This is an example of relatively high phagocytic power as indicating the possibility of full irradiation, in spite of extremely poor initial general condition

Commentary

From these cases, taken as typical of the many now treated, we think it may reasonably be suggested that determination of the number of active phagocytes present at any given time provides definite indications as to the dosage and the prognosis in general

In the past it was customary during irradiation simply to guard against the development of a leucopenia The phagocytic test appears to be capable of providing a definitely earlier warning The total number of active phagocytes in a normal blood tested by our technique is about 4,000 per c mm, and, since adopting the rule that cases, leukaemic and others, should be irradiated very lightly, or not at all if their blood contained less than 2,000 phagocytes per c mm, no severe reactions of any kind have been encountered It is noteworthy that at the time this investigation was started five other patients were available for blood examination who were markedly intolerant to deep therapy Three responded by marked constitutional reaction, one had developed broncho-pneumonia, and one streptococcal skin lesions In each case the number of normally active phagocytes in the blood was found to be 1,000 per c mm or less

In selecting cases for treatment, observation of a good phagocytic power may allow one to discount other factors, such as poor general condition or septic complications, which might otherwise cause hesitation in applying vigorous irradiation

Extension of Method

In conclusion, it may be added that, in practice, application of this method of dosage control has not been limited to the leukaemias Since October, 1929, all cases of diffuse glandular enlargement, neoplasm, etc, for which deep therapy treatment was considered likely to be of benefit but where the general condition was not good, have been tested in this way By setting the standards described above it has been found possible to reduce constitutional reaction to a minimum, and to irradiate successfully cases which from general considerations might have been thought unlikely to tolerate the rays

Summary

1 The importance of an adequate supply of active phagocytes in the blood of a patient undergoing deep therapy treatment is emphasized

2 In leukaemia the higher the percentage of active phagocytes the better the prognosis, and the more certain then response to irradiation

3 It is suggested that the number of active phagocytes in the blood of a patient undergoing deep x ray treatment should not be allowed to fall below 2,000 per c mm

Our thanks are due to the honorary visiting staff of the Hospital for their kindness and help in permitting and facilitating the repeated examination of the various patients under observation, and especially to Dr A F Hurst, Dr F P Fraser, Dr N Mutch, Dr J A Ryle, and Dr A H Douthwaite, whose care the patients referred to were admitted

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TREATMENT OF OCULAR DISEASES WITH MERCUROCHROME

BY

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FEW medical men seem to realize what a useful drug we have in mercurochrome for certain ocular diseases It is no new drug, having been used in Bristol for the last four years, so that a vast number of cases have been treated with it My attention was first drawn to it by the fact that my surgical colleagues had proved it to be a useful antiseptic in bladder cases, and had found it practically non-irritating In our hands, in the treatment of certain eye diseases, it has proved to be a very powerful antiseptic, and the irritation caused by it in the majority of cases is negligible Its one disadvantage is its red colour, as this will stain the skin for a few days but this can be obviated if, immediately after its application to the eye, any remaining on the skin is wiped off with a cotton-wool It is used in the form of drops made of a 1 per cent solution, as an ointment of the same strength, or as a paint of a 1 or 2 per cent strength

Uses in Conjunctivitis

The drug is of service in all types, and by far the best method of treatment is to paint both lids at once with a 1 or 2 per cent solution, depending on the severity of the attack In a case seen early, this treatment is invaluable for cutting short the duration of the attack, and there is no doubt that the instillation of drops, apart from the painting of the lids, loses much valuable time For some time it has been my practice to paint these cases directly they come to me, and the results have been superior to those of any other type of treatment The best way to apply the solution as a paint is to use a fine probe, such as that employed for the nasal duct, and, after winding a very thin piece of cotton-wool round one end, dip it into a receptacle holding perhaps ten drops of the solution this prevents undue saturation of the cotton wool, and if the painting is done carefully none need get on to the patient's lids Apart from the acute cases of conjunctivitis, painting with a 2 per cent mercurochrome is also valuable in those chronic cases in which there is a good deal of velvety thickening of the conjunctiva This is the type of case that is so often beneficially treated with silver nitrate, or one of the silver compound, but we have found mercurochrome superior to silver in that the irritation is considerably less (therefore it can be applied at more frequent intervals), that it cannot damage the cornea, and that there is no danger of staining the conjunctiva even if the drug be used over a very long period It is our practice to treat this type of case in

ro paintings a week and if this does not suffice 1 per nt mercurochrome drops are given to the patient to be istilled twice a day but of late we have come to rely ore and more on the painting and to discard the drops here possible as they are certainly "messy" when used y any patient who is not careful We believe that every pe of conjunctivitis is benefited by so painting the conjunctiva for instance two cases of severe Parinaud's conjunctivitis with involvement of the cervical glands cleared p without any surgical intervention to the glands by his treatment A case of tuberculosis of the conjunctiva id excellently with this treatment combined with ultra iolet light For the last four years the maternity department of the Bristol Royal Infirmary has used a 1 per ent solution of mercurochrome instead of the usual silver itrate for instillation into the eyes of newborn babies here has been a definite decrease in the cases of ophthalmia neonatorum and now we never see those many red ve that can be produced by silver nitrate The only xception to our routine is if the parents are known to e infected with gonorrhœa, when silver nitrate is still sed All cases of ophthalmia neonatorum are now treated n the initial stages with mercurochrome drops this drug, eing non irritating can be used without fear of damage ven if there be intense chemosis and swelling of the ids In a case progressing favourably, mercurochrome ainting of the lids in the later stages is also very eneficial, but in the more severe type of case one should still rely on silver nitrate in preference to mercurochrome

Corneal Affections

Ulcers of the cornea if seen early can, with benefit be painted with mercurochrome, but too much reliance must not be placed on this drug to the exclusion of more energetic types of treatment Large phlyctenulae, or the small miliary variety, at the margin of the cornea often improve considerably with mercurochrome paint Following serious or trivial injuries to the cornea, a drop of mercurochrome into the conjunctival sac is as good an antiseptic as any

Blepharitis

This can be considerably benefited by the painting of the lids with a 2 per cent solution Before applying it all the scabs should, where possible be removed We use for this purpose a solution of warm sodium bicarbonate solution, applied gently with cotton-wool so that the underlying tissues are not damaged The edges of the lids are then thoroughly painted The results, as compared with similar treatment with such solutions of brilliant green and iodine show mercurochrome to be equally good and being so easy to apply and non irritating to the conjunctiva, we now only use it for this condition I have said that mercurochrome is non-irritating but there is apparently an exceptionally rare idiosyncrasy to the drug I have seen the occurrence only twice over a period of four years In one a patient suffered from oedematous lids, face and later chest and body He was seen by a dermatologist who considered mercurochrome to be the cause He rapidly recovered on cessation of the drug The other patient had a considerable swelling of both eyelids of the treated eye with a thin serous discharge a condition very similar to atropine irritation This cleared up rapidly on giving up the mercurochrome

Mercurochrome in Ophthalmic Surgery

As a preliminary to all eye operations, a 1 per cent solution of mercurochrome is painted over the skin of eyelids and face after the part has been thoroughly cleansed in the usual way Bacteriological investigations have shown this method to be as efficacious as painting with iodine, and no skin irritation is produced as with iodine, this fact being of some importance in eye surgery as the patient is less likely to interfere with the dressings Before operations the conjunctiva is sterilized by instilling 1 per cent drops of mercurochrome two or three times on the day before the operation, and once in the hour before the operation

With the experience of mercurochrome over the period mentioned above, we feel justified in asserting that it is really of considerable value in ophthalmology

RECTAL PARALDEHYDE AS A PRELIMINARY TO TONSILLECTOMY IN CHILDREN

BY

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To remove tonsils and adenoids without anaesthesia is by no means a difficult task as a visit to any of the Continental clinics will prove Such a procedure has certain advantage for it obviates all risks associated with the administration of anaesthesia and also avoids the possibility of the unconscious patient being suffocated with his own blood Surgeons in this country are thankful for anaesthetics yet even with anaesthesia the removal of tonsils is no mean ordeal to a child This ordeal can be minimized considerably by a procedure which aims at "stealing" the tonsils rather than forcibly removing them Provided no complications supervene, the after-effects of tonsillectomy in children are so slight that they seem to suffer more from fear in the pre-operative stage than from discomfort after the operation These pre-operative disturbances can effectively be avoided by preliminary medication which makes the child unconscious by the time he is brought to the theatre and he is thus saved from the various stages that lead to being "put under"—a period of fear and struggle and not differing very much from that extra minute during which Continental surgeons complete the operation without anaesthesia The preliminary medication employed is the rectal administration of paraldehyde a drug which induces a condition very similar to deep sleep Given in the form of an enema whilst the child is in bed it can be administered without any struggle and without any nervous apprehension on the part of the little patient This preliminary medication has the further advantage that it necessitates very little anaesthetic and furthermore that the return to consciousness is considerably delayed although the anaesthesia itself is light By the time the child has fully recovered all the unpleasant after-effects of the anaesthetic have worn off and many children are under the impression that no operation has taken place

ROUTINE OF PARALDEHYDE ADMINISTRATION

The child is admitted the night before operation A soap and water enema is administered in the morning An hour later the bowel is washed out repeatedly if necessary, until the fluid returns clear The patient is then ready for the administration of paraldehyde per rectum This however, should only be given one hour before operation No other medication is necessary

With regard to the administration of the drug the following are important points

Dosage—The best results are obtained by the administration of one drachm of paraldehyde per stone body weight This ensures the child falling asleep rapidly in many cases before the administration of the drug is completed The sleep is sufficiently deep for the child not to waken up when carried to the theatre an hour later and it is quiet and restful

Vehicle—The paraldehyde is administered dissolved in stock solution of normal saline neither warmed nor cooled One and a half ounces of saline per drachm of paraldehyde should be used

Method of Rectal Administration—The paraldehyde solution should not be warmed before administration The cold solution must be run in slowly otherwise it will be returned. The stages in the administration are (1) Pass the catheter well lubricated into the rectum Then lightly plug anal margin with cotton wool. (2) Fill the funnel and tubing with water expelling all air and clip distal end of tubing (3) Connect to the catheter release the clip and run in the solution very slowly This procedure should take at least ten minutes The paraldehyde solution should be vigorously shaken before refilling the funnel to ensure solution (4) When all the solution has been run into the rectum the catheter is removed leaving the wool packing in place A pad of wool is placed on the perineum the nates are strapped together and the child is made to lie on his back with his legs together Sleep always supervenes within half an hour

A child thus prepared need little anaesthetic, though no child is sufficiently comatose to be able to dispense with

the anaesthetic altogether Owing to the synergic action of drugs a small quantity of anaesthetic produces very disproportionate effects Open ether is safe, and the best anaesthetic Very little is required (about one ounce) to make the child ready for the operation, the anaesthetic is taken without much struggle

All children wake up whilst they are having cold douching after the operation, but though conscious they do not remember afterwards what has happened They fall asleep as soon as they are put to bed This sleep is prolonged and restful, it lasts between eight and sixteen hours, they wake up quite refreshed

Difficulties and Dangers

Pre-operative Preparation —It is possible that the pre-operative preparation need not be so strict in the complete washing out of the rectum preliminary to the administration of the paraldehyde Experience may prove castor oil, the night before, sufficient preparatory treatment, but, in view of the fact that paraldehyde may act as an irritant of the rectum, and that a loaded colon would interfere with the absorption of the drugs, it was deemed advisable to have the pre-operative treatment as thorough as possible

Dosage —A dose of one drachm of paraldehyde per stone body weight was employed in the last 572 cases In a first series of 82 cases only half a drachm per stone weight was used This had definite disadvantages, for not only did it fail to induce satisfactory hypnosis, but it also seemed to act as an exciting agent The sleep induced was light, the child was irritable, easily wakened, and would waken up when taken to the theatre The administration of the anaesthetic would provoke a struggle, and after operation there would follow an exceedingly restless sleep lasting for four to six hours With such a dose there seemed to be no effect on the pupils, respiration was unaffected, but blood pressure was raised A dose of three-quarters of a drachm per stone weight was tried out in a second series of 146 cases The results obtained were a great improvement on those obtained with the smaller dose The sleep, though deeper, was not sufficiently deep to prevent some of the children waking up when taken to the theatre Struggling during the administration of anaesthesia was never very marked The sleep after operation lasted for four to eight hours, but, as with the smaller dose, there was a distinct tendency towards restlessness With this dosage the pupils tend to become contracted, and the blood pressure is raised A dose of a drachm per stone body weight has no dangers, as shown by the last 572 cases, and has definite advantages The sleep is deep, there is no restlessness before or after the operation, and hardly any struggling during the administration of the anaesthetic With the full dose sleep lasts for eight to sixteen hours, the pupils are contracted respiration is quiet, there is, however, a fall of blood pressure two or three hours after the operation

Vehicle —The paraldehyde should be dissolved in normal saline neither heated nor cooled, and this solution is to be run into the rectum The solubility of paraldehyde is 1 in 10 at 0° C , it is less at higher temperatures, and over blood heat the paraldehyde tends to evaporate Hutchison reports a case of considerable sloughing of the rectal mucosa owing to the administration of half an ounce of paraldehyde But he injected it in a highly concentrated form (the pure drug) "along with three or four times its volume of water"

Difficulties in the Rectal Administration —An unsuccessful rectal administration leads to the evacuation of the paraldehyde and failure of the attempted medication Extreme slowness in the running in of the solution is an essential condition for success Retention is further aided by strapping the nates together, in addition to putting a pad over the perineum It is advisable to have a nurse who has had some experience in the administration of solutions per rectum

Anaesthesia —As already pointed out, the quantity of anaesthetic is small, and the preliminary medication ensures a maximum effect considering the amount of the anaesthetic employed Open ether has been found safe, it has also the advantage of raising the blood pressure, thus counteracting the fall that the full dose of paraldehyde produces Ethyl chloride is also safe, though a needlessly large dose may be administered should the child struggle Chloroform would, however, seem to be highly dangerous On one occasion, when ten children were being operated upon, all of them were given chloroform on top of the full dose of paraldehyde In two cases there was severe collapse, the children turning greyish in colour, the pulse was rapid and thready, and the breathing was shallow Chloroform has not been tried again With ether the anaesthesia need be very light The combined effects of the paraldehyde and ether, though producing complete narcosis and anaesthesia, is sufficiently light for the reflexes to persist It is undesirable and unnecessary to push ether to the stage of abolishing the reflexes

Complications —In this series of 800 cases there were no complications that could be ascribed to the paraldehyde In one case there was some slight bleeding after the operation No active interference was necessary apart from swabbing out the throat In another case the administration of the paraldehyde was unsuccessful The child was unconscious on the table, was vomiting, and was difficult to anaesthetize There was no apparent reason for this failure, though it is worth noting that this child was one of the earlier cases, and had not received the full dose of paraldehyde Paraldehyde has an offensive odour this seems to be more troublesome to the attendants than to the patients

Disadvantages

The advantages of preliminary medication are real enough, this is well illustrated by the attitude of the little patients A child operated upon without preliminary medication fears and mistrusts the surgeon when he attempts to examine the throat after the operation but children who have had paraldehyde show no such fear and mistrust The majority readily open their mouths, and do not hinder the examination Disadvantages, however, are none the less just as real and genuine Preliminary medication implies considerable extra nursing for not only are there extra duties before the operation but more alertness is required from the nurse owing to the prolonged sleep of the children There is also the disadvantage that the extra preparations throw some strain on the child an enema, a wash out, and rectal paraldehyde are rather trying to any patient Finally, there is the disadvantage that the preparations imply in patient treatment While this is all for the good of the child, it does, unfortunately, present a serious problem at this time, when the accommodation for tonsillectomy cases is so woefully inadequate

The observations recorded here were carried out at the Plaistow Children's Hospital and at the London Jewish Hospital It is a pleasure to acknowledge my indebtedness to Mr W M Mollison of Guy's Hospital for suggesting this work, and for his kindly interest and criticism

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AMIDOPYRIN IN THE TREATMENT OF MEASLES

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Since 1924, when Loewenthal[1] published his paper on the value of amidopyrin in the treatment of measles, occasional short notes on this treatment have appeared in various foreign journals, but English writers have paid little attention to the use of this therapeutic agent One of us (G W R) tried the drug in a few cases of measles but possibly on account of the fact that the cases were in a late stage of the disease the results did not appear sufficiently striking worthy to merit publication In October, 1929, Horder[2]

Chicago[1] who has been using this drug for a number of years, reported very favourably on its value in measles. In June of the present year, J. I. Collier[2] recorded the results of its use in general practice during 1929 and since the appearance of his article several practitioners have contributed letters on the subject to the correspondence columns of the *British Medical Journal*. The consensus of opinion has been entirely in favour of the use of amidopyrin, and indeed, some rather extravagant claims based on the experience of a small number of cases have been made for this method of treatment. In order to secure a more thorough test of the method, arrangements were made for the treatment to be carried out on a series of cases in hospital, where the facilities for observation and treatment are better than those existing in general practice. The present paper is a survey of the results in 150 cases treated during the past winter by the staff of the Eastern Hospital. At the outset an endeavour was made to secure early cases, our intention being to make a comparison with a corresponding number of untreated cases; but it was soon found that the number of patients admitted in an early stage of the disease was too small to allow of any satisfactory investigation. We therefore decided to treat as many patients as were available, and our series consists of unselected cases. The dosage adopted was 1 grain for each year of age, with a maximum of 5 grains. The drug was first given in the form of pyramidon crystals, but in the simultaneous treatment of a large number of patients, an aqueous solution containing 1 grain to the drachm was found to be more convenient and less likely to give rise to nausea. Owing to its somewhat bitter taste, a few of our early patients who received the drug in powder form experienced slight nausea, but the liquid form was well tolerated and no idiosyncrasy or any harmful effect was noted in any of the cases. The appropriate dose was administered four hourly day and night until the temperature had settled. The treatment is comparatively cheap, the cost amounting to only a few pence per patient.

Results of Treatment

The results of the treatment were very encouraging but the type of measles prevalent in London during the winter 1929–30 was milder than usual and we are therefore chary of making claims which further investigation might show to be inapplicable to a more severe type of the disease. The best results were achieved in the earlier cases, but even in the later stages the treatment appeared to benefit a certain number of patients. Our experience agreed with that of Hovne in the respect that the tendency to broncho-pneumonia was lessened and complications were fewer. Some patients who were already suffering from broncho-pneumonia on admission to hospital did well, but the drug did not seem to exert any influence on measles laryngitis or measles enteritis. In view of these observations we could not substantiate the claim that the drug exercises a specific" action. In one instance measles croup' developed in a patient whose treatment was initiated in the prodromal stage, and though this case made very satisfactory progress the occurrence of a serious early complication was unlooked for, despite a subsequent good result. From a reference by Hovne to the 'customary salicylates' one would gather that treatment by drugs presumably administered for their antipyretic effect, is the usual practice in the treatment of measles in America. The efficacy of amidopyrin as an antipyretic is well recognized and for this reason it is not surprising to find that Hovne regards it as an advance on previous medicaments. Our own experience amply confirms this antipyretic effect, which was exhibited in almost every case.

In the majority of instances the temperature dropped to normal within twenty-four hours of the administration of the drug, and though the precise therapeutic effect of a mere lowering of temperature may be a debatable point, a decided improvement in the patient's general condition accompanied the decline of the pyrexia. In a number of cases in which complications had supervened before treatment was initiated pyrexia continued though on a lower level. Some writers have claimed that the use of amidopyrin in the prodromal stage will frequently exercise an abortive effect on the disease, and in one of our cases this effect certainly followed the giving of the drug, but we are well aware of the fact that a similar result in an untreated case would be by no means a phenomenal happening.

Our case was that of a boy who was admitted to hospital with pyrexia, coryza and the usual appearance of a measles patient in the prodromal stage. Numerous Koplik's spots were visible, but he had no exanthem. Treatment was commenced on the afternoon of the day of admission, and next morning the boy was perfectly well. A few macules were then seen on the trunk, but no further symptoms appeared, and the rudimentary eruption only lasted for a few hours, during which time the patient appeared to be in excellent health. On the other hand, the case has already been referred to in which "measles croup" occurred in the prodromal stage of an attack for which treatment had already been commenced. The typical eruption appeared in this case, and was followed by quite marked staining. In many instances where the treatment was begun during the eruptive stage the duration of the rash appeared to be shortened, but in other cases the eruption followed its usual course even though there was considerable amelioration of the general condition. The treatment cannot therefore be said to have any constant effect on the measles exanthem. Two tables are appended in which we have briefly summarized our results, our criteria for the allocation of cases to the different categories being severity of disease, duration of pyrexia and other symptoms, presence or absence of complications, and length of stay in hospital. The omission of statistics referring solely to complications will be noted, but we are of opinion that, as a number of our cases were of a comparatively benign type the inclusion of these figures without the records of a parallel series of untreated cases would be unduly flattering to the treatment. In a subsequent communication, dealing with our experience of an extended series of cases, we hope to be able to furnish these and other details.

TABLE I.—*Results according to Age Groups*

Age in Years	No. of Cases Treated	Good Result A.*	Good Result B†	No Apparent Benefit	Died
1 (and under)	34	15	6	10	3
2	27	12	8	6	1
3	29	11	15	4	0
4	34	14	18	2	0
5	16	9	6	1	0
6 to 9	10	5	3	2	0
Totals	150	65	56	25	4

* Cases in which the good result was apparently attributable to amidopyrin.
† Case in which a good result followed treatment but in which such factors as age, mildness of disease, etc., may have largely contributed to the favourable progress.

TABLE II.—*Results according to Stage when Treatment was Initiated*

Stage	No. of Cases	Good Result. A	Good Result B	No Apparent Benefit	Died.
Prodromal	3	2	0	0	1
First day rash ...	46	27	13	4	2
Second ,, ...	63	26	23	8	1
Third ...	20	7	8	5	0
Fourth day and later	18	3	7	8	0
Totals	150	65	56	5	4

The case of measles croup already referred to is not included. The result was good but symptoms of measles first developed during convalescence from scarlet fever which may have influenced the course of treatment.

Comment

The four deaths were due to broncho-pneumonia and in each of the cases a coexisting enteritis was a contributory factor. Three of the cases were admitted on the same day

from an institution in South-East London These patients were in an early stage of measles, but enteritis was already present in all three instances It is interesting to note that another case, previously admitted from the same institution, was also found to be suffering from enteritis, though no definite evidence of measles could be found in this patient It is therefore possible that in this small group the enteritis was a precursor and not a complication of measles

As might be expected, the best results were obtained in the earlier stages of the disease In the later stages a few cases showed some very encouraging results, so that the treatment is not devoid of value even after some days have elapsed before the case comes under observation Infants and very young subjects furnished the largest number of cases which derived no apparent benefit from treatment, and we have had under consideration the question of the advisability of increasing the dosage in these cases

Conclusions

1 Amidopyrin is a valuable adjuvant in the treatment of measles

2 Its action is chiefly antipyretic, but it appears to exercise some influence on the other symptoms of the disease

3 Its value is greatest when given in the earlier stages, and in some instances it appears to modify the attack, but even in the later stages its use may be followed by good results

4 From the results in our series of cases we are not yet in a position to give a definite pronouncement on the claim, made by certain writers, that the drug is a "specific" for measles

5 The treatment is comparatively inexpensive, and very simple in its method of administration In the dosage used by us it seems to be devoid of deleterious effects

6 The use of amidopyrin merits further investigation over an extended series of cases

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AMIDOPYRIN IN THE TREATMENT OF MEASLES

BY

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THE favourable reports in the *British Medical Journal* on the use of amidopyrin in measles decided me that it must be tried in an epidemic which happened to be going on at the time It was a good opportunity for a test, seeing that all the patients were of one type and were nursed in similar circumstances The epidemic, too, was half over, and the comparison between treated and untreated cases was made easy This seems important, seeing that the severity of different epidemics varies within wide limits

The patients were all boys at school, from 12½ to 16½ years of age Each was nursed in a separate room with nurses who kept regular charts The disease was of a mild type, and the weather was warm and sunny Partly on this account probably, and partly because the general health was good, with an almost complete absence of catarrhal affections in the community, complications were few and convalescence was rapid In all, 120 patients were treated on ordinary lines, and nine were given amidopyrin (pyramidon)

Cases Treated on Ordinary Lines

The course of the disease in these 120 cases was similar in all during the prodromal stage None felt particularly ill and almost all wanted to eat light solids The respiratory symptoms were slight in comparison with most epidemics There was remarkably little cough and hoarseness The temperature rose to its height as the eruption appeared and then fell abruptly to normal, the whole period of real discomfort lasting as a rule, only twenty-four hours Most patients were able to get up in a week, and to go away for sick leave in a fortnight after the rash appeared In only four cases were there any definite signs of bronchial catarrh Many had transient redness of the tympanic membrane, often without any pain or other symptoms referred to the ear Two had definite otitis media needing myringotomy on both sides Both were healed within ten days

In this group the severity of the disease varied within wide limits One boy, for example, reported sick early because of the rash on his face He never felt ill The rash was scanty, the temperature was 100·4° F when he reported sick and was normal next day At the opposite extreme was a boy who felt quite ill and reported sick four days before the rash appeared Koplik's spots were present on the first day, three days before the rash The rash and the injection of the palate were intense and signs of broncho-pneumonia appeared two days after the eruption was at its height Both tympanic membranes became congested, but resolved without myringotomy The temperature was 104° at its highest, and it did not come to normal for thirteen days The average total duration of the fever was 4·07 days, and the average greatest height was 103·5°

Cases Treated with Amidopyrin

These nine patients each received 5 grains every four hours, beginning during the prodromal stage in three cases and at the beginning of the eruption in six cases The course of the disease was altogether different The rash appeared more slowly, taking thirty-six to forty-eight hours to reach its height The temperature rose as high as usual, but fell gradually and not abruptly, and the period of real discomfort was lengthened This discomfort was increased in most cases by frequent vomiting Complications were not prevented, for two patients had extensive bronchial catarrh and one of these had double otitis in addition, necessitating myringotomy on one side Two had stomatitis and laryngitis so severe as to make feeding a trial and phonation impossible, complications unseen in the group treated on ordinary lines The average total duration of the fever was 6·9 days, and the average greatest height was 103·5°

There could be no doubt that these nine cases were more uncomfortable and did less well than the others, and the fact was so obvious to both doctors and nurses that it seemed unjustifiable to continue the administration of amidopyrin

Summary

During a school epidemic of measles, nine patients were treated with amidopyrin and 120 on ordinary lines

The patients treated with amidopyrin were more uncomfortable than the others, their rashes took longer to mature, their fever was more prolonged, and the percentage of complications was higher

TREATMENT OF VARICOSE ULCERS*

BY

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BY way of introduction I would stress some general considerations before proceeding to the details of treatment and the results to be expected These are the prevalence of varicose ulcer, apathy of the medical profession with regard to it, the economic aspect, intractability of the disease, and its etiology

The prevalence of varicose ulcer is not fully appreciated because a very large number of sufferers seldom see a doctor The reason for this is that both patient and doctor grow tired of ineffectual treatment and avoid each other The patient either uses well-advertised remedies or is dealt with by the out-patient or district nurse The cases will come out of hiding in large numbers if they are encouraged, as witness of this, I have treated and cured upwards of three hundred cases of indolent leg ulcer during the last two years

* A paper read at a meeting of the Section of Surgery at the Annual Meeting of the British Medical Association, Winnipeg 1929

is disease falls between the two stools of surgery and
matology, and remains there by the mutual consent
he two specialties This lack of interest I prefer to
rd as due to a feeling, on the part of surgeons, that
disease is not curable except in the early cases Even
advent of the injection treatment has not altered
igs very much

omen are the chief sufferers, and in their case it
ard to assess in terms of hard cash the cost of an
r to the individual One can only imagine the
erings of the mother of a family compelled to carry
in spite of endless pain and sleepless nights Truly,
as been said, not only she, but the whole household,
ers from varicose ulcer But when we come to the
le it is not a difficult matter to take a piece of paper
l write down, item by item, the cost of an ulcer through-
its duration Most astonishing figures will result
ave one case of an ulcer which cost over £5 000 in loss
wages, pension, treatment, insurance benefit, hospital
arges, etc This patient had spent seven years of his
e in hospital at one time and another This is an
ceptional case, of course, but ulcers of a cost of £1,000
e by no means rare

Many have come to regard permanent cure in long-
anding ulcers as impossible of achievement, no more
quent proof of this could be found than the multiplicity
remedies that have been devised for its cure In an
our and a half I discovered one hundred remedies in
ie Surgeon General's Index, they ranged from playing
stream of hot air or other gas on the ulcer to dusting
with castor sugar Cestan struck an amusing note
hen he said that the only cure was a private income
f £400 a year, and unlimited rest

An almost forgotten British genius, Thomas Baynton,
urgeon of Bristol, at the time of the French Revolution
rote as follows "This disease is due to the unfavourable
ituation of the parts which are placed at a remote
istance from the fountains of life and heat, and are
bliged to return the venous blood and lymph to the heart
nder peculiarly unfavourable and disadvantageous circum-
tances" A simple experiment proves his contention A
needle, connected to a glass tube eight feet long, is inserted
nto any varicose vein, the blood rises instantly to the
evel of the clavicles The patient holds his breath the
blood rises to the level of the ears If he now lifts a
heavy weight in both hands, the upper level rises far above
his head, and the venous pressure is even greater than
the arterial All the sixteen complications of varicose veins
are the direct result of this venous pressure There is no
need to invoke a stubborn bacterial infection to account for
the chronicity of varicose ulcer, it is purely a matter of
hydraulics It is sometimes said that the large indurated
ulcer is not due to varicose veins, the veins are certainly
there, nevertheless, but lie deep in callous oedema

Rationale of the Treatment

Put the hydraulics right and the ulcer will take care
of itself, this is the gist of the method The oedema is
harmful and the varicose circulation useless so they
should be squeezed out of existence by an adequate and
uniform compression

Then comes the question of dressing the ulcer It
seems the rankest heresy to recommend that the dis-
charge of an ulcer should not be allowed to escape, but in
practice it is found that almost all ulcers, if hermetically
sealed with sticking plaster, will heal better than when
treated with any antiseptic or stimulating dressing known
Baynton first discovered this 150 years ago, but his
method has been almost forgotten as have possibly
other good things in the wave of antisepsis following the
discoveries of Pasteur and Lister Maybe the antivirus
of Besredka, or the bacteriophage of d Herelle, is thus
allowed to fulfil its curative mission unhindered by well-
intentioned but injurious interference

TECHNIQUE OF THE TREATMENT

1 *First Attendance*.—The highest visible varicose veins
are injected with 5 per cent sodium morrhuate, then, no
matter how fetid and dirty the ulcer may be the leg is
firmly encased from foot to knee in a 3-inch spiral
bandage of elastoplast adhesive The zinc oxide and
rubber adhesive is spread upon a domett base in this
type of bandage, it is comfortable, lies smoothly on the
leg, and is very rapidly applied To prevent any tendency
for the bandage to creep," two 2-inch longitudinal
splints of the same material are laid on the sides of the
leg above the ankle, and the spiral is applied over these
The patient is then instructed to walk home She will
notice while doing so that the bandage, most un-
comfortably tight at first, soon adjusts itself to the leg,
and she experiences comfort which has been unknown to
her for years A very gratifying feature is the improve-
ment in sleeping which results The patient is also
instructed to work, to seek for work, or to take exercise
Discharge will seep through the bandage, and should be
washed off with soap and cold water It is explained to
the patient that a free discharge is beneficial

2 *Interval between Attendances*.—The period before
returning varies according to (1) the amount of oedema,
(2) the size of the ulcer, and (3) the position of the ulcer
(1) Where the oedema is great the bandage becomes loose
rapidly, it may have to be renewed within three days to
keep pace with the expulsion of oedema (2) When the
ulcer is very large, the profuse discharge will at first
necessitate renewal twice weekly of the bandage Healing
is so rapid that the intervals can soon be increased
(3) When the ulcer lies over the malleoli the movements
of the ankle loosen the bandage, and more frequent
renewals are required in these cases The interval between
the first two attendances, and also between the successive
visits, varies from two days to two months, according to
these three factors, the usual time being two weeks

3 *Second Attendance*.—When the second attendance
is made the patient removes the bandage This is
painless, because alopecia precedes ulceration in cases of
varicose veins, and because the discharge has lifted the
bandage from the surface of the ulcer, thus no damage is
done to new epithelium or granulations and there is no
bleeding At the routine inspection more varicose veins
will be seen or felt, because of the reduction in the oedema,
and these are injected If the ulcer is large skin grafting
is performed In order to keep the treatment ambulatory,
the grafts are buried under the granulations as small
inserts or darned in the form of skin threads, or injected
in the form of mince The ulcer is then covered with
adhesive in exactly the same manner as before, and the
grafts "take" with monotonous regularity The grafts
are always autogenous, and are removed from the arm as
a rule, the wound caused by their removal being carefully
sutured On this occasion, as on all others, the ulcer is
measured by means of a squared celluloid transparency,
and the area is plotted on a chart This stimulates both
the surgeon and the patient The healing changes in the
ulcer are noticed within a week, the raised edges are
flattened out, the healthiest of granulations appear, and
the leg rapidly resumes its original size and symmetry

4 *Subsequent Supervision*.—When healing is complete
the support is continued in a modified form by means of
one of the ready impregnated Unna's bandages many of
which are on the market now This support is kept up
for three months, and then the patient is given the
following instructions (1) to report every three months
so that any fresh veins may be injected, (2) if possible,
to wear boots instead of shoes, (3) to cover any small
abrasions of the leg with adhesive, and (4) if the ulcer
is due to 'white leg" an elastic support, such as the
"Bourgeaurd," should be worn continuously

Two illustrative cases will show the effects of treatment

CASE I.

A woman aged 64 had been a sufferer from varicose veins for
forty years and from ulcer for twelve years In spite of assiduous
hospital attendance during those twelve years the ulcer had
steadily increased to the size of 21 square inches The leg was
elephantoid the ulcer lying more than half an inch below skin
level. Under compression treatment there was complete relief
from pain and insomnia weight was gained and the haemoglobin
figure improved by 30 per cent Seven weeks from the first
attendance the ulcer was firmly healed and the volume of the
leg became 7 pints as compared with the original 10½ Varicose
veins invisible at first soon came to the surface and were dealt

with by morrhuate injections During the whole period of treatment the patient had complete freedom from the pain which for twelve years had made her life a misery

CASE II

A man aged 52, developed typhoid fever complicated by femoral thrombosis thirty years ago in the Boer war An ulcer appeared as soon as he got about Since then this never healed, but slowly grew to encircle the leg and measure 31 square inches in area His total hospitalization over the thirty years amounted to seven and a half years Every treatment, including skin grafting, was tried, amputation had been repeatedly refused, and the pensions committee had awarded him a lifelong pension of £2 per week A most conservative estimate of the cost of this ulcer to the patient and State gave a figure of over £5,000! With twenty-one weeks of the treatment outlined previously he was completely cured During the whole period of treatment he followed the most unfavourable of occupations, that of a house painter, earning £4 to £5 per week He stated that during the treatment he had less pain than at any time in the course of the disease There were no varicose veins at all in this case, so the patient is now wearing an elastic support to prevent recurrence

These two illustrative cases, by no means the most severe, are taken from a series of 324 cured patients (478 ulcers) with a total area of 1,480 square inches, or rather more than 10 square feet of ulcer surface The average rate of healing was 1 square inch in 5·1 days In two years I have only treated three patients who did not continue treatment, and only one who did not respond to it—a woman who died shortly after from an abdominal malignancy Of these 324 patients no fewer than 33 had refused amputation at some time or other, it is thus seen that we can, with this method, retrieve some of these derelicts from what Mayo has described as the "surgical dust heap"

CHRONIC ULCER OF THE LEG TREATED BY THE METHOD OF DICKSON WRIGHT

BY

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AND

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WE have thought it worth while to publish our first results in the treatment of chronic ulcer of the leg by this method The number of ulcers having an area of more than five square centimetres bears a small proportion to the total number of ulcers treated In nearly every case, however, the healing of the ulcer was a relatively minor episode in the restoration of comfortable function to the affected limb We have only recently devised an apparatus for measuring the reduction in size of the swollen and brawny legs on which ulcers and chronic dermatitis occur, and so we are not in a position to produce numerical evidence of the improvement we have been able to obtain in what formed the bulk of our material As regards the restoration of painless function, we can only say that our patients have been unanimous in their appreciation of what this treatment has done for them the comfortable theory which we used to hold in view of our failure to relieve—that such patients preferred to enjoy their disability—has been almost completely abandoned There seems to be little doubt that the results previously obtained in out patient work have always been inferior to those obtained by the individual doctor Whenever we have discussed this method with our colleagues in general practice we have generally found the latter fairly well satisfied with their own results, and unwilling to regard our present results as worth the very little extra trouble that they involve

It is of course probable that with rest in bed many of these ulcers would have healed but as already stated, by the Dickson Wright technique an important further advance is made in that the leg is reduced to near size, cured of its tendency to swell, and in many we believe, secured from the possibility of further Moreover, with this method the patients are able a indeed encouraged, to go about their work dur whole of the treatment Pain disappears dur first forty-eight hours, with treatment by rest in bed is generally aggravated Healing of the ulcer can cally be guaranteed, and the duration of treatme this part only of the cure, can accurately be calcula the formula

$$\frac{\text{Area of ulcer in square centimetres}}{5} + 3 = \text{time in w}$$

As regards the cost of the treatment, one cas quoted

Attendance at out patient department, including roll of lint, 4 oz ointment 1/2 lb wool, and two open wove bandages every week for six years	£5 10
In patient treatment—five months at £2 per week	£10 0 0
	£15 10 0

This contrasts with treatment by us

Twelve special adhesive bandages at 2s 3d	£1 7 6

We understand that under the "panel" the pro of these special bandages is refused on account of exp

We do not describe our technique in detail, because have found that in cases where this procedure ha attempted on the strength of a bare description—pa imperfectly understood—the results have been poor have had many visitors, however, and so far as we learn, results quite as good as ours have been obta subsequently by those who have actually seen the m demonstrated practically Briefly, however, the princi are as follows

Any morbid condition which occurs exclusively or lower extremity is produced wholly or partly by stagn in the venous circulation, and the exchange of t fluids, due to the dependent position of the limb, an the varicosity of the superficial veins We take thi view on account of the remarkable results we have with diseases other than chronic ulcer—namely, e lichen planus verrucosus Bazin's disease, and ec dermatitis in every clinical variety The object, theref is twofold In the first place the limb is emptied of oedema fluid, the dilated tissue spaces being kept until they shrink to their normal capacity Secondly centripetal flow of venous blood is restored, at first by action of the muscles on the deep veins, and later blocking the varicose superficial veins Our procedure roughly as follows

The ulcer is measured by means of a piece of celluloid (a old x-ray film) ruled into squares, and the figure recorded chart The girth of the limb may be taken with a tape m or its volume may be measured by the displacement of wat a tank we have had constructed for the purpo

If any varicose superficial veins are accessible they are in at once with 5 per cent sodium morrhuate beginning a highest point The bandage is then wound on the leg star at the metatarso-phalangeal joints and ending just below knee This bandage, which is a proprietary article manufa in England is made of an elastic fabric, and is coated wit adhesive material similar to that on ordinary strapping three yards long and three inches wide The tension is va according to the amount of oedema present and in extreme may be great enough to endanger the continuity of the ba It has been found convenient to wind it from without inwa that is, in the reverse direction to the normal It is then over with talc powder to prevent it adhering to the stock the patient is instructed to walk home It is replaced in a time The patient is also instructed to do as much walki could possibly be done if the leg were healthy

No fear need be entertained as to the danger of poisoning the septic secretions of the foulest ulcer has invariably been found, on removing the bandage a week, that such an ulcer is no longer foul In a become a clean bright carpet of healthy granula surrounded by the pale-bluish margin of advancing thelium *There is no real danger of putting the l*

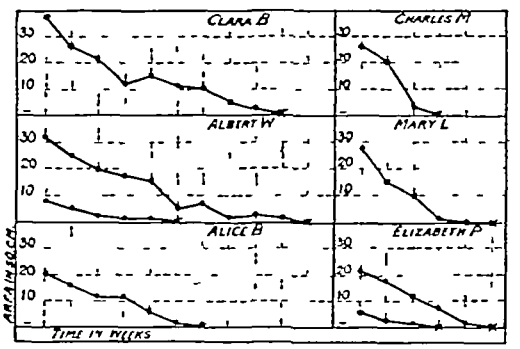
n too tightly Disaster only occurs from this cause if the atient takes it *on himself to* cut the bandage instead of oming to have it reapplied As a matter of fact it is hen the bandage is not applied tightly enough that any omplaint is heard in such cases the pain is not relieved, nd the leg is apt to itch

As already stated, the healing of the ulcer is a foregone onclusion, compression treatment however should be ontinued until the leg is reduced to its natural size If 'steps" are cut in the leg they give no pain, and they are a clear indication for maintaining the previous tension While this is going on the remaining varicose veins are treated as they are revealed by the disappearance of the oedema

Eventually the leg regains its pristine form the bandage then need only be applied firmly enough to maintain it until the time has elapsed for the shrinkage of the dilated tissue spaces

Clinical Histories

Clara B aged 59 first attended the County Hospital in March 1929 with chronic ulcer of the leg which she had had for eigh



or nine years The varicose veins were treated during 1929 by the surgeon in charge of the out patient department and on April 29th 1930 the ulcers being rather worse than they were before the commencement of this treatment he advised amputation The patient demurred and was referred to us and on May 2nd I found ulcerations over the internal malleolus of 23 sq cm and over the external malleolus of 14 sq cm they were both at least 2½ cm deep The girth of the ankle at the level of the ulcers was 13 inches and at the highest level of discoloration of the skin 16 inches After one week's treatment the girth at the level of the ulcers had been reduced to 11¼ inches and the combined extent of the ulcers reduced to 26 sq cm The ulcers were soundly healed at the end of nine weeks and through all this time the patient has been able to get about her business in comfort

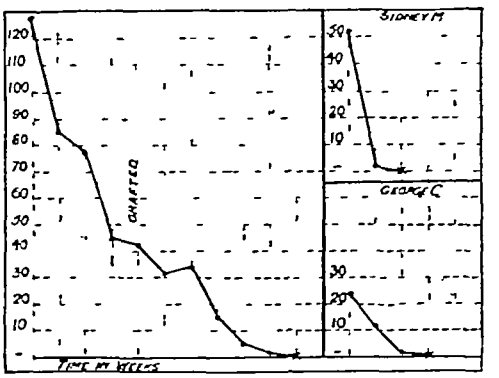
Mary L aged 42, had had ulcers on both legs for ten years There were a number of deep linear ulcers resembling the fissures in the bark of a tree and the total area was calculated as 27 sq cm This unfortunate woman had suffered severe pain from the condition but was more concerned with the limitation of her activities which it entailed At the end of five weeks both legs were soundly healed and it may be said that the patient experienced a complete freedom from the disadvantages of her condition within three days of the treatment having been instituted

Elizabeth P had an ulcer of the leg of twenty years standing When first seen on March 4th 1930 there was an ulcer on the left leg of 22 sq cm and on the right leg another of 8 sq cm the latter was cured in four weeks and the former in six weeks At that date the legs were still swollen and hard but four weeks subsequent treatment has nearly reduced them to normal size and consistency

Mrs C attended the out patient department at the Sussex County Hospital for the first time six years ago with an ulcer on the right leg Six months later she was admitted to hospital and was kept in bed for five months On discharge the ulcer was still incompletely healed and rapidly resumed its previous dimensions in spite of treatment in the out patient department Treatment has continued uninterruptedly there ever since When first seen the ulcer measured 128 sq cm At the end of the fourth week nine small pieces of skin—taken from the anterior surface of the thigh—were embedded in the floor of the ulcer Six of these grafts took and in three weeks time were represented by areas of growing epithelium 1 cm in diameter At the end of ten weeks the ulcer was soundly healed and the patient was allowed to go away for her holiday with a bandage on the affected leg Although this was nearly three months ago the patient has not been seen again and in view of her record of constant attendance we feel entitled to assume that the ulcer has remained healed (See chart below)

Alice B aged 54 had an ulcer of many years duration which was treated by injections of the varicose veins alone during 1929 In January 1930 the patient was advised that the only way of healing the ulcer was complete rest in bed This advice was taken and the ulcer partly healed but while the patient was still in bed it broke down again and became larger than ever On May 13th she had an ulcer of 20 sq cm This was soundly healed at the end of six weeks treatment

Sidney M had an ulcer of twelve years duration he was treated from October 1928 to January 1929 by injections of the varicose veins with quinine urethane and ordinary dressings The ulcer healed but broke down again early in August 1930 On August 19th the ulcer measured 53 sq cm It was soundly healed in two weeks.



Albert W aged 55 was the least favourable of the present series of cases He is a zinc worker who has been out of work for twelve months on account of ulcerations of the legs Last year his varicose veins were treated but the ulceration became worse there was an ulcer on the left leg of 33 sq cm and on the right leg of 8 sq cm (There was no oedema of the legs) The former was reduced to 7 sq cm in five weeks but at the end of nine weeks is still incompletely healed The latter was practically healed after five weeks but neither ulcer can be said to be soundly healed at the present moment although the patient has been able to return to his work and is of course very substantially benefited by the treatment

Charles M came under observation on May 15th with the history of an ulcer just above the right internal malleolus which had been present for ten years He suffered severe discomfort and loss of rest at night with shooting pains This ulcer was 27 sq cm in area and was soundly healed in three weeks time It is worthy of note that whereas before treatment was commenced the girth of the limb above the malleoli was 11 inches and at the highest level of discoloration 14½ inches at the time of the healing of the ulcer these measurements were reduced to 9 inches and 12½ inches

George C had an ulcer of twelve months duration When seen on August 1st 1930 the ulcer measured 25 sq cm It had soundly healed in three weeks

STATISTICAL SUMMARY OF THE TREATMENT

Of 54 cases treated in the way indicated cure resulted in 31, the mean duration of treatment being 11.8 weeks One patient (Albert W) was much improved and there remain 22 cases still under treatment, the mean duration of which is 10.4 weeks

In 10 cases of eczema etc without ulcer the mean duration of treatment was 17.5 weeks in 23 cases of ulcers less than 5 sq cm it was 3.5 weeks for healing ulcer only in 16 cases between 5 and 50 sq cm it was 6 weeks and in 5 cases where the ulcer was larger than 50 sq cm it was 10 weeks an average of 8 sq cm a week The total area of ulcers healed was 970 sq cm and the rate of healing of all ulcers larger than 5 sq cm. was 5.65 sq cm a week The percentage of ulceration not responding to treatmen was 0.63

The total cost of bandages used was £78 the equivalent of a charge of £2 10s for each patient cured The cost of healing the ulcer alone for each patient was £1 15s

TREATMENT OF VARICOSE ULCERS

BY

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VARICOSE ulcer is the commonest, and one of the most important complications of varicosity of the veins Of all the cases of varicose veins or of their sequelæ presenting themselves at the Royal Waterloo Hospital it occurs in about 22 per cent, but this figure is much higher than the true incidence of ulceration, as a large number of patients do not seek treatment until ulceration occurs It seems commonest in the working classes, and for this reason ambulatory treatment—if suitable to the particular case—is to be preferred to all others

In the treatment of the condition it is useful to distinguish five types these will be dealt with in order below

Ulcers with Visible Varicose Veins Unaccompanied by Deep Thrombosis

Local treatment to the ulcerated area will generally result in healing of a temporary nature, as unless the actual cause is dealt with there will always be a tendency for the area to break down again, or for fresh ulceration to ensue elsewhere in the leg In order to obtain a permanent cure the varicose veins, which impede the return of blood and lead to congestion, impaired nutrition, and ulceration, should be sclerosed It is not proposed to discuss the several solutions which may be used for the purpose, but at the Royal Waterloo Hospital the routine is to inject 5 c.cm of a solution of lithium salicylate 30 per cent, with tutocaine 1 per cent, into the largest veins and a similar amount of solution of sodium chloride 20 per cent, with tutocaine 1 per cent, into the small veins, at weekly intervals, until sclerosis is complete In the very large veins the double injection of 2 c.cm of quinine and urethane solution and of the lithium salicylate as above, each injection being given at points about two inches apart, gives satisfactory results Before any injection is given, we should ascertain that no contraindications exist, such as recent phlebitis, deep thrombosis, etc.

The ulcer itself is, in the large majority of cases, secondarily infected, and should first be carefully cleaned It is important that injections—especially those close to the ulcer—should only be commenced once the ulcerated area is as free from sepsis as possible Dressings of hydrogen peroxide, in an equal amount of water, or of cusol, are applied twice daily, and this usually suffices to give the affected area a healthy appearance in a few days Pasta zinci co (Lassar's paste) is then applied twice a day to the ulcer itself and to the congested, discoloured surrounding skin, and the whole covered with a thin sheet of gauze Scarlet red 1 per cent may be added to the paste, on account of its stimulating properties A crepe bandage should be worn at first until healing is advanced it should be applied before the patient rises in the morning, and should extend from the roots of the toes to below the knee After a few weeks the ulcer should be completely healed, and it only remains for the complete sclerosis of the veins to achieve a permanent cure

Where the ulcers are large very indurated or recalcitrant to treatment advocated above, we inject the veins with sclerosing solution at fortnightly intervals, and immediately after the injection apply elastoplast bandages firmly and evenly from the toes to the knees The bandages are applied directly to the skin and ulcers, and no other dressings are advised The elastoplast bandages in many respects are better than Unna's paste bandages

Ulcer with no Visible Varicose Veins and with no Deep Thrombosis

In these cases the ulcer tends to be larger than in the previous group The leg is usually hard, œdematous, and discoloured No veins are visible, but one here and there may be made out by palpation and these should be injected if possible, observing the cautions above

The treatment consists in supporting the tissues and aiding the return of blood by the application of suitable bandages Either an Unna's leg bandage or an elastoplast may be used The ulcer is first cleaned with hydrogen peroxide, then dried, and any palpable vein injected If it is decided to use Unna's paste then the margins of the ulcers and the surrounding skin for about three inches are painted with Unna's paste, using an ordinary flat brush, the ulcerated area itself not being touched An ordinary crinoline bandage 3 or 4 inches wide and 6 yards long, rolled up from each end, so that the two rolled ends meet at the middle of the bandage, is soaked in hot water for a few minutes, and then squeezed as dry as possible With the patient's leg raised and supported by an assistant, the bandage is applied firmly from the toes to the knees one roll being in each hand The whole surface of the bandage is then covered with one or two coats of Unna's paste, and allowed to dry an ordinary bandage may then be rolled round the leg to prevent the stocking from coming into contact with the paste This Unna's leg bandage should be left on a week or ten days, and then renewed until healing is complete

The composition of the Unna's paste used is zinci oxide 9 parts, glycerin 20 parts, gelatin 9 parts, water 20 parts

The elastoplast bandage may be used instead of Unna's leg bandage These bandages are applied with the patient lying down on a couch, the affected leg being raised as high as possible by an assistant Beginning the first turn round the roots of the toes, the bandage should extend to just below the knee, it must be applied evenly and tightly, and must directly cover the ulcer, which has previously been cleaned Badly applied, it causes uneven pressure and discomfort to the wearer Any discharge from the ulcer will soak through the bandage, and can be cleaned off with some boric lotion The elastoplast is left on five or seven days at first, according to the amount of discharge coming through, and in the later stages it may be only renewed every fortnight As the œdema subsides, veins not previously palpable may be found and injected This is the method of choice, as healing is rapid, application easy, and no preparation needed as the bandage is bought ready for use The following are typical cases

Mrs H B, 53 years Varicose ulcers for nine years Treatment with elastoplast began on May 15th Seven weeks later the ulcers were completely healed

Mrs A S, 48 years Large ulcer encircling half the leg Treatment with elastoplast began on August 11th When last seen, in September, the ulcer was practically healed

Ulcers with Deep Thrombosis of the Veins

In these cases injection is contraindicated, as the superficial veins are the only channels of return for the blood usually carried by the deep veins Sclerosis of the veins would therefore only aggravate the existing condition and lead to disastrous consequences If, in a patient with varicose veins, a rubber tourniquet is applied round the thigh and the muscles made to contract by walking, a suction is exerted on the superficial venous circulation by the deep veins and consequently the superficial veins collapse In deep thrombosis this, however, cannot take place, and the superficial veins do not collapse, but become more distended (Delbet and Mocquet's sign) Treatment consists in aiding the circulation by rest, with the limb raised whenever possible and the application of a supporting bandage, such as the Unna's leg bandage or elastoplast bandage already described All standing is avoided, and in severe cases rest in the recumbent position, with the affected leg raised, is necessary Healing is generally slow Quinine and urethane 3 to 6 minims may be injected into the base of the ulcer in two or three places, at weekly or fortnightly intervals Once healing is obtained, the scar is dusted with pulv zinci amyli and a crepe bandage worn Care should be taken to avoid all trauma to the limb, as the scar is very apt to break down again In cases with recent superficial phlebitis the same treatment is required, but after an interval of six months injections into the veins may be begun, proceeding cautiously with small doses and longer intervals between each injection

Ulcer with Periostitis of Tibia

In all cases where the ulcer is large and lies over the tibia an x ray examination should be made for periostitis Deep thrombosis may or may not be present These ulcers are as a rule more painful and more resistant to treatment Rest, the injection of quinine or urethane into the base of the ulcer, the sclerosis of the veins and the application of an elastoplast are the main lines of treatment, and give good results where deep thrombosis is not present Scarification of the edge scrapping of the floor of the ulcer, Leriche's sympathectomy, and skin grafts have been recommended Ultra violet light from a mercury arc lamp on alternate days, directly to the ulcer does not seem to be of great value Finally in severe and extensive cases with deep thrombosis when all other treatment has failed, amputation should be performed

Multiple Ulcers

In a case of varicose veins with multiple ulcers the Wassermann reaction should be investigated, and, indeed the ideal to aim at is the carrying out of this test in every case presenting ulcers on the leg It is well to bear in mind that although the typical varicose and syphilitic ulcer have fairly well defined characteristics, there occur cases which clinically seem to belong to the varicose group yet are resistant to the treatment for the latter have a positive Wassermann reaction and clear up remarkably quickly when antisyphilitic treatment is instituted

I desire to express my thanks to Mr Lodney Maingot F R C S for permission to publish this article

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

DIFFERENTIAL DIAGNOSIS OF ENCEPHALITIS EPIDEMICA IN NIGERIA

In view of the observations of Pfister on the prevalence of encephalitis epidemica in China (*British Medical Journal* June 29th 1929 p 1156), the following notes may be of interest

A powerfully built Fagan man aged about 32 presented himself for treatment on July 20th 1929 complaining of shaking of the limb for nine years He had an upright carriage and stood like a statue with the knees slightly flexed His face was expressionless but the eyes looked intelligent The speech was slurring and almost unintelligible while the lips remained motionless He had difficulty with mastication and deglutition and traces of food soiled the chin and chest His intelligence was above the average as was evident during the subsequent examination All his movements were slow and deliberate The elbow joints were slightly flexed the right more than the left and the hands were held in front of him The upper limbs showed small involuntary myoclonic movements at the elbow joints the left greater than the right These movements were absent during rest but when he was agitated they were augmented and involved both knee-joint also The hands were in the interosseal position but there was no involuntary movement of the finger The history began nine years ago with headache fever and shaking of the limbs together with transient diplopia and lethargy the shaking of the limbs continued up to the time of examination

Tests of the facial muscles showed a slight but definite and slow ptosis There was a faint tremor of the tongue which was protruded a little to the right The eyesight appeared normal and both pupils reacted to light The fundus and media were healthy in both eyes the eye movements were normal and there was no nystagmus There was no swaying The knee jerks were brisk the test for Romberg's sign was negative and co-ordination of the limbs was unimpaired The carriage was upright but the gait was slow with short careful steps There was always some degree of flexion of the knee joints and the feet were lifted well clear of the ground No area of anæsthetic to pin pricks were discovered The lungs and heart were normal and the blood pressure was 128 83 which is customary for a hill Fagan There was no albumin in the urine and micturition and defæcation were normal The temperature on admission was 96.8° F and the pulse rate 60

A fresh blood film showed a very slight degree of auto-agglutination of the red blood corpuscles The serum formalin reaction was negative after twenty four hours The cerebro-spinal fluid was under normal pressure and an average of three counts with the Fuch Rosenthal counting chamber gave three white cells per cubic millimetre The acetic anhydride reaction of the cerebro-spinal fluid was negative

Differential Diagnosis—The following points are against a diagnosis of trypanosomiasis, which is prevalent in many parts of Nigeria (1) *The patient's home was in country* free from the tsetse fly, and he had never travelled out of his district, owing to head hunting traditions (2) The absence of palpable cervical and other glands (3) The length of history, high degree of intelligence normal white cell count in the cerebro-spinal fluid, and the serum formalin reaction negative after twenty four hours, are all unusual in an advanced case of sleeping sickness (4) In the only three cases of advanced trypanosomiasis in which the acetic anhydride test was applied by me to the cerebro spinal fluid the reaction was positive I have also found that auto agglutination of the red cells in trypanosomiasis is usually marked (5) True somnolence has not been observed

The white count and negative acetic anhydride reaction in the cerebro-spinal fluid are against cerebral syphilis In this connexion Melkers on (*Acta Medica Scandinavica*, 1926) found that this reaction gave 100 per cent positive results in general paralysis of the insane, and the great majority positive in other syphilitic lesions of the central nervous system

Against paralysis agitans are the age at onset, the absence of pill rolling movements of the fingers, the upright carriage, and the slow, careful gait

C W HOWELL, B A, B M,
Assoc Northern Nigeria B Ch Oxon

CARCINOMA OF THE LARGE INTESTINE IN EARLY LIFE

Carcinoma of the large intestine fairly common between 20 and 30 years of age not infrequently occurs in much younger patients Ewing[1] refers to records of cases at 12 years (cæcum) 12 years (sigmoid) 11 to 17 years (rectum) and 3 year of age (colon) Pfuhler (1923) *collected twenty three cases of carcinoma of the sigmoid* or rectum in children under 16 years and Wainwright (1927) seven cases above the sigmoid In the practice of an individual however and even of a hospital the disease at such an early age is sufficiently rare to be noteworthy

The case recorded here, that of a girl aged 15 years was seen on August 25th, 1930 with acute intestinal obstruction the culmination of a chronic obstruction of about three months' duration and of unknown origin Exploration undertaken immediately showed the cause to be a hard, ring like infiltration of the descending colon The tumour was not adherent, and there were no signs of secondary deposit In spite of a cæcostomy the patient died eight days later

A post mortem examination was made by Dr C D Dawson, pathologist to the hospital, who reported as follows

Below the splenic flexure the canal is much narrowed by a greyish raised ulcerated firm annular growth gelatinous looking on section Microscopically the muscular wall is honeycombed with spaces containing epithelial cells in an advanced state of mucous degeneration Deeper in newly formed scar tissue is a diffuse carcinomatous infiltration

No evidence of metastasis was found Apart from the statement that the maternal grandfather died of a cancer of the kidney there were no points of interest in either the previous medical or the family history

I have to thank Dr C D Dawson for the pathological details and the medical superintendent Dr J D Ewart for permission to record the case

R N Hall Hospital, Manchester S W DRINKWATER M B Ch B, F R C S

[1] Ewing *Neoplastic Diseases* third edition p 1078 p 710.

Reports of Societies.

SURGERY IN DIABETES

AT a meeting of the Section of Surgery of the Royal Society of Medicine on December 3rd, with MR C H FAGGE in the chair, PROFESSOR G E GASK opened a discussion on surgery in diabetes

Professor Gask said that in pre-insulin days diabetes had presented a difficult problem to the surgeon TREVES in 1898 had stated that diabetes offered a serious bar to any kind of operation, and that the wounds refused to heal readily, providing a suitable soil for the development of putrefaction and the growth of pyogenic bacteria The discovery of insulin had altered the position profoundly, and Banting's work had influenced the surgery of the whole world In the case of a patient for whom an operation of convenience was proposed, such as the cure of a hernia, the presence of diabetes offered no bar to an operation, and but slight addition to its risk Where a patient required surgical intervention to save his life, the discovery of diabetes should not lead to the postponement of operation, a suitable dose of insulin should be injected before the operation, and afterwards he should receive a course of antidiabetic treatment In cases of gangrene occurring in diabetic patients, opinions differed about the course to be followed In pre-insulin days amputation was performed as early and as high as possible, gangrene of the toes, for example, was treated by amputation at the knee-joint, where the collateral circulation was good Nowadays more conservative treatment could be employed, and in some cases the spread of local gangrene could be prevented Where pyogenic infections, such as carbuncle, were associated with diabetes insulin should be given as soon as possible, and all steps to lessen the infection should be taken early, since sepsis tended to aggravate the diabetes The anæsthetic of choice in operative procedures was a local one, and recent improvements in local anæsthesia made this method possible in the majority of cases If local anæsthesia were contraindicated, general anæsthesia with gas and oxygen or, if necessary, ether should be used, but chloroform was the least desirable of all anæsthetics in diabetes

DR GEORGE GRAHAM, who followed, also made some reference to the limitation of surgical practice in diabetes before the discovery of insulin, but was able to quote the history of two patients described by MR SPENCER in 1892, both of whom had gangrene of one limb, one refused operation and died in diabetic coma, and the other recovered after amputation When sugar was discovered in the urine of a patient the diagnosis of diabetes could only be established by a sugar tolerance test If there was time, the patient should be prepared for operation by means of dieting and insulin for from four to seven days He considered that every hospital should have a dietitian and a diet kitchen, so that there should be no chance of errors in feeding following transference to a surgical ward On the day of operation 50 grams of sugar and 25 to 50 units of insulin should be given three hours before the patient went to the theatre, in order to ensure that there should be plenty of glycogen in the liver In cases of acute abdominal crises occurring in diabetic patients, there was no time for such preparation, the blood sugar should be estimated if possible, but if this was out of the question 50 grams of dextrose and anything from 25 to 75 units of insulin should be administered early Where vomiting was severe, glucose in saline solution should be injected intravenously, this had the additional advantage of restoring the salt content of the blood After-treatment required that the same food should be given as an ordinary patient would receive, insulin being increased as necessary Urine should be passed and tested every three hours, if possible, and the sugar content be taken as an indication of the insulin requirement Correlation with tests of the blood sugar content had shown the urine to be a very fair guide Gangrene in diabetes only occurred in conjunction with arterio-sclerosis In cases of acute pyogenic infection the longer the patient remained without insulin the worse the diabetes became DR GRAHAM described two cases in which the insertion of radium into neoplasms had produced a similar exacerbation This, however, had passed off with the removal of the radium in the first case, the second patient was still under treatment In a patient with fracture of the neck of the femur, moreover, a great increase in insulin had been required Provided that the insulin was increased sufficiently to balance the damage done, there was little danger that the sugar tolerance would be impaired on recovery from such acute conditions The speaker believed that many elderly patients without true diabetes benefited by insulin given during pyogenic infections and before operation

DR R D LAWRENCE said that in cases where the surgical condition was not dependent on coexistent diabetes, as in appendicitis, operations could be performed with the same degree of safety and success as in non-diabetic cases, the responsibility for controlling the diabetes during and after operation falling upon the physician Among 163 diabetic patients on whom he had operated for cataract, carbuncle, gangrene necessitating amputation, and for other conditions not dependent on diabetes, only thirteen (8 per cent.) had died Of these only one had died in diabetic coma, the remainder succumbing to complications such as pneumonia, embolus, heart failure, uræmia, or septicæmia The chief dangers of operation on diabetic patients were shock and severe post-operative acidosis DR LAWRENCE usually gave 100 grams of carbohydrate before operation with a balancing dose of insulin, afterwards modifying the insulin according to the results of urine and blood sugar tests The variability in the needs of different cases was extreme Chloroform was the worst anæsthetic to use, because of its toxic action on the liver Infiltration should not be employed where local sepsis was present, since it might lead to extensive sloughing A spinal anæsthetic was ideal whenever possible, and the speaker said he had had good results with avertin The anæsthetic should be chosen with a view to minimizing post-operative vomiting, from which a patient might drift into acidosis DR LAWRENCE described two cases of diabetic patients in whom serious abdominal operations had been tolerated well as a result of insulin and glucose given during the post-operative period in quantities determined by the height of the blood sugar He agreed that gangrene occurred only when arterio-sclerosis was present, in the foot if pulsation was good in the dorsalis pedis artery, a favourable result often followed without operation In dry gangrene there was no occasion to intervene hurriedly, only in rapid, spreading gangrene with much œdema was high amputation urgently necessary In intermediate cases he advised drainage of sepsis, treatment of the diabetes, and no immediate intervention, many such lesions would heal Finally, the speaker drew attention to the condition known as "diabetic acute abdomen" This occurred in patients with severe ketosis who were in the pre-comatose state there was vomiting, pain, tenderness, and vague abdominal rigidity If the temperature was raised it was in favour of a non-diabetic origin of the illness, but it was almost impossible to make a definite diagnosis, leucocytosis offered no indication, since it commonly exceeded 20,000 in severe ketosis Insulin and enemata might cause a disappearance of symptoms, but in cases of doubt it was wiser to operate and find nothing rather than to delay treatment of a perforated appendix

MR CARL NITCH recalled the fact that glycosuria might occur as a result of apprehension Following operation on a diabetic patient the nurse should be warned of the danger of hypoglycæmia The urine should be tested by Benedict's method four-hourly, and insulin should be given according to the degree of reduction observed Fluids were important in hypoglycæmia, since the patient became dehydrated by deep respiration, and the acidosis was increased Mild cases of gangrene should be treated conservatively with local applications, warmth, and ultra violet light if the dorsalis pedis artery was patent Severe pain was an indication for operation, but it should be remembered that the sudden removal of a large area of sepsis sometimes produced hypoglycæmia

DR O LYTON disagreed that patency of the dorsalis pedis artery should decide the need for, or level of, amputa-

tion and described a case where he had unwillingly performed Syme's operation on both feet of a diabetic patient, the dorsalis pedis being occluded on both occasions, perfect healing had followed He mentioned the recent experiments of Harandranath Muckerjee, who had found it possible to produce hypoglycaemia with phosphotungstate of insulin given by mouth, and whose results he had been able to confirm at the London Hospital In surgical cases where injections were resented by the patient, this might offer a good method of controlling diabetes Whether it was harmful when given over a long period had not yet been discovered

Dr P J CAMBIDGE advised the use, not only of glucose and insulin before operation but of glucose and saline solution given intravenously before the patient was taken back to the ward He found that this tended to prevent post-operative vomiting During the first three days after operation 80 to 100 grams of glucose, with insulin to *balance it, should be given daily Control should be based* on the blood sugar readings throughout and these could be obtained conveniently by a colorimetric method

Mr J B HUNTER advised conservative measures and treatment of the diabetes when acute cellulitis arose usually a localized abscess formed which could be drained He thought indolent gangrene of the toes should be treated with the patient sitting in a chair, but not recumbent since the pendent position reduced the danger of spread of infection up the tendon sheaths Patients were much more cheerful following operation if kept on a full diet and large doses of insulin than if their diabetes was controlled by dieting alone

Dr ERIC SKIPPER said that elderly diabetic patients should be advised to keep their feet scrupulously clean and dry and to avoid unskilled operations on their own corns Dr GRAHAM, in his reply, endorsed this, and Professor GASK summarized the opinions of the meeting All were agreed that the patient should have surgical treatment when necessary, without regard to his diabetes, in the treatment of gangrene opinion leaned to conservation, and it was accepted that if surgical intervention was required the patient should have careful pre- and post-operative treatment controlled by an expert

TREATMENT OF FRACTURES OF THE UPPER EXTREMITY

AT a meeting of the Section of Orthopaedics of the Royal Society of Medicine on December 2nd, with Mr P JENNER VERRALL in the chair, Dr LORENZ BÖHLER of Vienna lectured on the treatment of fractures of the upper extremity, illustrating his remarks by several reels of cinematograph film showing actual manipulations on patients

Dr Bohler began by describing the treatment of fracture of the middle and proximal end of the humerus The arm was anaesthetized by the injection of 20 c cm of 2 per cent solution of novocain at a point between the fracture ends He demonstrated how the fracture was reduced and how the splints were adjusted, bent to the required shape and fastened with calico bandages The splints he used were padded with cellulose or cotton, and the apparatus was made quite immovable the patient could *be kept eight or ten* weeks if neces ary with the same splint After two weeks in such an injury as he had described the patient could move the fingers, hand and elbow and the muscles of the shoulder were also active, in ten weeks as shown again by the cinematograph illustration all movements were completely free and active Dr Bohler next demonstrated the treatment on similar lines of a fracture of the distal third of the humerus During supination of the forearm the lower fragment was always in an inverted position, but this was immediately corrected by pronating the forearm With the elbow flexed to a right angle and the forearm radiated inwards an unpadded plaster splint was put on, and the fracture was reduced under strong tension To prevent the shoulder from stiffening, and to ensure good circulation in the whole arm, the arm was flexed on a double right-angle splint Here again all joints were completely active after ten weeks, and the muscles quite strong The lecturer also showed the operation of reduction and treatment of fracture of the clavicle with marked displacement Again this was performed under local anaesthesia with novocain and the fracture was reduced by abduction of the shoulder girdle from the chest A clavicular splint was applied and all movements were completely free and active four weeks after injury In fracture of the neck of the scapula the best treatment was always the use of an "aeroplane" splint The difficulty was to retain the fragments in position until there was good union He demonstrated the form of wooden splint which he used, two straps being applied to the chest and one strap to the opposite shoulder this held the arm away apart from the chest Usually fractures of the lower end of the humerus were fixed and reduced in supination of the forearm, but sometimes in pronation, depending upon the character of the fracture *and the need for reducing pressure on the nerve*

Turning to the reduction and treatment of severe forearm fracture, Dr Bohler described his method of securing complete local anaesthesia and illustrated the operation of reduction by strong longitudinal traction Rustless wire was introduced through both bones near the wrist and through the olecranon process, preventing the displacement of the fragments To prevent circulatory disturbance the arm was placed on a double right-angle splint, and after a week the fingers and shoulder could be actively moved He gave a detailed account of the apparatus of extension, emphasizing the need for strong and slow pulling so as to procure good relaxation of the muscles The wires remained in the bones for from six to ten weeks He had now treated a large number of fractures of the forearm in this manner, and he believed it to be the best The trouble in much unsatisfactory treatment of forearm fractures with complete lateral displacement was that insufficient time was allowed to effect bony union, which would never be obtained in less than eight weeks With regard to the reduction and treatment for fracture of the radius with marked displacement and splintering, he showed how counter-extension was produced by means of a strap The local anaesthesia continued for about two hours if the reduction was not complete at the end of that time another injection could be given Dr Böhler remembered one case in which reduction was only completed after six hours the patient having to be given three injections On the film he showed the manipulations of hyperflexion and forceful traction of the forearm and the application of a splint One interesting little point was that in all the cases the patient's history was clearly marked in indelible pencil on the plaster cast, together with a sketch of the injury and plan of treatment

Finally, the lecturer demonstrated his method of reduction and treatment of a fractured finger, using local anaesthesia with novocain A wire splint was fixed to the wrist by means of a plaster and the finger was attached to the wire splint in hyperextension by means of adhesive tape A fracture was reduced by gradual bending of the wire splint Eight weeks later the patient had a useful hand Dr Böhler showed similarly his method of dealing with fractures of the wrist In order to get a bony union in the scaphoid, the shortest time for fixation was six weeks here again unsatisfactory results were generally due to too short a time being allowed *The procedure in various* fractures of the metacarpal bones was illustrated and the results were shown graphically by the free movements of the hands in the cinematograph

Mr B E SCHLESINGER said he was particularly interested in the question of infected compound fractures Dr Böhler seemed to have been fortunate in that his compound fracture cases came to him for treatment very early, enabling him to practise primary closure of the wounds Every surgeon knew how unsatisfactory was the general problem of dealing with heavily infected wounds A method of dealing with such wounds when it was too late to perform a primary suture was suggested to him in Gallipoli during the war He found that in a bad compound fracture the wound became heavily infected with maggots, but the more heavy the maggot infection the

better were the end-results It appeared that the natural method whereby heavily infected wounds were cleaned was through the agency of the fly, the wounds became full of maggots, and the maggots ate the dead tissue Therefore in Gallipoli he had undertaken the breeding of maggots and had implanted them into the wound, covering the wound over with wire netting The maggots, when implanted, resembled little pieces of cotton, they transformed the wound from a septic sloughing mass into a bright red granulating area, covered with a curious sort of evil-smelling slime, which was otherwise harmless Later the maggots were gently scraped away, leaving a perfectly clean granulating wound, on which a secondary suture could be done quite well The method certainly had its value, and the patient could generally be persuaded to overlook its aesthetic disadvantage

Mr REGINALD BROOMHEAD described a visit he had paid to Dr Bohler's clinic in Vienna He found there excellent team work, and the patients appeared to be progressing most satisfactorily under simple treatment In Leeds he had been treating compound fractures on the lines laid down by the lecturer, and the cases had done extremely well He had used dressings of vaseline gauze, and he thought the granulation tissue found on their removal was healthier than that in Dr Bohler's cases One striking feature about Dr Bohler's work was that no massage was practised in his clinic, and the speaker believed he was right in that omission The habit of "pump-handling and waggling things about" did more harm than good

Mr HOSFORD commented on the entire absence of general anaesthesia, and also on the neglect of massage Sometimes with the local anaesthetic there was not complete anaesthesia, because the novocain did not apparently make its way between the bones, but in cases where absolute anaesthesia was obtainable he thought the local anaesthetic very useful In fractures of the lower end of the radius an unpadded plaster cast was very valuable, and the patient could use his hand immediately In those cases where a splint did not fit absolutely, the plaster had a great advantage, because it fitted the patient closely, he could move his hand, elbow, and shoulder, and so avoid subsequent stiffness If the patients were able to move their shoulders from the very beginning they did not suffer from any stiffness, and an instruction to raise their arms two or three times a day to the full height above the head was advantageous He had not recently used massage in fractures of the lower end of the radius In cases in which he was not quite certain as to the result he had removed the dorsal plaster splint and applied a new plaster cast (the old plaster cast never fitted a second time), after ten days or a fortnight more it could be finally taken away Mr MCCRAE AITKEN said that one of the noteworthy things about Dr Bohler's teaching was the necessity for patience and continuity in treatment True principles never changed, though each man had his own technique The technique of local anaesthesia in such cases was fairly new to him, and the lecturer's results were amazing and interesting

Dr BOHLER, in reply, stressed the need of rest for all wounds, not only for fractures He gave an account of his experience in the treatment of compound fractures during the war He also replied to a question on his treatment of cases of separated epiphyses in a child Reduction was not possible by extension alone, but by a combination of bending and pulling it was effected In his technique for local anaesthesia he sometimes injected not from one point, but from two or three

SPLENOMEGALY

AT the last meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland, the president, Dr J LAIT, read an address on some aspects of splenomegaly

Dr Lait first discussed the haematological diagnosis of splenic enlargements He said that types readily recognized by a complete blood examination included leukaemia, Addison's anaemia, leukanaemia, von Jaksch's anaemia, erythraemia, acholuric jaundice, and the rare condition of Niemann's disease Dr Lait then described certain reticulo-endothelial diseases in which the splenomegaly often dominated the clinical picture Abnormal metabolism, or storage of lipoid by the reticulo-endothelial system, resulted in the clinical entities of Gaucher's disease and Niemann's disease As supporting evidence he referred to experimental hypercholesterolaemia, and to the cases reported by Schultze and Dyke He postulated congenital dysfunction of the reticulo-endothelial blood forming and blood-destroying tissues as the etiological factors in acholuric jaundice and erythraemia respectively The parasites of kala-azar were so often found exclusively in the cells of the reticulo-endothelial system that this infection could be called a disease of the reticulo-endothelium Tracy's conception of Hodgkin's disease as a reticulo-endotheliosis was an advance, although the cause still remained obscure, its result was defined Finally, Dr Lait discussed the evolution of the infective hypothesis of the idiopathic splenomegalies, and referred to splenic anaemia and Banti's disease He demonstrated spleen specimens showing the Gandy-Gamna nodules in which the possibly specific organism had been found, and showed photomicrographs of sections from spleens in which mycelium like threads were clearly visible He had also identified Gandy Gamna nodules in a syphilitic spleen, and in one form a case of myelogenous leukaemia

Dr T G MOORHEAD criticized the president's statement that Banti's disease was never hereditary, in view of the fact that the case reported by the president was that of a boy whose father had suffered from the disease Too little was yet known to justify dogmatism about either the incidence or the etiology of many diseases in which the spleen was enlarged At one time acholuric jaundice was looked upon as a purely familial disease, and then later on it was recognized that non-familial cases were met with In the same way Banti's disease was generally regarded as non familial, but Dr Moorhead believed that a familial variety would be recognized before long He had recently seen a patient suffering from lymphatic leukaemia with some splenic enlargement An interesting and unusual feature about the blood was that the red corpuscles agglutinated almost instantaneously, so that it was impossible to make blood films for examination Dr E T FREEMAN reported that he had seen two such cases of rapid agglutination, one was a case of malignant disease, and the other of septicaemia in which transfusion had been impossible owing to the rapid agglutination preventing testing the blood Dr R H MICKS had also encountered two cases in which agglutination had taken place rapidly, one being a case of pernicious anaemia

OCULAR CHANGES DUE TO FOCAL SEPSIS

AT a meeting of the Medical Society of London on December 8th, with Dr R A YOUNG in the chair, the subject for discussion was pathological conditions of the eye due to inflammatory changes in other parts of the body

Mr A F MACCALLAN, in introducing the subject, said that a few years ago the suggestion that focal sepsis could account for any form of eye disease was treated generally with contempt by ophthalmic surgeons, but opinions had changed since then The earliest reference to the subject in English literature which he had been able to discover was in a book by Sir William Lawrence, published in 1833, on diseases of the eye, in which the effect of a carious tooth in causing eye changes was mentioned, but there were references in Continental literature as far back as the end of the eighteenth century Mr MacCallan indicated a number of ocular conditions which seemed to bear a definite relation to focal sepsis In the first category he included conditions which might frequently be cured by the elimination of the focus of sepsis without any other treatment One of these was increased lacrymation, which was frequently encountered without deformity of the eyelids Another was one form of chronic conjunctivitis, also some forms of ulceration of the cornea, while iritis in one of its manifestations was entirely dependent on the absorption of toxins from some septic focus in the mouth, tonsils, or

prostate In the second category he included conditions which might be alleviated by elimination of the focus of sepsis These included one form of keratitis, progressive myopia which could usually be traced to some form of local or general sepsis and thrombosis of the retinal vessels His third category was conditions which were, in his experience, invariably associated with some form of focal sepsis, but in which no improvement was effected by elimination of the focus Among these were cataract, by which he meant any opacity in the lens or its capsule which could be detected after the pupil had been dilated, glaucoma of which he had not seen a case for five years in which severe focal sepsis was not demonstrable, and some cases of detachment of the retina due to inflammatory exudation between the retina and the choroid The commonest sites of focal sepsis which might react on the eye were the mouth the tonsils the accessory nasal sinuses, the intestinal canal, the gall-bladder, the prostatic urethra, and the pelvic organs in the female Even an ingrowing toenail had been reported by a competent observer to have been responsible for ocular changes The chief forms of oral sepsis associated with eye conditions were pyorrhoea, apical abscess septic stumps, buried fragments of previously extracted teeth—it was estimated that fragments were left behind in 30 per cent of all cases of extraction—unerupted and impacted teeth and also residual sepsis The exciting agent might be living or dead bacteria, or toxic or disintegration products In the great majority of cases the toxic products were the exciting agents Apart from the more serious forms of eye disease, such as iritis and detachment of the retina, there was among the more numerous class of patients who came up for glasses a proportion showing some slight ocular changes which did not necessarily prevent the attainment of full normal vision with the aid of glasses These conditions included various opacities of the lens and of the vitreous, the latter being sometimes realized subjectively by the patient as floating spots In these cases also a possible septic focus should be sought

Mr ERNEST CLARKE said that it was generally acknowledged now that many pathological processes in the eye which were formerly labelled idiopathic or "gouty," on the ground that the cause was undetermined, were associated with inflammatory conditions in other parts of the body which had set free toxins in the blood Iritis and corneal ulcers from a septic tooth or tonsil were perhaps the commonest examples These conditions of the eye were visible and the patient probably went at once to an ophthalmic surgeon as it was recognized that the eye was attacked, but there were a large number of pathological states of the eye which, if the vision was not impaired, were never seen by the oculist, certainly in the early stage, but which the physician should discover, for the processes going on in the eye, which could be seen, were identical with the same processes occurring in other organs, which could not be seen For example, the catarrhal nephritis of pregnancy might be associated with acute retinitis, haemorrhages and exudates being seen all over the fundus oculi The eye condition in these cases was not caused by the condition of the kidneys, but both owed their origin to a toxin, whatever it was in the blood If the macular region escaped there might be very little interference with vision The physician who made a practice of using the ophthalmoscope as often as the stethoscope might discover the eye trouble in its early stage, the stage which the oculist seldom, if ever, saw This meant that in the case just illustrated he would discover the kidney trouble before it manifested itself The physician might find a few small haemorrhages in the retina which at once made him look for some focal sepsis He might also be able to "spot" the very beginning of arterio-sclerosis The speaker had seen many cases of so-called albuminuric retinitis in which, had they been seen earlier the patient's life might have been prolonged or saved There were many structures of the eye that allowing for certain variations were similar to those of other organs and affected in the same way The living eye was Nature's laboratory and the one part of the body where changes could be closely watched Mr Clarke mentioned certain cases of retinal haemorrhage due to focal sepsis which were cured by discovering the cause When there were toxins in the blood these produced dilatation of the small retinal vessels but if the septic cause were discovered and removed the haemorrhages would disappear, and, if the case was seen early, no trace or scar would be left In advanced cases it was sometimes difficult to tell whether a retinitis was associated with renal disease or was the result of arterio-sclerosis It was very often only a question of degree As a rule, renal cases were bilateral, there was a star shaped figure around the macula Life was rarely prolonged in these cases beyond two years, and death occurred from uraemia In cases in which there was arterio-sclerosis only about half were bilateral, life was more prolonged, and death occurred from cerebral haemorrhage or heart disease Haemorrhages in the deeper layers of the retina might sometimes be fairly large, and though they might be absorbed yet, if the cause was not removed, they recurred, and, by pressure on the delicate surrounding parts, did irreparable harm Hence the extreme importance of early diagnosis and no one using the ophthalmoscope as a routine part of the examination was likely to miss them

Dr MORELAND MCCREA mentioned a case of detached retina which had recently been sent to him in which there was an extremely bad antrum otherwise in the general examination there was nothing reported An operation was done on the antrum and three days later, so far as one could make out in the nursing home, there was full vision He took it that behind the detachment there must have been some exudate The patient was extremely optimistic about his eye condition, but his optimism was not shared by the speaker, because the man had extremely septic tonsils, and, in fact, his vision gradually went back to 6/36 One eye condition in which, if one happened to discover the septic focus the condition cleared up every time was iridocyclitis In cataract it was all very well to say that one should find focal sepsis but the question was at what time it was safe to operate in cataract after the focal sepsis had been removed In his opinion six months was a good minimum time for a cataract to be operated on after there had been gross sepsis in the teeth He also quoted two cases to show that old age need be no deterrent to doing operations—tonsil enucleation, etc—in people who were going blind

Mr E D DAVIS said that his experience in iridocyclitis was that about one case in ten had a septic focus discoverable On the other hand, one saw a large number of cases of severe tonsillar sepsis and severe sinus suppuration without any changes in the eye Further, he had enucleated tonsils for iridocyclitis, and had been rather disappointed to find that the condition was not improved Therefore he was not very enthusiastic at present about the discovery and elimination of septic foci as necessarily leading to improvement of the eye condition

Sir WILLIAM WILLCOX said that it was extremely interesting to hear that so many of these early manifestations of eye trouble had been demonstrated to be associated with focal sepsis There were ophthalmic surgeons who had not yet recognized the great importance which focal sepsis had upon eye conditions One condition not mentioned was thrombosis of the central artery of the retina, he had met with quite a number of cases in which this was directly due to focal sepsis Another very important eye condition which was recognized as due to focal sepsis was retrobulbar neuritis He mentioned the importance of removing dead teeth, however normal they might appear on x ray examination They were always a potential source of danger As to the time for operating on the eye condition after a dental extraction or tonsillar operation, he thought that it took about three weeks for the body to regain its immunity

Mr HERBERT TILLEY showed a few anatomical drawings to illustrate the close proximity of the nasal sinuses to the eye He particularly pointed out the honeycomb of the ethmoidal cells just on the inner border of the eyeball, and indicated the path of infection With regard to age in operation his own view was that there was no limit of age beyond which septic foci should not be removed He described a successful operation for removal

of the tonsils in a woman aged 72, who insisted on the operation being done, and was very much better after it

MR HAMBLIN THOMAS asked whether there was any danger of making the eye condition worse by intervention for removal of the septic foci, seeing that the system might be flooded with toxins He had heard it said by ophthalmologists that squint and defective vision were due very often to weakness of the muscles Was that muscular weakness due to the direct action of the toxins, or to the general endocrine or other condition?

MR WILLIAMSON-NOBLE said that a good many of them had had the experience that iridocyclitis seemed to go on in spite of the removal of various kinds of focal sepsis He had found in certain cases a course of tuberculin beneficial He thought one had to be careful not to get an exaggerated idea of focal sepsis in some of these cases He also mentioned one instance in which persistent eye trouble did not clear up until an infection of the colon was discovered and treated by a series of Plombieres douches

The president (DR YOUNG) said that within the last few days he had seen an interesting example of residual infection and its relation to ocular conditions It was the case of an edentulous woman suffering from chronic rheumatoid changes, with regard to whom they were told that there was very marked residual infection in the jaws as seen by *x* rays Bacteriological examinations were carried out with somewhat negative results, as previously vaccine treatment had been extensively used In order to try to get further vaccines a bacteriologist punctured the cancellous tissue of the maxilla and obtained a useful culture of *Streptococcus haemolyticus* Within a very short time there was an acute "flare-up" in the joints, and also some uritis He agreed with Mr Williamson-Noble about the valuable effects of tuberculin in some ocular conditions He had seen a number of cases greatly benefited by its cautious use, and in one or two of them he had found bovine tuberculin of more use than the human form

MR MACCALLAN and MR CLARKE briefly replied to questions

AT a meeting of the Section of History of Medicine of the Royal Society of Medicine on December 3rd with SIR HUMPHRY ROLLESTON, president, in the chair, a discussion was held on the relation of the teaching of the history of medicine to clinical teaching In an address entitled "Clio by the bedside," DR W R BETT opened the discussion by a strong appeal for the teaching of the history of medicine as an integral part of the student's medical course as tending to broaden his outlook He urged that a knowledge of the history and previous methods of treatment of various diseases tended to give the clinician a better appreciation of the extent to which he should follow or differ from his predecessors In the discussion that followed, many members of the Section took part, and also members of the Section of Medicine Among the speakers were SIR HUMPHRY ROLLESTON, SIR STCLAIR THOMSON, DRS PARKES WEBER, G C PEACHEY, R O MOON, A CAWADIAS, J D ROLLESTON, W LANGDON BROWN, H S STANNUS, F R FRASER, J A LINDSAY, and KINGSTON BARTON The general opinion emerged that, while a knowledge of the history of medicine was both useful and desirable, the present overcrowded state of the student's curriculum forbade its inclusion as a separate subject, but that it would be an advantage if every lecture or demonstration could be preceded by a brief historical sketch appertaining to the subject in hand

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THE next award of the Hunterian Society's medal will be made in 1932 The object of the medal is to encourage individual efforts among general practitioners in advancing the science and art of medicine The competition is open to all general practitioners resident within Great Britain, Ireland, and the Channel Islands, whether Fellows of the Society or not The medal will be awarded for the best essay on some subject, chosen by each candidate within the province of medicine surgery, and midwifery All essays must be received on or before December 31st, 1931 The rules governing the award may be obtained on application to the honorary secretaries DR D C NORRIS, 14, City Road, E C 2, and MR Andrew McAllister, 79, Wimpole Street, W 1

Reviews.

THE ROLL OF THE I M S

SEVENTEEN years ago Colonel D G CRAWFORD published a full and authoritative *History of the Indian Medical Service*, tracing its development from the barber surgeons attached to some of the earliest commercial settlements of the East India Company down to the time of the outbreak of the great war This he has now supplemented by the work before us—the *Roll of the Indian Medical Service, 1615–1930*[1]—a handsome quarto of over 760 pages, which aims at giving the name of every man appointed to the service up to the present year, with particulars of his date of birth, his medical school, his qualifications, the dates of his successive commissions, war services, honours literary work, etc In appropriate cases the dates of retirement and death are added The record is not confined to those who served in India proper, for special lists enumerate the surgeons employed in the Eastern Settlements, St Helena, China, Prince of Wales Island and the West Coast of Sumatra In addition, a dozen appendixes provide subsidiary information of interest, such as a list of members killed in action and statistical analyses of honours conferred, degrees, medical schools, etc, while a preliminary chapter is devoted to correcting and bringing up to date the *History* already mentioned The index, in small type and double columns, fill fifty five pages, and contains nearly 6,600 names

It is scarcely necessary to say that this compilation, which is the result of years of labour, is marked by the same accuracy, thoroughness, and knowledge that distinguished Colonel Crawford's previous work He has sought far and wide for information bearing upon his subject, and his acquaintance with the available sources printed or manuscript, is so complete that in some instances he has been able to correct statements in the official records Although from its nature a work of reference rather than one for continuous reading, much curious information will be found here and there in its pages Such is the story of Sir Robert MacAra given on page xxxix He served as surgeon on board various Indiamen for nearly twenty years, all the time holding a combatant commission in the British army Then he took to active service in the Black Watch distinguished himself greatly during the Peninsular war, was given the command of his regiment and made K C B, and finally was killed at Quatre Bras On page xlix some interesting information is given upon duelling, though the author has not been able to discover a case of an officer of the service being killed in a duel We may also note that, when working out the history of Gilbert Pasley of the Madras Medical Service (p 256), Colonel Crawford discovered to his surprise "that he was my own great-great-grand-uncle" Such are the rewards of authorship!

The table on page 649, showing (as far as information is available) where the different members of the service were born, will interest many readers From it we learn that while in the period 1804–36 the Scotsmen far outnumbered the Englishmen, during 1885–96 the proportion was reversed, though in the grand total the former were not far behind the latter The contribution of Ireland was less than one-half of that of Scotland Several European countries figure in the list while Persia, Syria, and Palestine provided one member each The analysis on page 651 of the occupations of the parents of members ranging from artisan to peer, affords no less curious reading, as also the analysis (p 638) of degrees and diplomas

The rapid Indianization of the service has aroused many misgivings, particularly among the general body of European residents in India, and our author appears to share these dismal forebodings That his volume is gowned in melancholy black cannot be regarded as possessing any special significance, but the motto ("Ichabod") which he had placed upon his title-page leaves little doubt as to his views, which are perhaps natural enough in one who has

[1] *Roll of the Indian Medical Service 1615–1930* Compiled by Lieut.-Colonel D C Crawford Bengal Medical Service (retired) London W Thacker and Co. 1930 (7½ × 10 pp 11 + 711. 28s)

dwelt so long upon the glories of the past The change, however, was inevitable and we can only hope that the effects will be less detrimental than has been feared Already the Indian members have taken an honourable place in the list (p 629) of officers killed in action, of the intellectual attainments and manipulative dexterity of many of their number there can be no question and, while there must doubtless be some difference in outlook the new recruits are not likely to prove in any sense to the traditions of the great service to which they have the honour to belong Certainly there can be no better method of stimulating the desired *esprit de corps* than is afforded by Colonel Crawford's self-sacrificing labours

PATHOGENESIS OF CANCER

In a monograph *On the Nature and Pathogeny of Cancers and the Radical Cure of Spontaneous Malignant Growths in White Mice*,[2] Dr E GEORGIOU discusses what he believes to be the relation of the pineal gland and ovaries to the development of malignant tumours, and describes briefly a series of experiments bearing on the subject Dr Georgiou's theory is that the pineal gland induces in the cells of the body a tendency to undergo retrogressive evolution—in other words to return to the primitive form by going back through the stages they traversed in the course of progressive evolution He rejects the doctrine that in their evolution organized beings follow as it were a one way street maintaining that after reaching a predetermined goal of development they quite naturally and inevitably turn back on the same road till they reach the primitive form once more and he supposes that this process applies as well to individual tissues as it does to the organism and the race Granted this hypothesis it is easy to conceive of cancer formation as a stage in the reversed process and thence as an aspect of normal physiological development

According to Dr Georgiou the pineal gland's capacity for bringing about retrogressive evolution is potential only it becomes manifest through the agency of some external factor usually an irritant It is thus he explains the localized character of cancer formation The ovary he believes exercises a function directly antagonistic to that of the pineal gland, and because normally its influence preponderates it succeeds in keeping the tendency to retrogression in abeyance It therefore the ovarian function is deficient that of the pineal gland can come into play and an appropriate irritant would then induce a localized malignant growth Furthermore if the pineal could be eliminated by excision or otherwise the retrogressive tendency of the body cells would stop and cancer formation would not occur and this, the author maintains, is exactly what happens as proved by his experiments As an additional measure he advocates supplementing the ovarian function by means of an ovarian graft in order to restore the tissues to a normal condition or, as he expresses it to rejuvenate them

Such appears to be the author's theory though the adoption of a somewhat verbose style makes it occasionally difficult to follow The experiments on mice were conducted as follows four groups, each of twelve mice suffering from spontaneous cancers were taken from every member of the first group the pineal gland was excised of the second group every member received the same treatment, but in addition was subjected to ovarian grafting in the third group ovarian grafting was attempted without pineal excision but none of the grafts took the reason according to the author being that the pineal gland exercised a dominating influence the fourth group served as a control The outcome of these experiments was that in the first group the tumours completely disappeared but the animals showed no signs of rejuvenescence, in the second group the tumours disappeared completely from the seven animals that survived the operation and these showed signs of rejuvenescence in the third and fourth groups the tumours showed no signs of cure The author does not state whether these experiments have been confirmed by other observers

[2] *On the Nature and Pathogeny of Cancers and the Radical Cure of Spontaneous Malignant Growths in White Mice* By Dr E Georgiou London and Woking Unwin Brothers Ltd 1930 (5½ × 8 pp 47)

DISEASES OF THE THYROID

DR N B FOSTER's compact little book on *Diseases of the Thyroid Gland*[3] with a section on malignant growths of the thyroid by his colleague at the New York Hospital EUGENE POOL, appears to have been published previously in North America with a wide acceptance It begins with a summary of the anatomy and physiology and then deals with thyroiditis, goitre, tuberculosis syphilis, myxoedema, and Graves's disease The author points out that when exophthalmic goitre appears in childhood it occurs four times more often in girls than in boys Even granting an inherent constitutional condition which renders the individual peculiarly liable to Graves's disease, a further exciting agent is postulated, and the question is discussed whether this is a primary structural change in the thyroid or whether the real cause must be sought elsewhere in the body perhaps in the adrenals The child-like hand of some patients is regarded as due to this disease being complicated by the presence of status lymphaticus, and the shape of the hands has been compared to that shown in the picture of Monna Lisa In the section on malignant disease the work of I B Wilson of the Mayo Clinic is largely drawn on, and good accounts are given of carcinoma arising in an adenoma, which is responsible for the majority of the malignant neoplasms, and of carcinomas arising in aberrant thyroids in the neck, mediastinum, or base of the tongue There is a useful select bibliography

CLINICAL BIOCHEMISTRY

DR IVAN MAXWELL'S *Clinical Bio-chemistry*[4] is a book which deserves considerable popularity It was originally intended apparently, as a textbook for students, but it should certainly make a wider appeal than is implied by that statement, for the author has managed to treat in a practical manner most of the problems that comprise the routine work of a chemical pathologist In addition, however he has given a brief, but quite adequate account of the purpose of the various tests and estimations which he describes, and of their place in the investigation of the disease This feature should make the book of value to the student, who is at present rather badly served in the matter of textbooks of biochemistry For the most part, he has nothing but his practical handbook and the textbook of physiology (if he is at the pre-clinical stage) or of medicine (if he is at the hospital) and in general neither of these latter discusses the biochemical aspects of the subject in an adequate or inspiring manner It is a pity that with so much space devoted to "methods" the author should describe only one for the estimation of the blood sugar especially as that one is by no means the most generally employed. There is an obvious error in the description of the estimation of urea and non-protein nitrogen of blood since the reader is instructed to perform the former on a blood filtrate and the latter on whole blood, clearly the reverse must have been intended

MIDWIFERY FOR NURSES

MANY textbooks for nurses err on the side of over-technicality, or are marred by inaccuracy and general looseness of statement Neither of these fault can be attributed to *Practical Midwifery for Nurses*,[5] by Dr BETHEL SOLOMONS Master of the Rotunda Hospital After a brief but excellent introduction on nursing ethics and two chapters on anatomy and physiology normal pregnancy and labour and puerperium are dealt with these constitute roughly half the book A few differences from some of the English schools of teaching will be expected The chin is not used in describing face presentation but the mechanics of head descent as discussed here will be clearly appreciated by nurses who are unused to the Rotunda classification The method of saving the perineum

[3] *Diseases of the Thyroid Gland* By Nelson Barnes Foster With a Section on Malignant Growth by Eugene H Pool Mirror Monograph Series London Baillière Tindall and Cox 1930 (Cr 8vo pp viii + 174 7 figures 6s net)

[4] *Clinical Bio-chemistry* By Ivan Maxwell M D B S M S Physician and Medical Superintendent West Ham Municipal Hospitals Second edition Wm Heinemann 1930 (8½ × 5½ pp xii + 220 21 figures 15s net)

[5] *Practical Midwifery for Nurses* By Bethel Solomons M D F R C P I M R I A Oxford Medical Publications London Humphrey Oxford University Press 1930 (Demy 8vo pp xi—334 Lo figures 8s 6d net)

and the "washing up" of the patient are peculiar to the Rotunda Control of the fundus after delivery is discountenanced, as is also the practice of twisting the membranes The instructions given in the event of retention of some part of the membranes seem scarcely full enough The latter part of the book deals with abnormal pregnancy and labour and puerperium Accidental haemorrhage, placenta praevia, and the method of dealing with extended arms are particularly well described, and the question of sepsis is adequately treated, but the chapter on obstetric operations makes no reference to perineal suture There are two chapters on the infant, and the question of feeding is discussed without fad and with great clarity The statement that "the child should only have one breast at a feed " is strangely dogmatic, and some surprise will be evoked by the author's remark that he has "seen no definite ill effects from starchy food" The illustrations are good, the index adequate, the printing excellent, and the slips few and, luckily, unimportant The chapter on ante-natal care is good, and a sense of proportion is well preserved Throughout the book emergencies are well covered, and the instructions given are sufficiently precise

DR ANDERSON'S *Lessons in Midwifery*[6] is a sound and useful textbook, written, as the author says in the preface, at the request of his pupils It is a smaller work than that reviewed above, and will be used less as a book of reference than as a manual for examination purposes It is, however, by no means a "cram" book The heavy type headings are well chosen, the apportionment of space is good on the whole, and the twenty-one illustrations (including some "touch pictures") are clear

The ninth edition of Professor DE LEE'S *Obstetrics for Nurses*[7] will be welcomed not only in America The text has been reset throughout, and the excellent illustrations have been "done over," some by Felix Eisengraber of Munich The chapter on infant feeding has been rewritten by Dr Arthur F Abt and Dr B F Feingold The type is very good indeed, and the instructions to nurses are definite and detailed—perhaps too detailed for the British nurse It is now twenty-six years since the appearance of the first edition, and there has been a steady improvement both in presentation and in substance The book will be welcomed by all midwives who wish, not merely to satisfy examiners, but to read largely

The *Nurses' Handbook of Obstetrics*,[8] by LOUISE ZABRISKIE, is a new American work, well printed and illustrated, but poorly indexed It is worth reading by those who wish to know something of the details of training and practice in an American lying-in hospital

NOTES ON BOOKS

ROGERS'S *Text Book of Inorganic Pharmaceutical Chemistry*[9] is not designed to provide a general training in the foundations of chemistry for pharmacists, but is intended to give the pharmacist who has been adequately trained in elementary chemistry a closer acquaintance with the characters and properties of medicinal chemicals The point is emphasized by the author in his preface that a student of pharmacy ought not to build his knowledge of chemistry out of the facts taught him in connexion with his pharmaceutical training, but should first prepare an adequate foundation in the main principles of chemistry, and he has written the book in accordance with the presumption that it will be used to supplement books on general chemistry, and not to take their place, as is sometimes unwisely done with books on pharmaceutical chemistry The work is prepared on a methodical plan It gives for each of the substances under description an arrangement of subheadings, such as properties tests for identity commercial methods of manufacture laboratory methods of manufacture and quantitative determination The information given is useful ample and sound The only expression we have noticed in it that was left dubious by the printer is the formula of sodium salicylate We like particularly the historical notes relating to the discovery or first production of certain elements and compounds, and it is pleasing to observe educative references to many subjects which have no relation to pharmacy, but which the educated pharmacist is quite properly expected to know

The eighty seventh annual issue of the *Medical Directory*, for 1931,[10] which has just been published by Messrs Churchill, appears to maintain the exceptionally high standard of accuracy and assiduity in compilation that has distinguished its predecessors The present volume contains 55,035 names compared with 54,537 in the previous edition A decrease of 166 names is recorded in Ireland, and slight decreases have occurred in Scotland, Wales, and the Services, but these are more than balanced by substantial additions in the provinces and in the names of practitioners residing abroad The increase in London during the year was 73 Little alteration is noticeable in the general arrangement of the volume Dr R Fortescue Fox has revised his descriptive summary of the spas of Great Britain Ireland, and New Zealand, which are now classified as principal British spas, other inland health resorts, and health resorts of the British coasts This useful summary is illustrated by a number of new photographs In the body of the work care has been taken to note the administrative changes effected by the Local Government Act and a section is incorporated giving particulars of appointments to the Prison Medical Service Some idea of the task—and success—of the publishers is conveyed by the fact that the new issue has no fewer than 2,263 pages

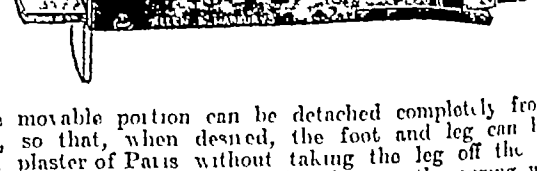
The success of the little volume on *The Clinical Examination of the Nervous System*,[11] by Professor MONRAD KROHN of Oslo, is gauged by the fact that five editions have appeared since 1921 In the latest several additions have been made, including a short description of the methods of ventriculography and encephalography, and a description of the use of hypertonic solutions in the reduction of intracranial tension The book is well illustrated, and the orderly way in which the facts are marshalled makes it worthy of a place on the reference shelf of students of neurology and psychiatry

[10] *Medical Directory, 1931* London J and A Churchill (36s. net.)
[11] *The Clinical Examination of the Nervous System* By G H Monrad Krohn M D F R C P With a foreword by T Grainger Stewart M D I R C P Fifth edition London H K Lewis and Co, Ltd 1930 (Cr 8vo, pp xvi + 222, 57 figures 7s 6d net)

PREPARATIONS AND APPLIANCES

A SPLINT FOR POTT'S FRACTURE

DR J E HEPPER (Brenchley, Kent) writes The accompanying illustration shows a new splint for Pott's fracture It is a back splint, the lower end of which with attached foot piece, is capable of being moved from side to side The dislocation is reduced and the leg is put up on the splint the foot piece being fixed in a direct line with the splint by means of a nut on the under side The side pieces are then fixed to the foot piece, and the heel is secured in position by cotton wool padding The side pieces are strapped together over the ankle joint, further locking the heel The nut is then loosened, and pressure, exerted on the outer side of the movable portion by means of a spring acting along the outer side of the splint, maintains the complete reduction of the ankle-joint



The movable portion can be detached completely from the splint, so that, when desired, the foot and leg can be put up in plaster of Paris without taking the leg off the splint The splint can be used for either leg, as the spring will fit on either side The leg piece can be lengthened or shortened as desired, and the foot piece can be adjusted backwards or forwards on the movable portion Detachable side splints are fixed to the leg piece so as to anchor the leg firmly, thereby preventing twisting, and so making the pressure on the movable portion more effective The nut securing the movable portion to the leg splint is made of wood so that clear x ray photographs can be obtained, both antero posteriorly and laterally, when the foot is fixed in position

Messrs Allen and Hanburys Ltd are the makers.

[6] *Lessons in Midwifery* By Maurice C Anderson, L R C P L R C S Ed London A and C Black, Ltd 1930 (Cr 8vo, pp xiii + 213, 21 figures 6s net)
[7] *Obstetrics for Nurses* By Joseph B De Lee M D Ninth edition revised and reset Philadelphia and London W B Saunders Company 1930 (5½ × 8 pp 654 267 figures 14s net)
[8] *Nurses' Handbook of Obstetrics* By Louise Zabriskie R N Lippincott's Nursing Manuals London J B Lippincott Company (5 × 8¼ pp xviii + 535 268 figures 12s 6d net)
[9] *A Text Book of Inorganic Pharmaceutical Chemistry* By Charles H Rogers D Sc (in Pharm) Philadelphia Lea and Febiger 1930. 6 × 9¼ pp xxii + 676, 50 figures. 7 dollars net.)

BRITISH INSTITUTE OF RADIOLOGY

ANNUAL CONGRESS

THE annual congress and exhibition of the British Institute of Radiology (incorporated with the Röntgen Society) took place at the Central Hall, Westminster on December 3rd to 5th. An exhibition of radiological apparatus, material, and literature, to which more than twenty firms contributed was opened by SIR HUMPHRY ROLLESTON. The exhibition was full and interesting but it was distinguished from previous events of the kind only by certain additional refinements in apparatus, and not by any revolutionary advances.

The president of the Institute, MR C. E. S. PHILLIPS, O.B.I., one of the earliest members of the former Röntgen Society, delivered an address from the chair. It was a survey of recent events in radiology, more particularly from the point of view of one interested in the engineering and physical aspects. Of the six papers read to the congress four dealt with the mechanism of *x* ray apparatus. Of the other two, one was a demonstration of research on the growth of bone as illustrated by radiography, by DR H. A. HARRIS, and the other, a description of changes in the bones in hyperparathyroidism and hyperthyroidism by DR DONALD HUNTER. The latter was illustrated by cinematograph films. Two memorial lectures were delivered to the congress. One was the eleventh Mackenzie Davidson Memorial Lecture, which was by Professor G. P. THOMSON, F.R.S. on "Some recent experiments on cathode rays", the other was the *thirteenth Silvanus Thompson Memorial* Lecture by DR A. E. BARCLAY, which is the subject of extended mention below.

The Danger of Specialization

In his Silvanus Thompson Lecture DR A. E. Barclay took as his theme 'The danger of specialization.' He suggested that in the medical curriculum what was needed was a dictator who, with knowledge and not arbitrarily, could say to one and all, "Thus far shalt thou go and no farther." He, that unwelcome dictator would be able to say: This is useful and essential that may be useful, but is not essential, therefore you shall not teach it as part of your routine outline course." Why should the student learn masses of detail which seemed to have no practical application? Why should Providence be tempted by making everyone learn the technique of operations which only a very few would ever have the skill or the experience to perform efficiently? Each specialist was trying to teach as much as possible of his own subject to men who in nine cases out of ten, would neither have the opportunity nor the wish to practise that particular specialty. For that one man in ten the teaching was too little to be of real value for the other nine it was just so much detail to cram up for examination. Dr Barclay believed that the medical student could be just as adequately prepared for his life's work in a shorter period. It was, however, only by co-operation, placing the common good before departmental interest, that the student's burden could be reduced without impairing efficiency. Each branch needed to know more and see more of the work of other branches, so that they could co-operate effectively in a team. The danger of specialization was, of course, well recognized, and steps were taken to combat it in various ways. Team work, however, seemed to be the only practical solution, and for the radiologist team work was essential.

What is the aim and object of our education, whether it be in medicine or in science? Are we to aim at turning out a *uniform herd of specialists, a large proportion of* whom must in reality become general practitioners, or are we to direct our energies primarily towards developing the highest type of general practitioner, with sound common sense, out of which the specialist can evolve in due course? What is the student's aim? If he is taught by specialists he is likely to aim at being a specialist, and the result in this direction is already profoundly disquieting. In my experience it is very exceptional to find any of the best class of students who has the intention of undertaking the self-denying life of a general practitioner if he can possibly become a specialist. Therefore we have fewer and fewer of that wonderful type of medical man which has placed the prestige of our profession so high, and which is traditional as the family friend, the wise counsellor, whose wide and common sense knowledge of medicine gives confidence not only to his patients but to those consultants to whom he applies for help in time of need. In this country this change is a mere tendency as compared with the United States, where the man who calls himself a general practitioner is almost defunct."

Dealing with the question as it affects radiology, Dr Barclay said that although the practitioner of diagnostic radiology happened to work in a laboratory he was essentially a clinician. His department must be a clinical service department, *self-centred and self-contained only because its methods were so highly specialized that centralization* of the service was the only way to progress and efficiency. Radiology covered such a wide field and was still extending so rapidly that it was now impossible for any radiologist to be other than a general practitioner in the subject and to specialize in certain branches. Radiotherapy alone, for example, had become a subject of such proportions and dependent on such a variety of laboratory research that, unless he specialized in therapy, the radiologist could not keep up with the progress in this one very important branch.

Annual Dinner

The congress ended with a very enjoyable dinner at the Trocadero Restaurant, over which MR C. E. S. Phillips presided. In proposing the toast of "The Institute," MR Cuthbert Andrews referred to the recent formation of radiographic societies in different parts of the country—in Manchester and Birmingham and also in Scotland. These societies were independent of the Institute, but he hoped some way would be found of establishing a bond between them. MR Andrews went on to give some amusing *examples—we hope not apocryphal—of recent* "well-informed" newspaper comments on radiology. One comment stated that 'MR —— has presented the hospital with a complete set of *x* rays"! A description of the opening of the *x* ray department at a local hospital after recounting how the chest of the mayor was *x* rayed, stated that the hospital possessed "one of six sets of *x* ray apparatus in the United Kingdom." But these examples were matched by the hospital secretary who wrote to the manufacturers that he had been requested to inquire "the reason for the clogging of the *x*-ray pipes." MR C. E. S. Phillips also replied in a light and amusing speech, in which he affected to find in Shakespeare some inkling of radiology, for in *King John* occurred the words, "I am not worth this coil that's made for me," while the reference to shuffling off the mortal coil might have something to do with the advent of tran formers.

In reply to the toast of 'The Guests," which was proposed by Professor J. Woodburn Morison, Sir Cuthbert Wallace said that years ago it was remarked that medicine stood on three legs—medicine, surgery, and obstetrics—but to these, he thought should now be added a fourth—namely, radiology. The strides which radiology had made in one generation were even greater than modern surgery had made in two. Dr T. Watts Eden, president of the Royal Society of Medicine, who also replied said that he had always felt the fascination of radiology since he first listened to the mysterious crackling of the *x*-ray tube. Nothing in modern medicine so much appealed to the imagination as the extraordinary progress which radiology had made. The radiologist of to-day fulfilled the prophecy of the evangelist: *There is nothing covered that shall* not be revealed.' The only province of medicine into which the radiologist did not seem to have penetrated was psychiatry, and it might yet be possible to elucidate the mysteries of the mental processes. But when that did come about, radiologists would be regarded as dangerous to society and burned at the stake!

British Medical Journal.

SATURDAY, DECEMBER 13TH, 1930

TUBERCULOSIS IN MAN AND ANIMALS

TUBERCULOSIS bristles with difficulties The more attention the thinking student gives to the subject—and it matters not whether he as pathologist, bacteriologist, or clinician—the more difficulties there appear to be It is true that in the past few decades knowledge of *treatment* and *prophylaxis* has increased enormously, and information about methods of controlling the disease in cattle has been greatly extended But there are still many aspects of the problem to be solved before we can really say that we understand all about the disease We know, for example, how man *can* be infected, but, except in a few isolated cases, we do not know how he is infected We know that isolated communities of uncivilized peoples are free from the disease yet have no immunity We know that, once infected, these peoples develop tuberculosis with fatal rapidity, although in civilized countries the disease is essentially *chronic*, but *we do not* know why The mode of infection and the comparative immunity of civilized countries are two of the fundamental problems of tuberculosis which can be solved only with the greatest difficulty, and in an attempt to place our knowledge on a sounder basis Dr H Harold Scott has just produced an extensive thesis,[1] under the auspices of the Medical Research Council, in which he has employed the latest instrument of medical thought—the comparative method

The disease in animals is analogous to the disease in man It exists chronically in domesticated animals in civilized communities, but is absent, or practically so, from wild animals in their natural state When these wild animals become infected, as they often do in zoological gardens, they develop an acute fatal tuberculosis Dr Scott was for many years a pathologist in the Tropics, in both the Far East and the West Indies, subsequently he was pathologist to the Zoological Society of London During this period he performed a very large number of post mortem examinations on tuberculous human beings and animals, and in his report he has tabulated all these in detail These tables—covering 300 human cases, 70 mammals, 41 birds, and 9 reptiles—by themselves form an invaluable record, and provide a wealth of detailed information for future workers, which alone would make the report of immense value to pathology This value is increased by the addition of detailed findings in animals which have died from the double infection of tuberculosis and mycosis—numbering in all 42 birds and 9 primates It is the most complete and informative study of the acute explosive tuberculosis of non-immune hosts which has yet appeared Dr Scott's examinations indicate that when ingested in relatively small numbers, the bacilli may traverse the intestinal mucosa without causing any lesion, and pass either slowly by the lymphatic system to the thoracic duct and finally reach the lungs by way of the pulmonary arteries or, more rapidly, by the blood stream direct to the lungs from the intestine In such cases, a primary type of infection of the lungs results, appearing as though infection had arisen by the respiratory route If the infecting dose is large the morbid process is started in the intestinal mucosa, with resulting tubercles or ulcers The optimum site of development varies in different species of animals In cattle the serous membranes, especially the pleura, are most frequently affected, in pigs, the spleen, in dogs, the pericardium, in man, the digestive tract and its lymphatics, or the bones and joints In guinea pigs subcutaneous injection produces the disease in the lungs and spleen, in rabbits the lungs and kidneys, in birds the lungs are but rarely infected Dr Scott suggests that variations in the lymphatic distribution may account for this, certainly some instances of peculiar distribution in the higher apes may be thus elucidated The disease in wild animals in captivity—homologous with human beings under civilized conditions—resembles that seen in the corresponding orders of domesticated animals, with two important differences The powers of resistance are low, and the disease runs a very rapid course, dissemination takes place early, and at death, in spite of the short illness, lesions are widespread and advanced A third point, of less importance, is the almost complete absence of emaciation

Fifty of Dr Scott's cases in *wild mammals* were in primates, and three quarters of his human cases were in children under 10 years of age, the comparison of these two series is of the greatest interest In both we are dealing with "natural" tuberculosis—the disease in animals or men not immunized against the toxin The disease of the civilized adult is a modified tuberculosis characterized by fibroid changes round the lesion, by a chronicity in its course, and by being spread by continuity rather than by the lymph stream In natural tuberculosis, in both groups, there are two main forms a respiratory form, more rapidly fatal, infection causing death by generalized dissemination of the bacilli by the lymphatics and blood vessels, and an alimentary form, which is less rapidly fatal The alimentary form, of course, may also exist as a secondary infection, due to the bacilli being swallowed in the sputum The respiratory infection is much commoner, and Dr Scott believes that in the Tropics the ratio of respiratory to alimentary infection is about 7 to 1, a figure which is probably nearly twice as high as in temperate climates In the Tropics, domestic conditions are such as to encourage infection by the respiratory route

Dr Scott has many other interesting points to make about the distribution of the lesions caused by the disease and the anatomy of the host, the effect of the organism on immunized and non immunized races of man and animals, the combined effects of tuberculosis and mycosis in monkeys and birds These the student must read for himself We congratulate Dr Scott on producing a report of more than usual interest, compiled with scrupulous attention to detail It is one of the most important contributions yet made to comparative pathology, and more than justifies the use of that subject in assisting to explain the processes of disease in the highest animal

[1] Medical Research Council Special Report Series No 149. Tuberculosis in Man and Lower Animals By H H Scott. London H M Stationery Office (5 net.)

CLINICAL USE OF ACETYL CHOLINE

ACETYL CHOLINE has been known and used for many years in physiological laboratories but only recently has it been introduced into clinical use. The history of the drug illustrates the way in which researches which at first sight appear to be solely of theoretical interest, may prove ultimately to be of great practical importance. As long ago as 1906 Hunt and Taveau showed that acetyl choline produced lowering of the blood pressure in doses that were extraordinarily small but the drug was regarded as an unimportant pharmacological curiosity. Gautrelet described the anti-anaphylactic properties of the drug and suggested that it was a hormone with an action opposite to that of adrenaline. This hypothesis was confirmed by the brilliant researches of Loewi and his school, who showed that the stimulation of the vagus caused the liberation of acetyl choline in the tissues. Quite recently Dale has shown that the antidromic vaso-dilator effects produced by stimulation of sensory nerves are also probably due to liberation of acetyl choline. The physiological importance of this drug has therefore increased very rapidly during the last ten years. The physiological actions of acetyl choline had been known for twenty years before any attempt was made to apply the drug in clinical practice. The first workers to do this were Professor Villaret and Dr. Justin Besançon, who carefully studied the physiological actions of acetyl choline, and then investigated its action in disease.[1] The interval of twenty years between the physiological discovery and the therapeutic application is a striking example of the fact that although many valuable discoveries pass from the laboratory to the ward, yet they often travel at a very slow rate. It has been publicly suggested that this lag is due to physiologists not taking sufficient interest in clinical work, but there remains the alternative possibility that clinicians might pay more attention to physiology.

Although it was a long time before acetyl choline was applied clinically yet it has rapidly proved itself a drug of great value. Justin Besançon and Villaret[2] have shown that it produces most dramatic relief in a variety of forms of arterial spasm. In particular it is of benefit in Raynaud's disease and in early cases of arthritis obliterans. It is also giving encouraging results in certain cases of hemiplegia, and is of benefit in the treatment of trophic ulcers, hyperidrosis and a variety of other conditions including lead colic. In hyperpiesis acetyl choline does not appear to produce much reduction in the blood pressure but it relieves such symptoms as vertigo. The drug must be given hypodermically or intramuscularly, for it has no action when given by mouth and it is unsafe to inject it intravenously. Unfortunately it is an unstable compound that oxidizes rapidly when kept in aqueous solution. Moreover, it appears possible that oxidation produces toxic substances. Villaret points out that the preservation of acetyl choline requires precautions similar to those employed with the organic arsenicals, and recommends that it be kept in powder form in sealed ampoules. He uses it in some conditions in doses of about 1 grain (0·05 gram) and for vaso-dilator effects in doses of 3 to 6 grains (0·2 to 0·4 gram). The drug has no cumulative action because it is rapidly destroyed in the body and it appears that patients can receive daily doses for months without ill effects.

It is evident that the enterprise of these French workers has resulted in introducing a valuable and interesting remedy into therapeutics. The clinical actions of acetyl choline that have already been demonstrated are of very considerable importance and there seems a reasonable probability that a number of other clinical uses will be discovered as time goes on.

THE BEIT MEMORIAL FELLOWSHIPS

SIR OTTO BEIT, a generous and far-seeing friend to the joint cause of medical science and the alleviation of human suffering, died on December 7th. At our request Sir James K. Fowler has written the following note on the origin of the Beit Memorial Fellowship for Medical Research.

These Fellowships, as the name indicates, were founded as a "memorial" and it was the memory of his elder brother, Alfred Beit, that Otto Beit desired to perpetuate. Possibly, of all his munificent gifts for the relief of suffering and the advancement of science by the method of research, this as the years go by, will prove to have been, if not the most fruitful in results, certainly not the least so. It may be, as is now suggested to me, useful that I should briefly record the circumstances under which the Fellowships came into being. The scheme for the transfer of the teaching of the preliminary and intermediate subjects of the curriculum from eleven or twelve medical schools to two or three institutes under the aegis of the University of London, which had then but recently emerged from one of its periodical transformations, received the almost unanimous approval of the recognized teachers of the advanced and clinical subjects, but not nearly to the same degree of those concerned with the earlier, and, as some contend, more "scientific" subjects. As one of the treasurers of the Fund formed to promote it I had received from Mr. Alfred Beit a gift of £25,000 and, as appeared after his death, he had left by will a similar sum for the same object. The Faculty of Medicine on which, in the meantime the teachers of the earlier subjects had obtained a majority, advised the Senate not to proceed further with the scheme and this involved the return of the subscriptions amounting in all to upwards of £70,000, including those already mentioned. The lawyers were agreed that the gift made during the lifetime of the donor held good and reverted to Mr. Otto Beit as the residuary legatee, but as to the legacy they differed. This necessitated recourse to the courts. The University was not averse to the prospect of obtaining control of such a useful sum, and a not unfriendly suit followed. In this the Attorney-General as required by his office as guardian of the interests of "charity," a term which has in law a wide interpretation, subsequently intervened. In the first court, and again in the Court of Appeal, judgement was given in favour of those with whom I was associated who desired that both the gift and the legacy should go to the residuary legatee, as he had accepted a scheme which I had drafted, after consulting with the late Professor Starling, under which the first £25,000 was to be devoted to the foundation of three Research Fellowships in Medicine and the Allied Sciences. We naturally thought that six Fellowships were better than three. It was entirely Sir Otto Beit's own idea when he had obtained control of the whole £50,000, to increase the endowment to £230,000, and not (as he perhaps not quite seriously hinted at a later period) the suggestion of another person. This in very brief outline is a record of the origin of the Fellowships which have now gained a high position in the estimation, not only of the profession but also of the scientific world. It would be ungenerous to omit to state

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[1] Justin Besançon. Recherches Physiologiques sur l'Acétylcholine. Paris: Masson et Cie. 1929.
Villaret. L'Emploi de l'acétylcholine en clinique et en thérapeutique. *Leçons du Dimanche*. Second series. Paris: Baillière et Fils. 1930.

that this result is largely due to the care which the Advisory Board has exercised in the selection of the candidates to be recommended for appointment by the trustees Many men of generous mind, and in a position to give effect to their wishes, have supported schemes involving the construction of imposing buildings, but Sir Otto Beit had another object in view, one which has a less obvious appeal, and this was the endowment necessary for the support of the professors and Fellows engaged in research likely to advance our knowledge of the causes of disease and to lead to their prevention, or, failing that, the alleviation of suffering and the prolongation of life He would have nothing to do with "bricks and mortar" Sir Otto never lost interest in the work of the Fellows, and at the meetings of the trustees for the review of their work and the election of candidates it was obvious that he had read with the greatest care the record of the results which the Fellows had obtained, and the qualifications of those who wished to join them The Fellowships have come of age (1909–30), the founder, alas! is no more, but his deeds remain as his own memorial

"THE TRUTH ABOUT CANCER"

IN the front of the many and various problems included under the term "cancer" there stand two confident propositions one, that in its commencement it is a local disease, and another, that in this early and local stage a complete and permanent cure may be obtained An inevitable corollary follows—namely, that delay in recognition and treatment entirely alters the position and will almost certainly be attended by disastrous consequences Such propositions are commonplaces to the medical profession, but their wide application will be made effective only when they are recognized and accepted by the general public It is the duty of the profession to protect and guide the public, and a further step in this direction—and one worthy of wide recognition—is *The Truth about Cancer*,[1] published under the authority of the British Empire Cancer Campaign No doubt to the ordinary layman the progress of cancer research as conducted by numerous workers in laboratories all the world over seems slow, ineffective, and almost non-existent, and the detection of cause and cure hardly, if at all, advanced The issues presented in such researches are most difficult and involved, and probably much time will elapse before they bring forth the eagerly desired and beneficent discovery In the meanwhile, there exists the certain knowledge quoted in the opening sentences of this note, and were this knowledge universally applied no one can doubt that the present suffering and mortality due to cancer would be very considerably reduced Because *The Truth about Cancer* will help to this end there rests with the medical profession the duty to see that the book secures the attention and interest of the general public Part of the information it conveys is directed to the prevention of cancer but in the main it faces the practical position and shows how great is the promise of early treatment and how disastrous the results of delay The constituency which the book solicits is the intelligent layman No one will depreciate the value of leaflets and tracts prepared for popular instruction, but, in the nature of things, the statements these include are blunt and dogmatic Here, on the contrary, is a volume in which what is known about cancer is presented in a fashion that appeals to the intelligence and may well engage the attention of a lover of knowledge even apart from the practical intention of its pages In view of the auspices under which it is produced, and of the authors whose help has been secured, the book speaks with authority, and evidently every effort has been made—and with success, too—to make the story lucid and readable for the non-technical public The same reasons that make it authoritative make it also careful to keep within the limits of scientific accuracy and well adjusted statement, and, naturally, anything like sensationalism is absent from its pages Here, in short, is what is known about cancer in so far as cancer creates a practical situation for the individual patient and for public opinion It is in the discharge of a high professional responsibility that this knowledge is pressed on the attention of the community, and in producing and issuing the volume the British Empire Cancer Campaign has done good service in the promotion of human happiness and welfare We offer our congratulations both on the scheme itself and on its translation into practical expression Other methods tending to the same end have their value, but in the present instance the appeal is to the thinking members of a lay audience, with the hope of informing the minds and influencing the practice of the general community In a brief foreword Lord Reading recites the various steps taken to make the book equal to the intentions of its sponsors, and these efforts have not been in vain We hope they may now be supported by the interest and good will of members of the medical profession

[1] *The Truth about Cancer* London J Murray 1930 (2s. 6d. net.)

MATERNAL WELFARE IN NEW ZEALAND

THE maternity section of the report of the Director-General of Health for New Zealand[1] contains information on certain problems of the maternity service which are similar to those encountered in this country Recent changes have been introduced into the regulations of the New Zealand Nurses and Midwives Registration Board which require a lengthening of the course, and which will probably produce an improvement in the standard of work demanded It has also been proposed that certain of the smaller and less satisfactory hospitals shall no longer be recognized as complete training schools, and shall only be entitled to receive pupils for a portion of their course As in England, a large number of nurses take their midwifery certificate without any intention of practising as midwives, if the midwifery training centres are to be restricted the number of candidates will be too great for the accommodation, unless the unnecessary demand for midwifery certificates from nurses seeking ordinary hospital appointments can be stopped The number of cases conducted by those taking the certificate are to be increased to the number prescribed by the Central Midwives Board in this country, to enable maternity nurses to register in Great Britain if they wish Some statistics of the incidence of forceps applications show a remarkable range in different hospitals, in one the incidence being as low as 1 14 and in another as high as 57 89 per cent, with every gradation between In forty hospitals the forceps rate is over 20 per cent, and twenty-six of these are small hospitals with less than 51 confinements annually, in many of them equipment is poor, and the possibility of obtaining complete asepsis limited, so that the dangers of forceps application are much increased During 1929 nearly twice as many cases were conducted in hospitals as elsewhere, consequently, the result of hospital cases has a preponderating effect on the maternal mortality of the whole country The mortality rate varies considerably in the different types of hospital, being lowest in the seven St Helen's maternity hospitals, where it reaches 2 08 per 1,000, contrasted with this is a rate of 8 23 per 1,000 in seventy-two mixed hospitals The conclusion is drawn that the dange-

[1] Department of Health Report of the Director General of Health New Zealand for the year ended March 31st 1930 Wellington W A. G Skinner, Government Printer 1930 (1s 9d)

lies in maternity and surgical cases being nursed in the same building possibly on occasion by the same nursing staff As a logical inference from this Dr Henry Jellett (consulting obstetrician to this section of the Health Department) suggests that the general practitioner is an unsuitable person to undertake obstetrics, since a mixed practice makes him a source of danger to his patient For similar reasons he is opposed to maternity homes possessing one or more wards for emergency cases, complete segregation of both staff and patient in cases of sepsis seems to be the obvious remedy, and it is satisfactory to remember that this plan will obtain in the new Queen Charlotte's Hospital in this country, when the building is complete Opinion in New Zealand is against the giving of a bath to maternity patients on admission to hospital, and it has been forbidden in many institutions, in the new maternity hospitals in Sydney no bath tubs are provided for ante-partum patients The opinion of Professor B P Watson of the Sloane Hospital, New York, is quoted in the report, the practice at that hospital is to bathe the patient on a slab with running water, thus avoiding the menace of the full bath tub An investigation of 143 cases of puerperal sepsis in New Zealand during 1929 showed that delivery was assisted in 51 cases, with consequent internal manipulation Taken in conjunction with the statistics showing the incidence of forceps application, it seems probable that a certain number of these cases would have delivered themselves normally without intervention The report urges on practitioners the extreme importance of patience and conservative measures in the prevention of maternal mortality, a gospel which still requires to be preached in this country

MALADIES IN PNEUMATIC DRILL WORKERS

IT is a matter of universal amazement how users of pneumatic drills can stand the vibration and racket but the fact remains that they do stand it In an article on maladies from work with compressed air drills,[1] Dr Maria Sevring describes three quite distinct groups of illness or injury which are incontestably related to the occupation These are disturbances in the blood vessels, affections of the muscles, and injuries to the joints Raynaud's disease ("dead" fingers) is everywhere recognized as resulting from such work The author made a special investigation of cases among cleaners of castings and analogous processes Systematic questioning showed that an extraordinarily high percentage suffered from these "dead" or "white" fingers, with loss of sensation when they became cold All said that when they placed them in cold water (especially when the weather was cold) the fingers took on this unpleasant sensation Liability to this condition increases as the years go on Thus among all the cleaners of castings, 4 per cent suffered within two years of commencing work, 48 per cent with a duration of between two and three years 55 per cent between three and ten years and 61 per cent after ten years In one case it occurred after eighteen months After ten years, five-sixths of the cleaners of castings were affected It was most prevalent though, among those cleaners who used their air drills on very hard resisting material While this must be regarded as a vasomotor effect upon the innervation of the blood vessels two cases are cited (coming under the observation of Dr Sevring) where gangrene ensued at the end of a finger, necessitating amputation Exactly similar conditions have been described in branches of the boot and shoe industry Reference is made to one shoemaker in whom the condition led to the amputation of several fingers, a case is also cited where change of employment was necessary Two explanations of this condition are given it may be due (*a*) to vibration and contact of the hand with the cold metal, and (*b*) to the cold draught from the exhaust of the compressed air The author gives good reasons for dismissing the second suggested cause—namely, the draught—because the fingers usually affected are not those that are subject to this draught Then the left hand, which does not come into contact with the draught, is affected most, and the dead feeling comes on principally on going into the cold air or on washing with cold water The reason she considers the vasomotor changes are greater in the left hand is because it is most subjected to strong vibration of the chisel end, which is gripped very firmly The gangrenous condition of the finger referred to occurred in people of 50 years of age—that is, at an age when atheromatous changes in the arteries take place Under the heading "Affections of the muscles,' the troubles described, of which three cases came under observation, are much rarer Here again they were all cleaners of castings, who held the chisel in the left hand and the handle in the right The valve at the top of the handle has to be pressed down with the thumb, and all three said that the work required quite hard pressure constantly maintained In one, symptoms occurred after a few months' work, in another after a year, and in the third (much the worst case) after several years All suffered from marked atrophy of the muscles of the ball of the right thumb and of the muscles close by them Thus, the muscles of the thenar eminence affected in the severest case were as follows

1 Opponens pollicis abductor pollicis brevis flexor pollicis brevis supplied by the muscular branch of the median nerve

2. Interosseus dorsalis 1 adductor pollicis (only slightly affected) supplied by a branch of the ulnar nerve

3 Abductor pollicis longus extensor pollicis longus and brevis supplied by the radial nerve

Sensation was affected in the region supplied by the cutaneous branch of the radial nerve The second and third had less marked atrophy of the thenar eminences Pressure on the muscle and nerve apparently occasioned the damage Dr Sevring cites analogous instances of the damage in the region of the median nerve from excessive muscular exertion among locksmiths, carpenters, drillers weavers and cigar-makers and from the tight grip of the hammer and chisel by file-cutters, in whom paralysis and partial paralysis of the thenar and hypothenar eminences used to be common In regard to injury to the joint, several cases of this have come to light since they were first described by Holzmann[2], it has generally been described in miners hewers working with drills, etc A case in a metal worker and a riveter has been described In eight out of ten cases the right elbow was involved, the symptoms being pain and limitation of movement, especially extension In one case detachment of a piece of bone which had to be removed by operation occurred Duration of employment in one case had been three years, and in the others from six to ten years The names under which the condition is described by medical men are various "arthritis deformans,' "myositis ossificans' osteochrondritis dissecans," "chondrodermatitis,' and in other cases simply "inflammation" or deformity in the elbow-joint The importance of these observations is that the condition has now been included among the diseases and injuries scheduled under the German Workmen's Compensation Act thus Disease of the muscles, bones and joints from the use of pneumatic drills" The vasomotor disturbances—that is, the "dead" fingers—are not included in the definition

[1] Sevring Maria Erkrankungen durch Arbeit mit Pressluftwerkzeugen. *Arch f Gewerbepath u Gewerbehyg* Issued by Dr L Teleky Preuss Landesgewerbearzt and Professor H Zangger Director des Instituts f Gerichtliche Medizin Zürich

[2] *Zentralbl f Gewerbehyg u Unfallverhutung* 1923.

THE EBERS PAPYRUS

ABOUT 1862 the Ebers Papyrus was found in a tomb at Thebes, together with the Edwin Smith Papyrus. The Ebers Papyrus, though written about 1500 B.C., and the oldest existing written record, was a compilation of folk-lore and prescriptions going back for many centuries, even for as many as twenty. It was translated into German and in 1875 published by Dr. H. Joachim in the face of great difficulties, among them the impossibility of finding the modern equivalents of many of the morbid conditions mentioned, such as the ĀVĀ, the uXedu, and the uha diseases. The first of these has been thought to be bilharziasis or the anaemia due to ankylostomiasis. One of the most interesting sections of the papyrus is that dealing with the vascular system, for at first sight it might suggest a more modern view than is actually the case, the heart however, appears to have been regarded as a mere well and not as a pump. The account of the hair shows that fifty centuries ago the human race was wrestling just as now with the problems of grey hair and baldness, and a prescription for alopecia in the mother of a king was composed of "toes-of-a-dog, refuse-of-dates, hoof-of-ass." Dr. Cyril Bryan has placed the profession under a great debt of obligation by providing the first English version of the Ebers Papyrus based upon Joachim's German translation, and by adding introductory notes to the various chapters.[1] His chief, Professor G. Elliot Smith, has supplied a most instructive introduction, in which he quotes from Mr. Warren R. Dawson's account of the papyrus, and says that Dr. Bryan's book will disseminate much information about ancient Egyptian folk-lore, and by doing so will reveal the lacunæ in existing knowledge.

WAR NEUROSES IN THE AMERICAN ARMY

ONE of the most interesting contributions to the tenth volume of the history of the Medical Department of the United States Army in the World War,[2] the subject-matter of which is neuropsychiatry, is a paper by Major Sidney I. Schwab and Dr. Norman Fenton. In this the war neuroses are discussed as a medico-military problem, and the methods of treatment developed at Base Hospital No. 117, the most important base hospital in connexion with the care of war neuroses in the American Expeditionary Force, are outlined. While every member of the hospital staff was encouraged to work out his own technique of treatment, he could do so only within the limits set by certain general principles, which guided the practice of the hospital as a whole. It was laid down that the patients' stay in hospital was to be as short as possible, that attempts at cure should be instituted with all convenient speed—within forty-eight hours if it could be arranged, that medical officers must keep in mind the possibility that persistence of symptoms might be due to the patient's wish to remain protected by neuroses, and, finally, that work of some kind was an important adjunct to treatment and served to effect symptomatic cure. In treating cases of hysteria the view adopted was that the symptoms were the expression of a dissociation produced by either a physical or an emotional trauma. The physician's first aim therefore was to try to make the patient understand the mechanism of his neurosis, assuring him above all of the fact that this mechanism was known to be unconscious, and of the probability that the symptoms would disappear rapidly if only he co-operated in the treatment. Then followed the use of some form of suggestion treatment designed to remove as quickly as possible the cardinal symptoms, and, this accomplished, after-treatment with the object of emphasizing to the patient the fact that the symptoms had disappeared, and fixing in his mind a knowledge of the mechanism of their disappearance. Hysterical amnesias were, as a rule, treated by various soothing exercises leading back to the event for which the amnesia existed and exercised its protective influence, a small series was treated from the start by hypnosis. The anxiety neuroses were, as might have been expected, far more difficult to treat. These neuroses have their roots deep in the personality of the patient, and the conflicts underlying them offer little scope for direct therapeutic attack. The patients at Base Hospital No. 117 were subjected to what seems to have been a modified psycho-analysis, they were encouraged to talk about their experiences, to reflect upon the emotional states that accompanied them, and to examine themselves as critically as they could in the light of these events and of the physician's comments upon them. It is interesting to read that the favouring element therapeutically was the patient's own sense of his duty to return to the line. "Only in exceptional cases," state the authors, "was this ever a matter of argument or even of doubt."

ALFRED HEGAR

ALFRED HEGAR, the great German gynæcologist, was born 100 years ago, on January 6th, 1830, at Darmstadt, the son of a doctor. He studied medicine in the Universities of Giessen, Heidelberg, Berlin, and Vienna, and obtained his M.D. Giessen at the age of 22. A general practitioner in his native town, he was called to Freiburg in Breisgau in 1864 to succeed Otto Spiegelberg as professor of gynæcology and obstetrics and as director of the Frauenklinik. His clinic became a Mecca for students from his own country and from abroad, for he was a gifted teacher whose lectures were clear, straightforward, vigorous, and full of drastic humour. An indefatigable worker, he enriched his science with many original and classical contributions—such as his work on tuberculosis in the female genitalia, on ovariotomy, colporrhaphy, and puerperal fever. His book on operative gynæcology, which he brought out with R. Kaltenbach in 1874, for many years remained a standard work. To medical students who ever ask for a sign Hegar has become immortal by contributing to obstetrics one of its most valuable signs. This was first published in 1895 in the *Deutsche medicinische Wochenschrift* under the title "Diagnose der frühesten Schwangerschaftsperiode." A forceps and his well known dilators are further associated with his name. He boldly practised operative gynæcology at a time when his colleagues were timid in tackling on a grand scale tumours menacing or inconveniencing life in so vascular and difficult a region as the pelvis. Genuinely interested in the history of medicine, he wrote a life of Semmelweis in 1882. Though honours were showered upon him, he retained his simplicity. His death at the advanced age of 84, on August 5th, 1914, clashing with the advent of the world war, caused little stir in the scientific world. Hegar was tall and thin, with sharp features and rude sarcastic manner, which unsuccessfully hid a soft heart. He was kinder to his patient than to his assistants, with whom he was often very bad tempered. His great rule in practice was *Primum non nocere*.

A BULLETIN issued on December 8th states that the Ministry of Health has been in communication with the health authorities in Belgium and is informed that the recent deaths in the province of Liege are not due to any communicable disease. The occurrence is clearly a matter of local conditions, but it may be some days before the cause is fully and authoritatively ascertained.

[1] *The Papyrus Ebers.* Translated from the German version by Cyril P. Bryan, M.B. With an introduction by Professor G. Elliot Smith, M.D., F.R.S. London: Geoffrey Bles. 1930. (10s. 6d.)

[2] *Medical Department of the United States Army in the World War.* Volume X. Neuropsychiatry. Washington: Government Printing Office. (2.25 dollars.)

Nova et Vetera.

HIERONYMUS FRACASTORIUS

AN ENGLISH VERSION OF "DE CONTAGIONE"

"In Cartolari's *Noble Families of Verona* is a list of the Fracastori who sat on the Council from 1406 to 1771, and they distinguished themselves in the law, the navy, and other professions. But only two members of the family achieved lasting fame and both followed the profession of medicine." The earlier of these two, Aventino de Fracastoro was the adviser and physician to members of the Ghibelline family of della Scala, and was a contemporary of Can Grande II. He died in 1368, and his memory is preserved in a fine tomb with a sculptured marble effigy in the church of San Fermo at Verona.

The second Girolamo Fracastoro or Hieronymus Fracastorius—his works were all written in Latin, and it was by the Latin rendering of his name that he was known among his medical contemporaries—was born at Verona about 1478, during "the first period of Venetian domination" of Verona which followed upon the fall of the Scaliger rulers. While in his teens he went to the neighbouring University of Padua, where he devoted himself, first to mathematics and, later, to medicine, studying under his father's friend Girolamo della Torre, the professor of medicine, and the latter's son, Marcantonio della Torre the professor of anatomy. Among his contemporaries at the university were many men destined to become famous, including Copernicus and, perhaps, Erasmus. This year of 1930 is "the four-hundredth anniversary of the publication of the earliest medical work of Fracastorius, the poem *Syphilis sive Morbus Gallicus*. After sixteen years of research he published, in 1546 the vastly more important prose treatise *De Contagione Contagionis Morbis et eorum Curatione*."

To Professor Wilmer Cave Wright of Bryn Mawr College the translator, to the Library of the New York Academy of Medicine, and to Dr Haven Emerson the English speaking section of our profession owes a debt of gratitude for making available a conveniently annotated edition[1] of this delightful stimulating and, indeed, astonishing book. For, to those hitherto unacquainted with the writings of Fracastorius this book written in 1546 and now for the first time printed in English, is nothing less than astonishing. What are we to think of a physician writing more than three hundred years before the discoveries of Pasteur, Lister and Koch who can thus express his views as to the nature of contagion?

> For if contagion has been correctly defined it follows that what is developed in the second thing must be of the same sort as was developed in the first thing and that the principle in the two things is the same and it must be the same in the fourth and fifth and so on in everything in fact that receives the contagion. Now in these contagions not only putrefaction must be produced but from the original germs other germs must be begotten and propagated that are similar to those former germs both in their nature and combination.

It is true that his speculations carry him off into wide vistas of obscurity, as must all speculation divorced from the control of experimental verification but who can withhold admiration from one who, without anything to guide him except the misleading concepts of his time and his own clinical and epidemiological observations, strikes forth boldly for a germ theory to explain disease? His clarity of mind recoils from nonsense as the eye closes at the menace of a blow. He seems to have some kind of protective reflex to save him from error.

> Those who invoke occult properties extricate themselves easily from these difficulties for without more ado they refer the whole nature of contagion to these properties just as they calmly answer many other questions and thus are relieved from all perplexity.

In discussing pestilent fevers, Fracastorius will not accept authority, but questions even the highest exponents of medicine of his time.

> Fevers says Montanus which are called pestilent differ in the following respect from other fevers that consist in putrefaction. The putrefaction of pestilent fevers is situated either in the substance of the heart itself or in its contents whereas in other fevers neither the substance nor the contents of the heart are putrefied.

Fracastorius says of the above:

> If one considers it carefully there are great difficulties involved. In the first place because the argument here put forward does not explain why pestilent fever are contagious though this appears to be the special peculiarity associated with them.

Montanus attributes the alleged putrefaction to a predisposition, as to which Fracastorius rejoins that

> it seems remarkable that this predisposition should exist in every one of ten thousand persons who die when there is a plague especially when we see countless persons who are perfectly healthy nevertheless catch that contagion from merely associating with the plague-stricken or with his clothes.

Perhaps one of the most amazing intuitions of Fracastorius is to be found in his speculations on rabies.

> Since then the contagion is not communicated by fomes and is not produced in the skin by simple contact but requires laceration of the skin, we must suppose that its germs are not very viscous. And since its progress is so low it might well be supposed that the contagion is analogous with either the solid parts of the body such as the nerves and the like or with some dense humour.

A note on this passage by the translator admits that "*nervi*" in Fracastorius cannot certainly be interpreted as nerves in the modern sense, nor does the expression "analogous with" quite satisfy but the induction that even this disease, capable of appearing months after laceration, is a germ disease, places Fracastorius in a unique position at a time when medical opinion on the subject was delightfully innocent. 'For we cannot believe," says Fracastorius "what many assert, and what seems to be the view of Aetius that they are so afraid of water because they imagine that they see puppies in the water."

As to phthisis a condition at that time confused with many other respiratory diseases, our author turns for light to post-mortem findings.

> For after many dissections in certain cases I have sometimes found that a part of the lungs was sound and in no way diseased another part not yet completely putrid and not yet ulcerated but still flaccid and soft and showing a tendency to decay. We may therefore call a man phthisical whose lungs are being stealthily invaded by that sort of decay but when the pituitous discharges in the region of the lungs are merely beginning to be corrupted but the lungs themselves are not yet affected then the man ought not to be called phthisical but dyspnoeic or something of that sort.

He lays stress on infection, and points out that a man who has never had any serious illness but is in excellent health" may nevertheless "contract the disease either from association with, or living with, a sufferer from phthisis or from fomes." His notes on syphilis and its treatment are full of interest for the medical historian, and display the trained wisdom of a great clinician and a profound scholar. They require to be read in the original being too extensive for a brief notice here. His description, too, of lenticular fevers while showing how imperfectly acute pyrexial conditions were differentiated in those days, is worthy of the closest study by epidemiologists.

The notes afford a valuable amplification of the text and add greatly to its interest. It seems a pity that the notes to Books I. II, and III should be separately numbered. It is a bother to turn up "Note Number 29" and find that one has looked in the wrong series. The books being so short serial numbers consecutive for the notes on all three would have been a convenience. This however, is a very minor criticism, and yet the only one which has arisen in the mind of the reviewer in perusing this extremely interesting volume. The notes themselves are excellent and speak eloquently for the vast amount of

[1] Hieronymus Fracastorius. *Contagion Contagious Diseases and their Treatment*. History of Medicine Series. Issued under the auspices of the Library of the New York Academy of Medicine. No. II. New York and London: G. P. Putnam's Sons. The Knickerbocker Press. 1930.

care and research which has been lavished on the production. The placing of the original Latin side by side and page by page with the English translation adds greatly to the value of the book, and enables the reader to seek for himself the author's own words where the meaning is obscure or the induction almost incredibly accurate.

It is interesting to contemplate the relative sterility, in its effect on medical practice, of all this correct guessing by our colleague of four hundred years ago. His right experimental verification which was destined to be deferred until some three hundred and fifty years later. To be best speculations will not save him until he can reply, like Pasteur, to his critics, "Do not attack me. Attack my experiments."

S. L. C.

MEDICAL USES OF RADIUM

REPORTS FROM RESEARCH CENTRES

Each year since 1922 the Medical Research Council has issued a report summarizing the results of research work in the treatment of malignant disease which has been carried out by means of radium salt entrusted to it by the Government. This stock of radium is distributed on loan among a number of institutions and local committees which participate in a scheme of research work organized under the general supervision of the Council's Radiology Committee. Taken together, then, these reports constitute a history of radium therapy during the vital years 1922 to 1929, they reflect more faithfully than could any document emanating from a single institution the tendencies of radium therapy and the technical advances it has undergone during that period.

The eighth report,[1] which covers the work of the research centres in 1929, deals more fully than did any of its predecessors with the treatment of oesophageal and rectal cancer. These growths are alike in at least three important respects: they are extremely difficult of access, highly resistant to radium, and often the seat of bacterial infection. Moreover, damage to the surrounding normal tissues is apt to be a dangerous complication of radium therapy in these regions.

Cancer of the Breast

At the Middlesex Hospital ten unselected cases of primary cancer of the breast have been treated during the year by a combination of radical amputation and radium therapy. This method renders possible easy access to the paths of lymphatic spread, and radium is inserted into the axilla, the supraclavicular fossa, and along the intercostal vessels of the upper five or six spaces. The immediate results suggest that the addition of such extensive interstitial radiation does not materially increase the risk of the radical operation.

At St. Bartholomew's Hospital the technique described in last year's report has been followed almost without alteration, though a wider area of breast surrounding the tumour was treated than formerly. In a rather larger proportion of cases than usual the lesion was first excised locally and radium treatment was then carried out just as though the tumour were still there. Of 82 patients treated in 1929, 38 have remained free from disease, 32 have shown local improvement, 4 are still alive but with metastases, and 8 are dead. The use of radium therapy as an adjuvant to operation is reported also from the Royal Infirmary, Cardiff, the treatment there adopted consisting in the insertion of radium tubes into the axilla at the time of operation, and subsequently giving a surface application of radium over regions possibly invaded by growth. The Irish Radium Committee, Dublin, in reporting good results from the use of the combined method in advanced cases, states that it is an advantage to eliminate the cancer mass and to bring the skin edges together so as not to leave a big area to granulate up.

Cancer of the Uterus

The statistical data set out under this heading summarize the results obtained at the various centres since 1921 in the treatment of cancer of the cervix by radium alone, the cases being classified as operable, borderline, and inoperable. The recorded survival rates compare unfavourably with those that have been published from time to time from such centres as Paris and Stockholm. None of the centres contributing these statistical data have followed the Paris technique, and only two have followed a technique similar to that used in Stockholm. The authors of the report suggest that the better results obtained at the Marie Curie Hospital must be attributed to the fact that this hospital has elaborated a method of treatment—a modification of the Stockholm technique—which differs from that adopted at the other centres. Reviewing the results of the interstitial methods of treatment, the St. Bartholomew's Hospital report states that some of the patients die from cancer high up in the pelvis with no remission of the cervix and vagina. The method is therefore, is not held to be sufficient for eradicating the deeper parts of the growth, and in future methods will be employed which entail the introduction of radium into the cavity of the uterus, combined with supplementary irradiation by means of x rays or intra abdominal radium. The cases treated at University College Hospital have shown that a complete gland dissection comparable to that in the neck is not possible, and it is suggested that implantation of radium or radon.

At the General Hospital, Birmingham, which gives a detailed report of its technique, 24 mg. of radium element are used and allowed to remain in place for seven days, thus giving a dosage of 4,032 mg. hours. Sometimes only one application is given, the cervix becoming clinically free from growth, but usually two, three, or four applications are needed. The intervals between applications vary from six weeks to six months, the period depending on the individual reaction to the rays. The glandular area, which is reached by abdominal section, usually receives an application of 2,400 to 3,360 mg. hours, this treatment being applied in the interval between the first and second application to the cervix, or at the same time as one of the subsequent applications.

According to reports from the Marie Curie Hospital and the Royal Infirmary, Cardiff, the chief complications and sequels arising from radium treatment are vaginal cicatrization, slight and transient pyrexia, vesico-vaginal fistula, recto-vaginal fistula, and vesico-recto-vaginal fistula.

Mouth and Nasopharynx

During the last five years the technique adopted for treating cancer in these regions has undergone considerable modification. Most surgeons now agree that in the treatment of cancer of the tongue needling of the primary growth is the method of choice, but they differ widely in their methods of treating the glandular area in the neck. These methods may be classified in four main groups: block dissection of the glands, leaving the radium in situ, surgical introduction of radium into the glands, surface application in the form of collars, and a combination of x rays with surface radium. At present there are insufficient data for judging the relative value of the different procedures, what is important is that those employing the methods should keep careful records of their results and of the details of their technique in each case, in order that valuable and comparable statistics may be accumulated. In the surface application of radium, for example, it is important to have precise information about the surface concerned, the dose used, the time of exposure, and the period lapsing between the treatment of the primary growth and the surface application.

[1] Medical Research Council Special Report Series No. 150. Medical Research Summaries (Reports from Research Centres for 1929). H.M. Stationery Office. 1930. (9d. net.)

The Larynx

The most detailed report comes from the General Hospital, Birmingham where the practice has been to open up the neck externally, make a block dissection of the glands, suturing the sterno-mastoid down to the prevertebral muscles by the method of Trotter, expose the lateral wall of the pharynx, and either sew the radium tubes against the outer part of the growth or insert them into position in a lead plate to the outer side of the growth area The method usually adopted is to insert five radon seeds, each containing 3 millicuries, into the growth, and to apply five tubes each containing 1 mg radium, superficially to the growth through the incision, and then having sutured the skin wound, to leave the seeds and tubes in position for seven days One detail of the technique has been found to have special value when radium tubes are applied to the outer aspect of a growth in the pharynx or larynx through an incision in the neck the soft tissues are protected from the radium by means of a sterile sheet of lead 2 to 3 mm thick, which is sewn into position At the end of the allotted time the lead and radium are removed through the wound, which is then resutured

Oesophagus

At the Middlesex Hospital four different lines of treatment have been followed in the treatment of growths in this region In a small series of cases of post-cricoid carcinoma an incision was made in the neck in front of the anterior border of the sterno-mastoid, and, the pharynx and oesophagus having been defined, the radium was inserted some behind the pharynx and oesophagus, and some against their lateral wall The needles used were 2.2 cm long and contained 0 5 mg of radium element, their number varied between eight and ten, and they were left in position in some cases for seven days, in others for ten The results were not good

In four cases intra-oesophageal application was carried out by means of a special radon applicator resembling a Souttar s tube, and in eight by means of Muir seeds on a Souttar s tube All four patients in the former group are dead in the latter, five died of the disease in periods varying from two to six months after the treatment, but of the three who are still alive only one is reported to be improved Thoracotomy was carried out in four cases The method adopted was to open one side of the chest, having just collapsed the corresponding lung and then to insert radon seeds subpleurally so as to surround the growth on three sides The first three patients died after the operation at intervals of four and a half months four months, and five weeks respectively, the fourth is still alive (eight months after operation) but oesophagoscopy shows signs of upward extension of the growth, and there is reason to believe that the end cannot be much longer delayed In none of the cases was a second thoracotomy held to be desirable The patients were old and feeble men, and though they had borne the original operation well a second seemed rather too heroic

The authors of the Birmingham report are of opinion that the only two regions in which the external approach to oesophageal growths is at all favourable are the neck and the lower part of the thorax Contrasting the danger of external operation with the implantation of radium or radon by the oesophagoscope they state that in a total number of thirty three insertions of radon there has been no immediate mortality referable to the operation Review of the year's work points to two cases which now appear to be free from disease ' This " states the report, ' is some encouragement to persevere and with further experience there is justification for expecting a larger number of similar great improvements "

Cancer of the Rectum

At St Bartholomew's Hospital growths which had extended above the peritoneal reflection at the time of colostomy were irradiated both from above and from below, in the case of infraperitoneal growths the lymphatic areas along the superior haemorrhoidal vessels have been attacked from within the abdomen A few operable cases were dealt with by the posterior barrage method without colostomy The report includes a survey of the twenty-nine patients treated before 1929 Of these eight are now alive, one remaining well and free from evidence of carcinoma four years after posterior barrage for an inoperable growth One of the cases treated at the Middlesex Hospital is of special interest Application of buried radium without operation or colostomy resulted in apparent restoration of complete comfort for some months, although the patient had had two short periods in hospital, from which he returned to work at once The partial success of this method suggests that it is worthy of further trial in suitable cases According to St Mark's Hospital report, " the satisfactory results of radium treatment of squamous carcinoma of the anus is in marked contrast to the variable response of the columnar-celled tumours " The Birmingham report stresses the value of colostomy, not only for its therapeutic effect, but also because it renders possible the recognition of hepatic metastases, and so the avoidance of useless treatment

Bladder Prostate, and Penis

Of six patients with carcinoma of the bladder treated at St Peter's Hospital three are clinically well twenty-one, sixteen, and sixteen months after irradiation, one required further treatment for recurrence after an interval of eighteen months, one developed a metastatic growth in the sacrum nine months after, and one died thirteen months after The treatment adopted in prostatic cases has consisted where possible of removing the gland surgically and inserting ten tubes each containing 5 mg of radium, into the prostatic bed and around any fragments of growth remaining The tubes have been left in place for twenty four to thirty six hours before removal through the suprapubic or perineal wound When enucleation of the gland has been impossible the needles have been buried round it With regard to carcinoma of the penis, the report states that " in both the fungating and the ulcerative forms the growth can be made to disappear by radium, but that is, of course no guarantee that the patient is cured The general state of health improves rapidly enlarged glands in the groins shrink and may disappear, the only indication for direct treatment of enlarged glands is when the skin over them is ulcerated, they should then be dissected out "

Dangers of Radium Treatment

Although it is generally agreed that every now and then a patient having unusual sensitiveness to irradiation is met with, opinions differ widely on the question whether the rays may stimulate malignant growths to activity " In this connexion," states the report, it is perhaps worth while to suggest that there are several possible modes of stimulation of malignant cells On the general principle that has been established with so many drugs, that large doses and very small doses may act in opposite ways, it may be thought that living cells can be stimulated by very small doses of irradiation In the vegetable world both positive and negative results have been reported, and some observations suggest that it is also possible with malignant cells, but such observations are too few to give any definite proof Another way in which radiation may possibly stimulate malignant growths is by giving a considerable dose to a growth already infected with bacteria Here a totally different series of events must be visualized, for the reaction of a malignant growth to irradiation is partly caused by direct action upon the malignant cells themselves and partly by indirect action upon the normal tissues of the host In the case of infected growths it is perhaps rational not to expect the normal series of reactions, and in extreme cases it may be that malignant growths do grow at a more rapid rate than they otherwise would, in spite of the damage the malignant cells themselves may have suffered from the direct radiation "

PSITTACOSIS

MINISTRY OF HEALTH REPORT

THE Ministry of Health issues this week a report entitled "A disease of parrots communicable to man (psittacosis)."[1] It has been compiled by Dr E. L. Sturdee and Dr. W. M. Scott, medical officers of the Ministry, who give a detailed account of psittacosis, and conclude that its cause is probably a filterable virus. In the preparation of this report the collaboration was secured of Drs. S. P. Bedson, G. T. Western, and S. Levy Simpson, all of the London Hospital; Dr. Mervyn Gordon of St. Bartholomew's Hospital contributes an article on virus studies in relation to this infection. In a prefatory note the Chief Medical Officer of the Ministry outlines the events which led to the focusing of attention in 1929 on this disease. He recalls the issue of the explanatory memorandum, the instituting of an inquiry by the medical staff of the Ministry, and the decision to prohibit the importation of parrots, which is still in operation.

Historical Aspects

Dr. Levy Simpson gives an interesting account of the historical study of psittacosis, and indicates its bearing on the problems of epidemiology and etiology. The first recorded epidemic occurred in Switzerland in 1879, and the disease was then recognized as presenting the symptoms and signs of both pneumonia and typhoid fever. The incubation period was estimated as being from nine to fourteen days, which is very much the same as that accepted to-day, but no evidence was obtained of human case-to-case infection. Examinations of the dead birds, conducted by Professor Eberth, were negative. The next considerable epidemic was that of 1892 in Paris, when several successive cases of pneumonia were found to coincide with an importation of parrots from Buenos Aires. The conclusion was reached that the outbreak was of human origin, and not a parrot disease transmissible to man, but a year later two family outbreaks of a similar disease in Paris coincided so closely with the acquirement of sick birds as to make a causal connexion seem inevitable. The hypothesis of psittacosis as a specific infection gained strong support from the work of Nocard on material from the birds imported in 1892. In the bone marrow of dried wings of parrots which had died on the voyage he found a peculiar short highly motile Gram-negative bacillus, resembling organisms of the Salmonella group. A review in 1906, by Gilbert and Fournier, of the psittacosis outbreaks in France resulted in the appearance of a good clinical account of the disease in human beings, and the recognition of the possibility of infection from man to man. Dr. Levy Simpson describes the epidemics of psittacosis in Germany in 1896 and 1898, in the United States, in South America, and in England. He concludes with the expression of a strong opinion that all lines of investigation—namely, the epidemiological, clinical, pathological, and bacteriological—point to the abandonment of the erroneous hypothesis of specific infection, and incriminate a filterable virus detected by the work of Drs. Bedson, Western, and himself.

Epidemiology

The recent widespread epidemic of psittacosis is alleged to have arisen in Brazil, but no human cases have been reported from that country. This is not considered surprising because the disease does not probably assume epizootic proportions among birds in the wild state, in wooded tropical countries, moreover, the dead bodies of birds are quickly destroyed, and are unlikely to infect human beings. The case is, however, altered when the birds are living in captivity, and details are given of the bad sanitary conditions which have been prevailing in this connexion. Dr. Mervyn Gordon mentions that the birds at the Zoological Gardens are kept under the best hygienic conditions, and that infectious diseases are thus prevented from spreading in the same way as is possible during transport to this country. In addition to Brazilian parrots, grey African parrots have apparently been the cause of infection sometimes, three cases were due to love-birds, and one to a canary. Several cases from the Argentine have been attributed to sick thrushes. Mice and domestic fowls have been experimentally infected with material obtained from fatal human cases, and from parrots and budgerigars, but no human cases have been traced to a subsequent infection. The length of time during which a parrot may remain in a subacute infectious condition has not been fully determined, but it has been shown that the dead birds remain infectious for a very considerable number of months.

The evidence in favour of occasional human transmission of the disease seems to be unassailable, but no instance of infection of hospital nurses in attendance on psittacosis patients has been recorded in England, probably due in part to the insistence on such precautions being taken as are observed in cases of typhoid fever. House epidemics have characterized outbreaks of psittacosis, distinguishing them from influenza epidemics and pandemics. No case have occurred where there has been no association with infected birds or patients. The curious immunity revealed among those engaged in the bird-fancying trade has attracted some attention, but the opinion is expressed that this may have been due in part to faulty diagnosis. Psittacosis is not an invariably fatal disease, and it is possible that one attack confers lifelong immunity, moreover, the report suggests that a person whose contact with birds is part of his usual employment will not generally come into such close contact with them as will a private owner, who caresses his pet parrot, feeds it from his mouth, and allows it to climb over him. Cases of psittacosis have, however, been reported among persons professionally interested in birds, and the apparent immunity to infection of the bird fancier cannot be held to detract to any extent from the value of the evidence in favour of this disease being conveyed by sick birds. Young children seem to be less susceptible than adults, and in the English series only four patients were under the age of 10.

Clinical Aspects of Psittacosis

A valuable description is given of the clinical manifestations of psittacosis in man, based on a study of about eighty cases. The duration is said to be about two or three weeks, but in a few instances the symptoms continued with maintained pyrexia for as long as eight weeks. Convalescence is nearly always protracted and tedious, and may be interrupted by temporary relapses or by thrombosis of the femoral vein. The incubation period appears to be usually about ten days, but may be as short as four or as long as sixteen. At first the patient feels comparatively well in spite of high fever, epistaxis, chills, and generalized pain. Towards the end of the first week profound exhaustion ensues, and the patient becomes both somnolent and intermittently irritable. A troublesome paroxysmal cough appears and persists through the second week. Crepitations and scattered rhonchi are heard in the lungs, and patchy areas of consolidation develop, fusing together so as to involve considerable portions of one or both lungs. During the second week the patient may be semi-comatose; muttering delirium is usually present, and may alternate with periods of restlessness, or even violent excitement. When the prognosis appears to be hopeless the temperature sometimes begins to fall by lysis and signs of improvement are seen. Mild, and even ambulatory, cases occur, but there is uncertainty as to what determines the degree of resistance of the patient. Epistaxis occurred in about 25 per cent. of the cases, usually on the first day. Headache was a constant feature at the beginning of the illness, reaching its maximum intensity in about ten days, and then gradually diminishing. The site was variable, but was usually frontal or occipital. Sore throat was frequent, and might be very severe, the fauces and soft palate were red and congested, and sometimes there was a yellowish exudate. Sordes of the lips were not unusual, and herpes

[1] Ministry of Health. Reports on Public Health and Medical Subjects. No. 61. A Disease of Parrots Communicable to Man (Psittacosis). By E. L. Sturdee, O.B.E., M.R.C.S., and W. M. Scott, M.D. London: H.M. Stationery Office. 1930. (2s. 6d. net.)

labialis occurred in a few cases Cough was a common feature it gradually increased in intensity until the paroxysms shook the whole body, leaving the patient entirely exhausted preventing sleep, and aggravating the headache The expectoration in most cases was very scanty and sometimes absent The sputum was usually mucoid, but might be mucopurulent or frankly purulent examination of it revealed not infrequently a secondary infection of the lungs One of the remarkable features of the disease usually was the absence of rapid or deep breathing even when the physical signs indicated extensive pulmonary involvement Rapid respiration when present appeared generally towards the end of the second week, in no instance was orthopnoea present The pulse was relatively slow compared with the temperature and this disproportion persisted in most cases throughout the illness A typhoid state" was common in all the severe cases and the gastro-intestinal tract was usually involved to some extent Rose spots, or similar skin lesions were noted in nine cases The mortality rate was about 20 per cent Prognosis was difficult, but marked involvement of the nervous system foretold a dangerous illness and absolute coma usually ended in death Rigors though often dramatic and repeated, were found to have no prognostic value

Pathological Findings

The changes found at necropsy were those of a general septicaemia together with an inflammatory condition of the lungs in some cases recalling the influenzal pneumonia of 1918 The lesions did not conform with those of classical lobar pneumonia or of broncho-pneumonia There was usually intense engorgement proliferation, and desquamation of epithelium, leucocytic infiltration and increasing haemorrhage This was followed by an abundant exudate at first serous but later becoming fibrinous and an increasing capillary thrombosis extending to the pulmonary arteries The consolidation was of the lobar type with practically no polymorph reaction Though the bronchioles were involved with the rest of the lung substance nothing was found to suggest that the lesion was specially related to them Areas of degeneration and haemorrhage were found in the muscles, chiefly the rectus abdominis The kidneys and liver showed parenchymatous degeneration and a diffluent red septic spleen was a common finding The stomach and intestines nearly always escaped any severe lesions Congestion and oedema of the brain and spinal cord were not infrequent

Etiology

The second part of the report is devoted to a detailed record of experimental observations by Drs S P Bedson and C T Western They studied human cases in the recent epidemic examined patients associated with them and inoculated birds with infective material their experimental work being controlled by the observation of parrots unconnected with any cases of human illness An account is given of the steps by which the conclusion was reached that a filterable virus was concerned It was found that the psittacosis virus withstood desiccation and the action of diluted glycerin, as well as the addition of a small quantity of ether Exposure for thirty minutes to a temperature of 50° C inactivated most of the virus but not always all of it It was shown that the virus was capable of passing through the Seitz filter, but that probably a good proportion of it was stopped

An outstanding feature of Dr Mervyn Gordon's experimental work was the discovery that strains of virus maintained and even increased their violence by passage through mice Dermotropic and neurotropic affinities displayed by this virus for rabbits after mouse passage, suggest that it may belong to the same group as the herpes virus this is a problem specially noted in the report as calling for further investigation The virus derived from the human cases did not display the same degree of pathogenic capacity or stability for mice as that obtained from parrots, and it is suggested that the mouse may perhaps be a more valuable means for the isolation and study of viruses than has hitherto been realized

England and Wales.

London School of Medicine for Women.

THE annual dinner of the London (Royal Free Hospital) School of Medicine for Women took place at the Savoy Hotel on December 4th with Mr Malcolm Henderson presiding About 450 sat down at the tables The toast of "The School and Hospital" was in the hands of Mr St John Ervine who confessed that he had been brought up to think that a woman doctor or indeed, any educated woman was a forbidding person with a glum look, and that she had probably taken to learning only because she could not take to marriage That was still the opinion of many men of the world—a rather ignorant body of men—and he would like to bring them into the present company and let them have a look at a gathering of women doctors, when their prejudices would be quickly dispelled He suggested that one of the main reasons why women had become so closely connected with medicine was that they were discontented with the lighthearted treatment by men of female aches and pains In conclusion Mr Ervine paid a tribute to the great woman attached to the London School of Medicine for Women (Dame Mary Scharlieb) who had just passed away He felt that one had said almost everything that need be said about the hospital and school in remarking that out of it came a noble woman who did noble things Mr Malcolm Henderson in replying to the toast, said that there was no need to affect modesty in speaking of what the hospital and school had done during the present year This year the hospital and school were entering into an agreement which was virtually a permanent one—at all events, it was to last for fifty years—and he was sure this closer union would be happy The year had also been memorable by the opening of a new wing of the hospital thanks to the great generosity of Mr Eastman *Lord Riddell* and Sir Albert Levy This new wing would enormously increase the scope and usefulness of the hospital He thought it rather remarkable that in these troublous times the entries to the school should not only have been maintained but increased in number For his own part he felt extraordinarily honoured in having been associated for twenty-five years on the council of the school with the women to whose courage and wisdom and unbounded faith in the cause all this had been due Mr L E C Norbury proposed the health of the guest coupling with the toast the names of Mr Kinnell who had done excellent work on the Hospital Board and was chairman of the Appeal Committee on behalf of the Extension Fund and Lord Moynihan, President of the Royal College of Surgeons Mrs Kinnell in responding said that it was always a great pleasure to be associated in any way with the School of Medicine of the Royal Free Hospital A few weeks ago Mr Baldwin had remarked that women in higher education were not as fortunate as men in that they had no traditions but there was something in life which was even greater than inheriting a tradition and that was to create one Lord Moynihan, in response said that women not only in medicine but everywhere else were making better day by day The year 1930 had been a women's year Their recent achievements had made him think that women were capable of the greatest things in life It had been said by many people that no woman would ever make a surgeon because her courage would fail at the critical moment He happened to meet one of those challengers only that afternoon, and said to him, "When two people were stranded in the straits of Messina last night it was the woman who swam ashore" As to the future of women in medicine he thought they had not yet quite found their role They had the most marvellous sense of intuition and he hoped their great faculties would be exercised in a far larger measure than had yet appeared in laboratory research In that, and also in certain other technical directions, he believed there was a very great future open to women The final toast, that of "The Chairman" was proposed by Miss Waller, and after the chairman's brief reply, the dinner was followed by a dance

Home Ambulance Service

The report of the Home Service Ambulance Committee of the Order of St John and the British Red Cross Society for the quarter ended September 30th, 1930, describes some of the provisions of the Road Traffic Act, 1930, for the information of those in charge of motor ambulances, including the procedure that must be adopted by drivers of motor vehicles on the occurrence of accidents It is inferred from the first schedule to the Act that motor ambulances are not subject to any specific speed limit, they are also explicitly exempted from the provision restricting the time during which drivers of certain vehicles may remain continuously on duty When an accident occurs, causing damage or injury to any person, animal, or vehicle, the driver must stop, and if required by any person having reasonable grounds for so requiring, give his name and address, the name and address of the owner, and the identification marks of the vehicle Where these particulars are not given, he must report the accident at a police station or to a police constable as soon as possible—in any case within twenty-four hours of its occurrence These requirements are dealt with in Section 22 of the Act The committee also draws attention to the means by which co-operation may be effected between the ambulance service and public authorities Some county councils are stated to have already made substantial grants towards the provision and maintenance of new ambulances at home service stations At the date of the report the committee had 338 ambulances at its disposal, including ninety-two affiliated stations The number of patients carried during the quarter was 29,182, bringing the total number carried since the service was instituted in 1918 up to 930,633 A comparative table of work done in counties of England and Wales, and in Northern Ireland and in the Irish Free State, is printed at the end of the report

Royal Surgical Aid Society

The Lord Mayor of London, who was accompanied by both Sheriffs, presided at the sixty-eighth annual meeting of the Royal Surgical Aid Society, held at Carpenters' Hall on December 3rd The report stated that last year the society had had an increase upon the previous year's income, which itself was a record, the total sums received being £58,497 in the way of ordinary income and £4,822 in legacies During the year the society had assisted 31,937 patients and had supplied 42,704 surgical appliances It was added that the remarkable growth in the practical work of the society in recent years was largely due to co-operation with the approved societies in the distribution of additional benefits in the direction of the provision of surgical appliances for their members The Lord Mayor warmly commended the society, saying that it was most gratifying to find in these days of widespread depression and growing taxation that the society was receiving such consistent and increasing financial support Sir Crisp English, in moving a resolution of thanks to the surgeons on the society's staff, said that the surgeons themselves were to be congratulated and envied on the most delightful and attractive work they were doing The medical profession was sometimes said to be an arduous vocation, but it was certainly one which brought great happiness to those who followed it, and offered to them many privileges and satisfactions He considered that the Surgical Aid Society was one of the antidotes to the spread of bolshevism, for by its means the poor man could provide his crippled son with the same special appliances as the rich man could secure Surgical convalescence was a slow business It was said that 'illness arrived on horseback and departed on foot'' and that applied especially to surgical cases In helping individuals the society was often helping an entire family relieving it of a great economic handicap, and thus the value of its work was multiplied It was appropriate that the meeting should take place in Carpenters' Hall for the surgeons were indeed master carpenters to some purpose The vote of thanks was heartily carried and Mr Mumhead Little one of the surgeons, said a few words in response Other speakers were the Archdeacon of London, Sir George Penny, M P , and the Sheriffs The announcement of the sudden death, as the result of a street accident, of the society's treasurer, Mr J R Cooper, a day or two before the meeting, caused a painful impression

Consolidation of Enactments.

In pursuance of the policy of consolidating the various statutes regulating the work of the Ministry, the Minister of Health has appointed a committee with the following terms of reference "With a view to the consolidation of the enactments applying to England and Wales (exclusive of London), and dealing with (a) local authorities and local government, and (b) matters relating to the public health, to consider under what heads these enactments should be grouped in consolidating legislation and what amendments of the existing law are desirable for facilitating consolidation and securing simplicity, uniformity, and conciseness" The chairman of the committee is Viscount Chelmsford, and the Secretary is Mr J King-Farlow of the Ministry of Health

Scotland.

Health of Scotland

THE third quarterly return of the Registrar General for Scotland during the year 1930 reveals that 22,851 live births were registered during the period This number is 1,865 less than in the previous quarter, 1,130 less than the average number for the third quarters of the preceding five years, and 3,389 less than the mean figure for the third quarters of the preceding ten years It is the smallest number of births registered in Scotland in the third quarter of any year Of the births registered, 11,602 were males and 11,349 females, the ratio of male and female children being 102 2 to 100 This ratio is the lowest recorded for many years The highest birth rates were in the north-eastern and south-western parts of the country, the highest county rate being in Kirkcudbright Deaths registered in Scotland during the third quarter numbered 13,353, being 2,533 fewer than the average number for the third quarters of the preceding five years, and 114 fewer than the mean figure for the third quarters of the preceding ten years The general death rate for the quarter was 10 9 per 1,000—2 2 below that for the previous quarter, and practically the normal death rate for this quarter of the year The lowest county death rates were 9 0 in West Lothian and 8 2 in Stirling Deaths of children under 1 year of age numbered 1,358, and were equivalent to an infantile mortality rate of 59 per 1,000 registered births This is the lowest infantile mortality rate yet recorded for any quarter in Scotland since 1913, the earliest year for which quarterly infantile mortality rates are available The corresponding infantile mortality rate of the quarter in England and Wales was 45, and in Northern Ireland 51 Of the total deaths registered during the quarter, 453, or 3 4 per cent, were attributed to the principal epidemic diseases Deaths from all forms of tuberculosis numbered 939, constituting 7 0 per cent of the total deaths This is the lowest quarterly death rate from tuberculosis so far recorded in Scotland Deaths from malignant disease numbered 1,877, representing 14 1 per cent of the total deaths for the quarter, this rate is the highest yet recorded in any quarter The number of deaths from diseases and accidents of pregnancy and childbirth was 154, which was the same as in the third quarter of last year

Retirement of Dr R. M Buchanan

A meeting of the medical and laboratory staffs of the Public Health Department of the Corporation of Glasgow was held at the Sanitary Chambers Glasgow, on November 27th, to present a gift to Dr R M Buchanan on the occasion of his retirement from the office of city bacteriologist—a post which he has held for the last thirty-one years Dr A S M Macgregor, medical officer of health for Glasgow, occupied the chair The presentation was made by Dr W R Wiseman, who said that Dr Buchanan's name had become in Glasgow almost synonymous with the term "bacteriology" This was not surprising, since he had been

associated with the application of that science to the problems of public health through a long period of great development Dr Buchanan had remarkable powers of observation He loved to observe and describe the minutiæ of objects that came under microscopical investigation His entomological studies revealed a rare taste and delicacy in manipulation and many of these objects would be left in the laboratory for their enjoyment and edification Besides being an acute scientific observer, Dr Buchanan was also a man of affairs—a combination which might account for his tact and for the care and prudence that distinguished not only his scientific work but his conduct in the ordinary affairs of life Another characteristic was his keen sense of humour which was not an unimportant factor in producing efficient service To the interests of his profession he had shown an unremitting devotion and to his colleagues a marked generosity in imparting the valuable results of an extensive and varied experience His familiar figure would be much missed in the department where his influence would long be apparent These remarks were supplemented by the chairman who referred to the notable service Dr Buchanan had rendered during the Pasteur centenary in Glasgow and to the admirable manner in which he had carried through the Lister celebrations while president of the Royal Faculty of Physicians and Surgeons When the British Medical Association met in Glasgow in 1922 Dr Buchanan was president of the Section of Microbiology and in recent years he has held office as president of the West of Scotland Branch

Royal Edinburgh Hospital for Incurables.

At the annual meeting of the Royal Edinburgh Hospital for Incurables held on November 28th Professor D P D Wilkie, of the surgical department in Edinburgh University gave an address dealing with the work of the hospital As medical science advanced he said, the group of diseases previously regarded as incurable was being steadily reduced With a fuller knowledge and experience of the use of radium it was now possible to benefit cases of cancer which were formerly classed as incurable As the public came to recognize the necessity for the early treatment of this disease fewer patients would have to seek admission to such hospitals Radium, however, was no panacea for cancer and for many years to come the Longmore Hospital would have to deal with many cases of incurable malignant disease Mr J J Herdman chairman of the Board of Management said that during the past year 330 patients had been treated in the wards of the Longmore and Liberton Hospitals belonging to this institution Of this number 92 had died and 32 had been discharged or had left of their own accord The number of applications received during the year was 219, of this number 126 had been received into the wards 3 were declined as unsuitable and 23 had died before beds were available for them Of the 219 applicants 82 suffered from cancer of the breast it was found possible to admit only 55 In regulating admission cases were judged according to medical and domestic urgency Lord Provost Whitson in moving the adoption of the report said that the growth of the Longmore Hospital had been a wonderful record of patient achievement backed by public generosity for nearly fifty-six years The annual subscriptions which were only £3 890 were just about one fifth of what was required each year and he commended the institution to the support of the public

Physical Education.

In a lecture recently given in Edinburgh under the auspices of the Combe Trust on 'The influence of posture carriage and habits on health' Mr W A Cochrane said that many of the obscure and distressing conditions which called for treatment were signs of a derangement in the elaborate mechanism regulating and maintaining the upright position of the body The attainment and maintenance of this fully erect position was one of the goals of human development in this respect the apes might be regarded as failures The power to maintain a fully erect posture was not strongly inherent in the human being for the human infant took a very long time before he could stand and walk Among many weak people the muscle tone and sense of balance were so poor that correct posture was never fully acquired In this connexion the physical educator had an important duty in teaching the proper way to stand sit and walk erectly When they stood up they depended upon the balanced postural tone of the extensor muscles of the spine and limbs, this kind of muscular action was quite different in its nervous control from that which served the ordinary contraction of muscles For this reason ordinary games and athletics did not appeal to this mechanism and were not fundamentally complete in giving a person on the proper basis for physical health and efficiency The neuro-muscular mechanism, which controlled the anti gravity and respiratory muscles had also to be trained This training was supplied by the remedial gymnast and the lecturer thought that his special knowledge should be made use of by an improved system of physical education in schools and colleges It was possible, with a reasonable amount of study and concentration, to learn the essentials of good bodily mechanics and posture in a short time A person so trained was fitted to stand the strain of life in the best possible way True physical education was a mental process increasing in value with increased mental development Ordinary drill, games and athletics should be built up upon a basis of good posture, if this were not done they might be positively harmful

Veterinary Teaching in Glasgow

The annual distribution of prizes at the Glasgow Veterinary College was held on December 4th when Professor Glaister delivered an address He said that the Glasgow Veterinary College should not be regarded as a parochial institution for the eighty-eight students attending the college were drawn from a wide area over the South and West of Scotland, as well as from the North of Ireland, England Palestine India, and other countries Several years ago the Government had decided to give a grant only to the veterinary college in Edinburgh on the ground that there was room in Scotland for only one veterinary college There were three considerations which justified the existence of the Glasgow College In the first place a steady supply of new students was maintained in the present year thirty new students had joined the college which was founded over sixty years ago Secondly, its efficiency was well authenticated by the fact that its students attended the examinations of the Royal College in London The third test was the efficiency of the teaching staff and the facilities provided for tuition After the withdrawal of the Government grant friends in the West of Scotland had rallied round the college and the governors had been able to keep it going Lord Provost Kelly who presented the prizes expressed the opinion that Glasgow was an ideal centre for veterinary teaching and research, since it was situated in the middle of a large stock rearing area

Belgium.

[FROM OUR CORRESPONDENT]

The Campaign Against Acute Poliomyelitis.

WITH a view to controlling outbreaks of acute anterior poliomyelitis the Government has decided to undertake in Belgium under the supervision of M Bordet the preparation of horse serum according to Professor Pettit's formula and to arrange for the supply of ape serum from the Pasteur Institute in Paris These serums will be placed at the disposal of medical practitioners who wish to investigate their action It is proposed also to organize on the largest possible scale the collection storing and distribution of convalescent serum on the lines laid down by Netter To obviate any difficulty in obtaining convalescent serum when urgently required a scheme has just been brought into being to ensure constant touch being kept between medical practitioners and patients who have recovered from the disease and are willing to supply blood Any person who has had poliomyelitis even though the attack was slight or abortive, will be notified by his doctor

of the opportunity for service which is open to him, and invited to undergo the trivial procedure of blood withdrawal, payment for this being eventually forthcoming from the State The blood will be collected by provincial and university laboratories, which will make arrangements to store the serum The directors of these institutions will reserve half the quantity removed from each patient for the use of the practitioner concerned, and will not dispose of it without his authorization The remainder of the serum will be sent to the central laboratory for distribution throughout the country as may be required

National Health Insurance

Resistance to the proposed legislation for national health insurance is continuing in view of the threatened restriction of the liberty of the medical profession The Joint Assembly of Brussels Practitioners has had the happy idea of calling a meeting of the Belgian profession to acquaint it fully with the legislative proposals before Parliament More than 700 doctors from Brussels and the provinces accepted the invitation and displayed keen interest in the position in view of the threat to various lines of medical practice The following proposals were enunciated by Dr Koettlitz as indicating the attitude taken by the Medical Federation of Belgium Free choice of doctor must be absolute—that is to say that every medical practitioner, whether a member or not of a professional association, can participate in the service, provided he undertakes to abide by the decisions of the commission of arbitration The insured person will pay his doctor directly, a minimal regional scale, approved by the Federation, will be established by the professional society, which must have existed for at least ten years and contain a minimum of 500 members Professional secrecy must be absolute and inviolable, both directly and indirectly Payment is to be made on behalf of every sick person, whatever his condition or the nature of the treatment afforded, and whether such treatment is given at the doctor's house, the patient's house, in a State or private hospital, or in any other medical establishment There must be absolute freedom as regards treatment and prescribing within the limits at present in force Control of the patients remains in the hands of the society, and of the doctors in those of their colleagues, any dispute between the doctor who gives the treatment and the medical officer of the society being settled by the commission of arbitration Professional medical associations must be more adequately represented on the administrative technical commissions established by law This representation is defined in the law by Articles 25 and 27, and is considered to be at present flagrantly insufficient The medical organization indispensable for satisfactory functioning of the insurance scheme will be organized and conducted by the National Office of Public Health co-operating with the Belgian medical profession, represented by the usual medical federations, which will have a preponderating representation A reason for the creation of this autonomous body is that it will obviate a repetition in Belgium of the faults which have been found in all the countries where insurance schemes are in operation Elsewhere the money of the insurance societies has been largely used to erect magnificent buildings for administration—a purpose for which these funds were not intended The insurance funds, whatever the source from which they come must only be employed for clearly defined purposes, this will be safeguarded by the National Office

An International Military Medical Organization

The Belgian Government called a meeting in July, at Liege of the heads of the medical departments of the Military Naval and Air Forces to discuss the creation of an International Medico-Military Records Office, and also the possible educational value likely to accrue from the interchange of military medical officers of different countries the resolutions passed by this meeting have been communicated to the other Governments It is proposed to establish an international office to house medical records relating to the military, naval, and air services, this office to be in close association with the permanent committee of the International Congresses of Military Medicine and Pharmacy in Belgium Its services would be freely at the disposal of those nations which join in establishing it contribute to its supply of records, and share in the cost of its upkeep according to the scale drawn up by the League of Nations The idea of arranging international visits of medical officers of the three services was similarly approved, provided that some system of definitely graded instruction is adopted, or a plan is devised of sending delegates to meetings in other countries according to the customs prevailing in them, the new office might act as a central bureau of information in facilitating such interchanges The work of bringing these decisions into effect has already begun, and the permanent committee of the International Congresses of Military Medicine and Pharmacy (which are to meet together at The Hague on the occasion of the sixth congress next June) will be charged with the approval and the drafting of the lines on which this new Records Office shall function

First Aid in Road Accidents

The Ministry of Public Works has authorized the establishment of a series of telephonic call-boxes on the main roads, whereby assistance may be procured for persons taken ill or involved in accidents In the first instance the roads to be thus equipped are those from Brussels to Ostend, Antwerp, and Esschen, to Liege and Herbesthal to Namur, Arlon, and Stolpenich, and to the French frontier, passing through Mons Travellers along these roads will find at intervals telephone boxes connected night and day with first-aid posts ready to supply at any point such prompt help as may be necessary in accidents or other emergencies This service will also be available for the local police and Government services

Correspondence.

ROYAL MEDICAL BENEVOLENT FUND

Christmas Gifts

SIR,—On November 8th you very kindly published my letter asking for donations to enable this Fund to give a Christmas gift to the most necessitous of our beneficiaries I gratefully acknowledge the receipt of £120 in response to my appeal, but I need the sum of £550, if no one is to be left out May I ask your readers to help me to find the balance still required, so that there may not be disappointment in the homes of those of our colleagues whom this Fund is trying to help Cheques should be forwarded to the Treasurer, Royal Medical Benevolent Fund 11, Chandos Street, Cavendish Square, W 1, as soon as possible, in order that our gifts may be distributed before Christmas Day —I am, etc,

THOMAS BARLOW,
President

December 8th

THE WORK OF LABORATORIES

SIR,—I am sorry that Lord Moynihan should resent the very mild quip I made at his expense lately, when the new laboratories of the Hospital for Tropical Diseases were being opened I remarked that when a prominent surgeon had chosen "to belittle the work of laboratories, to declare physiologists to be aloof from medicine, and to be somnolent," at the opening of the new Institute at Toronto, founded actually to commemorate the laboratory work of Banting and his colleagues in physiology and biochemistry, he seemed to have used "an Irish mode of encouragement" that we need not imitate

He now complains to my great surprise that this gave "a corrupt version" of his meaning If he did not belittle the recent work of British laboratories I do not understand the English language His defence of himself by quoting from his address other sentences to which I did not refer is like defending the occasional tippler by quoting his moments of sobriety A large section of his address was labelled "Physiology Lagging Behind," and in this he boasts that "we, the clinicians, have gained gigantic intellectual victories with barely recognizable assistance from the laboratory" He must not run away from the fact that "aloofness from medicine" and "somnolence" were actually his own words They were used

that gave rise to a good many smiles on the other side of the Atlantic, and some consternation in Canada as I found there long before I had read Lord Moynihan's address myself

Let me appeal to obviously impartial comment I do not find that the *British Medical Journal* paid attention to his address In a leading article in the *Lancet*, however (October 11th p 806), I read 'Let us pass finally to Lord Moynihan's complaints about the physiologists—that they have neglected hominal research, that they are aloof from medicine, that their science is playing truant We believe that his contentions are mistaken, or at least greatly exaggerated' It is not only I then who have corrupted his meaning there seems to be a general conspiracy against him

He resents my saying also that "he thought the idea that the laboratory workers did or could, hand over new weapons for the physicians to use was laughable" I must refer your readers to his address I do not take up this point now beyond noting that Lord Moynihan quoted a rhetorical question in his address and pretended that it had been asked in serious doubt and without a reply to it having been supplied The less said of that the better Sincerely and whole-heartedly I admire the eloquence and moving beauty of great parts of his Toronto address I deplore all the more for his own sake—as I have told him—that he entered on that occasion into some controversial paths outside his own field of work I have given friendly expression to him in private of my opinion of some of the methods of argument he used As he knows I am debarred by my office from making public answer as to those though I (naturally) cherish a belief that the answer might be complete and devastating I am free however to speak of his disparagement of our physiologists and biochemists as such and at least of his choice of a place and time for indulging in it If I forgive him now for his quite baseless charge against me of perversion he in his turn must pardon me for my friendly chaff His telling the Canadian workers that their friends and colleagues here doing work exactly like their own, are somnolent aloof from medicine and lagging behind the clinicians certainly seems to me to offer one of those occasions when, as Michael Finburn said, 'there is nothing like a little judicious levity"—I am etc,

Kensington W.8, Dec 8th WALTER M FLETCHER

CARDIO-VASCULAR SYPHILIS

SIR,—The paper by Dr Carey Coombs upon this subject in the *British Medical Journal* for November 29th is of great interest Perhaps I may be permitted to comment upon a few points which seem to be of practical importance

Dr Coombs states that cardio-vascular syphilis does not declare itself by symptoms until about twenty years after the primary sore That is approximately true in so far as pathognomonic symptoms are concerned, but it is not true in respect of clinical signs These signs may be slight, and they may suggest at the first glance nothing more than a vague 'something" wrong with the heart but that is the time when it is most important to make a diagnosis—not so much of any particular heart lesion as of the syphilis itself It is in this stage while the cardio-vascular damage is slight and reparable, that adequate therapeutic measures can prevent a future grave aortitis and aortic valve incompetence Properly considered syphilis is—even from before the appearance of the primary sore—a cardio-vascular disease It is that, first last, and all the time A careful examination of patients suffering from early syphilis—from the sero-negative primary till the end of the secondary stage—will reveal in a very high proportion some clinical evidence of cardio-vascular damage And it has always to be borne in mind in this connexion that the visceral damage wrought by syphilis is invariably very much more severe and extensive than clinical signs would suggest Another point is that in every case of cardiac or vascular disorder syphilis should be considered and great pains should be taken to decide as to whether or not it is an etiological factor in the case

I would endorse most strongly the plea for a very careful consideration of the patient's history, that of his wife, her pregnancies, and their children Both marital partners and the progeny should be examined both clinically and serologically In the presence of a negative Wassermann test, and indefinite clinical findings in a patient, a syphilitic etiology may be uncovered by investigating the family There is I believe, no such thing as a completely asymptomatic syphilis The ensemble may give a clue which the therapeutic test will clinch A caution about the use of potassium iodide is necessary Iodides have no treponemicidal power, their sole function being the dissolution, or prevention of formation of fibrous tissue The pathological picture must be visualized in every case, because, if the fibrous tissue is exercising a protective function—for example in aneurysm, where it may be the sole rampart between the patient and death from rupture—dissolution of it by the exhibition of iodides may precipitate a fatal issue If the fibrosis is non protective, iodides should be given in large doses—90 grains of the potassium salt daily

Treatment should invariably be commenced with a fat-soluble bismuth salt such as bivatol, given intramuscularly in 2 c.cm doses twice weekly for eight weeks This should be succeeded either by myosalvarsan intramuscularly once weekly for eight weeks, or, if trouble is experienced by the oral administration of stovarsol The whole course should last for seventy-two weeks without any rest period, the patient receiving 23·25 grams of myosalvarsan and a quantity of bivatol equivalent to 5·12 grams of the elemental bismuth When these remedial agent are available, and are tolerated the giving of mercury is only a waste of time It is indeed astonishing to find that no mention of bismuth is made either by Dr Coombs or in the leading article on the subject on page 919—I am etc,

December 1st J TYTLEP BURKE,
Director of Municipal Clinic (V D)
City of Salford

AVERTIN ANAESTHESIA

SIR,—The discussion on avertin in the *Journal* has focused attention on some important questions but in the end the relative value of this drug can be adequately tested in one way only—namely by comparing it with other anaesthetics over large record of *comparable* cases In a recent paper[1] on avertin anaesthesia I suggested that at the present moment our lack of knowledge tends to place us in the invidious position of refusing the service of one anaesthetic because of the dread of immediate disaster when in reality by our choice we may inadvertently be multiplying many times the total risks to our patient Only by an assessment of the total advantages and disadvantages including the risks per 1,000 cases both immediate and from such subsequent causes as toxaemia and lung complications inherent in each anaesthetic can we hope to escape from the present unscientific position in which the choice of anaesthetic must often be largely a matter of personal bias on the part of operator or anaesthetist" In goitre operations for which avertin has been increasingly employed, there should already be material for instituting a comparison between this and alternative drugs With the object of obtaining such comparable figures I have for some time been employing avertin as the routine procedure in my gynaecological department in Edinburgh, with results that now seem to justify some tentative conclusions Up to date we have 743 successive and unselected operations with four deaths a mortality of just over 0·5 per cent Our previous mortality in 1,799 successive cases with ether alone or combined with chloroform as the routine anaesthesia was 34, or 1·9 per cent, which accords generally with the published experience of other gynaecological clinics Thus the Royal Samaritan Hospital for Women Glasgow during 1928 had a mortality of 31 in 1,836 operations—that is, 1·7 per cent—and during 1929 a mortality of 34 in 2,598 operations or 1·3 per cent Dannreuther[2] in New York had 19 deaths in

[1] *Lancet* May 31st 1930 p 1177
[2] *Medical and Clinical Reports* 1928 and 1929
[3] *Surg Gynecol and Obstet* October 1930 II, 522

1,000 successive operations—that is, a mortality of 1 9 per cent

In this place I cannot give the complete data, and must be content with stating that we are coming to conclude that the use of avertin as the "basal anæsthetic," combined with ether in reduced quantity as a supplemental anæsthetic, has contributed to the lowering of our mortality

(*a*) By *the reduction of post operative pulmonary complications* In 743 operations there were three instances of bronchitis or broncho pneumonia with one death after an operation for prolapse in a woman with toxic goitre and debility This is the only case in which death occurred after an operation other than an emergency procedure involving a "life or death" decision Dannreuther, in 1,000 cases, records seventeen post-operative pulmonary complications with four deaths As I have stated, we employ ether in practically all cases, and it is our impression that a main factor in the reduction of these complications is that with avertin there is an almost complete absence of vomiting during or immediately after the operation, and a consequently decreased risk of inhalation of septic matter In this connexion Dannreuther states that 'eight of the twelve pneumonias developed in ward patients to whom anæsthetics were administered by less experienced anæsthetists' Our experience leads us to the view that such contingent risks are reducible with the avertin ether procedure

(*b*) By *the reduction of post operative gastro-intestinal complications* There have been no cases of acute dilatation of the stomach, paralytic ileus, etc

(*c*) By *the reduction of post operative sepsis* This we believe to be related to the absence of post operative sickness and the trauma of straining, a factor of supreme importance in abdominal surgery, and in plastic operations on the pelvic floor To the above mentioned considerations must be added the great advantages which, in comparison with ordinary inhalation methods, avertin possesses in the ease and comfort which it brings, both to the induction of the anæsthesia, and the post operative sensations of the patient

Finally, I should state that we employ the drug in a ratio of 0 1 gram per kilo of body weight, preceded by a preliminary hypodermic injection of 1/8 grain of a morphine salt —I am, etc,

Edinburgh Dec. 1st. JAMES YOUNG

SIR,—In your issue of November 22nd Mr Basil Hughes states that, so far as he knows, the properties of avertin as a general anæsthetic, especially for routine work, were never claimed This suggests that Mr Hughes is unacquainted with the German literature If he will refer to this literature he will find several papers in which it is stated that it was used as a general anæsthetic in unselected cases—for example, Haas (*Deut med Woch*, 1927, liii, 1375) describes a hundred cases, which he divides into four groups In 23 per cent a good effect was obtained by avertin alone, in 29 per cent avertin alone is said to be satisfactory, in 42 per cent ether was required late in the operation, and in only 6 per cent was it necessary to use ether at the commencement of the operation The makers of tribromethyl alcohol state, in an advertisement of October, 1930 "Avertin fluid—the anæsthetic for rectal administration"

Mr Hughes also writes, referring to avertin, that "by its use other drugs necessary to complete anæsthesia can be used in amnesic dosage, which avoids their inevitable toxic effects following major operations in which they are used alone" This kind of unprecise language I find a little difficulty in dealing with, because I do not know what an amnesic dose of chloroform or ether may be, though it might be easy to enunciate it for hyoscine, also, the "inevitable toxic effect" of, for example, ether, must be compared with the variable effect, the lack of control, the respiratory depression, the possibility of liver and kidney damage, and the delayed excretion, all or any of which may be features of avertin anæsthesia Chloral hydrate per rectum was once much in vogue as an anæsthetic for children, especially in France, paraldehyde and many other narcotic substances have also been used, and, as I write this, a long article is before me in which the writer advocates ordinary ethyl alcohol, not the tribrom variety, for producing general anæsthesia

In conclusion, I venture to believe that no valid evidence has been produced to alter the opinions expressed in my original paper, and I am given to understand that confirmatory evidence of these may be shortly forthcoming both from Germany and from America —I am, etc,

Cambridge, Nov 27th F B PARSONS

SODIUM AMYTAL

SIR,—I have just finished reading the two very interesting articles on sodium amytal in the *Journal* of November 29th (p 897) I wish to report the following case of respiratory failure after using the drug

A woman, aged 55 years, apparently of satisfactory health and of good medical history, was admitted to the Dreadnought Hospital, Greenwich, under the care of Mr Percival P Cole She was operated on for severe pains in the abdomen, chiefly situated in the right iliac region A laparotomy was performed The appendix, which was bound down and inflamed was removed, and numerous adhesions in the cœcal and hepatic regions were severed Other parts of the abdomen were explored, but nothing unusual was found The anæsthetic given was 1 gram of sodium amytal, under strict aseptic precautions, together with nitrous oxide and oxygen supplemented by a little ether in order to get sufficient abdominal relaxation The quantity of gas and oxygen given was small as compared with a case which had not had sodium amytal as also was the amount of ether The time taken for the injection was nine and a half minutes The patient behaved perfectly until she was about to be returned to the ward after the operation It was then noticed that she was becoming cyanosed, and that her respirations had practically ceased The gas and oxygen had been stopped as soon as the peritoneum had been closed At that time the pulse was good, blood pressure normal pupils normal in size, and the respirations inclined to be shallow

At the moment of respiratory failure artificial respiration was administered, oxygen being given at the same time The breathing returned, but stopped as soon as this was discontinued This was repeated several times, and the same thing happened It was then decided to pass an endotracheal catheter, and attach it to the gas and oxygen apparatus Oxygen with 5 per cent carbon dioxide was then given in this way, which at once restored the respirations It was due to this treatment that the patient was kept alive for the next eight hours The pulse rate was good, in both volume and rate, the blood pressure a little below normal The pupils were widely dilated, and had a definite lustre Cardiac stimulants were given on the operating table, adrenaline 10 mm and coramine 1 c cm Thyroxine 1 c cm was given two hourly in order to stimulate the basal metabolism and thus help to get rid of the drug a little more quickly but this had to be stopped after the fourth injection, as it was affecting the pulse rate At the end of six hours atropine, 1/100 gram, was given hourly, as the chest showed signs of becoming congested, later on it was given four hourly, until she showed definite signs of returning consciousness

At the end of eight hours the pulse first showed signs of becoming weak At this stage normal salines were given per rectum hourly black coffee being substituted for the saline at intervals During this treatment her condition so improved that the catheter was removed, and it was found that the oxygen and the carbon dioxide could be discarded altogether Her corneal reflex had returned, and she had started to groan a little at the same time making slight movements with her face To try and establish the improvement 300 c cm of normal saline were given intravenously, and from this time she never looked back At the end of sixteen hours she spoke for the first time, and then settled down again The salines were then discontinued A few hours later she became so restless that she was given 1 c cm of omnopon in order to make her sleep again, which she did for the next few hours. On returning to consciousness she knew nothing of her conduct and could not understand the pain in her abdomen She ran a temperature for the next few days, which in time settled down and an uneventful recovery ensued, the patient never knowing how ill she had been

This case is of interest, as in all probability the patient would have died if it had not been for the passage of the endotracheal catheter and the administration of oxygen and carbon dioxide It was by this means alone that her respirations were controlled The salines and the black coffee, all of which she retained, stimulated her after the catheter was removed, and thus gradually restored her to full consciousness I wish to thank Mr Cole for giving me permission to report the case —I am, etc,

London, W 1, Dec. 2nd RONALD JARMAN

DIATHERMY EXCISION OF TONSILS

SIR,—It is an ancient but discredited method in controversy to wrench from writings such items as suit us, and to leave those that militate against us discreetly alone. This is what Dr. Warner Collins has done in his letter disagreeing with my warning about too extensive diathermy coagulation of the tonsil at one sitting. May I suggest to him that he turn once more to my book on *Diathermy* and read the sections dealing with this subject in their entirety, dwelling particularly upon page 66, line 1 et seq., and pages 74 and 75?—I am, etc.,

London, W.1, Dec. 6th. DAN MCKENZIE.

MIGRAINE

SIR,—As one who has studied migraine (hemicrania) for many years, may I remark on the discussion on the treatment of headache which took place at the November meeting of the Chelsea Clinical Society (*British Medical Journal*, November 29th, p. 907)? Doubtless this was an informal discussion" but I was a little surprised to find no reference in the report to the *periodicity* of hemicrania. This weekly, fortnightly, monthly, or other rhythm of the headache is one of the most characteristic things about it.

Dr. Feiling said that "a line of treatment was now being pursued on the hypothesis that the condition was due to some liver deficiency." This interested me, because I contributed a letter to the *British Medical Journal* of February 5th, 1927, in which was a tentative theory of the production of periodic hemicrania, a portion of which I should like to quote:

"Let it be granted that a toxæmia is the underlying condition (of which personally I have not the slightest doubt) and that the liver is the great organ of detoxication. The liver is constantly destroying poisons more or less perfectly in different persons; in some it detoxicates so perfectly that the poison never accumulates and they therefore never have headache. In certain less fortunate persons the liver traps the poisons less perfectly, so that some are always escaping over into the circulation. When the toxin accumulates beyond a certain concentration in the blood the syndrome of hemicrania is established. The exact period of this toxic situation may be one of seven days or fourteen or thirty or forty-two, giving the weekly, fortnightly, monthly, or six-weekly headache as the case may be. In other words, the rhythm of the headache is dependent upon a pre-existing rhythm in the detoxicating capabilities of the liver."

I noted with satisfaction that there was no serious advocacy of the view that the chief factor in hemicrania is of a psychic nature.—I am, etc.,

Chiswick, W.4, Nov. 29th. D. F. FRASER HARRIS.

A SUGGESTED HORMONIC CAUSE FOR CYSTIC CONDITION OF THE OVARY

SIR,—The subject of the interaction of the ovary and the anterior lobe of the pituitary body is very interesting from a physiological point of view. It seems to me moreover that such interaction might possibly be the basic cause of cystic condition of the ovary.

The anterior pituitary lobe has been described as the 'motor of the ovary.' It produces two hormones, one of which stimulates ovulation and maturation of the follicle with the production of the follicular hormone. This last hormone has as one of its actions cornification of the cells of the vagina. The second pituitary hormone acts on the Graafian follicle and 'luteinizes" that structure, with the production of the luteal hormone, which in its turn represses any further ovulation during the latter half of the twenty-eight-day cycle. In association with the follicular hormone, the luteal hormone causes progestational development of the endometrium. It appears that the corpus luteum thus formed can only be destroyed by these hormones if they are in concentration.

The interesting point to me is as follows. If the anterior lobe of the pituitary body is *capable of effecting this* physiologically, it seems that it may 'run riot," and that the cornification and luteinizing effects may proceed to the pathological cystic condition. On the other hand, there appears to be a therapeutic agent available, which might be employed in the idiopathic uterine haemorrhage of young women since if a persistent corpus luteum should result from the use of this agent, uterine haemorrhages would cease. Even so, there would still be the risk of the occurrence of a cystic ovary, possibly at the menopause.—I am, etc.,

JOHN N. MCINTOSH, M.B. Ed.

Port Royal, Jamaica, Nov. 18th.

PHLEBITIS AND EMBOLISM

SIR,—I am interested in Dr. Jeudwine's letter in the *Journal* of November 29th (p. 933), and am writing for further information.

I understand that a primary embolism may occur in the lung without any thrombus in the veins of the leg; but what proof is there that, in a case of phlebitis in the leg followed by pulmonary embolism, the latter is an independent deposit, and not a clot carried up from the leg? I admit the strange immunity of those who, after suffering for days with phlebitis, have walked into my surgery to be hurriedly forced into bed, where recurrent deposits of thrombosis have occurred in their leg. The unhappy recollections of pulmonary thrombosis following operations for a cold appendix or a clean hernia make one think twice before advising the ambulatory treatment for *phlebitis*.—*I am*, etc.,

Acton, Nov. 30th. J. T. S. GIBSON.

CANCER OF THE TONGUE

SIR,—In my article on cancer of the tongue appearing in the *British Medical Journal* for November 8th, I credited Stevenson of Dublin with being the first to employ the principle of interstitial implantation of radium. I have since been informed that while Stevenson made the first interstitial applications with radium in hollow needles he was not the first to employ the principle of interstitial irradiation. I am informed that Finzi and others inserted *tubes of radium in the tumour-bearing* areas as early as 1909, and it is believed that this method was probably first employed by Dominici. I offer my apologies for this error.—I am, etc.,

New York, Nov. 22nd. DOUGLAS QUICK.

NOCTURNAL INCONTINENCE IN CHILDREN

SIR,—My attention has been drawn to Dr. Pereira Gray's memorandum in the *Journal* of November 29th on the subject of nocturnal incontinence in children. I wish to endorse the remarks made on the futility of most recognized remedies for this distressing complaint, whether by the administration of belladonna, by circumcision, reduction of the acid reaction of the urine, removal of tonsils and adenoids, abstention from liquids after 5 p.m., lying on hard boards, or waking the patient at stated intervals. There may be case of bladder irritability due to threadworms, for instance, but these are rare. Excluding the existence of organic nervous diseases, the bulk of cases fall into two groups. The first includes children who have never been properly educated in bladder control, which is usually established at two and a half years of age. Some authorities consider bed-wetting to be a reversion to infantile habits because of its frequency in 'over-mothered" children. The second group includes the type which gives the greatest difficulty in treatment. Such children are usually nervous and excitable; they are often worried about school lessons or they may be jealous of a new arrival in the family circle. Disorders of sleep such as restlessness, bed-wetting, talking or even walking in sleep are sequels and are due to an over-active subconscious mind. One of the best ways of calming the subconscious is by mental suggestion and auto-suggestion, which can be practised without any elaborate technique. It is important, however, to find the cause and to remove it; otherwise it may be found that although the bed-wetting is cured it may be replaced by *some other abnormal* trait.

I have cured many cases of nocturnal enuresis within a few weeks of commencing this treatment. The method is as follows. It is essential first of all to obtain the confidence of both parent and child, and to explain to the

former that punishment and even reproof should be withheld from the child, but also that the bed-time routine should be unfailingly the same. The mother should, during sleep, and is not done with the intention of punishing the child, and with suitable emphasis say "Now, John, you're going to have a dry bed to-night" (or "dry night", that on which the appropriate space is left, when the child fails to have a dry bed

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engaged in promoting the teaching of pathology in Oxford So too, his intimacy with Professor Drever who was at that time working at Oxford gave a bias to his inclination towards the scientific side with the result that he made this field of research the dominant influence in his early career He soon made for himself the reputation of being one of the younger men marked out for distinction in this particular branch of study Considerations of another kind, however, arose which compelled the transference of his activities and responsibilities in other directions, and so his promising scientific career was cut short, though, as I know, his interests in medicine were paramount till the day of his death

The one incident in his life which has endeared his memory to all of us in Oxford who are concerned with the interests of the medical school is the fact that it is to his bounteous generosity that we owe the erection of the first pathological department in 1901 While still an undergraduate he handed over to me a cheque for £5,000, to use as a lever to enable us to stimulate the University, at that time sadly in need of funds to provide for the necessities of our growing medical school In those days there were many who were opposed in one way or another to the development of such a school Experience had taught us that the antivivisectionists were active but happily by the practice of judicious methods, the opposition was disarmed The University found ways and means to supplement Frazer's benefaction, with the result that pathology was equipped with a laboratory worthy of Oxford Therein Ritchie, then appointed professor, continued his teaching until he became professor of bacteriology in Edinburgh Thereafter Professor Drever, his successor worked there until recent times, when through the benefaction of the Sir William Dunn Trustees he was enabled to avail himself of the larger and more commodious department, opened in 1927, the original pathological buildings being taken over by the professor of pharmacology Dr Cunn

Frazer's gift proved invaluable at a very critical period in the history of the school, for without his generous aid our progress might have been long delayed We owe much of our success to the generous impulse of an undergraduate who recognized so clearly what the pressing needs of the school were

Of Frazer himself little need be said He was of the type that does not make friends readily, but after the barriers of mere acquaintance had been broken down his friendship proved itself to be loyal, steadfast, and generous He was a man of action rather than words He took a broad view of things, and his interests were wide Very sympathetic, he was ever helpful to those in need, and his hand was as generous as his heart His latter years were clouded by the death of his eldest son, who was killed before his eyes by an accident in the Alps The lad had a brilliant career before him and the stricken parents endowed a scholarship at Balliol in his memory Dr Frazer leaves a widow and two children

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DR RALPH WILLIAM WILSON who died in a London nursing home on November 21st, was born at Holy Island Northumberland in 1853 He graduated M B C M at Edinburgh in 1877 and proceeded M D ten years later He came of seafaring stock, and one of his first appointments after graduation was that of medical attendant to a nobleman on a voyage round the world For some time he assisted the late Sir William Gowers, and, indeed, whilst abroad on another voyage was recommended by him for a court appointment Dr Wilson began practice as an assistant in Surbiton, but after several years there his friend Sir W Thiselton Dyer director of Kew Gardens, persuaded him to transfer to Kew, where he remained in practice for forty years It was a source of great delight to him that he had so much scope in the Gardens for his botanical researches He was a Justice of the Peace, and was twice president of the Richmond Athenaeum His connexion with the British Medical Association went back to the days of the old Richmond Division He resigned in 1913 because of his disagreement with the terms of the National Health Insurance Act, but he was very enthusiastic over the new Richmond Division, and spoke at the inaugural meeting last January in favour of forming a Division of great strength Unfortunately, illness prevented his attendance at any further meetings The loss of his keen intellect and long experience is a severe one to the district in which he resided He was buried at Holy Island on November 26th, and a memorial service was held at St Luke's Church Kew Gardens, which was attended by a large congregation, consisting of his medical colleagues in Kew, his old patients, and numerous friends

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Universities and Colleges

UNIVERSITY OF OXFORD

DR FREDERICK AUGUSTUS DIXEY Emeritus Fellow of Wadham has been elected to an honorary Fellowship in the College

UNIVERSITY OF CAMBRIDGE

THE Raymond Horton Smith prize for the best M D thesis submitted during the academic year 1929–30 has been awarded to P M D A Hart M A M B of Gonville and Caius College

Dr L G Holmes (Christ's) has been elected Fellow and tutor of Downing the latter appointment to take effect from March 25th 1931

At a congregation held on December 5th the following medical degrees were conferred

M D—W H Crab

M B B Chir.—R W L. May A R Banham R. M. Bolam S McDonald.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated

M D—T A Brand

FINAL M.B., Ch B (*Part I including Forensic Medicine and Toxicology*)—G T Bevir R N O D Burns R. G C. G Carlson A McD Davies G M Evans A. L Fyre Brook F E Fletcher J D Hughes H James J Ridgway ‡Frances N Salisbury †O E L. Sampson ‖J P P Stock (*Part I only*) J R Gibbs *Section II (in Group I only)* Eveline M D M. Collinson Rowena M. Hickman

* With distinction in materia medica pharmacy pharmacology and therapeutics pathology and forensic medicine and toxicology

† With distinction in materia medica pharmacy pharmacology and therapeutics and forensic medicine and toxicology

‡ With distinction in forensic medicine and toxicology

‖ With distinction in pathology

UNIVERSITY OF LIVERPOOL

DR H E ANNETT has been appointed to the Samuel Turner Research Fellowship for three years from January 1st, 1931

NATIONAL UNIVERSITY OF IRELAND

AT a meeting of the Senate held on December 4th Dr Denis J Coffey President of University College Dublin was elected Vice Chancellor of the University from January 1st 1931 to December 31st 1932. The degree of M D was awarded to Professor F N McDermott A report from Dr Coffey as representative of the University on the November session 1930 of the General Medical Council was considered Professor J O Saunders University College Cork was appointed to represent the University at the Royal Sanitary Institute Congress at Glasgow in 1931. Dr James R. Hackett was reappointed lecturer in dental surgery at University College Cork

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

AT the annual meeting of the College held on December 4th, Sir Norman Walker who presided was re-elected President for the ensuing year Drs Robert A Fleming Robert Thin Wm Fordyce Edwin Bramwell Edwin Matthew and A. Fergus Hewat were elected members of Council and Dr Robert Thin was nominated Vice-President

At an extraordinary meeting held at the close of the annual meeting Drs John Orr and William Fordyce were elected representatives on the Board of Management of the Royal Infirmary

The College voted a sum of 1 000 guineas to the Royal Infirmary Edinburgh in response to its Bicentenary Appeal

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

AT the monthly business meeting on December 5 h Dr Victor M. Synge was appointed Profes or of Medicine in the schools of surgery of the Royal College of Surgeons in Ireland It was decided to appoint from among the Fellows voluntary delegates to the Congresses of the Royal Sanitary Institute and of the Royal Institute of Public Health to be held in 1931. The representative of the College reported on the proceedings of the recent session of the General Medical Council

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT]

THE House of Commons this week read the Unemployment Insurance Bill a second time and passed it through committee The third reading was down for December 11th The committee stage of the Education (School Attendance) Bill was continued on December 10th On December 12th the first order was the Slaughter of Animals Bill

On December 4th the Expiring Laws Continuance Bill passed through committee A proposal to continue the Dyestuffs Act was defeated During the debate Mr Henry Mond remarked upon the importance of the dyestuffs industry to every form of research into organic chemistry He contended that a great *school of workers was needed* for this research not merely a few people in laboratories and such a school could only be built upon a well established and sound organic chemical industry Lister began with the study of phenol and created the science of antiseptics, but phenol was simply another grouping of carbon atoms Metchnikoff discovered the enzyme which was based on carbon Only by intense and wide study of organic chemistry were they likely to gain more knowledge of the enzyme Salvarsan was based on carbon So was the chemistry of the hormone and the chemistry of vitamins, as had been shown by Professor Starling and Sir Frederick Gowland Hopkins A great school of English chemists had been built on the organic side but far more remained to be done and would not be done unless there was a real opportunity for men to go from the university into industry to continue their study of organic chemistry

Conferences are expected at the Ministry of Health within the next ten days over the text of the Pharmacy Bill, which has lately been examined by professional organizations in the country The Government has not yet promised to introduce the bill, which in any event is unlikely to be brought before Parliament till the New Year

At the House of Commons, on December 3rd, a subcommittee of the Socialist Medical Association was formed to prepare a scheme for medical services during the "period of transition to a State service" Dr Salter, Mr Somerville Hastings, and Dr Forgan were added to this committee

Sir Charles Trevelyan announced on December 8th, that Dr Salter would be a member of a departmental committee to survey the present position of schools not in receipt of grants from public funds

On December 8th Mr Ramsbotham raised a case under the Asylum Officers Superannuation Act, 1909 In reply, Miss Susan Lawrence said the policy of the Government was to place the Act on a better actuarial basis For some months actuaries had been making preliminary inquiries which she hoped would result in better superannuation schemes

Hospitals

On December 3rd replying to Mr Winterton, Mr MACDONALD said that it did not seem to be necessary at present to appoint either a Royal Commission or a Select Committee to inquire into the advisability of making hospital treatment a State service Local authorities had powers under the Public Health Act, both to provide hospitals and to contribute to voluntary hospitals

In reply to Mr Gardner on December 3rd, Mr GREENWOOD said that in 1928 29 local authorities were providing for 166 hospitals for tuberculosis with 12,804 beds, at a cost of £1,165,000, 987 hospitals for acute infectious diseases, with 987 beds, at a cost of £3 620 000 and 80 maternity hospitals and 9 babies hospitals with 1 040 and 233 beds respectively, at a cost of £268 000 In addition local authorities had aided 139 tuberculosis hospitals with 9 298 beds and 166 general hospitals with tuberculosis schemes at a cost of £621,000 26 maternity sections, with 279 beds 64 maternity hospitals with 1,336 beds, and 14 babies hospitals with 347 beds at a cost of £114,000, and had also assisted venereal diseases schemes in 130 hospitals One large general hospital with 875 beds, and three relatively small accident hospitals were provided by local authorities at March 31st last Since that date 17 hospitals with approximately 12 500 beds which were provided under the Poor Law Acts had been appropriated as general hospitals under the Public Health Acts also three Poor Law institutions or infirmaries had been partly appropriated as general hospitals Subscriptions or donations made by local authorities in pursuance of Section 64 of the Public Health Act 1925 amounted in 1928-29 to £30,000 Contributions made by boards of guardians to public hospitals, with the consent of the Minister of Health, in pursuance of Section 38 of the Poor Law Act, 1927, amounted in 1928-29 to £38,000 Institutions formerly provided by Poor Law authorities numbered 73 wholly for the sick, exclusive of mental cases with 40,000 beds, at a cost in 1928-29 of £4,316,000, and 652 general institutions (with a total accommodation of some 188 000) with 83,000 beds in infirm and sick wards, and at a cost of £8,880 000 in 1928-29

Medical Certification and Pension Tribunals

Mr AITCHISON, on December 8th, replying to Mr Wardlaw Milne, said that appellants in pension cases might be and frequently were accompanied by their medical advisers at the hearing of their appeals In almost every case the appellant brought a certificate from his medical adviser which was carefully considered before the tribunal gave its decision In cases where the appellant failed to bring a certificate or the certificate was not sufficiently comprehensive, it was the usual practice of the tribunals to adjourn the hearing until the information required was obtained from the medical adviser either by the appellant or, with the consent of the appellant by the tribunal

Opium

Mr SHORT, replying to Mr Campbell on December 8th, said that the function of the Opium Advisory Committee of the League of Nations was to assist and advise the council of the League in dealing with traffic in opium and other dangerous drugs

Small pox and Vaccination

Mr GREENWOOD informed Mr Groves, on December 9th that he had no specific evidence that the incidence in any area of the type of small pox at present prevalent in this country bore any close relation to the percentage of infants vaccinated in that area The incidence of the disease was, however almost entirely limited to unvaccinated persons or persons who had not been successfully vaccinated within recent years

Vaccination and Encephalitis

On December 9th Mr GREENWOOD told Mr Groves that 14 cases in which symptoms suggestive of disease of the central nervous system followed within a month of vaccination had been brought to the notice of his Department as having occurred during the twelve months ended September 30th, 1930 He was advised that 8 of these cases, 4 of which proved fatal, might be regarded as cases of post vaccinal encephalitis Of these 8 cases 7 were vaccinated with Government lymph, and in 1 case there was no information as to the lymph used

Veterinary Education—Dr ADDISON told Major Carver on November 27th that, besides the Royal Veterinary College Liverpool University, the Royal (Dick) Veterinary College Edinburgh and the Glasgow Veterinary College provided veterinary education In addition, the University Department of Animal Pathology at Cambridge, the Ministry of Agriculture's Veterinary Laboratory at Weybridge, and the station of the Scottish Animal Diseases Research Association near Edinburgh existed for the purpose of research in animal diseases He said he was fully aware of the financial position of the Royal Veterinary College, and the Government had offered on certain conditions a grant of £150,000 towards a scheme of reconstruction costing £250 000 and were further prepared to contemplate an increase of the present maintenance grant when the reconstruction was completed He trusted that, with the help which the College might be able to obtain from other sources, these grants would be sufficient to avert the closing down of the College which would be deplored

Awards of Pensions—Mr ROBERTS on December 2nd, informed Major Carver that during the twelve months ending last September, *some 26,300 final pension awards were made* The number of officers and men medically re-examined at the instance of the Ministry of Pensions had been greatly reduced and at the present time was *not more than about 300 a week* There was no power, nor would it be in the best interests of pensioners to make final awards in all cases without regard to whether they were suitable or not, but the policy of the Department was to give prolonged awards wherever justifiable

Mentally Defective Children—Replying to Mr Day on December 3rd, Sir C TREVELYAN said that there were according to the latest returns, 32,775 educable mentally defective children ascertained by local education authorities in England and Wales Of these, 28,598 were attending schools or other institutions He was unable to give figures for uneducable children on a comparable basis, but was informed that the name of 3 971 children were notified to local authorities under the Mental Deficiency Acts during the year 1929, of whom 352 were sent to institutions On December 9th Mr JOHNSTON told Mr Tran that the number of educable mentally defective children between 5 and 16 receiving instruction in special school classes and residential institutions in Scotland was 3 939 He could not state the precise number of the classes but the number of children in a class was limited to twenty The statistical information available did not enable him to separate the expenditure on such instruction

The Services

HONORARY SURGEON TO THE KING

SURGEON CAPTAIN R J WILLIAMS M V O O B E R N V R, has been appointed honorary surgeon to the King in succession to the late Surgeon Captain A R Brailey, R N V R, from December 1st.

DEATHS IN THE SERVICES

Lieut Colonel George Elliott Cathcart O B E R A M C died in London on September 10th aged 53 He was born on March 5th 1877 the son of the late Major H D Cathcart was educated at Bart s and took the M R C S and L R C P Lond in 1901 After serving as a civil surgeon in the R A M C for nearly a year he entered that corp as a lieutenant on January 30 h 1904 became major on July 1st, 1915 and lieutenant-colonel on September 15th 1926 He served in the war of 1914-18 was mentioned in dispatches in the *London Ga ette* of July 4th, 1916 and March 12th, 1918, and received the O B E.

Lieutenant John Anthony Timoney R A M C, died in Egypt on September 8th He was educated in the National University of Ireland graduating as M B, B Ch and B A O in 1927, and entered the R A M C as lieutenant on October 26th 1928.

Medical News.

THE Sections of Electro-therapeutics and Comparative Medicine of the Royal Society of Medicine will hold a joint discussion on radiological problems in man and animals, on Friday December 19th, at 8.30 p m

A MEETING of the Royal Microscopical Society will be held in the Hastings Hall British Medical Association House Tavistock Square W C on Wednesday, December 17th at 5 30 p m Mr S C Akehurst and Mr J M Preston will read papers At the annual general meeting of the society on January 21st 1931 Professor R Ruggles Gates will deliver his presidential address

A COURSE of twelve lectures on "The Life of the Past" is being given by Dr T M Finlay in the Lecture Theatre of the Imperial College of Science (Royal College of Science, Old Building), Exhibition Road, South Kensington The course opened on December 8th and the remaining lectures will be delivered on December 15th, 17th and 19th, and on January 5th 7th, 9 h, 12th, 14th and 16th, at 5 30 p m Admission is free

A THREE months course of lectures and demonstrations on clinical practice and in hospital administration will be given at the North Eastern Hospital Tottenham, by the medical superintendent Dr F H Thomson, on Mondays and Wednesdays at 4 45 p m and alternate Saturdays at 11 a m, commencing on Monday January 5th, 1931 The fee for the course which complies with the requirements of the revised regulations of the General Medical Council, is £4 4s A course may however, be taken under the old regulations at £3 3s Practitioners desiring to attend the course of instruction are required, before attending the hospital to pay the requisite fee to the medical officer of health London County Council, Public Health Department (Special Hospitals), Victoria Embankment E C 4, giving their full name and address

PARTICULARS of the lectures and demonstrations arranged for next week by the Fellowship of Medicine will be found in our Diary of Post graduate Courses, published in the *Supplement* at page 260 Copies of syllabuses and tickets of admission can be obtained from the Fellowship 1 Wimpole Street W 1 The list of special courses arranged for 1931 is now available

ON December 4th the autumn dinner of the Irish Medical Schools and Graduates Association was held at the Piccadilly Hotel, with the president *Dr W P Kennedy in the chair* After the usual loyal and patriotic toasts had been honoured Dr J Howard Humphris in proposing the health of the guests said that they wished to offer them a whole hearted welcome—indeed all that was meant by the term Irish hospitality " Speaking especially of the guest of the evening Sir Frederick O Connor Dr Humphris said that he was soldier diplomat explorer and even film star and wherever he had been he had always upheld the tradition of his native country Sir Frederick O Connor said that although he was a gunner he had had much experience of doctors and he admired the profession of medicine for its universality and its humanity He gave instances of two occasions in Tibet and in Persia when the prestige of the British nation had been unmistakably established in a hostile atmosphere by the good work and sympathetic attitude of his medical officers In reply to Dr William Doolin, who proposed the toast of ' The President and Association ' with enviable brilliancy and wit, Dr W P Kennedy said that the association stood for unity and guidance of Irish doctors who settling in England might have initial difficulties in their new environment, he urged all new graduates to get in touch with it as soon as they reached England Helped by the friendship and experience of more sophisticated exiles, they were assured that their problems would meet with a speedy solution An enjoyable programme of music was provided by Miss Alice Lilley Miss Kathleen O Hagen and Mr Ernest Bertram, whose songs brought the air and the verdure and the romance of the green isle very near to their audience Later in the evening two of the guests further entertained the company with songs and stories, after which the company went downstairs to ' chase the glowing hours with flying feet "

IN and after 1930 one or more scholarships of the value of £300 a year for five years may be awarded annually by the Government to suitable candidates of African birth for the purpose of studying medicine in the United Kingdom The candidate must undertake to return to practise in British West Africa immediately on the successful completion of his studies but he may be allowed to postpone his return at his own expense for a maximum period of three years in order to acquire additional professional qualifications, and on the expiration of the permitted period he will be granted a first class passage to British West Africa

WITH the approval of the chairman of the London County Council, Mr R L Guthrie coroner for the eastern district has appointed Dr Percy Bernard Skeels, solicitor Mr W B Purchase coroner for the northern district has appointed Mr Francis Danford Thomas barrister at law, and Mr S I Oddie, coroner for the central district has appointed Dr Francis Temple Grey, barrister at law, to act as their respective deputies

IN response to its appeal, first launched five years ago the Middlesex Hospital has received £374 000 A further sum of £249 000 will be required to complete the enlarged scheme of rebuilding

THE Leprosy Commission set up by the League of Nations will work in close contact with the Congress of the Association for Tropical Medicine in the Far East which is now meeting also at Bangkok At this session the Commission will endeavour to lay down the principles for combating leprosy just as the Malaria Commission did for malaria It is hoped that it may be possible to evolve certain principles of action in harmony with the experience of clinicians, hygienists and laboratory workers The work of the Commission has been prepared by its secretary Dr Burnet, who in the course of visits to leper colonies and interviews with leprologists in London, the Scandinavian and Baltic countries, France the Mediterranean countries, the South American Republics India the Malay States the Philippines, and China, has noted a series of observations

THE annual report of Livingstone College for the year 1929-30 contains fresh evidence as to the value of the educational work which is being carried on in that institution More than 1,100 missionaries have received training there and some return later for further study An appeal is being made for £800 to replace worn out equipment, and to renovate the structure of the house The full session, from October to June comprises three terms, those who are unable to undertake this can be admitted for a six months or a three months course An intensive course, consisting of lectures on the care of health in the Tropics is given three times a year—in March September and December—lasting three days These lectures are open to any who are expecting to work in tropical countries Further particulars may be obtained from the principal, Dr Tom Jays, Livingstone College Leyton E.10

THE centenary of the birth of Jules Émile Péan the celebrated surgeon to the Hôpital St Louis Paris who died in 1898 was celebrated at the Académie de Médecine on November 25th when his eulogium was pronounced by Dr Jean Louis Faure, professor of clinical gynaecology in the Paris faculty

PROFESSOR HANS FISCHER of Munich has been awarded the Nobel prize for chemistry

THE title of doctor *honoris causa* has recently been conferred by the University of Liège, on Professor Calmette of the Institut Pasteur and on Dr Louis Lapicque, professor of physiology at the Sorbonne

THE centenary of the foundation by Lucas Championnière of the *Journal de Médecine et de Chirurgie Pratiques* was recently celebrated in Paris.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C 1**

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QUERIES AND ANSWERS

Keeping Fit in Hot Climates

LIEUT COLONEL F W W DAWSON (M O H, Christchurch, New Zealand), replying to the inquiry of C H B in the *Journal* of July 26th (p 168), denies that total abstainers are the first to go sick in a hot climate He states that in 1901-2, while doing hospital duty at Kroonstand, where there were many enteric cases, four of his colleagues died from enteric fever within four months Neither then, nor when he was again in South Africa from 1904 to to 1908, was he off duty for illness, though he has been a lifelong abstainer He adds that he has also served continuously for eight and a half years in India, Burma, and Mesopotamia, and for one year in Sierra Leone He has never had malaria, dysentery, or enteric fever, though he had one week off duty in India with dengue fever He writes A small quantity of alcohol is pleasant to those who are accustomed to it, but it should never be taken before sunset It appears to relieve the alleged monotony of tropical life, and to improve the outlook on things in general Any excess of alcohol, however slight, and particularly if not very well diluted, is definitely prejudicial to health in a warm climate It increases the tendency to infection and definitely lowers the resistance of the body to these diseases when infection has taken place Alcohol is a predisposing factor in heat-stroke While it is possible for an abstainer to get sun stroke through carelessness in the use of a helmet I have never heard of an abstainer suffering from heat stroke The suggested covering of the lower abdomen is sound, but difficult to put in practice, since most persons throw off the covering in their sleep I never found it necessary to take violent exercise I played golf, a few sets of tennis, and took light boating exercise or swimming when I felt I would enjoy it, but I certainly never made a fetish of exercise

Income Tax

Honorary Appointment and Expenses Research Studentship

"C C was, until November 16th, acting as unpaid house physician, on October 1st he was appointed a demonstrator of pathology at £300 per annum and was awarded a research studentship of £275 per annum He asks for information on various points, as indicated in the following reply

*** Studentships are not exempt from tax unless they are 'held by a person receiving full time instruction at a university, college, school, or other educational establishment"—Section 28, Finance Act 1920 The studentship in question does not apparently fall within the exempted class If research on any defined lines is a condition of holding the studentship, the expense of supplying the necessary materials, etc, would be deductible for purposes of the assessment The expense of running a car would be allowable only if necessarily incurred in carrying out the duties of the office—not, for example, incurred in going to the place where the duties are carried out The cost of furnishing and equipping a consulting room would be capital outlay, but the rent and similar annual expenses would be deductible from the amount of the consultation fees earned If there was no assessable income from the appointment as house physician the payments to a locumtenent for doing that work are not allowable The expenditure on medical journals and societies can be deducted if the appointments are held on the condition (expressed or implied) that that expenditure shall be incurred

Car Obsolescence Allowance

"M D, D P H" has used his car partly for private and partly for professional purposes He had one allowance only—that is for 1930-31 of £8 10s, being one half of the full allowance of 15 per cent on £110, the then written down value of the car He has now sold the car for £66 and bought another for £140 What should he claim for 1931-32

*** If the car were entirely used for professional work the allowance would be as follows

		£
Original cost		150
Deduct wear and tear allowance, 1930-31	£17	
Deduct amount received on sale	£66	
	—	83
Obsolescence allowance		£17

As only one half of the expenditure can be deducted for income tax purposes—a ratio which appears to be not unreasonable—the income tax obsolescence allowance for 1931-32 will be £23 10s, in addition to the 15 per cent allowance on the new car—that is, 15 per cent of £140=£21

Interest on Unpaid Purchase Money

"AJAX" inquires what is the correct procedure where B purchases a part of A's practice and pays the amount of the purchase money in instalments, plus 5 per cent per annum on the unpaid instalments

*** B cannot claim any deduction in respect of the interest payments, on the other hand, he will have to account to the Revenue for tax thereon at the full standard rate But he is entitled to deduct tax at that rate from the interest when paying it to A, and A should therefore include the amounts in his statement of *total* income as having been taxed before receipt.

LETTERS, NOTES, ETC.

Prolongation of Menstrual Life

DR P W L ANDREW (Boxhill) writes I am attending an old lady, 80 years of age, who first started to menstruate at the age of 12, She is married, and has had 11 living children, 3 stillborn, and 4 miscarriages Her last was born when she was 46 years of age Since then she has been absolutely regular, going twenty eight days with a loss lasting three to four days, up to about five years ago Now the loss is one to two days only, but quite regular, and, strange to say, occasionally accompanied by a certain amount of flooding, which is corrected by ergot and iron

"American Heart Journal"

DR MAURICE CAMPBELL (Hon Wills Librarian, Guy's Hospital, S E) writes I should be grateful if any of your readers can help me to obtain the following volumes of the *American Heart Journal* for the library at Guy's Hospital We have made every effort to buy them through trade sources, here and in America, without success, and the only volumes are out of print It may be that someone who does not wish to bind them has these spare parts, and is willing to sell them, if so, I shall be glad if he will write to me The missing volumes are vol I, Part III, vol II, Part III

Symbols of Sex

"W E H" writes on the subject of Dr Gregory Kayne's note (December 6th p 986) The symbol ♂ of the male sex represents the spear and shield of Mars, that ♀ of the female is the mirror of Venus They descend to us from the alchemists

New Driving Licences

THE legal department of the Automobile Association will send free of charge to any motorist a copy of the new Regulations governing the issue of driving licences and the physical fitness of applicants Requests should be addressed to the A A, Fanum House, New Coventry Street, London, W 1

Directory of Masseurs in Private Practice

MR J STEWART BROWN, secretary of the Private Practitioners' Association (an association of registered members of the Chartered Society of Massage and Medical Gymnastics in private practice), writes to say that the *Directory*, recently published and announced in our columns (October 25th p 715) is free to medical practitioners, and will be sent on request to all doctors interested His address is 'Hygeia,' Falmouth

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals will be found at pages 46, 47, 48, 49 50, 51, 54, and 55 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 52 53, and 54

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 209

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine

518 Etiology of Constipation

BLCART (*Bull et Mem Soc de Med de Paris*, October 10th, 1930, p 404) defines the constipated subject as one who fails to have a stool at least once in the twenty four hours or has an incomplete evacuation, although he admits that perfect health may exist with the passing of a stool on alternate days only Discussing the anatomy and physiology of the intestinal tract (with some useful diagrams), he points out the resemblance between the sigmoid and the stomach as reservoirs while the oesophagus and rectum act as channels for the ingestion or expulsion of materials He then describes the function of the three parts of the colon and the mechanism of defaecation The daily stool represents what has been collected in the sigmoid during twenty four hours, and is not necessarily made up of the residue of food swallowed during that period Bécart draws attention to the piston like action of the sigmoid when it is invaginated into the rectum in the first stages of defaecation Constipation may be due to faulty e lucation the abuse of purgatives, improper food, or nervous factors The author comments at length on the abuse of strong purgatives and classifies as main types of constipation those due to colonic trouble (imperfect digestion, endocrine deficiencies colitis, and dolichocolon) and those due to mechanical difficulties in the rectum or sigmoid Where there is biliary insufficiency the administration of bile extracts o ten achieves excellent results Becart then gives clinical descriptions of different types of constipation paying par ticular attention to the neurotic female colitis patient Rectal examination is advisable, in addition to the usual routine abdominal investigation In treatment all aperients cannot be dismissed off hand, even though they may have done more harm than good in some cases It is essential to gain the patient s confidence and to persuade him that to miss passing a stool for a day or so is not as serious as he has come to believe Paraffin does harm in the constipation due to colitis Medicated suppositories are useful in the dyschesic cases, since they stimulate the rectal reflex

519 Psittacosis

M VOLTERRA (*Studium*, October 1st 1930 p 401) describes the clinical history of cases of psittacosis in persons who had not been directly in contact with parrots, but who had acquired the disease from association with other human cases The severity of the disease which clinically suggests a severe type of influenza accompanied by broncho pneumonia, is shown by its high mortality—30 to 40 per cent —especially among patients of more advanced age The etiology is not as yet defined, and though a few observers have isolated and described a Gram negative non lactose fermenting bacillus of Nocard, similar to *B aertrycke*, from the dead birds, it seems unlikely that this organism is the cause of the disease since other workers have failed to isolate it In the author s five cases cultures made in bile and broth from the blood and from the bone marrow after death were always negative Injections of blood into white mice which are usually killed by injections of Nocard s bacillus, were also negative The streptococcus obtained from some patients has not been found in the birds affected Since the recent epidemic an increasing number of observers have recovered a filterable virus from the organs and faeces of parrots dead from this disease It seems possible that apparently healthy birds may infect human subjects with psittacosis The author describes the post mortem findings in these cases and deals shortly with the general expectant therapy to be employed

520 Paroxysmal Auricular Fibrillation

J PARKINSON and M CAMPBELL (*Quart Journ Med*, October, 1930 p 67) report their experience of paroxysmal auricular fibrillation based upon notes of 200 patients, the nature of the irregularity being decided by graphic methods in two-thirds of the cases Though the provocative stimulus concerned was obscure the etiology was determined in 85 per cent 70 per cent showing structural heart disease due in equal proportions to rheumatism, high blood pressure and primary myocardial disease, while goitre was responsible for 15 per cent Palpitation breathlessness, and inability to work may be the only symptoms though in longer attacks all the signs of congestive heart failure may develop The authors group their cases in three main classes (1) typical recurrent paroxysms, accounting for more than half the cases, (2) a few paroxysms preceding the onset of established fibrilla tion and (3) single or very occasional paroxysms of longer duration occurring in the course of congestive failure, after coronary thrombosis, in infections, or without apparent cause The prognosis is said to be good for the immediate attack lasting only a couple of days, but persistence for a week renders permanent fibrillation more likely, and after a fortnight almost certain A paroxysm which has per sisted more than two or three hours will often be arrested by quinidine in 5-grain doses three times a day but in cases lasting for days rather than hours digitalis should be given If quinidine or other measures fail to relieve the attacks patients should be advised to try to endure them but if they prove unbearable digitalis must be administered to reduce their frequency Large doses may be given if it is necessary to induce a condition of permanent fibrillation from which some patients find relief The presence of a goitre may require surgical treatment and the authors regard the condi tion of paroxysmal fibrillation as a troublesome rather than a serious complication

521 Leucopenia and Intradermal Injection

F LASCH (*Wien Arch f inn Med*, September 1st 1930 p 343) has studied the leucopenia arising after intradermal injec tions of non specific substances in aged persons The effects of the excitation of the skin, which is not specific and can arise from mechanical and thermal influences, has been regarded by some as vagal in origin Thirty two patients between the ages of 61 and 91 were injected intradermally with 4 c cm of 0 9 per cent sodium chloride Leucopenia occurred in thirteen and failed to appear in nineteen The effect com mences within five minutes after the injection, it increases up to thirty minutes, and then slowly disappears, and the white cell count has returned in one hour to nearly its original value In 7 cases quite independently of age, sex, or diagnosis, a pronounced leucocytosis followed the intra dermal injection and was succeeded by a fall to the original value in about an hour In some cases the fall of the white cell count was most marked in the neutrophils but in others the fall was not inconsiderable in the lymphocytes In all cases the blood pressure fell after the injection by 5 to 10 mm of Hg, and returned to its original value at the end of the experiment In younger subjects, if the leucopenic reaction failed the blood pressure did not fall In two cases with leucopenia after intradermal injection, 0 001 gram of atropine sulphate and on another day 0 01 gram of pilocarpine were injected subcutaneously into the opposite arm just previously to the intradermal injection In both cases the atropine hindered or diminished the leucopenia, the pilocarpine caused no change in one case, but in the other case there was a marked leucocytosis

Surgery.

522. Renal Rickets

H A SWART (*Journ of Bone and Joint Surg*, October, 1930, p 876) describes renal rickets as a disease entity which is characterized by renal insufficiency due to chronic interstitial nephritis and associated with bone deformities resembling rickets, such as knock knee, bending of the ribs and widening of the epiphyses The case is reported of a boy of 18 who gradually became unable to walk lost considerably in weight and height and acquired the appearance of a little old man with a dry, wrinkled, yellow skin X ray examination revealed a generalized process involving all the bones, which showed atrophy softening, and thickening of the epiphyseal lines The case was diagnosed as pyelonephritis associated with bony deformity resembling renal rickets and cod liver oil and sun baths were given No lasting benefit followed the treatment, and the boy died four months later after suffering from severe pain and being unable to excrete any urine Death was apparently caused by uraemia Swart comments on the rarity of the condition and the apparent lack of any helpful treatment An attempt should however be made to correct the renal condition but in cases of chronic interstitial nephritis this is futile and nothing can be done as regards the bony deformities before the nephritis has cleared up Osteotomy is almost invariably fatal The usual antirachitic measures and therapeutic aids are of no value in this condition It is suggested that the renal insufficiency may possibly stimulate the parathyroid gland to over activity, and thus produce the skeletal changes

523 Lower Limb Surgery in Diabetes Mellitus

L. S. MCKITTRICK and F. C. PRATT (*Arch. of Surg.*, October, 1930, p. 555) give the result of 281 operations performed on the lower extremities of patients with diabetes mellitus. Lesions were found to be due either to infection, or to arterial insufficiency with or without infection. In cases with insufficiency of the arterial circulation no pulsation is present in the peripheral blood vessels, the foot is cold, blanches on elevation, and becomes red and shiny when dependent. There is frequently a sudden change of temperature at some point in the leg, osteomyelitis with gangrene is common, and pain is out of proportion to the local lesion. Local operations in this group are rarely successful and may be dangerous owing to septicaemia, which is caused in most cases by the *Staphylococcus albus*. Buerger hyperaemic exercises were found to be of great help in stimulating the circulation, but in cases where there is gangrene, osteomyelitis of a phalanx, recurring ulcer, or pain without actual gangrene, amputation must be carried out, as also in cases where there is extensive infection. Spinal anaesthesia was found to be the most satisfactory, ether or chloroform should never be used. The 281 operations gave a mortality rate of 11·6 per cent. Of these, the mortality in 119 major amputations for conditions primarily due to arterial insufficiency was 17·6 per cent., and in 19 amputations primarily due to infection it was 10·5 per cent. Early and proper treatment of the surgical lesions will prevent many deaths from pre-operative and post-operative septicaemia, which was the cause of death in 50 per cent. of cases.

524 Primary Carcinoma of the Ureter

R. ASCOLI (*Arch. Ital. di Urol.*, October, 1930, p. 611), who records an illustrative case, states that all authorities are agreed that primary tumour of the ureter is rare, only thirteen cases having been collected by Albarran and Imbert, as compared with 585 cases of tumour of the renal parenchyma, which form only 2 per cent. of tumours in general. Volante collected thirty-eight cases of primary carcinoma of the ureter in 1927, since when at least two more have been recorded, by Gottlieb and Gruenebeig respectively. The three typical symptoms are haematuria, pain, which may be colicky, constant, or lancinating, and the presence of a tumour. Among seventeen cases collected by Jeanbrau the first symptom was pain in eight, the presence of a tumour in two, and haematuria in five, this last was the only symptom in three, and in two was accompanied by the presence of a tumour. In Ascoli's case, which occurred in a man aged 70, haematuria was the only symptom. Death took place from uraemia without operation, which was contraindicated by the general condition of the patient. At the post-mortem examination a papilliferous carcinoma in a very early stage of development was found in the right ureter just above the bladder, as well as a severe condition of bilateral ascending pyelonephritis, which was the cause of death.

525 Sprangel's Transverse Abdominal Incision

E. JUVARA (*Bull. et Mém. Soc. Nat. de Chir.*, October 15th, 1930, p. 1019) discusses the various abdominal incisions, and recommends the transverse one of Sprengel as being the most satisfactory. This incision may be made either in the epigastric angle or just below the subcostal margin, the latter offering the greater advantages from the point of view of light, space, exposure of the operative field, and also of the subsequent reconstruction of the abdominal wall. The operation is fully described, and the main points in which this incision is so satisfactory are stated as follows. It is quick and simple to make, and by extending the body of the patient the wound opens. Good access is obtained to the biliary passages, the pylorus, the duodenum, and the spleen. Moreover, the greater length of time required for the suture of the abdominal wall is more than compensated for by the saving of time in the operation itself. In cases of drainage the drain is better placed than in a median incision, since it lies directly over the biliary passages. The scar is well hidden in the folds of the skin and is very strong, no cases of abdominal weakness or nerve section having been seen after operation by this method. In cases of doubtful diagnosis a good view is provided, and the incision may be extended laterally if necessary, a case is quoted in which it was possible through the same incision to remove a blood cyst from the pancreas, and also to perform cholecystectomy.

526 Seasonal Incidence of Appendicitis

H. J. W. A. NIEUWENHUIZEN (*Nederl. Tijdschr. v. Geneesk.*, October 4th, 1930, p. 4876) states that in the middle of the nineteenth century several clinicians such as Burne, Platonow, Schlagtinger, and Materstock expressed the opinion that perityphlitis was most prevalent at certain seasons—namely, the end of the summer and the beginning of autumn, when digestive disturbances were most frequent, and also at Christmas, when there was a tendency to overeating. The first statistical investigation on this subject was carried out in 1894 by Rostowzow of St. Petersburg, who found that the majority of the appendicitis cases in the Obuchow Hospital were admitted in the winter, and the minority in the autumn and spring, whereas in the Peter and Paul Hospitals the minimum occurred in the winter. In 1920 Dubs of Winterthur found that the majority of his appendicitis cases during the period 1910–19 occurred in April. Dubs maintained that the weather was responsible for this, since in Switzerland the greatest variations in the temperature occurred in this month. Förster of Aarau, on the other hand, came to the conclusion that there was no connexion between the frequency of appendicitis and climatic factors. Nieuwenhuyzen made a study of 678 patients, 432 of whom were males and 246 females, admitted to the surgical clinic at Utrecht with appendicitis during the period January 1st, 1920, and January 1st, 1930, he found that the first attack in males occurred chiefly between the eleventh and twenty-fifth years and in females between the sixteenth and twentieth years. The month in which the attack of appendicitis was most frequent in both sexes was May, while the minimum occurred in February and April.

Therapeutics.

527 Dietetic Treatment in Diabetes

I. M. RABINOWITCH (*Canadian Med. Assoc. Journ.*, October, 1930, p. 489) records his experiences with a new form of diet in diabetes, these clearly demonstrated that, for a time at least, it is possible to replace the older diets of relatively high fat-low carbohydrate with diets of high carbohydrate content and of practically equal calorie value, not only with no disturbance of carbohydrate metabolism, but apparently with benefit. This applies whether the patients do or do not require insulin. Further investigation is indicated in order to determine the permanency of the effects of these diets. The literature on diabetic diets is reviewed by the author, and three cases are cited, which led to the trial of a diet not only high in carbohydrates but of calorie value designed to maintain a state of under nutrition. The following effects were noted. The patients are satisfied, and the diets eliminate the necessity of special foods, such as bran muffins and gelatins, which, when continued for a long period, become distasteful. Hyperglycaemia and glycosuria are more readily controlled whether insulin is given or not, and therefore insulin patients should be able to reduce the dosages, either in amount or frequency. In all but one of 17 cases on this diet the urine remained free from sugar and acetone bodies. In 8 the blood sugar figures were normal, they were slightly increased in 7, and in only 2 have they risen above 0·2 per cent. A most characteristic finding is said to be lowering of the blood cholesterol, and of nitrogen retention in the early stages. High blood cholesterol figures are indicative of disturbed fat metabolism, the higher they rise the greater is the tendency to complications, particularly acidosis. The respiratory metabolism shows a gradual increase of the quotient in the fasting state, suggesting an increased storage of carbohydrates. The diets are constructed in terms of units rather than weights, thus obviating the necessity of scales. A detailed list of the foods with the quantities allowed in this diet is given. The only danger mentioned is a temptation to use more butter than is prescribed, this would lead to a high calorie content and to overfeeding, with possibly dangerous sequels and a demand for more insulin. Rabinowitch emphasizes the point that this is an under nutrition diet, the patients being kept about 5 to 6 lb. under weight, a condition quite compatible with comfort and the daily duties. Patients preferred this dietetic treatment to taking insulin.

528 A Glandular Oxytocic Agent.

J. S. DIASIO (*Med. Journ. and Record*, October 15th, 1930, p. 399) calls attention to the value of thymophysin, a combination of thymus and posterior pituitary extracts, as a safe and reliable oxytocic preparation. Having used it in thirty-one cases, he found that it definitely assisted the dilatation of the cervix without having any ill effect upon either the mother or the child. Injected intramuscularly into the gluteal region, its action became apparent in from five to twenty-five minutes, producing strong, regular pains increasing in force and frequency. Its effects were milder but more persistent than those of pituitary extract alone, the spontaneous expulsion of the placenta occurring within a few minutes of delivery without any undue bleeding. Prolonged labour and weak pains are the main indications for its use. Diasio gave 1 c.cm. in his first six cases, but reduced the dose to 0·5 c.cm. in the subsequent twenty-five, on only five occasions was repetition required. He concludes that forceps were rendered unnecessary in 75 per cent. of the cases where their use had appeared

to be indicated One of the most satisfactory features of this procedure is that the drug can be given during the first stage of labour, while the dilatation of the cervix is between 1 and 4 cm It is contraindicated where there is disproportion between the size of the child and the pelvis, and in the presence of cardiac or renal disease hydramnios malformations, or marked exhaustion of the patient The author adds that evidence is obtainable from the literature as to the endocrinological significance of thymophysin which supports the view that thymus extract exerts a modifying influence upon the action of pituitary extract on the uterine musculature

529 The Pharmacology of Bromine Oils

C S SMITH and HELEN L WIKOFF (*Journ Lab and Clin Med*, October 1930 p 43) point out that not only have iodized oils been used in spinal, cisternal, and ventricular injections, but also in the diagnosis of thoracic disorders Their use, however is not without contraindications, Nichols particularly mentions in this connexion hypothyroidism idiopathic susceptibility to iodine and pulmonary tuberculosis These iodized oils usually also possess a higher viscosity and are less stable to heat than the corresponding bromine preparations In using oils containing bromine the possibility of inducing bromism must not be forgotten A series of experiments are recorded by the authors in which brominized esters of the fatty acids derived from cotton seed oil, and brominized sesame oil were administered to rabbits intratracheally and intraperitoneally The former were found to be the best for radiological work from both an economical and a chemical standpoint The oil was eliminated from the site of injection in these animals within a week Repeated doses of these esters produced no deleterious effects In another paper (ibid, p 36) Helen Wikoff describes the preparation and properties of some bromine oils and esters

530 Auto Immunization in Psoriasis

H S CAMPBELL and K FROST (*Arch Derm and Syph*, October 1930, p 685) in a preliminary report describe a new form of therapy for psoriasis—namely, intramuscular injections of a suspension in alcohol of the patient's own finely ground psoriatic scales, a suspension of approximately 0 2 gram of the scales to 20 c cm pure alcohol was used The doses ranged from 1 to 4 c cm the average being 1 5 c.cm, they were given at intervals of three or four days A series of fifteen patients was so treated and all responded but in varying degrees there was no untoward reaction, the objective changes being common to all though the duration of the reaction varied fairly widely The changes noted were thinning of the scales which became less adherent a gradual pealing of the centres of the lesions and a final stage of smooth slightly discoloured areas corresponding to the original lesion A few discrete psoriatic papules remained at the margin but they eventually disappeared It was noticed that between the first and second stages the scraping test was not followed by as free bleeding as that normally obtained although not constant, this was observed sufficiently regularly to be considered worthy of noting

Neurology and Psychology.

531 Psychoneurosis

DEFINING diseases in which the predominant cause is disturbance of the mind L K LUNT (*New England Journ of Med*, August 14th 1930 p 301) describes the psychoses as deviating more seriously from the normal, the patients being less able to undertake consistently the responsibilities of life The psychoneuroses, in which the mental function is less seriously involved are separable into four groups, according to the predominant symptoms Thus when the symptoms are essentially physical the psychoneurosis is of the neurasthenic type, when they are primarily disturbances of thoughts and feelings (obsessive fears and doubts) it is of the psychasthenic type closely related is the anxiety neurosis where excessive unreasonable fears and apprehensions predominate the fourth group includes hysteria with its manifold symptomatology The frequent attitude of both the laity and medical profession to this class of patients is deprecated It is pointed out that these conditions are true illnesses and that the symptoms are real and not imaginary When the diagnosis of a neurosis is made some emotional cause must be sought The case must be approached without antipathy or prejudice the patient must be given a sympathetic hearing and be encouraged to discuss his troubles The three main causes of most of the malfunctioning are fear the mating impulse and self assertion The main line of therapy is held by Lunt to be reorganization, which consists in persistently stimulating the patient to discard fallacious beliefs and in teaching him to respond more effectually Other factors in treatment are a detailed arrangement of daily activities balanced between work, not too much rest, appropriate exercise, and recreation An adequate diet must be maintained and medicine used only when really needed G P REYNOLDS (ibid, p 312) believes that the treatment of psychoneurosis is fundamentally based on explaining to the patient the evolution of his nervous symptoms from their original sources These sources are described as sexual disturbances fatigue neuroses unstable nervous equilibrium, environment, and physical disability Three points are emphasized by Reynolds for successful treatment the etiological factors must be carefully investigated in most cases some physical abnormality will be found to contribute to the neurosis the family doctor ought to be the best fitted to treat the case

532. Neurological Electro surgery

L DAVIS and B M GROSS (*Amer Journ Surg*, August 1930, p 207) record their experience in the use of electro-surgery, not only as a means of perfecting haemostasis in intracranial operations, but also as a direct aid in the treatment of certain types of lesions The meningiomas are most favourable for treatment because of their benign nature, even though they may attain enormous size and occur in situations difficult of access conditions resulting hitherto in their having been regarded as inoperable Gliomas, which constitute 42 per cent of all intracranial tumours, are more difficult to treat because of their gelatinous soft and spongy nature, but the removal of the block of cerebral tissue including the tumour is rendered easier by the coagulation of the cortical and subcortical vessels, so that the operation can be conducted in a comparatively avascular field In combination with the use of silver clips and suction apparatus, electro-surgery affords an additional means of keeping the plane of dissection dry although it is of little use in soft gelatinous tumour tissue, its addition to technique enables subcortical gliomas to be removed more radically and with greater safety Notes of cases are given illustrating the use of the method in coagulating surface vessels with a ball electrode, incising the cortex with a flat blade electrode, and piecemeal removal of the tumour with a loop electrode The authors conclude that with improved developments in its use electro-surgery will become the most valuable contribution to the surgery of the nervous system It does not as yet supersede the established principles of osteoplastic surgery, but it is of greatest use at present in the removal of meningiomas, particularly those relatively inaccessible

533. Etiology of General Paralysis of the Insane.

T D POWER (*Journ Mental Science*, July, 1930, p 524) remarks that no disease has a single cause and all manifestations which constitute disease are the result of a disturbance of equilibrium between the human organism and its environment Many factors play a part in producing this disharmony each varying in importance in different cases The author cites illustrations of the complex factors in the causation of diseases of microbic origin He considers that the soil is as important as the seed, and that in etiological studies the question of individual susceptibility should be considered The problems concerning the causation of general paralysis are approached along these lines The importance of psychopathic heredity in this disease, especially since the introduction of the Wassermann test has not received due attention Bolton found evidence of heredity in 81 9 per cent of seventy two general paralytics, he commented on the pathological similarity between general paralysis and senile dementia, and concluded that the ordinary sane person, the ordinary psychopath or potential lunatic if possessed of cortical neurones of average durability, might suffer from syphilis with impunity as regards the future onset of dementia paralytica By analogy with other mental disorders, Power reasons that the stock of the paretic is as important as that of the ordinary mental patient The syphilitic origin of general paralysis of the insane is undoubtedly established, but in most cases the early syphilitic signs are either very slight or totally absent These changes and the cerebrospinal fluid are briefly discussed. Power believes that the influence of alcoholism in the causation of dementia paralytica must not be ignored, and suggests that when the two toxins of syphilis and alcohol are acting simultaneously on the nervous system the one will reinforce the effects of the other and hasten the degenerative process The employment of arsenobenzol preparations in the treatment of syphilis has apparently only slightly reduced the incidence of general paralysis, and the author believes that such preparations are positively harmful in the treatment of so-called parasyphilitic diseases of the nervous system unless they are combined with some form of pyrexial therapy In conclusion, the questions are reviewed of the possible change in clinical character of dementia paralytica and of the duration of life in treated and untreated cases

Obstetrics and Gynaecology.

534 Radiography in Obstetrics and Gynaecology

J JARCHO (*Med Journ and Record*, October 15th, 1930, p 395) advocates the combined method of pneumo peritoneum and utero salpingography for the accurate determining of the contour, position, and size of the uterus, tubes, and ovaries, precise information with regard to neoplasms may often be similarly obtained. Following the investigation, patients should be kept in hospital for twenty four hours, since, especially in those receiving more than 1,000 c cm of gas, some shoulder pain and abdominal discomfort may result The author uses a combination of pneumo peritoneum with the subsequent injection of opaque iodized oil when additional information unobtainable by either method alone is needed, he has devised an apparatus—the pressometer with mano meter attachment—for the introduction of air or opaque media into the uterus, bladder, or kidneys A siphonometer of the Machlett type can be attached to it for the perabdominal or transuterine introduction of oxygen or CO_2 By such means normal and abnormal conditions of the pelvic viscera can be mapped out, and the inside and outside of the uterus be outlined, neoplasms of the uterus and adnexa are often clearly visible, and the diagnosis is thus rendered more precise The radiograms frequently indicate the existence of previously unsuspected conditions, and on several occasions bilateral ovarian cysts have been discovered when pelvic examination by experts had only suggested the existence of one Strict asepsis is necessary. The procedure can be carried out either by a radiologist or a gynaecologist, but preferably by both in co operation

535 Episiotomy

R A D GILLIS (*Amer Journ Surg*, September, 1930, p 520) discusses the advantages of episiotomy as a means of pre serving the pelvic floor during labour, he describes a simple method of suture resulting in primary healing with a satis factory end result in 500 consecutive cases Median episi otomy is preferable in the majority of cases because the incision passes through stronger structures, relieves the tension symmetrically, and is more satisfactory as regards reconstruction The wound is usually sutured immediately after delivery, while the patient is still anaesthetized and before the separation of the placenta, the later delivery of which produces no ill effects The introitus is retracted on either side, two or three twenty day catgut sutures are inserted deeply at right angles to the course of the muscle fibres and fascial planes to include the severed attachments of the levator bundles with the fascia and urogenital trigone These are clamped, while the vaginal mucosa is closed with interrupted or submucous catgut sutures to include the fascial plane beneath the mucosa, after this the deep sutures are tied, and the skin and superficial muscles and fascia are closed with interrupted silkworm gut There were only six infected wounds (1 2 per cent), and apparently there is no increase in the morbidity or risk of delivery That ordinary attempts to guard the perineum and prevent lacerations are inadequate is borne out by the large number of women who later require repair for injuries at childbirth, the opera tion of median or lateral episiotomy is advocated for their prevention

536 Intestinal Obstruction associated with Salpingitis

M R KAUFMANN (*Am Gynecol*, October, 1930, p 603) has collected nine cases in which intestinal obstruction was associated with a primary salpingitis, although the records of such cases are rare, such an association has been com mented upon by surgeons from time to time When this combination of circumstances does occur Kaufmann states that the syndrome is typical Anatomically, the peritubal peritonitis gives rise to an occlusion of the bowel by means of an inflammatory block This occlusion has to be dis tinguished from the paralytic one of pelvic peritonitis It is a subacute obstruction brought about by a salpingitis of moderate volume but of gradual increase in size The obstruction is mechanical and inflammatory Often the zone of adhesion is large, and there is a compact mass of inflammation which is beyond the possibility of operation The infection is always septic Predominating symptoms are ballooning of the abdomen, peristalsis, and repeated vomiting The intoxication has general symptoms which are recognizable as such Treatment resolves itself into a con sideration of the relative merits of such simple procedures as enterostomy, entero anastomosis, or iliac anus Simple laparotomy alone has proved successful, and hysterectomy which appears theoretically logical has had disastrous results The mortality is high, in general, it appears better to avoid touching the tubal mass The intoxication should be treated by intravenous saline injections

Pathology.

537 Bactericidal Action of Serous Fluids in Tuberculosis

P COURMONT and H GARDERIN (*Journ de Méd de Lyon*, October 20th, 1930, p 605) published in 1927 researches on the bactericidal action of the pleural fluid on tubercle bacilli. They now report the results of similar researches in the case of blood serum obtained from tuberculous patients For a long time this potentiality of blood serum has been recognized as an important factor in the defence of the organism against infection, but its study was retarded by the technical diffi culties attending the culture of tubercle bacilli in solid or liquid media The present authors have experimented with sero fibrinous pleural effusions, the blood plasma of tuberculous patients, and with normal serums from various animal species A culture of human tubercle bacilli is added to a series of tubes of broth containing progressively increas ing quantities of the serum to be tested A small quantity of serum only inhibits the bacillary growth for a certain time, larger doses of serum kill the bacilli This bactericidal power was found to be unaffected by a temperature of 132 F for half an hour, and it disappears only slowly as the age of the serum increases These characteristics differentiate the substance concerned from alexine, which is thermolabile and disappears rapidly from serums in a few days Filtra tion through Chamberland bougies (L3 and L5) reduces the bactericidal power by approximately one half. The authors classify cases in accordance with the bactericidal potency of their serums, they give details of 101 cases, and sum marize their conclusions as follows In tuberculous sero fibrinous pleurisies the fluid is usually strongly bactericidal, especially in favourable cases, in the graver cases this power is feeble The serum of tuberculous patients possesses a similar bactericidal power in varying degree, when it is strong a favourable progress is justifiable because clinical recovery often ensues When the bactericidal power is weak, however, the prognosis must be grave, the mortality being about 50 per cent There is therefore an evident correlation between a high bactericidal power and a favour able progress in cases of human tuberculosis, a very im portant practical point in prognosis Bactericidal power was found to exist normally in the serum of the majority of species of mammalia observed, but in greatly varying degree It is feeble among many susceptible species and very high among more resistant species such as the horse Thus this bactericidal activity appears to play a very important part in the defence of the organism against the tubercle bacillus. The active agent is very resistant to physical conditions and is thermostabile, it certainly differs from the alexine of the serum, exhibiting its effects *in vitro*, independently of the latter.

538 Liver Function Tests.

IN an organ with so many important functions as the liver the devising of satisfactory functional tests is difficult, since disturbance of one function may cause no interference with others The hepatic cells are not highly specialized, and each is apparently capable of performing many functions, much destruction of liver tissue can occur without seriously im pairing the functional integrity of the organ G M PIERSON (*Canadian Med Assoc. Journ.*, October, 1930, p 524) agrees with many other workers that most liver tests are of little value, he has found from experience with a large group of patients with various disorders that the following are the three most practical and clinically useful procedures the reten tion of bromsulphalein, the estimation of the serum bilirubin, particularly the determination of the icterus index, and the occurrence of urobilinogen in the urine The first named test is not an early indication of liver dysfunction When the retention occurs other tests are also positive, and no marked degree of retention was noted when the ordinary clinical evidences of liver disease were absent Serum bilirubin estimation is a more useful test, since it frequently indicates the presence of a latent icterus before liver disorders can be clinically recognized An increase in the urobilinogen was found to be the most delicate test of impaired function. Urobilinogen is increased even when damage to the liver parenchyma is very slight, and is permanently increased so long as any residual hepatitis remains It was the only positive test in certain cases in which liver disease was suspected but could not be proved clinically Pierson states that in all focal hepatic lesions, especially those with the biliary obstruction, functional tests yield no useful informa tion They are, however, of some aid in differentiating the various types of jaundice and in the diffuse hepatic disturb ances in which, by their means, the extent and duration of the liver damage can be estimated with some degree of accuracy, they are undoubtedly of prognostic value

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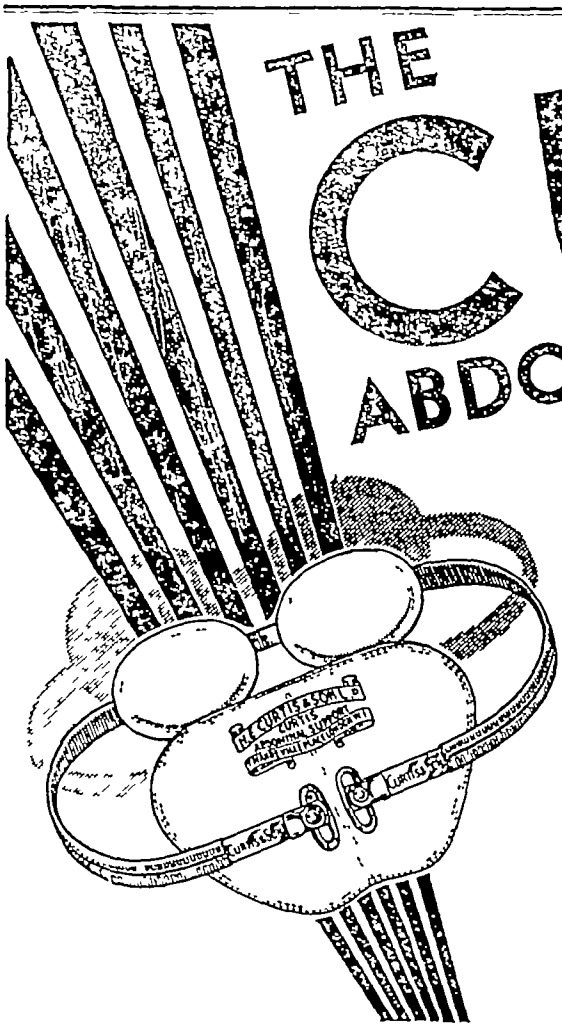
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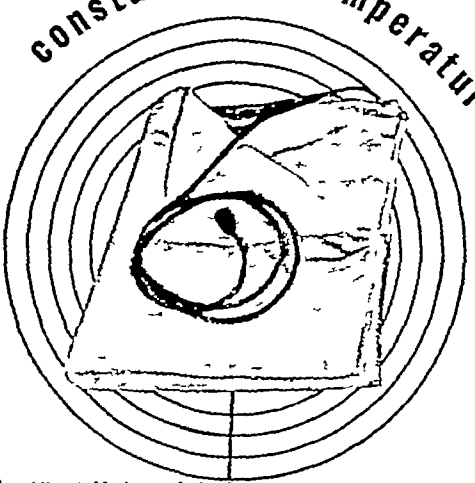
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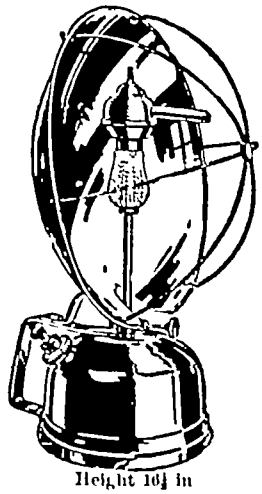
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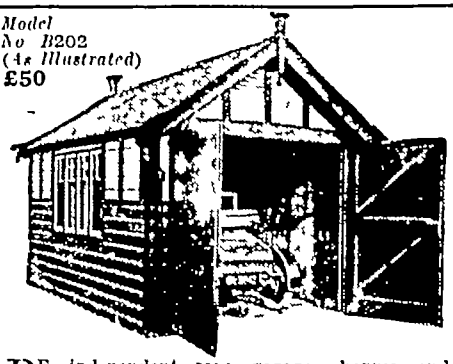
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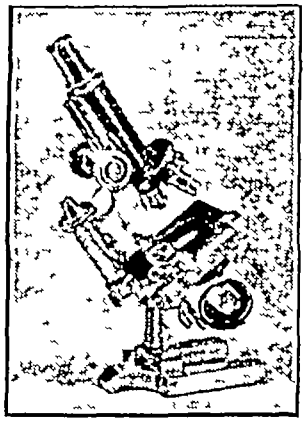
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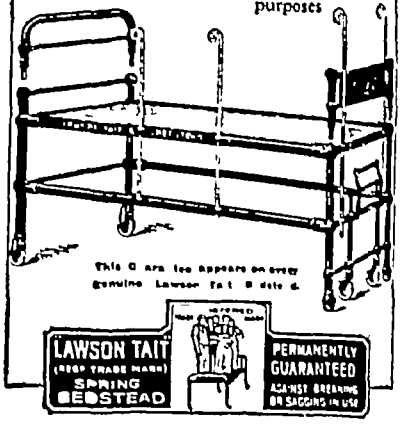
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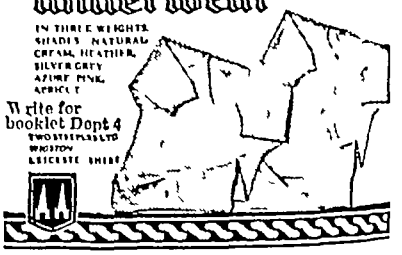
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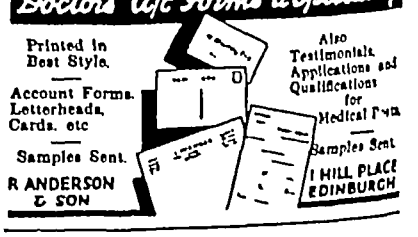
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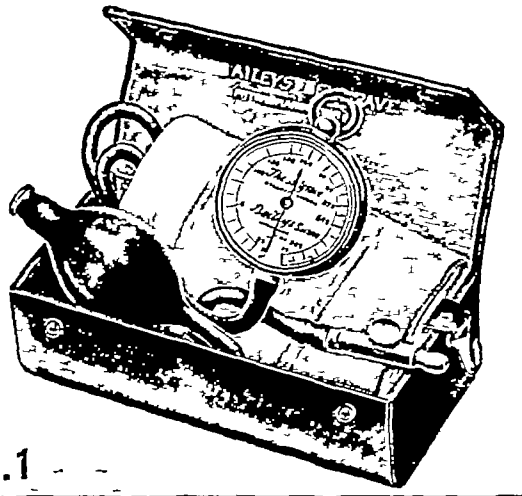
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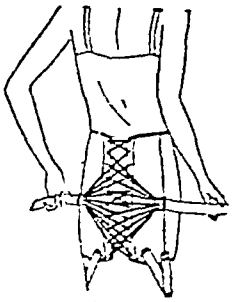
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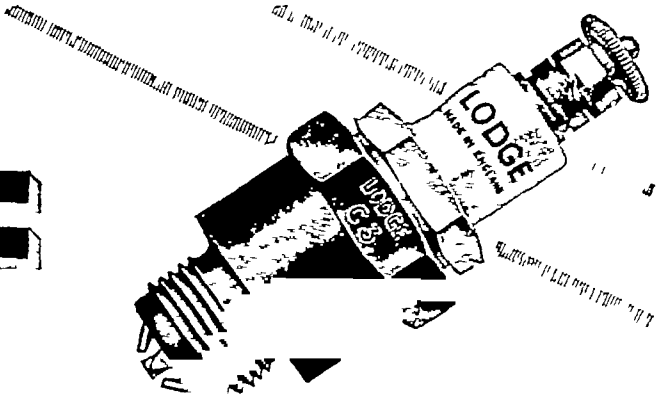
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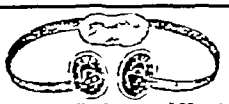
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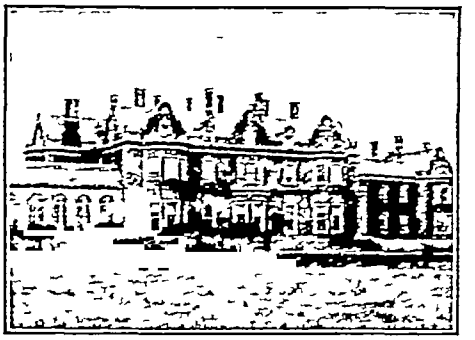
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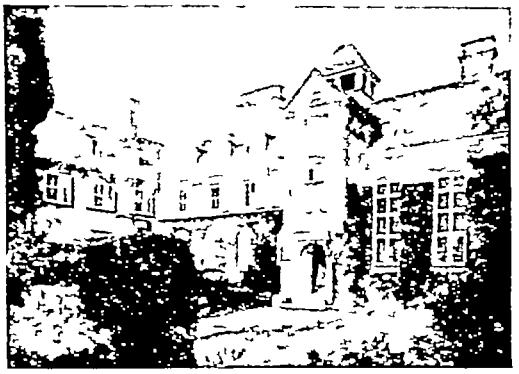
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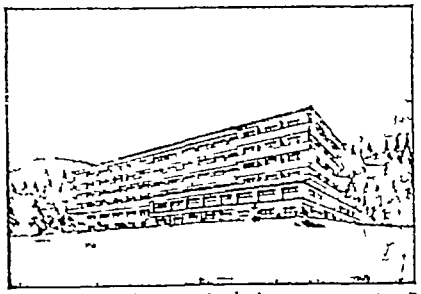
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(100 Beds)
Orford Road, Walthamstow, E 7

RESIDENT HOUSE SURGEON (male) required Salary £100 per annum, with board quarters, and laundry Appointment for six months (to date from January 1st, 1931) Applications stating age, nationality qualifications, and experience, accompanied by copies of not more than three recent testimonials, should be sent immediately to the Secretary

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY The Institution, which contains over 100 beds is one of the premier provincial hospitals in Scotland and offers exceptional opportunities of gaining experience in all branches of the profession Salary at the rate of £100 per annum, rising to £150 per annum
Applications with testimonials to be forwarded to the Treasurer Dumfries & Galloway Royal Infirmary 84, Irish Street, Dumfries, at once

City of Leeds

MEDICAL SUPERINTENDENT—KILLINGBECK SANATORIUM

Applications are invited from qualified and registered Medical Practitioners for the post of Medical Superintendent of the City of Leeds Sanatorium Killingbeck (220 beds)
Candidates must be Graduates of a British University or Members of the Royal College of Physicians of England They must either—
(a) Have held prior to April 1st 1930 the appointment of Medical Superintendent of a Sanatorium or Tuberculosis Hospital with the approval of the Minister of Health or
(b) Have had the following Post graduate experience
(1) At least three years in Medical and Surgical practice
(2) Not less than eighteen months in general clinical work, of which not less than six months must have been served in a hospital as resident officer in charge of beds occupied by general medical or surgical cases, and
(3) Not less than six months special training in the diagnosis and treatment of tuberculosis
Salary (inclusive of emoluments) £850 rising by biennial increments of £50 to £1 062 10s
The person appointed will be required to pass a medical examination and to contribute to the Superannuation Fund established under the Local Government and Other Officers Superannuation Act, 1922 He will also be required to enter into an agreement of service with the Corporation terminable by three months notice on either side
Form of application and particulars as to the duties of the appointment may be obtained from the Medical Officer of Health 12, Market Buildings Vicar Lane Leeds
Applications endorsed Medical Superintendent together with copies of three recent testimonials must be delivered at my office 26 Great George Street Leeds not later than the first post on Saturday January 3rd 1931
THOS THORNTON, Town Clerk.

Essex County Council

MALE ASSISTANT COUNTY MEDICAL OFFICER OF HEALTH

The County Council of the Administrative County of Essex invite applications for the above post from registered Medical Practitioners specially qualified in the treatment of Tuberculosis holding a Diploma of Public Health, and not over 45 years of age
Preference will be given to candidates who have had at least three years experience in Public Health work subsequent to their medical qualification The commencing salary will be from £500 to £600 per annum according to experience, and an allowance for travelling will be made
The person appointed will be required to pass a medical examination and to contribute 5 per cent of his salary to the fund established under the Local Government and Other Officers Superannuation Act 1922 The person appointed will also be required to devote his whole time to the service of the Council, and to perform such duties and to furnish such advice and assistance appertaining to his office as may be required and to reside in such district of the County as the Council may decide The appointment will be subject to three months notice on either side
Applications on the prescribed form obtained from the undersigned and accompanied by copies of not more than three testimonials which will not be returned should be addressed to me and delivered at the Shire Hall Chelmsford, not later than 10 a.m on Friday, December 19th
JOHN H COOLD
Shire Hall, Chelmsford Clerk of the County Council
December 2nd 1930

Warwickshire and Coventry

JOINT COMMITTEE FOR TUBERCULOSIS

KING EDWARD VII MEMORIAL SANATORIUM HERTFORD HILL, near WARWICK

Applications are invited from duly registered Medical Practitioners (male) for the post of MEDICAL OFFICER at the above Sanatorium which contains 100 beds for the treatment of all stages of pulmonary tuberculosis Salary £275 per annum with board lodging and laundry Appointment tenable for six months
Applications together with copies of testimonials should reach the undersigned by December 23rd
CORYDON BUDD
Medical Superintendent

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service. In other respects the terms will be as detailed below.

Candidates must be British subjects under 32 years of age at the time of application and must be registered under the Medical Acts in force in Great Britain and Northern Ireland.

CAREERS

The Indian Medical Service offers wide opportunities of medical experience including clinical preventive specialist and research work. At the beginning of his career an officer is employed on the military side which has medical charge of the Indian Army. Promotion is on a time scale up to the rank of Lieutenant-Colonel and by selection to the ranks of Colonel and Major-General. An officer may apply after one year's Indian service to have his name registered for transfer to the civil side from which appointments are made to Civil Surgeoncies which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes; to specialist (for example public health and bacteriological) services; to research posts and to professorships at the Medical Schools.

PAY

The monthly rates of pay for European officers in the Service who have a non-Asiatic domicile are as follows:

Rank.	Service in Rank.	Basic Pay	Overseas Pay	Years of Total Service
1	2	3	4	5
		Rs.	Rs.	
Lieut.	—	500	150 150 150	1st 2nd 3rd
Capt.	(i) During first 3 years' service as Captain	650	150 £15 £15	4th th 6th
	(ii) With more than 3 and less than 6 yrs. service as Captain	750	£25 £25 £25	th 8th 9th
	(iii) With more than 6 years' service as Captain	850	£25 £25 £30	10th 11th 12th
Major	(i) During first 3 years' service as Major	900		
	(ii) With more than 3 and less than 6 years' service as Major	1100		
	(iii) With more than 6 years' service as Major	1250		
Lieut.-Col.	(i) Until completion of 23 years total service	1500	£30	13th and over
	(ii) During 24th and 25th years' service	1600		
	(iii) After completion of 25 years total service	1 00		
	(iv) When selected for increased pay	18 0		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service. Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service.

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer or in a position usually filled by an officer may be counted as service for increments of pay, promotion, retirement and retired pay but not for gratuity.

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only.

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions. Past service in certain hospital appointments may also render candidates eligible for an antedate of one year. Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year. The maximum period of antedate secondment or antedate and second ment combined admissible under this paragraph is limited to one year.

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50.

PRIVATE PRACTICE

With the exception of Administrative Officers military or civil and officers holding certain special appointments officers are *not debarred from taking private practice* so long as it does not interfere with their proper duties.

LEAVE

Leave can be taken at reasonable intervals and adequate rates of leave pay are provided. Extra leave (known as study leave) which may not exceed 12 months in all during an officer's service may be granted to officers desirous of pursuing special courses of study of a post-graduate nature. During such leave study allowance at present fixed at the rate of 12s. a day in the United Kingdom £1 a day on the Continent of Europe and £1 10s. a day in the United States of America is granted to an officer in addition to ordinary rate of leave pay.

PENSIONS

The rates of pension are as follows	Per annum
	£
After 17 years' service for pension	400
„ 18 „	430
„ 19 „	460
„ 20 „	500
„ 21 „	540
„ 22 „	580
„ 23 „	620
„ 24 „	660
„ 25 „	700
„ 26 „	750
„ 27 „	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent. in all the revision being undertaken triennially. With effect from July 1st 1930 a reduction of 5½ per cent. has been made on this account from the amounts shown.

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments.

PASSAGES.

An officer on appointment is provided with free passage to India. The wives and families of officers who are married prior to the date of the officer's embarkation on first appointment will also be provided with free passage to India subject to the payment of messing charges.

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service.

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot lasting approximately six months prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S.W.1. The Selection Committee will meet at the India Office early in January next and the selected candidates will be required to join a course of instruction commencing early in February 1931 prior to sailing for India in the Autumn of 1931. Applications should be submitted as soon as possible.

Manchester Royal Infirmary

CENTRAL BRANCH ROBY STREET, MANCHESTER

JUNIOR HOUSE SURGEON AND CASUALTY OFFICER (Lady)

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment

Applicants must be registered and hold a Medical and Surgical qualification

The appointment is tenable for twelve months commencing January 12th 1931 four months as Junior at £100 per annum four months as Assistant at £100 per annum and four months as Senior at £200 per annum together with board and allowance for laundry

Applicants must state age and qualifications and send twelve copies of their application and testimonials to the undersigned by 9 a.m on Thursday, January 1st 1931

By Order
FRANK G HAZELL
Gen Supt & Secretary

Manchester Royal Infirmary

ASSISTANT RESIDENT SURGICAL OFFICER

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment which will become vacant on January 1st, 1931

Applicants must hold a Medical and Surgical qualification and be registered

The appointment is for six months, renewable for a further period of six months subject to the provisions of the By laws as to notice

Salary is at the rate of £150 per annum, with allowance for laundry

Applicants must state age and send twelve copies of their application and testimonials to the undersigned on or before 9 a m on Friday, December 19th

By Order,
FRANK G HAZELL
Gen Supt & Secretary

Leicester Royal Infirmary

HONORARY PHYSICIAN

A vacancy for an Honorary Physician will arise in March 1931 consequent upon the retirement under the Rules of the Senior Physician Applications are invited for the post Candidates eligible must have held a position on the Honorary Assistant Staff of Leicester Royal Infirmary

The present Senior Honorary Assistant Physician is a candidate

HONORARY ASSISTANT PHYSICIAN

On the first mentioned vacancy being filled by the election of an Honorary Assistant Physician there will be a vacancy for an Honorary Assistant Physician Candidates must be Graduates in Medicine of one of the Universities of the United Kingdom or Ireland, and duly registered Fifty guineas annually is at present granted by the Board for out of pocket expenses Applications (in the latter case accompanied by 100 copies of recent testimonials) to reach the undersigned by January 14th 1931 The appointment will be made on January 21st

Canvassing is not allowed

HARRY JOHNSON
Dec 6th 1930 House Cov & Secretary

Leicester Royal Infirmary

HOUSE PHYSICIAN

A vacancy will arise in January for a Resident House Physician Applicants should have held a resident Hospital post or possess similar experience of Hospital work Salary at the rate of £125 per annum Appointment to March 31st 1931 at the end of which time the holder may be elected for a further period of six months

Applications to the House Governor and Secretary

December 6th 1930

Metropolitan Hospital,

Kingsland Road E 8

The Committee of Management are prepared to receive applications for the appointment of an ASSISTANT MEDICAL OFFICER to the X ray and Electrical Department (Male)

Candidates must possess a registered Medical and Surgical qualification of the United kingdom and must in addition hold the Diploma of Medical Radiology and Electrology

Candidates will be required to call upon Members of the Staff

Twenty applications complete with copies of recent testimonials must reach the undersigned (from whom further particulars may be obtained) not later than first post on Monday December 29th

HERBERT F RUTHERFORD
Secretary & House Governor

Harton Hospital, South Shields

X RAY AND U V R OPERATOR (Non Resident) (Male or Female)

The Public Assistance Committee invite applications for the appointment of X ray and U V R Operator (non resident) at their Harton Hospital Salary £250 per annum

Applicants must hold the certificate of the Society of Radiographers or have had good X ray experience The person appointed will be in charge of the X ray Massage and Artificial Sunlight Departments Preference will be given to applicants holding the certificate of the Chartered Society of Massage and Medical Gymnastics

Forms of application may be had from the undersigned, to whom they should be returned, completed, in candidate's own handwriting, by not later than the 19th instant

Public Assistance Department, Barrington Street South Shields. Dec 2nd 1930

T J COATS,
Public Assistance Officer

Derbyshire Royal Infirmary

APPOINTMENT OF NON RESIDENT RADIOLOGIST

Applications are invited from duly qualified and registered Medical Practitioners for the appointment of Non Resident Radiologist to the Derbyshire Royal Infirmary Honorarium £100 per annum Candidates will be required to take charge of the X ray Department including Deep X ray Therapy The appointment is subject to such regulations as the Board may from time to time determine Applications must be received by the undersigned not later than Thursday January 8th 1931

WALTER BANKS
December 1st 1930 Supt & Secretary

Mansfield and District Hospital

The Board of Management of the above Hospital (140 beds) invite applications for the post of HOUSE SURGEON AND CASUALTY OFFICER (male)

Salary at the rate of £175 per annum, with residence, board and laundry

The appointment is for six months and is renewable

Duties to commence on January 9th, 1931

The Resident Staff consists of a Resident Surgical Officer and two House Surgeons

Applications accompanied by not more than three recent testimonials to be sent to the undersigned

Dated this 2nd day of December 1930

ARTHUR H LIMB Secretary

Jersey General Hospital and Poor Law Infirmary

RESIDENT MEDICAL OFFICER

Applications are invited for the above post (male) Applicants must be duly qualified Practitioners in Medicine and Surgery Salary £200 per annum with board, residence in the Hospital and laundry

The appointment is for one year, and is renewable Applications with testimonials must be sent in on or before Saturday, December 27th addressed to the undersigned from whom further particulars may be obtained

P BUZZEVAL Secretary

The Marie Curie Hospital

(For Radium Treatment of Cancer in Women)

Applications are invited for the post of RESIDENT MEDICAL OFFICER (Woman) at the above Hospital of 30 beds Salary at the rate of £100 a year with board, residence, and laundry

The appointment will be for a period of six months in the first instance starting early in January 1931

Applications with copies of three recent testimonials to be sent to the Secretary, The Marie Curie Hospital 2 Fitzjohn's Avenue London N W 3, not later than Saturday December 20th

Royal Sussex County Hospital,

BRIGHTON (238 Beds)

CASUALTY HOUSE SURGEON (male) required about the middle of January next

Salary £120 per annum, with board residence and laundry

Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts They must be unmarried, and when elected under 30 years of age

Applications with copies of recent testimonials, should be sent to the undersigned not later than December 29th

L L W LANCASTER CAVE,
Secretary Superintendent

Bristol General Hospital

The Committee invites applications for the following appointments which become vacant on February 1st next

Two HOUSE PHYSICIANS, Two HOUSE SURGEONS, RESIDENT OBSTETRIC OFFICER, HOUSE SURGEON to the Special Departments, and a CASUALTY HOUSE SURGEON

The appointments will be for six months at salaries at the rate of £80 per annum and at the rate of £100 per annum for the Casualty House Surgeon, and, in the event of reappointments being held at the rate of £120 per annum in each case with board residence etc provided in the Hospital

Candidates must be registered under the Medical Acts and produce testimonials of good personal character and ability and must have had recent experience in the administration of anæsthetics

Forms of application etc, to be obtained from the Secretary, must be returned completed with copies of testimonials addressed to the undersigned, on or before Monday January 5th 1931, from whom further particulars may be obtained

THOMAS W GREGG, Secretary

All Saints' Hospital (for Genito-Urinary Diseases)

In patient Dept 91 Finchley Road N W 1
Out patient Dept and Secretary's Office 49/55, Vauxhall Bridge Road, S.W 1

HOUSE SURGEON (male) required on January 1st, 1931, for period of three months as Junior House Surgeon (non resident), followed subject to the approval of the Board of Management by a period of three months as Senior House Surgeon (Resident) Salary will be at the rate of £160 per annum with board and laundry during the resident period The duties of the non resident House Surgeon consist of attendance at the Out patient Department every afternoon and three evenings weekly

Applications stating age qualifications experience and enclosing copies of recent testimonials should reach me not later than December 17th

D H LADE, Secretary

Aberdeen Royal Infirmary

OPHTHALMIC SURGEON

The Board of Directors invite applications for the following appointment to the Honorary Staff—viz JUNIOR ASSISTANT OPHTHALMIC SURGEON

Each candidate should submit a full statement of his qualifications and experience and three recent testimonials Two copies of each should be lodged with the Acting Clerk and Treasurer Aberdeen Royal Infirmary 220 Union Street Aberdeen, not later than December 24th

Ancoats Hospital, Manchester

HOUSE SURGEON required (male) for General Surgery and Ear Nose and Throat Department to commence duty on January 1st 1931 for six months Salary at the rate of £100 per annum

Applications stating age qualifications previous experience if any to be forwarded together with copies of three recent testimonials on or before December 17th next, to the undersigned

By Order of the Board
HERBERT J DAFFORNE
Gen Supt & Secretary

The Children's Hospital,

SUNDERLAND (70 Beds)

Wanted immediately, HOUSE SURGEON (male) also HOUSE PHYSICIAN (female) at end of January Candidates must possess double qualifications (registered) Salary in each case £100 per annum with board residence and laundry The appointments are for six months

Applications stating age, with copies of three recent testimonials, to be sent to the undersigned

S C FRYERS
House Governor & Secretary

The Guest Hospital, Dudley

(General Hospital—104 Beds Shortly to be increased to 125)

Applications are invited for the post of HOUSE SURGEON to commence duties January 15th 1931 Salary £170 per annum with furnished apartments board and laundry Candidates must be fully qualified and registered Applications stating age, qualifications and experience and accompanied by copies of testimonials to be sent to the undersigned

H RAYMOND HURST
Secretary

The Guest Hospital
Dudley December 4th 1930

Hull Royal Infirmary
(270 Beds)

Applications are invited for the following post (all male)

1 SECOND HOUSE SURGEON vacant January 1st 1931
2. HOUSE SURGEON to Ophthalmic and Ear Nose and Throat Department vacant January 1st 1931
3. CASUALTY HOUSE SURGEON vacant January 1st 1931
4 THIRD HOUSE SURGEON vacant January 31st 1931

Salaries £150 per annum for posts Nos 1 2, and 4 Salary £130 per annum for post No 3. Plus residence board and laundry in all cases

The appointment will be for six months in the first instance and will be determinable by one month's notice on either side

The Hospital is recognized for the surgical hospital practice required of candidates admissible to the Examination for the Fellowship of the Royal College of Surgeons

Application with copies of testimonials should be sent to the undersigned on or before December 23rd

R J CARLESS
December 8th 1930 House Governor

Hull Royal Infirmary
SUTTON BRANCH

The above Branch will be opened in February next and will be a self-contained modern General Hospital of 100 beds There will be Two Resident posts

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum plus board residence and laundry The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Application stating age qualification and nationality and with copies of testimonials should be sent to the undersigned.

R J CARLESS
November 22nd 1930 House Governor

Hull Royal Infirmary
(270 Beds.)

Applications are invited for the post of HOUSE SURGEON (male) to the Ophthalmic and Ear Nose and Throat Department vacant December 31st

Salary £150 per annum plus board residence and laundry

The appointment will be for six months in the first instance and will be terminable by one month's notice on either side

Application with copies of testimonial should be sent to the undersigned on or before December 17th.

R J CARLESS
Dec 1st 1930 House Governor

Harrogate Infirmary

Application are invited from British subject (male) for the posts of SENIOR and JUNIOR HOUSE SURGEONS for the period commencing January 1st 1931 and terminating August 1st 1931 Salary at the rate of £150 and £125 per annum respectively with board and lodging Applications to be made on official form to be had from the undersigned should be sent in immediately The Junior House Surgeon is a candidate for the Senior post

GEO BALLANTYNE.
The Infirmary Secretary

Royal Berkshire Hospital,
READING (243 Bed)

Wanted on January 9th 1931 ONE HOUSE PHYSICIAN ONE HOUSE SURGEON and ONE CASUALTY OFFICER (male)

Candidates must be fully qualified and registered The appointment are for six months and the salaries are at the rate of £150 per annum with board residence and laundry

Applications with copies of testimonials should be addressed to the undersigned on or before December 16th

F A LYON
December 13th 1930 Secretary

Sutton and Cheam Hospital,
SUTTON SURREY

There is a vacancy for an HONORARY ACTING SURGEON on the Staff of this Hospital

Applicants must be registered Medical Practitioners residing and practising either in Sutton or in immediate neighbourhood

Application to be sent to the Secretary of the Hospital

Darlington General Hospital

The Committee of the General Hospital Darlington invite applications for the post of ASSISTANT HONORARY SURGEON

The successful candidate must be on the Medical Register and be a Fellow of one of the Royal Colleges of Surgeons of the United Kingdom or a Master of Surgery of a University of the United Kingdom Also for a HONORARY PHYSICIAN who must also be a Medical Registrant and be a Graduate in Medicine of a University of the United Kingdom or a Fellow or Member of a Royal College of Physicians of the United Kingdom

Junior members of the staff are eligible for the post

Application with all particulars to be addressed to the undersigned

A RIDDLE, Secretary

Darlington General Hospital
(120 Beds)

Wanted HOUSE SURGEON male or female fully qualified British Salary £150 per annum with board residence and laundry Special Departments—Eye Ear Nose and Throat Orthopaedic Maternity Ultra violet rays. Applications, stating age experience qualifications together with copies of two recent testimonials to be addressed to me forthwith.

A RIDDLE Secretary

Manfield Orthopaedic Hospital,
NORTHAMPTON (128 Bed)

The Board of Management invite application for the post of RESIDENT MEDICAL OFFICER Commencing salary £250 per annum together with board residence and laundry

Applicants must be duly qualified registered and unmarried. Previous Hospital experience essential and a knowledge of Orthopaedics desirable

Application stating age qualifications and experience with copies of three recent testimonial to be sent to the undersigned not later than Friday December 19th

H G LEWIS
Secretary Superintendent

Victoria Hospital, Blackpool
(132 Bed)

HOUSE SURGEON (Junior) male or female *six month* Salary £150 per annum with residence board and washing Commence duties January 1st 1931 Eligible to apply for senior post at the end of six months at a salary of £250 per annum Applicant (who must be duly qualified and registered) are requested to send in their application stating age qualification and experience with three recent testimonial endorsed House Surgeon to—

JOHN HACKING Hon Secretary

Walsall General Hospital

The Committee invite applications from men for the post of HOUSE SURGEON Salary £150 per annum Candidates who must be registered under the Medical Act must produce three recent testimonial The appointment will be for six months The Hospital contains 100 beds and is equipped in all Special Department

Applications stating age qualification and nationality must be received by the undersigned immediately

WALTER FRANCOMBE
December 7th 1930 Secretary

West Herts Hospital,
HEMEL HEMPSTEAD HERTS
(24 miles from Euston)

Applications are invited for the appointment of a SENIOR RESIDENT MEDICAL OFFICER to commence duties on January 1st 1931 Salary £150 with room board and laundry There are 110 beds.

Particulars to be obtained of and applications stating essential particulars and enclosing copies of recent testimonials to be sent at once to—

ROBT L BUTTERFIELD
Clerk to the Hospital

Hospital of St John and
ST ELIZABETH
60 Grove End Road N W 8

There is a vacancy for a GYNAECOLOGICAL SURGEON with charge of bed Applications with copies of three recent testimonials should be sent to the undersigned at the Hospital on or before Tuesday 30th inst All further particulars may be obtained from the Secretary

F DUDLEY HOBBS B.A.,
Secretary

Weston-super-Mare General
HOSPITAL (80 Beds.)

HOUSE SURGEON

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months Salary at the rate of £150 per annum with board, rooms, and laundry Duties to commence January 1st next.

Application stating age and qualifications and enclosing copies of testimonials should be addressed to the undersigned

LESLIE J FURSLAND
Secretary

Liverpool Sanatorium,
DELAMERE FOREST FRODSHAM

The Committee invite applications for the post of ASSISTANT to the Medical Superintendent at the Sanatorium (175 beds) at a salary of £250 per annum with board and residence

Candidates must be fully qualified

Application with copies of three recent testimonials to be sent in sealed envelopes marked Medical not later than January 3rd 1931 to the Medical Superintendent Liverpool Sanatorium Delamere Forest Frodsham

Central Hospital, Plymouth
(50 Bed)

Application are invited for the post of HOUSE SURGEON (male or female) which becomes vacant on January 1st 1931

The appointment is for six months but may be renewed for a further six months Salary £130 per annum with board residence etc

Applications stating age and qualification together with three recent testimonials should be sent to the undersigned not later than December 20th

WM W URELL, Secretary

St Mark's Hospital for Cancer,
FISTULA AND OTHER DISEASES
OF THE RECTUM
City Road London E.C 1

HOUSE SURGEON (male) required Must be fully qualified Salary £75 per annum with board residence and laundry The appointment is for a minimum of six months

Applications with copies of testimonial must reach the Secretary (from whom further particulars may be obtained) not later than 10 a m Saturday January 3rd 1931

The Hospital for Sick Children,
NEWCASTLE-UPON-TYNE. (92 Beds.)

Applications are invited for a JUNIOR HOUSE SURGEON (male or female) to commence duties forthwith until March 31st 1931 Salary at the rate of £100 per annum Application stating age and qualification with copies of testimonial to be sent to the Secretary Mr NEIL BRODIE, 18 City Road Newcastle.

Birkenhead General Hospital
(156 Beds.)

SENIOR HOUSE SURGEON (gentleman) wanted immediately Salary £150 with board residence

Applications stating qualifications experience and nationality with three testimonials to be sent to the undersigned as early as possible

W H DANIELS A C I S
Secretary Superintendent

Mercer's Hospital, Dublin

The Governors invite applications from fully qualified Practitioners for the vacant post of HONORARY ASSISTANT VISITING SURGEON also for the post of HONORARY JUNIOR ANAESTHETIST

Applications will be received up to and including January 1st 1931

By Order of the Board
HENRY D JURY Registrar

Tiverton Hospital, Devon

Applications are invited for the post of HOUSE SURGEON Salary £100 per annum with board, residence and laundry Six months' appointment commencing as early in January as possible

Application with testimonials to be sent to the undersigned.

C H DEEKS
Hon Secretary

City and County of Bristol

HORTHAM COLONY FOR MENTAL DEFECTIVES

APPOINTMENT OF MEDICAL SUPERINTENDENT

The Corporation of Bristol invite applications from registered Medical Practitioners to act as Medical Superintendent at Hortham Colony for Mental Defectives now in course of erection, and to carry out such other duties under the Mental Deficiency Acts and otherwise as the Corporation may from time to time require

The person appointed will be required to devote the whole of his time to his duties and will not be allowed to engage in private practice

The appointment will be subject to three months notice on either side and to the provisions of the Local Government and Other Officers Superannuation Act 1922 for which purpose the successful candidate will be required to pass a medical examination

Salary will be £700 to £1 000 per annum, rising by yearly increments of £25, and unfurnished house

Forms of application with further particulars can be obtained from and must be delivered to the undersigned at the address given below not later than Saturday, January 3rd 1931

Canvassing will be a disqualification

The Council House, Bristol — JOSIAH GREEN Town Clerk

Salford Royal Hospital

(263 Beds)

Applications are invited for the post of CASUALTY HOUSE SURGEON (male)

Salary at the rate of £125 per annum

The appointment is for a period of six months from January 1st 1931, with board and residence

Candidates must be registered under the Medical Acts

The Hospital has the approval of the Royal College of Surgeons of England and appointments here are recognised for the English Fellowship (Final)

Forms of application which may be obtained from the undersigned, must be delivered without delay

By order of the Board
GEORGE RUDDLF
General Superintendent and Secretary
Salford Royal Hospital
December 10th 1930

Weymouth and District

HOSPITAL WEYMOUTH
(86 Beds and Cots)

Wanted HOUSE SURGEON fully qualified male (European) for January 1st 1931 Salary £180 per annum with board residence, and laundry

Applications stating age qualifications and copies of testimonials should be sent to the undersigned not later than December 17th

MORRIS LODGE
Hon Secretary

The Sheffield Royal Hospital

Required OPHTHALMIC HOUSE SURGEON also RESIDENT ANAESTHETIST to commence duties at once (males) Salary for the first six months at the rate of £80 per annum, after which £100 per annum with board residence and laundry There are twelve Resident Medical Officers

Applications should be forwarded at once to—
W H BOOTH
Superintendent and Secretary

Pontefract General Infirmary

Wanted HOUSE SURGEON (male) January 1st 1931 Work largely surgical 60 beds 1929 30 in patients 1 175 Major operations over 500 a year Salary £150 with board apartments and laundry

Applications stating age and qualifications and three copies of recent testimonials should be addressed to HERBERT HOLMES Secretary, Ropergate Pontefract

The Royal Waterloo Hospital

FOR CHILDREN AND WOMEN
Waterloo Road S E.1

There will be a vacancy on January 1st 1931 for a HOUSE SURGEON (male) at this Hospital The appointment is in the first instance for a period of six months Salary at the rate of £100 per annum with board and residence Application with copies of testimonials should be forwarded not later than Tuesday December 16th to the Secretary at the above address from whom further particulars can be obtained

Cumberland and Westmorland

MENTAL HOSPITAL
GARLANDS CARLISLE

JUNIOR ASSISTANT MEDICAL OFFICER required

Applicants must be registered Practitioners male unmarried not over 30 Salary £350 per annum rising by annual increments of £25 per annum to £450, together with the usual emoluments at present valued for the purpose of the A O S at £100 per annum £50 additional will be given on obtaining the D P M (facilities for study leave with a view to obtaining the D P M are granted on recommendation of the Medical Superintendent)

The appointment to be subject to two months notice on either side The successful candidate must be free to take up duty on January 23rd 1931 Applications stating age, qualifications religion, etc, together with copies of three recent testimonials to reach the undersigned not later than December 18th

THE MEDICAL SUPERINTENDENT

Bradford Children's Hospital,

HONORARY SURGEON

The Board of Management invite applications for the post of Honorary Surgeon Candidates are required to be Fellows of either the College of Surgeons of England or of Edinburgh, and must undertake to practise Surgery only The candidate appointed Assistant Honorary Surgeon at the *Royal Infirmary, Bradford* is eligible to hold both posts concurrently

Applications, with certificate of registration and copies of not more than three recent testimonials, should reach the undersigned not later than mid day, Tuesday, December 23rd

J W LONGLEY,
Secretary Superintendent

The Royal Infirmary, Bradford

HONORARY ASSISTANT SURGEON

Applications are invited for the post of Honorary Assistant Surgeon to the above-named General Hospital

Candidates must possess the Fellowship of one of the Royal Colleges of Surgeons and undertake to practise purely as a Consulting Surgeon

Candidates also applying for the post of Honorary Surgeon to the Children's Hospital Bradford will if elected be eligible to hold both appointments concurrently

Applications with certificate of registration and copies of not more than three recent testimonials should reach the undersigned not later than mid-day on Tuesday December 23rd

J T BARRON,
Secretary Superintendent

The Institute of Ray Therapy,

152—154, Camden Road N W 1

A RESIDENT MEDICAL OFFICER is required on January 12th, 1931 The duties will include assisting in the treatment and in the collection of clinical data for purposes of research

The appointment is for six months and is eminently suitable for a man reading for a higher examination Honorarium at the rate of £150 per annum, with board, residence and laundry Experience in light treatment is not essential but applicants must have held a resident appointment at a General Hospital

Application, together with copies of three testimonials must be sent not later than Monday December 29th 1930 to the Hon Secretary at the above address

Huddersfield Royal Infirmary

(200 Beds.)

Male HOUSE SURGEON required to commence duty January 1st 1931 Salary £150 per annum with board residence, and laundry Appointment terminates June 30th 1931 but is subject to renewal for further three or six months

Applications with copy testimonials to be addressed to the Secretary not later than December 18th

Swansea General and Eye Hospital

HOUSE PHYSICIAN wanted gentleman single Salary £150 per annum with board residence and laundry Duties to commence January 1st 1931

Applications stating age nationality qualifications, and experience together with copies of three recent testimonials to be forwarded to the undersigned

O C HOWELLS
Secretary Superintendent

The Hospital for Sick Children

Great Ormond Street London W C 1

A PART TIME JUNIOR CASUALTY OFFICER is required on January 9th 1931 to assist in the Casualty Department from 10 a m to 3 p m (Saturdays 10 a m to 1 p m) under the direction of the Casualty Officer

The work of this officer includes a large number of Tonsillectomies and other operations

Candidates must be registered Medical Practitioners, and have held a responsible House appointment

Gentlemen are invited to send in their applications, addressed to the Secretary before o clock on Monday January 5th 1931 accompanied by copies of not more than two testimonials written specially for the purpose

The appointment is made for six months is non resident.

Salary at the rate of £150 per annum with luncheon

All candidates must be in attendance to appear before the Joint Committee, if required at their meeting on Wednesday, January 7th 1931 at 4 45 p m precisely

Forms of application and copies of the Rules may be obtained from the Secretary, at the Hospital

By order of the Board of Management,
JAMES MCKAY, Secretary

December, 1930

Derby County Mental Hospital,

MICKLEOVER near DERBY

JUNIOR ASSISTANT MEDICAL OFFICER required. Applicants must be registered Practitioners male not more than 30 years of age unmarried and resident in the Hospital Salary £350 per annum rising by annual increments of £25 to £450 per annum with emoluments (board lodging washing and attendance) £50 per annum additional will be given to the holder of the D P M The appointment is subject to the provisions of the Asylums Officers Superannuation Act 1909 Preference will be given to applicants who have held a resident appointment in a General Hospital Forms of application and particulars can be obtained from the Medical Superintendent and should be returned not later than December 31st.

Swansea County Borough

LADY ASSISTANT MEDICAL OFFICER.

The Swansea Borough Council invite applications from duly qualified and experienced Women Medical Practitioners for the post of Assistant Medical Officer to assist with the medical services of the Corporation. Hospital *Resident and special experience* in diseases of women (ante natal and obstetrics) and of children school medical service work are desirable qualifications Salary £600 per annum Form of application and list of duties can be obtained from Dr THOMAS EVANS M.D. Officer of Health Public Health Office Swansea Applications must be received not later than January 2nd, 1931

Royal South Hants and

SOUTHAMPTON HOSPITAL,
SOUTHAMPTON

Applications are invited for the following Resident appointments, which will fall vacant at the end of the year

One SENIOR HOUSE SURGEON £ per annum Twelve months engagement

One HOUSE PHYSICIAN £180 per annum Six months engagement

Two ASSISTANT HOUSE SURGEONS £1 per annum Six months engagement

All with full board lodging and laundry

Applications together with not more than three testimonials should be sent to the undersigned as soon as possible

HY TRUSSON, Secretary

South London Hospital

WOMEN
South Side, Clapham Common S W 4

The Board of Management invite applications from fully qualified Medical Women for undermentioned appointments

THREE HOUSE SURGEONS Each for period of six months from February 1st Salary at the rate of £100 per annum with board residence, and laundry Candidates are expected to call on Members of the Hon Medical Staff before Saturday December 20th for particulars to be obtained from the Secretary at the Hospital to whom applications and copies of testimonials should be forwarded before December 22nd.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	PLYMOUTH EDUCATION AUTHORITY *(Deputy Assistant Medical Officer)*
LOWESTOFT MEDICAL INSTITUTE. *(Sole Medical Officer)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE, PENYGRAIG GLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Wyndham Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B M A House Tavistock Square W C 1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch, Savings Bank Building 21 Elizabeth St. Sydney N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch B.M.A. House, 207, North Terrace, Adelaide.	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr. G. F. V. ANSON (Hon. Sec. New Zealand Branch British Medical Association, P.O. Box 156 Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec., Queensland Branch) British Medical Association B.M.A. Building Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr. J. P. Major (Hon. Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon. Sec. Western Australian Branch British Medical Association No. 6 Bank of N.S.W. Chambers St. George's Terr. Perth Western Australia.

December 10th 1930 By Order of the Council ALFRED COX Medical Secretary

The Royal Infirmary, Sheffield
(500 Beds)

The Weekly Board of Management invite applications for the undermentioned posts
HOUSE PHYSICIAN
HOUSE SURGEON
ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON
ASSISTANT CASUALTY OFFICER
The appointment will be tenable for six months from January 1st 1931. The salary attached to each post is £80 per annum, rising after six months' service to £100 per annum together with board and residence.
Application together with copies of testimonial to be sent to the undersigned immediately.
JNO. W. BARNES F.C.I.S.,
Board Room, Gen. Supt. & Secretary.
November 27th 1930.

The Royal Infirmary, Sheffield
(500 Beds)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON.
The salary attached to the appointment is at the rate of £80 per annum for the first six months and £100 per annum afterwards.
There are 68 ophthalmic beds and the post offers exceptional opportunities of gaining experience in ophthalmology.
Applications with copies of testimonials to be sent to the undersigned forthwith.
JNO. W. BARNES F.C.I.S.
Board Room, Gen. Supt. and Secretary.
November 17th 1930.

King George Hospital, Ilford

Applications are invited for the appointment of HONORARY PHYSICIAN to the Hospital from gentlemen who are Fellows or Members of the Royal College of Physicians. Further particulars may be obtained from the undersigned, to whom applications should be sent not later than December 20th.
G. AUSTIN HEPWORTH,
Secretary.

District Infirmary, ASHTON UNDER LYNE.

HONORARY MEDICAL STAFF

The Governor invite applications from Medical Practitioners residing in the district for the post of HONORARY ASSISTANT PATHOLOGIST.
Information as to the duties may be obtained from the undersigned to whom applications should be sent immediately.
FRANK OLIVER,
Dec. 3rd 1930. Gen. Supt. & Secretary.

Croydon General Hospital

A vacancy occurs on the Staff of the above Hospital for an HONORARY PHYSICIAN to the Department for the Diseases of Children and candidates for the appointment are requested to forward their application together with statements of their qualifications and experience to me on or before Monday January 5th 1931 with copies of three testimonial.
GEORGE H. DAMS,
December 6th 1930. Secretary.

Durham County Hospital
(75 Beds)

Two MALE HOUSE SURGEONS required to commence duty in January. Salary £160 per annum with board and lodging.
Applications with copies only of testimonials stating age and when at liberty to be sent to 79 Saddler Street, Durham.
WM. R. WILSON,
Secretary.

Free Eye Hospital, Southampton

The Committee require the services of a duly qualified HOUSE SURGEON to commence duties on Monday January 12th, 1931. Salary £150 per annum with board residence and laundry. Applicants must have had post-graduate experience in Ophthalmology. Applications with three recent testimonials to reach the Secretary by Monday December 29th 1930.

Royal Devon and Exeter HOSPITAL, EXETER

PATHOLOGICAL DEPARTMENT

Application are invited for the post of Pathologist shortly becoming vacant at this Hospital.
Value of the appointment is £500 per annum. The Pathologist will be paid by the Hospital. The appointed officer will be allowed to engage in private practice. The Hospital taking a certain percentage of the fees.
Full particulars may be obtained from the undersigned.
Application together with certificates of birth and registration and original testimonial with twelve copies should be delivered to the undersigned not later than Wednesday December 31st.
S. S. COLE,
Secretary & Manager.
N.B.—Canvassing of any Members of the Elective Committee is forbidden by the Rules of the Hospital.

St. Peter's Hospital for Stone, ETC.
Henrietta Street, Covent Garden W.C.2.

CLINICAL ASSISTANTS are required by the following members of the Honorary Staff who attend the Out patient Department as indicated:

Mr. Swift Joly	Mondays 2 to 5 p.m.
Mr. Clifford Morson	Saturdays 2 to 7 p.m.
Mr. Barrington	Tuesdays 2 to 5 p.m. Thursdays 3 to 7 p.m.
Mr. Ogier Ward	Wednesdays 3 to 6 p.m. Fridays 2 to 5 p.m. (Women and Children)
Mr. Alban Andrews	Mondays 5 to 7 p.m. Fridays 5 to 7 p.m.

Appointments are made for six months from January 1st, 1931 a fee of five guineas being payable to the Hospital.
Application will be received by the undersigned up to the first post on Tuesday December 16th, 1930.
BEECHEY POGERS, Secretary.

(Appointments continued on p. 54.)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE
TAVISTOCK SQ LONDON W.C.1
T/A ARTICULATE, WESTCENT, LONDON
Tel MUSEUM 9861 (4 lines).

SMALL ADVERTISEMENT RATES

Up to Six Lines (32 Words) 9s
Each Additional Line, 1s 6d
(a line averages 5 words)
Address must be paid for

All advertisements should reach the above address by not later than first post TUESDAY preceding publication

ASSISTANCIES

Wanted — An Assistant in a Colliery Practice in Glamorgan Salary to commence at £350 per annum with furnished rooms light attendance etc—Address stating age references, etc No 8473 B M A House Tavistock Square W C 1

Wanted — Assistantship, outdoor South West or South London preferred Experienced Hospital, panel private practice Aged 31 Excellent testimonials Interview Locums or part time considered—No 8475 B M A House, Tavistock Sq W C 1

Wanted, January 1st, outdoor ASSISTANT, Central London English man or Scot only Interview essential Usual salary and bond Panel and middle-class Practice congenial in type Prospects for suit man —No 8520, B M A House, Tavistock Sq W C 1

Wanted on January 1st —Young Welshman as ASSISTANT North Wales Excellent experience Prospects for keen man Reply stating age and essential particulars —Address No 8488, B M A House, Tavistock Square W C 1

Wanted — Assistant, single, male, for Midlands about January 17th with or without view Used to panel and private practice Salary commencing £350 p a furnished rooms, light, and attendance Usual bond — Address No 8483 B M A House, Tavistock Square W C 1

Wanted — Assistantship or LOCUM, by M B B Ch woman three years experience in private and panel practice Used to sole charge Now free in London — Address No 8470, B M A House, Tavistock Square, W C 1

Wanted —Assistant, with view early Partnership residential suburb S London under 30 yrs Share offered approx £1 000 net Scotsman preferred Full capital not essential Must be capable and energetic — No 8484 B M A House Tavistock Sq, W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male) for Town and Country Practices with and without view Good salaries State full particulars— BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Wanted — Indoor Assistant, in sound private Practice preferably with experience in Eye work Small panel no midwifery motor car Usual bond State essential parties and give height Photo (returnable)— No 8479 B M A House Tavistock Sq, W C 1

Wanted, January 1st, Assistant, with view to Partnership Salary £300, Indoor Share worth £700 at 2 years purchase later Pleasant district South West Coast.— Address No 8458 B M A. House, Tavistock Square W C 1.

Wanted — Outdoor Assistant (married) aged about 30 with definite view to Partnership English or Scotch Good house available State full particulars — BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

Wanted — Assistant, outdoor, male, single for pleasant country Practice in North of England State age nationality, and other particulars — Address No 8463, B M A House, Tavistock Sq W C 1

Wanted at once, indoor Assistant, ANT, man, unmarried, for country Practice in Yorkshire With view Photograph testimonials and essential particulars — Address No 8460, B M A House Tavistock Sq, W C 1

Wanted —Indoor male Assistant in Liverpool panel Practice Start January 1st Salary £300, more later Prospects — Address No 8471, B M A House Tavistock Square W C 1

Wanted —Indoor male Assistant, single English or Scotch for private and panel Practice near Manchester Salary £300 State full particulars — Address No 8454, B M A House, Tavistock Sq W C 1

Wanted — Male Assistant (recently qualified) for mixed Practice in Midland City, immediately State essential particulars—Address No 8469 B M A House Tavistock Square, W C 1

Assistant, indoor, single, wanted at once for industrial area in Staffordshire Must have some panel experience Salary £300 Usual bond All particulars in first letter please —Address No 8474, B M A House Tavistock Square, W C 1

Assistant wanted, male, well qualified 30 abstainer preferably unmarried with view Good class private Practice with surgery Hospital town Outdoor Salary according to experience —Address No 8209 B M A House Tavistock Square W C 1

Assistant, indoor, male, required for January 1st, 1931 for industrial and panel Practice in Yorkshire East Riding Salary £300 or more to suitable man —Address, No 8255, B M A House Tavistock Sq W C 1

Assistantship wanted by M B B Ch B A O (N U Irel 1923) act 30 single Experienced in C P Excellent refs Own car Free — Address No 8481, B M A House Tavistock Square, W C 1

Pathological and Bacteriological LABORATORY ASSISTANTS ASSOCIATION iologists require LABORATORY mmunicate with H Cooding Hon Sec Moelfre 10 Holbeck Grove Victoria Park Manchester No fees

Temporary Assistantship or PART TIME WORK wanted by F R C S aged 29 Hospital and C P experience Preferably near London — Address No 8455, B M A House, Tavistock Square, W C 1

Well - qualified Assistant, view early Partnership experienced Refraction ist preferred, in Practice worth £3 600 Panel and appointments £2 000 House available —Address No 8467, B M A House, Tavistock Square, W C 1

Woman Doctor, M B, wishes ASSISTANTSHIP, outdoor or part time Prefers London especially S W Experienced private and panel Reliable, aet. 29 Five years experience Free now —Address No 8478, B M A House, Tavistock Square W C 1

PARTNERSHIPS

Wanted — Partnership or ASSISTANTSHIP with view in mixed Practice preferably near London by Woman M B, B S Lond ex Sen R M O, C O, H P, and H S exper Obstet and Gynae and Anaes, No 8486 B M A House, Tavistock Sq W C 1

Manchester residential suburb — HALF SHARE PARTNERSHIP with view to early Succession Receipts £1 800, with much scope for increase House available Price 2 years' purchase part deferred —MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6, Brown Street

M B, F R C S E, aged [illegible] desires PARTNERSHIP in good Practice Share £1,200 to £1 500 Prospect of Hospital appointment essential — Address 8468, B M A House, Tavistock Square W C

Middlesex — Third Share in disposal of mixed-class PRACTICE [illegible] receipts £2 100 increasing rapidly [illegible] 1,400 Accommodation available Premises required about £1,400 — Apply PERCY HADLEY Ltd, 19 Craven Street Strand W C

Partner wanted in good Practice in excellent country [illegible] near Shrewsbury, good panel and appointments, average income over £1,500 [illegible] available for letting or purchase Half Share of Practice for sale—Write giving qualifications and essential particulars to HARCOTT & ECCLESTON, Solicitors 40 High Whitchurch, Salop

Partnership, Half Share, offered to a suitable man in a prosperous country Practice Audited accounts for nearly £2 000 for 1929 Two years purchase Age 30-40 Personal interview preferred references and photograph Excellent [illegible] —No 8461 B M A House Tavistock Sq W C 1

Partnership urgently required by M R C S, L R C P with large experience of general practice, Anaesthetist late staff of two Hospitals. London, suburban Home Counties preferred. Share not less £750 — Address, No 8480 B M A House Tavistock Square W C 1

Partnership —Half Share, owing to ill health Far West and Wales Practice worth £1 500 Possible success six months Hon appointment with Practice Exceptional scope — Terms apply J E I STICKARY Solicitor, 37, Seale Lane Hull

Partnership, West Riding — Average receipts three years over £4 000 Panel nearly 3 000 Rent of house £5 p.a. Premium 1/4 share £1 000 — Apply REYNOLDS & BRANSON, Ltd Brigade [illegible]

Yorkshire (W R) —Partnership in good Practice Income £4 [illegible] Panel 2 841 Good house to rent at £5 p.a. Premium—1/4 share—£1 150 for quick [illegible] —BRITISH MEDICAL BUREAU 33 Cross St Manchester

LOCUMS

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER, Ltd The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals 4, ADAM ST, Strand, London, W C 2
Teleg Epsomian Lond Phone Temple Bar 9211
After Office Hours Epsom 9147

Wanted by retired Medical Officer M B Ch B, D T M LOCUM SHORT ASSISTANTSHIP—Address No [illegible] B M A House, Tavistock Square W C 1

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM GRANT)
WATERGATE HOUSE, 15 YORK BUILDINGS ADELPHI W C 2
Tel TEMPLE BAR 1 [illegible] RIVERSIDE 1 [illegible] (Night Calls)
Telegrams REASIDE TUBERCLE WESTRAND, LOND

MEDICAL POSTS DISPENSERS etc.

Wanted — Country Doctor to take gentleman CHAUFFEUR (no licence) live in Farms, etc— W Kent Cottage Cowden, Kent

A Lady Dispenser-Bookkeeper supplied immediately on request [illegible] fied and with practical experience in [illegible] practice and dispensary work also trained Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations—Write with [illegible] phone (Park 0969) Secretary 7 Wellington Park Road, W 2.

Bacteriologist (trained) wanted to ASSIST in laboratories with RESEARCH WORK Part time post Salary £5 per week Interview by arrangement —Address No. 8259 B.M.A House Tavistock Square W C 1.

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers Secretary-Dispensers Nurse-Dispensers and Chauffeuse-Dispensers.—Write wire or phone Central 3679 THE RELIANCE BUREAU FOR DISPENSERS 12 Holborn Viaduct, E.C 1

Doctor highly recommends Lady DISPENSER Quick accurate punctilious knowledge of bookkeeping —Address No. 8477 B.M.A House Tavistock Square W C 1

Doctors requiring qualified Dispensers Nurse-Dispensers Secretary Dispensers or Chauffeuse-Dispensers are invited to write, wire or phone Temple Bar 6658 THE DISPENSERS BUREAU 16 Lindsay House 171 Shaftesbury Avenue London W C 2.

Expert Microscopist, with 12 years experience in teaching of Histology and Pathology desires work as DRAUGHTSMAN in connection with illustration of text books monographs, etc. Museum specimens also undertaken Samples of work forwarded on request. — Address No 8253 B.M.A House Tavistock Square W.C.1

Lady, young, educated, desires position as PRIVATE SECRETARY to Doctor in West End. Qualified Queen's College Harley Street W —Address No 8285 B.M.A. House Tavistock Square W C 1

Nurse - Receptionist, knowledge of secretarial work requires POST London area, with Consultant or Dentist disengaged end of December Nearly 3 years reference —Address No. 8472 B.M.A House, Tavistock Square W.C.1

The Royal Army Medical Corps ASSOCIATION 85 Eccleston Square S W 1 (Telephone Victoria 2722) supplies qualified Dispensers Bookkeepers Laboratory Assistants Sanitary Assistants Male Nurses Mental and Special Treatment Orderlies Dental Clerk Orderlies Porters Caretakers etc. without charge to prospective employers

The services of a young Medical Practitioner are required as a REPRESENTATIVE to further the use of a well known scientific product. State age and experience. —Address No 8462 B.M.A House, Tavistock Square W C 1

Typewriting —Expert undertakes Theses Testimonials etc. Numerous letters of appreciation from Doctors.—BEATRICE RADFORD 341 Finchley Road N.W.3. Phone Hampstead 6430 (any hour)

PRACTICES

Wanted — Panel and private PRACTICE or PARTNERSHIP £800—£1 200 town or country house to rent preferred by middle-aged Practitioner South of England —Address No 8482 B.M.A. House, Tavistock Square W C 1

Wanted — Practice or Partnership in S W England producing £1 000—£1 500 by ex H S H P aged 28 Country town with Hospital preferred — Address No. 8175 B.M.A House Tavistock Square W.C.1

Wanted —Practice, with large panel in London Income about £1 800 or over Ample capital (cash). Replies in confidence — Address No 8485 B.M.A House Tavistock Square W C 1

Cheshire Town, near Manchester —Average cash receipts £838 Panel 800 Much scope Good house 2 reception 6 bedrooms Garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Death Vacancy Practice, Lancashire town. Receipts £820 per annum Number on panel 1 000 Well-established. House can be rented. PRACTICE for disposal near Blackburn Receipts £1 150 per annum Number on panel 1 257 House for sale—For further particulars apply Messrs R. SUMNER & Co Ltd. Manufacturing Chemists 40 Hanover Street Liverpool.

Death Vacancy —Lancs Town — Average cash receipts £848 p.a. Panel 1 003 Scope Excellent house 2 reception 4 bedrooms. Garage and large garden Rent £65 p.a. Premium 1 years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

East of Scotland University Town —Good middle-class PRACTICE with substantial panel for sale. Seller's dwelling house may also be acquired. It is a substantial detached house in excellent condition —Address No. 8487 B.M.A. House Tavistock Sq W C 1

For Disposal —A good Practice is not always to be had directly but Mr PERCIVAL TURNER can generally offer applicants something suitable. Nearly all the best Practices are sold by him without being advertised. Inform free on applic.—4 Adam St W C 2

For Sale with preliminary Assistantship —Rapidly increasing middle class PRACTICE averaging over £2,000 p.a. (1930 over £2.200) One appointment £150 possibly transferable. Panel over 2 000 Prem £3 000 cash, following 6 months assistantship indoors at £300 p.a. to start Jan 1st 1931 —No. 8280 B.M.A House Tavistock Sq W C 1

F R C S E, aged 35, desires to purchase PRACTICE with income about £2,000 Moderate panel large house scope for surgery and educational facilities essential No agents — Address No. 8271 B.M.A House Tavistock Square W C 1

Isle of Man — Seaside Town — Old-estab PRACTICE. Receipts average £946 (including £350 p.a from panel). Semi detached house 3 reception 4 bedrooms Garden Good schools. Premium—Practice and house—any reasonable offer —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Lancs Town —Near Manchester —Average cash receipts £751 Panel 430 Much scope. Excellent house to rent 6 bed rooms large garden and garage. Premium for quick sale £500 —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

Liverpool (near) — Old-estab Middle-class PRACTICE. Cash receipts 1929 £1 431 Excellent corner house 2 reception 5 bedrooms Garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

London, E — Mixed Panel and Private PRACTICE in residential district. Cash receipts last year £570 Much scope. Good house 4 bedrooms Rent £30 p.a. on long lease Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street Manchester

London, W — Old-established panel and private PRACTICE. Average cash receipts £1 600 p.a. Panel 1 400 Attractive detached house on lease — Address No. 8452, B.M.A House Tavistock Square W C 1.

Manchester — Industrial Practice. Average cash receipts £978 Panel 721 Plenty of scope Good house 2 reception 5 bedrooms. Rent £50 p.a. Premium 1½ years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Manchester —Old-established — Nice house gardens £50 Receipts (including panel £135) over £600 Great scope Price £1,000 or near offer (to include fittings drugs linoleum coverings and good debts £600) part deferred. — MANCHESTER MEDICAL & SCHOLASTIC ASSOC. 6 Brown St.

M B (Edin) desires Practice or PARTNERSHIP London or suburbs or Southern Counties. Some panel. Income £1 000—£1 500 Cash available. Aged 40 single Experienced general practice.—Address No 8476 B.M.A. House Tavistock Sq W C 1

Midland Town —Old-established PRACTICE. Receipts £900 p.a. including panel 600 Good house long lease Rent £70 Long introduction if desired. Premium 2 years purchase payable £800 down First year's income £900 guaranteed — Apply PEACOCK & HADLEY Ltd., 19 Craven Street, Strand W.C.2.

Near Leeds — Industrial Town PRACTICE. Average cash receipts £1,220 Panel 1 350 Local Hospital. Good house 2 reception 3 bedrooms Premium—Practice—1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

North-West Coast — Old-estab mixed PRACTICE. Cash receipts 1929 £1 129 Panel 580 Good scope. Easily worked. Good house 3 reception 5 bedrooms Garage and garden Premium—Practice—1 years purchase.—BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Practice wanted with good panel In ome from £1,100 up Ample capital available — Address No. 8456 B.M.A House, Tavistock Square, W C 1

Scotland —26 miles from Edinburgh.—Industrial PRACTICE. Cash receipts last year £1 016 Panel 1 094 House to rent at £28 p.a. Premium £1,500 — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

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A STANLEY BRUNT
Dec 1st, 1930 Gen Supt & Sec

Royal Northern Infirmary, INVERNESS (150 Beds)

HOUSE PHYSICIAN wanted to commence duties on February 1st 1931 The appointment is for six months Salary is at the rate of £100 a year, with board, residence, and washing

Applications stating age qualifications, with copies of recent testimonials should be sent not later than January 6th, 1931 to ROBERT GILBERT, Hon Secretary, 20 Church Street Inverness

South London Hospital for WOMEN South Side, Clapham Common S W 4

The Board of Management invite applications from Medical Women for the appointment of ASSISTANT SURGEON to the Ear, Nose and Throat Department of the Hospital

Candidates must be Fellows of the Royal College of Surgeons England, or obtain the Fellowship within three years from the date of appointment

Further particulars may be obtained from the Secretary

Applications with copies of testimonials, must reach the Secretary at the Hospital not later than the first post on Monday Jan 5th, 1931

National Hospital, Queen Sq, For the Relief and Cure of Diseases of the Nervous System including Paralysis and Epilepsy

HONORARY ASSISTANT SURGEON

The Board of Management invite applications from Fellows of the Royal College of Surgeons for the post of Honorary Assistant Surgeon

Applications should be sent to the undersigned on or before January 5th 1931 The rules of the appointment will be forwarded on request

CODFREY H HAMILTON
National Hospital, Queen Sq, London, W C 1 Secretary

National Hospital, Queen Sq, For the Relief and Cure of Diseases of the Nervous System including Paralysis and Epilepsy

HONORARY SURGICAL ASSISTANT

The Board of Management invite applications from Fellows of the Royal College of Surgeons for the appointment of Honorary Surgical Assistant The post is tenable for one year and the holder is eligible for re-election for a second year

Applications should be sent to the undersigned on or before January 5th 1931 The rules of the appointment will be forwarded on request

CODFREY H HAMILTON
National Hospital Secretary
Queen Square, London W C 1

Poplar Hospital for Accidents, East India Dock Road, E.14

Applications are invited for the post of SENIOR RESIDENT OFFICER Salary £200 per annum all found plus fees, £40 per annum as ANAESTHETIST to Dental Clinic for L C C School Children Appointment for 12 months Applicants must be Fellows of the Royal College of Surgeons Post offers considerable scope for surgical practice Applications stating age qualifications and enclosing copies of three recent testimonials to be sent to the undersigned on or *before* Thursday January 1st, 1931

D H LINDSAY
House Governor & Secretary

Hospital of St John and ST ELIZABETH 60 Grove End Road N W 8

Applications are invited for the post of RADIOLOGIST Applications with copies of three recent testimonials should be sent to the undersigned at the Hospital on or before 5th inst Further particulars may be obtained from the Secretary

F DUDLEY HOBBS B A
Secretary

Applications are invited from Medical Women for the [illegible] to the TOUCHBOROUGH WELFARE CLINIC Remuneration 1½ guineas per session

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2 LONDON, W — Partnership in Practice about £2 000 p a in suburban area Panel about 1 650 Well situated house (6 bedrooms) garage and small garden, to rent Scope Premium two-fifth share 2 years purchase

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4 KENT AND SURREY BORDERS — PRACTICE about £800 p a in growing and pleasant residential district Choice of residence for sale Good scope Prem £1,200

5 S W OF ENGLAND —Practice of about £270 p a in good residential part of first rate town No panel Well situated house (4 bed and 3 attic) garage and garden, for sale Plenty of cope Premium £200

6 EASTERN COUNTIES —Country Practice nearly £1 200 p a easy reach of two good towns Panel 759 Small house (5 bedrooms) garage and garden to rent Premium 1½ years purchase

7 DEVON COAST —Practice worth £1,000 p a in favourite resort Panel 1 350 Well situated house (5 bedroom) garden and garage Premium—house and Practice— £1 000

8 MIDLANDS —Practice, over £1,700 p a, in important city Panel 1 570 Centrally situated house (7 bed and dressing rooms) with garage and garden for sale Scope for increase Premium £2 250

9 CHESHIRE — Chiefly non-dispensing PRACTICE of nearly £500 p a in residential town Panel 100 New mi-detached double fronted house (4 bedrooms) for sale Scope for considerable increase Premium £500

10 MIDLANDS —Practice of about £350 p a in manufacturing town Panel 350 House contains 5 bedrooms, et Rent £42 p a Scope for increase Premium £350

11 LONDON, E — Cash and Panel Practice (held by Medical Woman) in densely populated area Receipts £360 p a Panel 290 Small house to rent Premium £450

12 HOME COUNTIES —Partnership in Practice over £7 000 p a in progressive town within 20 miles of London Panel about 2 000 Partner required for new developing district where suitable house could be purchased Good Hospital and scope for surgery (Graduate or preferably F R C S required Share £800/£1,000 at 2 years purchase

13 LONDON, W — Partnership in Practice nearly £5 000 p a in Western suburb Panel 4 000 House (5 bedrooms etc) with small garden to rent Plenty of scope One fourth share at first at 2 years purchase

14 YORKSHIRE (N Riding) — Practice averaging between £950/£1 000 p a in a beautiful country district Panel 440 House (5 bedrooms) in acre of land to rent Modern Cottage Hospital and scope for surgery Premium 1½ years purchase

15 MIDLANDS —Partnership in Practice of between £1 800/£2 000 p a in a beautiful district in a hunting centre Panel about 1 000 Good house with 5 bed and dressing rooms garage and one acre garden for sale Smaller one might be obtained Premium one third share 2 years purchase Public School or University man preferred

16 KENT — Partnership in Practice in a Market Town under 45 miles from London Small panel Well situated house (4 bedrooms) to rent Share at present worth about £500 p a for disposal with good scope Premium £800/£1 000

17 SCOTLAND —Sound well-established Practice of £1 800 p a. in attractive district easy distance of Aberdeen Panel 1 100 Well built house (5 bedrooms) large garage, and acre of garden for sale Salmon fishing and other sport Premium 1½ years purchase

18 S COAST — Partnership in good mixed non dispensing Practice averaging £1 635 p a in Health Resort Panel nearly 900 Excellently situated house (6 bedrooms) in rapidly growing part to rent Partner should not be over 40 years of age Premium one third share 2 years purchase

19 N WALES —Country Practice of £1,200 p a in Welsh speaking district Panel about 550 Convenient and well situated house with electric light etc for sale All kinds of sport Premium for a quick sale 1 years purchase or even slightly less

20 S COAST —Partnership (after preliminary Assistantship) in well-established Practice in Seaside Resort Share worth £700 p a offering good scope to a suitable man (unmarried preferred) after six months.

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21 S OF ENGLAND — Practice averaging about £900 p.a. in Seaport Town No panel. Suitable house. Great scope for increase. Premium 1½ years purchase.

22 ISLE OF MAN —Non-dispensing Practice in small Seaside Town Receipts average £946 (including £350 from panel). Small compact house (5 bedrooms) with nice garden for sale. Sport. Premium—Practice and house—£2 000

23 KENT — Partnership in Practice about £4 400 p.a. in outlying suburban district. Panel 2 400 Good house (4 bedrooms) to rent Premium one-fourth share 2 years purchase.

24 NOTTINGHAMSHIRE —Country Practice of nearly £1 100 p.a. Panel 700 Good house (6 bedrooms) garage and 1½ acres garden to rent. Great scope Premium 1½ years purchase.

25 HOME COUNTY — Partnership in non-dispensing Practice £3 200 p.a. in first rate residential town under 30 miles from London Panel over 4 000 Detached house (6 bedrooms) with large garden to rent. Partner should be aged 30—40 and experienced in anaesthetics. Two-fifths share at 2 years purchase

26 SURREY — Partnership in good mixed-class Practice about £3 000 p.a. in Town within 10 miles South of London Small panel. Suitable house obtainable. Excellent scope. Premium one third or one half share 2 years purchase.

27 S W OF ENGLAND — Partnership in increasing middle-class Practice of about £2 500 in seaport town Panel 850 One-fourth or one-third share at 2 years purchase. Preliminary Assistantship

28 S DEVON — Practice nearly £950 p.a. in small country town easy distance of the coast Panel 340 Good house and garage in acre of garden for sale. All kinds of sport. Premium £1,500

29 LONDON, S E —Partnership in Practice £6 600 p.a. in outlying suburban district. Panel 2,000 Premium one-sixth share 2 years purchase.

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31 LONDON, E C —Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City Majority of consultations £1 1s. Excellent consulting rooms Premium one-half share 2 years purchase.

32 MIDLANDS —Compact middle and working-class PRACTICE nearly £2 200 p.a. in manufacturing town Panel over 2 500 Ten roomed house (with surgery accommodation additional) to rent Premium £3 500

33 YORKSHIRE (W R.) — Compact easily worked PRACTICE, averaging £1 600 p.a. in manufacturing town Panel over 1 300 Splendidly situated house (4 bedrooms) for sale. Scope. Premium 1½ years' purchase

34 EAST COAST —Partnership in non-panel Practice in favourite watering place Partner should be young and with Hospital experience Share of about £1 000 p.a. at 2 years purchase Preliminary Assistantship

35 KENT —Practice of £1,260 p.a. in residential outlying suburban district Fair panel. Corner house (7 bed and dressing rooms) with large garage and garden for sale Scope. Premium 1½ years purchase

36 CORNWALL — Partnership in Country Practice on Coast Convenient house (6 bedrooms) with good garden for sale Share of about £1 200 p.a. at 1½ years pur

37 HANTS — Practice over £1,200 p.a., including clubs and panel over 1 100) in small industrial town House (6 bedrooms) with large garden and garage for sale. Beautiful country around. Premium £1 500

38 EASTERN COUNTIES —Good-class Practice of £1 5—5 p.a. in famous Country Town Panel 350 House contains 5 bedrooms etc. and would be sold or let Good society and sport Considerable scope Premium 1½ years purchase.

39 LONDON, S E —Practice averaging over £1 700 p.a. in outlying residential suburb Small panel Good and well-situated house (6 bedrooms) with small garden for sale. Premium—Practice—1½ years purchase

40 KENT —Country Practice about £650 p.a. in beautiful district. Panel about 700 No house but surgery and waiting room to rent. Capable of much increase Moderate premium

41 W MIDLANDS —Partnership in Practice about £2 700 p.a. in Market Town Panel about 800 One-third or one-half share at 2 years purchase Partner must be well qualified and experienced in General Practice. Preliminary Assistantship

42 W OF ENGLAND —Partnership in Practice over £3 000 p.a. in pleasant Country Town under 130 miles from London Young keen Partner preferably with the F.R.C.S. who has held Hospital appointments Premium for a two-fifths or one-half share 2 years purchase

43 LONDON, S W —Practice (carried on by two Medical Men) averaging £3 000 p.a. in suburban district. Panel 1 400 rapidly increasing Two houses to rent. Or a share up to one half would be sold.

44 MIDLANDS — Partnership in Practice nearly £1 900 p.a. in good Town. Panel 1 100 Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man Prospect of Hospital appointment One half share at 2 years purchase with ultimate succession

45 MIDDLESEX — Partnership in Practice nearly £3 500 p.a. in rapidly growing residential town under 20 miles from London Panel about 1,150 Semi-detached corner residence (6 bedrooms) garage and garden for sale. Premium one-half share 2 years purchase.

46 WITHIN 50 MILLS OF LONDON — PARTNERSHIP in Practice averaging over £3,500 p.a. in first rate county town Panel over 1 100 Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years purchase Partner should be aged 28 35 and have held H.S. and H.P. appointments Preliminary assistantship

47 CHESHIRE —Partnership in increasing best-class non panel Practice over £4,500 p.a. in first rate residential district. One-fourth share at 2 years purchase. Partner should be University Graduate who must have held Resident appointments

48 LANCASHIRE — Increasing Practice in rapidly growing district close to sea and within few miles of popular resort Receipts last year nearly £1 200 Panel 250 Very nice compact house (4 bedrooms) garage and garden etc. for sale. Golf Premium £1 000

49 S DEVON — Partnership in Country Practice about £1,500 p.a. in beautiful part easy distance of coast. Panel over 950 House containing 5/6 bedrooms, for sale. Premium one-half share £1 320 to include drugs etc. Work very light.

50 S MIDLANDS —Practice averaging over £1,200 p.a. in Market Town. Panel over 900 Pleasantly situated house (5 bed and dressing rooms and attics) garage, and half acre of garden for sale Scope. Premium 1½ years' purchase.

51 SURREY — Steadily increasing Practice averaging £1 355 p.a. in a first rate Country Town Panel nearly 1 300 Large attractive old fashioned house (7 bedrooms) for sale or rent Cottage Hospital Premium 1½ years purchase.

52 LONDON, N W —Practice of about £1,450 p.a. in suburban district Panel 1 150 Corner house (4 bed rooms) for sale Scope.

53 S MIDLANDS —Partnership in steadily increasing Practice about £3 000 in first rate country district. Panel 1 000 Suitable house available Cottage Hospital. Premium one-third share 2 years purchase

54 WILTSHIRE —Country Practice of £650 p.a. (panel and appointments about £400) in a beautiful part. Good house (company's water main drainage) for sale or rent. Premium £750

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BELGRAVIA —Well situated non panel PRACTICE (with scope for panel if desired) in good thoroughfare House for sale or would be rented Receipts approx £1 000 p a Premium 1½ years purchase cash

HOME COUNTIES (NORTH) — PARTNERSHIP after PRELIMINARY ASSISTANTSHIP three to six months in old established middle class Practice Receipts averag £3 500 Panel nearly 1 200 Suitable house to rent (6 beds) at £83 p a Garden Town Practice Fees 5/ up Mids 3 gns up Two appointments Excellent educational facilities 1/3 share is offered with view to half share at 2 years purchase Suitable to well qualified man, preferably married with Hospital experience and good at Anaesthetics

LONDON W 10 —Cash and Panel PRACTICE situated in middle and working class locality Suitable accommodation available to rent at £76 p a inclusive Fees 2/6 up Midwifery 2 gns up Panel 300 Books audited Receipts £585 Premium £600

GLOS —Mixed Town PRACTICE. Receipts over £1,800 p a Panel 2 146 Fees 2/6 up Three Hospitals Good schools Scope for increase Alternative accommodation available Premium for Practice £3 640 or near offer Partnership considered

LONDON E 13 —NUCLEUS working class PRACTICE (mostly cash) situated in thickly populated locality House to rent at £60 p a (part sublet at £26 p a) Receipts approximately £350 Panel 400 Fees 1/6 up Mids 2—3 gns Premium £400

BUCKS —Under 25 miles from London —Middle class C P Good class residential locality Modern house to rent on lease Receipts over £400 p a Fees 5/6 up Increasing population Good schools Premium £600 Suitable for semi retired Practitioner or one with private means

MIDDLESEX (WEST) —NUCLEUS middle and working-class PRACTICE (mostly cash), situated in growing locality within 10 miles of London Receipts for 9½ months £240 Panel 30 Fees 2/6 up Premium £450 or near offer to include fixtures fittings, etc Excellent scope

SURREY (*near Windsor*) —Well established middle-class PRACTICE Double fronted detached house with charming garden to rent on lease at £120 p a or may be purchased freehold Receipts over £700 p a Panel 220 Fees 2/6 up Cottage Hospital Good golf Good schools Premium for Practice £900

ESSEX —Middle-class General PRACTICE situated in well populated locality Receipts over £1 000 p a Panel approximately 1 Suitable house available Fees 2/6 up Excellent scope Prem £1,5

DEVON (SOUTH) —PARTNERSHIP in Country Town Practice Suitable house available Receipts nearly £3 500 Panel 2 262 Fees 3/ Several appointments Hospital Scope for surgery Good schools Premium for 1/3 share £2 030 Terms considered to the right man

LONDON W —PARTNERSHIP in old established Practice Residential locality (firm of three) Receipts over £5 000 p a Panel 4 000 Suitable house to rent on lease General Hospital in close proximity Premium for 1/4 share (to commence with) 2 years purchase

LONDON E —Well established PRACTICE in middle-class residential locality Corner house to rent on lease (4 bedrooms), garden garage etc Receipts just over £800 Books audited Panel 718 Fees 5/ up Premium £1,250

LONDON N E —Mixed General PRACTICE established 5½ years Professional accommodation consists of three rooms centrally situated held on agreement at £100 p a Receipts approximately £550 Fees 2/ Panel 430 Premium £650, cash Scope for further development

CHESHIRE —Well established PRACTICE with excellent scope for panel if desired Modern semi-detached house containing 4 bedrooms Garage Small panel Receipts approximately £500 p a Fees 3/ up One appointment worth £150 Mids 5 gns Premium open to reasonable offer

KENT —PARTNERSHIP is offered in growing Practice situated within 45 miles of London The minimum income for the first year should be at least £400 of which £350 is from appointments Small panel Suitable to experienced man aged about 26 having held House appointments Excellent scope Further details on application

EAST MIDLANDS —PARTNERSHIP in better middle-class Practice Ten roomed house available Receipts nearly £2 000 Fees 3/ up Up-to-date Hospital Scope for surgery Premium 1/3 share with view to larger share £1 300 Opposition, five

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2 SOUTH WEST COAST —Good middle-class PRACTICE of £2 300 including a select panel of 1 500 in well known resort Price with efficient introduction £4 000 Convenient residence well adapted for a doctor, available at £1 900

3 COUNTRY PRACTICE near Salop Borders and well known Spa —Income over £1,000, including panel and appts £350 House and garage on lease at £60 Prompt buyer can secure same at £1 000 cash to include furniture and car

4 HANTS —PRACTICE of nearly £1 000 p a in small pleasant Town with Cottage Hosp Small panel Patients all classes Capital premises garage and nice garden For sale or lease granted Price £1 250

5 LANCS —For Sale at £1 500 a middle class PRACTICE of £1 200 in a clean and well to-do town of about 40 000 Panel 900 Fees 3 6 to 7/6 The house is well situated and very convenient, with garage Lease can be had at £75

6 NURSING HOME in Harrow area —Mainly maternity Licensed for six cases Full up for next six months Fees 6 gns Excellent premises and grounds Returns over £700 growing Price to include furniture (valued £400) £700

7 REQUIRED in London or other large town (preferably Midland or South) a PRACTICE of £2,500 with a good panel and family residence Money no object if investment is suitable

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2 MIDLANDS —Panel and Private PRACTICE Estab 5 years Receipts over £700 panel 350, both increasing Appointments worth about £70 House to rent Garage etc

3 WEST COUNTRY —SEAPORT TOWN (residential district) — Well estab better and middle class PRACTICE Receipts over £1 225 Panel 303 and ample scope Attractive house garage etc

4 LANCASHIRE — Well estab middle and better class PRACTICE Receipts £988 panel 900 both incr Appt £30 p a, trans Good house garage and all conveniences

5 WEST MIDLANDS —Well estab PRACTICE in market town and agricultural district Receipts £1 572 Panel 500 Appts worth £118 Good house garage etc.

6 BIRKS (Country Town) —PARTNERSHIP 2/5 share with short prelim Assistantship and ultimate Succession Receipts average £1 146 p a Panel about 550 and good scope Appointments worth about £250 Good fees and house

7 LANCASHIRE —Old estab Panel and Industrial PRACTICE. Receipts £2 242 and increasing Panel 1 450 Appointments worth about £95 Good house to rent

8 MIDLANDS — COUNTY BOROUGH — Well estab better middle class PRACTICE Receipts average over £2 700 p a Panel recently started and increasing rapidly Good fees house etc

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1. MIDLANDS —COUNTY TOWN —Old-established better-class PRACTICE averaging £7 93 p.a and offering good scope Panel of 500 Fees 5 upwards Well situated house with good garden with 3 reception 4 bedrooms etc. Separate surgery Rent on lease £111 p.a. Premium 1½ years purchase
2. GLOS —Unopposed very old-established PRACTICE, in beautiful agricultural district averaging about £560 p.a., including apptt of £40 and panel of 480 Very nice house (5 bedrooms etc) water laid on electric light one acre of ground Price freehold £2,000 Premium £750 Good social amenities and scope for increase
3. SOUTH OF ENGLAND —COAST TOWN —PARTNERSHIP —A SHARE guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery and prepared holding the F.R.C.S. Rapidly increasing practice having large scope Panel of over 1,400 Fee from 3 6 Suitable house can be secured. Premium 2 years purchase
4. CHESHIRE.—Coast Town within reach of Liverpool —Well-established PRACTICE averaging over £1,200 p.a., including panel of 780 Fees from 3/6 Mid. 2 to 6 gns Double-fronted house with 3 reception 4 bedrooms etc Price for freehold £1,400 £800 on mortgage Premium 1½ years purchase £1,100 down
5. WITHIN 100 MILES OF LONDON —PARTNERSHIP —A share producing over £1,200 p.a. with prospects is for disposal owing to the retirement of one of several partners in a very old-established Practice Ingoing partner would reside in pretty country district five miles from country town where main practice lies No opposition Total income £8,250 to £8,500 including valuable apptts worth about £2,000 and panel Very desirable residence (ample accommodation) with 2½ acres of ground, on lease at low rent of £60 Premium 2 years purchase
6. LONDON SOUTH WEST —Old-established non-panel PRACTICE having good Ophthalmic connection and also scope for Ear Nose and Throat work Gross cash receipts for past 12 months over £1,400 Fees from 5 Practically no midwifery in scope if desired. Good corner house in excellent condition with 4 reception 5 bedrooms etc Price for long lease £1,500 Premium 1½ years purchase
7. SOUTH COAST —FAVOURITE HEALTH RESORT —Well-established mixed-class PRACTICE, offering good scope Average gross cash receipts over £700 p.a. including panel of 720 Very good house with 2 reception 5 bedrooms, etc Nice garden To be sold or might be let for a time Premium 1½ years purchase.
8. YORKSHIRE.—GOOD TOWN —PARTNERSHIP —A one-half share (guaranteed to produce £2,000 p.a. in first year) is offered in a good middle-class Practice. Income for the past twelve months approximately £4,000 Small select panel of 430 One appointment worth nearly £650 p.a. Fees 3/6 upwards. Opposition not strong Suitable house can be bought or leased. Very good educational and sporting facilities For
9. YORKS —LARGE TOWN and working-class PRACTICE averaging £ Fees 3/6 to 21/ Mid. 2 to 10 gns (about 12 cases yearly) Suitable house with 2 reception 4 bedrooms etc Separate entrance to professional rooms Good schools and sporting facilities Prem 1½ years purchase
10. HOME COUNTIES —PARTNERSHIP —A third share producing about £1,000 p.a. is offered in a well-established good mixed-class Practice situated in very attractive district within 20 miles of London. Fees 3 6 to 2 gns. Suitable house available Premium 2 years purchase.
11. LANCS —PARTNERSHIP —A one-fourth share to commence (with increase up to one-half later) is offered in a very old-established good middle-class Practice producing for the last twelve months over £4,700 p.a. Panel of 2,730 Apptts worth nearly £200 p.a. Visits 2/6 to 12/6 Not much midwifery from 2 to 3 gns Suitable house obtainable, but if single purchaser can reside with Vendor who is a bachelor Premium 2 years purchase.
12. CAMBS —PARTNERSHIP —A one half share is offered in a sound mixed-class Practice producing last year nearly £2,000 Panel of 765 Situated in pleasant agricultural district with good sporting facilities Fees 5/ to 21/ Suitable house can be rented at £70 p.a. Premium 2 years purchase
13. YORKS —In small pleasant market town amidst pretty and prosperous surrounding country very old-established mixed-class PRACTICE averaging nearly £1,250 p.a. including panel and apptts. worth over £450 Visits 3 6 to 25/ Opposition weak. Good house with ample accommodation and every convenience. Garden Garage Price £1,300 £1,000 on mortgage or would be let at £80 p.a. Premium £1,450 Educational and social amenities
14. SOUTH WESTERN COUNTY —Near the Sea —Old-estab easily worked Country PRACTICE, in beautiful district within reach of Market Town and averaging £1,100 p.a., including apptts and panel producing £450 Exceptionally attractive modernized house in over 3 acres of ground with ample accommodation productive fruit and vegetable garden with tennis lawn etc Water laid on and electric light available shortly Price freehold £3,000 part on mortgage. Premium £1,630 Sport of all kinds and schools within reach.
15. CLOS —COUNTRY PRACTICE —Old-established PRACTICE in picturesque surroundings averaging about £1,250 p.a including panel of over 1,100 Visits from 3/ Commodious house with 3 reception 6 bedrooms etc Garden Garage. Price for freehold £1,500 £1,000 on mortgage Premium £1,850
16. LONDON S.E.—Outlying Residential Suburb —Very old-established PRACTICE (hitherto carried on by two men in partnership) is for disposal or half share would be sold with succession to the whole in 12 months time Receipts average about £3,000 p.a. including apptts. worth £330 and panel over 1,500 Two houses available. Premium 1½ years purchase. Eminently suitable for two friends.
17. HANTS —Delightful residential district within easy reach of Coast — Good mixed PRACTICE, averaging £970 p.a. and offering large scope as district rapidly developing Panel of 250 Fees 3/6 to 15/ Well built well situated house with 2 reception 6 bedrooms etc. Garden with tennis lawn Moderate premium accepted for quick sale Sport of all kinds and good social facilities
18. BORDERS OF NORFOLK AND SUFFOLK —PARTNERSHIP —A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village, near two good towns Income for last 12 months £1,992 including panel of 1,000 and apptts worth about £150 Fees 2 6 to 10 6 House contains 3 reception 6 bedrooms etc. Sport of all kind Premium 2 years purchase.
19. ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years Average income about £400 p.a. Fees 10/ to 20/ approximately Suitable furnished flat with one large reception room consulting room 4 bedrooms etc. Rent on lease £140 p.a Premium £500
20. MANCHESTER DISTRICT —Old-established middle and working-class PRACTICE, worth last year about £700 p.a. including panel of 614 and capable of increase. Expenses small. Well-situated house, with six rooms in addition to professional accommodation. Large garden Price for freehold £850 Moderate premium accepted.
21. PARTNERSHIP —HOME COUNTY —Within 40 miles.—In very pleasant district (with large surrounding population) the third or two-fifths share of old-estab mixed-class Practice offering large scope Present income £3,000 p.a. with panel producing over £1,200 p.a. and appt worth £160 Visits 3 6 to 2 gns Good house at moderate rental. Good society and sport. Ingoing partner should be about 30 preferably married and English or Scotch.
22. LINCOLNSHIRE COAST —Well-established mixed-class PRACTICE averaging £2,749 p.a. (last year £2,868) including panel of over 1,700 Fees 3/6 to 21/ Mid. from 2 gns (about 70 cases yearly). Newly built modern house with special professional accommodation central heating etc. Garden Garage. Price freehold £2,300 part on mortgage Good sport and schools within reach. Premium 1½ years purchase.
23. LONDON S.E.—Pleasant residential suburb —Very old-established non-panel (but scope for this) PRACTICE, held over 30 years by Vendor who is retiring Receipts last year over £900 Patients mixed, but mostly good class Large house (part could be let off for flat) Rent £98 p.a. Premium 1½ years purchase
24. PARTNERSHIP — LONDON SOUTH EAST — Outlying Residential Suburb.—Owing to the retirement of one of three partners the fifth share of an old-estab. Practice is for disposal. Cash receipts average over £5,300 p.a. (last year £5,540). including panel of upwards of 2,000 Visits 3/6 to 10/6 Good house can be rented at £80 p.a. Premium 2 years purchase.
25. MIDDLESEX —Rapidly developing district within 20 miles —PARTNERSHIP —A one-half share in an old-estab good middle-class Practice averaging for the past two years over £3,500 p.a. Panel of 1,100 and apptts. bring in £100 p.a. Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms etc. Garden. Price for freehold £2,100 Premium 2 years purchase.
26. KENT —Country PRACTICE near Coast.—Old-established mixed-class Practice averaging about £1,100 p.a. Panel of nearly 400 Fees 3/6 upwards Convenient hours with 3 reception 6 bedrooms etc. Good garden Price £1,650 part on mortgage Good sport and schools within reach. Premium 1½ years purchase.
27. PLEASANT CATHEDRAL CITY within 200 miles North of London — Old-established mixed-class PRACTICE, averaging £1,600 p.a., including £800 from panel and over £100 from clubs Visits 5/ upwards (occasionally 2 gns) Very little midwifery from 2 to 5 gns Large attractive house with garden Rent £80 Prem 1½ yrs. purchase
28. MANCHESTER —Chiefly working-class PRACTICE. Average income £1,000 including panel of 1,000 Moderate expenses Corner house with 3 reception 8 bedrooms etc Garage Rent on lease £65 p.a Premium £1,500 or near offer
29. NEAR HUDDERSFIELD —PARTNERSHIP —A half share in an old established mixed-class Practice Income for immediate past year over £4,250 Panel of 3,500 Fees 3 6 to 7 6 Very good house with 4 reception 6 bedrooms etc 1½ acres of garden Price for freehold £2,500 Premium 1½ years purchase.
30. PARTNERSHIP —COUNTRY TOWN within 130 miles North of London —A one fifth share is offered in an exceptionally sound good mixed-class Practice averaging for past 3 years over £6,000 p.a Panel of 3,400 Fees from 4 Not much midwifery House can be rented at £50 p.a Premium 2 years purchase.

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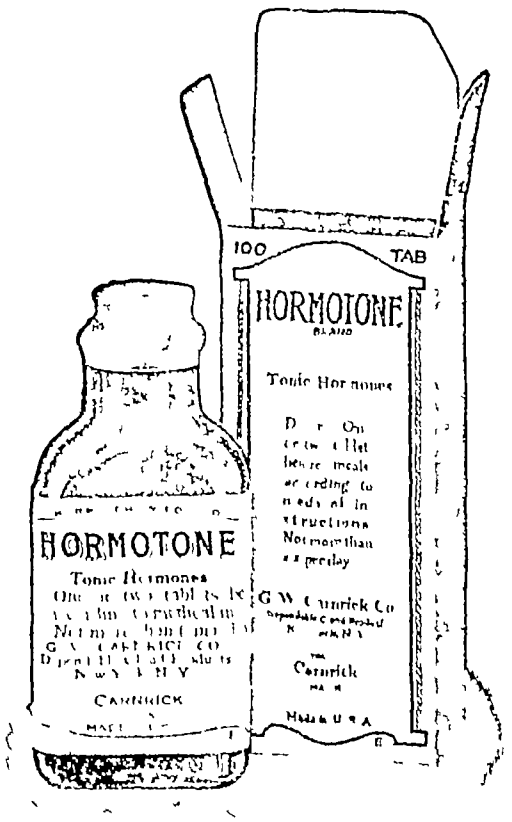
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THE GERMICIDAL ACTION OF DIMOL

INTESTINAL ANTISEPTIC

Extract from Report by independent Bacteriologist appointed by "The Lancet"
(Full Report can be read in 'The Lancet' 22nd February 1930 p 414)

1 Determination of the Rideal Walker coefficient of Dimol using organisms isolated from the faeces (*See* Table I)

2 Determination of the degree of dilution of the antiseptic leading to death of organisms in 15 mins (*See* Table II)

Test Organism	TABLE I—R W coefficient (number of times Dimol more powerful than pure phenol)	TABLE II—Degree of dilution leading to death of organisms in 15 mins
B typhosus	37	1 6500
B dysenteriae (Shiga)	34	1 6250
B dysenteriae (Flexner)	34	1 6000
Streptococcus faecalis	24	1 5500
pyogenes	27	1 6000
haemolyticus	28	1 6000
Pneumococci	32	1 7000
B faecalis alkaligenes	30	1 6000
B coli	30	1 5000

3 *Examination for toxicity* — Single dose up to 0·02 *g* (equivalent to 1/3 gr.) per kilogramme body weight was given to rabbits without producing toxic effects. Such a dose corresponds to grs. 20 for a man weighing 10 stone five times the dose advocated for therapy. No evidence of absorption as shown by carboluria was obtained. Repeated doses equivalent to two and a half times those recommended in therapy also failed to produce ill-effects when given three times over a period of four weeks.

CONCLUSIONS

1 Dimol intestinal antiseptic is found to possess a very high Rideal Walker coefficient against the commoner organisms infecting the intestine.

2 The antiseptic kills completely these organisms in 15 minutes in dilutions ranging to 1 in 7 000.

3 The preparation shows no evidence of producing toxic effects in animals even when given in very large doses. No carboluria was produced.

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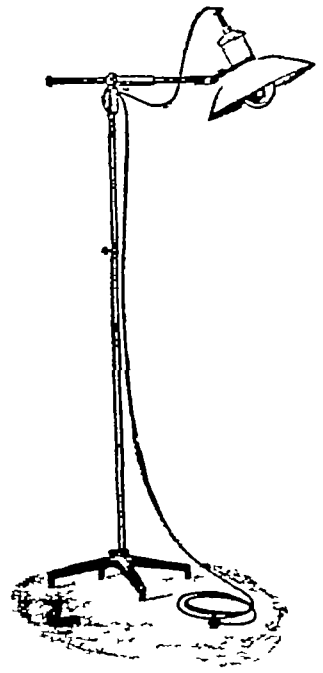
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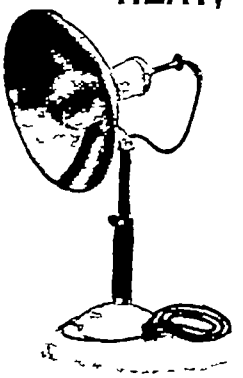
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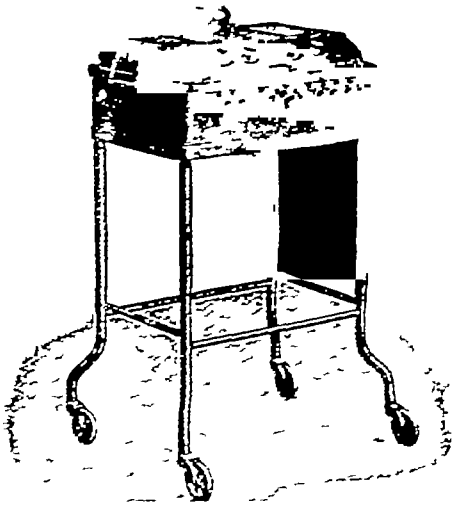
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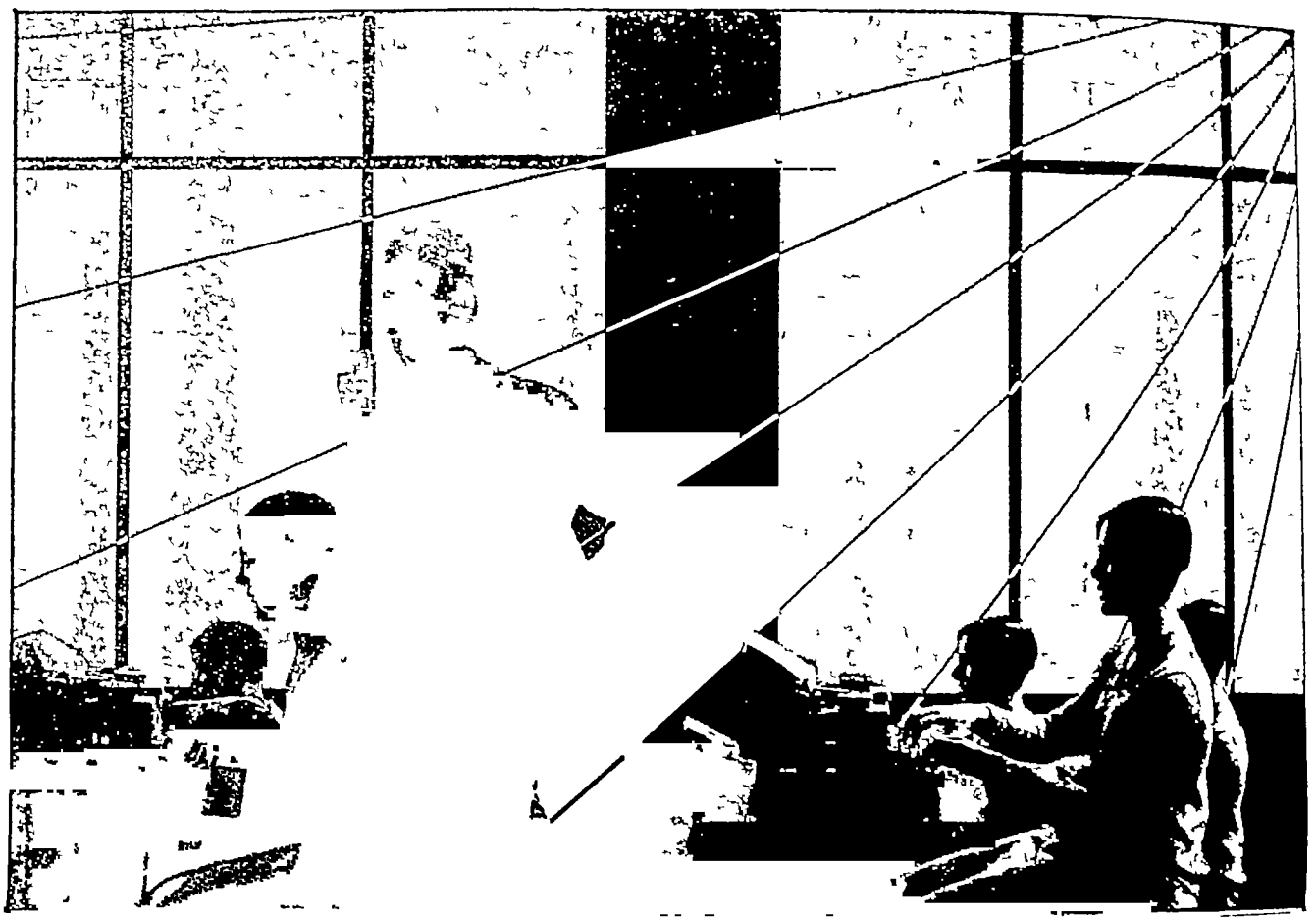
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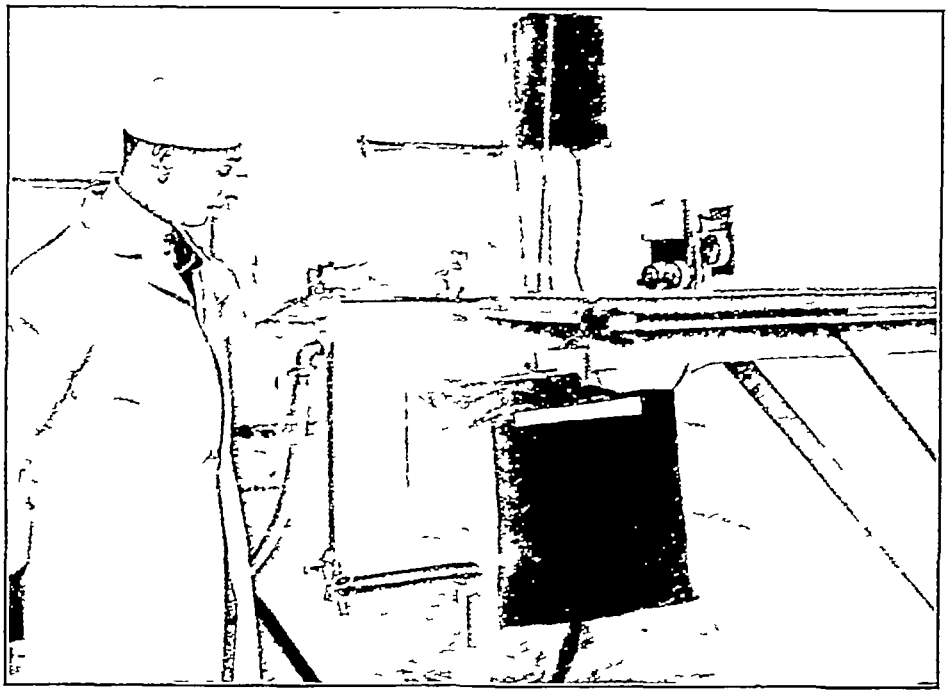
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(2) 29 " 1/3 pint of Grade A (T T) milk five days a week.
(3) 30 " Micklefield " "

(1) Average increase in height 605 in. (2) Average increase in weight 9·72 ozs. more than (1)
(2) " " 610 in. (3) " " " 0·9 ozs. more than (1)
(3) " " " 744 in.

Full particulars appeared in an article in the LANCET January 18 1930 p 127 et seq a reprint of which will be sent post free on request

The milk is delivered every week-day in London, elsewhere by arrangement.

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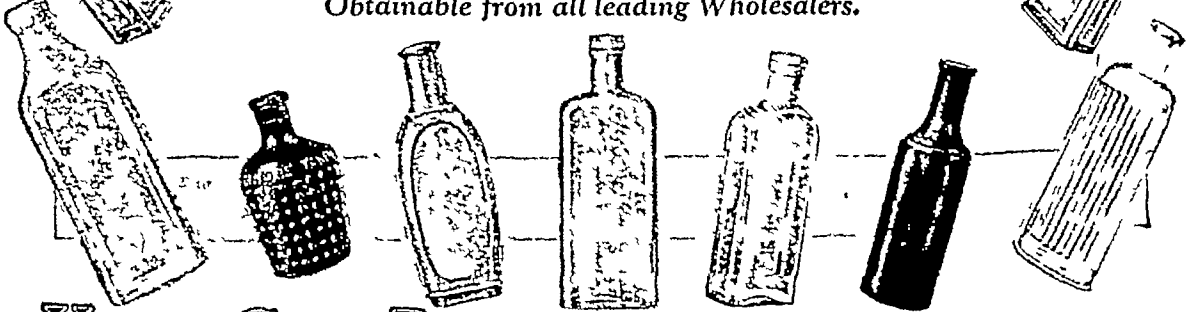
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— Wimpole Street, W 1
2/12/30

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To judge by letters I have received accompanying ittances sent directly to me in response to your ıeals all has been done without the slightest ence and my pleasant relations with the clients ıain unaltered so far as I can judge

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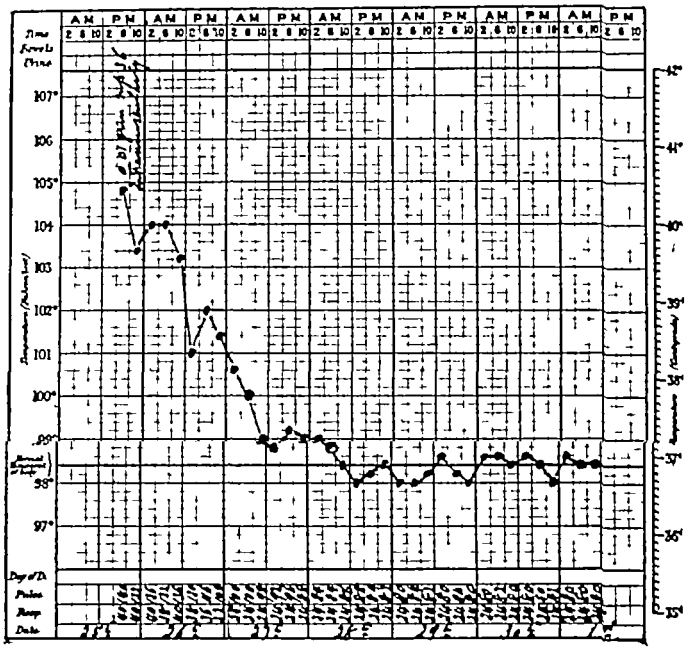
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(B M P S, Ltd) *ESTABLISHED 1891*

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S.U.P. 36

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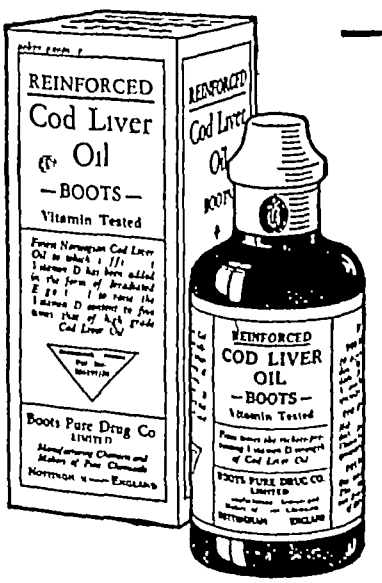
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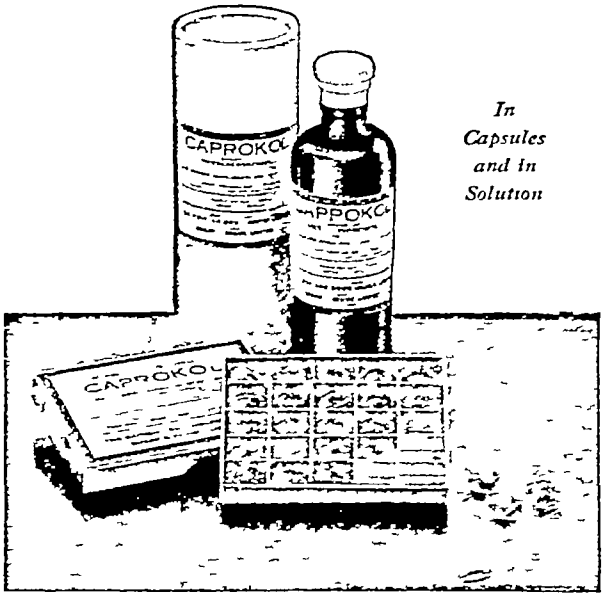
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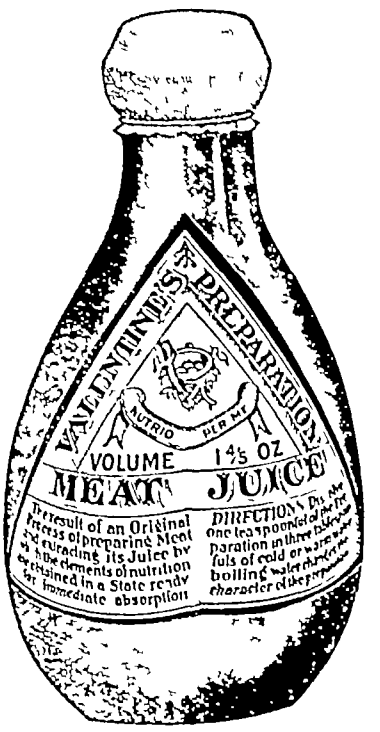
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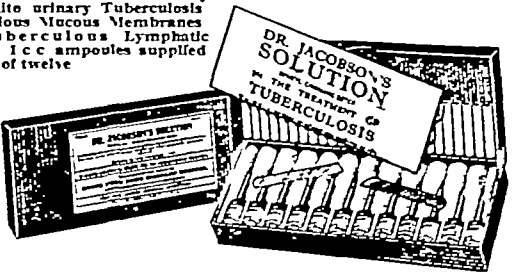
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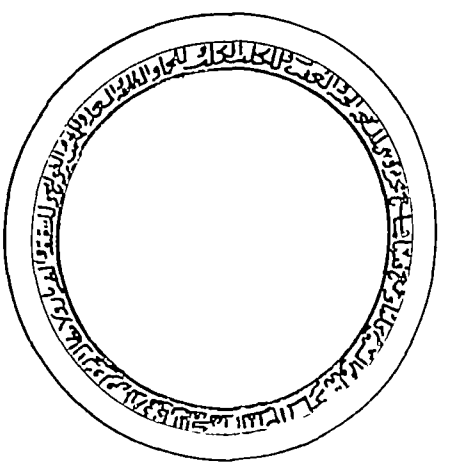
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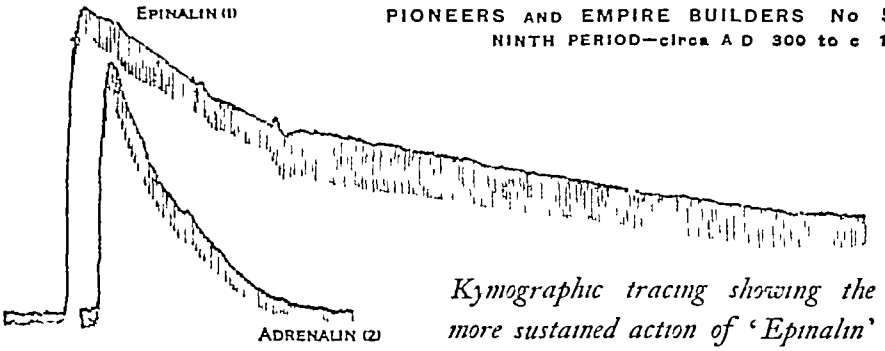
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A British Medical Association Lecture

ON

MENSTRUATION AND IRREGULAR UTERINE HAEMORRHAGE OF OVARIAN ORIGIN

BY

JAMES YOUNG, D.S.O., M.D., F.R.C.S.Ed.

GYNAECOLOGIST, ROYAL INFIRMARY; PHYSICIAN, ROYAL MATERNITY AND SIMPSON MEMORIAL HOSPITAL, EDINBURGH

It is at first sight, a somewhat remarkable fact that if we except such gross pathology as the tumours and the abnormal conditions arising from pregnancy we are still largely ignorant of the causation of the commonest gynaecological symptom—namely, irregular uterine bleeding. On the other hand it is not surprising that in the past our etiology has rested on a crude basis of pathology when we remember that our understanding of the physiological counterpart of these bleeding discharges—namely, menstruation—has itself been so incomplete. Within recent years a large amount of research has been directed to the elucidation of the physiology of the sex cycle of which menstruation forms one essential phase and in respect of some of the cardinal questions we are now in possession of a body of positive fact. It is to these new data and the bearing they are certain to have on our clinical problems, that I now wish to invite your attention.

Physiology of the Sex Cycle.

One of the most significant results of recent research is the establishment of the fact that both in its inception and in its maintenance, the sex cycle of the ovaries and the accessory organs is dependent upon the anterior part of the pituitary body. The work of Cushing and others had for many years indicated some such association by directing attention to the failure of sex development found in some pituitary disorders. After extirpation of the hypophysis the sex glands of young animals remain infantile and the secondary sexual characters fail to develop. Conversely by injecting *immature* animals with extracts of the anterior pituitary obtained from either similar or foreign species Evans[1] and others have shown that the ovaries become activated with the establishment of the sex cycle of the *adult* animal. The pituitary has no such action on the uterus and the accessory organs except through the medium of the ovary; it is impotent in castrated animals. Ovaries from immature animals transplanted into sexually mature animals become active with the exhibition of follicular activity, ovulation and the formation of corpora lutea because they come under the influence of the adult pituitary. It is thus apparent that the sex apparatus functions only when and whilst it is under this pituitary activation. The exact nature of this impulse has not been thoroughly worked out. It is unquestionably hormonal but whether there are one or two or more ingredients with different effects is uncertain. Some workers support one single influence whilst others believe that there is one hormone that controls oestrus and ovulation and another which controls the corpus luteum.

The sex cycle throughout the mammalian kingdom exhibits the same general characters. Let us first consider the lower orders. In them during the first phase of the cycle, the follicles in the ovary mature and this is correlated with an activation of the uterus, vagina and other accessory organs, which in the lower orders consists of "coming on heat" or *pro-oestrus*. This phase is succeeded by *oestrus* during which alone coitus is possible and it is at this time that the ripe follicles shed their ova either spontaneously as in the dog, the mouse, etc., or only after coitus as in the rabbit, the cat and the ferret. Oestrus is succeeded by the rapid growth of the corpus luteum from the cells of the wall of the follicle or follicles that have ovulated. This is correlated with an increase in the size of the uterus and a progressive thickening of the endometrium caused by a great growth in and activity of the glands and a vascularization of the stroma. At the end of this phase unless pregnancy intervenes, the corpus luteum degenerates and the hyperplastic mucosa of the uterus recovers its more quiescent characters in preparation for the commencement of a new cycle. There are thus three main phases in the cycle: (1) the pre-ovulational or pro-oestrus; (2) the ovulational or oestrus; and (3) the post-ovulational or luteal. In some animals—for example the horse and the sheep—such cycles succeed one another without intermission during the breeding season (the polyoestrous condition) whilst in other animals—for example the dog—there is only one such cycle during each breeding season (the monoestrous condition) followed by a prolonged period of quiescence in ovaries and accessory organs (anoestrus). When ovulation is followed by pregnancy the corpus luteum and the correlated growth in the uterus and other organs, instead of retrogressing as they do in the infertile cycle, continue in a condition of progressive development. In some animals—for example the dog, the rabbit and the ferret—after ovulation without fertilization the corpus luteum continues to grow for a considerable time and this is associated with such active changes in the uterus and mammary glands as to suggest a condition of pregnancy. To this prolonged luteal phase in a non-fertile cycle the term "pseudo-pregnancy" is given (Marshall).

In general terms the sequence of events obtaining in the cycle of the lower animals is repeated in man and monkeys, but there are some striking differences which have led to some difficulty in identification. Here the cycle is polyoestrous occupying about a lunar month, and there is no period of anoestrus. The ovarian cycle corresponds with that present in lower animals, consisting of a pre-ovulational phase of maturation succeeded by ovulation, which, in the primates, occurs any time between about the tenth and fourteenth days after the commencement of menstruation. From this stage follows the phase of luteal growth, during which the endometrium undergoes active changes involving the glands, the stroma, and the vessels. The most noteworthy distinction between the cycle of man and the primates and that of the lower animals is found in the characteristic monthly blood loss from the uterus which succeeds the stage of luteal growth, and which is associated with disintegration and shedding of a great part of the premenstrually overgrown mucosa. In man and monkeys this bleeding occurs each lunar month and lasts for from three to five days. From this time the corpus luteum undergoes rapid degenerative changes.

The Significance of Menstruation

It has commonly been believed that menstruation in man and monkeys is caused by a degeneration of the endometrium consequent upon the withdrawal of the luteal hormone and that it is therefore timed by the declension in the corpus luteum known to occur at this stage. It has been suggested that the blood loss corresponds to the extravasation into the uterine mucosa known to occur at the end of a pseudo-pregnancy in some lower animal—for example the dog (Marshall[2]). In favour of this conception there are several strong arguments. (1) It is established that for the premenstrual growth of the mucous membrane the corpus luteum is essential and therefore, its degeneration must result in arrest of this growth activation. (2) Extirpation of the corpus luteum or the ovary containing it precipitates a menstrual flow usually within forty-eight hours. This has been established by many experiments both in man and in monkeys. (3) Conversely it is known that pregnancy when menstruation is in abeyance, is associated with continued growth of the corpus luteum. (4) In some animals—and there is some evidence of a similar nature in regard to woman—abnormal persistence of an active corpus luteum leads to arrest of the sex cycle. Taken together, these facts are in harmony with the view that menstruation is the culmination of the phase beginning with ovulation and ending with the luteal stage of the development of the follicle and that therefore the timing of the event is registered by the timing of the follicular cycle.

This conception of menstruation has been finally invalidated by the observations of Corner[3] Hartman,[5] Van Herwerden[6] and others that in monkeys menstruation can occur regularly when there is no follicular cycle taking place in the ovaries—that is, when there is no

Delivered to the Lanarkshire Branch of the British Medical Association in Glasgow October 8th 1930.

ovulation and no formation of corpus luteum Moreover, in such animals there is no premenstrual growth in the endometrium Further, this type of "non-follicular" menstruation occurs in healthy monkeys living in the wild state, and it is therefore not abnormal There is evidence that a similar phenomenon can occur in women It demonstrates that the menstrual cycle is to be considered as dependent upon some cyclic changes other than those of the follicle, and which are for this purpose more basic and essential We may express it shortly by saying that there is a primary cycle with menstruation as one of its phases on which there is superimposed and accurately registered the secondary cycle of the follicle These observations are in keeping with the findings of Parkes[4] that, after ablation of the entire follicular apparatus of the mouse by means of *x* rays the oestrous cycle nevertheless continues Further, as Hartman[5] has pointed out, several observers have shown the existence of abortive cycles in the anoestrous period of animals progressing towards oestrus, but before this—that is, the period of ovulation—has been actually reached (rat, dog, ferret) Moreover, Zondek[6] has shown that after feeding mice with thallium the follicular cycle continues but the uterine cycle is arrested He attributes these results to the suspension of the oestrus-producing hormone of the ovary These considerations imply the necessity for a reorientation of our outlook both in regard to the factors underlying menstruation and the interpretation of some of the experimental data upon which the primacy of the lutcal relationship was based We have seen that experimental removal of the corpus luteum precipitates menstruation At the same time, there is evidence, both in man and in monkeys, that destruction of the maturing follicle, even before ovulation, causes uterine bleeding (Beckwith Whitehouse,[7] Hartman), so that it is not the fact of luteinization of the follicle that determines the effect of its extirpation So far, we have no means of assessing the essential significance of these experiments We may hazard the conjecture that they imply a sensitiveness of the basic rhythm to any traumatic assault inflicted on any part of the follicular or more purely reproductive apparatus of the ovary This and cognate questions are of considerable interest to us as clinicians because of their possible bearing on the common irregularity in the menstrual cycle which we find in disease

The nature of the cyclic variation in hormonal activity that determines the sequential events in the sex cycle, including menstruation, has been the topic of speculation By some a continued production of the hormone by the ovary has been predicated and the cyclic manifestations attributed to rhythmic variations in responsiveness on the part of the uterus and other accessory sex organs It has more commonly been held that the cyclic variations are determined by variations in hormonal content, which represent either alterations in the ovarian output under pituitary influences or a rise and fall in a threshold mechanism (Frank[10]) In this connexion the experiments of Pratt and Allen[11] and of Zondek[12] are suggestive The former investigators working with castrated monkeys, and the latter in an ovariectomized woman, produced menstruation by the abrupt stoppage of repeated injections of the oestrus-producing hormone of the ovary Frank moreover, has found a sharp rise in the female sex hormone in the circulating blood (as tested quantitatively by its capacity to produce oestrus in castrated mice) seven days before menstruation, and that this continues during the premenstrual phase, to stop suddenly with the onset of the flow The available data are thus in harmony with the view that menstruation is dependent upon the removal from the circulation of an oestrogenic hormone which, during the premenstrual phase, has been responsible for an activation of the uterus

Menstruation a Function of Implantation

We have seen that it is impossible to explain the bleeding phase of the cycle in man and monkeys on the basis of an analogy with the phenomenon of pseudo-pregnancy in lower animals The analogy breaks down from the unequivocal finding that, whereas the corpus luteum is essential for pseudo-pregnancy, it is not necessary for menstruation An attempt has been made by some observers to identify menstruation with the genital haemorrhage which in certain animals occurs during pro-oestrus Thus, in the dog during the phase of maturation of the ovarian follicles and even at the period of ovulation itself (oestrus), there is a bloody discharge from the mucous membrane, which may continue for as long as a week Against this conjectured analogy between menstruation and such pro-oestrous bleeding however, there is the very strong argument that in the primates ovulation typically takes place between ten and fourteen days after the onset of menstruation, and that there is therefore an interval of from six to ten days between the cessation of the bleeding and ovulation It may thus be contended that, so far from throwing light on the inner meaning of menstruation, such attempted analogies as I have mentioned serve rather to emphasize the biological uniqueness of the form this phase of the cycle assumes in man and monkeys Many years ago (1911) I[13] pointed to the fact that this phase of bleeding into and from the mucous membrane of the uterus is found in those organisms (man and monkeys) in which, at the corresponding phase of the fertile cycle, placentation is accomplished by a free extravasation of blood in the same regions I further showed that a personal study of two early human ova, the description of which I[13] have published elsewhere, and of tubal pregnancy, provided conclusive proof that the young trophoblast obtains its blood supply by provoking a wide gaping of the maternal vessels and a free extravasation of blood These conclusions, it was pointed out, were supported by the descriptions given for other early ova There was, moreover, clear evidence that these striking tissue changes are produced by a chorionic hormone which acts by eliciting a vascular and tissue response similar to that present in the pre-bleeding phase of menstruation It was contended that these observations alone satisfactorily explain (1) the peculiar structural properties of the endometrium which is adapted to respond in this specific way to the hormone, and (2) the biological significance of the bleeding phase in man and monkeys and its time relation to ovulation I have expressed the relationship between menstruation and implantation somewhat figuratively by saying that the endometrium bleeds in anticipation just as it bleeds with realization

Within recent times Hartman[5] and Corner have directed attention anew to these interesting biological questions Corner,[14] in a very clear statement of the position, says

> "My conjecture is thus that in order to provide for the highly specialized embryonic implantation of primates with its opening of the maternal blood vessels into the intervillous spaces, the endometrial process is carried so far as even to cause bleeding into the tissues during the last days of the interval, at the time during which the early embryo is to be implanted The action of the embryo alters the latter part of the process so as to inhibit or limit the haemorrhage, but if no embryo be present to utilize the extravasation, then the blood escapes into the uterine lumen and externally visible bleeding occurs Such a hypothesis seems to render the menstrual process something more than a pathological wastage, and also suggests a reason for its total absence in species which have less specialized forms of implantation"

The "hormonic machinery" by which, with embedding of the ovum, widespread bleeding into the mucosa is accomplished necessarily demands some localization of the process after the ovum's needs are complete Otherwise the hormone soaking through the tissues and reaching the distant areas of the sensitized mucosa via the blood stream must provoke extensive and disastrous bleeding. In my early work I suggested that we might see in the decidua the method by which this generalized inhibitory mechanism is expressed, and I pointed out that such a view has the advantage of accounting for the universal distribution of the decidua (reflexa serotina and vera), an explanation obviously lacking in the orthodox view that it is laid down to protect the maternal tissues against the inroads of the trophoblast This conception, which contains a germ of truth, arose at a time when the opening up of the maternal tissues was erroneously believed to be accomplished by a phagocytic action of the chorionic cells I have shown that in tubal pregnancy we sometimes discover a striking demonstration of the role thus attributed to the decidua in that the only areas of the tubal wall protected against this

hormonal dissolution are those areas which can exhibit an effective decidual response—that is the mucosa. The existence of a decidua in the uterus in such cases can be similarly explained. This conception of the antihormonal function of the decidua necessarily in view of recent work, involves a restatement of the role of the corpus luteum. The work of Loeb and others has shown that it is this body that confers upon the endometrium its deciduability and has taken in conjunction with the above considerations enables us to formulate more exactly the part which it is known to play as an essential pregnancy organ.

The Placental Hormones

Many observers have shown that hormones with properties similar on the one hand to the oestrus-producing hormone of the ovary and on the other to that of the anterior pituitary can be isolated in considerable amount from the human placenta. There is a good deal of evidence that these hormones are directly elaborated in the organ and are not, as has been suggested, merely transferred there for storage. Whilst the large scale on which they are manufactured by the placenta would seem to leave no doubt that they subserve some important pregnancy functions, the exact nature of these functions remains a mystery. I have indicated above how in the early phase of placentation there is recognizable evidence of the hormonal activity of the trophoblast. It is now well known that the secretion of the hormone similar to that of the anterior pituitary in the urine of a pregnant woman forms the basis for the very sensitive Zondek-Aschheim test for pregnancy. The urine is injected into immature mice and the activation and luteinization of the ovarian follicles constitute a positive result.

PATHOLOGICAL UTERINE HAEMORRHAGE

The impetus which the new discoveries have given to the study of sex physiology has expressed itself also in a renewed study of the pathology of the sex process. At the same time the uncertainty still surrounding the basic factors of function imposes a limit on the extent to which we can appeal to physiology for aid in our clinical problems. For this reason it is natural that whilst the development of our pathological studies has necessitated much restatement of fact in regard to the essential causative agencies we are still largely ignorant. We have seen that the physiological function of menstruation is under the hormonal regulation of (1) the anterior pituitary and (2) the ovary which by a co-ordinated mechanism operate on (3) the uterus. Not unmindful of the fact that diseased processes may, and not infrequently must, influence this tripartite mechanism from without we may profitably pass under review the ways in which each member of it may contribute to the production of irregular or excessive uterine bleeding.

The Anterior Pituitary and Irregular Uterine Haemorrhage

On this question there are few data. It is reasonably certain that dystrophia adiposo-genitalis (Fröhlich's syndrome) with its arrested sex functioning and amenorrhoea is determined by hypofunction of the anterior pituitary. On the other hand, except perhaps in the case of acromegaly where there is commonly an initial menorrhagia, we have no direct evidence of the part played by the pituitary in producing excessive bleeding. At the same time the primary part which it is now recognized to play in the control of the ovary will make it necessary for us in the future to bring it increasingly under scrutiny in all ovarian dysfunction associated with irregular bleeding. It is in the meantime legitimate to conclude that in many instances the well known influence of mental excitement or shock on menstruation may arise from a sympathetic disturbance transmuted in the pituitary into an endocrinal stimulus to the ovary. Hence for example we may imagine an explanation of the frequency with which menstruation starts prematurely in the patient faced by the ordeal of the examination room. On the basis that uterine haemorrhage of obscure origin may be controlled from the pituitary, Hofbauer[15] and others have employed *x* radiation of the region of the sella turcica.

Uterine Haemorrhage of Ovarian Origin

In a paper published in 1913 and entitled "Uterine haemorrhage of ovarian origin,"[16] I directed attention (to quote from the paper) to

> those cases where excessive menstrual and an intermenstrual loss are present and where on examination nothing abnormal or only some uterine enlargement is found. Such cases are very common. They are unceremoniously thrown into that lumber room of classification—endometritis. As a sort of hit in the dark curettage is done. On microscopic examination there is no evidence of inflammation but only an oedematous and haemorrhagic endometrium without or more commonly with an increase in the glandular elements. Many cases of glandular increase are certainly pathological. But for them glandular endometritis is a misnomer.

The views then expressed sprang from a conviction based upon an extensive study of the pelvic pathology in such bleeders. This characterized as it typically was by general uterine enlargement and endometrial thickening partook rather of the nature of an exaggeration of the functional changes occurring during the normal cycle. The paper included a study of two typical cases where in association with this pathology there were haemorrhagic lesions in the corpus luteum of the ovary. I further emphasized that

> where there is found on examination nothing abnormal except some uterine enlargement and where the mucosa is found to exhibit the appearance of so-called glandular endometritis an ovarian source should be suspected.

Subsequent experience has confirmed me in the views then expressed that except in rare instances, the terms chronic endometritis, chronic metritis and fibrosis uteri as ordinarily employed for such cases spring from a misreading of the essential pathology. A true histological picture of endometritis is rare, apart from an infected childbed or abortion, degenerating tumours in the interior of the uterus and those other conditions, such as infection after operation in which the history and pathology present more or less acute characters. Similarly a true metritis I have never seen except in the unequivocal presence of inflammation—for example in an adhesive peritonitis in which uterus and infected appendages are involved in a contact infection. The investigations of Schroeder[1] on metropathia haemorrhagica—the term which he has given to a common condition exhibiting, in association with irregular and excessive bleeding and a proliferative lesion in the uterine musculature and mucosa characteristic ovarian changes—have directed attention to ovarian disease as a frequent factor in chronic bleeding disorders. Beckwith Whitehouse[14] in this country has in a series of communications, emphasized the same lesson and has sought to explore the field of physiology for the solution of some of the problems in pathology. More recently Wilfred Shaw[19] has published the most comprehensive attack on the subject that has so far appeared, consisting as it does of a combined clinical and pathological study of 200 consecutive cases of irregular uterine bleeding at St Bartholomew's Hospital excluding instances of malignancy, polypi, caruncles, erosions of the cervix and senile vaginitis. Wilfred Shaw was able to divide the cases into different classes. (1) Of the total, 50 or about 25 per cent. fell into the category of metropathia haemorrhagica. In 50 per cent. of these there was a uniform thickening of the musculature of the uterus and typically the endometrium was thick and polypoidal and the glands were cystic and increased. The ovaries contained large unruptured or recently ruptured cystic follicles and corpora lutea were rare. Cases occurred at any age from puberty till after the menopause but the chief age incidence is 40 to 50. Frequently before the characteristic continuous haemorrhage there was a period of amenorrhoea of a duration of one month or more. 80 per cent. of the women were parous. Schroeder has explained the bleeding as being due to the absence of the inhibitory influence of a corpus luteum. (2) The second class including 72, or 36 per cent. exhibited in association with excessive loss a reduction of the menstrual cycle to two or three weeks. Examination of the ovaries showed a corresponding alteration in the cycle of ovulation. The chief age incidence again is between 40 and 50. Shaw attributes the menstrual abnormality and the uterine

pathology to hyperactivity of the ovaries (3) In a further class there were 27 cases, or 13 5 per cent, in which the essential clinical features consisted of an augmented blood loss associated with a lengthening of the cycle to thirty-five or forty-two days In some the newly acquired spacing of the cycle became more or less regular whilst with others the cycle was irregular, varying between three and six weeks There was again evidence of an underlying ovarian alteration (4) In 48 cases out of the total the etiology was obscure, and, whilst ovarian causes might be operative this could not be established (5) In only 13, or 6 5 per cent, was there histological evidence of endometritis, and in all except one the symptoms had not extended beyond two months *In none of Shaw's cases were there findings* warranting an explanation based upon such conditions as chronic metritis and fibrosis uteri, and, further, it is stated that 'there is no evidence to support the view that cases of irregular uterine haemorrhage are determined by subinvolution"

These investigations are of great importance, and, if confirmed, they will necessarily demand a complete reorientation of our outlook in regard to this question for they infer that, in the absence of a gross lesion in the uterus chronic bleeding diseases, in a ratio of over 70 per cent, are associated with ovarian disorders At the same time the exclusion of a primary uterine factor and the invocation of an ovarian dysfunction do not explain the disease complex, for we are still left with the necessity of accounting for the ovarian disturbance For this we must await the outcome of future research In this connexion I[20] have elsewhere pointed to one such possible factor in the frequency with which chronic cervicitis is associated with menstrual arhythmia and excessive loss I have found such menstrual derangements in 82 out of a consecutive series of 124 cases—that is, 66 per cent Other observers have referred to the same fact Thus Masson and Parsons[21] found that menstrual irregularity was the chief complaint in 25 per cent of their cases of chronic cervicitis, although a larger number admitted deviations when specifically questioned Jeff Miller[22] and Behney[23] also refer to this relationship In these cases there is no pelvic abnormality capable of accounting for the menstrual irregularity and excess, the examination revealing nothing more than some general uterine enlargement and some hyperplasia and proliferation of the endometrium—the conditions that is which we have seen to accompany ovarian disorders Moreover as I have shown, in a considerable number the menstrual disturbance clears up after treatment limited to the cervical condition Behney has had a similar experience, obtaining cure of menorrhagia in 63 per cent of his cases after cauterization of the cervix For these reasons I have suggested that in some way which is at present obscure, perhaps via the rich sympathetic supply of this region we may conclude that the cervical lesion leads to involvement of the ovarian function There is evidence in the lower animals of an intimate nerve relationship between the cervix and the ovary Thus in the mouse, mechanical irritation of the cervix causes the prolongation of the luteal phase normally accomplished by coitus, and in the rabbit coitus, whether fertile or infertile produces ovulation It is likely that these phenomena whilst originating in sympathetic impulses, are transformed by the pituitary into hormonal influences sent to the ovary and it is conceivable that pathological impulses from the cervix may initiate through similar channels an aberration of ovarian function I have shown that positive evidence of disease of the ovarian follicular system was found in two such cases in which the abdomen was opened for the purpose of hysterectomy

Differential Diagnosis and Treatment of Irregular Haemorrhage of Ovarian Origin

In many such cases the diagnosis can be made with approximate accuracy from a study of the clinical history combined with the absence of any gross pathology found on pelvic examination The bulk of the cases occur in women between the ages of 40 and 50 however when fibroids and cancer loom large as causes of haemorrhage, and to exclude these an exploration of the uterus is necessary Cervical cancer with its foul discharge and its indurated, friable, and frequently excavated lesion and its irregular, intermittent bleeding, is rarely a cause of difficulty In corporeal or endocervical cancer and fibroid polypoidal growths and the chronic bleeding of placental fragments, exploration alone reveals the condition The bleeding from threatened abortion may occasionally cause confusion, especially since, in such conditions as metropathia, the continued bleeding may be preceded by amenorrhoea It would seem that some post-menopausal cases of bleeding are caused by ovarian 'rejuvenescence' but, mindful of the frequency with which bleeding at this time connotes malignancy, cervical cancer should be suspected with a healthy cervix, curettage, followed by microscopical examination of the material removed, is always necessary In the last series, comprising a total of seventy-two consecutive cases of post-menopausal haemorrhage which I have had in hospital, there were sixteen cases in which no uterine pathology adequate to explain the condition was found, and in a majority of such cases ovarian factors may be postulated In three there was a condition of simple cystadenoma of the ovary

The treatment to be adopted in these conditions will be determined by various factors, of which age is the chief The fact that we are progressing towards a rational pathology justifies the hope that we are within measurable distance of a scientific therapeusis directed toward the factors that disturb the ovarian function Meanwhile, however, until we have this knowledge, the only alternative left to us in many cases consists of symptomatic treatment for the bleeding It is my practice in women over 40 to carry out an exploratory curettage to establish a diagnosis When malignancy is excluded, and as curettage is occasionally followed by cure, I discharge the patient with instructions to report if excessive bleeding return In this event she is sent to the radiologist for x-radiation of the ovaries and the production of an artificial menopause In the hospital patient this involves three visits as an out-patient Radium may be employed as an alternative This is my routine practice also in younger women where the failure of other treatment precipitates the need for drastic measures The employment of these means has, in my practice, led to the elimination of hysterectomy for such cases The operating records no longer show, as in former days, the comparatively frequent tale of "hysterectomy for intractable haemorrhage," with its not inappreciable mortality, apart from the mental and physical distress associated with all major surgery Suffering women have much reason for gratitude since the advent of radiation therapy beyond the relief it confers in the sphere of cancer treatment In young women these conditions are frequently a source of great anxiety because, on the one hand palliative measures are so commonly ineffective, and on the other hand, the above drastic therapeutic measures constitute at this age so terrible an alternative The haemorrhage of puberty and of girls in their teens which probably is practically always hormonal in origin, sometimes reacts satisfactorily to curettage general hygienic measures, the administration of calcium salts, etc In such cases and in women still in the reproductive period, we must necessarily postpone to the last moment any decision which is in its nature irrevocable, in the hope that time will bring relief The commercial ovarian preparations of proved activity, such as sistomensin, agomensin, etc, may be tried although I have not found the same response with such drugs in cases of haemorrhage as in dysmenorrhoea in which the effects may be remarkable Such therapy is in the present state of our knowledge, necessarily largely empirical, and must remain so until our knowledge increases In intractable cases x-radiation in minimum dosage may be cautiously tried in the hope that alleviation without sterilization may be accomplished On this treatment some gynaecologists have reported favourably although there is always attendant on it the spectre of overdosage, leading to permanent infertility I have had better results with radium administered in minimal dose than with x rays

In cases associated with cervicitis, in my experience the best treatment at all ages is the use of the cautery The cervix is dilated to a degree sufficient to allow ac-

the electric cautery to the internal os Three lines of incisions behind and three in front are made from internal to external os and over the catarrhal patch on the vaginal portion The cautery scars through the mucosa into the adjacent fibro-muscular wall and Nabothian follicles are individually punctured In some cases a repetition of the process at the end of a month is required After each application a plain warm water vaginal douche should be given daily for a week or ten days to act as a mechanical cleanser, and to facilitate the removal of the sloughs which sometimes form

Pathological Haemorrhage of Uterine Origin

It will have become apparent from the preceding remarks that recent advances in our knowledge have enabled us to lift bodily out of this category a large group of cases which were previously and erroneously considered as having uterine cause for the irregular bleeding and which are now to be regarded rather as ovarian aberration with secondary uterine change This applies to a large number of these cases previously described under such headings as "fibrosis uteri," "chronic metritis" 'chronic polypoidal domestritis," "chronic glandular endometritis' and "subinvolution" The discovery in cases of fibromyoma of ovarian changes similar to those found with the above conditions even raises the question as to whether the irregular bleeding found with these tumours may not in reality, sometimes spring from this cause Frank has even suggested that the tumour may derive its origin from localized overgrowth in the uterine wall arising from ovarian hyperactivity

SUMMARY

1 Menstruation can occur in the absence of ovulation and the corpus luteum and it cannot therefore be interpreted in terms of an analogy with pseudo-pregnancy in lower animals, for which a luteal phase is necessary

2 Further, its place in the cycle in relation to ovulation undermines the conjectural analogy between it and proestrous bleeding in lower animals

3 These analogies can be further invalidated and the essential meaning of its existence in man and monkeys explained by recognizing it as a function of the peculiarly haemorrhagic type of implantation of the ovum found in these higher animal forms The bleeding of menstruation and the bleeding of implantation are homologous in that they occupy the same place in the sex cycle and the external bleeding expresses the escape of the unwanted "implantation blood" in an infertile or a non-ovulating cycle

4 Many of the bleeding disorders erroneously attributed to such conditions as chronic glandular endometritis, chronic metritis fibrosis uteri etc are in reality expressions of disturbances of unknown origin in the ovarian (or combined pituitary-ovarian [2]) regulation and definite clinical entities with correlated structural changes in the ovary can be recognized

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CONGENITAL DISLOCATION OF THE HIP

LATE RESULTS OF TREATMENT BY MANIPULATION *

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(*With Special Plate*)

For the purposes of this communication an attempt has been made to examine clinically and by x rays 70 cases of congenital dislocation of the hip which were treated by me by manipulation at the Royal National Orthopaedic Hospital between the years 1903 and 1920 I have succeeded in examining within the last two months, 25 of these cases involving 32 joints All surgeons in large cities have found a difficulty in tracing patients after a lapse of many years Stephens' reports that he could examine and x-ray 7 patients only out of 185 treated in the Hospital for Ruptured and Crippled between 1901 and 1910

The 25 cases comprised 4 right unilateral (4 joints), 14 left unilateral (14 joints) and 7 bilateral (14 joints) The average period since reduction was upwards of fifteen years and the average age of the patient at the time of reduction was upwards of 4½ years

Method Employed

During the earlier years the Lorenz method was employed with its violent stretchings its hackings" and its leverage over a wedge Gradually less violence and fewer stretchings were found sufficient for reduction and traction with the fingers replaced the wedge With few exceptions a short spica has been employed fixing one hip only in unilateral cases The first plaster has fixed the limb in the position of greatest stability and as much as 120 degrees of flexion and 110 degrees of abduction have been employed But these extreme positions have been maintained for the shortest possible period and usually within four to six weeks of reduction fixation in the position of 90 degrees flexion 70 degrees abduction and 0 degree of rotation has been possible This position has been retained until the end of the fixation period and no attempt has been made to diminish this state of 90 degrees of flexion or 70 degrees of abduction Exceptionally a long spica including the foot has maintained the limb in the position of abduction and internal rotation I have very rarely found the degree of anteversion sufficient to necessitate this position The period of fixation has varied from less than a month in a 9 months-old child to as much as one and a half years when stability was unassured A patten usually 5 to 6 inches high has allowed locomotion during the fixation period in unilateral cases After removal of the plaster the child has been encouraged to kick about and perform active exercises in the supine position for three months Standing has not been allowed until three months have elapsed from the end of the period of fixation I am afraid in some cases this rule has been broken by parents and the child has walked on its softened and decalcified neck, and that some of the changes in the neck are due to this I consider this is the most important period of treatment but in-patient treatment at this stage has been found impossible owing to pressure upon beds Massage and passive movements have rarely been employed A plaster bed holding the limb in 90 degrees flexion and 70 degrees abduction has been used at night until three years after the date of reduction For three months after walking has commenced a patten 1½ inches high has been used on the sound leg to keep up the abduction on the affected side

Clinical Results

The clinical result of these 25 cases are as follows bad 1 poor 2 good 13 perfect 9 Unfortunately there is no standard or criterion when we try to classify end results in terms of function and we are faced with many difficulties There are two constant disabilities in the unreduced hip however well it may function for locomotion —namely shortening and limp To arrive at the measure of shortening in unreduced hips I used the opportunity,

* Read before the Section of Orthopaedics at the Annual Meeting of the British Medical Association, Winnipeg 1930.

when examining over 80 cases of congenital dislocation of the hip at the Royal Surgical Aid Society during the years 1909 to 1919, of estimating the shortening in 50 consecutive cases of unilateral dislocation, which had not been subjected to any attempt at reduction, 28 were left-sided and 22 right-sided. The ages of this series ranged from 13 to 67, with a mean age of 26·7 years, and shortening ranged from 1½ inches to 5 inches, with a mean shortening of 2·55 inches. The variations of length in the 18 unilateral cases under review show a range of 1 inch shortening to 1/4 inch lengthening, with a mean shortening of 0·375 inch. The limp is an unmeasurable and variable quantity, and no single clinical examination or cinematograph record is completely trustworthy. A patient may not limp when examined or before the camera, yet with slight fatigue an asymmetry in the walk may show, from weakness in the pelvi-trochanteric muscles, however stable the hip-joint. I have therefore taken the patient's word that he or she limps, although my own observation may not have confirmed this. A short clinical examination may not have revealed a slight arthritis, is compatible with a good functional result. Of the 3 cases which gave bad or poor results, one was bilateral, reduced at the age of 8 in 1912. Subsequent experience shows that this treatment was inapplicable, and should not have been employed. Yet the patient works as a shop assistant, and is on her feet all day. X-ray examination shows anterior transposition and concentric reduction, with a flattened head and atrophied neck. Another is a right-sided condition, reduced at the age of 6 in 1914 with a concentric reduction, with active flexion of 30 degrees, abduction 30 degrees, but no rotation at all. She works as a dressmaker and swims and dances a little. The third is a bilateral case reduced at the age of 4 in 1913. She works as a milliner, can swim two lengths at the baths and cycles ten miles. She shows anterior transposition and eccentric neurthrosis. Thirteen cases (17 hips) giving good results have full, free, and painless movements. Six exhibit a slight limp when examined with a loincloth only or after exertion. They show one anterior transposition, four eccentric neurthroses and twelve concentric reductions while nine, giving perfect results, are indistinguishable from normal, except in the circumferential measurement of the upper thigh. In five there is one to two inches of atrophy in two even this difference is absent, each measuring 22 inches in circumference. X-ray examination shows two concentric reductions with coxa valga, and eight indistinguishable from normal.

X-Ray Records

Turning now to the x-ray results, I am able to show cords of all these hips, taken within the last two months. Of these 25 per cent. are accounted for by three anterior transpositions and five eccentric neurthroses, the remainder (75 per cent.) being sixteen concentric reductions and eight which are normal. In the three transpositions, two occurred in bilateral cases classed bad or poor, one occurred in a unilateral case reduced in 1906, and is a good functional result. In the five eccentric neurthroses four occurred in unilateral cases with good function, one occurred in a unilateral case with poor function. In the sixteen concentric reductions which show abnormalities, the acetabulum may show an increased obliquity or some shallowness, the femoral head may show irregularity in its sphere or flattening, the neck may show valgal or varal bending, anteversion, and stunting. I hold that some of these changes are inevitable whatever treatment is employed, and are due to the same faulty growth impulse which caused the original malformation—namely, an error of mesoblastic growth. The functional results of the cases shown with shallow acetabula and increased obliquity are so good and the joints so stable that I think that roof formation by an osteoplastic graft is only called for in extreme cases of shallowness and obliquity. Whether the changes in the head and neck are due to an absence of growth impulse to trauma from reduction, thus allying it to Kummell's disease to osteochondritis, to osteo-arthritis juvenalis, or to several of these causes still remains an open question. Obviously trauma should be avoided and compression prevented during the decalcified stage, the former by reduction at an early age, and the latter by after-care. Froelich,[2] Judet[3] and Bade[4] agree that a functional result is consistent with such changes in both constituents of the joint. Bade has observed good functional results with eccentric acetabular formation. The normal deep acetabulum and long femoral neck give 130 degrees are provided for athletic, gymnastic, and battle feats, walking, running, dancing, and swimming can be carried out with shallower acetabula and shorter necks provided the joint is stable and enjoys free and painless motion. The eight joints that are classed as normal are indistinguishable from the hip-joint on the sound side.

Conclusion

My view is that manipulative reduction at the early age should be employed. In children under 2 or 2½ reduction can usually be obtained with the greatest ease whilst gently stretching the adductors. In older children if an early reduction is not obtained two further attempts at intervals of seven to ten days should be made, after reduction without force will usually be possible. After three unsuccessful attempts, capsulotomy is indicated in order to deal with the obstruction of soft parts. If, after successful reduction, redislocation occurs from failure of growth of the superior and posterior borders of the acetabulum the border should be levered over the head and held by a bone graft. The age limit for manipulative reduction is 7 to 8 in unilateral, and 5 to 6 in bilateral cases. In cases beyond these age limits open reduction is indicated.

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PLEURAL EFFUSIONS IN GENERAL PRACTICE *

BY

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(With Special Plate.)

I HAVE chosen this subject for two main reasons. Firstly, it has been impressed on me that in the examination of cases of chest disease the possibility of effusion is not sufficiently kept in mind and so it is often missed; secondly, there is even yet a lack of clear teaching as to what should be done when an effusion has been found.

Let me illustrate these assertions by examples taken from two of the great teaching hospitals of London. At an inquest held on a man who had died under an anæsthetic in a London hospital while being operated on for gallstones, the coroner summed up as follows:

"There was a large amount of fluid in the chest, but it was not discovered. It ought to have been, but it was not. This man has died under an anæsthetic administered for the purpose of an operation for a disease from which he was not suffering. It is a case of mistaken diagnosis."

With regard to treatment, I heard Sir Thomas Horder open a discussion on this subject at Manchester, in which he mentioned that he very seldom saw a pleural effusion in hospital, as his house-physician had aspirated before he had had an opportunity of examining the patient. These selected graduates are apparently under the delusion that the correct treatment for a pleural effusion is to aspirate as completely as possible immediately it is diagnosed. "If they do these things in a green tree, what shall be done in the dry?"

Classification of Effusion

As is well known, effusion may be a sequel to injury of the chest wall, and the nature and subsequent course of such an effusion, which practically always contains blood, is determined by the character and severity of the injury. These cases are really surgical, and will be excluded from consideration. We need only study two varieties (*a*) clear, (*b*) thick.

* Substance of a presidential address to the Gloucestershire Branch of the British Medical Association, November 13th, 1930.

Clear Effusions

he clear effusion is the commonest one with which I l There is a simple oedema of the pleural sac, irring most frequently in heart disease, which may for purpose be dismissed in a word It is a transudation lear fluid of low specific gravity, non-inflammatory in ure, and is associated with oedema elsewhere It is part of a general interference with the circulation of ue fluids, and its importance in the pleural cavity is ely mechanical It should be removed when it is sing distress, and as often as is necessary, for it ws little tendency to absorption, the cause as a rule ng continuous and progressive

wish especially to direct attention to the clear effusion en coming on insidiously and without evident cause— so-called *primary* or *idiopathic effusion* This is an idate, with a higher specific gravity and a firmer clot n the transudate of heart disease (Should doubt exist any particular instance the pathologist will soon settle question if 5 c.cm are submitted to him) It is result of an inflammatory process and the process ich causes it is tuberculous An effusion of this type uld never be regarded, as it often is as an illness in elf, to be considered cured when the fluid has apparently appeared it is proof of an underlying lesion demanding g and serious treatment The many demonstrations om both the pathological and clinical standpoints that is effusion is essentially tuberculous, are still unheeded numbers of practitioners, indeed, there is no lack of tive opponents of the idea

The *Lancet* report of the Manchester discussion on this bject, to which I have already referred contains the llowing passage Dr Russell objected strongly to the eat interference with working life and the mental agony flicted by a tuberculous outlook in these cases Treatment by ordinary means was quite satisfactory" There e of course, numerous instances of tuberculous manifestations subsiding under treatment by ordinary means, en in the absence of a correct diagnosis but who is be the infallible prophet who will say in any particular se that the obvious warning which effusion gives may fely be ignored, and that the patient's agony of mind f that is a reasonable term) is not simply being deferred ll it is too late to be alleviated? The pathologists e now coming down very decisively in favour of ie 'tuberculous outlook" in every one of these cases linicians with large experience are more convinced even an the statistics suggest Without presuming to rank rself among the clinicians with an exceptional store of perience, I may say that in the county of Gloucester have seen enough, in the past seventeen years to enable ie to speak with conviction if not with authority Scores times have I seen patients who gave a history of an ttack of pleurisy with effusion for which they were kept ff work for only a very limited number of weeks and hen I examined them I found active pulmonary tuberculosis with tubercle bacilli in the sputum, and a prognosis arying from 'moderate" to 'extremely bad" In the undred beds at Standish House for adult pulmonary cases here were last month twenty-seven patients whose illness ad been associated with effusion A number of these atients had undoubtedly missed, owing to neglected ffusions, the most favourable opportunity for treatment nd some tragic after-histories might have been avoided ad this sign of tuberculosis received due consideration at he proper time In my opinion a diagnosis of idiopathic leural effusion is in fact a diagnosis of pulmonary tuberculosis, in the Ministry of Health classification and the ractitioner ought to recognize it as such and notify accordingly

What of the effusions which are not diagnosed It must not be imagined that these are few and far between Every year I see large numbers of them The chief pitfall n diagnosis, when the patient is really examined, is the old and erroneous belief, which still unaccountably persists that breath sounds are invariably absent over an effusion All that can be said about breath sounds in this condition (and it is not particularly useful) is that they may be absent, or weak, or altered The stethoscope in fact is frequently more misleading than helpful There are no physical signs pathognomonic of fluid they may all be found in other conditions It is quite a common mistake for a doctor to think he cannot be dealing with an effusion because he hears loud bronchial breathing over the dull area If in addition he discovers whispering pectoriloquy, he then feels confident that there is *consolidated* lung plus a cavity Yet exquisitely pure whispering pectoriloquy may be heard over an effusion, and bronchial breathing is about as commonly present as absent The golden rule is when in any doubt put in a needle This is a procedure which ought to be practically painless if it is properly done The common faults are (*a*) the use of a blunt needle, (*b*) the use of a defective syringe (*c*) absence of local anaesthesia especially of the pleura (*d*) want of care in determining a rib interspace, (*e*) the use of too short or too fine a needle It is truly surprising to see how often a rib is fouled in putting a small needle into the pleura A frequent source of failure is to locate an interspace with the point of a finger, and then go about an inch wide horizontally, forgetting the angle at which the ribs run, and inevitably hitting bone

The ideal procedure is somewhat as follows

The skin is well painted with tincture of iodine or colloidal iodine over the dull area usually just below the angle of the scapula or in the fifth or sixth space in the axillary line A fine needle is fitted to the syringe which is filled with sterile 2 per cent novocain solution Two fingers are used to define the intercostal space and between them a bleb is produced by intradermal injection of novocain A larger needle is then fitted to the syringe and pushed vertically and slowly through the bleb and the insensitive intercostal muscles the patient being asked to say whenever any sensation is felt this indicates proximity to the pleura The remainder of the novocain is then used to infiltrate the pleura the cavity is entered the piston is withdrawn and the syringe fills with fluid The needle should be sufficiently long to avoid driving it up to the hilt as that is where needles tend to break a troublesome complication If the syringe draws blank then either the dullness is not due to fluid or there is pus too thick for the needle In the latter case a really stout needle should be passed along the anaesthetized tract (this will be painless) and if pus is present it should be found

Treatment

Let us suppose first that a clear exudate has been withdrawn into the syringe What is to follow in the way of treatment The patient should be kept in bed until all constitutional symptoms have passed and the morning and evening temperature has been normal for at least a week A properly kept chart is of the greatest importance This will mean on an average rest in bed for three or four weeks The fluid itself, if at all possible should be left severely alone The only legitimate indication for simple aspiration is distress due to the bulk of fluid which is as in the case of the transudate a purely mechanical consideration Here however we have not a failing heart to contend with All other indications all warnings as to remote consequences, should be disregarded It is surprising how little distress a really large effusion sometimes produces Fluid right up to the clavicle may not inconvenience the patient to any extent and moreover may spontaneously disappear in three or four weeks Interference frequently does harm imagine what happens inside a chest when a large effusion is rapidly withdrawn by a Potain's aspirator the bottle being kept as near a vacuum as enthusiastic pumping can make it the fluid discharging with an obscuring froth full bore into the container We have all participated in such a scene Meanwhile a high negative pressure is being induced inside the pleural cavity followed by a rapid expansion of diseased lung and a quick change from the lymphatic tasks of collapse to the flooding of the lung tissue with fluid Apart from the risk of pain syncope and even of sudden death the risk of dissemination of disease of the lung is far from negligible I will not complicate matter by describing the replacement of fluid by air a valuable procedure as this is very rarely done in general practice Should simple aspiration be resorted to it is best not to withdraw more than about a pint at a time and the actual withdrawal should occupy ten minutes Some people advocate injecting a little of the exudate into the patient's own tissues a species of auto-serotherapy Considerable benefit has been claimed for it but I should not recommend it as the essential precautions are difficult of fulfilment

The point in treatment which I wish to emphasize above all else is the recognition that primary clear pleural effusion is tuberculous, and that to allow a patient to resume his ordinary work in a few weeks, as is often done, is a dereliction of duty on the part of the practitioner. There is presented to us in this condition an opportunity of treating early pulmonary tuberculosis, and for the usual type of patient sanatorium treatment offers the only hope of carrying out the necessary disciplined life for the requisite length of time. Objection will almost certainly be raised to this course, and unless the position is rationally explained to the patient his co-operation can hardly be expected. If a patient cannot or will not enter a sanatorium, then a careful routine should be laid down for him for a period of three to six months after his effusion. His normal activities should not be resumed within the period.

Thick Effusions

Pathological curiosities such as chylous fluids will not be considered. Only two varieties of thick effusion need be mentioned: (*a*) the haemorrhagic, and (*b*) the purulent.

The Haemorrhagic Effusion

The haemorrhagic effusion does not require much comment. It is said to point to the presence of new growth, but blood is not infrequent in tuberculous effusion. The diagnosis cannot be made from the effusion alone, it must be established by further investigation, which is beyond the scope of this paper. The point to remember is that blood in an effusion has no real diagnostic significance.

The Purulent Effusion

When pus is found, the diagnosis in one important sense is finally settled. It cannot be too often insisted on that if there is any reason to suspect pus in the pleural cavity, the sole method of diagnosis worth speaking about is the use—and, if necessary, the repeated use—of the exploring needle. All clinical criteria, all other methods of diagnosis, including *x* rays, however useful they may be are in comparison merely guesswork. As a rule, when a practitioner finds pus in a chest the first person he thinks of is the surgeon. He is quite wrong. It ought to be the pathologist. The immediate and overriding requirement is to establish the identity of the organism responsible for the pus, as everything in treatment depends upon this. A list of pyogenic organisms which may be found can be seen in any textbook. The list is long, exhaustive, and confusing. Amid this welter of possibilities the general practitioner has to think only of three which are of essential significance—namely, the pneumococcus, the streptococcus, and the tubercle bacillus. The first two are found in acute conditions, often with life actually in the balance, when a wrong move may turn the scale. Clarity of mind and of knowledge is here of the first importance. Should a pathologist not be available (and there must be few cases where he is not) then the differentiation between these two has to be made on clinical grounds.

Taking first the pneumococcal group, if, in a case of lobar pneumonia the crisis has occurred but the pulse rate continues high, suspicion should immediately be aroused as to the development of an empyema. The physical signs may suggest that the pneumonia has not resolved, but in the presence of a high pulse rate after the crisis the exploring needle should be used as a matter of routine. When pus is found it is of a thick, creamy consistence.

Very different are the conditions in a streptococcal broncho-pneumonia. Here there is commonly an exudate in the first week of the pneumonic process. This exudate is abundant, and is free in the pleural cavity, there are no adhesions. The exploring needle withdraws thin, cloudy pus not in the least like the "laudable pus" of a pneumococcal case. The two types require treatment which is radically different, although immediate operation is sometimes the only treatment considered. Osler wrote in his textbook: "It is sad to think of the number of lives which are sacrificed annually by the failure to recognize that empyema should be treated as an ordinary abscess by free incision." Doubtless this lament was justified at the time it was written, applying, as it presumably did, to pneumococcal cases. But, unfortunately, the advice to treat empyema as an ordinary abscess by free incision has been applied indiscriminately to all types of cases. Pus in the chest is obviously quite different from an ordinary abscess. Immediate operation, when pus was found, was the rule in the American training camps during the war. In one camp, out of eighty consecutive cases, the mortality was 84 per cent.; the average mortality was 48 per cent.—this in young men. These were streptococcal cases. Owing to the work of the American Empyema Commission, which assumed responsibility for treatment in three camps, the mortality rate fell to 4 per cent. And the essential change they introduced was staying the hand of the surgeon. As they themselves point out, the chief danger to be feared in streptococcal cases is premature and meddlesome surgery. The modern point of view was admirably stated by Dr. Edwards, opening a discussion at the Medical Society of London two years ago. He said: "It should be recognized at the outset that the treatment of empyema should never be regarded as an emergency requiring immediate operative intervention." To paraphrase Osler's phrase, it is sad to think of the number of lives which are sacrificed annually because this lesson is not fully appreciated. The critical question in connexion with operation is, Has the pneumonia subsided? Till this can be answered in the affirmative, open operation should be deferred. The pneumococcal empyema, with its creamy yellow pus formed about four weeks after the onset of the illness, should be handed over to the surgeon at once for adequate drainage, which usually means resection of a rib under a local anaesthetic. The streptococcal cases must on no account be operated on at once, or the chances of recovery are immediately reduced. The pus must be aspirated as required to reduce pressure, over a period of about three weeks until it becomes frankly purulent and adhesions have formed. By that time the pneumonia has subsided, and the case is ready for the surgeon.

A few months ago I was asked to see a schoolboy of 15 where the anomalous physical signs had raised the suspicion of acute tuberculosis. The boy was gravely ill with a streptococcal pneumonia, and repeated aspiration was carried out till the fourth week, when a rib was resected and all went well. Had this been done whenever pus was found, I have no hesitation in saying that the boy would have died. Sometimes the pus is absorbed completely, by accident or design it is not removed. Last year I saw a case which I am convinced belonged to this small group. The patient was a boy, aged 6, whose father had died from tuberculosis. He had been examined several times, and looked thin and white, but nothing had been found except a few small cervical glands, which were of no special moment. In May, 1929, this boy was stricken with an acute illness diagnosed as broncho-pneumonia and was removed to a local hospital. For three days his temperature was over 104° F. It then came down somewhat, but there was no sign of the pulmonary condition clearing up, and on the thirteenth day of the illness an *x*-ray film was taken which showed an almost uniform opacity over the left lung (Plate, Fig. 1.) I heard of all this from the boy's doctor about a month after the illness began. He kindly sent me notes of the clinical condition, and also the *x*-ray film. His notes read: "Temperature now swinging to 101° at night, normal in the morning, night sweats, dull up to spine of scapula on left side, bronchial breathing with some crepitations over same area." He added that in view of the family history and physical signs, he was sure the condition was tuberculous. I replied that the film did not suggest acute tuberculosis of the lung and advised putting in a needle. I saw the boy some days afterwards. In the interval a second *x* ray film had been taken which opened a "fluid level" in his left chest. When I saw him his evening temperature was 103°. He looked very white and ill. There was still dullness on the left side, from the base to the spine of the scapula, with patches of loud bronchial breathing and numerous coarse crepitations in the upper third of the left lung. I was told that the chest had been explored three times with a negative result. Being naturally loath to add anything, however trivial, to the distress of a child already somewhat exhausted by the examination, but, it must be confessed, rather against my better judgement, I accepted the risk excluding the possibility of pus, and, as the only reason

rmative, committed myself to a diagnosis of acute rcle, with a hopeless prognosis In spite of this the d persisted in slowly recovering and a month ago the x ray film showed that everything had cleared up pt for some thickened pleura in the middle of the left (Plate, Fig 2) The patient is looking well, and re are no physical signs in the che t

ases of missed empyema are I believe, not so rare as might expect As in the case just related the long-wn-out nature of the illness, the loss of weight, the lor, and profuse sweating may lead to an erroneous gnosis of tubercle I see them occasionally

ecently I examined a boy of 12 who had been ill nr weeks with these symptoms There was dullness l bronchial breathing over most of one lung I put a needle and found pus, which was up to the second

This boy was operated on next day, and did very well

was once asked to see a young man said to be dying of er ulosis as it was thought a second opinion might be a fort to the relatives I was told of the long illness the ting the drenching night sweats and the physical signs ich put the diagnosis beyond all doubt He was not expected live for more than twenty four hours When I visited him I s surprised to see him lying so quietly a distressing dy pnoea d been described to me as a marked symptom I then learned it during the previous night the shortness of breath had become reme leading to partial unconsciousness and such violent ruggling that it took three men to hold the patient in bed the throes of this struggle suddenly there was a report audible all in the room the patient's chest had burst and pints of pus re ejected as from a hose with immediate relief Certainly saw the wall plastered by pus 4 feet from the floor at a distance 6 feet from the bed There was a circular opening about the ze of a shilling in the third right interspace in front leading to ie pleural cavity The subsequent operation was entirely successful

The remaining group of cases, that involving the tubercle icillus, is not one with which as a rule, the general actitioner has much to do, unless he has a patient for hom some optimistic surgeon has resected a rib As ie sinus will discharge for the rest of the patient's life, e will see quite plenty of it

Conclusions

1 Do not be misled by physical signs
2 In cases of *any* doubt use the exploring needle
3 Remember that primary clear effusion is tuberculous
4 When pus is found, open operation should not be ountenanced till the lung process has subsided This neans, in pneumococcal cases, after the crisis, in streptococcal cases, three weeks or more from the onset of the llness and in tuberculous cases, never

TREATMENT OF LYMPHATIC GLANDS IN CARCINOMA OF THE CERVIX UTERI *

BY

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In the majority of cases of malignant disease the problem of the surgeon is how to treat metastases and it is well to consider why these distant growths should be so much more difficult to deal with than the original tumour

The destruction of the original tumour by means of excision or cautery dates back thousands of years all the advance made on the surgical side has been concerned with a better treatment of metastases When it was realized that carcinoma tended to spread by lymphatic drainage operations were devised to remove all the lymphatic glands and vessels which drained that area This increased the severity of the operation very considerably and the high primary mortality in many cases such as Wertheim's operation was due to the greater shock, the risk of haemorrhage, and the increased possibility of sepsis in such a large area of disturbed tissue

When radiotherapy first came into use, and it was found possible to heal the primary growth it appeared likely that the lymphatic areas would be dealt with far more satisfactorily by excision Unfortunately this has not so far proved to be the case, and the reason is by no means clear

The most likely cause appeared to be insufficient irradiation In many cases the gland are situated further from the surface, and they are therefore undoubtedly more difficult to irradiate with adequate intensity, but it is equally true that in other cases—for example, the lymphatics of the neck—the glands are, comparatively speaking superficial, and no such difficulty exists Accumulating experience would seem to indicate that the metastases are more radio-resistant than the primary growth

In a bacterial infection we know that the glands do much in preventing the spread of the disease The organisms have to pass through a cordon of glands before getting to the rest of the body and, as a rule the glands deal with the invaders very successfully The idea that the glands act in the same way in malignant disease is at first sight a tempting one but is it not possible that the glands in the case of neoplasm act in the very opposite manner—namely, by forming a centre in which the malignant cells can grow more readily? If the malignant cells which wander from the original tumour had the same opportunity of growth as in the glands, should we not find large masses in the tissues all the way along to the glands If microscopic sections are taken of the area between the original tumour and the lymphatic gland, the lymphatic vessels will very often be found to be completely blocked by cells but it is not until the glands are reached that large masses of cancer are found It seems obvious therefore that the cells which are wayland on their journey from the tumour do not have the same power of division and growth as those at a distance—namely in the lymphatic glands This can only mean that either the body has a resistance to the neoplastic cells in the intervening space or that there are factors in the glands which actually encourage growth The latter hypothesis is suggested at least by the fact that a tonsillar extract has a definite growth promoting substance for tissue culture and that tonsillar growths are very radio-resistant

So far we have considered only the question of cell growth There is however another aspect of the case that must be considered—whether the cells in these special positions are more radio-resistant Here we are faced with the problem whether the action of radiotherapy is a direct or an indirect one If we think of radio-action as being purely direct then it is only possible to think of the individual cell as being more resistant There is however, a growing suspicion that the disappearance of growth in the body is not mainly direct action but to a very large extent indirect action through the changes brought about in the surrounding cells. If this is true, then it may well be that the changes in the glandular tissue are far less than those in the other tissues of the body and therefore the action on the malignant cell is less intense

It is not difficult to suggest experiments that might help to throw light on this subject—for instance the direct implantation of tumours into glands before and after irradiation It has of course been shown by Murphy and others that implanted tumours do not take so well in an area that has been previously irradiated but I know of no experiments in which a comparison has been made between the effects of inoculating an irradiated gland and of inoculating a gland with an irradiated tumour the dose of irradiation being the same in both cases The mere fact that a previously irradiated area prevents an inoculated tumour from taking may prove to be of great significance in early cases of malignant disease It will perhaps be found that by a prophylactic irradiation of the glands cells will be unable to settle down and grow as effectively as they otherwise might

It is perhaps presumptuous for a mere clinician to try to discuss these biological problems of radio-sensitivity The most we can do is to try out various techniques by which the infected lymphatic areas can be better irradiated and experiment with various doses

One of the earliest types of malignant disease to be successfully treated by irradiation was carcinoma of the cervix uteri In early days the treatment was somewhat crude but in spite of this fact good results were obtained locally At the present time there are several different

* Read in opening a discussion in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association Winnipeg 1930.

techniques used in the vaginal application, and it can be said that any one of these will get rid of the growth in the cervix and vagina

It is possible that in some of the techniques the area irradiated is rather more extensive than others, but in no case can sufficient irradiation be applied per vaginam efficiently to deal with the glands far back in the pelvis—for example, near the bifurcation of the iliac artery. Of recent years the problem of glandular metastases in cases of carcinoma of the cervix has been approached by means of *x*-ray therapy. This combined method is extensively used in the Radium Institute in Paris and in many other centres. We at St. Bartholomew's are doing two series of such cases, one by means of radium plus *x* rays, and the other by means of vaginal application of radium and intra-abdominal radium.

It was in 1919 at the Brussels Radium Institute that the first attempts at intra-abdominal radium were made briefly the technique used was as follows. After placing the patient in the Trendelenburg position, the abdomen was opened and examination made of the pelvis. Next, an incision was made at the base of each broad ligament, and a tube of radium, containing 10 mg. of radium element *screened with the equivalent of 1 mm. of platinum* plus rubber, was placed in each broad ligament. In addition, three or more needles were placed through the lower end of the uterus. The ligatures from these containers were brought out through the abdominal wall at the lower end of the incision, the whole pelvis was then packed with six to eight yards of gauze, and the end of this gauze left hanging from the wound, together with the sutures. The abdomen was then closed, except for the place occupied by the sutures and tag of gauze. After a lapse of four or five days the gauze was pulled out, likewise the containers.

During 1923–24 the author used a modification of this technique in thirteen cases. In his experience it seemed to give rise to a rather severe peritoneal reaction, and for a time it was abandoned. An examination of the figures, however, revealed the fact that seven of the thirteen had lived for a period of five years or more, although two of these have recently died. It was therefore decided once more to try intra-abdominal irradiation, but to modify the technique. This has now been done as follows. At least six weeks are allowed to elapse after the vaginal treatment, so as to allow the cervix and vagina to heal before irradiating the pelvis. The abdomen is then opened with the patient in the Trendelenburg position, and a careful examination made, not only of the pelvis, but of the aortic glands and liver, if these are involved it is obviously useless to proceed further. If the pelvic glands alone are involved, or even if there seems to be no glandular involvement, twenty radium needles are placed right round the pelvis. Each of these needles contains 2 milligrams distributed over an active length of 32 millimetres, the walls of the needles are 0·5 mm. of platinum. The uterus is held well forward, and, starting at one sacro-iliac synchondrosis, the parietal peritoneum is picked up with forceps and the needle inserted as far as the eye just under the peritoneum. The next needle is placed about one centimetre from the first, until the outer border of the uterus is reached. This generally involves the use of five or six needles, sometimes an extra needle is placed deeper in Douglas's pouch, so as to irradiate the utero-sacral fold and the tissues lying below it. The same operation is carried out on the opposite side of the pelvis. Each needle is provided with a strong silk suture and a coloured glass bead, which is passed along the suture close to the eye of the needle. The glass bead serves two purposes: first, it prevents the suture from cutting through the thin peritoneum, secondly, it is very useful in finding the needles when removing them later. When the needles are in position all the sutures on one side of the pelvis are tied together, and their ends pushed down into the pouch of Douglas. The uterus is then allowed to fall back into the pelvis, and three or four needles are placed in front of the broad ligament (again subperitoneal, except for the eye and the bead), in order to irradiate the obturator glands. These sutures are likewise tied together, and allowed to fall down in front of the uterus. The abdomen is then completely closed for seven days. At the end of that time it is again opened to remove the needles, and then closed.

Dodd of the Westminster Hospital avoids the second laparotomy by putting the sutures through the abdominal wall, each suture being covered by a tube. In addition, I understand, he generally removes any palpable gland.

Other techniques of irradiating the glands have been suggested, for instance, Professor Daels of Ghent described a method by which an extraperitoneal channel was made reaching from the anterior superior iliac spine to the ischio-rectal fossa on the same side. A tube of radium attached to a chain was then drawn along this channel.

Results of Intra-abdominal Irradiation

The immediate results of the intra-abdominal irradiation as practised by the author are really very satisfactory. At first sight the idea of opening the abdomen twice within a week is rather startling, but it is surprising how little shock the patient experiences, as a rule the wound heals by first intention. Obviously it is an operation which cannot be performed on very feeble elderly patients, or when on opening the abdomen, the pelvis is found to be full of adhesions.

The results from point of survival rate are as follows:

Patients Treated with Intra-abdominal Irradiation

Degree	Name	First Treated	Died Period Survived		Living	
			Years	Months	Years	Months
2	A. D.	12/12/25		10		
2	K. H.	25/10/23	5	7		
4	A. A.	16/1/24			6	6
2	B. M.	23/1/24			6	6
3	A. H.	12/2/24		9		
2	F. P.	26/3/24		7		
3	F. W.	2/2/24		11		
4	C. McC.	10/4/24	1	10		
3	H. N.	23/4/24			6	3
3	M. B.	3/7/24			6	—
3	G. B.	—/9/24	6	—		
1	N. S.	5/3/25			5	4
3	M. M.	11/3/27	1	4		
1	M. I.	5/8/26			3	11
		New Method				
4	M. H.	2/6/27	1	1		
2	M. B.	20/9/27			2	11
1	E. C.	22/3/28			2	4
3	K. L.	26/1/28			2	6
4	A. D.	11/2/28	1	—		
4	A. G.	8/3/28		2		
4	B. B.	19/4/28			2	3
1	E. N.	—/4/28		10		
2	F. D.	21/5/28	1	9		
2	A. G.	3/5/28			2	2
1	F. H.	8/6/28			2	1
4	F. O.	28/7/28			2	—
3	B. H.	10/9/28	1	—		
1	M. W.	29/9/28			2	4
3	F. W.	8/11/28			1	8
1	E. B.	3/1/29			1	6
4	M. P.	14/2/29	1	1		
2	B. P.	6/12/28			1	7
4	S. J.	28/2/29			1	5
4	K. C.	30/4/29			1	3
2	A. T.	6/6/29			1	1
1	F. W.	22/10/28			1	9
2	M. P.	29/11/29				8
3	F. A.	17/11/29				6

It is evident from the above table that sufficient time is not elapsed and that the number of cases is insufficient to justify any conclusions whether this method of irradiating the glands will increase the five-year survival rate, but the immediate results are satisfactory enough to encourage the author to persevere with this method

APPENDIX CONCRETIONS OPAQUE TO X RAYS

BY

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(With Special Plate)

A CONDITION to which very little attention has been directed in standard literature is that of appendicular concretions opaque to x rays and large concretions in the appendix in general Several points of very real interest to the surgeon are involved and the case described here is sufficiently graphic to attract attention first as to the possible errors in pre-operative diagnosis arising from this cause secondly as to the embarrassment which may arise at operation more particularly in an acute case if we are not alive to the possibility of the occurrence of a really large appendicular concretion and lastly the troublesome sequelae which may be occasioned

Case Report

In April 1929 a man aged 39 was admitted to the Royal Southern Hospital in a condition typical of acute appendicitis with abscess formation He stated that up to within a week of admission he had been perfectly well when he had begun to feel pain in his right iliac fossa which had however not prevented his working until twenty four hours before his coming in when it became very severe and he vomited several times An appendix abscess was obvious and this was drained with the escape of a concretion The following day there came from the wound a calculus the nature of which was not immediately recognized the possibility of renal or biliary origin being entertained This stone was analysed and reported to contain calcium and magnesium phosphate a slight trace of iron a small amount of fibrin and no bile pigments or salts The pathologist remarked that it was of a very hard nature As the wound failed to clean up in the usual time lipiodol was injected up the sinus and a stereoscopic radiogram made which demonstrated a track leading to a large round shadow rather mottled in character This was interpreted as a calcified gland acting as a foreign body in an abscess cavity and exploration was decided upon After a tedious dissection a stone was disclosed lying in the lumen of the appendix which was quite clearly traced in its entire length The lumen at the centre was distended into a large bulbous swelling surrounding the calculus which was removed from a cavity completely lined with mucous membrane The appendix was then removed its outer coats being densely adherent but healing was rapid and uneventful

Description of the Calculus

In size shape and surface the calculus very closely resembled a walnut It was a deep red brown colour and extremely hard On being cut across the outermost shell only was found to be of this extremely hard consistency Just within this layer was a second lamina of mineral salts slightly less hard and the centre of the stone was occupied by a very much softer structureless mass The hospital laboratory reported that the nucleus was composed of an amorphous debris most probably faecal in origin The middle layer contained carbonate and phosphate of calcium and magnesium the carbonate appearing to predominate The outermost layer of all was composed almost wholly of triple phosphate with some calcium carbonate and earthy phosphate Other writers have reported a similar composition[1] and formation[3]

Origin of the Calculi

From this description it would seem clear that the stones in this instance were derived from local faecal accretions in the appendix This method of origin appears to be the common one although foreign bodies[4] have been described forming the nucleus and the question has been raised[2] as to the possibility of gallstones finding their way to this position Only one case is described in the article quoted and this contained very many small faceted calculi about 2 mm in diameter containing calcium phosphate and organic matter but no cholesterol bile salts or pigments The writer quotes Howard Kelly[4] and Mewdam Eccles as subscribing to the belief that the majority of these bodies are faecaliths formed *in situ* and not gallstones In one interesting case[5] the calculus was formed chiefly of bismuth which was traced to a bismuth meal taken by the patient for x ray purposes two years previously This stone measured 4½ by 1½ cm O T Williams was struck by the observation that appendix concretions are commonly larger than the normal appendix lumen and infers from this that they probably grow *in situ* as the result of salts being deposited on their periphery by the mucous membrane the fact of the excretion of inorganic salts by the intestinal mucosa being recognized He found support for this suggestion in the disproportionately large amount of calcium present in appendix concretions compared with enteroliths in general He further found an increased quantity of fats and suggested that the calcium occurred as a soap Maver and Wells[3] agree that as compared with enteroliths concretions found in the appendix contain an excess of fats and of calcium and support the suggestion that the fats are derived from the mucous membrane of the appendix itself but they do not agree that the bulk of the calcium occurs as a soap

DISCUSSION

In the journals of the last twenty years references to this condition are sufficiently plentiful to make it abundantly clear that its interest is far from being purely academic and is in fact of a highly practical nature

Diagnosis General Characteristics — The x ray appearance will in most cases be that of an irregularly calcified mass—that is mottled In the example quoted the centre was faecal and the salts were deposited in the periphery but the shadow was not particularly annular in form and reference to the cases in the literature confirms the suggestion that this characteristic is not usually present Although calcined chiefly in their outermost portions appendicular calculi do not throw a ring shadow Such a shadow has however been described with multiple nuclei Gottschlich and Fittig[14] describe lamination In this case the shadow is roughly circular in outline and this appears to be the common form Fusiform shadows are not described as a rule Multiple shadows may occur they are neither the rule nor the exception When present facets are found between opposed surfaces[1] The largest number of calculi removed is reported as four of which the biggest measured 2 by 1.5 by 1 cm[11] Demonstrable movement of the shadow will depend upon the degree of inflammatory fixation and must surely be limited as a rule In practically all circumstances the respiratory excursion will be negligible The size of the shadow is surprising In the case described it measured 3.25 by 2.25 cm and other instances have been recorded where the stones measured 2 by 1½ cm[1] 4½ by 1½ cm.,[8] and 1 2½ by 3 cm[12] One observer reports his case as "unique in the annals of surgery" The appendix contained two tapering concretions measuring respectively 1.5 by 6 cm and 4 by 1 cm[11] The pre-operative recognition of these stones seems to have been peculiarly rare Writing in 1915 Pfahler and Stamm[1] state that they were able to trace only one case which had been correctly diagnosed before operation this one having been discovered by Weisflog in 1906 when two stones were found in the appendix in the course of a radiological examination for ureteric calculi Case, at Detroit, in 1916 reported two cases correctly diagnosed by x rays In many of the cases reported there was an abscess formed in relation to the appendix and a concretion lying free in the cavity[1 13] J B Murphy[13] indicates the danger of all concretions in

the appendix causing sudden perforation without premonitory symptoms and producing an immediate acute peritonitis

Differential Diagnosis from Urinary Stones—The general characteristics just outlined should be sufficient to distinguish in most instances between an appendicular calculus on the one hand and a renal or ureteric calculus on the other. A shadow thought to be in the kidney should move on respiration and be shown in quite different positions in two photographs taken at the height of inspiration and of expiration; whilst if doubt should still exist a pyelogram should be sufficient to clear it up. A shadow thought to be a stone in the ureter should again present very little difficulty in the majority of cases. Such stones are almost constantly fusiform in shape, except when of very small size, and again, except when very small throw a uniform or a uniformly laminated dense shadow. An opaque bougie passed up the ureter will demonstrate the relationship of the shadow to that structure. It is perhaps permissible at this point to urge the use of a stereoscopic *x* ray if recourse be had to opaque catheterization. The one dimensional picture is of use if the two shadows lie well apart, but may be misleading if they should be superimposed. Douglas and Lewald[1] in their paper say that in one of their cases the stone, after removal, had an *x* ray density equivalent to that of a ureteric calculus, whilst instructive errors of diagnosis are reported among others by Hunner,[4] Seelig,[16] and Eastmond.[17] The last two writers each describe independently a case of ureteric obstruction caused by an adherent appendix containing a concretion resembling a ureteric calculus. In one of these cases an opaque catheter was passed and the error was confirmed by its being arrested at the point of adherence. It is quite rightly emphasized that a single *x* ray in such a case gives insufficient information. Radiograms must be made either stereoscopically or by lateral photography. Another writer[18] describes a similar instance of careful investigation leading to a faulty conclusion. He draws attention to the frequent mistake of removing the appendix for a pain of renal or ureteric origin, and describes an instance of the reverse error. Two fairly uniform shadows well illustrated in the article, were observed in the line of the ureter, an opaque bougie was passed, and, whilst the stones were not actually touching it, they were seen to lie at only a short distance from it and to move when the bougie was moved. Opaque fluid was then injected into the ureter, which was found to be dilated and this larger shadow overlay the stone shadows. The diagnosis of ureteric calculi was considered complete and operation embarked upon resulting in the discovery of the appendix lying on the posterior parietal peritoneum adherent to the ureter and containing two stones. In commenting on this particular instance of mistake in diagnosis there would appear to be two points which might be criticized. First the excretory function of the kidney does not seem to have been compared with that of its fellow, and secondly it seems probable that a stereoscopic *x* ray following injection of the ureter would have obviated the mistake which, however, it must be conceded, was a very natural one in the circumstances.

Differential Diagnosis from Gall-stones—This problem does not appear to have arisen very frequently no doubt because it presupposes an abnormal situation for either the gall-bladder or the appendix. One most instructive case may be quoted.[19] Two large concretions were seen throwing good shadows below and to the right of the tip of the twelfth rib. The case was primarily believed to be one of gall stones and was finally operated upon as such, but not before a full urological investigation had been undertaken. An *x* ray showed an opaque catheter lying with its tip in contact with the shadows and the urologists were satisfied that these were of kidney origin. It is worthy of note, again that the photographs were not stereoscopic. However the bulk of opinion was in favour of gall-stones and a laparotomy was performed. The appendix was removed having been found fixed high up behind the colon and containing in its tip the two stones.

The position of stones in the biliary apparatus is far from constant, so that this error is one apt to recur but at the present day it should be avoidable with the aid of cholecystography. Further, whilst most gall stones give no shadow, such shadows as are thrown are more usually annular. None the less it is true that a group formed of a large number of very small opaque gall stones does throw a mottled shadow, which is not characteristic of gall stones in general.

Differential Diagnosis from Mesenteric Glands—Curiously enough, this does not seem to have been very seriously entertained by the majority of writers consulted. In my own case one thought the most probable explanation of the shadow was that the appendix abscess had led to the exposure of a mass of calcified mesenteric glands and these were acting as a foreign body preventing the cessation of the discharge. It is possible that had a bismuth meal been given one might have been able to demonstrate that the stone was lying in the appendix but it seems more likely that such an attempt would have failed. Considering the question broadly, it would appear that the differential diagnosis must depend upon (*a*) the characteristics of the shadow, (*b*) its degree of motility and (*c*) its possible relation to a bismuth meal following preliminary measures if indicated, to exclude urinary and biliary origin. Ordinarily, of course the large opaque concretions commonly found in the appendix cause a filling defect in the appendix shadow. Kleeblatt[20] suggests an inflation of the colon in doubtful cases, and Hurter[21] a barium enema.

SUMMARY

A case is described of a large stone in the appendix opaque to *x* rays.

The origin and surgical significance of such bodies is discussed.

The diagnosis is discussed and the differential diagnosis from urinary stones, gall-stones, and calcified glands is considered in some detail.

Such cases as could be traced in the literature and which bear on the subject are described.

For his help and permission to publish this account I am much indebted to Mr John T Morrison, in whose absence this case came under my care.

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A CASE OF HUMAN INTESTINAL MYIASIS

BY

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(*With Special Plate*)

Reports of cases of myiasis—infestation with fly larvae—are infrequent in the medical literature of this country. Possibly the incidence of infestation is higher than the published reports suggest, especially in regard to intestinal myiasis, since in those cases in which larvae are only present in small numbers the condition may pass unrecognized.

The case here reported is that of a little girl aged 3 years, a doctor's daughter. The child suddenly developed a mild enteritis, which began with an attack of vomiting and persisted for about a fortnight. During this period her father noticed on two separate occasions a single larva in her motions. Eventually, some three weeks after the onset of her illness, two more larvae were found in the chamber one morning immediately after the child had urinated. No faeces were passed on this occasion, but, in view of the previous findings, the larvae were most probably passed per anum. There were never any symptoms of the urethral or vaginal irritation that would certainly have accompanied the presence of fly larvae in the urethra or the vagina. No more larvae were evacuated, and the child made a speedy and complete recovery from her enteritis.

The larvae were originally sent to Dr. P. C. Cloake, honorary assistant physician to the Queen's Hospital, Birmingham, who brought them to me. I, in turn, sent one larva to Major E. E. Austen, keeper of entomology, British Museum (Natural History), who identified it as the larva of the dipterous fly, *Anisopus fenestralis* and generously gave me permission to incorporate his report, which follows:

Anisopus (*Rhyphus*) *fenestralis* Scopoli.

This insect breeds normally in fermenting organic matter such as cow dung, the effluent from farmyard manure heaps, sap exuding from wounds in trees, water in tree holes, and the decaying roots of certain plants. In one instance the species was found breeding in a human liver which had been exposed to the air after having been preserved in 10 per cent. formalin for seven years; the larvae have also occasionally been found in cider and home-made wine, and in one instance they caused damage to the comb in a beehive. As its name implies, the adult insect, which although quite incapable of biting somewhat resembles a mosquito in appearance, is often to be found on the windows of living rooms.

The two larvae I received from Dr. Cloake were unequal in size, the larger one being about half as big again as its companion. The larger larva measured exactly 1 cm. in length by 0·5 mm. in breadth. The larvae were, however, identical in structure and colouring.

I am indebted to the courtesy of Mr. F. W. Edwards, Major Austen's colleague, for the following expert description by which the larva of *Anisopus fenestralis* may be recognized:

Complete absence of legs, but distinct brown head present. Body consisting of three thoracic segments and ten abdominal. The thoracic segments show conspicuous reddish brown markings on the sides, and less conspicuous bands are present on the abdominal segments. The first eight abdominal segments each consist of a narrower portion at the base divided by a suture from a larger posterior portion. The respiratory system has two pairs of opening, one on the first thoracic segment and the other at the extreme tip of the body, the latter is surrounded by five small pubescent lobes. The last two abdominal segments are small. The anus is surrounded by a plate on the eighth segment.

In human intestinal myiasis infestation can occur apparently by one of two routes, either the ova of the offending fly are ingested and pass through the stomach unharmed, the larvae hatching out in the intestines, or the fly actually oviposits on or near the anus of an individual at stool. The ova hatch rapidly in this situation, and the larvae make their way through the anus and travel upwards into the large bowel. This path of infestation is probably not uncommon in districts where the old earth closets are still in use (Hewitt, 1912), since many of the dipterous flies that provoke myiasis are attracted to sewage and the females oviposit on faecal matter. In the case reported, however, infestation most probably resulted from ingestion of the ova. Little children frequently suck their fingers, and are also fond of rubbing their fingers up and down window panes. As Major Austen has pointed out, *Anisopus* is commonly found on the windows of living rooms, and oviposition is certain to occur occasionally on window frames when the fertilized female is unable to escape from the room to find suitable faecal or vegetable material.

Human intestinal myiasis in this country, judging from the published cases, is not apparently of grave import as a general rule. Enteritis, of a more or less serious degree, invariably accompanies the passage of the larvae through the intestinal tract, but the symptoms clear up rapidly after the larvae have been evacuated. The larvae do not appear to attack the intestinal mucosa, subsisting on the food material available in the faeces. When the larvae are present in large numbers, however, the symptoms are proportionately more severe, and the patient may be seriously ill. In the adult, the passage of fly larvae per anum is at least an unpleasant, and frequently a terrifying experience, and in the published cases the psychological effect upon the adult patients is usually evident. There is, moreover, always the risk that the larvae may be carrying intestinal pathogenic bacteria, or may pave the way for an infection with such organisms.

Treatment does not seem to exert much effect upon the larvae, which leave of their own accord per anum, when approaching maturity. The usual vermifuges are of little value, but intestinal disinfectants, mild purgatives, and high enemata may hasten their departure in certain cases.

I wish to thank Drs. W. P. Blore and P. C. Cloake for their permission to publish the clinical material, and to express my grateful appreciation of the generosity of Major Austen and Mr. Edwards in allowing me to utilize their reports.

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'FAT NECROSIS" OF THE BREAST

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(*With Special Plate*)

Drs. LEE AND ADAIR[1] were, I believe, the first to describe this condition in a report to the American Surgical Association in 1920, when they described two cases. The same authors reported three further cases in 1922, making five in all. A sixth case was recorded by Mr. Geoffrey Keynes[2] in the *British Journal of Surgery* 1924–25, and a seventh case was the subject of a contribution by Professor Hadfield[4] in the *British Journal of Surgery*, 1925–26. Professor Hadfield refers to Mr. Rowntree[3] as having described a case of this nature in the *Lancet* in 1925. The condition therefore appears sufficiently uncommon to be an excuse for describing another case of the condition.

Case Report

A woman aged 56 was admitted to the Royal Infirmary, Sunderland, complaining of a tumour lump in the left breast. Eighteen months before admission she had fallen and injured the breast, and six months after her accident she had noticed a lump. This lump had recently slightly increased in size, and there was slight pain. On examination it was seen that the breasts were large and pendulous, and that there was a small nodule at the periphery in the lower and medial quadrant of the left breast. The skin was of normal appearance over the tumour, but was adherent to it. There was free movement on underlying structures, and no glands were felt in the axilla. The lump was tender on pressure, but felt firm. It was softer in the middle than at its edges. Mr. Hamilton Ross, the surgeon in charge of the case, excised the nodule by an elliptical incision and using a diathermy knife, after which the specimen was sent to the pathological department for examination.

Pathological Report

Macroscopical Examination—The tissue was almost entirely fatty but there were one or two nodules showing a chalky white appearance

Microscopical examination showed that the nodules were made up of large cells with a peculiar foaming cytoplasm there were also large giant cells of foreign body type The condition showed fat phagocytosis The breast tissue in the vicinity showed a fibroblastic reaction The histological appearances were similar to those described by Mr Keynes and Professor Hadfield, but were perhaps earlier in development than Mr Keynes's case and later than Professor Hadfield's case Although fibrosis was not advanced it had already commenced and the boundaries of the fat globules could be traced only with difficulty

Photomicrographs of the condition are shown on the special plate to which reference should be made There is demonstrated abnormal fibrosis due perhaps, to the trauma, and the beginning of the necrotic lesion is seen The close relation to the skin shows why the lesion appears fixed to the skin, and so simulates malignancy

The practical point in fat necrosis (so called) even of the breast appears to be that this interesting condition may be mistaken for early carcinoma of the breast The small size of the lesion however, its superficial situation and the absence of axillary glands are points against such a diagnosis Usually there is a definite history of accident the breasts are typically pendulous, and naked-eye examination shows the characteristic chalky white appearance of the nodules Histologically the picture is fairly characteristic, and I feel we are indebted to the writers referred to in this paper for placing this peculiar condition on a firm clinical and pathological basis

I venture to suggest that instead of "fat necrosis" the condition should be called 'mammary panniculitis'

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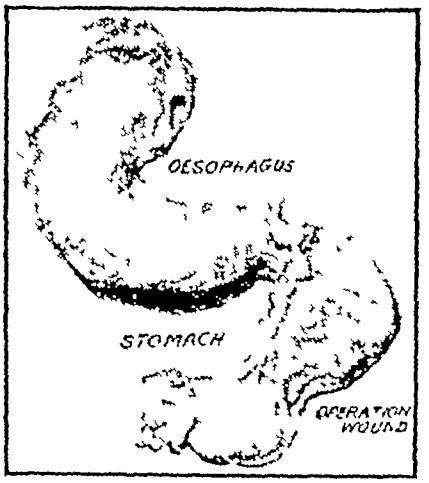
Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SPASMODIC STRICTURE OF THE OESOPHAGUS

A PATIENT of mine a fisherman aged 66 complained of marked loss of weight indigestion for many years and constant vomiting of all food with large quantities of mucus for eight or nine months Latterly this had become worse so that he could not even keep down fluids His food stuck at a point which seemed to correspond with the cardiac end of his stomach On examination nothing abnormal could be felt in his abdomen but he was remarkably thin and emaciated

A bismuth meal revealed a peculiar large sausage shaped shadow lying almost horizontally across the lower chest Little or no bismuth passed beyond this shadow, and there was no irregularity at its lower end to suggest the presence of ulceration (malignant or otherwise) At first sight this shadow looked like a dilated stomach with its pylorus turned round to the left I passed a Hurst's oesophageal bougie, however, and resisted, when it was



clearly seen that the shadow was an enormously dilated and markedly curved oesophagus Attempts to dilate the stricture with bougies did no good and the patient's condition became worse It was therefore decided to open the stomach and my colleague Dr Keene did this At the cardiac orifice he found no thickening or sign of malignancy but there was very marked kinking and on attempting to dilate the orifice manually a certain amount of resistance was noticed Unfortunately the operation did not relieve the condition and the man died three days later

At post-mortem examination the enormously dilated oesophagus was found but no hypertrophy of the cardiac sphincter Obstruction was however still complete, even water would not pass through into the stomach Apparently the primary condition was one of cardiac spasm or achalasia and later complete obstruction supervened owing to the sagging of the dilated oesophagus and kinking of the lumen at the cardiac orifice

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CRETINISM AND MONGOLISM IN THE SAME FAMILY

I HAVE been unable to find any record of cretinism and mongolism occurring in the same family and the following example may therefore be worth recording



The mother is a healthy and fairly intelligent woman aged 40 who has been married twice The first child of the first marriage born when she was 27 is a mongol, now aged 13 Eight months later she was delivered of a dead foetus 'the head was very large and had to be punctured before birth By her second marriage she had first a normal child and then a cretin now 6½ years old The latter first came under my care at the age of 1½ sent by Dr Taylor medical officer of health for Berks She was then a typical cretin unable to sit up with a large mouth snub nose coarse sparse hair and a sallow complexion suffering from slight blepharitis and from constipation There was a slight diffuse swelling over the isthmus of the thyroid There was very marked improvement with thyroid, but the child has never become

quite normal partly owing to the fact that the family lives in a remote part of the county and there have been occasional lapses in thyroid administration

The photograph of the mother with the two children was taken recently

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British Medical Association

CLINICAL AND SCIENTIFIC PROCEEDINGS

BORDER COUNTIES BRANCH: ENGLISH DIVISION

ANTE NATAL CARE

AT a meeting of the English Division of the Border Counties Branch held at Cockermouth on November 7th, Mr H. HARVEY EVERS, M.S., F.R.C.S., delivered a British Medical Association Lecture on ante-natal care. The number of members and non members present surpassed all records.

Mr Harvey Evers said that the subject of his lecture must make a strong appeal to an audience composed largely of general practitioners practising obstetrics in the Border Counties. Ante-natal care was a branch of obstetrics which had been his special interest for a number of years, and all graduates of the Newcastle School were proud to be able to associate with it the name of Rutherford Morison, their Emeritus Professor of Surgery, who was one of the first to urge the necessity for scrupulous care of the expectant mother. Reference was then made to a new comprehensive maternity scheme just launched in Cumberland. Mr Evers was delighted to hear that doctors throughout the county were giving this scheme such whole hearted support, since it was, to his mind, the first serious effort made in this country to secure the co-operation of the general practitioner in the obstetrical sphere of preventive medicine. He thought that the secret of success of the perfect maternal service (in its wide sense) was continuity of care and supervision before during and after labour. Dr F. H. Morison's suggestions constituted a serious attempt to secure this for every woman in Cumberland who wished to have it. Ante-natal care was not a separate specialized part of midwifery it should be an ordinary part of the routine of a general practitioner. The specialist need only be available to decide major points in diagnosis and treatment. Moreover too much must not be claimed for, or expected of, ante-natal care: it must be regarded as an adjunct to and not a substitute for good midwifery. The regime must be rigid if the best results were to be attained. The generally accepted claims on behalf of ante-natal care were stated as follows: (1) it could make pregnancy more tolerable by removing or alleviating the 'minor horrors'; (2) it could make pregnancy safer by alleviating the results of existing diseases or disabilities such as heart disease enormously by reducing the incidence of eclampsia and diminishing the dangers of haemorrhage and its results; and (3) it could make labour easier and safer by reducing the dangers of contracted pelvis or disproportion, correcting most of the malpresentations, and decreasing the risk of sepsis.

Ante-natal Care in General Practice

The outstanding features of routine ante natal care in general practice were given as follows: (1) the patient was encouraged to book not later than the third month. At this interview dates were noted, complaints were elicited and dealt with, outstanding features of the medical history were investigated, the previous obstetrical history was carefully analysed, general advice about hygiene was given, and a general examination of the patient was carried out where found to be necessary. This latter should include a urine examination and a blood pressure reading if possible. Finally, the patient was instructed about the prompt reporting of certain important abnormalities, such as obstinate constipation, severe vomiting, haemorrhage of any kind and however slight, discharge, eye symptoms, and oedema. (2) The urine was tested once a month up to four months, once a fortnight till the end of the eighth month, and once a week during the final month. (3) A further abdominal examination was made during the fifth month, this being a good time also to check dates, to obtain a further blood pressure reading, and to hear the foetal heart. *The external pelvic measurements might be* estimated at this examination. (4) A most important abdominal examination followed at the thirty-sixth week to determine, and if necessary correct, the lie of the foetus, and to ascertain whether or not there was any disproportion between the foetal head and maternal pelvis. Examination of the feet and legs, and of the urine and blood pressure were also undertaken as a routine, as at all other examinations. This regime constituted the indispensable minimum of ante-natal supervision, and in the vast majority of cases was all that was required. Obviously however abnormalities cropping up during the course of pregnancy occasionally called for much more frequent consultations and examinations. In the opinion of the speaker, routine vaginal examination was unnecessary, and should only be resorted to under the following definite indications: reason (from external examination) to suspect contracted pelvis; haemorrhage at any time during pregnancy, and however slight, purulent discharge; very occasionally cases of doubtful presentation, such as a doubtful breech in a primipara, acute or persistent pelvic pain, and retention of urine occasionally. In many thousands of cases, Mr Evers estimated his vaginal examinations at between 7 and 10 per cent.

Special Indications in Pregnancy

He then proceeded to discuss some of the "minor *horrors" of pregnancy—such as pains in the abdomen*, sides, and back, etc.—and indicated their pathology and treatment. The great importance of an adequate and properly fitting abdominal support was strongly emphasized, and types of belts were demonstrated. The value of calcium therapy in many of the painful conditions was indicated. The troubles due to constipation, flatulence and infection of the urinary tract were enumerated, and their management fully discussed. The value of intensive alkaline treatment, saline purgation, and scrupulous dieting in cases of *B. coli* infections was pointed out. Reference was next made to the significance and correct interpretation of albuminuria, and the importance of scrupulously regular urine tests was emphasized. Even a trace of albumin must arrest attention, and call for more frequent tests and prompt restriction of diet. The value of regular blood pressure readings in all cases of albuminuria was heavily stressed, quite apart from subjective symptoms and albumin estimations, it was the most *valuable clinical guide. Treatment consisted* largely in rest, saline purgation, highly alkaline medicines and dieting—complete starvation in severe cases. A conservative attitude towards the pregnancy should always be adopted, but failure to react to adequate treatment for two or three weeks should be regarded as indicating induction of premature labour. Prognosis depended upon the reaction to treatment, such reaction was best judged by the blood pressure and by the amount of albumin. Oedema was next discussed with special reference to its significance and interpretation. It was so seldom due solely to 'pressure' that such a cause should never be assigned until every other possibility had been explored. The vast majority of cases without obvious local causes such as varicose veins were dependent upon a degree of toxaemia. Careful urine tests and blood pressure readings were essential in the diagnosis and supervision of these cases. Oedema was often the first danger signal in an impending toxaemia, and its importance should be made clear to all expectant mothers. By a scrupulous ante-natal regime that dread disease eclampsia could be almost completely eliminated, but occasional cases of the 'fulminating type' might still occur. Reference was next made to the

dangerous significance of "late vomiting and epigastric pain," and to chronic nephritis complicating pregnancy. The place of induction in these conditions was clearly indicated.

The Ante-natal Examination.

Mr. Eyers then discussed the essential ante-natal examination at the thirty-sixth week, with special reference to malpresentations and disproportion. With regard to malpresentations the following rules emerged: (1) the vast majority of cases were readily diagnosed from an abdominal examination—vaginal or radiological examination being rarely required; and (2) the majority could be corrected by suitable measures. In connexion with occipito-posterior presentations Busst's or Ballantyne's "pad and binder method" was demonstrated. It was commended for the later weeks of pregnancy and during labour. In transverse and oblique presentations the possible causes (such as contracted pelvis or placenta praevia) should always be eliminated, especially in primigravidæ. When such serious causes were found they must obviously take precedence in treatment. All cases should be corrected by external manipulation, and the patient be carefully watched up to full term. Recurrence was always significant, and all such cases should be seen early in labour to ensure safety. Breech presentations should be turned by external version in all possible cases. The ideal time was the thirty-sixth week, but it was never too late to attempt it. Many cases of spontaneous version were encountered between the twenty-eighth and thirty-sixth weeks. Version failed completely in about 10 per cent. of cases, and an anæsthetic was required in about 10 per cent. of the cases. The methods of external version were demonstrated, and the importance of flexing the extended legs to prevent recurrence was fully discussed. Difficulties and complications were mentioned. Of the latter, the speaker had encountered rupture of the membranes on three occasions—placental separation and prolapsed cord twice. External version late in pregnancy sometimes started labour prematurely, practically the only contraindication was placenta praevia. With regard to disproportion and contracted pelvis the value to be placed upon external measurements was discussed, and Mr. Eyers said that too much reliance must not be placed on these alone in either direction. The fit of the fœtal head to the maternal pelvis must be the great clinical guide, and this should always be supplemented by inspection of the pelvic outlet. In a primigravida the head should be engaged in the pelvic brim at the thirty-sixth or thirty-seventh week, failing this, as in a multipara, the head must be fitted to the brim. Where any doubt existed, an internal pelvic examination was called for; when further doubt existed an anæsthetic examination was essential to determine the fit of the head. In a multipara the earlier obstetrical history and the weights of previous babies were of considerable help. The place of induction of premature labour as a prophylactic measure in doubtful cases was referred to. A warning was given against the abuse of Cæsarean section for minor degrees of contracted pelvis. As regards haemorrhage during pregnancy the following rules were formulated: (1) bleeding in a pregnant woman, however slight, necessitates a complete investigation, which must always include a vaginal examination, and (2) cases of ante-partum haemorrhage must be referred immediately to a nursing home or hospital when placenta praevia could not be definitely excluded as the cause, or where there were any signs of toxæmia, such as albuminuria. Only mild cases of accidental haemorrhage, without evidences of toxæmia, could be safely treated in the patients' own homes on expectant lines.

Reports of Societies.

MATERNAL MORTALITY AND MORBIDITY

At a meeting of the Section of Obstetrics and Gynæcology of the Royal Society of Medicine, held on November 21st, the president, Sir EWEN MACLEAN, in the chair, a discussion took place on the interim report of the Departmental Committee on Maternal Mortality and Morbidity. The discussion was opened by Dr. J. Watts Eden and Dr. J. S. Fairbairn.

Dr. EDEN described the general scheme of the report and welcomed the committee's endeavours to ascertain the "primary avoidable factor" in each of the 2,000 deaths which were investigated. This factor was not necessarily the direct cause of death, as in some instances the initial failure was want of any ante-natal supervision. Some interesting facts came out of the inquiry, one being the number of deaths which occurred during normal labour. The occurrence of sepsis in so-called normal labour was very high indeed, and in the majority of these cases no primary avoidable factor could be discovered. In explaining these two crucial subjects—namely, the cause of death in normal labour and the frequency with which sepsis follows normal labour—the report gave no help at all. The committee's recommendations as to the provision of better treatment for cases of miscarriage in hospitals were to be commended. Dr. Eden discussed the training of medical students, and said the schemes put forward by the committee should have the utmost consideration. The increased number of obstetrical cases suggested by the committee for the training of students can only be obtained if the Government and the local authorities are willing to place at the disposal of teachers very much extended facilities both for the training of students and for post-graduates in connexion with the new hospitals which have recently come under the control of local authorities. Such an opportunity may never arise again, and it ought to be utilized to the utmost.

Dr. FAIRBAIRN was impressed with the unanimity of the members of the committee. He referred to other reports where the maternal mortality rate was diminished among the poorer classes, although the general idea was that it was lower among the better-housed and better-fed members of the community. Dr. Fairbairn discussed the social factors in these cases of maternal death and the influence of maternity insurance. He thought that if doctors did not attend cases of normal labour it would be difficult for them to keep themselves up in what one would call the conduct of ordinary normal labour. The health of the patient herself and all her social conditions had to be considered as being of the greatest importance. The relief of pain generally had brought about the consequence that pain is not as easily borne as formerly. The new situation of modern life had to be considered, especially with regard to the maintenance of normal function. This applied to the problem of anæsthetics in labour. Dr. OAKLEY said that the committee could not be blamed for not finding out the cause of maternal mortality. It was appointed first to advise upon the application to maternal mortality and morbidity of the medical knowledge at present available, and, secondly, to inquire into the needs and direction of further research work. It was the aim of the committee to give the Government some practical method which would reduction in the maternal mortality could be effected, and to show the direction in which research should advance. Professor R. J. JOHNSTONE was concerned most with the education of medical students, and the part of the report dealing with this was new. The problems were, Can the teaching schools put these regulations into effect, and if so, will they produce a competent practitioner? These questions had been discussed by Professor Munro Kerr elsewhere.

Lady BARRETT said that the openers of the discussion had brought forward two important points in the report. One was that only in 50 per cent. of the cases was the cause of death found. We must therefore look for the causes of sepsis elsewhere than in contact cases. The other factor was the woman herself, and this should be considered before any other. Practitioners were not necessarily all

perts, but they should have reasonable skill, judgement, and knowledge. Would these regulations ensure the fulfilment of these conditions? It was difficult to get women to undergo ante-natal supervision if it meant residence in a hospital or attendance at a long-distance clinic. The claims of her home were usually her first consideration. Mr. ILLIATT said that the General Medical Council or the examining bodies did not insist on the present regulations being carried out with regard to students conducting twenty cases of labour. Dame LOUISE MCILROY thought the chief value of the report was the crystallization of the opinions of the representatives of societies and of the obstetricians who gave evidence before the committee. She believed that ante-natal supervision should be carried out by trained obstetricians. Mr. DONALD ROY said there was now an opportunity for making a very definite advance towards obtaining the requisite number of cases for medical students. The necessity for more obstetrical beds or facilities elsewhere must be pushed by the medical schools. The welfare of the patient was the first consideration when the administration of anaesthetics was contemplated. Women who were delicately nurtured had more fear of the pain of labour than had the women of the working classes, who were in closer touch with the reality. Dr. THEOBALD was of the opinion that midwives should not be allowed to make vaginal examinations and practitioners should be restricted to forceps application only. Any other operation should be done by a specialist. More maternity hospitals were necessary throughout the country for the admission of complicated cases and for the training of students. Professor BROWNE reminded the meeting that the report was only an interim one. One of the chief problems was the cause of death in normal labour. He had a firm belief in Listerism as a prevention of puerperal sepsis. The whole scheme was based on a recognition of the fact that the psychology of woman had changed, and that she demanded premature intervention because she could not bear pain well. Professor Browne discussed the advisability of the direct responsibility of the teacher in signing up students for examination. The standard of training of the general practitioner was most important.

Mr. COMYNS BERKELEY believed that everything the committee recommended should be carried out with regard to the training of medical students. The additional number of cases required could be found in the hospitals of the London County Council. The PRESIDENT said that the report conformed very much with the opinions generally expressed by obstetric teachers.

THE NEW MERCURIAL DIURETICS

AT a meeting of the Section of Therapeutics of the Royal Society of Medicine on December 9th, with Dr. PHILIP HAMILL in the chair, Dr. EVAN BEDFORD opened a discussion on novasurol and salyrgan.

Dr. Bedford said he had begun to try novasurol in 1920 but had been so unfavourably impressed by its toxic properties that he had now abandoned its use. Salyrgan he had used for the past eighteen months. It contained 36 per cent. of mercury and was given in doses of 1/2 to 2 c.cm., but it was considerably less toxic than novasurol. It was supposed to act by diminishing the affinity of the tissue colloids for water and odium chloride, but in cases of nephrosis it had been found to produce either no diuresis or else much less than the degree recorded when the kidneys were normal, so that it probably acted in part on the kidney as well. The effect of salyrgan was increased by administering alkalis such as ammonium chloride, by mouth. Cases recorded in the literature made it apparent that salyrgan was little inferior to novasurol in its diuretic action and considerably safer, never giving rise to mercurialism if injected in suitable doses. In Vienna the preparation had been used for cardiac oedema, cirrhosis of the liver with ascites, pleural and pericardial effusions, nephritis, nephrosis, and malignant ascites, but the speaker thought its chief value lay in its effects on oedema of cardiac origin. He diluted 2 c.cm. of the 10 per cent. solution of salyrgan with 10 c.cm. of sterile saline solution and injected it slowly into a vein, about ten minutes being allowed for the operation. The fluid intake was restricted during treatment to twenty to thirty ounces daily, but digitalization could continue, and 15 grains of ammonium chloride was given thrice daily by the mouth. Contraindications to the use of the drug were acute nephritis with blood and casts in the urine, and severe diarrhoea, but the existence only of albuminuria need not prevent its use. Among twenty-seven cases of cardiac failure with gross oedema he had only had three failures, and these three patients were *dying on admission*. The effects were equally good whether the heart was fibrillating or failing with normal rhythm. Dr. Bedford quoted several cases in which salyrgan had produced marked diuresis, and in which the weight in some case had fallen between 40 and 50 lb. in four weeks as a result of the loss of fluid.

Professor F. R. FRASER gave his experiences of novasurol which he had found to produce an effective diuresis. Its use, however, was limited by its toxicity, and he doubted whether the benefit produced was of much ultimate value since the patients on whom it was employed were so seriously injured in health as to be beyond any great degree of recovery. He had seen one case of thyroid intoxication with rapid pulse and oedema where novasurol had restored the patient to a condition suitable for operation. Dr. J. STRICKLAND GOODALL thought novasurol one of the most dangerous and toxic drugs ever put into the hands of the medical profession. He showed two specimens taken from the alimentary canal of patients treated with this remedy in which the mucous membrane was haemorrhagic and sloughing. Novasurol in these cases had cleared up both the oedema and the patients. Dr. D. H. KOTTHOF (Vienna) said that the use of novasurol had now been abandoned in Austria. He had seen very good results with salyrgan, not only in cases of cardiac oedema but in cases of nephrosis where the kidney was not seriously damaged, and in cirrhosis of the liver with ascites.

Sir JAMES DUNDAS-GRANT asked whether it was the case that salyrgan had been used in treating patients with Meniere's disease with resultant improvement of hearing. In reply, Dr. WARREN CROWE said that Meakin had used salyrgan in Meniere's disease as a test but not as a form of treatment. The theory was that the cells of the labyrinth were waterlogged in this condition, and about 80 per cent. of the patients showed some degree of water retention. Meakin had found that they reacted differently from the normal patient when given water and salyrgan together; he treated them with calcium diuretics and restriction of fluid and stated that as long as their mouths were dry they had no symptoms of Meniere's disease.

Dr. IZOD BENNETT referred to the experiments of Goverts in Belgium which went to show that the action of salyrgan was largely on the kidney, and that therefore its use in cases where the kidney cells were damaged should be avoided. Moreover, in cases of nephritis with profound albuminuria analysis of the plasma protein showed it to have fallen to about one-half the value found in normal blood, while in cardiac oedema it was normal. In nephritis the osmotic pressure of the plasma protein had fallen so that fluid was less readily drawn into the blood stream from the tissues. It did not appear that the artificial removal of water, either by drugs or by mechanical means, would change a physical condition of blood in which the plasma protein was reduced but such theoretical considerations were not yet sufficiently proven to interfere with the use of effective remedies. In oedema of renal origin where the blood pressure and blood urea were normal he thought salyrgan was useful and probably safe; where there was gross oedema with a high blood pressure and increased blood urea he thought that though it might relieve symptoms the remedy was dangerous because the kidney function was seriously impaired. Dr. J. EAST preferred to use theophyllin and diuretin for cases of cardiac oedema rather than novasurol, which he considered to be too toxic. He had produced an

effective diuresis in one case with salvigan, but the urinary output fell again as soon as the drug was stopped, and it appeared that it must be given regularly to be useful. Dr. A. GAINSBOROUGH said that, although a few patients with nephrosis might recover a large number died from pneumococcal or streptococcal infections, usually after all oedema had disappeared. He wondered whether the advantage of giving mercurial diuretics in nephritis was worth the risk unless it could be shown that they did not shorten the patient's life, he thought they should be avoided.

Dr. BEDFORD replied that he had had several failures in cases of nephritis and nephrosis, and one success where there had been coexistent cardiac failure. He agreed with Professor Fraser that a patient who was seriously ill from cardiac failure was wrecked in health even if he was relieved of his oedema. He added that the patients themselves set a high value on their increased comfort, and attended regularly for treatment with salvigan at his out-patient department. He had heard of the use of salvigan in migraine, but not in Ménière's disease.

THE ACHLORHYDRIC SYNDROME

AT a meeting of the Manchester Medical Society on December 3rd, papers entitled 'The achlorhydric syndrome" were communicated by Dr. T. H. OLIVER and by Dr. JOHN F. WILKINSON.

Dr. Oliver's paper was based on the results obtained after a gastric analysis of over a hundred cases apart from pernicious anaemia in which there was achlorhydria or a marked hypo-acidity. The symptoms fell into two main groups. In the first, the gastro-enterogenous group, there was flatulent dyspepsia with intermittent diarrhoea and constipation of varying severity, and the passage of foul-smelling and badly formed stools. A high degree of neurasthenia was present, and the patients were usually regarded as suffering from neurotic dyspepsia. In the second group a sore tongue or mouth was a prominent feature. There might be either a glossitis with atrophy of the papillae and a smooth shiny tongue, or actual ulceration. Three smaller groups also occurred in which achlorhydria was associated with rheumatoid arthritis with debility and a secondary anaemia, and with skin rashes, usually urticarial. The condition was more frequent in women than in men in the proportion of three to one, and a familial tendency was common. Although the symptoms were usually not dangerous, occasionally severe illnesses might develop in association with it—for example, acute yellow atrophy, Graves's disease, and diabetes. In all these cases the therapeutic results obtained by giving large doses of hydrochloric acid and pepsin were very striking. There appeared to be two types of patients: (1) those with an acid diathesis who tended to develop peptic ulcers but did not develop symptoms associated with intestinal intoxication; and (2) those described in this series with an alkaline diathesis. In the latter the main lesions appeared to be intestinal or they arose from toxic absorption from the intestine, and it was in them that fruits and foods which left an alkaline ash produced an exacerbation of symptoms.

Dr. Wilkinson's paper gave an account of a series of 126 cases examined during the last two years at the Manchester Royal Infirmary. They were divided into two main groups—namely, persistent or recurrent diarrhoea (60 cases) and sore tongue (33 cases). Three smaller incidental groups were defined also: rheumatoid arthritis (15 cases), urticaria (8 cases), and debility (10 cases). The occurrence of gastric secretory impairment was mentioned, and the importance of the fractional method of gastric analysis was emphasized and illustrated by cases. It was indicated that while the usual method of classifying the cases according to the secretion of free hydrochloric acid was convenient and formed a useful basis, there were other estimations equally important such as that of the total chlorides and peptic activities, in the determination of the degree of damage to the gastric secretory mechanisms. It was probable that there were other substances of much importance, not so easily detected. Fractional gastric analyses in the group of 60 consecutive cases with recurrent diarrhoea showed that 29 patients had achlorhydria and 19 hypochlorhydria (less than 10 units)—a total of 80 per cent. with diminished acid secretion. Treatment with a mixture of hydrochloric acid and pepsin was instituted and thirty patients had received continuous treatment for at least six months (maximum two years). The results showed that 89 per cent. of those with achlorhydria were cured, and 5·5 per cent. much improved so long as they continued this therapy while the hypo-acidic cases showed 70 per cent. cured and 20 per cent. much improved. The remaining cases in this group having had less than six months' treatment, were not included in these figures, but all the patients were progressing very well. In the group of 33 cases with sore tongue, 58 per cent. showed reduced secretion (11 achlorhydria and 8 hypochlorhydria). The results of the acid and pepsin treatment gave 100 per cent. cures in those with achlorhydria and 80 per cent. in hypo-acidic cases six to twenty-four months after institution of the treatment. Most of the remainder who had discontinued treatment with a consequent return of symptoms were again relieved by recommencing the acid mixture. In the smaller groups, impaired secretion was found in rheumatoid arthritis (73 per cent.), urticaria and angioneurotic oedema (87·5 per cent.), and debility (80 per cent.). The effect of the acid and pepsin treatment in these cases were discussed. A summary of the results obtained in these 126 cases had shown a total of 74 per cent. with hypo-acidity (44 per cent. of these having achlorhydria), while the proportion of females was four times greater than that of males. The significance of these results and the successful treatment were considered, supported by the familial occurrence of achlorhydria: this absence of acid secretion in the stomach was shown to be an abnormal condition, and probably the first sign in many cases of more serious trouble later. Dr. Wilkinson believed that the finding of achlorhydria in apparently normal persons was an indication for a careful search in such families for diseases with familial tendencies, and discussed the need for prophylaxis against the various conditions.

DEVON AND EXETER MEDICO CHIRURGICAL SOCIETY

AT a meeting of this society held on November 20th, Dr. C. J. FULLER read notes on a case of acute lymphatic leukaemia with cancrum oris occurring in a boy, aged 15, who was admitted to the Royal Devon and Exeter Hospital with a history of painful and swollen gums of seven days' duration. On admission the temperature was 102° F. and the pulse rate 114. The tissues over the lower jaw were swollen and tender but no discoloration of the skin was seen. There was acute gingivitis with small gangrenous patches over the gums on the lower jaw. The upper and lower incisors were loosened and there was marked fetor of the breath. The spleen was enlarged to within 3 inches of the umbilicus, and the liver margin was 1½ inches below the costal margin. The axillary and inguinal lymphatic glands showed moderate enlargement. Tonsillitis was present and Vincent's spirillum was found. The blood count was red cells 2,232,000 per c.mm., haemoglobin 30 per cent., white cells 239,000 per c.mm., of which about 80 per cent. were mononuclear cells of the lymphoid type, which did not give the oxidase reaction. Eventually the gangrene extended to the whole of the gums and to the skin over the chin. Small haemorrhages occurred from the gums and several teeth were cast spontaneously. The boy died about ten days from the onset of the cancrum oris. Dr. J. H. DOUGLAS MURRAY read notes on a case of fragilitas ossium in view of its rarity and of the fact of the association of a recent carcinoma with the onset of the bone lesions. A woman aged 46 had had both breasts removed for carcinoma; the scar over the site of the left breast still tended to break down from time to time. Dr. Murray was first called to see her in consequence of a fracture through the middle third of the right femur, which had happened spontaneously when walking

in the street No previous fracture was known to have occurred and there was no family history relevant to the condition The woman was anaemic but otherwise routine examination revealed nothing abnormal in addition to the scars already mentioned and the fractured femur Two or three days later the patient being immobile on a lung splint, there occurred a spontaneous fracture of the right clavicle With an interval of one week between them similar fractures followed of the left humerus and left clavicle The right femur united with no sign of external callus and the right clavicle with considerable thickening No callus formation was as far apparent in the left clavicle and left humerus Within the previous ten days an unexplained patch of anaesthesia had appeared over the left deltoid but vigilant search for secondary malignant deposits in the bones, or elsewhere in the body had given negative findings Dr Murray thought that if the infection was due to secondary deposits some sign of tumour would have been evident Dr C SEWARD showed a burly labouring man aged 52 with anomalous neurological signs in association with what appeared to be lead palsy There had been a sudden onset with dropping of both wrists last January A history pointing to lead colic was confirmed by a blue line on the gums when the man first came under observation There had been progressive weakness of the muscles of the upper extremity and more recently weakness of the left leg and trunk He was found to have a moderate degree of glycosuria and a true diabetic blood sugar curve There was secondary anaemia, and blood films showed punctate basophilia in an otherwise normal differential leucocyte count The Wassermann reaction of the blood was negative The blood pressure (systolic 120, diastolic 80) was low for his age Dr Seward had found *no sensory changes* but the paralysis was more definite in the antebrachial group of muscles of the left side At the same time all the upper reflexes were absent the left patellar reflex which had been increased at first was now diminished the left leg being dragged on walking Insulin injections the customary antiplumbism remedies and splints for counteracting deformities had not affected the neurological signs which appeared to be slowly progressive and resistant to treatment Dr R N CRAIG thought there was a double pathological process in this case although plumbism could not be discountenanced the symptoms suggested a lower neurone type in addition—progressive muscular atrophy Dr A L CROCKFORD remarked on the very low blood pressure in view of the very high readings usually associated with lead poisoning

DIET AND DENTAL CARIES

A MEETING of the London Association of the Medical Women Federation was held on November 25th with Dr LETITIA FAIRFIELD in the chair After a tribute had been paid to the memory of Dame Mary Scharlieb Mr MAY MELLANBY read a paper on diet and dental caries She said that it was formerly thought that once teeth had erupted their health was dependent on the condition of the mouth This was now known to be only a partial truth Teeth were living structures and as such were dependent on nourishment delivered by the blood stream Discussing the structure of human teeth in relation to dental caries she described her observations on milk teeth The large majority of children's milk teeth were hypoplastic and badly formed and there was an undoubted relation between such teeth and the incidence of caries The presence or absence of vitamin D in the diet affected the arrangement of teeth and the growth of the jaws as well as the structure of the teeth If the vitamin was deficient many other factors became of importance notably the type and quantity of cereal in the food If oatmeal was the cereal taken a large quantity of vitamin D must be taken to counteract it Unfortunately workers had not yet been able to produce caries at will in animals. Discussing the spread and arrest of caries in children Mrs Mellanby showed that the addition of vitamin D to the diet tended to arrest the development of caries when it had started It was not definitely known how vitamin D acted

An animated discussion followed Asked which type of cereal was best for the growing child Mrs Mellanby recommended rice and white flour As regards the source of vitamin D she preferred cod liver oil It could be made available to almost any child in quantities up to 3 4 ounce per day

Reviews.

ATLAS OF PATHOLOGICAL ANATOMY

READERS of the *British Journal of Surgery* will already be aware of the intention of the editorial committee to bring together the supplements which have appeared in that journal during the past few years and publish them in the form of an *Atlas of Pathological Anatomy*.[1] The first volume has now been issued and the committee is to be congratulated on the success of its project The atlas has features which distinguish it from previous works of the kind and are likely to make it of real value to surgeons in their practical work and considering the number and excellence of the plates it is issued at a moderate price that most surgeons will one may suppose wish to have a copy at hand for reference and study Moreover the *figures being remarkably true to nature in colour form* and size it seems hardly an exaggeration to say that as material for study, they are almost as good as the original specimens

The particular features of the work are that the specimens have been chosen to show not merely the anatomical character of the lesion but also their effects on the organ involved and further by means of clinical histories which are included in almost every case to exemplify the physical signs and symptoms to which the lesions give rise The intention has been to produce a work of practical utility and not merely one of interest The arrangement is largely clinical and the subjects have in many instances been chosen because the histories contain features the mechanism of which can be deduced from the study of the specimens The value of the work to those whose circumstances preclude the possibility of access to the museum or post-mortem room for the purpose of supplementing their knowledge will therefore be obvious they have in the atlas a ready means of returning to the bed rock of pathological anatomy upon which the superstructure of medical science has been built up The compilation of the work has been entrusted to Mr E K MARTIN who is presumably responsible for the choice of subject-matter and of the individual specimens depicted and for the general arrangement of the work In addition to his commentaries on the several specimens he has in the case of each division of the subject added an introductory section giving a general account of the lesion and its natural history This is a valuable feature of the work and renders it in a limited sense a textbook of pathological anatomy It should be mentioned that only those lesions are dealt with which are likely to be seen in ordinary practice curiosities and curiosities have been excluded *The successful production of an atlas possessing* these features must depend primarily on the existence of a sufficiently abundant available supply of good material *In this respect the promoters of the work were in the* enviable position of having ready to hand what is probably the finest collection of pathological material to be found in any country and they have not only drawn on the collections of the Royal College of Surgeons of England and the London schools but have brought some of the provincial museums into the scheme many of which now vie with our metropolitan museums in excellence and completeness

It is intended to continue the publication of the atlas until it includes all such subjects as can be profitably illustrated by drawings of museum specimens the present volume deals with diseases of the bones stomach and duodenum breast kidney adrenal gall-bladder and bile ducts It is due to the publishers and to all concerned in its preparation to say that they have produced a work which is a credit to British surgery and to British artistry The beauty of the colour and black-and-white work of Maxwell and Sowell is too well known to need commendation and the same may be said of Ford's accurate

[1] *Atlas of Pathological Anatomy* Compiled by E. K. Martin, M.S., F.R.C.S. Issued under the Direction of the Editorial Committee of the *British Journal of Surgery* Vol. I. Price £1 1s. net. London: Simpkin Marshall, Ltd. 1930. (9½ × 6½ in. pp. 203. 302 illustrations 75 net.)

histological drawings The reproductions, also, are as perfect as one could wish A melancholy interest attaches to the introductory note, which was written by Sir Anthony Bowlby He always took the deepest interest in pathological anatomy and pathological museums, and never lost belief in their importance at a time when their value was in danger of being underestimated The danger has now happily passed, and it would doubtless have been a gratification to him to see the issue of the atlas as at least one evidence of a revival of interest in the subject He has expressed the hope that the atlas may "not only be interesting in itself, but also induce its readers to visit the Hunterian and other museums and become acquainted with those specimens which are too numerous to be depicted in any publication"

WHITRIDGE WILLIAMS'S "OBSTETRICS"

For the sixth edition of his valuable textbook on *Obstetrics*,[1] Professor J Whitridge Williams has found it necessary to revise every page thoroughly, and indeed to rewrite some chapters The revolution which midwifery has been going through under the influence of antiseptic methods and the development of pre-natal care is responsible for some of the alterations, although others, as the author frankly admits, are due to a change in his opinions brought about by the growth of experience He has spent a lifetime in thinking over the many problems of normal and abnormal midwifery, and has taken nothing for granted but has tested for himself and considered every method of treatment advocated Thus credit is given to every obstetrician who has helped to improve the art, and the extensive bibliography at the end of each section will be valued by all serious students of midwifery A feature of the book is the author's emphasis on the conservative aspect of this branch of medicine surgery, he maintains, should be invoked as an aid to the obstetrician only when purely obstetrical methods have been found not to give entirely satisfactory results The chapters on special anatomy and physiology, and on the development of the ovum have been carefully revised and brought up to date, and are accompanied by excellent illustrations The practical bearing of the information is kept well to the front At first glance it is rather surprising to find that only six out of the 1,157 pages are devoted to the subject of pre-natal care but the explanation is that details of this work will be found under other headings It would, however, be more convenient, even at the cost of some repetition, if some of this information could have been brought into the chapter on the management of pregnancy We miss the name of Ballantyne, one of the pioneers of ante-natal hygiene Some of the terms used differ from those in common use in this country, and this may lead to misunderstandings

The toxæmias of pregnancy are fully considered, and an attempt is made to evolve some sort of order out of chaos by a tentative classification of the toxæmias accompanied by albuminuria into three types—namely, "low reserve kidney" 'pregnancy complicated by chronic nephritis" and 'pre-eclampsia" Contracted pelvis is very fully described, but the treatment recommended seems hardly to warrant the long description or the meticulous pre-natal care upon which the author insists, and many will feel that although he dismisses it with scorn, induction at or about the thirty-eighth week, which often gives excellent results to both mother and child, has a definite place in the management of pregnancy with contracted pelvis The methods of treatment for other abnormal conditions differ from those usually adopted in this country Thus no mention is made of bimanual compression of the uterus for post partum hæmorrhage In accidental hæmorrhage the advice is given to perform Cæsarean section in all cases that cannot be terminated at once, which is surely not intended to be taken literally, seeing that the majority can be treated successfully by expectant methods From these few criticisms it will be clear that in our opinion this is a textbook that must be recommended with some reserve to the English medical student preparing for a pass examination but it has very great value as a scientific treatise setting forth the data, and summarising in a judicial manner the arguments upon which the practice of midwifery at the Johns Hopkins Hospital has been developed by one of the makers of modern obstetrics

[1] *Obstetrics* By J Whitridge Williams MD Sc D LL D Sixth enlarged and revised edition New York and London D Appleton and Co 1930 (1p xxi + 1157 730 figures, 17 plates 40s net.)

THE PHYSIOLOGY OF THE VESTIBULAR APPARATUS

The first experimental observations on the functions of the semicircular canals were made over one hundred years ago by Flourens, who followed a sound principle in physiology—namely, that the first rule for elucidating the function of an organ is to destroy it and observe the effect on the organism He narrowed his researches from destruction of the whole labyrinth to division of separate canals He noted the tumultuous movements which resulted from the operations, and that these movements have as many directions as there are cardinal or principal directions The originated the conception that the semicircular canals are the seat of forces which influence the movements of the head It was not until the seventies that Goltz and Stefani made further experiments, and concluded that the semicircular canals are the specific organ for the sense of position of the head, whilst Breuer, Mach, and Crum Brown, as the result of their researches, produced the theory that the semicircular canals serve for the perception of angular accelerations Cyon also, in the late seventies made numerous experiments, and studied the connexion of the semicircular canals with nystagmus In the eighties Ewald proposed that the semicircular canals are responsible for the maintenance of tone in skeletal muscle Cyon also drew a striking analogy between the function of the labyrinth and the rudder of a ship This constitutes a second period in the history of the physiology of the labyrinth, in which little further progress was made except by Barany, until the work of Sherrington prepared the ground and provided a technique for the famous researches of Magnus and de Kleyn These are based essentially on the classical methods for the investigation of reflex activity Thus the righting reflexes, which are on the head, cannot be studied in a decerebrate animal but persist in a thalamic preparation, with the decerebellum intact They are lost when such an animal is deprived of its labyrinths The researches of Magnus and de Kleyn, with numerous fellow workers at Utrecht embrace an enormous number of experiments and observations which have thrown fresh light on the functions of the cerebellum, as well as on the vestibule and its central connexions This stage brings our knowledge of this branch of physiology up to its present position

This slight sketch is necessary to indicate, however imperfectly, the scope of *The Physiology of the Vestibular Apparatus*,[2] by Mario Camis of Parma, translated by Dr R S Creed of New College, Oxford It follows the historical method, and presents the solution of an extraordinarily complicated physiological problem with great lucidity It embraces also much that has not been mentioned, such as the question whether the semicircular canals possess acoustic sensibility, and the author's own researches on the vestibular visomotor reflexes, and even touches on the doctrines of Kant The book, however is in the main inspired by the work of Magnus and de Kleyn, based on Sherrington's conception of reflex activity There is no work in English which makes any attempt to cover the same ground, and therefore physiologists, neurologists, and otologists will be grateful to Dr Creed for this fascinating translation Camis seems to include everything worth recording, and studies the problem from every aspect, so that there is much that is stimulating and controversial The reader is taken through this maze by an unerring guide, who conducts him to the conclusion stated on page 186, where the functions of the ampullæ of the semicircular canals and the maculæ of the sacculi and utricle are finally synthesized after this long analysis

[2] *The Physiology of the Vestibular Apparatus* By Mario Camis Translated and annotated by R S Creed B M B Ch Oxford The Clarendon Press 1930 (6½ × 9½, pp xiv + 310 65 figures 21s net)

he author however, as he makes clear in the epilogue under no illusion that the reflexe observed in decerebrate or decerebellate preparations indicate all the paths followed by labyrinthine impulses in the normal animal he central connexions of the vestibular apparatus are o complex that it is impossible to isolate the labyrinthine unction in the intact animal

It has only to be added that the Clarendon Press presents he volume in a form which makes it a pleasure both to ead and to handle

SCIENCE TEACHING IN SCHOOLS

A volume entitled *Teaching Science in Schools*[1] by John Brown, formerly inspector of schools under the London County Council, is an important book It was first published in 1925 and a second edition has just been issued Its theme is based upon the proposition that science teaching in our schools to-day has become too narrow, too routine, too uninteresting too unpractical, and that it is therefore in urgent need of development on new and more rational lines in order to give it a broader more human and more lasting appeal This proposition is true but it is only now being occasionally admitted by teachers, and has scarcely anywhere led to any practical change For many years now school science teaching—more particularly the teaching of chemistry and physics the only sciences usually taken in boys schools—has been conducted upon the theory that pupils are to discover everything for themselves and to be told nothing and that accurate measurements and quantitative results are the primary essentials The consequence has been," says Mr Brown "that experiments are done merely for the sake of doing them, and those sciences which do not involve measurement and quantitative work have been completely neglected" Most pupils will not become scientists but require a general education which is incomplete if it does not include some acquaintance with natural phenomena, physical properties and laws and the applications of scientific principles to everyday life The bulk of the small volume is however not critical but constructive and the author shows how the necessary reform of method and scope can be carried into effect with various types of scholars and of schools Not only is his thesis important but his suggestions to teachers for whom the book is primarily intended, are very practical and valuable

TREATMENT OF ASTHMA

The literature of medicine is overburdened with works purporting to solve the problems of what Dr A H Douthwaite terms 'the mysterious malady Asthma research organizations have been established in many countries, the specialist, the general practitioner the biochemist and many others have joined battle against an unusual and well-equipped adversary still the tumult and the shouting" show no sign of dying down It is therefore a relief to take refuge in the comparative quietude of Dr Douthwaite's short and well reasoned treatise entitled *The Treatment of Asthma*[2] In point of fact, less than half the book is devoted to treatment proper, the first eighty pages summing up the factors which are generally regarded as constituting the asthma diathesis There is evidence throughout of careful consideration of both theory and fact The author succeeds in his effort to present an up-to-date summary of the most difficult subject, and he will save the student much laborious searching through the vast literature now in existence With regard to treatment he lays special stress on physiotherapy and vaccines as methods of relief, and describes the exercises which are intended to produce mobilization of the chest wall and shoulder girdles Acknowledgement is made of the success which has resulted at Cure's Hospital under the supervision of Miss Angove from rhythmic exercise accompanied by gramophone music

[1] *Teaching Science in Schools* By John Brown M A B Sc Second edition London University of London Press 1930 (Cr 8vo pp xii + 172 2s 6d net)

[2] *The Treatment of Asthma* By A H Douthwaite M D F R C P Lond London H K Lewis and Co Ltd 1930 (Pp viii + 162 7 6d net)

NOTES ON BOOKS

The second volume of the twenty ninth and thirtieth edition of the Strumpell Schwarth Textbook of Special Pathology and Therapeutics[1] has rapidly followed the appearance of the first to which we drew attention in our issue of August 2nd (p 184) The present volume is devoted to diseases of the urinary system locomotor disorders including acute and chronic rheumatism and acute poliomyelitis diseases of the blood endocrine disturbances metabolic disorders avitaminosis and allied conditions and diseases of the nervous system There are three appendixes dealing respectively with the important intoxications prescriptions and baths and spas respectively The present edition has been well brought up to date the text being freely interspersed with excellent reproductions of photographs diagrams and charts

Dr Jacques Viet's well-documented work on the insane and criminal at Saint Lazare in the seventeenth and eighteenth centuries is divided into three parts dealing respectively with the history of this celebrated Paris prison during the period 1632–1789 when it was exclusively reserved for men with the administration of the prison including the principle and object of detention therein and with illustrative cases Throughout the Middle Ages and until the beginning of the seventeenth century Saint Lazare served as a leper hospital but in 1632 it was handed over to the Congregation of Priests of the Mission headed by St Vincent de Paul who organized it as a house of detention for members of the upper classes suffering from mental or moral infirmities the former including melancholia psychasthenia periodic psychoses dementia praecox and general paralysis and the latter various anti social acts such as drunkenness indecency theft cheating crimes of violence and even murder St Vincent instituted a method of psychotherapy which was applied to both these groups and consisted in isolation silence and a series of intellectual exercises supplemented by individual encouragement and collective address

In The Ferments[2] a study emanating from the physiological laboratory of the Medical Faculty of Paris and introduced by a preface from the dean of the faculty Professor C H Roger (who has shown his keen interest in the subject by a number of papers) Mlle Yvonne Schaeffer first gives a sketch of the present state of knowledge about ferments in general, and then considers in greater detail the three animal ferments—invertase trypsin and lipase On each of these agents she has carried out chemical investigations which are discussed with full knowledge of the work of others Her conclusions are clearly tabulated and appended to her monograph there is an extensive bibliography

[1] *Strumpell Seifarth Lehrbuch der Speziellen Pathologie und Therapie innerer Krankheiten* Neubearbeitet unter Mitwirkung von Dr med et phil C Seifarth Leipzig F C W Vogel 1930 (6½ × 9 pp xii + 691 215 figures 6 plates M 25)

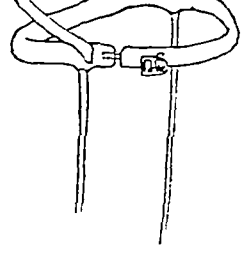
[2] *Les Diastases et leur Rôle* Paris F Alcan 1930 (6½ × 10 pp 247 40 fr)

Le Ferment Lipasique Pancréatique et la Stéapsine Thèse de Paris Par Yvonne Schaeffer Préface de Professeur C H Roger Paris Masson et Cie 1929 (6½ × 10 pp vi + 168 20 figures 28 fr)

PREPARATIONS AND APPLIANCES.

A Modified Thomas Knee Splint

Dr E Scott (Ashford Kent) writes The accompanying illustration represents a modification of the Thomas knee splint The front portion of the pelvic ring is hinged externally so that it will open and swing outward It fastens internally with a pin which fits into a slot and is held firm by means of a strap When the ring is opened the splint can be slipped under the patient's leg instead of being threaded on in the usual way Painful manipulation in the case of the recent injury or the acutely inflamed joint are thereby reduced to a minimum



The splint has been made for me by Mr J H Montague 69 New Bond Street W 1

Press

Messrs Cow and Gate Ltd have sent us a sample of a new rusk which is said to be suitable for young children It is light, therefore encouraging mastication without causing pain in the child mouth It is palatable and crisp and of handy size

THE 1930 PILGRIMAGE TO MECCA

A RECENTLY published report[1] gives the details collated by the Egyptian Council of Maritime Sanitation and Quarantine in connexion with the 1930 pilgrimage to Mecca. Dr J. Gilmour, president of the council, notes in his introduction that 84,821 pilgrims came by sea, and 23,776 passed through Egypt *en route* to the Hedjaz. The religious ceremonies at the Holy Places began on May 8th and ended on May 22nd. Time holds small place in Oriental calculations, for pilgrims had already begun to arrive in Egypt during November, 1929. A general survey of the whole report shows that there was remarkably little disease, and this happy result can be placed to the credit of the measures advised in the International Sanitary Convention of June, 1926, and the resolutions adopted by the Beirut Conference of January, 1929, which were closely observed by the sanitary authorities this year, particularly in managing the transit of pilgrims through Syria and Iraq. Not only in Egypt, but in most of the countries of origin, vaccination was more generally practised, notably in India, where all the pilgrims embarking at Karachi were compulsorily vaccinated. The majority of these countries followed the precepts of the 1926 Sanitary Convention with regard to the general measures necessary for the management and transport of the pilgrims, and a hint is given to those authorities who have not yet conformed that it would be well for them to do so in the near future.

The Approaches to Mecca

The avenues of approach to Mecca are dealt with in the earlier chapters, and from them can be gathered the thorough way in which the whole traffic of this annual religious migration was directed. Pilgrims who cross Egypt are of three classes: (1) those who pass through the Suez Canal on board pilgrim boats, (2) those who arrive at Kantara, Port Said, and Alexandria, and, having crossed Egypt by land, make for Suez, where they are embarked for the Hedjaz, (3) Egyptians and resident foreigners in Egypt who embark at Suez on Government-hired steamers. Among these three classes are Algerians, Moroccans, Persians, Turks, Bulgars, Russians, Afghans, and Albanians. All the vessels employed for the transit are specifically hired for the outgoing and return journeys, and are under medical surveillance. The council does not approve of such vague diagnoses of death as marasmus, senility, myocarditis, furnished by some ship surgeons, and will try to have this matter made more definite in future. Such diagnoses can well hide the actual fact of death from cholera. While 23,776 pilgrims embarked at Suez or passed through the Canal, by far the greater proportion, 52,408, came by sea via Kamaran; there were also 4,888 who crossed over from Suakim. Indians, Javanese, Kurds, Chinese, Zanzibaris, Senegalis, Afghans, Bokharins, Soudanese, and South Africans from Capetown used the southern sea route. All these pilgrims had submitted to anticholera inoculations. In spite of the general Jennerian vaccination, *four vessels which were small-pox-infected* arrived at Kamaran. A quaint concomitant of modern conditions lies in the fact that of 40,000 pilgrims who visited Medina (a holy place north of Mecca) before the actual pilgrimage to the Holy City, 25,000 went by motor cars and only 15,000 by the time-honoured method of caravans.

Supervision of Pilgrims

From the moment of arrival at the Hedjaz till the return from the Holy Places the pilgrims were under a complete system of sanitary supervision. This entailed a vast *travail intensif*. Electricians, plumbers and other workmen, supervised by the chief architect of the Administration, constructed new buildings, houses, isolation quarters, hospitals and latrines. Plentiful supplies of water were arranged and disinfecting apparatus and laboratories were established. On debarkation the pilgrims passed to sorting-houses where their baggage was examined and then linen disinfected by steam, all leather articles were fumigated by formalin vapour, and vessels containing water taken from the Holy Wells were boiled. From the sorting-houses the travellers were placed by lots of fifty in a disrobing room. Each individual received a small iron box in which to place personal valuables, and after undressing, was given a linen gown and passed on to the baths. The report gives figures and drawings of the steam pressure stoves and the methods taken to make the pilgrims as non-infective as possible. Details are given of the cases treated in hospitals, which were in touch with bacteriological laboratories. Antimalarial precautions were observed in all the encampments.

Cholera Research at Tor

A most important part of the report deals with the work of the laboratory at Tor, it is written by Dr. W. Doorenbos, director of the quarantine council's laboratory, Alexandria, who was in charge of the Tor encampment during the pilgrimage. He deals at length with the vexed question of true and pseudo-cholera, and confesses that in spite of all the work already done on the subject there is still much confusion on the diagnosis of the different strains of vibrios. The result of his labours is that he has been able to make certain deductions which will serve as the basis for future work. Of 20,730 stools examined at Tor the number of vibrio strains isolated was forty-six, of which two were agglutinants and forty-four non-agglutinating. The two former had been inoculated against cholera before their departure for the Hedjaz, while of the forty-four non-agglutinants thirty-nine had evidence on their cards, and in the remaining five this information was uncertain. After describing the methods of isolation and the histological properties of the vibrios, Dr. Doorenbos proceeds to discuss general considerations on the variable morphology and agglutinable characters of the true cholerae vibrio as compared with the pseudo variety. This question has troubled quarantine authorities in India and all over the East. Endeavours have been made to establish the same relationship as between typhoid and paratyphoid, and in the Special Report, No. 51, of the Medical Research Council mention is made of a disease having symptoms like those of cholera, though usually of mild type and followed by a lower case mortality.

> "The vibrios recovered from such outbreaks, though have a general resemblance to the *V. cholerae* in their morphological cultural characters, are serologically quite distinct. These organisms have been termed *V. paracholerae*."

Dr. Doorenbos's comment on this is that if he has a case in which the vibrios present are morphologically and culturally identical with the *V. cholerae*, he diagnoses cholera, even if there are some differences in the agglutinating power of the different strains. Because of the forty-six vibrio cases found in pilgrims coming from places related to epidemic centres in India, the whole pilgrimage was considered cholera-infected and a subsequent case of true cholera at Massowa confirmed the conclusion. While it is admitted that there are no means of bacteriologically determining that a vibrio is or is not that of true cholera it was decided that in each case where a vibrio is isolated it should be considered suspect. This considerably increases the number of such cases, even although among them will be found degenerated vibrios which are not pathogenic to man. Nor can the haemolytic powers of agglutinating cholera vibrios serve to identify a strain, for, as shown by Dr. Marra at Port Said, some strains that have given proof of haemolysis when examined six months later had lost that power.

While the report cannot, therefore, be said to bring any new light on this important subject, it summarizes in concise fashion much of the previous work, and adds fresh observations of value. The Egyptian Maritime Sanitary and Quarantine Council is to be congratulated on the comprehensive and efficient way it manages this annual pilgrimage, a cohort of more or less irresponsible and potential spreaders of epidemic diseases from the sub-areas of Africa and the Near and Far Orient. A study of the report shows the steady advance which is being made in co-ordinating the work of international public health and epidemiology, and the willingness of different countries to carry out inoculation and other measures to prevent their nationals from embarking as far as possible in other than non-infective condition.

[1] "The 1930 Pilgrimage to Mecca. (Conseil Sanitaire Maritime et Quarantenaire d'Egypte. Rapport sur le Pèlerinage de l'année 1930.) Alexandrie: Société de Publications Egyptiennes. 1930.

W ARNOTT DICKSON PLEURAL EFFUSIONS IN GENERAL PRACTICE.



Empyema cured by absorption in boy aged 6
Fig. 1.—May 1929



Empyema cured by absorption in boy aged 6.
Fig. 2.—After recovery

C. ALEX WELLS APPENDIX CONCRETIONS OPAQUE TO X RAYS



X ray photograph showing shadow of stone at site of the appendix. (from behind)

J F D SHREWSBURY A CASE OF HUMAN INTESTINAL MYIASIS



Microphotograph of the head and anterior segments of the larva o Anksopus (Rhyphus) fenestralis Scopoli (× 40)

E LAMING EVANS: CONGENITAL DISLOCATION OF THE HIP



Fig 1.—Irene W. Left hip. Reduced at age of 4½. 16 years ago.



Fig 2.—Evelyn M. Left hip. Reduced at age of 5. 11 years ago.

E LAMING EVANS CONGENITAL DISLOCATION OF THE HIP



Fig 3.—Primrose B. Right hip. Reduced at age of 3, 11 years ago.



Fig 4.—Beryl D. Left hip. Reduced at age of 4, 12 years ago.

E. LAMING EVANS CONGENITAL DISLOCATION OF THE HIP



Fig. 5.—Gladys P Left and right hips Reduced at age of 2¼ 12 years ago



Fig. 6.—Sylvia W Left hip Reduced at age of 3½ 14 years ago

E LAMING EVANS CONGENITAL DISLOCATION OF THE HIP



Fig. 7.—Phyllis J Left hip. Reduced at age of 2¼ 20 years ago



Fig. 8.—Margaret S Left hip Reduced at age of 2¼ 20 years ago

H A. COOKSON "FAT NECROSIS" OF THE BREAST.



Fig 1.—Low power (× 50) view of necrotic area, showing fat cells separated by the giant cells and mononuclear cells



Fig. 2.—Medium power (× 80) view of necrotic area showing invasion of fat cells by giant cells etc

H A COOKSON "FAT NECROSIS" OF THE BREAST



Fig. 3.—Higher power (× 180) showing characters of giant cells and foaming cells



Fig. 4.—Low power (× 10) view through skin and subjacent fascia

British Medical Journal.

SATURDAY, DECEMBER 20TH, 1930

RECENT WORK ON YELLOW FEVER.

At the beginning of 1913 the Secretary of State for the Colonies appointed a commission to study the nature and relative frequency of the fevers occurring among Europeans natives and others in West Africa especially with regard to yellow fever and its minor manifestations This commission under the chairmanship of Sir James Kingston Fowler lasted for approximately three years its fourth and final report being dated March 31st 1916 In the light of recent discoveries it is interesting to refer to the general conclusions and recommendations of that commission embodied in their four reports and also in the volumes dealing with their investigators reports Probably owing to the fact that these reports were issued during the war they have not received the attention they deserve for most of the recommendations and conclusions of the commission have been abundantly justified by subsequent events Their conclusions to the effect that yellow fever is an endemic disease on the West Coast of Africa and maintained by the existence of endemic foci has received a striking confirmation in a recent publication of the Rockefeller Commission in West Africa[1] Drs Beeuwkes Bauer and Mahaffy members of this commission collected samples of blood from the natives of various towns in Nigeria and Sierra Leone and by means of protection tests in monkeys determined what proportion of the natives had suffered from yellow fever In the densely populated towns of Ibadan and Ilorin in Southern Nigeria out of 125 serums collected at random 30 4 per cent contained immune bodies against yellow fever and in Ife where an epidemic had recently occurred, 17 out of 25 or 68 per cent were protective On the other hand on the plateau of Northern Nigeria only 1 out of 90 examined was positive Similarly in Freetown where no yellow fever has been reported since 1910 only 1 out of 34 gave complete protection These observers also found that at least 1 out of every 4 young children in Ibadan and Ilorin had had an attack of the disease although no child under 5 years ever presented a clinical picture justifying the diagnosis of yellow fever It is evident therefore that this densely populated region of Southern Nigeria constitutes a great endemic centre of the disease where the native is as saturated with yellow fever as he is with malaria The infection is maintained among the infants who constitute the local non immune population and on whom the disease seems to have very little effect Such infected children serve to maintain the infection in the mosquitos and in this way the disease may persist for long periods without its existence being recognized With the influx of numbers of non immunes such as Europeans or natives from uninfected regions there is always the possibility of an epidemic being produced especially when the number of mosquitos is allowed to increase

The transmission of yellow fever has been the subject of an important paper by Professor Edward Hindle the Beit Research Fellow in Tropical Medicine who has been studying this problem at the Wellcome Bureau during the past two years It has been generally assumed that this disease is transmitted only by the bites of the yellow fever mosquito (*Aedes aegypti*) but experiments in both West Africa and South America have shown that other species of mosquitos may carry the disease Consequently Hindle suggests that in the endemic centres of West Africa antimosquito campaigns should be directed against all mosquitos indiscriminately Although as he has shown a mosquito once infected generally remains infective for the duration of its life and in one experiment was still infective 118 days after feeding on a yellow fever patient no evidence was obtained in support of the view that the infection is transmitted to its offspring Therefore by intensive antimosquito campaigns, it should be possible to eradicate the disease from West Africa in the same way as it has been eliminated from North and Central America A hitherto unsuspected mode of transmission has been brought to light in the course of these experiments During the early stages of the disease the blood of yellow fever patients is highly infectious and if the surface of the skin becomes contaminated with such blood infection may result Two cases are described in which the patients could have acquired the infection in no other way than by contamination of the skin whilst handling infected blood and who had never had the opportunity of coming in contact with infected monkeys or mosquitos One of these patients became infected after merely doing a blood count on another case therefore in view of the common occurrence of haemorrhages during the course of the disease it seems likely that yellow fever occasionally may be spread directly by these means The danger is probably not very considerable as the blood often ceases to be infective before such clinical signs as haemorrhages have appeared but there would be a possibility of hospital staff and attendants acquiring the infection whilst handling patients in the early stages of the disease and especially during any blood examinations In the past all study of yellow fever has been conducted in endemic regions and any infections have been attributed to the bites of infected mosquitos but there can be little doubt in view of these results that direct infection must have occurred, especially in hospitals Although the blood of human patients is highly infectious during the early stages of the disease and may contain up to 100 million lethal doses per cubic centimetre there seems to be a rapid production of antibodies even in fatal cases and as a result the blood generally ceases to be infective by the third or fourth day of fever and sometimes earlier Consequently there is little risk of acquiring the infection when performing necropsies on human yellow fever cases but in monkeys owing to the more rapid course of the disease this is not so and the blood and tissues are often infective at death

The main facts governing the transmission of yellow fever now seem to be fairly well established but hitherto as in the case of all diseases due to ultramicroscopic viruses specific chemotherapeutic treatment has entirely failed With the object of finding some efficient treatment for the disease G M Findlay and E Hindle[2] have been studying the changes in the course of yellow fever and found they showed a close similarity to those occurring in other conditions involving liver necrosis such as carbon tetrachloride chloroform or arsphenamine poisoning One of the most striking changes in these cases is an increase in guanidine like substances in the blood, and the toxic symptoms associated with guanidine

[1] *Amer J trop Med* x 05-333
[2] *Lancet* October 18th 1930.

[2] *Lancet* September 27th, 1930.

poisoning present certain resemblances to the symptoms observed in yellow fever patients. Analyses of the blood of monkeys infected with yellow fever showed that the guanidine content increased to approximately double the normal quantity. The increase could be reduced to normal by the administration of calcium lactate, but it was necessary to give repeated injections because the effect of the calcium did not last for more than a few hours. It is disappointing to have to record that in spite of this apparent success, calcium lactate did not prevent death in the monkeys suffering from yellow fever, although it did tend to prevent haemorrhages, and is evidently of some value in the treatment of the disease.

METABOLISM OF TUMOURS

It is now seven years since Professor Otto Warburg began his researches on the metabolism of tumours. In the interval he has published a number of papers on that subject, and it must have been the experience of many of those who followed the account of his investigations that the precise significance of his results was not realized without some difficulty. A short, final article of two pages, however, which he published in 1929, removes all obscurities when read in conjunction with the previous articles. The publication of the whole series in a single volume was subsequently undertaken, and an excellent translation of this work—*The Metabolism of Tumours*—has now been provided by Dr. Frank Dickens.[1]

One of the recognized characteristics of tumours is irregular growth, it was Professor Warburg's task to construe the latter in terms of irregular metabolism. The sources of growth energy being oxygen and carbohydrate, utilized respectively in the processes of tissue respiration (oxidation) and fermentation (glycolysis, or the splitting of carbohydrate into lactic acid and CO_2) the research consisted in ascertaining and comparing the quantitative variations of these two processes in normal and tumour tissue, and in defining the mutual relationship if any, existing between them. The twofold function is inherent in all cells, actually or potentially. A full description of the technique employed is given in Professor Warburg's book, it is sufficient to state here that the amount of respiration is measured by the amount of oxygen absorbed by a given weight of tissue in a given time, and the amount of glycolysis by the quantity of CO_2 produced. By saturating the culture medium with nitrogen, and thus excluding oxidation it becomes possible to study *the glycolytic function in isolation* (anaerobic glycolysis). By this means it is found that all tissues possess a potential glycolytic function, varying in amount in proportion to the proliferative activity of the cell at the time of observation. In stationary connective tissue it is barely recognizable, in non-malignant tumours it is moderate in amount, in rapidly proliferating tissue it is abundant, as in the embryo and malignant tumours which exhibit a practically identical glycolytic activity.

Thus as regards the *amount of potential glycolytic function* Professor Warburg finds nothing abnormal in tumours—it is that of normal tissue in a corresponding condition of proliferative activity. As regards the mutual relationship of the two processes within the cell oxidation appears to predominate over, and as a rule suppress, glycolysis, which, however, is always resorted to under conditions which exclude oxidation. An observation of Pasteur's furnishes a good example of the suppression of the glycolytic function by oxidation, he showed that yeast fermenting under anaerobic conditions relinquishes the glycolytic function on the admission of oxidation, thenceforward deriving energy from the latter. There are, however, exceptions to this rule of suppression, instances are met with in which glycolysis is present in association with oxidation (aerobic glycolysis), and it would appear from this fact that the dominating influence of oxidation is not direct, but is exercised through some intermediate chemico-physical reaction ("Pasteur reaction" Warburg proposes to call it), which may, on occasion, be absent, and the failure of which renders the influence of oxidation on glycolysis nugatory. If this reasoning is correct, the simultaneous existence of the fermentative and the oxidative processes in a tissue indicates that there is a disturbance of the function of tissue respiration—the oxidative process is unable to proceed on normal lines. Professor Warburg has shown that tumour tissue exhibits this aerobic glycolysis, and therefore concludes that its respiratory function is irregular. Aerobic glycolysis is, however, by no means specific for tumours, it may be induced in normal tissues if suitable means are taken to obstruct oxidation, as Warburg has shown in several of his experiments. But there is a marked difference between the behaviour of normal tissue and that of *tumours in these circumstances, normal cells* inevitably die, while the cells of tumours not only survive, but *are able to grow to an unlimited extent* turning to account the chemical energy of glycolysis. This power of survival under the condition of aerobic glycolysis is therefore the essential characteristic of tumours, as compared with normal tissue and is regarded from the point of view of metabolism.

It may be asked what light these researches throw on the problem of the causation of tumours. It has been mentioned that the degree of glycolytic activity is found to vary in proportion to the rapidity of tissue growth, glycolysis, actual or potential, therefore *appears to be closely connected with growth. To conclude* from this fact, however, that the assumption of *a glycolytic type of metabolism is the cause* of tumour formation would obviously involve the danger of falling into a logical fallacy. Tumour formation may be due to quite other causes, which may conceivably bring aerobic glycolysis in their train. The researches do not, in fact, bear directly on the problem of causation but they have added an important detail to our knowledge of the peculiar features of tumour growth—a valuable acquisition, since it opens up a new avenue of approach in the study of the causation of tumours.

EARLY LABORATORY DIAGNOSIS OF TYPHOID FEVER

It is common knowledge that the Widal test, *as ordinarily* performed, fails to give a positive result in some cases *which seem clinically to be of enteric fever*. According to Dr. A. D. Gardner of the Standards Laboratory, Oxford, whose work is discussed in the last annual report of the South African Institute for Medical Research,[2] investigations by Muñoz (1897), Smith and Reagh (1903-4), Walker (1903, 1918), Arkwright (1921), Weil and Felix (1920), Andrews (1922) and others, have all contributed to the recognition of one reason for this failure—namely, the *fact* that there exist non-motile strains of the typhoid bacillus. It is now well known that a typhoid fever serum which successfully agglutinates non-motile bacilli may fail to

[1] *The Metabolism of Tumours.* Edited by Otto Warburg. Translated from the German edition with accounts of additional recent researches by Frank Dickens, M.A., Ph.D. London: Constable and Co., Ltd. 1930. (40 net.)

[2] Annual Report for the year ended December 31st, 1929. Johannesburg. 1930.

agglutinate the motile organisms ordinarily used in carrying out the Widal test. The non-motile strains possess what is now termed the O type of antigen and accordingly produce O agglutinin only; the motile bacteria on the other hand possess two kinds of antigen termed H" and O" which stimulate the production of both types of agglutinin. Recently Felix has elaborated a qualitative method for demonstrating agglutination of one or other type in the serum of enteric cases and confirmation and extension of his work have been recorded by Gardner and Pipper. Gardner believes that if inoculation can be excluded the O agglutination diagnostic test need be applied only when the ordinary H" test has given negative or doubtful results. It may also be used in the early or late stage of cases in which a diagnostic H' test has failed to develop or having done so has disappeared. It is not possible however, by the O' agglutination test to identify the infecting species for the O substance is not specific. In the experience of the South African Institute for Medical Research a further reason for the failure of the Widal test lies in the fact that a number of the specimens of blood or serum submitted for Widal testing have been taken from patients during the first week or nine days of the illness a period in which blood culture offers a surer means of diagnosis. In many cases however the practitioner finds it far more difficult to collect blood for culture than for Widal testing and this difficulty has probably stood in the way of the more extensive use of the blood culture method. Recognizing this possibility the institute has been supplying on request small rubber-capped bottles containing sterile ox bile the advantages of which as a culture medium are that the typhoid bacillus flourishes in it to the exclusion of contaminating organisms that may be introduced fortuitously. Experiments have shown that typhoid bacilli may be isolated from this medium even when it has been inoculated with no more than 0·2 c.cm. of blood from a typhoid patient. Evidence is accumulating at the institute that the dual method of arriving at a diagnosis may be applied to specimens collected even in the early stage of typhoid infection. The procedure adopted is to withdraw the separated serum for agglutination tests and then to introduce the clot into tubes containing ox bile. Positive cultural results have been obtained in this way from specimens collected between the fifth and ninth day of illness by practitioners living a long way from the laboratory. In such cases the institute has adopted the practice of reporting first the result of the agglutination test and then a few days later the result of the cultural test.

MEDICAL RESEARCH IN HAMBURG

For some reason the facilities offered in Hamburg as a medical centre are insufficiently known in Great Britain so that study tours to Germany seldom include a visit to a university city which is actually nearer and more accessible to this country than Berlin, Munich or Heidelberg to name a few favourite centres. In a recent volume[1] dealing with the whole question of research institutes compiled by many authors Professor Ludolph Brauer describes the medical research work carried on at the large Eppendorf Hospital in Hamburg where 3,000 beds distributed in many pavilions offer remarkable clinical opportunities. The receiving wards are visited twice daily by a member of the staff who allocates the patients to the various departments of the hospital; by attending these visits the investigator of any particular problem is kept in close touch with the available clinical material. Laboratories for all aspects of medical research are in close contact with the wards and the clinical workers in the various departments are almost as much at home in the laboratory as in the wards. The special departments available for the study of particular problems are many. The German Research Institute for Tuberculosis stands in close proximity to the ward set apart for pulmonary tuberculosis and other lung diseases. Here "working places" are available on lines similar to those at the zoological station at Naples for example and investigators can obtain expert guidance in their work. In order to study the many problems of climate high altitudes air etc. connected with the treatment especially of lung disorders the Eppendorf Hospital has lately added two elaborate pneumatic rooms to its research equipment. Each of these completely air-tight rooms has a floor space of 12 by 15 feet and is 9 feet high. The walls are strongly built with steel rods to reinforce the brickwork and a pressure of three-quarters of an atmosphere above or below normal can be safely withstood. Strong pumps can produce this change of pressure if necessary in twelve minutes and it is arranged that a stream of nearly 500 cubic metres of filtered dry air can be circulated through each room every hour. Air locks through which food can be passed into the room, telephone communication between the occupants of the rooms and those in charge of the apparatus and careful control of the temperature and water-vapour content of the air by means of electrically recording thermometers make these pneumatic chambers valuable additions to the scientific resources in Hamburg both for treatment and scientific investigations. Institutes for cancer research for the investigation of problems of light for clinical pharmacology and for colloidal biology deal with special aspects of medical research. A well-equipped diet kitchen in a modern building with two large and several small ward analytical laboratories metabolism laboratories etc. afford great opportunities for the study of metabolic problems. The daily diet of between 100 and 120 patients is carefully prepared according to scientific standards and lecture courses in dietetics are held for doctors nurses and students. The surgical treatment of diseases of the lungs can be studied particularly well in a hospital directed by such a pioneer in this subject as Brauer and thoracoplastic work can be followed in its various aspects. The Eppendorf Hospital has many well known names connected with its staff; a bust of Curschmann stands just within the entrance gate not far from the dermatological clinic which Unna used to direct. The names of Nonne in the neurological Fahr in the pathological and Much in the tuberculosis departments are universally known. Professor Brauer's account of the research departments and hospital which he directs makes it clear that here is a well-organized unit in which clinical research is the normal method of work because the clinicians have a strong scientific background and the laboratory workers are always close to clinical material.

[1] *Forschung, Institute, ihre Geschichte Organisation und Ziele.* Edited by L. Brauer, A. M. Bartholdy and A. Meyer. Hamburg: Paul Hartung. 1930.

PROPOSED INTERNATIONAL SCHOOL OF HEALTH STUDIES

THE French Government continues to show a praiseworthy initiative in encouraging what some would call the incidental or contingent activities of the League of Nations. It was on the suggestion and with the help of the French Government that the International Institute of Intellectual Co-operation was established in Paris a few years ago; recently the French Government has made another proposal which however has yet to be ratified by its Parliament—namely that there should be established in Paris under the direction of the Health Committee of the League an international school of advanced health studies. The school if it materializes will be maintained by an annual grant of a million French francs (rather more than £8,000), and its object will be to meet the need for an institution where knowledge of the best modern practice and research work

may be obtained and the methods of different countries compared The suggestion really arises out of the organization by the League of Nations of the very useful system of interchanges or study tours for public health officials, whereby the officials in one country have been enabled to see what other countries are doing in the same or parallel fields In connexion with these interchanges, courses of study have been organized in London and in Paris, where instruction has been given by teachers from a number of countries and the value of these experiments has been so evidently proved that a demand has arisen for something more permanent and systematic, whereby all national health administrations choosing to do so could benefit by each other's knowledge and experience The school will also afford an opportunity for directors of schools of public health in different countries to meet regularly and to discuss their common problems Both the teachers and the students of the school will be picked men and women drawn from different countries it is expected that the students will generally be selected by their national authorities, and that in due course various scholarships and subsidies will become attached to the international school The courses will lay emphasis upon a comparison of the practice in various countries with regard to health matters, and the points of divergence There will be field work and discussion groups as well as lectures The theoretical programme will be divided into three principal branches—namely, comparative general hygiene, an outline of the fresh knowledge acquired in the sphere of health and of related sciences, and the organs and method of international health co-operation The framing of a plan for the school was one of the chief pieces of work at the meeting of the Health Committee of the League of Nations at Geneva in October The Health Committee, whose members will compose the governing body of the school, with a director appointed by the French Government, has recently, by the way, been reconstituted and enlarged Its members, who are appointed for three years, now number twenty-seven The president is Dr Madsen of the Danish State Serum Institute The single vice-president hitherto has been M Velghe, formerly secretary-general of the Belgian Ministry of the Interior and Health, but three new vice-presidents have just been elected, one of whom is Dame Janet Campbell of the British Ministry of Health and the others are Dr Heng Liu the Chinese Minister of Health, and Dr Cantacuzene director of the Bucarest Institute of Experimental Medicine In the general body of members Great Britain is represented by Sir George Buchanan, senior medical officer of the Ministry of Health, the United States by Surgeon-General H S Cumming, director-general of the Public Health Service, Canada by Professor J D Fitzgerald, director of the School of Public Health of the University of Toronto and India by General J D Graham, public health commissioner of the Government of India Fourteen other countries are also represented by principal health officials

BENVENUTO CELLINI

BENVENUTO CELLINI'S celebrated autobiography has more than once attracted the attention of medical historians, such as Sir D'Arcy Power and Professor Castiglioni, as it serves to illustrate the close relationship between art and medicine in Italy during the sixteenth century In a handsome quarto entitled "From the Medicine of the Renaissance" [1] Dr Paul Strassmann, extraordinary professor of obstetrics and gynæcology at Berlin University, has recently drawn attention to the passages of medical interest in Goethe's translation of Cellini's life Cellini's medical attendants included Berengario da Carpi, the well-known surgeon of Bologna, and Guido Guidi or Vidus Vidius, the Florentine surgeon and anatomist who has given his name to the Vidian canal and nerve Cellini's own medical history is not without interest There is no doubt that he had several attacks of malaria which was then very prevalent in Rome, and as Signora Celli has recently shown, accounted for the deaths of several Popes He also contracted what was known as brassfounder's ague during his execution of the statue of Perseus at Florence Another febrile attack, accompanied by delirium, from which he suffered for several weeks, may possibly have been typhoid fever On two occasions attempts were made to poison him, once with crushed diamonds without any effect, and on another occasion with arsenic, which nearly cost him his life In spite of the suggestive skin eruption (for which he was treated with guaiacum), and the later eye troubles following Cellini's relations with a model, Dr Strassmann thinks it doubtful if the disease was syphilis in view of the fact that no further symptoms developed and that he became the father of a healthy child in his seventh decennium Like Castiglioni and Vieroidt, Strassmann thinks that there are no grounds for regarding Cellini as guilty of homosexual practices, as some authorities, such as Magnus Hirschfeld, have done

[1] *Aus der Medizin des Renaissancemenschen* An der Hand des Lebens von Benvenuto Cellini nach der Übersetzung Goethes Von Dr Med Paul Strassmann Leipzig G Thieme 1930 (M 13.)

DWINDLING INCIDENCE OF PIRQUET REACTIONS IN SCHOOL CHILDREN

J USTVEDT has investigated, and found to be correct the teaching that the incidence of Pirquet reactions in school children in Norway has shown a remarkable decline during the past fifteen or twenty years [1] In 1914 Arnfinsen carried out Pirquet tests in Trondhjem on 80 per cent of the children attending the primary schools The author has repeated these tests in the same town, checking the reaction after forty-eight hours and regarding as positive a redness or a palpable infiltration at this stage Of the 7 000 school children in the town 4,719 (67 5 per cent) were allowed by the parents to be thus tested The incidence of the positive reactions rose uniformly from 8 per cent at the age of 7 to 40 5 per cent at the school-leaving age of 15 Of all the 4,719 children, 1,116, or 23 5 per cent, gave a positive reaction There was no sex difference between the ages of 7 and 10, but later the incidence of positive reactions was a trifle higher for the boys, and at the age of 15, 43 per cent of the boys and only 37 5 per cent of the girls, showed a positive reaction Arnfinsen's investigations indicated that the frequency of positive reactions rose uniformly from 24 per cent at the age of 7 to 60 5 per cent at the school-leaving age Arnfinsen found 37 8 per cent of all the school children Pirquet positive, whereas Ustvedt reports a reduction in this ratio to 23 5 per cent The difference between the two investigators was greatest in the case of 15-year-old girls, Arnfinsen finding 65 8 per cent to be Pirquet-positive and Ustvedt only 37 5 per cent Since the two series of investigations were conducted with an identical technique and on the same kind of material, it may be safely assumed that during the past fifteen years there has been a considerable postponement in the average date of infection, 20 per cent less of the children pass infected into the dangerous years of adolescence than was the case in 1914 This achievement can probably be traced to the energetic measures taken in the interval to withdraw infectious cases from contact with children There would seem to be no risk in thus deferring the date of infection from the years of childhood to those of adolescence for side by side with an increase in the proportion of Pirquet negative reactions in childhood there has been a diminution of the tuberculosis mortality and morbidity in Trondhjem While in 1914 4 4 per 1,000 of the population of Trondhjem were

[1] *Tidsskr f d Norske Laegeforening*, November 1st, 1930, p 1187

otified as tuberculous this ratio was reduced to 3 5 in 929 The incidence of tuberculous meningitis in children under the age in Trondhjem fell from 3 2 per 1,000 in the eriod 1910-15 to 1 4 per 1 000 in the period 1921-25 In he case of 521 children tuberculosis had been notified n the 371 homes from which they came, but only in 274 f these children (52 5 per cent) exposed to infection as the Pirquet reaction positive Even when the children ame from homes in which a sputum positive case had been notified as great a proportion as 31 per cent of them ere Pirquet-negative Sometimes, when there were two or more children in one and the same tuberculous family son e of the children were Pirquet-positive and other Pirquet ne ative The author compares this state of affair with the observation that even artificial inoculation with B C C does not invariably provoke a positive Pirquet reaction The sub equent fate of children living in tuberculous surroundin s does not seem to be affected by the nature of their Pirquet reaction at any given date for of the 444 children from tuberculous surroundings examined by Arnfinsen in 1914 37 5 gave a ne ative reaction Of these 167 children, 13 or 7 8 per cent were subsequently notified as suffering from tuberculo is Of the 277 giving a positive reaction in 1914, 22 or 7 9 per cent , were sub equently notified as tuberculous

ORIGIN OF THE HUMAN SKELETON

DR ROBERT BROOM although trained as a medical man has spent the greater part of his profe ional life in studying the fos il fauna of South Africa The fauna is a very ancient one, its fossil remains are dug from rocks of the Permian Triassic and Jurassic Ages and pre erve evolutionary stages which preceded the appearance of the true mammals The highest vertebrates were then reptilian in type, but many of the reptilian forms of South Africa were undergoing changes which heralded the dawn of the mammalian type Certain modifications of structure were bein effected which have still an interest for medical men In diverse genera the mammalian form of palate was being evolved—forming a roof for the mouth and a floor for the nasal cavity In every human child this same process occurs during development failure gives ri e to "cleft palate" Another marvellous change was the establishment on the base of the skull of a new joint for the lower jaw Dr Broom has succeeded in finding only the preliminary steps which led on to the separation of the old articular head of the lower jaw to form the hammer of the ear and the outgrowth of bone to form a new mandibular condyle In the present study[1] the lore gained in the examination of this ancient fauna has been applied to elucidate the human skull and skeleton Although a period of 200 millions of years—the estimate is Dr Broom s—has elapsed since these mammalian like reptiles had their day in South Africa yet much of what was theirs has been handed on and become the heritage of man and ape The student of anatomy may be con oled by the knowledge that the human skull is much impler in its structure than was the highe t form of kull in the Triassic period Eight bones which were separate in the ancient Theromorphs have been enrolled in the human sphenoid bone their orbit had in its circuit six separate bones, compared with that of man s Theromorphic ancestor the human bony palate is a simple structure Even in the earliest reptilian forms however the tarsus and carpus had much the same constitution as till persists in the hand and foot of man Dr Broom has an interesting and original story to tell and makes it o intelligible by the aid of simple drawings that a first-year medical student should find no difficulty in following all the details of his argument

[1] *The Origin of the Human Skeleton* By R. Broom D.Sc F.R.S London H F and G Witherby 1930. (10s 6d. net)

PUBLIC ASSISTANCE ORGANIZATION

IT is very de irable that knowledge of the new machinery which ha super eded that of the old boards of guardians for the admini tration of the Poor Law should be as wide pread a po ible In the large area of the London County Council this new machinery ha been the subject of much careful thou ht and it is now in e tabli hed working and of course affects a relatively large proportion of the total population which is in need of public a istance A small pamphlet entitled *The New Public Assistance Organi ation of the London County Council*[1] by Lewis Silkin a member of that Council is therefore timely in its publication and worthy of attention It has a foreword by the Right Hon George Lan bury M P First Comm issioner of Work and is publi hed under the au pices of the London Labour Party It is not therefore wholly free from party bias but an attempt i made in the main succe sfully to avoid the di cu ion of question of policy, and to restrict the pamphlet to giving the reader sufficient information to enable him to appreciate the effects of the important chan e which has now taken place in the administration of public assistance within the County of London Many medical practitioner both in London and elsewhere should appreciate an exposition so brief and so clear as that which this pamphlet afford It sets out in an admirable manner the extent and nature of the work done under the old re ime and the way in which it is being consolidated and redistributed under the authority of the London County Council A few concluding paragraphs contain observations of a more general character as to the effect and intentions of the new admini tration and one or two of these may be of special significance It is known that the Labour party is generally not in favour of co-option on to the committees of local government authorities There are strong ground for concluding that this is a mistaken attitude In view of the extent variety, and complexity of the problems with which such authorities have to deal it eems clearly advantageous to enli t to a modest extent in committee work those who have expert knowledge experience and kill in particular spheres but who do not wi h to plunge into public work of a wider character In Mr Silkin s pamphlet it is acknowledged that provided such persons are carefully selected and are prepared in addition to making a sacrifice of their time to undergo the education and training whi h i e sential for all persons who desire to take part in public life, then the advent of an increased number of presumably public-spirited per ons in the civic life of London can hardly be without its advantages ' It is bad election which i probably at the bottom of such real di i faction as at present exists Where the prime consideration i either narrow party advanta e or question of mere relationship or friendship failure may easily re ult, but there can rarely be any county or county borough in which there is not sufficient election from those who not only have the requisite knowledge and experience but al o have actually had in ome form that training in public life which Mr Silkin very properly postulates as neces ary Again it is said persons seeking assi tance who are admittedly too old for work and without means of ub i tence ' ould be provided with as i tance out ide the Poor Law altogether and it po ible through a committee of the Coun il pecially et up for the purpose It i common ground that the ultimate goal i the breaking up of the Poor Law o that those who need public a si tance on special groun ds shall be dealt with appropriately but surely the cla named are exactly those for whom the public a istance committee should be most concerned and who hould be its foremo t consideration

[1] London Labour Publication Ltd. 25 Westmin er Bri ge Road, S.E.1. (2d.)

CONFERENCE ON MENTAL WELFARE.

A very largely attended conference was held, under the auspices of the Central Association for Mental Welfare, in the Great Hall of the British Medical Association House, Tavistock Square, on December 11th, 12th, and 13th. It was opened by the Right Hon. ARTHUR GREENWOOD, the Minister of Health, who expressed the hope that voluntary associations would do much useful work in the administration of the Mental Treatment Act. Without the completest harmony between the State, the local agencies, the medical profession and the voluntary associations, administration could never be effective. The Right Hon. SIR LESLIE SCOTT, president of the convening association, described the Mental Treatment Act as the most important step forward in the establishment of a preventive mental health service in this country, and indicated its three great salutary provisions: out-patient clinics, the provision of beds for temporary patients in general hospitals, and the admission of voluntary patients to mental hospitals. The first of these provisions would bring for the layman, and he hoped for the general practitioner as well, the treatment of mental illness into the same category as the treatment of physical illness.

Problems under the Mental Treatment Act

The first subject for discussion at the conference, under the chairmanship of SIR LESLIE SCOTT, concerned the developments in mental health work under the Mental Treatment Act 1930. It was opened with two papers, the first by SIR WILLIAM HART, town clerk, Sheffield, who, in the course of his remarks, urged some considerations of economy. The constant demand for expenditure upon new or extended social services, coupled with stringent times as regards finance made it very difficult for local authorities to contemplate expenditure on a large scale on such matters as new institutions. While everything would be done to secure the fullest provision of opportunities for preventive treatment, and to further in all respects the aims embodied in the Act, many of those concerned were not compelled by reasons of finance to ask that progress might be slow because of financial stringency. The second paper was by DR. A. T. W. FORRESTER, medical superintendent Warwick County Mental Hospital, who discussed the development of out-patient clinics. He gave reasons why the mental hospital staff must, in his opinion, be associated with the clinic. The treatment of mental disorders in this country was in the hands of quite a small number of medical men, most of whom were on the staffs of the public mental hospitals. Outside the hospital, at the clinic they would see chiefly the same patients but in the earliest stage of their disorder, and this was the stage at which those who were largely concerned with the mental health of the community wished for the opportunity of beginning treatment. Surely, also, it was highly desirable that there should be continuity of treatment between the out-patient clinic and the admission hospital, and to ensure this it was vital that the staffs of the two units should be closely interrelated, if not identical. As to the three possibilities for the site of the clinic—namely, the general hospital the municipal hospital, and the mental hospital he thought there was only one answer—namely, that the general hospital was the most preferable site. The clinic would also form a very useful centre where discharges from the mental hospital could report from time to time.

DR. J. R. FOTHERGILL urged strongly that the treatment of mental illness should be brought into line with the treatment of all physical illness, and that if the service was to be a successful one, just as in the case of physical illness, the treatment of mental illness should be founded on the general practitioner, the private consultant, and the medical officer of the mental hospital. Admission to the consultation department of a voluntary hospital should be through the general practitioner, to whom a report should be sent, with a recommendation as to the form of treatment if the patient was not considered suitable for admission. There was a question whether the whole-time medical officer—that is, the superintendent of the mental hospital—was the most suitable person to be in charge of the consultation department. The knowledge of such an officer concerned rather the end-results of illness and not at present its commencement. It should be kept in mind that if a whole-time superintendent of a mental hospital were appointed as medical officer of the consultation department, where he gave his services free, he would be at once in competition with the private consultant in that branch of medicine, and the latter would be deprived of the means of keeping his education up to date, and of the remuneration which he had a right to expect to receive from the hospital, whether voluntary or council.

The Staffing of Out-patient Clinics

MR. L. G. BROCK (Chairman of the Board of Control) referring to the two questions which had come up in the course of the discussion—namely, as to where the out-patient clinic should be and where the admission hospital should be—said he was inclined to agree with one speaker that the superintendents of mental hospitals were too modest about their own claims. It must be recognized that outside a few of the largest urban areas and the areas of the large voluntary hospitals with neurological wards, there were really not in this country any men, other than the members of the staffs of mental hospitals, with any considerable experience in psychological medicine or in dealing with cases of mental disorder. Whatever improvements there might have been in the medical curriculum in recent years, the medical student had lamentably little opportunity of studying cases of mental disorder. It was to the staffs of the mental hospitals that one must look to find the men who had made a special study of this work, they were the experts, and he could not see why the fact should not be admitted. That was why he wanted to see the superintendents and staffs of the mental hospitals associated with the out-patient clinics. But while it seemed essential to the success of the out-patient clinic that it should be staffed in the main by men who came from the public mental hospitals, at the same time he was very anxious to break down the barrier which had existed in the past between psychological and general medicine. He wanted to see the out-patient clinic staffed by the medical superintendent and his assistants, but he wanted to see it at the voluntary hospital, and, in return, to see the consultants of the voluntary hospitals becoming the consultants of the mental hospitals. The more interchange that could be got between the two the better. One great reason why the out-patient clinic should be at the voluntary hospital was because the condition precedent to any success was to secure the confidence of the patient, and he was sure it was easier to get him to go to a voluntary hospital at the earliest stage of his malady than it would be to get him to go to a mental hospital. It was also well to bear in mind that the people concerned were suffering not only from mental illness but in a great many cases from physical illness also, and, however well equipped the mental hospital might be, there must be better resources in the voluntary hospital for dealing with ordinary sickness. He totally disagreed with one speaker, however, who had stated that the voluntary hospital was the proper place in which to have the admission unit. The voluntary hospital might well be the best place for certain borderline cases which should go to the neurological ward and for certain cases complicated by physical symptoms, but the great majority of admission cases should be handled in the mental hospital itself.

DR. THOMAS BEATON (medical superintendent, Portsmouth Mental Hospital) said that there was no reason why the out-patient clinic should not be worked in the closest co-operation with the general practitioner. His experience had been that general practitioners were only too ready and anxious to get opinions on their cases, and he could assure any general practitioner that he would not suffer in the slightest degree from the advent of the clinic. There was no reason why the general practitioner should not follow up his cases, and he wished that he would take a little more interest in his patients after their admission to the mental hospital. The difficulty was to get the general practitioner to come. It had been said that medical superintendents of mental hospitals were quite

unfitted to tackle the difficult problem of mental deficiency. This he strongly controverted. The medical superintendent had constantly to deal with the problem of abnormal conduct and he saw very grave danger in separating the two branches of the work, the one relating to mental deficiency and the other to lunacy. Both required the same type of investigation, and although the cases needed different handling afterwards they had to be differentiated and sorted out in the first place.

In some further discussion Dr. CORSTON WILLIAMS pointed out that there was a large class of the community who were suffering from a sick mind, which was neither a disease for the asylum nor a manifestation of mental defect. He welcomed Dr. Fothergill's suggestion that there should be developed within the medical profession people who had a knowledge of psychiatry for dealing with these cases.

Causation and Prevention of Mental Deficiency.

The subject for discussion on the second afternoon of the conference was "The need for an inquiry into the causation and prevention of mental deficiency." Sir BASIL BLACKETT occupied the chair.

Dr. R. LANGDON DOWN, in introducing the subject, said that from certain points of view a Government inquiry might be the best form of machinery for arriving at more exact knowledge of the nature and causation of the various types of mental deficiency and of the operation of heredity in relation thereto; but such an inquiry had some drawbacks as a scientific instrument and was apt to be inconclusive by reason of the tendency to temper truth with policy. The request for a Government inquiry had been associated with the proposition that all legislative measures in regard to sterilization should be postponed until the findings of the inquiry were issued. If it were intended to pass into law a policy of compulsory wide spread sterilization forthwith such an attitude might be justified; but what was now proposed by the Eugenics Society was that it should be made lawful for medical practitioners to carry out simple sterilizing operations with the consent of the person or, in certain cases with the consent of his or her parents or guardians, but only under such safeguards as might be necessary to prevent the improper use of such methods. Such a proposal did not involve the assertion that there was no need for further inquiry on the contrary, if adopted without unreasonable delay it might provide the inquiring body with evidence about the procedure which so far as this country was concerned was not available at present. He maintained that the recent inquiry by the Wood Committee justified a cautious and tentative move forward on the lines suggested by the facts which the Wood Report had brought forward. The Wood Report stated: "If it could be proved that sterilization could be safely and profitably applied even to certain groups of categories of defectives the question of its adoption would no doubt deserve attention. But obviously such proof could only be obtained as the result of trial and yet the trial could not be made until the procedure was sanctioned by law." He held that arguments pointed strongly to the transmissible nature of the condition and to its origin in heredity rather than in environment. As for segregation, this could only be applied to one-third of all certifiable defectives, and he urged sterilization not as a substitute for, but as a supplement to, segregation.

Dr. C. P. BLACKER, supporting the proposition advanced by Dr. Langdon Down, said that people were apt to approach the question of causation with certain preconceived opinions. People holding Labour sympathies were extremely reluctant to admit that any form of social inferiority could be due to intrinsic causes; they regarded all such inferiority as the product of environment. The other extreme was taken by people who believed strongly in inheritance and the potency of innate characters; these were people who themselves came of distinguished families and of whose record the individual was proud. Between these two extremes came the bulk of public opinion. The question of prevention was a more thorny one, and he believed that in a short time there would be a very intensive campaign against sterilization conducted by sincere and able leaders of the Roman Catholic Church. Any committee or commission would necessarily have to go into great detail, and its inquiry would take a long time. Meanwhile he would point out that the means of prevention suggested by the Mental Deficiency Committee—namely, segregation and prohibition of marriage—were inapplicable to what might be called the social problem group, and that the only method at present available for limiting the fertility of that group was sterilization. Sterilization might prove to be a remedial measure not only for primary amentia, but also for secondary amentia due to injury before birth, owing to attempts at abortion or to injury at birth or in early infancy. What the Eugenics Society proposed was that eugenic sterilization under proper safeguard should be at once legalized. He thought the safeguards would be quite sufficient seeing that the Board of Control would never give its consent to the sterilization of a defective unless there were excellent reasons for doing so. So long as that sanction held good he thought that abuses would be non-existent. He added that the Eugenics Society had prepared a bill on the subject.

The Case against Sterilization.

Dr. A. F. TREDGOLD, who spoke in opposition to what he described as "this plausible remedy," said that it was not without interest to consider that the demand was no longer for the wholesale sterilization of all defectives; it was simply to be an experimental measure for a selected group. What was sterilization going to do toward the prevention or lessening of mental defect? The general public were under the impression that if only sterilization were adopted mental deficiency would be eliminated, and the Eugenics Society made the definite claim that if all mental defectives were prevented from having children the number of defectives in the country would be halved in about three generations. But his impression as the result of many years' experience was that the number of mental defectives who were the offspring of defective parents was a very small proportion of the whole, probably not more than 5 per cent. That percentage represented the extent to which the number of defectives would have been lessened had all defectives been sterilized a generation ago. He protested against the way in which the public were being misled on this matter. There were certain definite difficulties and risks in sterilization which he did not think the community was justified in running especially in view of the negligible benefit which would result. He indicated the difficulty which would arise in the selection of cases, and also the likelihood if sterilization were practised of increased promiscuous sexual intercourse. Further he submitted that if the sterilization of defectives were legalized there would be a real danger of delaying the true solution of the problem. The public would consider the matter disposed of, and be content to wait for results which would never come.

Dr. F. C. SHRUBSALL, after remarking on the difficulty of ascertaining any exact statistics, ventured the statement that in 75 per cent. of defectives of the lowest grade the condition might be said to be secondary amentia—that is to say, from causes arising from some accident since conception. In the slightly higher grade—the imbecile—about 45 per cent. were due to secondary amentia. With regard to the feeble-minded no figure could be given on present records, but it could be stated with certainty that more than 10 per cent. of these were cases of secondary amentia. About 9 per cent. of defective individuals had defective brothers or sisters, and the majority of these cases were of simple primary amentia. If it were possible to acquire a knowledge of the full family history of a great number of cases, including the grandparents and the collateral branches, a great deal more would be learned about the methods of inheritance and distribution. It had to be remembered that there were many examples of feeble-minded persons from the educational standpoint who from the biological standpoint merely represented a lower grade of culture. The most dangerous type of case to deal with was the very high grade defective, and the higher the grade the greater the prospect of parenthood. But of course the higher the grade of case the more difficult it would be to conduct an examination if an idea got abroad that consequent on being deemed a defective, the person might be sterilized. The difficulties of the certifying officer

would be greatly increased by any precipitate action with regard to sterilization

DR F DOUGLAS TURNER said that one of the gaps in genetics was the absence of knowledge with regard to the causation of mental deficiency It was impossible to think that the hotchpotch of diseases and conditions described as mental deficiency could be inherited along one single line or be due to any one cause In Denmark, where some careful statistics had been worked out, it was stated that among the lower grades of mental defect 80 per cent were due to secondary—that is, preventable—causes Some years ago he went carefully through his own case papers and made inquiry into the families of those in his institution, and found that, going back in the direct line, only 2¹ per cent in each generation had had defective parents or grandparents He also remarked on the very small proportion of such persons whom it was considered necessary to retain in an institution for fear that if living in the community, they might have children, in some figures of his own, relating to 1,300 patients, this proportion was from 1 to 1½ per cent of males and 1 per cent of females

DR H B BRACKENBURY thought that some suitable departmental commission or committee might well be appointed, though such a body was not a very appropriate instrument of research He would not expect it to embark upon experimental research, but it could cover a very wide field of information and set it forth in an authoritative manner The advance of knowledge on this subject had been considerable, and it was difficult for any individual to keep up with it They were all in danger of remaining in a state which would have been an advanced state of knowledge eight or ten years ago What were the sort of questions into which such a body might inquire? One question was as to the common level of general intelligence of the people of this country to-day He thought they were all inclined to place it too high On the answer to the question depended to a large extent the definition of mental deficiency Further, how far was it true that feeble-minded parents tended to have families larger than the average size? It was a legend that they had such families, but there was little foundation for it after all The latest results definitely indicated that the number of children who arrived at adolescence in a family the parents of which were themselves mentally deficient was scarcely higher than the average number in the general population He also believed that the latest investigations of the results of placing these people in suitable environment outside institutions under proper supervision proved that, when in the community, they behaved themselves both socially and sexually in as decent a manner at least as the rest of the population That was another point for inquiry The speeches made that afternoon had caused him to recede somewhat from the position that there was room at the moment for a legislative measure allowing sterilization He was not at all sure that it would be a wise thing even to take the preliminary step advocated by Dr Langdon-Down Dr Langdon-Down had assumed that there would be such an amount of sterilization taking place in consequence of that measure as to allow important conclusions to be drawn therefrom If it was to be as widespread as that, he was not sure that these tentative proposals ought to be supported

One or two members of the general audience addressed the conference briefly, including one Catholic priest, who said that the Roman Catholic Church would resolutely oppose by every means in its power such a measure as had been suggested The only method it could sanction was segregation

DR BRACKEN briefly replied, there was no resolution, and the CHAIRMAN, in closing the meeting, said that, diverse as were the opinions which had been expressed, everyone seemed to agree as to the need for an inquiry

The Voluntary Worker

Social services in connexion with mental hospitals were also the subject of debate at the conference MR L G BROCK remarked that much of the success of the out-patient clinic would depend upon the choice of the right kind of social worker An unpaid voluntary worker might be more acceptable to the patient than the highly trained expert At the bottom of the British preference for the amateur as against the expert was a sound instinct, for in the end sympathy and other personal qualities might count for more than mere efficiency or right technique DR THOMAS BEATON spoke to the same effect His insistence that the ideal social worker should know nothing about psychology caused some surprise and amusement

An interesting paper was read to the conference by DR E O LEWIS (Inspector, Board of Control) on the ascertainment and notification of mental defectives, especially retarded children, at present the most neglected group in the educational system Several directors of education discussed the problem of school reorganization from this point of view

On the first day of the conference the delegates were received by SIR LESLIE SCOTT at a luncheon at the Hotel Russell, when the guest of honour was MR L G BROCK chairman of the Board of Control, in place of Lord Riddell who was unable to attend on account of illness MR BROCK remarked that the service in which he and his colleagues were engaged was an unpopular health service, almost the only health service which was generally unpopular But the Board of Control certainly derived great help and encouragement in facing public opinion from the support which they received from the Central Association for Mental Welfare and from the local voluntary associations No central authority, whether the Board of Control or the Ministry of Health, could ever go far in advance of public opinion, and he confessed that there were times when he felt that the problem of dealing with mental deficiency would be insoluble were it not for the encouragement received and the lessons learned from the faith, devotion, and single-minded enthusiasm of many of those who worked in the voluntary associations up and down the country

Nova et Vetera.

THE DOCTOR LOOKS AT REMBRANDT

IN the series of "Great Painters and their Works, as Seen by a Doctor," keeps up to the standard of Dr J G De Lint's *Rembrandt*[1] it should be a source of great interest and pleasure to many of our readers The purpose of the series of monographs, DR DE LINT tells us in his preface, is "to analyse the works of the Dutch painters of the seventeenth and eighteenth centuries and to notice what they contain of medical interest" Time only will show whether other painters can be made as medically interesting as Rembrandt, whose works present a surprising wealth of subjects connected with medicine and surgery, some represented by etchings and others by oil paintings, such as the celebrated "Lecture on Anatomy," now in the Mauritshuis at The Hague

Public dissections seem to have been popular entertainments in the sixteenth and seventeenth centuries, and other artists besides Rembrandt took them for subjects of paintings and engravings and etchings Some of these are reproduced by DR DE LINT, but none of them can compete with the "Lecture on Anatomy" of Nicholas Tulp, painted in 1632, which, by the way, was evidently meant for a serious demonstration to professional men, whose portraits are included in the picture and whose names are on record We even know the name of the corpse and the fact that he suffered death for "wantonness" The demonstrator, Nicholas Tulp, took his name and arms from a tulip carved in stone on the house in which he lived He was a celebrated anatomist in his day, and a leading citizen who became Burgomaster of Amsterdam His son-in-law, Arnoult Tholinx, was also an anatomist, and had his portrait engraved by Rembrandt In no other European country was science held in such esteem or its teachers so honoured as in Holland in the sixteenth and seventeenth centuries In the latter period Boerhaave was the most

[1] *Rembrandt* By Dr J G De Lint Great Painters and their Works, as Seen by a Doctor I The Hague J P Kruseman 1930 (6½ × 9½, pp 113, 64 figures 10s)

celebrated and honoured man in the Low Countries, and there was nothing exceptional in an anatomist becoming a burgomaster in those less enlightening days. Excellently as Sir Arthur Keith would fill the office of Lord Mayor of London, or Professor Elliot Smith that of chairman of the London County Council, neither of them could nowadays be spared from their important archaeological and anthropological researche

It is rather surprising to learn that in the matter of human anatomy Holland was chronologically behind Scotland. As mentioned in a Novi et Vetera article in these pages,[1] the town council of Edinburgh ordered the body of "ane condampnit man" to be handed over to the Company of Surgeons for dissection as early as 1505, thirty-eight years before the publication of the great work of Vesalius. The earliest recorded public dissection in Holland, according to Dr. De Lint, took place in Amsterdam in 1550, and in 1555 Philip King of Spain and Count of Holland gave a privilege to the Corporation of Surgeons of that city to have the corpse of a criminal once a year for their instruction. Rembrandt's picture is justly the most celebrated, but it is by no means the earliest representation of a dissection in Holland. Petrus Paauw or Pauius, founded an anatomical theatre in 1592 at Leyden, and dissected sixty bodies in twenty-three years. The public regarded the dissections as a kind of show, and were admitted to the third row of the amphitheatre on payment. W. P. Buytenwech made a sepia drawing of Paauw's lecture before 1627, and Andreas Stockius engraved it from an opposite point of view. Dr. De Lint says that the portraits of several well-known people of the time can be recognized among the many visitors. Michael and Peter van Mierevelt's "Lecture on Anatomy," containing the portrait of Dr. van der Meer and seventeen visitors, was painted in 1617. Dr. De Lint does not tell us, however, where this picture now is. Rembrandt painted another lecture on anatomy by Dr. J. Deymann, but it was nearly destroyed by fire in 1723, and only a sketch in the Six Collection remains to show its composition. Besides the dead body and the lecturer, it contained the portraits of eight physicians. In paintings and etchings Rembrandt has left us various portraits of physicians such as Ephraim Bonus, Jan Antonides van den Linden, and Arnoult Tholinx, which are reproduced in this book.

The Parable of the Good Samaritan was a subject which evidently interested Rembrandt. He represented various scenes from it in his etchings and pen-and-ink drawings, of which no fewer than six are reproduced in this book, as also the Circumcision of Christ, which was treated by the artist in numerous works, one of which, an etching, is reproduced by Dr. De Lint. The story of Tobit's blindness, due to sparrows dung, and its cure by the application of the gall of a particular fish by his son Tobias, is a curious piece of folklore and, mixed up as it is with another typical story of the virgin whose embrace was fatal to seven men in succession, as told in the Apocrypha, it furnished matter for a number of works by Rembrandt. As Dr. De Lint notes, it is curious that in many of the representations of persons wearing glasses these seem to have no side-pieces, as do regular spectacles, but apparently are eye-glasses and worn low down on the nose. In the portrait of Arnoult Tholinx such glasses are clearly shown held between finger and thumb. This is one of Rembrandt's rarest etchings.

Other more or less medical subjects illustrated by the master were internal medicine, miraculous healings, surgery, and the *lying-in room and care of infants*. It would be impossible in a notice such as this to do justice to them as treated by Dr. De Lint. Readers who wish to see these excellent reproductions of sixty-four pictures are recommended to get the volume, which is decidedly cheap at ten shillings. We presume that the author has put his work into English himself. If so, it shows a very good knowledge of the language. Only one amendment occurs to us—namely, that *dissect* and *dissection* should be substituted for *prepare* and *preparation*, which words are not used in the same sense in England as on the Continent.

E. M. L.

[1] "The Supply of Anatomical Subjects," *British Medical Journal*, 1929, i. p. 966.

France.

[FROM OUR OWN CORRESPONDENT]

Congresses in Paris.

Autumn brings back to Paris both physicians and patients, so we are told. The Faculty of Medicine opens first for the benefit of that special type of student—the senior practitioners. They meet in various congresses. The Thirty-ninth Congress of Surgery was opened by the celebrated novel-writer Paul Bourget, who is well known for the interest he has always taken in medicine. The president, Dr. Auvray, insisted on the need for training anaesthetists up to a high standard of specialization, following the example set by Great Britain and America. By the way, it seems rather extraordinary that such a move should still have to be considered. Drs. Lambret and Sauve discussed pre-operative treatment and the necessity for methodical study of functional tone. Professor Archibald Young of Glasgow laid stress on acidosis, renal elimination, and the psychological factors in anaesthesia. The second question debated was that of traumatic spondylitis. Next year the congress will discuss the three following questions: post-operative peptic ulcers, immediate surgical treatment of compound fractures of the leg, and pneumococcal pneumonias. Among other congresses that met in Paris last month may be mentioned the First Congress of Aesthetic Surgery. I have already alluded to the difficulty this specialty has had to deal with in the law courts. It seems to have been considered by the judge as a *de luxe* surgery, not worth while the dangers that must be involved necessarily in every surgical operation. But the social importance of the question has been emphasized. If it is true, as Pascal puts it, that the whole face of the world would have been different if Queen Cleopatra had been endowed with a turned-up nose, it is just as true to say that many have seen their career ruined nowadays because their profile is very far from the Cleopatra standard. Such a handicap may be, and should be, corrected. The First International Congress of Orthopaedics was held under the chairmanship of Sir Robert Jones of Liverpool, who delivered the opening address, entitled, 'The surgery of motion." Two questions were discussed—namely, the treatment of congenital dislocation of the hip after the fifteenth year, and the treatment of traumatism of the wrist. The Thirtieth Congress of the French Urological Association discussed kidney contusions, and the prize of the association was awarded to Dr. Chabannier, well known for his pioneer work in the field of urology. At the Pasteur Institute was held the Seventeenth Congress of Hygiene and Public Health. Infant mortality was discussed in connexion with B.C.G. vaccination. The method is extensively employed in France, with gratifying results.

Efficacy of Antidiphtheria Serum.

The Academie de Medecine has been asked by the Secretary of the Ministry of Public Health to investigate the efficacy of antidiphtheria serum as it is now handed to the practitioner. Some have contended that they had to use larger doses than formerly in order to produce similar effects. A queer explanation was suggested for such a fact. The bacilli had spontaneously increased their virulence in order to overcome the protective action of the serum! It is true that since 1925 the serum has been prepared by injecting the horse with anatoxin and no more with the toxin. This increases the strength of the serum to 325 antitoxic units per cubic centimetre, as compared with the 250 which were obtained formerly. Professor Renault, who reported to the Academie, laid special stress on what used to be called "Le Genie Epidemique." Mortality seems to have varied during successive epidemics from 13 to 85 per cent. During the last nineteen years his statistics show that mortality in serum-treated cases reaches 50 per cent. between the ages of 7 and 12 months, 40 per cent. between 1 and 2 years of age, 17 per cent. from 2 to 3, 13 per cent. from 4 to 5, 8 per cent. from 5 to 10. After the age of 10 the death rate is almost *nil*. As regards the value of the serum as it is now delivered his conclusions are optimistic.

Death of Dr Auclair

Dr Auclair died a few weeks ago For twenty years he had been carrying out, in Paris hospitals, original research on vaccination for tuberculosis He reported his results at the Academie de Medecine on February 1st, 1930, and in a book just issued Studying the infection in animals, he came to the conclusion that it was more a question of soil than a question of germ Why, he asked, are birds immune against the human bacillus? Dr Auclair proved experimentally in hens that it was due to some pancreatic secretion Taking a mixture of pancreatic extract with Koch's bacilli, he injected this into rabbits and guinea-pigs, and successfully immunized them against human tuberculosis The immunizing substance which existed in the pancreas of the hen had been activated in the extracts It became fixed when in contact with the bacilli, and the combination acted as a vaccine Such a vaccine stimulated the pancreas of the rabbit, a new secretion started, which was able to check and to destroy the bacillus Dr Auclair died before he could complete a demonstration which the world was waiting for, but his investigations on human beings led him to think that his vaccine had both a preventive and a curative effect The experimental stage of his work has been carried very far indeed Let us hope the question of dosage and of repeated injections will now be studied

G MONOD

Ireland.

Diphtheria in Dublin.

AT a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland, held on November 28th, with Dr J Lait in the chair, Dr R A Q O'Meara read a communication entitled "The prevalence of diphtheria carriers among Dublin school children" In all he had examined 1,000 school children between the ages of 3 and 13, and had taken nose and throat swabs from each Morphological diphtheria bacilli were present in swabs from fifty of the children From 82 per cent of the carriers the organisms were isolated and subjected to fermentation and virulence tests The results showed that 5 per cent of the children were carriers of virulent and non-virulent, while 2 3 per cent were carriers of virulent, diphtheria bacilli He estimated that there were some 3,000 carriers of diphtheria bacilli in the Dublin schools, of whom 1,400 were carriers of virulent organisms The carrier rate was higher for girls than for boys The virulent bacillus carrier rates for the north side of the city, the south side of the city, and for the whole city were the same—namely, 2 3 per cent The importance of nasal swabs in searching for carriers was emphasized by the fact that 25 per cent of the positives were nasal carriers only, 18 per cent were throat carriers only, while 7 per cent were carriers in both nose and throat The organisms were virulent in 44 per cent of the nasal carriers, in 43 per cent of the throat carriers, and in 68 per cent of the nose and throat carriers Dr W R O'Farrell said that he had done some work on similar lines to that described, and referred to the importance of the intermittency of the carrier state and its bearing on the results obtained in any locality Dr M J Russell, medical officer of health, said that the schools of the city were overcrowded and, enhancing as they did the opportunities of spreading infection, the carriers were a grave menace The public health authorities, to overcome this menace and to prevent the disease as far as possible, had adopted prophylactic inoculation of children before school age A clinic had been established for that purpose, and was actively engaged in the administration of toxoid-antitoxin mixture In this way it was hoped that the incidence and mortality of the disease, which had shown a distinct upward tendency in recent years, would be lessened He appealed to doctors to isolate promptly all cases and to delay discharging convalescents until they no longer harboured the diphtheria bacillus No doubt overcrowding, lack of light and air, and defective food assisted in causing the disease Dr W F Cooper suggested that the inculcation of cleanly habits into the poorer children in Dublin schools would help in reducing the number of carriers Dr O'Meara, in reply, said that he did not recommend the Schick test as a method of distinguishing the carrier from the early case The distinction could best be made on clinical grounds, and in cases of doubt serum should be given The intermittency of carriers was well recognized, and in addition the number found in an investigation depended upon the technique adopted in searching for them If the technique were standardized, and a large enough number of children were examined, he believed that a significant average for comparative purposes could be obtained The difference between virulent and non-virulent diphtheria bacilli was that the former were toxin-producing, whereas the latter were not The non-virulent type was harmless and did not give rise to the virulent type There was no necessity for antitoxin when only non-virulent organisms were present

Dissolution of the County Galway Board of Health

Owing to the repeated refusal of the Galway Board of Health to appoint an assistant medical officer of health, as requested by the Department of Local Government and Public Health, the Minister has caused a letter to be addressed to the board, in which he refers to his obligations under Section 72 of the Local Government Act, 1925 For some considerable period, he states he has had grave doubts of the capacity and efficiency of the Galway Board of Health He draws attention to its protracted delay in providing suitable hospital facilities at Clifden and Ballinasloe, although many representations were addressed to it on the subject He notes that on March 26th it committed itself to a policy of abrogating its authority as regards disciplinary questions affecting dispensary medical officers The Minister considers that the conduct of the board in these instances is bound to react unfavourably on the interests of the sick poor throughout the county, and seriously affect the efficient administration of the Poor Relief and Medical Charities Acts by undermining disciplinary authority Commenting on the apparent opposition of the board to the reorganization of public health services, the Minister refers to the recent inquiry—described in the *Journal* of December 6th (p 976)—which indicated that the board, in spite of repeated warnings by the department, had obstructed the carrying out of the duties of the county medical officer of health by declining to appoint an assistant officer to act as tuberculosis officer and school medical officer In consequence, the county tuberculosis scheme had partially fallen into abeyance since September 30th, with unfavourable results to patients who had been under treatment Moreover, after consenting to appoint two public health nurses, and when the procedure for their selection was already well advanced, the board had rescinded its decision and refused to proceed further with the matter In these circumstances, the letter concludes, the Minister sees no other course in the public interest but to exercise his authority under the section of the Act referred to, and has accordingly issued an Order under Seal, dissolving the Galway Board of Health and Public Assistance, and transferring its powers and duties to Mr E S MacGuaigin of Belmont Villa, Cavan

Damages Against Medical Officer of Health

Damages were claimed at Roscommon by Michael Campbell and Mrs Brennan, Four-Mile-House, against the County Roscommon Board of Health and Dr Maguire, county medical officer of health, for clothes and other articles burned in a case of infectious fever It was stated that following the death of one occupant of the house, and the removal of another to hospital suffering from typhus, Dr Maguire, who had been called in, decided that the inmates and contents of the house should be disinfected, and arrangements were made at the County Home to have this done Patrick Campbell appealed to Dr Maguire not to have the clothes and bedding taken to be disinfected, on the ground that the publication of the fact that there was fever in the family would be injurious to their business He subsequently signed a document

indemnifying Dr Maguire against any action or claim if he should decide to have the articles burned After considerable pressure Dr Maguire agreed, and the clothing and bedding were burned Following a refusal by the Board of Health to compensate the plaintiffs they issued civil bills against the board and Dr Maguire claiming over £200 damages They denied that Patrick Campbell had any authority from them to have their property destroyed For the defence it was urged that Dr Maguire was merely carrying out his duty under the Act and that he believed that Patrick Campbell had full authority to act for the family Judge Moonan dismissed the case against the board and gave decrees against Dr Maguire for £90 and £75 respectively He expressed the hope that the board would not allow Dr Maguire to suffer any loss in the matter

England and Wales.

King Edward's Hospital Fund for London.

THE annual distribution meeting of King Edward's Hospital Fund for London was held on December 12th, with the Prince of Wales in the chair A letter was read from the King expressing his satisfaction that the distribution to the various hospitals had increased from £250 000 to £266 000, and that £16,000 had also been received on capital account The Prince of Wales in his speech, explained that the increased distribution had been rendered possible by a donation of £10,000 from an anonymous friend, who had now contributed during the past few years a total of £54,000 Moreover, there had been considerable additions to the capital fund, the income from which was the solid foundation for these annual distributions In addition to the £266,000 distributed, pension grants of £16 468 had been made A further 6 grams of radium had been purchased, a deficit of £8,000 having been met in advance by the late Sir Otto Beit just before his death The annual grant to convalescent homes had been increased from £2,000 to £3,000 Lord Marshall reported that the League of Mercy had been able to allocate from the King's Fund a sum of £17,000 from its collection The number of hospitals receiving grants this year was 141 as compared with 143 last year No reduction had been necessary in the general scale previously adopted and the additional money obtained has enabled certain hospitals which were in exceptional difficulties to receive special assistance The total of the present distribution taking into account grants for ordinary maintenance for capital expenditure, and for special pensions was £279 468

Old Epsomian Dinner

'Floreat Epsomia, Floreat, florebit," says the chorus of the *Canticum Epsomiense* The enthusiasm of the company of 150 old boys and guests, and the speeches of the president and the head master at the fifty-third annual meeting and dinner of the Old Epsomian Club held on December 11th at the Wharncliffe Rooms proved abundantly that the College is flourishing and will continue to flourish Mr A C C Parkinson, in characteristic fashion proposed the toast of the president, Dr L L C Reynolds He said it was typical of Dr Reynolds throughout his life that he never let himself or his men down He had been soldier and doctor and he had covered himself with the glory of both professions Replying to the toast Dr Reynolds spoke reminiscently, and dwelt on the example of his old teachers and friends at Epsom College their encouragement and stimulation had been an influence to him all his life Going on to propose the toast "Floreat Epsomia" he said that since its foundation in 1850, the school had had a proud record during the great war 145 had laid down their lives and as years went on the loss of old and beloved masters created blanks which could never be filled For the present the school was steadily prospering and in the future he was certain that it would go from strength to strength In reply Mr A C Powell the head master reviewed the work of the year and spoke of both academic and athletic distinctions The Old Boys' Club now numbered almost a thousand members, and was still growing The financial position of the school was sound They had had a very successful year and he hoped that before long they would be able to accommodate 450 boys in the various houses Mr G E Neligan proposed the health of the guests to which Lord Burnham and Lord Dawson of Penn replied In commenting on the position of medicine to-day, Lord Dawson said that tradition must be maintained, but all must be prepared to dispense with the thing that did not matter The doctors of the future would probably have to concentrate on prevention rather than on the treatment of disease Recent legislation had resulted in the provision of many new hospitals, and the question of staffing these was one in which the guidance of the medical profession must be sought It was the duty of the profession to have a satisfactory and efficient medical policy He had profound faith in its future

Clinical Laboratories in Hospitals.

At a meeting of the Liverpool Medical Institution, held on December 4th, Dr E Cronin Lowe read a paper entitled 'The relation of the clinical laboratory to the general hospital" This relationship, he said, had greatly developed on account of the many modern advances in the investigation of clinical problems from both the bacteriological and pathological aspects After outlining the many activities which present-day requirements in clinical research demanded, he remarked upon his personal experiences in the activities of the clinical laboratories in the Liverpool and Southport districts Apart from the investigation of in patients, the clinical laboratory dealt with the out patient class of case, undertaking tests of gastric, hepatic, pancreatic, or renal function, and also bacteriological investigation of cases suspected to be suffering from some form of focal infection Dr Lowe described a scheme of clinical and pathological overhaul and emphasized the importance of cytological and biochemical examination of the blood condition of such patients, thereby obtaining the opportunity of detecting associated derangements which frequently indicated helpful lines of collateral treatment In emphasizing the importance of examinations for evidence of focal infection he described the practical utility of the pathogen-selective method in bacterial investigations, and, further, the value which the method provided, on later repetition of obtaining evidence of improved immunity, or otherwise, in the cases concerned He also said that the modern clinical laboratory attached to the general hospital should become a treatment centre for such cases as were detailed to it and his experience was that valuable results were only thus obtained, as the patients were under the observation of both clinical pathologist and clinician The establishment of such departments necessitated an equipment and staff capable of undertaking full bacteriological and pathological investigations upon the ordinary type of clinical specimens There should also be examination and treatment rooms The steady increase of activities in the centres developed during the past ten years was definite evidence, not only of the practicability of such a scheme but of its utility to the clinical departments of the general hospitals with which they were associated

Medico-Legal Society Annual Dinner

The annual dinner of the Medico-Legal Society took place at the Holborn Restaurant on December 12th with the Right Hon Earl Russell presiding Sir William Willcox voiced the general regret at the absence through illness of Lord Riddell the society's president He went on to propose the usual toast of "Medicine and Law" comparing and contrasting the two professions Both of them he said, were jealous mistresses neither of them to be taken up without a definite call But they were different in the respect that medicine was ever changing to keep pace with science, while law moved only slowly from precedent to precedent Dr R A Young President of the Medical Society of London, whose name was associated with the toast, also said that the two professions had many things in common He noticed that only the other day the head master of Harrow Dr Norwood had said that both medicine and law, like mathematics, were accurate

professions Dr Young did not know who it was, but he was sure that was a mistaken view of the profession of medicine It was not an accurate profession, and the sciences on which it was founded were constantly in a state of variation Of three subjects he thought the members of the two professions would never agree—namely, as to the signs of intoxication, as to the criteria of insanity, and as to the right of the medical profession to claim the privilege of professional secrecy Sir Thomas Hughes, Chairman of the General Council of the Bar, who also responded to the toast, took occasion to remark on Mr Justice McCardie's recent pronouncement, in his Maudsley Lecture, on the widespread extent of perjury There was some substratum of truth in Mr Justice McCardie's complaint, but he thought it rather exaggerated It had to be remembered that of recent years an accused person was allowed to give evidence on his own behalf, and the same standard of truth could not be expected from a person in that position as from the ordinary witness, but, save in that respect, he doubted whether perjury existed to the extent which the learned judge had supposed Mr E H Tindal Atkinson, Director of Public Prosecutions, in proposing the health of the society, referred to his earlier experience as a referee under the National Health Insurance Act This had introduced him to some curious byways of general practice, but it had inspired him with great respect for the very able doctors whom the Ministry of Health had appointed to sit with him as assessors In some amusing references to medical terminology, Mr Tindal Atkinson said that in the reign of Elizabeth, if a coach had run over someone, the local leech would have reported to the coroner, had there been one, that the deceased "was considerably injured in his liver and lights" Nowadays when he received a report on a motor manslaughter case the reference to the liver might still remain, but the reference to the "lights" had given way to other anatomical descriptions, not so illuminating, which made him search his memory for forgotten Latin and Greek He added that when he read the reports on manslaughter cases (including long statements of witnesses who were always prepared to give him a theory as to the blame for the accident (forgetting that that was the duty of the jury), he turned with relief to the medical reports, where certainly he got medical theory, but also, what he most valued, absolute impartiality The doctors in this country being what they were, there was little danger of such a verdict being returned as was once returned at an inquest in Ireland "The deceased undoubtedly committed suicide, but his end was hastened by the post mortem examination" Earl Russell, in responding for the society, mentioned that twenty-three new members had been admitted during the year, bringing the membership up to over 400 He exhibited the president's new badge, a very beautiful piece of workmanship The health of the guests was proposed by Sir Albion Richardson, and Sir Alfred Tobin, Treasurer of the Middle Temple, and Lieut Colonel C T Samman, Master of the Society of Apothecaries made brief replies

Correspondence.

THE STETHOSCOPE AS AN AID TO PERCUSSION

SIR,—It is perhaps a bold thing to suggest any new method in the practice of percussion At various times attempts to promote skill in the art, and the attainment of confident results, have taken the form of specialized plexors and pleximeters, and auscultatory percussion and the combination of the stethoscope and the tuning-fork are further modifications which claim value in these respects Yet for the most part the simple original procedure holds the field In actual practice there is probably in every performer a gradual and perhaps unconscious development of some individuality of method and of judgement, so that for him his personal procedure yields fairly satisfactory results None the less it remains true that in no fashion of physical examination is a high level of efficiency so difficult to attain, and in no method is the performer more likely to fall into some degree of self-deception I have this latter consideration well in mind when I draw attention to a simple development in which I have convinced myself there is decided helpfulness This is to wear the binaural stethoscope when practising percussion The bell of the stethoscope is not placed on the patient's body, but is allowed to dangle, as one may say in the air, while the earpieces are worn in the usual fashion, a considerable shortening of the india-rubber tube makes for convenience, but is by no means essential Under these conditions the quality of the response to the percussion stroke appears to me to gain in distinctness, and there is increased sharpness in defining areas of dullness and in recognizing contrasts between the percussion qualities of neighbouring organs Whether these results are due to the exclusion of other noises by the earpieces or whether the bell of the stethoscope has some resonating virtue I cannot say but as an aid to confident percussion this simple device is well worth cultivation I have tried bells of various sizes and shapes, and also a support to keep the bell immediately over the part of the body under examination, but in the end the simple binaural stethoscope used as above described proves quite satisfactory, and I venture to commend the method as suitable for experiment Naturally a little patience and attention are needed at the outset but, given these qualities, I think that what is here described will be found a decided help to a confident percussion judgement As the publication of Dr R A Young's extremely interesting presidential address on "The Stethoscope"[1] is just now engaging attention, the occasion tempts me to put into print a suggestion to which in less formal fashion I have sometimes invited the attention of my colleagues

I venture another allusion Dr Young describes various complicated forms of stethoscope, and also mentions resort in an emergency to such handy tools as a wine glass or a thermos flask Some years ago, in the *British Medical Journal* of March 4th, 1916, I drew attention to the ready service which a cylindrical urine test glass can render in this direction, and I add some others Thus, by grasping the cylinder and using the edge of the rounded base as a hammerhead a plexor for heavy percussion is provided Employed, too, in this way the glass is exactly the apparatus required to provoke the knee-jerks and heel jerks, as well as the tendon-jerks of the upper limbs, while the "spout" offers itself invitingly when the enterprise of the plantar reflex has to be undertaken Again, rolled over the surface of the skin, the cylinder differentiates haemorrhagic and pigment spots from spots due to congestion and inflammation, and, once more, the glass is a convenient object for the patient's grasp when intravenous medication or venesection has to be undertaken There remain the specific purpose for which the glass was called into being, its modest price its cleanly quality, its readiness for service It is a modest form of apparatus, but its clinical values are both numerous and varied—I am, etc,

London W 1 Dec 9th C O HAWTHORNE

RESULTS OF TREATMENT OF CANCER

SIR,—Dr Russell Green in his letter in the *British Medical Journal* of November 29th (p 932) says "It is important that the advance of radiology should not be held up by a barrage of fallacy," in which everyone will agree, but he then goes on to depreciate the results attained by operation for cancer of the breast, as shown by the Birmingham Branch of the British Empire Cancer Campaign (Report 1927, p 59) May I explain that a special officer, Dr Lunn, was appointed to collate all cases of cancer of the breast operated on between the years 1910 and 1920 at the General the Queen's, and the Women's Hospitals The total number of cases was 799 In 258 of these cases no microscopic report was obtained, and to ensure as complete accuracy as possible these cases

[1] *British Medical Journal*, October 18th, 1930

were not pursued the scope of the inquiry being limited to 541 cases in which microscopic reports were available Of these 34 could not be traced by Dr Dunn, by the medical officer of health or by the Registrar General The report therefore dealt with 507 cases and it was shown that at the end of three years 54 per cent, at the end of five years 40 per cent, and at the end of ten years 30 per cent, were alive and well These results are fully supported in the Ministry of Health Report No 51 (p 93) by Dr Janet Lane Claypon The statement by Dr Green that "the total number of cases operated on was ignored" is not true as the report shows, and it is strange that Dr Green who is a member of the local committee should now for the first time challenge the report and did not comment on the figures at the meetings

Dr Green quotes figures from Swedish sources showing results at a five year period after operation, the freedom from recurrence varying from 15 to 20 per cent, and then builds up statistics which are based upon figures, some imaginary and others that cannot be tested, his object being to depreciate the value of the results obtained by Birmingham surgeons Confirmation of the 1927 report is fortunately provided by an inquiry undertaken by Mr Percival Mills in 1921, published I believe, in the *British Journal of Surgery* Mr Mills investigated the cases of cancer of the breast operated on at the General Hospital He adopted a six-year period and found that 38 per cent remained well after that lapse of time At the same time he inquired into the results obtained from my private cases every one of which was investigated microscopically, of these 48 per cent remained well at the end of six year

As a further confirmation the history of a group of 5 of my patients, all doctors' wives may be quoted in 1923 3 were alive and well twenty-three, twenty and fourteen years respectively after operation, although two had infected axillary gland The other 2 developed metastases and died one year and three years respectively after operation —I am, etc,

GILBERT B PEIRCE
Edgbaston Dec 9th Chairman Birmingham Branch British Empire Cancer Campaign.

SURGICAL TREATMENT OF CHRONIC DUODENAL ULCER

SIR,—In the matter of treatment of chronic duodenal ulcer to-day almost all the leaders in the field of gastro-duodenal surgery advocate a short-circuiting operation, with or without some form of direct attack upon the ulcer itself such as infolding or invagination cauterization, or local excision Partial duodenectomy has been introduced during the last few years In dealing with a perforated duodenal ulcer one of the simple methods of closure of the opening will not only bring about a cure of the symptoms but also the disappearance of the actual ulcer mass this is of course an accepted and proved fact about which there can be no dispute The way in which this occurs is a matter for speculation but it may be that a new and vigorous peritoneal base is created which with the well-known phagocytic action of that tissue results eventually in the demolition and absorption of the mass

The question arises What is the difference in structure between the non perforated and the perforated ulcer? The answer is that except for the opening in the peritoneum, there is no difference it is purely a matter of the depth of penetration of the ulcer into the layers of the gut It is said that in the latter type there is an absence of granulation tissue the effect of which however can in no way alter the ultimate disappearance of the ulcerous tissue which follows simple infolding This being so why is it that so serious an operation as one of those mentioned in the first paragraph is recommended to us as being the only treatment for every case of non-perforated ulcer when quite a large number lend themselves to safe, easy and deliberate perforation with the cautery thus bringing them within that category which can be dealt with by simple suture? If this treatment does all that is necessary in the perforated type then it is safe to assume that this same treatment, applied, after due attention to any possible sites of infection elsewhere to the non perforated ulcer, will give the desired result This, indeed, is what I have found in my own cases, which are, however not numerous But is one to wait until a series of a hundred cases has been completed and ten years have elapsed after the last one, before making known the results?

In view of this I would go so far as to state that the wholesale use of the more severe and serious operation is not justified and that it should not be used for those ulcers situated on the anterior wall which are easily accessible, single, and more than half an inch from the pyloric ring The opportunities for applying the minor method will be found to be numerous The variety of operative procedures propounded by our leaders—and vigorously taught by their disciples—is in itself proof of the prevailing uncertainty as to the treatment of duodenal ulcer, the pathology of which is obscure and the cause unknown Even the manner in which a gastro-enterostomy acts in its curative effect is after many years, still in dispute among those who so ardently advocate its use

Although it has been said that abdominal surgery has reached a point of advance beyond which we cannot hope to go—and we accept this—any improvements which are likely to be evolved on the basis of our present knowledge can only be anticipated by minutely traversing the old paths which have led to that very end It seems that in the suggestion which I submit implying as it does safety, simplicity, and effectiveness, there are at least possibilities —I am etc,

Leigh Lancs Dec 4th. DONALD MACLEOD F R C S

NON-SPECIFIC PROTEIN THERAPY IN ELEPHANTIASIS

SIR,—In the *Lancet* (January 11th, 1930 p 72), together with Dr Strangways Dixon, I reported a series of cases of elephantiasis treated by protein shock In some of these no beneficial results were obtained but I have gone on with a similar treatment in other cases in order to get larger figures to work upon for reliable statistics I expressed the wish that other workers would also try the method in the hope of obtaining some definite proof I am therefore interested in Dr McGolrick's case from Weihaiwei reported in the *British Medical Journal* for December 6th (p 957) Here larger doses of the vaccine were given than usual (maximum 800 million), and also at more frequent intervals The results seemed to be good a steady diminution in the size and a marked change in the consistency of the leg taking place Due prominence is given to the part that the elastic pressure played in the result but Dr McGolrick is convinced that this alone could not have produced such a favourable effect in so short a time He stresses the larger doses of the vaccine and the shorter intervals

The case, as I have said, is of interest and compares favourably with some of those in my series but here, as in most of my cases, the end-results have not yet been followed up and until they are one cannot definitely decide as to the efficacy or otherwise of this new form of treatment for elephantiasis Again one hopes that observers will try the method and report their results —I am, etc,

London W Dec. 8th G CARMICHAEL LOW

TEMPORARY TREATMENT WITHOUT CERTIFICATION

SIR,—A correspondent in your issue of December 6th wishes for the official interpretation of the Board of Control of the term 'incapable of expressing himself as willing or unwilling to receive treatment" This can be found in the report of the proceedings of the conference on mental treatment published by H M Stationery Office, on page 64 of which Sir Hubert Bond, a distinguished member of the Board says of the incapacity to express willingness or unwillingness to receive treatment," that 'to attempt to strain these words, and to bring within the section cases that in fact are unwilling to receive treatment in the place selected, and that ought to be certified will be both improper and most unwise this is a lesson which

I am sure we should all take to heart, it is one wherein, as to the decision to be taken before reception, the fact that one of the recommending physicians must (Subsection 3) be a practitioner approved for this duty should prove of signal value" On page 65 he says, 'mental conditions, which may render the patient incapable of expressing himself as willing or unwilling to receive treatment, may be sudden in onset and may be the first indication of mental illness as, for example, during the puerperium or in the course of severe toxæmia or occasionally following upon a severe mental shock In all such cases, where removal from home is necessary, resort to the procedure for 'temporary treatment without certification' seems indicated" I take it that these statements of Sir Hubert Bond express the views of the Board of Control or are an "official interpretation"—I am, etc,

Cheadle Royal, Dec 9th L HARRIS-LISTON

FLAVINE AND GLYCERIN IN MIDWIFERY

SIR,—I was much interested to see in the *British Medical Journal* of December 6th (p 980) a letter by Dr Mackinnon of Oldham advocating the use of glycerin in labour For nearly two years I have been working and trying to find a suitable antiseptic to use with glycerin for vaginal injection in cases of labour for I was of opinion that if one could keep a viscous hygroscopic fluid like glycerin impregnated with a potent antiseptic in close contact with the parturient passage during labour, it would diminish the chance of infection from without, and also from the vagina Early in 1929 I was in correspondence with Mr W H Martindale, F I C, F C S, on this subject, and I suggested using phenol and glycerin Mr Martindale very kindly gave me his valuable advice, and tested the bactericidal power of phenol in water and glycerin His experiments proved that phenol in glycerin is two and a half to three times *less potent as an antiseptic* than in aqueous solution We therefore came to the conclusion that the strength of phenol to be potent as an antiseptic would be too irritating for the delicate tissues of the vagina

Professor C Oldfield of Leeds, to whom I was kindly referred by Lord Moynihan, quite approved of the idea, but suggested the use of acriflavine, as being less irritating to the tissues and equally effective as an antiseptic I am grateful to him for his advice, of which I have gladly availed myself

The suggestion was that prior to any vaginal examination a *vaginal injection of flavine and glycerin* should be given this injection to be repeated prior to any manipulative or operative intervention, and to be repeated at the end of the labour, the injection to be given under the strictest antiseptic precautions, and, as Professor Oldfield suggested by the person who is to make the examination or perform the operation

I wrote a short paper last year embodying this suggestion, and also a few others, the principal other one being the *continuous administration of calcium salts from the commencement of the pregnancy to the end of the puerperium*, with the object of abolishing the calcium deficiency and building up the resisting power of the individual This paper has not so far been published In the meantime I hope that the suggested treatment—continuous administration of calcium salts and the use of vaginal injections of flavine and glycerin in labour—may be given a trial Surely in the fight to reduce maternal mortality any reasonable logical method is worthy of a fair trial It is with this object and because the Maternal Mortality Committee (to whom the paper had been sent) advised me to publish it in the medical journals, that I write this letter I am etc,

Congleton, Dec 8th J L MOIR, M B, Ch B

SIR,—The use of glycerin as a routine dressing for perineal wounds in midwifery, as described by Dr Mackinnon in your issue of December 6th, is interesting, and would appear to be as efficacious as a rather more elaborate preparation which I have been in the habit of employing This preparation is as follows acriflavine 1/2 grains, paraffin liq 2½ ounces, cera alba 40 grains, aq dest 5 drachms It is applied on gauze strips

Flavine (or acriflavine, diamino-methyl-acridinium chloride) acts as a bactericide in a concentration 400 times lower than that required to interfere seriously with phagocytosis The dressing is also largely waterproof, and thus *protects* the devitalized perineal tissues from the softening and infective action of the secretions found in this region It further counteracts the *irritation* commonly experienced from the sutures themselves Cases treated with this method, like that of Dr Mackinnon, show no signs of sepsis—I am, etc,

Newhall, Dec 6th E M R FRAZER

NOCTURNAL INCONTINENCE IN CHILDREN

SIR,—I thoroughly agree with the communication by Dr J Perceira Gray in the *Journal* of November 29th on the subject of nocturnal incontinence in children It is a treatment I have adopted for over a year The cause of this condition is not thoroughly understood hence the many *failures of treatment* In all my cases for the last ten years I have had the eyes examined for errors of refraction, and, if required this has been remedied by suitable glasses The tonsils and adenoids have been removed and circumcision in boys has always been performed *In none*, however, *did a cure result* I met Colonel McCarrison ten years ago, and he suggested that the condition might be due to *small vesical ulcers* of vitamin-deficiency origin for he had several times in his experiments on animals found vesical ulcers to be associated with vitamin deficiency Since then I have always cystoscoped my patients, but in every case have seen a perfectly healthy bladder, *completely devoid of ulceration*

About six years ago a neurologist with whom I was discussing the subject, said that he treated these *patients* successfully with thyroid extract because in a number of cases the pituitary fossa was shown by x rays to be enlarged Since then I have had all my patients x rayed, and it was always reported that the pituitary fossa was normal in size I also found thyroid extract in these cases of little therapeutic value Discussing this with Dr Miller, radiologist to All Saints' Hospital, he informed me that he had seldom seen the pituitary fossa enlarged but had noticed in a large number of cases the presence of spinal spina bifida occulta The x rays I have taken since, both at All Saints' Hospital and at St Mary's Children's Hospital (Plaistow) confirm his observation It is probable, therefore that nocturnal enuresis in children is due to a delayed development of the autonomic nervous system and even as re-education is useful in the treatment of tabes dorsalis, so voluntary vesical education, by hastening the development of vesical reflexes can cut short the period of enuresis—I am etc,

London, W 1, Dec 5th F MCG TOUCHMAN

AVERTIN ANÆSTHESIA

SIR,—I have read Dr Langton Hewer's letter in your issue of November 29th and note what he says about Mr Howard Jones's work on high spinal block with percaine I saw percaine used in Vienna (not as a spinal anæsthetic) over a year ago, and I was not altogether impressed with its value Just prior to this I witnessed high spinal anæsthesia in Bucarest, where novocain is employed I was able to obtain opinions and literature I can find no allusion to monæmia Before the introduction of avertin to this country I was constantly using spinal anæsthesia (stovaine) for operations upon the stomach and gall-bladder, where a preliminary dose of 1/6 grain of morphine had been administered I cannot recall a single case of monæmia under these conditions Since the arrival of avertin I have used this drug in combination with spinal anæsthesia (both stovaine and spinocain) for major operations in the neighbourhood of the diaphragm chiefly partial gastrectomy, gastro-enterostomy, and cholecystectomy but without the use of morphine I have never witnessed any symptoms of anoxæmia, and after a very considerable experience I am at a loss to explain them Patients in my clinic (and I am sure the same obtains in Dr Hewer's clinic) are very carefully examined as to the kidneys, liver, and heart function before avertin is administered, the dose of avertin

per body weight is checked by a second person and the avertin is tested with Congo red for each dose given

In the fatal case mentioned by Dr Hewer two important questions arise (1) Was morphine or any derivative given previously, immediately, or remotely? (2) Was the correct dose of avertin administered to a suitably receptive patient In over two and a half years' experience using avertin in combination with field blocks spinal blocks, and very light ether anaesthesia, I have not yet had any disconcerting experience in the form of anoxaemia or deaths Perhaps I have been lucky but I feel sure the luck has accrued from not using this drug indiscriminately from not using it injudiciously in conjunction with morphine or chloroform or any drug which is going to hinder its excretion or likely at the time to depress the vital centres The ideal is undoubtedly the combination of avertin with gas and oxygen as I saw it used by Sir Francis Shipway There was no evidence of anoxaemia

In your issue of December 13th Dr F B Parsons suggests that I am unacquainted with the German literature on avertin and quotes from a paper written by Haas (*Deut med Woch*) and published in 1927 I should like to disillusion Dr Parsons of this suggestion, as I have waded through much German literature on the subject Further the year of the publication referred to was the very year I took the trouble to go to Germany to see avertin *used so as to find out at first hand what its* clinical properties really were The avertin then used was the solid form and it was being used in combination with very light ether inhalation (amnesic dosage) or to be more lucid dosage very far short of that required to produce full or complete surgical anaesthesia" I asked why ether was necessary, and was informed that avertin was a basal narcotic that by itself, in safe dosage to the patient, was insufficient to produce complete surgical anaesthesia This very fact is stressed all through the pages of the pamphlet issued by the manufacturers —I am, etc,

Bradford. BASIL HUGHES

PARTURITION PER PERINEUM

SIR,—I have been much interested in the memorandum by Drs Tindal and MacLennan on a case of parturition per perineum, published in your issue of November 22nd (p 863), and in the correspondence which has ensued Some of these cases are undoubtedly due to a contraction of the transverse diameter of the pelvic outlet, the effect of which is to narrow the pubic arch This leaves insufficient space for the presenting part to emerge directly beneath the symphysis pubis and it is pushed further and further backward until in extreme cases delivery takes place in what Klein describes as the posterior sagittal diameter of the outlet The fact that there had been an extensive tear at the previous confinement in the case recorded by Drs Tindal and MacLennan suggests the presence of a contraction of this type It would be of interest to know whether such a condition was noted in any of the cases described by your correspondents —I am etc,

Derby Dec. 8th GERALD F KEATINGE, M D
Honorary Assistant Surgeon Derbyshire Hospital for Women.

Obituary

ANDREA RABAGLIATI M D, F R C S,

Consulting Gynaecologist Bradford Infirmary and Consulting Surgeon Bradford Children's Hospital

WE regret to record the death on December 7th of Dr Andrea C F Rabagliati after a long and distinguished career He was born in Edinburgh in 1843 His father, an officer in the Italian Army, was engaged in the earliest insurrection against the Austrian domination, and on the failure of that attempt fled to Scotland He stayed for some time at the manse in Kelso, and then went to Abbotsford, reading Italian with Sir Walter Scott Subsequently he settled in Edinburgh and married a Highland lady

Andrea Rabagliati was educated at the Royal High School after which he stayed for two years with an uncle in British Guiana returning in 1862 to study medicine at Edinburgh University, and graduating M B in 1869 In 1872 he proceeded M D with first-class honours, and won the gold medal for a thesis on relapsing fever In 1890 he obtained the Fellowship of the Royal College of Surgeons of Edinburgh After graduating Dr Rabagliati became assistant to the late Dr Leeson medical officer to the Bradford Workhouse He was appointed assistant medical officer to the workhouse, and in 1870 became house-surgeon to the Bradford Infirmary a post which he held for two years In 1872 he began private practice, speedily coming to the front rank of Bradford medical men In 1877 he was appointed surgeon to the Bradford Infirmary assistant surgeon to the Eye and Ear Hospital and medical officer to the Bradford Fever Hospital In 1882 a small children's hospital originally with only twelve beds for incurables, was opened in Hanover Square by private enterprise to supplement the provision for children in the Bradford Infirmary, but encountered considerable opposition Dr Rabagliati strongly sympathized with the undertaking and in conjunction with Dr Burnie and the late Dr Harry Meade, gave it all the help in his power In 1887 the hospital moved to larger premises in Springfield Place and a scheme was set on foot to build a large and properly equipped children's hospital The present institution, which has been considerably expanded was opened in 1890, and Dr Rabagliati was appointed consulting surgeon

Dr Rabagliata was instrumental with the untiring help of his wife in establishing St Catherine's Home for Cancer, and when this was opened he was appointed consulting surgeon He was also consulting surgeon to the Bingley Hospital senior physician to the Actors' Association London, and to the Music Hall Artistes' Association London and consulting gynaecologist to the Bradford Royal Infirmary Although he held so many surgical appointments his bias was always towards medical practice which interested him greatly and more and more he was consulted in medical cases especially with reference to diet He published numerous books on this subject and built up a large consulting practice on dietetic lines he was often urged to give up all general practice and confine himself to consulting work That he did not definitely take this step was thought by many to be a mistake but he held strong views about the responsibility of medical practice, and believed that he could do more good by the general care and guidance of patients whose cases were well known to him than by occasional specialist advice However, in spite of himself his consulting work rapidly increased, he had also a heavy load of correspondence and so the general practice side of his work was virtually squeezed out He continued in his profession without intermission taking but few holidays, from 1872 until his 87th birthday in May 1930 when he was first taken ill After a week or two he resumed his work, which he continued until the end of July, when the state of his health forced him to abandon practice, to his bitter disappointment

Dr Rabagliati took a great interest in the work of the British Medical Association He was a member of the council of the Yorkshire Branch from 1883 to 1892 president of the Branch 1893–94, and vice president from 1895 to 1915

DR HALLIDAY SUTHERLAND writes In his early professional life Dr Rabagliati realized that many chronic ailments arise from excess of food products which stagnate in the lymphatic system To overcome this condition he placed his patients on a starvation diet The value of that treatment in suitable cases is now recognized but when Dr Rabagliati acted on his conviction it entailed the loss of a large practice This was gradually rebuilt on lines in which he believed to the end His books did not reach a large circle of readers The style in which they were written belonged to an earlier period, and their author was fond of coining new words based on Greek roots, which puzzled the non-classical reader When more is known about the role of the lymphatic system in the causation of disease A C F Rabagliati will rank as a pioneer

HUBERT PINTO-LEITE, B.A., M.R.C.S., L.R.C.P.,

Anaesthetist to the Westminster Hospital and the Lyclina Hospital for Sick Children

WE much regret to announce the death on December 12th in London, after a long illness, of Dr. Hubert Pinto Leite, at the age of 51. He was the eldest son of the late Joaquim Pinto-Leite, Portuguese Vice-Consul in Manchester, and received his early education at Beaumont and Stonyhurst, entering Caius College, Cambridge, as a medical student in 1899. At Cambridge he was well known in musical circles as a tenor soloist and member of the "Caius Quintette." Having graduated B.A. with honours in the Natural Sciences Tripos, he joined St. George's Hospital, and obtained the M.R.C.S., L.R.C.P. diplomas in 1908. Then, after serving as house-physician and house-surgeon at St. George's, he began private practice in Fellows Road, Hampstead, and was soon appointed honorary anaesthetist to the London Throat Hospital and to the National Dental Hospital. For several years before the war he had held a commission as lieutenant in the R.A.M.C. (T.F.) and was mobilized in August 1914 with a field ambulance attached to one of the London Territorial divisions. His war service overseas included duty as registrar of the 43rd Indian General Hospital, officer in charge of the Medical Division of No. 44 Stationary Hospital, L.L.E., and D.A.D.M.S. with the acting rank of major. He was awarded the Territorial Decoration. Returning to civil life after the war, Dr. Pinto-Leite added steadily to his reputation as a skilful administrator of anaesthetics, and in that capacity was elected to the honorary staffs of the Westminster Hospital, the Lyclina Hospital for Sick Children, the Hospital for Women, Soho Square, the Golden Square Throat, Nose, and Ear Hospital, and the Royal Dental Hospital. When the British Medical Association held its Annual Meeting in Glasgow in 1922 he was honorary secretary of the Section of Anaesthetics, and for a number of years he was a valued occasional contributor of notes and reports on this subject in our columns. His only signed contribution to medical literature was a paper published in the *Westminster Hospital Reports* for 1925 on "Lung complications disclosed post mortem after surgical anaesthesia." Before the onset of his last illness Dr. Pinto Leite undertook part-time duty as medical superintendent of the Hospital of St. John and St. Elizabeth. He was also honorary secretary of the Society of Members of the Royal College of Surgeons of England.

Hubert Pinto-Leite, known affectionately to all his intimates as "Pinto," was a most generous warm-hearted friend, loyal and unselfish, diligent in well-doing, a man who could be relied on to carry out faithfully and punctually every task he undertook, without regard to his own interest.

By the death, at the age of 83, of Dr. C. Henry Phillips at Bournemouth on November 23rd, medicine has lost one of the finest type of general practitioner. He studied at Owens College and became L.S.A. in 1875, M.R.C.S. in 1876, F.R.F.P.S.Glasg. in 1885, and M.D. of the University of Durham in 1894. For over forty years he had a large practice in Hanley, Stoke-on-Trent. For thirty-six years he was medical superintendent of the Stoke-on-Trent Infectious Diseases Hospital at Bucknall, and for twenty years held a similar office at Dagnall Small-pox Hospital. He was a justice of the peace for Hanley for twenty-nine years, and also a member of the school board and of the town council. A colleague writes: When a practitioner covers so wide a field of work as did Dr. Phillips it might be thought that much of his knowledge would be superficial, but this was not the case. He contrived by dauntless energy to acquire as deep a knowledge of several branches of medicine as most can attain merely of one. He kept abreast of modern methods and until blindness afflicted him five years ago was an excellent bacteriologist. Of unassuming disposition, he did not think of himself as a teacher but was a much greater one than he knew, not realizing how absorbing to younger practitioners it can be to hear discourses upon typhoid or small-pox from one who can number his cases of these now rare diseases by hundreds or even thousands. He had notes of 3,700 mid-wifery cases which he considered presented some point of interest, and until he retired from practice eight years ago never spared himself in this branch of work. The financial aspect of medicine did not concern him greatly. The patient most in need of his care was the one who invariably got it. His day would be amazingly varied. After a night spent with a case of difficult labour the day might find him amputating a leg down a coal mine, then rushing to the fever hospital to perform a tracheotomy, in addition to attending to the many calls of a large panel practice. He bore his five years of blindness with much uncomplaining patience, though it must have been a great trial to a man still so interested in his profession, and who had planned to spend his well-earned leisure in further study of it. The sympathy of a large circle of friends will go out to his widow and daughter.

Dr. Charles Scott Kilner, who died on December 1st at his residence in Bury St. Edmunds, at the age of 77, was one of the most popular medical practitioners in West Suffolk. He received his medical education at Edinburgh, where he studied under Lister, and graduated M.B., C.M. in 1876, he obtained the D.P.H. Camb. in 1899. After acting as assistant at Oundle and Burton-on-Trent he returned home to Bury St. Edmunds in 1878 to join his father in practice. For more than fifty years he was a medical officer of health and public vaccinator for two districts of the Bury St. Edmunds Union, and on his resignation two years ago he received a presentation from the Board of Guardians to mark the devotion he had shown to this side of his medical work. At the time of his death he was medical officer to the Thingoe Rural District Council and had a very thorough knowledge of social conditions in the villages. He was officially concerned with the first houses built in the county under the Housing of the Working Classes Act (1890), having always realized the importance of overcrowding in the question of ill-health. Dr. Kilner was honorary consulting medical officer to the West Suffolk Hospital, and was elected a life governor in recognition of his great services to that institution. During the war he was medical officer to the Northgate Red Cross Hospital, and in 1920 he was made a Member of the Order of the British Empire. He held the post of president of the East Anglian Branch of the British Medical Association in 1901, and since 1899 had been surgeon to the West Suffolk Constabulary. He was appointed a magistrate for the borough of Bury St. Edmunds in 1916, and actively identified himself with various social and religious activities in the town. He is survived by four daughters and two sons, one of whom is in the medical profession.

Dr. Ronald T. Herdman, deputy medical officer of health for Bedfordshire, died suddenly on December 5th. He appeared to be in his usual health that morning and among other duties attended a meeting of the County Education Committee. He was born in October 1872, and studied medicine at the University of Edinburgh, graduating M.B. in 1894. He proceeded M.D. in 1910, and obtained also the Cambridge D.P.H. On leaving Edinburgh he devoted special attention to diseases of the ear, nose and throat, and, after holding a house appointment at the Surrey County Hospital, was house-surgeon at the Throat Hospital, Golden Square, London. During the South African war he acted as a civil surgeon, and served in France with the rank of temporary lieutenant R.A.M.C. during the late war. He was appointed deputy medical officer of health and school medical officer by the Bedford County Council in 1912, when the duty of examining elementary school children was first placed upon the county and borough councils. Outside his professional work Dr. Herdman's chief interest was in the British Legion, and he attended the annual dinner of the Bedford branch on the evening of his death. He was a member of the British Medical Association and a Fellow of the Society of Medical Officers of Health. By his death the county loses one of its most conscientious and public-spirited officials.

The town of Aberdeen and the medical profession have sustained a severe loss in the recent death of Dr DAVID WATSON CEDDIE consulting physician to the Royal Aberdeen Hospital for Sick Children. A son of the manse, Dr Ceddie was born in 1864, his father being for many years Free Church minister of Banff. After graduating in arts and medicine in the University of Aberdeen he was for several years assistant to the late Dr Miller of Fort William, and the rest of his life was spent in general practice in Aberdeen, where he was anaesthetist, and subsequently physician to the Children's Hospital. As a practitioner and as hospital physician and teacher he gave of his best to his patients and students. His sound practical knowledge and his gift of lucid exposition gained for him well merited appreciation. A man of wide culture and an artist of no mean ability, he had wide interests and a broad and sympathetic outlook on life. The fine qualities of his character were displayed in his unselfish devotion to patients of all classes, and in the way in which he was always able to give help and advice to his younger colleagues. To have known him well was a great privilege, and is now a happy and inspiring memory. To his widow and family his many friends tender their deepest sympathy. Dr Ceddie was a member of the Aberdeen City Division of the British Medical Association, and was President of the Aberdeen Branch in 1925–26.

Medico-Legal

THE MARKING OF SURGICAL GOODS

INSTRUMENT MAKERS LTD

BOARD OF TRADE summonses under the Merchandise Marks Act were heard at Marlborough Street Police Court on December 10th against the Surgical Manufacturing Co. Ltd. of Mortimer Street, W. Two summonses alleged that the company advertised or offered for sale under a specific designation by means of an illustration and written matter in a catalogue certain imported goods of a class to which an Order in Council under the Merchandise Marks Act, 1926, applied, and that the company did not include in such advertisement an indication of the origin of the goods. A third summons alleged that the company sold certain imported surgical articles which did not bear an indication of the origin. Mr G. B. McClure appeared for the Board of Trade, and Mr J. N. Nabarro represented the company.

Mr McClure stated that on July 15th a Dr. Hayward sent for a catalogue of surgical goods, and it was alleged that this contained advertisements of goods of which the origin was not marked. An order for an article was given by him. On September 24th Mr. Maver, a member of a firm of surgical instrument makers, selected an article out of another catalogue and sent a messenger with the order. The article received was of foreign origin—German, he thought. The price of the article (10s. 6d.) a Mayo's needle-holder and thumb-release was such that it could not possibly be British. In October a nurse named Miss Drew went with her father to the same place and chose a dozen surgical instruments. Ten of these were foreign. If it be that this firm have made a mistake and were bringing over articles from Germany and were putting finishing touches to them they come within the purview of the Act, said Mr McClure.

Mr. A. W. Cobden, employed by a firm of surgical instrument manufacturers in St. Thomas's Street, S.E., said that on July 15th Dr. Hayward sent for a catalogue of medical goods, and one was sent to him. Advertised in it were goods which did not bear an indication of the country of origin. Answering Mr. Nabarro, who said he understood that Dr. Hayward was in the Indian Medical Service, he witness did not know if it would be necessary to have the indication of origin if the goods were to be used abroad.

Mr. E. W. Maver, a partner in the firm of Messrs. Maver and Phelps, New Cavendish Street, said that an article supplied from the catalogue to him was undoubtedly of German origin. When he first received it he sent it back, and had a letter written to the defendant company asking them to let him know whether the article was British or foreign, as their firm had to declare it under the Merchandise Marks Act. They received back what appeared to be the same instrument, but it had a little tab "Surgical Manufacturing Co. Ltd." and the word "Foreign" attached to it.

Mr. Nabarro: When it was observed that this article was foreign it was marked accordingly.

Mr. Nabarro said that the defence in regard to the catalogue was that, as it was for a doctor in India, it was not necessary for the articles to be marked with the country of origin. With regard to the summons relating to the sale of articles to Miss Drew, two of the articles were undoubtedly British. As to the remainder, they were certainly unmarked, and he pleaded guilty.

Evidence was given by Mr. W. E. Birch, employed by the defendant company. He said that some thousands of these catalogues were printed and dispatched early this year before arrangements were made with the Board of Trade to insert slips indicating articles which were of foreign manufacture. Since then the catalogues had been bound with the slips inside.

Mr. Nabarro submitted that no great harm had been done, and asked the magistrate to impose a nominal penalty.

The Magistrate (Mr. R. E. Dummett): There is no doubt whatever in my mind there has been an infringement of the Act and an attempt on the part of the company to pretend that the bulk of the goods were of British make when in fact they were not. He imposed a fine of £2 with £2 2s. costs on the first summons, £2 with £10 10 costs on the second summons, and 10s. with £3 3s. costs on the third summons.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE adjournment of Parliament for Christmas was fixed for December 19th. Earlier in the week the Government proposed to complete the passage of the Education (School Attendance) Bill through the House of Commons. A debate on unemployment was also arranged. The House of Lords was occupied with the Expiring Laws Continuance Bill.

Lieut.-Commander Kenworthy gave notice that in the House of Commons on December 16th he would introduce a Vivisection Experiments Bill— to prevent the application of public money to vivisection experiments. (See *Supplement*, p. 2o1.)

Humane Slaughter

In the House of Commons on December 12th Lieut.-Colonel MOORE moved the second reading of the Slaughter of Animals Bill. He said the bill had the support of scientists, doctors and public authorities. Professor Hobday of the Royal Veterinary College, Professor Cathcart of the University of Glasgow, and Professor Barger of Edinburgh supported it. Approximately 16 000 000 animals were slaughtered each year, and the bill sought to secure that all animals were effectively stunned before slaughter. The humane killer had been made compulsory by 370 local authorities, and the bill would bring recalcitrant authorities into line. The present system caused unnecessary suffering. A report to the Corporation of the City of London, signed by the medical officer of health to the Corporation and by the veterinary surgeon to the Corporation, declared that no exception could be taken to the efficiency of the bleeding of carcases killed by the humane killer. He had hundreds of letters from medical officers testifying to the efficiency of the method of slaughter proposed in the bill. The bill exempted small farmers, peasants, and others who killed a pig at irregular intervals for their own consumption. It also exempted the Jewish and Mohammedan communities. One clause of the bill gave local authorities power to grant licences to ensure that those who slaughtered were duly qualified. Adequate inspection was proposed for the 20 000 private slaughter-houses.

Mr. LANG moved the rejection of the bill and called for a select committee to investigate the subject.

Mr. GLEESWOOD said an Act which went some way to meet the problem in Scotland had been on the Statute Book two years and worked pretty well. A growing number of local authorities had adopted by-laws enforcing humane slaughter of animals including pigs. The chief opposition came from the bacon curers.

Mr. SOMERVILLE HASTINGS said that he spoke as a surgeon. The physiology of human beings was similar to that of the larger animals used for food. Surgeons had learnt that it paid to anaesthetize, and that was what the bill proposed.

Dr. GRAHAM LITTLE said that bungling was more likely with the pole-axe than in the use of the humane killer. He pointed out that in scientific experiment on animals most careful regulations were enforced to prevent pain and suffering.

Dr. FREMANTLE, a one who had been a medical officer of health and had seen the big abattoirs of Paris and Germany, welcomed the bill.

The bill was read a second time without a division, Mr. Lang's amendment for its rejection being withdrawn.

Noxious Fumes and the Mouse Valley Foci

On December 10th Mr. MORRISON informed Colonel Howard-Bury that the first section of Battersea Power Station would be completed by the end of 1932 or the beginning of 1933. The assertion that such great chimneys emitted sulphurous fumes,

and in certain states of the atmosphere might lead to a condition such as had happened in the Meuse Valley was unsupported. The Electricity Commissioners had taken every precaution to prevent such mishap. Replying to Mr. HORE-BELISHA on December 10th, Miss SUSAN LAWRENCE said that the Ministry of Health was arranging to obtain a report of the official inquiry into the loss of life during the recent fog in the Meuse Valley. Mr. GREENWOOD informed Colonel Howard-Bury and Mr. D. G. Somerville on December 11th, that he had asked for a copy of the inquiry into the sixty-five deaths in the Meuse Valley. Until the facts were ascertained he knew of no ground for assuming that sulphuric acid or any other fumes were associated with them. Regarding the Battersea Power Station, it would be practicable to install there a plant which would reduce the emission of sulphur fumes to a negligible quantity. He considered it would be in the public interest that the report on the Meuse Valley fog should be widely spread.

Housing

Mr. GREENWOOD told Sir D. Newton on December 10th that the Exchequer contribution paid during the year 1929–30 under the Housing Act, 1919, was £6,738,118 under the Housing Act, 1923, £2,141,089, and under the Housing Act, 1924, £2,253,087. The numbers of houses completed under each Act at March 31st, 1930, were respectively 175,639, 389,193, and 232,900. Replying to Mr. Somerville Hastings on the same date, Mr. GREENWOOD said that up to October 31st, 1930, 313,862 houses had been completed by local authorities in England and Wales under the Housing (Financial Provisions) Act, 1924.

Replying to Dr. Morgan on December 11th, Mr. GREENWOOD said that up to December 1st last 258 proposals for the provision of 13,979 houses had been received from local authorities in England and Wales under Subsection (1) of the Housing Act, 1930. In addition, eighteen authorities had passed resolutions declaring areas containing a population exceeding 15,360 persons to be clearance areas, and one authority had passed a resolution declaring two areas containing 188 houses to be improvement areas. Five compulsory purchase orders and two clearance orders had been submitted to him. Under Subsection (2) of the Act, which related to urban areas with population exceeding 20,000, fifteen programmes, providing for 44,300 new houses, of which 14,923 would be allocated to the rehousing of 65,861 persons, had been submitted.

Sale of Poisons

Mr. CLYNES told Sir George Penny on December 11th that he hoped a bill would shortly be introduced to simplify and strengthen the law relating to poisons. Sir George Penny suggested that licensed vendors of arsenic, such as corn merchants, ironmongers, etc., should be made to comply with the same regulations as registered chemists. Mr. CLYNES said that the existing provisions of the law on the sale of arsenic and on poisons generally applied equally to registered chemists and to other licensed vendors. Licensed vendors were, in addition, subject to regulations made by Order in Council under Section 2 of the Poisons and Pharmacy Act, 1908.

Dangerous Drugs.—Mr. SHORT informed Dr. Fremantle on December 3rd that the report of the preliminary conference on the limitation of manufacture of dangerous drugs had been sent to the League of Nations and was in course of being printed. He could not say how soon copies would be available.

Infant Mortality.—Mr. GREENWOOD told Dr. Fremantle on December 3rd that the increase of infant mortality in 1924 was due to an epidemic of influenza and that of 1929 to a similar epidemic coupled with an epidemic of whooping-cough.

Tuberculosis.—In reply to Sir Bertram Falle on December 3rd, Mr. GREENWOOD said that persons who had received treatment for tuberculosis in sanatoriums were instructed in the precautions necessary to avoid the risk of infecting others when discharged, and it was the duty of local medical officers of health to take such steps as were necessary or desirable to prevent the spread of infection.

Schick Testing.—On December 9th Mr. GREENWOOD informed Mr. Freeman that he had sanctioned provision of facilities for Schick testing and immunization against diphtheria in thirty-eight districts in England and in two in Wales, and he had information that these facilities were also provided in other areas.

Arsenic in Sweets.—Replying to Mr. Freeman on December 10th Miss LAWRENCE said that the Minister of Health was aware of a number of recent cases of poisoning of sweets, notably by arsenic. The local authority concerned had taken suitable action, including prosecution of persons responsible. Officers of the Department had kept in close touch with those of the local authority in the course of investigations and it was not thought necessary to hold any special inquiry into the matter. Consultations were taking place on legislation to guard against the accidental misuse of poisons.

Inspection of School Children.—Sir C. TREVELYAN, in reply to Mr. Somerville Hastings on December 11th, said that about six minutes was occupied on the average in the inspection of each child examined at routine medical inspection. Children discovered or suspected to be suffering from defects requiring more detailed investigation were referred for subsequent examination. The time then given to any particular child varied with the nature of the defect.

Votes in Brief

A provision that a suitable and efficient appliance for extinguishing fire must be carried is to be embodied in Ministry of Transport regulations for public service vehicles.

Cases of encephalitis lethargica notified in the administrative county of Lindsey (excluding the county boroughs of Grimsby and Lincoln) were 5 in 1928, 10 in 1929, and 6 up to the end of November, 1930. The local courts of the districts concerned are receiving the attention of the medical staff of the Ministry of Health.

Universities and Colleges.

UNIVERSITY OF LONDON

The following candidates have been approved at the examinations indicated:

THIRD M.B., B.S.—*M. P. Ellis, †I. V. Emmanuel, *Beatrice M. Joy, †G. I. Jones, M. Kraemer, †D. W. C. Northfield (University medal), A. W. M. Rook, †J. J. Barnard, †F. G. L. Barnes, J. N. Rhodes, W. L. M. Bibby, †G. Bowen, W. J. R. Branch, Dora I. Brockbank, †J. Campbell, W. H. I. Cant, †A. G. Carmichael, Rona I. Channing, A. Clark, †J. Claxton, †S. Cliff, W. D. Coltart, T. V. Cooper, Catherine R. Crane, †J. J. Croot, Marian J. Cunnick, Catherine Day, C. J. Dolman, D. G. Evans, †D. S. How, Beryl M. Furlong, Kamala Ghosh, Olive N. Grant, Mary W. Hamilton, Flora Hargreaves, Lettice I. Harrison, K. W. D. Hartley, Honor I. C. Harvey, A. S. Hatch, Katherine M. Holdcroft, †A. Hicks, R. J. Holmes, †I. B. Jackson, H. B. Jackson, †K. Jones, †F. J. King, G. C. Knight, H. J. Knight, Nellie I. Lanchman, †E. J. M. Laurent, †W. Lazarus, A. Levy, Annie M. McGrath, Joyce MacInnes, †A. H. M. McMullan, Moyra I. Macnaughton-Jones, Eileen M. Massey, †Elizabeth T. Mew, †R. Murray, †A. M. Nussbrecher, †A. C. Rice, R. S. Rick, †H. T. Robb-Smith, †C. F. Scott, Viola R. Sharp, Dorothy A. Sharpe, N. I. Sheppard, Ivorell M. Shipsey, C. K. Simpson, Ella Slater, D. Stanley-Jones, H. H. Stedman, †J. H. Stevenson, T. S. Stone, †G. Thomas, C. J. Thurlar, †S. Vere, the I.C.S. Well's, A. S. Whitfield, †R. Williams, Maureen D. Willmott, Frank H. Wilson.*

* Distinguished in medicine. † Distinguished in forensic medicine.
‡ Distinguished in surgery. § Distinguished in midwifery.

UNIVERSITY OF DUBLIN

TRINITY COLLEGE

AT the first winter commencements held on December 11th, the following degrees and licence were conferred:

M.D.—J. A. Bennet, C. Carlton, M. Gerber, D. A. Latham.
M.B., B.Ch., B.A.O.—G. Caldwell, T. H. Dockrell, H. H. G. Dorman, J. S. Duthie, G. I. Eunis, J. P. Fitzgerald, N. A. Kinnear, H. S. North, W. A. Robinson, J. B. Scott, Kathleen A. Wilson.
LIC. MID. SURG. AND OBSTET.—D. J. O'Flynn.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

AN ordinary meeting of the Council of the Royal College of Surgeons of England was held on December 11th, when the President, Lord Moynihan, was in the chair.

Fellowship

Diplomas of Fellowship were granted to the following successful candidates:

Gladys M. Sanders, J. M. Clarke, W. G. S. Brown, Annie Ichaimuthu, J. H. Saint, R. C. Tatham, N. W. Bolton, J. C. Ross, W. S. Chapman, R. Markham, B. R. Sworn, R. H. Metcalfe, D. G. Bown, F. H. V. Walker, A. M. P. N. Ray, K. S. Pilcher, W. Hynes, J. T. Chesterman, M. R. Ernst, J. N. Wardle, H. Yousri, M. D. Patel, J. R. Peacock, J. J. Gunner, N. B. Barrett, A. C. Fisher, W. J. Tucker, H. S. Taylor, Young, C. J. Corrigan, A. D. Everett, J. W. Holdsworth, R. Purvis, T. J. Millin, J. R. Stansfield, F. J. D'Arcy, S. G. Davidson, D. J. Fitzpatrick, J. C. B. Jones, T. J. Kemble, K. Lumsden, J. G. MacMahon, N. St. C. Mulhearn, L. R. Oliver, K. C. T. Fawle, C. A. M. Renou, V. N. Shirodkar, G. K. A. Syme, J. Taliat, S. A. M. C. Thompson.

Membership

Diplomas of Membership were granted to the following candidates, who had complied with the regulations: Marjorie Low, Marjorie Lunn, Thelwyn Newham, D. Ockman.

The Licence in Dental Surgery was granted to Poudicherry Somasunder, M.R.C.S.

Court of Examiners

The following were elected members of the Court of Examiners: Russell John Howard (re-elected), surgeon, London Hospital; L. C. Hughes, assistant surgeon, Guy's Hospital; Lionel L. C. Norbury, surgeon, Royal Free Hospital.

Primary Fellowship Examination in Canada

It was decided, on the request of the Canadian Medical Association, to hold a Primary Examination for the Fellowship in Canada next year, subject to satisfactory arrangements being made.

The thanks of the Council were given to Sir Frederic Hallett for his revised catalogue of portraits and busts of the College with short biographical notices and illustrations. Copies may be obtained from the Secretary, price 3s. cloth, 2s. 6d. boards.

Medical News.

THE Royal College of Physicians of London will be closed from Wednesday, December 24th, until Wednesday, December 31st, both days inclusive

THE Royal Society of Medicine will hold its next reception at 1, Wimpole Street W 1 on Wednesday, January 21st The president and Mrs Watts Eden will receive Fellows and their guests at 8 30 p m and at 9 15 p m Dr Arnold Chaplin will give an address entitled Great figures in history or misconceptions removed " Various objects of interest will be exhibited in the library Admission will be by ticket only, applications for which should be addressed to the secretary

AT a meeting of the Society for the Study of Inebriety to be held in the rooms of the Medical Society of London, 11 Chandos Street, Cavendish Square W, on Tuesday, January 13th, 1931 at 4 p m the Rev Courtenay C Weeks M R C S L R C P (editor of the *National Temperance Quarterly and Medical Review*) will open a discussion on Alcoholic indulgence in relation to motor transport " Members and associates may introduce visitors

THE London Jewish Hospital Medical Society (Stepney Green, E 1) has arranged two symposiums for the ensuing session The first, on February 12th 1931, on "The trend of medical practice will be opened by Mr Somerville Hastings The second on April 9th on "Modern advances in brain medicine and surgery," will be opened by Dr Gordon Holmes and Mr Julian Taylor

H H PRINCESS HELENA VICTORIA has promised to attend the annual children s festival of Dr Barnardo s Homes, to be held in the Royal Albert Hall on the afternoon of Saturday, January 17th, 1931

THE second International Congress and Exhibition of Sanitary Engineering and Municipal Hygiene will take place from April 20th to 26th, 1931 in Milan, under the patronage of the King of Italy Full particulars may be had by applying to the Secretary General of the Congress, 17 Piazza del Duomo, Milan Italy

THE Minister of Health has issued a Memorandum (131 c/T) containing an analysis of the work done during 1929 under the schemes of local authorities for the treatment of tuberculosis, the information having been supplied by returns furnished in accordance with Memorandum 37/T There has been a steady increase in the proportion of the total tuberculous population which is dealt with by these local authorities, and a continued fall in the proportion of undiagnosed cases on the dispensary registers more examinations of sputa are being performed The present Memorandum is intended to assist metropolitan borough councils in judging whether their schemes for the dispensary treatment of tuberculosis need any revision Four circulars—namely 1154 (a) (b), (c), and (d)—have also been issued by the Ministry relating to the returns to be made by local authorities in respect of maternity and child welfare, tuberculosis, and venereal diseases The Minister desires to know the number of cases of tuberculosis previously returned as cured which have relapsed, or shown indications of so doing He also wishes to know the total amount of accommodation available on December 31st in England and Wales for the residential treatment of tuberculosis at approved institutions forms have been designed for completion by local authorities and return to the Ministry not later than February 28th 1931 Other forms have similarly been issued in the case of institutions approved for the treatment of venereal diseases

THE welfare of African children will be discussed at an international congress to be held under the auspices of the Save the Children Union in Geneva in 1931, with special reference to infantile mortality, child labour and education, and child marriage

THE twenty first French Congress of Medicine will be held at Liege in 1931 under the presidency of Professor de Beco, when the subjects for discussion will be hyperthyroid states, metabolism of calcium and the treatment of non diabetic conditions by insulin

THE second International Hospital Congress will be held at Vienna from June 8th to 13th 1931 when the following papers among others will be read the cost of hospitals by Dr Distel of Hamburg the role of the hospital nurse by Mlle Pelmann of Geneva hospital terminology by Dr Wirth of Frankfurt hospital legislation by Mr Harper of Wolverhampton, out patient departments by Dr Corwin of New York the patient s diet by Professor Van Noorden of Vienna and the role of neurology and psychiatry in the general hospital, by Dr Alter of Dusseldorf.

THE Royal Institute of Public Health will hold its congress in Frankfurt next year from Tuesday, May 19th, to Sunday, May 24th The scientific work will be conducted in six sections—namely, State medicine and municipal hygiene, architecture housing, and town planning, industrial hygiene, women and children and the public health, tuberculosis, and pathology, bacteriology and biochemistry Visits will be paid to places of interest in Frankfurt, and the chief spas and health resorts of the Rhine including Wiesbaden, Homburg, Nauheim Kreuznach, and Münster am Stein, one day will be spent in an excursion to the university and town of Heidelberg Further information may be obtained from Dr T N Kelynack honorary secretary of the congress, 37, Russell Square, W C 1

THE November issue of the *Medical Women's Federation News Letter* includes among other articles an account by Dame Janet Campbell of her impressions of maternity and child welfare in Australia, an analysis of the interim report of the Departmental Committee on Maternal Mortality and Morbidity by Mrs Frances Iven Knowles, and obituary notices of Dame Mary Scharlieb

THE last issue of the *Fight Against Disease*, the quarterly journal of the Research Defence Society includes notes on the R S P C A and antivivisection, on asthma research, and on antivivisection in the war It is published for the Society by Macmillan and Co Ltd, St Martin s Street, W C 2

THE KING has appointed Dr Cyril Hartley Durrant, chief medical officer, St Kitts Nevis Medical Service, to be an *official member of the Executive Council of the Presidency of* St Christopher and Nevis for a further period

THE Röntgen Society and the Rhine Medical Society have conjointly decided to erect a monument to Röntgen at Lennep, near Düsseldorf, where he was born on March 27th, 1845

DURING the last five years there has been a gradual increase in the incidence of cerebro-spinal fever in the United States as is shown by the following figures 1925 1,859 cases 1926 2,226 cases, 1927, 3,204 cases, 1928, 5 781 cases, and 1929, 9 650 cases

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W C.1***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated Correspondents who wish notice to be taken of their communications should authenticate them with their names not necessarily for publication

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager British Medical Association House Tavistock Square W C.1 on receipt of proofs

All communications with reference to ADVERTISEMENTS as well as orders for copies of the *Journal* should be addressed to the Financial Secretary and Business Manager

The ***TELEPHONE NUMBERS*** of the British Medical Association and the *British Medical Journal* are *MUSEUM 9551 9552 9553* (internal exchange four lines)

The ***TELEGRAPHIC ADDRESSES*** are

EDITOR OF THE *BRITISH MEDICAL JOURNAL Attiology Westcent London*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements etc) *Articulate Westcent London*

MEDICAL SECRETARY *Medisecra Westcent London*

The address of the Irish Office of the British Medical Association is 16 South Frederick Street, Dublin (telegrams *Bacillus Dublin* telephone 62550 Dublin) and of the Scottish Office 7, Drumsheugh Gardens Edinburgh (telegrams *Associate Edinburgh* telephone 24361 Edinburgh)

QUERIES AND ANSWERS

Malaria and Blackwater Fever

DR C J PATEL (Kampala Uganda) writes Is there any preparation containing no quinine which can lower the temperature in blackwater fever and can destroy malarial parasites? I have had experience of 38 cases and I find quinine does harm I have seen the condition getting worse after small—say 1 grain—doses of quinine When a patient becomes comatose either in blackwater fever or in malaria what treatment should be adopted? I have tried saline per rectum and glucose intravenously but the result was not satisfactory and two patients died that way in coma How can the onset of coma be prevented and what are the signs which indicate that coma is threatening?

'Warbles' in Man

"T L M" writes "I have just had a most unusual case A boy of 5 was brought to me with the history that he had had within the last few days two itchy and painful swellings, one just above the right ear and one over the left shoulder blade The mother had squeezed them and had ejected two large white maggots one of which was brought to me for examination The swellings are large and pale, but not much raised, the one on the shoulder measuring 2½ in by 1 in On each is a small clean puncture, which admits a probe to a distance of about an inch Serum can be expressed on squeezing There is a history of a bruise on the head from a cow's horn but there is no indication of injury to the shoulder and no sign of external abrasion anywhere likely to be infected by flies, and, in any case, this is not the fly season The child is well nourished, strong, and healthy in every way, the parents are small farmers and he is constantly in contact with cows, horses and farm stock generally The maggot brought to me is pure white, about half an inch long, and appears to have eight segments I believe there is a common disease in cattle and deer due to fly, known locally as warbles, in which lumps appear containing maggots, but I have never heard or read of a similar case in man Can any reader state what larva this is likely to be, what was the probable method of infection and what is the best treatment to get rid of any further manifestations?

Pruritus with Jaundice

"W T T A" asks for any suggestions which would help him to alleviate an intolerable pruritus arising from a progressive jaundice due to carcinoma of the head of the pancreas in a woman aged 60 All the usual methods of treatment have been tried, but without success

Natural Labour after Caesarean Section

DAME LOUISE MCILROY writes In reply to the query published on November 22nd (p 891), six cases of spontaneous or forceps deliveries following previous Caesarean section were published from the Royal Free Hospital Obstetrical Unit by Dr Margaret Salmond, senior assistant, in the *Lancet*, October 15th, 1927 In all these cases the uterus stood the strain of labour perfectly In one two previous sections had been performed, and in three forceps were used as the second stage was prolonged Since the publication of this paper three others have been delivered spontaneously Taking the nine cases, the reasons for performing Caesarean section were central placenta praevia in three brow presentation in one, prolapsed cord in one asymmetrical pelvis in one toxaemia in two disproportion in one, and syphilitic granulomata of the vulva in another All the Caesarean operations were performed in the Royal Free Hospital, with the exception of the last two cases The method of suturing of the uterus in most cases is four layers the superficial row inverts the scar, so that adhesions are less likely to occur

Income Tax.

Obsolescence Allowance

"G W bought a car in 1926 for £3-0 He did not claim wear and tear allowance for the two years 1926-27 and 1927-28 but for the two subsequent years claimed and received allowances amounting to £66 in all In April, 1930 the car was sold for £75 and replaced by one costing £171 What is the correct amount of the obsolescence allowance?

*** The loss on the old car is, of course £330—£75=£255, less the sum of £66 already allowed—that is £189—but only £171 can be claimed as obsolescence The matter is governed by Rule 7, applying to Cases I and II, Schedule D which provides for the allowance of so much of any amount expended in that year in replacing any machinery as is equivalent, etc It will be seen that the amount expended is the maximum amount allowable

Agency Fees

A S explains that he has been refused the allowance of about £20 paid in agency fees over the two years 1928-29 and 1929-30

*** We are of opinion that a medical practitioner who exercises his vocation by doing locumtenent work or by taking *short term* employment as an assistant should be assessed as continuously employed, and not separately as in respect of the earnings of a number of separate employments If that is done—and that appears to be the usual course—the agency fees are, in our opinion, deductible as necessarily incurred in carrying on the profession in that particular manner

LETTERS, NOTES, ETC

Enlargement of the Thymus in Mumps

DR J D ROLLESTON (London S W 6) writes Dr E Esquivel, referring to this complication of mumps (see *Epitome*, December 6th para 560) expressed the view that it had not been described previously It was observed however, by the late Dr Joseph Sailer of Philadelphia during an epidemic of mumps in a military camp in the winter of 1917-18, and was reported by him in *Contributions to Medical and Biological Research* dedicated to *Sir William Osler*, 1919, vol ii p 1172

Robert Liston

DR F WILLIAM COCK (Appledore, Ashford, Kent) writes I have recently published remarks on Syme's amputation May I add an antiquary's note? When I was dresser, circa 1890 to Christopher Heath, at University College Hospital, it fell to my lot to attend to an old fellow who had had a Syme's done for him by Robert Liston He told me that it was the last operation Liston had performed, somewhere in the early summer of 1847 I removed a small sequestrum from the flat end of the tibia and though an old man, the patient healed quickly I asked him what sort of a man Liston was, he said a big, handsome man very bald He also added that he used a good deal of forcible language, as indeed all pre anaesthetic surgeons did The next patient to this one was a cabman with a stricture, who made a considerable outcry when Liston passed a largish silver catheter on him All right, my man, you needn't shout so much, you'll soon be able to drive your cab through this A little on the rough side, Sir, perhaps, but for all that Liston was one of the kindest men going and always ready to help the poor and penniless I wonder if there is any surgeon nowadays who would have 500 students and medical men follow his funeral, as was done when Liston died

Mercurochrome

DR CECIL L FOIDI (Oxton, Birkenhead) writes Mr E P Chambers's article on the treatment of ocular diseases with mercurochrome (December 13th, p 992) interests me very much I have generally used a 2 per cent solution of mercurochrome in a great variety of conditions, always as an antiseptic for the skin in the place of iodine for varicose ulcers, septic conditions dermatitis of various forms, pruritus and conjunctivitis both acute and chronic, and blepharitis, in fact, I consider mercurochrome one of the most useful drugs we have at our disposal

A Pregnancy Record

"I T S" writes I think the following case, if not a record is very close to it On January 2nd 1930 at 3 a m, Mrs X, a two para, gave birth to a baby girl but on account of retracted nipples the child did not suckle On February 6th Mrs X menstruated again and on November 13th, at 3 30 p m she gave birth to a full term 7½ lb baby boy (ten months and fifteen days) After twenty two years' experience, part of that time as interne at a maternity hospital, I offer this as a record

Puerperal Infection and Sanitation

SURGEON CAPTAIN A W B LAVERS, R N (ret) (Thorpe, Norwich) writes I have for some time thought that the high maternity death rate might be due to infection during pregnancy from sewer gas escaping up through the trap in the ordinary water closet The figures in the Interim Report of the Departmental Committee on Maternal Mortality do not negative this view According to these statistics America, prominent for perfect plumbing, has a mortality of 8 3 per 1,000, in France, notorious for poor domestic sanitation the death rate is 2 5 Great Britain holds an intermediate position with a mortality of 4 3 Apparently, the better the sanitation the higher the maternal mortality I ailing some other explanation I consider the water closet to be suspect It would be interesting in this country to compare the figures from an urban district having a perfect water carriage system with those of some rural area where the earth closet is still in general use

Lyle and De Souza's "Physiology"

MR HUMPHREY MILFORD writes In our full page advertisement of Oxford Medical Publications which appeared on page II of your issue dated December 6th, we regret that by an oversight the authorship of *A Manual of Physiology for Students and Practitioners* (third edition) was attributed solely to Dr H Willoughby Lyle It should be noted that, as in previous editions, the book was the result of the collaboration of that author with Dr David de Souza May we ask the courtesy of your columns to rectify the omission?

Second hand Cars

"BITTEN" writes I wish to warn my colleagues of the risks they run in buying from anyone unless personally known I bought a second hand car in 1928, a year old saloon model, of a well known make, having run a car of the same make for five years previously The period of the makers' guarantee had not expired The agent who sold me the car gave me a written statement taking over the makers' guarantee I had the car for about a year, during which time it cost about £80 in repairs and breakdown, and I sold it ultimately for £200 less than I paid for it No one should buy a second hand car without seeking expert advice from the A A, or some equally reliable source

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals will be found at pages 43, 44, 45, 46 47, 50, and 51 of our advertisement columns and advertisements as to partnerships, assistantships, and locumtenencies at pages 48, 49, and 50

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 268

EPITOME OF CURRENT MEDICAL LITERATURE

Medicine

539 Diagnosis of Arterio sclerosis

DIGITAL pressure on the point of division of the common carotid artery (bulbus or sinus caroticus) was shown by Czermak to cause a slowing of the heart beat, an effect which, according to later investigators, is due to direct stimulation of the carotid bulb, the afferent path being the descending branch of the glosso-pharyngeal nerve J HOCHSINGER (*Med Welt*, October 11th 1930 p 1462) has made clinical use of this reflex and tabulates his results in 1,500 cases of heart disease The test is best applied with the patient in the prone position, since giddiness is thus avoided The thumb is placed on the neck at the level of the upper border of the thyroid cartilage in front of the sterno mastoid and the tips of the other fingers are curved round the hinder edge of this muscle serving to palpate the carotid pulse The other hand may feel the radial pulse The carotid bulb is then pressed against the vertebral column with the thumb In all the author s cases the test was applied on the right side The application of pressure may be followed simply by a slowing of the pulse (weak positive), or by a dropping of one or more beats (strong positive) In one case as many as twenty beats were dropped Positive results were obtained most often in cases showing arterio-sclerotic changes, and were found to increase with age after 50 years Men were more frequently positive than women The electrocardiogram in strongly positive cases showed sometimes a small and sometimes a negative, T wave This result agrees with the experiments of Braun and Sammet, who obtained similar electrocardiographic pictures after ligature of a small branch of the coronary artery in cats The test can be used to distinguish true angina pectoris from vasomotor angina and coronary sclerosis from functional cardiac disturbances It is valuable also in prognosis, which is grave when the results are strongly positive

540 Nervous Sequels of Varicella.

LAIGNEL-LAVASTINE A. MIGET, and S CONSTANTINESCU (*Bull et Mém Soc Méd des Hop de Paris*, October 20th 1930, p 1448) record the case of a lad, aged 18, who while convalescing from an apparently mild attack of varicella developed symptoms of meningitis with convulsions and died in five days Post mortem examination of the brain and meninges confirmed the diagnosis of purulent meningitis with a cortical reaction Tuberculous meningitis could be excluded by the negative results of bacteriological examination and the inoculation of guinea pigs Meningeal reactions are frequent in varicella but this is believed to be the first case recorded in which meningitis occurring in convalescence from varicella has ended fatally

541 E TRAMER (*Med Klinik* October 24th, 1930 p 1598) reports two cases of diseases of the central nervous system following varicella in a boy aged 7 and a girl aged 3 years Both attacks occurred at the same time In one instance the symptoms were those of cerebellar encephalitis, and in the other of poliomyelitis Both patients, however, completely recovered in a relatively short space of time

542. Etiology of Juvenile Erythema Nodosum.

VARIOUS etiological factors have been suggested in erythema nodosum According to LL. B DICKEY (*Amer Journ Med Sci* October 1930, p 489) ample evidence is obtainable from study of the literature that the disease may either be caused by or be associated with conditions other than tuberculosis In the great majority of cases in children, however it is associated with a tuberculous infection and most of the infections are initial and recent The etiological role of tuberculosis becomes less constant with increasing age Most children who have erythema nodosum exhibit marked hypersensitiveness to tuberculin given intracutaneously This hypersensitiveness may possibly be influenced by other conditions such as asthma, vaccinia, and measles In addition to the tuberculous infection In many cases of erythema nodosum in children epituberculous lesions in the pulmonary parenchyma can be demonstrated by radiograms of the chest The lesions of the dermatitis the epituberculous lesions and the positive skin tuberculin reactions are similar histologically The disease is observed more frequently in females In a series of nine cases here recorded three occurred in boys whose ages ranged from 2½ to 14 years, and six in girls aged from 3 to 12 years None of these cases was known to develop a very active pulmonary tuberculosis Dickey asserts that in children under the age of 12 years the presence of erythema nodosum should be considered as indicative of recently acquired tuberculous infection and treatment of the initial infection should be started Proper attention paid the latter condition justifies a favourable prognosis as far as the tuberculosis is concerned

543. Fulminating Ascites.

E MAY and J STÉHELIN (*Bull et Mem Soc Méd des Hop de Paris* October 27th 1930 p 1499) report an early case of cirrhosis of the liver in which sudden ascites developed, copious enough to need urgent paracentesis On admission the patient gave a history of occasional slight oedema of the ankles and of abdominal distension, the liver margin was two fingerbreadths below the costal arch, and there was a slight amount of ascites No jaundice was present and no collateral veins were seen The lungs and heart were normal, and no sugar or albumin was found in the urine After eight days resting and dieting all these symptoms disappeared A week later the patient had slight rigors and diarrhoea, which persisted for a few days after this ascites suddenly developed, and 19½ ounces of fluid were drawn off to relieve the distress but he became steadily worse and died twelve days later from hepatic insufficiency The authors remark that the interest of the case lies in the sudden onset of ascites in a man suffering from the early stage of cirrhosis the ascites having been apparently provoked by a febrile toxic attack which could not be dealt with by a liver already diseased. Examination of the ascitic fluid showed a large preponderance of polynuclear cells, but a poor proportion of albumin, suggesting transudation rather than inflammation Since the onset of the ascites was too acute to admit of a mechanical explanation the authors suggest that the condition may have been attributable to some change in the humoral pathogeny, such as modification of the osmotic pressure of the proteins Postulating humoral theory renders the occasional recovery of some ascitic patients easier to understand than a purely mechanical theory, and it is suggested that if there are humoral changes favouring the development of ascites there may be also changes acting reversely and antagonistic to the pouring out of fluid

Surgery.

544. Fractures of the Acetabulum

W R CUBBINS, A H CONLEY and J J CALLAHA. (*Surg, Gynecol and Obstet*, September 1930, p 387) state that owing to the increasing incidence of automobile and aeroplane accidents, fractures in and around the acetabulum are becoming much more common. These fractures are classified as follows fractures of the rim fractures of one or two of the three bones of which the acetabulum is formed perforating fractures and fractures involving all the component bones. Concerning their etiology, the theory is advanced that fractures of the various parts of the acetabulum are the result of deviations in the position of the trochanter major With the exception of fractures of the rim, trauma to adjacent structures is a very important complication The iliac veins and arteries are commonly injured, with associated extensive haemorrhages that are frequently fatal The obturator, femoral, and sciatic nerves are often involved by lacerations and pressure The rectum and small intestines may be perforated. The bladder is frequently injured and great extravasations of urine are common The symptoms depend on the seat and extent of the fractures, and fall into three groups those in relation to the limb and its function (length and mobility), those in relation to the abdomen (tenderness and rigidity), and those in relation to the genito-urinary tract and rectum (blood in the urine and urethral injuries) The prognosis varies with the extent of the injuries to the large blood vessels and hollow viscera, shock and haemorrhage are the chief factors in prognosis. Treatment must first be directed to the emergencies such as repairing blood vessels and perforated viscera Rim fractures should be operated upon early The fragment should be replaced as normally as possible and be held in place by suitable means In fractures characterized by perforation or fragmentation, attempts at reduction should be made as soon as possible after the injury the degree of damage must be precisely ascertained before strenuous efforts at reduction are made In true perforations the head is sometimes

locked In such cases an incision parallel to and above Poupart's ligament should be made, the tissues being pushed away and the restraining fragments unlocked from the head and neck of the femur The head can then be forced out and held out by traction while the fragments are replaced and the wound is closed All cases need both longitudinal and lateral traction, methods of obtaining these are described Traction should be maintained for at least six weeks, and no weight should be borne on the limb for four to six months The patient should use crutches with a minimum of weight on the extremity for four months, the weight carrying should be gradually increased as the limb becomes stronger

545 Orthopaedic Treatment of Chronic Arthritis

SUMMARIZING the treatment of chronic arthritis, G A WILLIAMSON (*Minnesota Med*, October, 1930, p 708) deals mainly with its orthopaedic aspect, and defines two chief types, the proliferative and the degenerative In both of these search should be made for focal infection in the teeth and tonsils, and the morbid condition be thoroughly eliminated if present Postural defects should be remedied by supports and supervised exercise General measures such as rest and dieting should be instituted The abnormally low basal metabolic rate and lessened sugar tolerance which are present in many cases should be treated, the former with Lugol's solution or thyroid substance, the latter by a low carbohydrate diet Sodium salicylate induces the maximum relief of pain, though any drug that gives comfort may be administered Pain may also be alleviated by heat applied either generally in cabinets or cradle baths, or locally as by baking or diathermy In a definite percentage of cases relief of pain, subsidence of articular swelling with increased power of motion, and a general improvement follow the administration of triple typhoid vaccine to produce a foreign protein reaction The prevention of deformities is of prime importance, and splints are advocated, these and the correct positions in which the limbs should be immobilized are enumerated Too prolonged fixation of joints is harmful, since it produces ankylosis With the subsidence of pain and tenderness the joints should be baked and moved gently, both actively and passively Among surgical measures synovectomy and the extraction of loose bodies gives marked relief The former acts by removing joint exudate and infected tissue, and allows improvement in general metabolism owing to the early resumption of active exercise The question whether a movable joint or a fixed one in good functioning position is preferable must be decided for each individual case Operations for correcting deformities (osteotomy) and for producing movement in ankylosed joints (arthroplasty) are briefly discussed Reference is made to the sympathetic ganglionectomy of Rowntree and Adson (see *Epitome*, October 25th, para 371), which has proved of benefit in properly selected cases

546 Sequels in Cerebral Surgery

T DE MARTEL (*Presse Méd*, October 25th, 1930, p 1449) states that only one syndrome marks the terminal post operative sequels of cerebral and cerebellar tumours, this is constantly the same, and is characterized by hyperpyrexia, coma, and hypertension of the cerebro spinal fluid The circulation of the latter through the brain, as defined by Cushing, Dandy, and many other authorities, is described, and also three ways in which the hypertension is produced Every tumour causing an obstruction to the flow of the fluid from the ventricles to the lower cerebellar sinus brings about a dilatation of these cavities with consequent hypertension A secondary factor in this dilatation, which is slower in effect, is the escape of a portion of the brain through the occipital foramen, thus forming a cone of pressure The parts concerned are the lower portion of the bulb, the cerebellar amygdala, and the portions forming the walls of the lower half of the fourth ventricle A third cause of intraventricular hypertension comes into operation when the fluid accumulates in the cavities, but for some unknown reason is not resolved in the perivascular spaces and Pacchionian corpuscles The avenues of discharge from the ventricles may also be blocked by cellular debris resulting from the operation The author believes that the constancy of the symptoms is due to involvement of the same centres, and that the hypertension *acting on the centres in the third and fourth* ventricles provokes the coma, hyperpyrexia, and respiratory complications A case is cited which indicates the effect of even slight operative traumatism on the secretion of the cerebro spinal fluid, and the action of intraventricular hypertension on the centres named All treatment should be directed along these lines, two chief methods are described One which is related to the hyperpyrexia consists in cooling by cold applications, wet sheets, or by continuous intestinal irrigations of cold water The other, directed against the hypertension, comprises lumbar or the more preferable occipito atloidian punctures with a marked withdrawal of bloody fluid. If the hypertension persists, ventricular puncture should be performed Intravenous injections of hypertonic (15 per cent) solution of magnesium sulphate should be associated with the punctures These, by osmosis, diminish the amount of the fluid and the cerebral oedema This measure must be cautiously used, and the injections be given slowly During these procedures the patient should be in the Trendelenburg position this aids in the removal of a possible cone of pressure A low blood pressure (a bad prognostic sign) is best treated by injections of adrenaline and hyperphysin, the author gives these at the commencement of treatment as a prophylactic measure Extreme post operative care must be paid to cerebral cases, the rectal temperature should be taken hourly, and any untoward symptom be carefully noted

Therapeutics.

547 The Administration of Iron

SINCE many mixtures containing iron are very unpleasant, V J HENDERSON and T A SWEET (*Canadian Med Ass Journ* October, 1930, p 551) have made a study of combinations of iron salts and flavours, and present some simple, palatable recipes The following iron salts appear in the *Pharmacopoeia* the perchloride in the form of the solution and tincture, the sulphate, iron and quinine citrate, iron and potassium tartrate, and iron and ammonium citrate The perchloride preparations and the sulphate are intensely distasteful and difficult to disguise, they are not considered by Sweet, who regards them as no more effective than the other salts Iron and quinine citrate is disagreeably bitter and also very difficult to disguise, moreover, the quinine is no present in sufficient proportions to be of practical value Iron and potassium tartrate and iron and ammonium citrate have a marked metallic taste which no single flavouring syrup adequately masks The two best disguising syrups are the B P syrup of lemon and syrup of ginger, the best additions to mask the iron taste are simple syrup with compound tincture of lavender, liquid extract of liquorice, and compound tincture of cardamoms A useful prescription is ferri et ammonii cit 5 grains, tr lavandulae co 5 minims, and syrup 15 minims, in 1 oz of water Extract of liquorice or 15 minims of tr card co, may be substituted for the lavender Liquor arsenicalis may be added, if desired, in 2 minim doses If a laxative with the iron is required, sodium sulphate, which is not so bitter as magnesium sulphate, may be added in 20 grain amounts Of the bitters often given with iron only three are considered—quassia, calumba, and strychnine (nux vomica), of these, the last is the most, and calumba the least, agreeable, 5 minims of any of these tinctures may be given Bromides in 5 or 10 grain doses may be added to any of the mixtures described if the sodium salt is used The authors prefer the iron and quinine citrate for these mixtures, because it may be used in all cases, while iron and potassium tartrate may produce cloudiness or precipitation with bromides or liquorice The most palatable iron prescription is an old fashioned one containing liq ferri perchlor, liq potassae, ammon carb, tr limonis, sp myristicae, and syrup Liq arsenicalis, bromides, or sodium sulphate may be added to this, but not strychnine in any form In diabetics or children, saccharine gram 1/10, or 15 minims of glycerin, may replace the syrup in these prescriptions

548 Insulin in Morphine Addiction

M SAKEL (*Deut med Woch*, October 17th, 1930, p 1777) has treated fifteen cases of morphine addiction by large doses of insulin, and states that the serious and unpleasant withdrawal symptoms are almost abolished in this way The administration of morphine is stopped abruptly and on the first appearance of symptoms (unrest, diarrhoea, and vomiting) insulin is administered and continued for six to eight days in doses of up to 80 units daily according to the severity of the case At first glucose was given simultaneously, but this was found unnecessary, the insulin is more effective alone Small doses of barbituric acid are administered, since it has been shown that this drug considerably lessens the tendency to hypoglycaemic convulsions *in animals* Many of the patients were severely affected and had undergone in vain several previous courses of treatment It is claimed that by this method the somatic symptoms are combated promptly and effectively, the motor unrest and psychic disturbances are mild, the appetite remains, and the patients usually sleep without recourse to drugs Serious hypoglycaemic reactions hardly ever occurred, and no contra indications to the treatment have been found It is suggested that insulin acts by preventing disturbance of the equilibrium between the sympathetic and parasympathetic nervous systems.

549 **Insulin in Diabetic Coma.**

I I LEMANN (*Amer Journ Med Sci* August, 1930 p 266) reports the findings in the investigation of 47 cases of diabetic coma in support of Joslin's contention that the use of alkalis in this condition is unnecessary Of the 47 patients 5 died Six patients received small doses of alkali and of these 2 died one of whom received an insufficient amount of insulin Of the 41 cases receiving no alkali 3 died, 2 within two hours of admission to hospital, and the other possibly as the result of the administration of too little insulin (150 units in fifteen hours) Lemann maintains that insulin alone not only acts as a specific antidote to the ketone bodies, but also raises the CO_2 content of the blood, sometimes to the point of a definite alkalosis He concludes that whether the coma is to be regarded as due to the acidosis or to intoxication by the ketone bodies, insulin is sufficient alone to combat it

550 A F COBURN (ibid p 178) has also investigated cases of diabetic coma in which death occurred although insulin was administered in sufficient doses He finds that the most important factor in recovery is the excretion of the acetone bodies rather than their oxidation and he claims that ketonaemia may exist without ketonuria on account of a functional renal inefficiency This condition may progress to anuria, thus greatly increasing the risk to the patient The intravenous injection slowly of large amounts of hypertonic fluids containing glucose and alkali has been found to be the most valuable method of stimulating the excretion of the ketone bodies in correcting the anuria and overcoming circulatory renal collapse Recovery from coma depends largely on the rapidity with which the ketone bodies are excreted by the kidneys and the renal inefficiency is overcome

Ophthalmology

551 **Chancre of the Ciliary Margin.**

D M ARGÜELLO (*Rev Med Lat no Americana*, July–August, 1930, p 1429) who records a personal case, states that in Fournier's series of 1 124 extragenital chancres 849 were situated in the cephalic region and of these 21 were ocular chancres This localization was first described by Ricord in 1850 The ciliary margin, skin of the eyelids, and conjunctiva are attacked in the order named Ocular chancre is more frequent in the male than in the female It is observed at all ages, and even in the child at the breast Medical practitioners are specially liable to be affected The mode of contagion is often impossible to determine as in the author's case but it is most frequently the projection of particles of saliva on to the eye from the mouth of persons who have oral mucous tubercles Kissing is the next most frequent cause Sexual aberrations are also sometimes responsible Argüello's patient was a man aged 35 who developed an ulcer on the ciliary margin of the right lower lid accompanied by enlargement of the submaxillary and pre auricular glands On further examination a typical syphilitic roseola was found on the trunk and thighs The Wassermann reaction was positive, and disappearance of all the symptoms took place within a month under specific treatment

552. **Dental Infection and Diseases of the Eye.**

W F C STEINBÜGLER (*Arch of Ophthalmol.*, August 1930 p 220) remarks that the frequency of dental infection in eye disease reported by different observers ranges from 40 to 4 per cent The iris ciliary body and choroid are most frequently affected, acute iritis followed by cyclitis being usually due to a bad condition of the mouth, while a low grade chronic inflammation with no tendency to exudation is associated with apical infection in a clean mouth The commonest forms of infection are apical or peri apical infection (root granuloma) caries, and pyorrhoea alveolaris while the most dangerous forms are infections of the pulp pulpless teeth and apical abscesses since they are free from symptoms and hence are not suspected The transmission of infection from a tooth to the eye may be by the lymphatics perivascular lymph spaces perineural lymphatics, directly through the bone by way of the periosteum or by the blood stream Clinically the route is very variable These dental infections are most often associated with non haemolytic streptococci and less frequently with haemolytic strains pneumococci staphylococci and *Micrococcus catarrhalis* are rarely implicated Broth cultures from infected root tips injected into rabbits produced lesions of the joints kidney, endocardium myocardium brain eye, stomach and duodenum in that order of frequency With regard to the detection of dental infection *x* rays do not give very great help, since the incidence of infection is almost as high with negative as with positive skiagrams There is a wide divergence of opinion whether stock or autogenous vaccines give the best results some observers even concluding that since *the immunity to the streptococcus is so short lived, no great* results may be expected from this form of treatment A special type of lymphocyte is described which is always found when there is oral infection, but never when there is no such infection Up to 1 5 per cent. represents a normal blood count while above this a pathological condition of the mouth is present Clinically there is no ophthalmological picture indicative of dental infection In eye diseases elimination of oral sepsis should take precedence over preservation of the teeth

553 **Ocular Myiasis.**

C P SCHENCK (*Amer Journ of Ophthalmol* September, 1930, p 801) reports a rare case of ocular myiasis a disease due to the presence of fly larvae in or on the body It is most common in tropical countries where the larvae are found in sores and wounds on animals they have been found also in man. In May, 1928 a workman felt a foreign body hit his eye Wiping had no effect, and he had the eye examined. Six or eight hours later twenty five large larvae were removed from the conjunctival sac Eversion of the lower lid revealed what looked like a minute black dumb-bell progressing in jerky movements A curved toothless forceps proved best for *removing the larvae Two larvae were found beneath the* bulbar conjunctiva To avoid an incision, since the slightest haemorrhage would have obscured the larvae the curved iris forceps with blades separated was laid with the convex side against the conjunctiva and a mass of the latter including the larvae was drawn away from the sclera The conjunctiva and larvae were then touched with the red hot electro-cautery point, which destroyed both conjunctiva and parasite The patient's recovery was immediate

Obstetrics and Gynaecology.

554 **A Post-climacteric Symptom-Triad**

H C GRAM (*Ugeskrift for Laeger* October 23rd, 1930 p 993) groups as a post climacteric symptom-complex adipositas dolorosa hyperplesia and arthritis of the knees He believes that this association is very common, and that its onset development, and manifestations, subjective and objective are so uniform that it may be regarded as a nosological entity Each condition by itself is familiar to all practitioners and the possibility of a relationship between each of them and the menopause has frequently been assumed But hitherto each of these three has been studied separately and not in conjunction with the other two Gram's material consisted of 60 cases, examined personally and of a total of about 200 if all the cases on which he has had to adjudicate in connexion with health insurance are included The first characteristic of this group is its short expectation of life The causes of death are as a rule an acute infection such as influenza, bronchitis or pneumonia or failure of the heart. With regard to the frequency of the subjective manifestations among the 60, there were 47 who complained of vague rheumatic pains and 22 who had pain in the knees In as many as 53 cases such cardiac symptoms as functional dyspnoea or palpitation of the heart were reported Most of the patients were very fat and the average weight of the 60 was 11 st 10 lb Painful subcutaneous infiltrations were recorded in 48 cases, and tender areas of the skin in 50 there were only 6 cases in which neither of these symptoms was recorded. Even this small number could have been further reduced had the routine search for such symptoms been more thorough The average systolic blood pressure was 174 A control investigation of the systolic blood pressure of 30 women between the ages of 40 and 62 whose weight was normal, and who were otherwise presumed to be perfectly healthy, showed an average of only 133 mm of mercury In 53 cases the only joints affected were the knees In the remaining 7 some other joints were involved The basal metabolism was investigated in 20 cases and the average found to be 106 4 per cent. The age of onset of the menopause was recorded in 56 cases and the average age was 47 9 years A control investigation of 56 other women not showing this symptom-complex yielded the figure 48.2 as the age at which the menopause set in There would therefore seem to be nothing abnormal about the age at which the menopause appeared in the patients showing this symptom-complex. Among 54 patients the average duration between the menopause and the discovery of this symptom-complex in hospital was about eight years but his probably means merely that patients wait many years before coming to hospital with their complaints The average number of

confinements and abortions among these patients was 4 5, whereas the corresponding number was only 2 8 for the 60 controls, over the age of 45 not showing this symptom complex Numerous pregnancies would therefore seem to be a predisposing factor

555 Rapid Appearance of Chorion-epithelioma after Hydatidiform Mole

As an example of the strikingly rapid and insidious onset of chorion epithelioma after hydatidiform mole, J COLLI and J MONTAGNE (*Bull Soc d'Obstet et de Gynécol de Paris*, October, 1930, p 547) cite the case of a woman, aged 51, who after ten weeks' metrorrhagia expelled spontaneously a vesicular mole Four weeks later, in the absence of anaemia, uterine bleeding, and subjective signs of illness, the uterus, although mobile, was found to be enlarged to the size of the fist In view of the patient's age preventive hysterectomy was decided on, the operation proved unexpectedly difficult by reason of a neoplastic infiltration of the right broad ligament, which contained a hard enlarged gland The chorion epithelioma occupied a circular area in the right half of the uterus, suggesting the placental attachment Hysterectomy as a routine after hydatidiform mole has been recommended as a preventive measure by Neumann, *although only a small* percentage of hydatidiform moles are followed by chorion epithelioma, and in many normal pregnancy ensues The rapid appearance of the neoplasm in this case, and its distant extension without clinical signs, are taken to justify Neumann's advice, certainly in respect of women aged 50, and probably in those younger

556 W ROSENSTEIN (*Zentralbl f Gynäk*, October 18th, 1930, p 2652) describes a case in which a clinical diagnosis of chorion epithelioma was possible as soon as eight days after the operative removal of a hydatidiform mole The patient, a 3 para aged 24, had reported bleeding during the fourth month of pregnancy, repeated microscopic examinations of the mole showed typical characters with no hint of malignancy The diagnosis of chorion epithelioma was assured by the renewal of bleeding on the eighth day, and the detection at the same time of a metastasis on the posterior vaginal wall Microscopical appearances typical of chorion epithelioma were found in this metastasis, a neoplasm was found deeply infiltrating the myometrium As is the rule, lutein cysts were found in the ovaries The patient was quite well four months after operation, which was followed by the application of x rays

Pathology.

557 Asbestosis Bodies in the Sputum and Lungs

IN comparatively recent years the asbestos industry has progressed rapidly, and, consequently, asbestosis has become an important industrial disease K M LYNCH and W A SMITH (*Journ Amer Med Assoc*, August 30th, 1930, p 659) summarize the reports of previous writers and describe several cases of their own Asbestosis was formerly regarded as a form of silicosis, black particles of various shapes from 3 to 393 μ in length being found Recent researches have revealed *peculiar features* in asbestosis which are absent in ordinary silicosis In addition to pulmonary fibrosis, chronic bronchitis, tuberculosis, and anthracosis, asbestosis bodies have been present in all the recorded cases, their nature is uncertain, but it is suggested that they are asbestos fragments undergoing hydrolytic changes during absorption of silica in colloidal form In the four cases first recorded the lungs contained "golden yellow" segmented structures, having rounded ends, in those reported by the present authors similar bodies in large numbers were found in the lungs, bronchi, peribronchial lymph nodes, and venous thrombi In the lungs and lymph nodes there was much black granular pigment and a quantity of a yellow brown granular substance of the same colour as the asbestosis bodies Numerous mononuclear and polynuclear giant cell phagocytes were associated with them in the pulmonary alveoli, bronchi, and veins *The phagocytes* contained much black granular pigment General fibrosis was present The authors examined the sputum of asbestos workers, concentrated after *digestion in a 10 per cent NaOH solution* at about 176 F The first specimen was from a man who had active caseous tuberculosis and a moderate degree of pneumoconiosis He had worked with asbestos for ten years until one year before examination The sputum contained many tubercle bacilli and asbestosis bodies This confirmed the findings of other observers who employed concentrated antiformin and centrifugalized the precipitate Lynch and Smith found asbestosis bodies in the sputums of two other asbestos workers, but *failed to find them* in a third patient These bodies vary in size, colour, and form, but are usually similar in structure, in sputum they have a central transparent slightly green spicule, which may be an asbestos crystal On this are deposited nodules and fragments of homogeneous refractile substance varying in colour from shining yellow or greenish yellow to a deep mahogany These nodules occur usually at the extremities of the spicule, giving a clubbed or dumb bell appearance, the shaft is sometimes covered by a homogeneous non segmented deposit Asbestosis bodies are refractory to ordinary tissue and sputum stains but they may be stained on the slide by the "prussian blue" test, thus indicating a considerable iron content This may show that the asbestosis body originates from the iron constituent of asbestos but more probably the iron is of tissue origin derived from the blood

558 Leucin and Tyrosin in the Urine in Lung Tumours

H ASPERGER (*Wien Klin Woch*, October 16th, 1930, p 1281) has found these amino acids in the urine of three patients suffering from bronchial carcinoma They have also been detected in the urine in acute yellow atrophy of the liver and occasionally in severe catarrhal jaundice, and may be present in typhus, variola, pernicious anaemia, leukaemia and other diseases producing severe cachexia, and also in prolonged chloroform anæsthesia They are found normally in the bowel as a result of tryptic digestion of albumin, and their appearance in the urine is a grave sign, although not necessarily indicating a fatal termination of the disease The *first patient*, a man aged 47, had an apical pulmonary catarrh for six months, followed by intense thoracic pain and a severe dry cough, night sweats and rapid emaciation Repeated paracentesis yielded a constantly increasing exudate containing much albumin, and erythrocytes with 90 per cent lymphocytes The patient died from heart failure, and the necropsy revealed carcinoma of the left upper lobe, with pleurisy, many bony metastases tuberculosis at the apex of the right lung, anal fistula, and cystitis Six weeks before the patient's death leucin and tyrosin appeared in the urine The second patient, aged 57, had complained for two years of inflammation in the neck Six months before admission he had fever and stabbing pain in the chest on deep inspiration, and pleurisy was diagnosed, but later the condition was recognized as being bronchial carcinoma Leucin was found in the urine, and tyrosin appeared subsequently Asperger's third patient, a man aged 56, was diagnosed as having bronchial carcinoma with multiple metastases, a cerebral metastasis terminated his life Leucin was found in the urine in increasing quantity for one month before death, but the presence of tyrosin was doubtful The author cites a similar case reported by Risak, and refers to experiments by other authors indicating that leucin and tyrosin are found in pneumonic consolidation (grey hepatization) after incubation for three to five days, and also in defibrinated blood after autolysis It is concluded that necrosis of animal tissues produces these amino acids, probably by the action of a ferment contained in the leucocytes In addition to the previously mentioned diseases leucin and tyrosin have been found in sputum and in various pulmonary diseases such as fetid bronchitis, pulmonary abscess, bronchiectasis, and tuberculosis In one case of bronchial cancer which terminated in gangrene large quantities of leucin and tyrosin were found in the sputum

559 Bovine Tubercle Bacilli in Pulmonary Tuberculosis

A S GRIFFITH (*Journ Path and Bact*, October, 1930, p 1145) calls attention to the number of cases of pulmonary tuberculosis examined recently which have been found to be due to tubercle bacilli of the bovine type Before 1924 only four cases of bovine infection had been reported in Great Britain, since that date, however, seventeen patients have been discovered who were expectorating bovine tubercle bacilli With one exception these recent cases have all occurred in Scotland, and have been studied by Munro Taking all the figures together, 3 out of 327 patients in England, or 1 per cent, have been found to be infected with bovine bacilli, while in Scotland 18 out of 468 have been found, or approximately 4 5 per cent Clinical and post mortem investigations indicated that the majority of these patients had been infected by the alimentary tract, the portal of entry in the remainder was *doubtful The author discusses* the comparative rarity of ulcerative pulmonary tuberculosis as a sequel to alimentary tuberculosis of bovine origin He suggests that a dissemination of bovine bacilli in amounts sufficient to give rise to miliary tuberculosis of the lungs may invariably prove fatal, and secondly, that bovine pulmonary tuberculosis may be more frequent than it appears to be Owing to the fact, however, that the lesions in the lungs are of vascular origin, they are less liable to break down than those of respiratory origin, and consequently bovine bacilli rarely appear in the sputum

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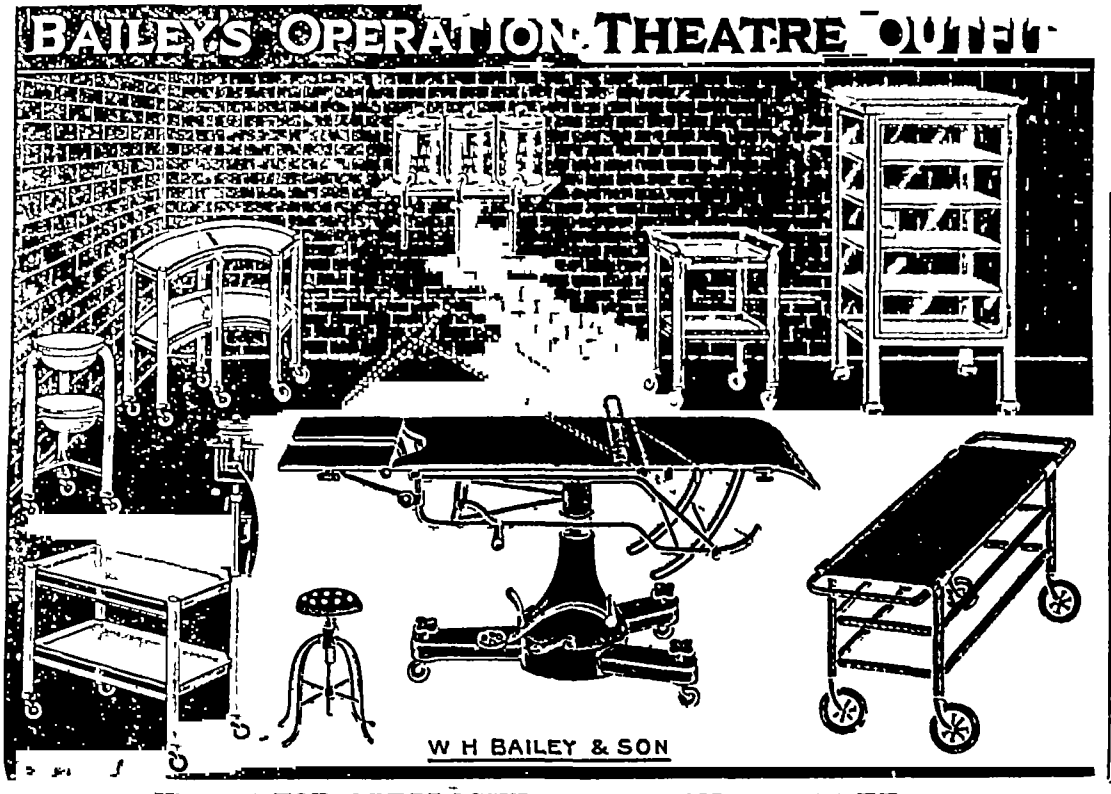


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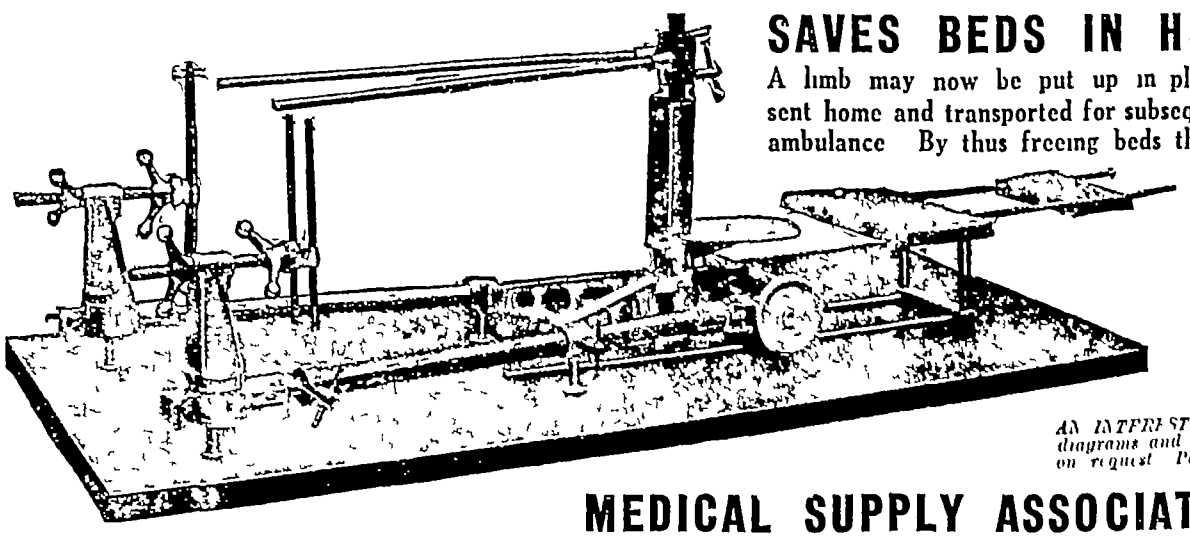
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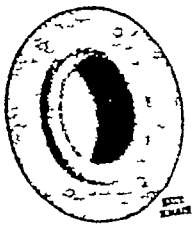
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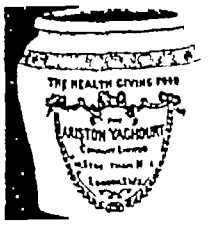
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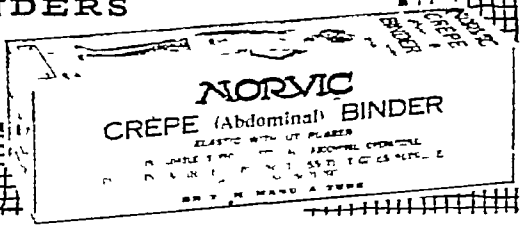
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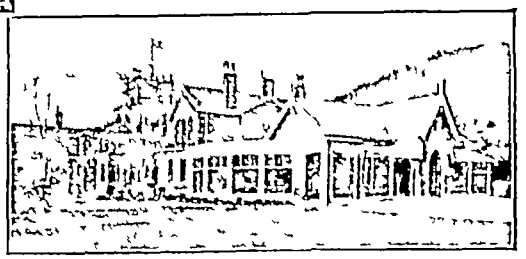
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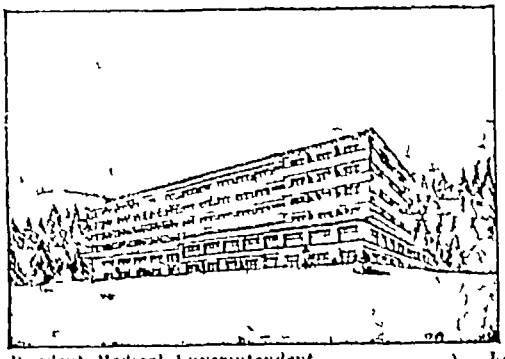
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Resident Physicians
G C R HARRISON, M B B Ch B.A.O. (R.U.I.).
R MACLELLAND M D, C M (Edin.)

Grams SMEDLEY'S MATLOCK
'Phone No 17
For Prospectus and full information please write MANAGER M J

MATLOCK

BOURNEMOUTH HYDRO,
with Vita glass Sun lounge and Marine Balcony on the South Coast

Every kind of Bath Plombière Lavage
Every kind of Massage Ultra violet Light
Every kind of Electricity Diathermy
Every kind of Diet
High Frequency Electric Lift

Prospectus from Secretary *Tele* 341
Resident } W JOHNSON SMYTH M D
Physicians } L F ROSE HUTCHINSON M D

HOME FOR DELICATE CHILDREN
"THE LOG HOUSE," KLOSTERS
GRISONS, SWITZERLAND 4,000 ft above sea level

Inclusive terms from five guineas weekly

No Infectious cases taken All particulars from Mrs or Dr B HUDSON (above address)

Tel & Telegrams Haynes, Brentwood 45
Littleton Hall, Brentwood, Essex
Large grounds, 400 ft above sea HOME for Ladies Mentally afflicted Voluntary Boarders received Stations Brentwood and Shenfield 1 mile Liverp l St 26 min —Apply Dr HAYNES

Bishopstone House, Bedford.

PRIVATE HOME for MENTALLY AFFLICTED LADIES Ten only received Apply Medical Officer or Mrs PETTLE *Telephone* 2708

PEEBLES HYDRO.
Beautifully situated 600 feet above sea level facing south, completely sheltered from north and east 21 miles from Edinburgh

All modern Baths Douches Massage and Electrical Treatment Ultra Violet Radiation

Physician in attendance

IDEAL HEALTH RESORT

Electric Light Central Heating Electric Lift, three Billiard Tables Ball Room, Winter Garden Swimming Bath Hard and Grass Tennis Courts Badminton Croquet Lawn Golf Course

Prospectus from Manager Tel Peebles 2 & 3

SPRINGFIELD HOUSE,
Near BEDFORD (Phone 3417)

For Mental Disorders, with or without certificates.

Resident Physician: CLDRIC W BOWER.

Ordinary Terms Five Guineas per week (Including Separate Bedrooms where suitable)

Interviews in London by appointment.

WYE HOUSE, BUXTON.
For the treatment of Ladies and Gentlemen mentally afflicted Voluntary Boarders received Situated 1,200 ft above sea level facing S 14 acres of grounds —For terms apply to the Resident Medical Superintendent Nat. Tel. 153

W [illegible] M.D.

TOR-NA-DEE SANATORIUM
MURTLE DEESIDE ABERDEENSHIRE.



Medical Director David Lawson M.D., F.R.S.E.

FULLY EQUIPPED WITH EVERY MODERN APPLIANCE FOR THE DIAGNOSIS AND TREATMENT OF ALL FORMS OF TUBERCULOSIS & ALLIED DISEASES

Physician Superintendent J. M. JOHNSTON M.B., D.P.H., etc.

Full particulars and Prospectus on application to the Secretary

Inclusive Terms SEVEN GUINEAS A WEEK.

The MUNDESLEY SANATORIUM

The newly opened central building makes the Mundesley Sanatorium the best equipped building in England for the cure of Tuberculosis. All the bedrooms have hot and cold running water, electric light and wireless head phones. The new public rooms are spacious and comfortable.

Resident Physicians
S. VERE PEARSON
M.D. (Cantab.) M.R.C.P. (Lond.).
L. WHITTAKER SHARP
M.B. (Cantab.)
ANDREW MORLAND
M.D. M.R.C.P. (Lond.)

For all information apply
THE SANATORIUM MUNDESLEY NORFOLK.
(Telephone Mundesley 4.)

The buildings face S.S.W. and are sheltered from the sea by a pine-clad ridge. The sunshine record and dry air complete a perfect site. The medical equipment is of the latest kind and there is a day and night nursing staff.

PENDYFFRYN HALL SANATORIUM
PENMAENMAWR

Established 1900 for the treatment of Tuberculosis. Miles of carefully graduated walks through pine-clad hills with sea and mountain views. Modern treatment including SANOCRYSIN, ARTIFICIAL PNEUMOTHORAX, etc. X-ray plant, electric light, central heating, wireless. Special milk supply from tuberculin-tested herd. Full day and night nursing staff. On L.M.S. Main Line to Holyhead, 4½ hours from London. Resident Physicians: Dennison Pickering, M.D. (Cantab.), J. L. Faull, M.R.C.S., L.R.C.P. Matron: Miss S. A. Eddy, S.P.N.

For particulars apply to the Secretary, Pendyffryn Hall, Penmaenmawr, N. Wales. (Phone 20.)

THE COTSWOLD SANATORIUM

Specially built in 1893 on the Cotswold Hills, seven miles from Cheltenham, for the treatment of Pulmonary and all other forms of Tuberculosis. Aspect S.S.W., sheltered from North and East, elevation 800 feet. Pure bracing air. Special Treatment by artificial Pneumothorax (X-ray controlled), Tuberculins, and Ultra Violet Rays is available when necessary without extra charge. X-ray plant. Electric light. Radiators, hot and cold basins and Wireless in all rooms.

Full day and night Nursing Staff.

Resident Physicians: ARTHUR H. HOFFMAN, M.D. St. Andrews; GEOFFREY A. HOFFMAN, B.A., M.B., T.C.Dub.; and MARGARET A. HARRISON, M.B., B.S. Lond.

Apply: The Secretary, The Cotswold Sanatorium, Cranham, Gloucester. *Telephone*: 41 WITCOMBE. *Telegrams*: "HOFFMAN, BIRDLIP."

VALE OF CLWYD SANATORIUM

This Sanatorium is established for the treatment of TUBERCULOSIS of the LUNGS and the PLEURAL CAVITIES. It is situated in the midst of a large area of park land at a height of 450 feet above sea level on the south-west slopes of mountains rising to over 1,800 feet which protect it from north and east winds and provide many miles of graduated walks with magnificent views. Average rainfall 29.57 per annum. Full day and night nursing staffs. X-ray plant. Every facility for Artificial Pneumothorax and for operations on the chest. Electric lighting. Central heating. Home farm. Clean milk from T.T. Herd. For particulars apply to Med. Supt. H. Morriston Davies, M.D., M.Ch. Cantab., F.R.C.S., Llanbedr Hall, Ruthin, N. Wales.



KINGUSSIE, N.B.

THE GRAMPIAN SANATORIUM.

Situated in the upper Spey side district of Inverness-shire. One of the highest inhabited districts in Britain—The Switzerland of the British Isles. Bracing and dry mountain climate. Well-sheltered Sanatorium specially built for the Open-air Treatment of Tuberculosis. Opened in 1901. Elevation 850 ft. above sea-level. Electric light throughout buildings and in rest shelters. Central heating. Fully equipped X-ray Part. All forms of treatment available, including Artificial Pneumothorax, and Ultra-Violet Rays for surgical cases of Tuberculosis. Terms £4 6s. 8d. to £6 6s. per week inclusive, no extras.

MEDICAL SUPT. FELIX SAVY, M.D.

For particulars apply to the Secretary.

SUNNY ITALY.

ARTHRITIS, CONVALESCENT CASES, OR THOSE WISHING a Quiet and Comfortable HOME in which they can Winter Abroad, and be cared for

The house is delightfully situated in its own grounds, amongst pine trees Lovely views over the Bay of Naples—Vesuvius, Capri, etc.—are obtainable from the bedroom windows Within, one finds every modern comfort, with private bathroom if required Accommodation is limited to three patients Under the personal charge of a fully trained English Nurse, and supervised by Resident English Doctor The grounds extend to the sea, where there are bathing and boating facilities Garage Perfect water supply—the best in Italy All milk Pasteurized Plentiful supplies of fruit and vegetables This is not a Nursing Home Climate is the best in Europe

Further particulars in the first place from

MISS HARTE, 166, CORSO VITTORIO EMANUELE, NAPLES, ITALY

Post-Graduate Teaching, West London Hospital

Continuous Clinical Instruction daily from 10 a m to 4 p m —Post Graduates may enrol at any time for any period from 1 week to 3 months —Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post Graduate Study by Insurance Practitioners "—Anæsthetic Courses —Clinical Assistantships —Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals

Prospectus from the DEAN, West London Hospital, Hammersmith, W 6

THE LONDON LIGHT AND ELECTRICAL CLINIC,

RANELAGH ROAD, S W 1

Under the personal direction of Sir Leonard Hill, M B F R S etc the next Post-Graduate Course for Medical Men, of six weeks duration, will commence on January 1st, 1931

The subjects Actinotherapy, Electrotherapy

Fee for the full Course, £6 6s 0d For syllabus and full particulars apply to the Secretary

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL

MEDICAL SCHOOL

(FOUNDED 1816)

Telephone TEMPLE BAR 1457 BROAD STREET, HOLBORN, W C 2 (Near British Museum Station)

The Hospital has been rebuilt and has 86 beds, including fourteen private rooms for paying patients The new building has been specially designed for clinical teaching and post-graduate study

Classes for the D O M S Examination commence in January

Out patients are seen daily at 1 o'clock Operations are performed at 3 p m

Qualified medical practitioners and registered students may join at any time For particulars apply to the Dean or Secretary at the Hospital

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE

The Prince of Wales's General Hospital Tottenham N 15 North Middlesex Hospital Edmonton and Associated Hospitals

An INTENSIVE REFRESHER COURSE will be held from January 26th—February 7th Lectures demonstrations and cliniques in the various general and special departments

The number is limited to 25

Enquiries and applications should be sent to the Dean at the Hospital or to the Secretary of the Fellowship of Medicine 1, Wimpole Street W 1

NORTH-EAST LONDON POST-GRADUATE COLLEGE,

PRINCE OF WALES'S GENERAL HOSPITAL N 15

The Practice of the Hospital is limited to Medical Practitioners. Particulars from T H C BEVANS F R C S Dean

MARLBOROUGH COLLEGE,

Near MACCLESFIELD

Specialises in

CAREERS FOR GIRLS

List and Prospectus from Principal

Special Terms to Medical Men

F R C S (Edin)

CLASSES or POSTAL TUITION —Full Preparatory Classes with DEMONSTRATIONS will commence shortly CORRESPONDENCE COURSE for March and later Exams should begin now — H C ORRIN, F R C S Surgeons Hall, Edinburgh

STAMMERING, SPEECH DEFECTS

BEHNKE METHOD Estab 1882 Cases non resident treated at 39 Earl's Court Square S W 5 and in residence in the Summer holidays at Miss BEHNKE'S house on the Chilterns

Pre eminently successful treatment of stammering for many years Thoroughly modern Lancet

The method is scientifically correct and perfectly effective — Guy's Hospital Gazette

STAMMERING, CLEFT PALATE SPEECH LISPING 3/9

of Miss BEHNKE 39 Earl's Court Sq S W 5

POST-GRADUATE MIDWIFERY

Qualified Medical Women are admitted to

The Mothers' Hospital of the Salvation Army, Lower Clapton Road, E 5

for practical fortnightly Courses in Midwifery These include delivery of normal cases attendances at all abnormal cases operations ward rounds of visiting staff V D clinics and ante natal clinics For further particulars fees etc apply to EDGAR DIBDIN the Secretary

THE ART OF RELAXATION

THE ARCHER NERVE TRAINING COLONY LANGLEY RISE Ltd Kings Langley Herts is opening premises for Consultations Treatments and Classes at 22 UPPER GLOUCESTER PLACE N W 1 (Tel Padd 7175) on Wednesdays and Saturdays 10—1 and 2—5 30 Enquiries on all other days to Kings Langley (Tel 19)

Medical and Dental Students

Special Classes for Pre Medical and Dental Exams Matric, and Prelims

Chemistry Physics and Biology Labs

MANCHESTER TUTORIAL COLLEGE, 327 Oxford Road Manchester.

TAUNTON SCHOOL,

TAUNTON

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M B Examinations University Scholarships Chemistry Biology etc

Special facilities are offered for the study of Chemistry Physics Botany and Zoology

New Science Buildings containing laboratories two lecture rooms science library store rooms etc opened in September 1930 Prospectus from Head Master

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL)

COURSES OF INSTRUCTION (lasting about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th and for the Diploma in Tropical Hygiene on January 13th and April 23rd (Candidates for the D T H must possess the D T M of the University)

For particulars apply to the Hon Dir Liverpool School of Tropical Medicine Pembroke Place Liverpool

F R C S (Edin)

CLASSES with Museum and Anatomical Demonstrations for next Exams will commence shortly Correspondence work at any time Particulars from CHAS. WHITTAKER F R C S Surgeons Hall Edinburgh

Refraction and the Ordering of Glasses

CLASSES taught by Practising Ophthalmic Surgeon in London £8 8s. for 10 lessons Address No 123 B M A House, Tavistock Square, W C 1

UNIVERSITY EXAMINATION POSTAL INSTITUTION

RED LION SQ, LONDON, W C 1
(FOUNDED IN 1882.)

Principal Mr E S WEYMOUTH M A (Lond.). POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS

SOME SUCCESSES

M D (Lond),	1901 29 (9 Gold Medallists during 1913-29)	319
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M B ,B S (Lond),	*Final* 1906-29 (Completed Exam)	257
F R C S (Eng),	*Primary* 1906-29)	154
	Final	149
M R C P (Lond),	1914 29	168
D P H	(Various) 1906 29 (Completed Exam)	286
F R C S (Edin),	1918 29	43
M R C S L R C P	*Final* 1910-29 (Completed Exam)	433
M D (Dur)	(Practitioners) 1906-29	37
M D	Various By Thesis Numerous successes	

Preparation for the above and also for Medical Preliminary and for all examination leading up to M R C S L R C P or M B of various Universities also for D P M D O M S T M & H D L O D G O D M R E M M S A M S S A., etc Numerous successes.

ORAL CLASSES
M R C P M D Final F R C S F R C S (Edin.) Second and Final M B., B S and M R C S L R C P Museum and Microscope Work Also Private Tuition

MEDICAL PROSPECTUS (48pp.)

CONTENTS —The method and the cost of entering the Medical Profession. *Particulars of all Medical Examinations* Postal Courses and Oral Classes Suggestions for the higher Medical Examinations Suggestions for the higher Surgical Examination Suggestions for the Special Diploma Examinations Refresher Courses Openings for Women Hints for writing theses

Medical Prospectus gratis along with list of Tutors etc on application to the Principal Mr E S WEYMOUTH M A 17 Red Lion Sq London W C 1 (Telephone HOLBORN 6313.)

County Council of Inverness-shire.

ASSISTANT MEDICAL OFFICER OF HEALTH

Assistant Medical Officer of Health wanted for the Outer Islands District of Inverness-shire (Harris North Uist South Uist and Barra) to undertake all public health duties which include school medical inspection in the area Candidates must be registered Medical Practitioners and hold the Diploma in Public Health or equivalent qualification

Salary £ per annum will be at the rate of £ from Form of application the undersigned with whom applications should be lodged not later than Saturday December 27th 1930

County Buildings J W McKILLOP
Inverness County Clerk
December 13th 1930

County Borough of Preston

SHAROE GREEN HOSPITAL, FULWOOD

Applications are invited for the post of JUNIOR RESIDENT MEDICAL OFFICER Salary at the rate of £104 per annum with board lodging etc Candidates must be duly qualified and registered under the Medical Acts

The appointment is for six months Duties include work in any ward of the Hospital as required and also in the Sharoe Green Maternity Home adjoining

Application stating Junior Medical Officer accompanied by copies of three recent testimonials to be sent to the Public Assistance Officer 138 Lancaster Road Preston not later than the first post on Thursday January 1st 1931

Town Hall ALFRED HOWARTH
Preston Town Clerk
December 13th 1930

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

(University of London)

Tropical Medicine and Hygiene

The School provides two courses yearly each of 22 weeks The Spring Course commences on February 2nd 1931 and the Autumn Course in October 1931 Composition fee to include hire of Microscope etc £34 5s

Diploma in Public Health

The next course of study covering a period of twelve months commences on October 1st 1931 and is so designed that Students wishing to do so can proceed to the New Academic Diploma instituted by the University of London The composition fee of 54 guineas covers the cost of the necessary practical work and instruction in Infectious Diseases etc

Diploma in Bacteriology

The course of study covering one academic year commences in October Composition fee £47 15s

Epidemiology and Vital Statistics

Special three monthly advanced courses Composition fee £7 7s

Applications for Prospectuses and for other information should be addressed to the Secretary Keppel St (Gower Street) London W C 1

UNIVERSITY OF LONDON KING'S COLLEGE

PRIMARY F R C S

A Course in ANATOMY and PHYSIOLOGY in preparation for the JUNE EXAMINATION will commence on TUESDAY FEBRUARY 17th 1931 and will continue until the date of the examination with the exception of two weeks vacation at Easter

Fee for the Course Twenty Guineas

Applications for admission to the Course should be addressed to the Dean of the Medical Faculty King's College Strand, W C 2, from whom further particulars may be obtained

CITY OF LONDON MATERNITY HOSPITAL,

CITY ROAD E C 1

MIDWIFERY TRAINING SCHOOL.

MEDICAL STUDENTS admitted to Hospital practice with operative Midwifery and Obstetrical complications Monthly or Fortnightly Courses

PUPILS TRAINED as Midwives and Monthly Nurses in accordance with C M B regulations

PRIVATE WARDS for paying patients

MATERNITY NURSES sent out for private cases

Central London Ophthalmic HOSPITAL.

Judd Street St Pancras W C 1

There are vacancies for the posts of SENIOR and JUNIOR HOUSE SURGEON Salaries at the rate of £120 and £100 per annum respectively with board and residence in the Hospital

Applications with testimonial from duly qualified candidates must be sent to the undersigned on or before Monday Jan 5th 1931.

H R S DRUCE, Secretary

Durham County Hospital

(75 Beds)

Two HOUSE SURGEONS required to commence duty in January Salary £150 per annum with board and lodging

Applications with copies only of testimonial stating age and when at liberty to be sent to the undersigned

Applications by ladies will be considered

79 Saddler Street W M R WILSON
Durham Secretary

MEDICAL CORRESPONDENCE COLLEGE

19 WELBECK ST LONDON, W 1 Tel: Welb 6 991

PROVIDES HIGHLY SUCCESSFUL ORAL AND POSTAL COACHING FOR ALL MEDICAL EXAMINATIONS

Special Preparations for all Surgical Qualifications

F R C S ENGLAND (Primary & Final.) M C CANTAB M S LONDON

F R C S EDINBURGH

And all other Surgical Degrees and Diplomas.

The remarkable success of Students of the Medical Correspondence College at the higher Surgical Examinations is specially noteworthy

Both at the Primary and Final F R C S England the majority of our Students are successful at the first attempt and Candidates who have failed at these Examinations on several previous occasions get through without difficulty after going through our course

The Surgical Tutors of the College all hold either the M S Lond or F R C S England or both and are highly experienced teachers

The Postal Courses are throughout clear concise and up to date and the test questions are carefully selected from those set at previous Examinations so as to embrace all parts of the subject By working systematically through the Course the Student is brought up to the examination standard in the minimum time and much unnecessary reading is saved.

VALUABLE BOOK

How to Pass the F R C S free on application to the Secretary

Southgate Urban District COUNCIL.

APPOINTMENT OF MEDICAL OFFICER OF HEALTH

The Southgate Urban District Council invite application for the appointment of Medical Officer of Health for the District and Medical Superintendent of the Council's Isolation Hospital at an inclusive commencing salary of £800 per annum

Candidates must be registered in the Medical Register as holding the Diploma of Public Health or of State Medicine and have had experience in the duties of Medical Officer of Health and Fever Hospital work and be not more than 45 years of age The appointment will be subject to the approval of the Minister of Health

The Council have a Superannuation Scheme under the Southgate Urban District Council Act 1913 but they are considering the question of transferring their Scheme to a Joint Middlesex County Scheme under the Local Government and Other Officers Superannuation Act 1922

The area of Southgate is 3,597 acres and the estimated population is 50 000

Application must be made on the prescribed form which can be obtained from me on receipt of a stamped addressed envelope and must be sent to me not later than 12 noon on Jan 1st

V E. LAUDER
Clerk & Solicitor of the Council
Southgate Town Hall
Palmers Green N 13
December 10th 1930

The Royal Infirmary, Sheffield

(500 Beds)

The Weekly Board of Management invite applications for the undermentioned posts.

HOUSE PHYSICIAN
HOUSE SURGEON
ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON
ASSISTANT CASUALTY OFFICER

The appointments will be tenable for six months from January 1st 1931 The salary attached to each post is £80 per annum rising after six months service to £100 per annum together with board and residence

Applications together with copies of testimonials to be sent to the undersigned immediately

JNO W BARNES F C I S
Board Room Gen Supt. & Secretary
November 27th, 1930

Bristol General Hospital

The Committee invites applications for the following appointments which become vacant on February 1st next

Two HOUSE PHYSICIANS Two HOUSE SURGEONS RESIDENT OBSTETRIC OFFICER HOUSE SURGEON to the Special Departments and a CASUALTY HOUSE SURGEON

The appointments will be for six months at salaries at the rate of £80 per annum and at the rate of £100 per annum for the Casualty House Surgeon and in the event of second appointments being held at the rate of £100 per annum in each case with board, residence, etc provided in the Hospital

Candidates must be registered under the Medical Acts and produce testimonials of good personal character and ability and must have recent experience in the administration of anaesthetics

Forms of application etc, to be obtained from the Secretary must be returned completed with copies of testimonials addressed to the undersigned, on or before Monday, January 5th 1931, from whom further particulars may be obtained

THOMAS W GREGG, Secretary

Manchester Royal Infirmary

CENTRAL BRANCH ROBY STREET, MANCHESTER

JUNIOR HOUSE SURGEON AND CASUALTY OFFICER (Lady)

The Board of Management of the Manchester Royal Infirmary invite applications for the above appointment

Applicants must be registered and hold a Medical and Surgical qualification

The appointment is tenable for twelve months commencing January 12th 1931, four months as Junior at £100 per annum four months as Assistant at £100 per annum and four months as Senior at £200 per annum together with board and allowance for laundry

Applicants must state age and qualifications and send twelve copies of their application and testimonials to the undersigned by 9 a.m. on Thursday, January 1st 1931

By Order
FRANK G HAZELL
Gen Supt & Secretary

Bradford Children's Hospital,

HONORARY SURGEON

The Board of Management invite applications for the post of Honorary Surgeon Candidates are required to be Fellows of either the College of Surgeons of England or of Edinburgh and must undertake to practise Surgery only The candidate appointed Assistant Honorary Surgeon at the Royal Infirmary Bradford is eligible to hold both posts concurrently

Applications with certificate of registration and copies of not more than three recent testimonials should reach the undersigned not later than mid day Tuesday December 23rd

J W IONCITY
Secretary Superintendent

Royal Sussex County Hospital,

BRIGHTON (238 Beds)

CASUALTY HOUSE SURGEON (male) required about the middle of January next

Salary £120 per annum with board, residence and laundry

Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts They must be unmarried and when elected under 30 years of age

Applications with copies of recent testimonials should be sent to the undersigned not later than December 29th

L L W LANCASTER CAVE,
Secretary Superintendent

Warneford General Hospital,

LEAMINGTON SPA

RESIDENT HOUSE PHYSICIAN required Salary at the rate of £165 per annum with board and laundry Applications and copies of testimonials from qualified and registered Medical Practitioners should reach the undersigned not later than January 18th 1931

W RUSSELL RUDALL
House Governor & Secretary

Warneford General Hospital,

LEAMINGTON SPA

RESIDENT HOUSE SURGEON required Salary at the rate of £165 per annum with board and laundry Applications and copies of testimonials should reach the undersigned not later than January 18th 1931

W RUSSELL RUDALL
House Governor & Secretary

Hull Royal Infirmary

(270 Beds)

Applications are invited for the following posts (all male)

1 SECOND HOUSE SURGEON, vacant January 1st, 1931
2 HOUSE SURGEON to Ophthalmic and Ear Nose, and Throat Departments, vacant January 1st 1931
3 CASUALTY HOUSE SURGEON vacant January 1st 1931
4 THIRD HOUSE SURGEON, vacant January 31st, 1931

Salaries £150 per annum for posts Nos 1, 2 and 4 Salary £130 per annum for post No 3 Plus residence board, and laundry in all cases

The appointments will be for six months in the first instance and will be determinable by one months notice on either side

The Hospital is recognized for the surgical hospital practice required of candidates admissible to the Examinations for the Fellowship of the Royal College of Surgeons

Applications with copies of testimonials should be sent to the undersigned on or before December 23rd

R J CARLESS,
December 8th 1930 House Governor

Hull Royal Infirmary

SUTTON BRANCH

The above Branch will be opened in February next and will be a self contained modern General Hospital of 100 beds There will be Two Resident posts

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum plus board residence and laundry The appointment will be for six months in the first instance and will be terminable by one months notice on either side

Applications stating age qualifications and nationality and with copies of testimonials should be sent to the undersigned

R J CARLESS
November 22nd 1930 House Governor

Victoria Hospital, Burnley

(120 Beds)

TWO HOUSE SURGEONS (Male)

Applications are invited for the above posts which become vacant on January 1st next The appointments are for six months in the first instance and carry a salary of £150 per annum with board etc This Hospital is approved by the London Universities for the purpose of the MB and MS examinations

Applications giving full details of qualifications and experience and accompanied by testimonials should be addressed to the undersigned forthwith

C H O W COOLING
Nov 28th 1930 Secretary Supt

Swansea Hospital

(316 Beds)

SENIOR RESIDENT OFFICER wanted gentleman single experienced Duties to include that of House Surgeon to the Honorary Gynaecologist

Salary £300 per annum rising by annual increments of £50 to £500 per annum with board residence and laundry

Applications stating age nationality qualifications, and experience together with copies of three recent testimonials to be forwarded to the undersigned

O C HOWELLS Secretary

The Children's Hospital,

SUNDERLAND (70 Beds)

Wanted immediately HOUSE SURGEON (female) also HOUSE PHYSICIAN (female) at end of January Candidates must possess double qualifications (registered) Salary in each case £100 per annum with board residence and laundry The appointments are for six months

Applications, stating age with copies of three recent testimonials, to be sent to the undersigned

S C IRVING
House Governor & Secretary

The Jessop Hospital for Women,

SHEFFIELD (145 Beds)

Gynaecological and Maternity Departments

The Board of Management invite applications for the appointment of Three ASSISTANT HOUSE SURGEONS (male) for six months from January 15th 1931

Salary £100 per annum together with board residence and laundry

Applications stating age together with copies of recent testimonials should reach the undersigned on or before January 5th 1931

H R SHEFSMITH Secretary

The Royal Infirmary, Bradford

HONORARY ASSISTANT SURGEON

Applications are invited for the post of Honorary Assistant Surgeon to the above named General Hospital

Candidates must possess the Fellowship or Membership of the Royal Colleges of Surgeons and must intend to practise purely as a Consulting Surgeon

Candidates also applying for the post of Honorary Surgeon to the Children's Hospital Bradford will if elected be eligible to hold both appointments concurrently

Applications with certificate of registration and copies of not more than three recent testimonials should reach the undersigned not later than midday on Tuesday December 23rd

J J BARRON,
Secretary Superintendent

Derby County Mental Hospital,

MICKLEOVER, near DERBY

JUNIOR ASSISTANT MEDICAL OFFICER required Applicants must be registered Practitioners male not more than 30 years of age unmarried and resident in the Hospital Salary £350 per annum, rising by annual increments of £25 to £450 per annum together with emoluments (board lodging washing and attendance) £60 per annum additional will be given to the holder of the D P M The appointment is subject to the provisions of the Asylums Officers Superannuation Act 1909. Preference will be given to applicants who have held a resident appointment in a General Hospital Terms of application and particulars can be obtained from the Medical Superintendent and should be returned not later than December 31st

The General Hospital,

BIRMINGHAM

Applications are invited for two posts of RESIDENT SURGICAL REGISTRAR

These officers will be attached to Surgical Units and a Special Department The salary will be £100—£120—£140

The appointment will be made for one year in the first instance and is subject to renewal for two further years Candidates must have held a Surgical post

Applications giving full details of qualifications and experience and accompanied by testimonials should reach the undersigned by January 13th 1931

A H FRANEY
House Governor

December 11th 1930

St Mark's Hospital for Cancer,

FISTULA AND OTHER DISEASES OF THE RECTUM
City Road London, E C 1

HOUSE SURGEON (male) required Must be fully qualified Salary £75 per annum with board residence and laundry The appointment is for a minimum of six months

Applications with copies of testimonials, must reach the Secretary (from whom further particulars may be obtained) not later than 10 a.m. Saturday January 3rd 1931

Swansea General and Eye Hospital

HOUSE PHYSICIAN wanted gentleman single Salary £150 per annum, with board residence and laundry Duties to commence January 1st 1931

Applications stating age nationality, qualifications and experience together with copies of three recent testimonials to be forwarded to the undersigned

O C HOWELLS
Secretary-Superintendent

Darlington General Hospital

(120 Beds)

Wanted HOUSE SURGEON male or female fully qualified, British Salary £150 per annum, with board residence, and laundry Special Departments—Eye Ear Nose, and Throat, Orthopaedic Maternity, Ultra violet rays Applications, stating age experience, qualifications together with copies of two recent testimonials to be addressed to me forthwith

A RIDDLE Secretary

Aberdeen Royal Infirmary

The Board of Directors invites applications for the post of ASSISTANT SURGEON to the Dental Department

Two copies of the application, with relative testimonials should be lodged with the Subscriber not later than December 27th

JOHN A McCONACHIE
230 Union Street, Aberdeen Acting Clerk and Treasurer

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service. In other respects the terms will be as detailed below.

Candidates must be British subjects under 32 years of age at the time of application and must be registered under the Medical Acts in force in Great Britain and Northern Ireland.

CAREERS

The Indian Medical Service offers wide opportunities of medical experience including clinical preventive specialist and research work. At the beginning of his career an officer is employed on the military side which has medical charge of the Indian Army. Promotion is on a time scale up to the rank of Lieutenant Colonel and by selection to the ranks of Colonel and Major General. An officer may apply after one year's Indian service to have his name registered for transfer to the civil side from which appointments are made to Civil Surgeoncies which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes to specialist (for example public health and bacteriological) services to research posts and to professorships at the Medical Schools.

PAY

The monthly rates of pay for European officers in the Service who have a non-Asiatic domicile are as follows:

Rank	Service in Rank	Basic Pay	Overseas Pay	Years of Total Service
1	2	3	4	
		Rs.	Rs.	
Lieut.	—	400	150	1st
			150	2nd
			150	3rd
Capt.	(i) During first 3 years service as Captain	600	150	4th
			£11	5th
	(ii) With more than 3 and less than 6 years service as Captain	700	£11	6th
			£11	7th
	(iii) With more than 6 years service as Captain	800	£11	8th
			£11	9th
			£11	10th
			£11	11th
			£30	12th
Major	(i) During first 3 years service as Major	900		
	(ii) With more than 3 and less than 6 years service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut.-Col.	(i) Until completion of 9 years total service	1400	£30	13th
	(ii) During 13th and 17th years service	1800		14th and over
	(iii) After completion of 17 years total service	1600		
	(iv) When selected for increased pay	1800		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service. Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service.

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer or in a position usually filled by an officer may be counted as service for increments of pay promotion retirement and retired pay but not for gratuity.

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only.

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions. Past service in certain hospital appointment may also render candidates eligible for an antedate of one year. Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year. The maximum period of antedate secondment or antedate and secondment combined admissible under this paragraph is limited to one year.

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50.

PRIVATE PRACTICE

With the exception of Administrative Officers military or civil and officers holding certain special appointments officers are not debarred from taking private practice so long as it does not interfere with their proper duties.

LEAVE

Leave can be taken at reasonable intervals and adequate rates of leave pay are provided. Extra leave (known as study leave) which may not exceed 12 months in all during an officer's service may be granted to officers desirous of pursuing special courses of study of a post graduate nature. During such leave study allowance at present fixed at the rate of 12s. a day in the United Kingdom £1 a day on the Continent of Europe and £1 10 a day in the United States of America is granted to an officer in addition to ordinary rate of leave pay.

PENSIONS

The rates of pension are as follows	Per annum £
After 17 years service for pension	400
18	430
19	460
20	500
21	540
22	580
23	620
24	660
25	700
26	750
27	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent. in all the revision being undertaken triennially. With effect from July 1st 1930 a reduction of 5½ per cent has been made on this account from the amounts shown.

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments.

PASSAGES

An officer on appointment is provided with free passage to India. The wives and families of officers who are married prior to the date of the officers embarkation on first appointment will also be provided with free passage to India subject to the payment of messing charges.

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service.

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot lasting approximately six months prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London S.W.1. The Selection Committee will meet at the India Office early in January next and the selected candidates will be required to join a course of instruction commencing early in February 1931, prior to sailing for India in the Autumn of 1931. Applications should be submitted as soon as possible.

City of Leeds

MEDICAL SUPERINTENDENT—KILLINGBECK SANATORIUM

Applications are invited from qualified and registered Medical Practitioners for the post of Medical Superintendent of the City of Leeds Sanatorium, Killingbeck (220 beds)

Candidates must be Graduates of a British University or Members of the Royal College of Physicians of England They must either—

(a) Have held prior to April 1st 1930 the appointment of Medical Superintendent of a Sanatorium or Tuberculosis Hospital with the approval of the Minister of Health or

(b) Have had the following Post graduate experience

(1) At least three years in Medical and Surgical practice

(2) Not less than eighteen months in general clinical work of which not less than six months must have been served in a hospital as resident officer in charge of beds occupied by general medical or surgical cases and

(3) Not less than six months special training in the diagnosis and treatment of tuberculosis

Salary (inclusive of emoluments) £850 rising by biennial increments of £50 to £1 062 10s

The person appointed will be required to pass a medical examination and to contribute to the Superannuation Fund established under the Local Government and Other Officers Superannuation Act 1922 He will also be required to enter into an agreement of service with the Corporation terminable by three months notice on either side

Form of application and particulars as to the duties of the appointment may be obtained from the Medical Officer of Health 12 Market Buildings Vicar Lane Leeds

Applications endorsed Medical Superintendent together with copies of three recent testimonials must be delivered at my office 26 Great George Street Leeds not later than the first post on Saturday January 3rd 1931

THOS THORNTON Town Clerk

Liverpool Royal Infirmary

The Committee invite applications for the post of HONORARY SURGEON to the Lock Department of the above Institution

Applicants must have had special experience in the modern treatment of Venereal Diseases

Applications must be made in writing addressed to the Chairman of the Committee at the Royal Infirmary Liverpool and no candidate will be eligible whose application has not been received within twenty-one days of this date—viz January 6th 1931

The election will be made by the Election Committee a list of whom and particulars of the qualifications necessary for the appointment will be supplied on application to the Secretary of the Hospital

LAW No 19 states Any candidate who advertises in the public papers or canvasses in person or by writing any member of the Election Committee shall be disqualified but candidates shall be at liberty to send to members of the Election Committee copies of their application accompanied by not more than ten testimonials

WM RUTTER
December 16th 1930 Gen Supt & Sec

City of Sheffield

ASSISTANT TUBERCULOSIS OFFICER

Wanted a male (unmarried) Assistant Tuberculosis Officer to reside at WINTER STREET HOSPITAL and to devote his whole time to the Municipal Tuberculosis Scheme

Salary £350 per annum rising to £550 per annum by annual increments of £25 with board residence and laundry (If the successful candidate has not been fully qualified for three years the salary will be at the rate of £250 per annum)

The office has been designated as an established post under the Local Government and Other Officers Superannuation Act 1922

Applications stating age qualifications and experience with copies of three testimonials to be sent on or before December 31st 1930 to the Medical Officer of Health Town Hall, Sheffield

General Hospital, Nottingham

Wanted A HOUSE SURGEON Appointment for six months Salary at the rate of £150 a year with board residence and laundry Applications stating age qualifications and experience together with copies of testimonials to be sent to the undersigned not later than Monday January 5th 1931 Duties to commence on or about January 13th 1931

PETER M MacCOLL
House Governor & Secretary

City and County of Bristol

NORTHAM COLONY FOR MENTAL DEFECTIVES

APPOINTMENT OF MEDICAL SUPERINTENDENT

The Corporation of Bristol invite applications from registered Medical Practitioners to act as Medical Superintendent at Northam Colony for Mental Defectives now in course of erection and to carry out such other duties under the Mental Deficiency Acts and otherwise as the Corporation may from time to time require

The person appointed will be required to devote the whole of his time to his duties and will not be allowed to engage in private practice

The appointment will be subject to three months notice on either side and to the provisions of the Local Government and Other Officers Superannuation Act 1922 for which purpose the successful candidate will be required to pass a medical examination

Salary will be £700 to £1 000 per annum rising by yearly increments of £25 and unfurnished house

Forms of application with further particulars can be obtained from and must be delivered to the undersigned at the address given below not later than Saturday January 3rd 1931

Canvassing will be a disqualification

The Council House, JOSIAH CRFEN
Bristol Town Clerk

Cardiff Royal Infirmary

(Associated with the Welsh National School of Medicine)

TWO HONORARY ASSISTANT SURGEONS Required

Applications are invited for two vacancies arising in the office of Honorary Assistant Surgeon

Candidates must be Masters in Surgery of a University of the United Kingdom or Fellows of one of the Royal Colleges of Surgeons in the United Kingdom and the elected candidates shall not practise Medicine or Midwifery

Each candidate is required to send fifty copies of his application and testimonials (for circulation amongst the members of the Election Committee and Medical Board) stating age qualifications appointments held etc and endorsed Honorary Assistant Surgeon, to reach the undersigned on or before Saturday January 3rd, 1931

LEONARD D REA
Secretary

EXTRACT FROM RULE 6(A)

No Member of the Honorary Medical Staff shall hold office after attaining the age of 65 years

St Bartholomew's Hospital,

ROCHESTER (126 Beds)

Rochester, Chatham, Gillingham, and District

The House and Finance Committee invite applications for the post of HOUSE PHYSICIAN

Candidates must be unmarried qualified and registered Medical Men The appointment is for six months and the salary is at the rate of £175 per annum with board residence and laundry The officer appointed will have charge of the Medical beds Some knowledge of Ophthalmic work is desirable

Applications stating age qualifications and experience accompanied by copies of three recent testimonials to be sent to the Secretary not later than January 2nd, 1931

Victoria Hospital, Accrington

The Governing Body of this Hospital invites applications for the post of HOUSE SURGEON

Candidates may be male or female and duly qualified and registered Number of beds 50 Salary £150 per annum, with board and lodging

There are two Honorary Anaesthetists on the Staff who attend on regular operation days

Conditions of appointment and particulars of duties may be obtained from the undersigned to whom application with copies only of testimonials should be sent on or before the 31st instant

Town Hall W H WARHURST
Accrington Hon Secretary
December 1930

Walsall General Hospital

The Committee invite applications from men for the post of HOUSE SURGEON Salary £150 per annum Candidates who must be registered under the Medical Acts must produce three recent testimonials The appointment will be for six months The Hospital contains 100 beds and is equipped in all Special Departments

Applications stating age qualifications and nationality must be received by the undersigned immediately

WALTER FRANCOMBE
December 7th 1930 Secretary

Warwickshire and Coventry JOINT COMMITTEE FOR TUBERCULOSIS

KING EDWARD VII MEMORIAL SANATORIUM, HEATHFORD HILL, near WARWICK

Applications are invited from duly registered Medical Practitioners (male) for the post of SENIOR ASSISTANT MEDICAL OFFICER at the above Sanatorium, which contains 190 beds for the treatment of all stages of pulmonary tuberculosis Salary £275 per annum with board lodging and laundry Appointment tenable for six months

Applications together with copies of testimonials should reach the undersigned by December 23rd

CORYDON BUDGE,
Medical Superintendent

Victoria Hospital, Blackpool

(132 Beds)

HOUSE SURGEON (Junior) male or female six months Salary £150 per annum with residence board and washing Commence duties January 1st 1931 Eligible to apply for senior post at the end of six months at a salary of £250 per annum Applicants (who must be duly qualified and registered) are requested to send in their applications stating age qualifications and experience with three recent testimonials endorsed House Surgeon to—

JOHN HACKING Hon Secretary

The Institute of Ray Therapy,

152—154 Camden Road N W 1

A RESIDENT MEDICAL OFFICER is required on January 12th 1931 The duties will include assisting in the treatment and in the collection of clinical data for purposes of research

The appointment is for six months and is eminently suitable for a man reading for a higher examination Honorarium at the rate of £150 per annum with board residence and laundry Experience in light treatment is not essential but applicants must have held a resident appointment at a General Hospital

Application together with copies of three testimonials must be sent not later than Monday December 29th 1930, to the Hon Secretary at the above address

Swansea County Borough

LADY ASSISTANT MEDICAL OFFICER

The Swansea Borough Council invite applications from duly qualified and experienced Women Medical Practitioners for the post of Assistant Medical Officer to assist with the medical services of the Corporation Hospital Resident and special experience in diseases of women (ante-natal and obstetrics) and young children school medical service work are desirable qualifications Salary £600 per annum Form of application and list of duties can be obtained from Dr THOMAS EVANS Medical Officer of Health Public Health Office Swansea Applications must be received not later than January 2nd 1931

Weston-super-Mare General Hospital (80 Beds)

HOUSE SURGEON

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months Salary at the rate of £150 per annum, with board rooms, and laundry Duties to commence January 1st next. Applications stating age and qualifications and enclosing copies of testimonials, should be addressed to the undersigned

LESLIE J FURSLAND
Secretary

Hertford County Hospital

[illegible] for the post of HOUSE SURGEON (A former [illegible] will be an applicant)

Candidates should possess a degree in Surgery of a British University or the Fellowship of one of the Royal Colleges of Surgeons

Applications together with copies of testimonials should be made by Monday, January 5th, 1931 to the undersigned

PERCY C BROOKS Secretary

Hertford County Hospital

Applications are invited for the post of HOUSE PHYSICIAN (male) Salary £150 per annum, with board residence and laundry The appointment is for six months in the first instance

Applications with copies of three recent testimonials should be sent to the undersigned not later than Monday January 5th 1931

PERCY C BROOKS Secretary

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table with *out having first communicated with the Medical Secretary of the British Medical Association B.M.A. House* Tavistock Square W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH GLAMORGAN *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	PLYMOUTH EDUCATION AUTHORITY *(Deputy Assistant Medical Officer)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE, MON *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH *(Medical Officer of Health)*
LLWYNYPIA CLYDACH VALE, PENYGRAIC CLAMORGAN *(Workmen's Medical Scheme)*	OGMORE VALLEY GLAMORGAN *(Bryndu Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY GLAMORGAN *(Workmen's Medical Scheme)*		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1

Town or District	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch	Town or District.	Hon. Sec. of Division or Branch
NEW SOUTH WALES. *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec., New South Wales Branch, Savings Bank Building, 21 Elizabeth St. Sydney, N.S.W.	SOUTH AUSTRALIA. *(Lodge Appointments)*	Secretary South Australian Branch B.M.A. House 20th North Terrace Adelaide.	WELLINGTON NEW ZEALAND *(Contract Practice Appointments)*	Dr. G. F. V. A SON (Hon. Sec. New Zealand Branch, British Medical Association P.O. Box 155, Wellington New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec. Queensland Branch) British Medical Association B.M.A. Building Adelaide St., Brisbane.	VICTORIA. *(All Institute or Medical Dispensaries)*	Dr. J. P. Major (Hon. Sec. Victorian Branch) British Medical Association Medical Society Hall East Melbourne Victoria.	WESTERN AUSTRALIA. *(Contract and Lodge Practices)*	Hon. Sec., Western Australian Branch British Medical Association P.O. 6 Bank of N.S.W. Chambers St. George's Terr. Perth Western Australia.

December 16th 1930 By Order of the Council ALFRED COX Medical Secretary

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National Hospital, Queen Sq.,
For the Relief and Cure of Diseases of the Nervous System including Paralysis and Epilepsy

HONORARY ASSISTANT SURGEON

The Board of Management invite applications from Fellows of the Royal College of Surgeons for the post of Honorary Assistant Surgeon.

Applications should be sent to the undersigned on or before January 5th 1931. The rules of the appointment will be forwarded on request.

GODFREY H. HAMILTON
National Hospital, Queen Sq., London, W.C.1. Secretary

National Hospital, Queen Sq.,
For the Relief and Cure of Diseases of the Nervous System including Paralysis and Epilepsy

HONORARY SURGICAL ASSISTANT

The Board of Management invite applications from Fellows of the Royal College of Surgeons for the appointment of Honorary Surgical Assistant. The post is tenable for one year and the holder is eligible for re-election for a second year.

Applications should be sent to the undersigned on or before January 5th 1931. The rules of the appointment will be forwarded on request.

GODFREY H. HAMILTON
National Hospital, Queen Square, London, W.C.1 Secretary

Hospital of St. John and
ST. ELIZABETH
60 Grove End Road, N.W.8

Applications are invited for the post of RADIOLOGIST. Applications with copies of three recent testimonials should be sent to the undersigned at the Hospital on or before 30th inst. Further particulars may be obtained from the Secretary.

F. DUDLEY HOBBS, B.A.
Secretary

The Hospital for Sick Children,
Great Ormond Street, London, W.C.1

A PART-TIME JUNIOR CASUALTY OFFICER is required on January 9th 1931 to assist in the Casualty Department from 10 a.m. to 3 p.m. (Saturdays 10 a.m. to 1 p.m.) under the direction of the Casualty Officer.

The work of this officer includes a large number of Tonsillectomies and other minor operations.

Candidates must be registered Medical Practitioners and have held a responsible Hospital appointment.

Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday January 5th, 1931 accompanied by copies of not more than three testimonials written specially for the purpose.

The appointment is made for six months and is non-resident.

Salary at the rate of £150 per annum with luncheon.

All candidates must be in attendance to appear before the Joint Committee if required at their meeting on Wednesday January 7th 1931 at 4.45 p.m. precisely.

Forms of application and copies of the Rules may be obtained from the Secretary at the Hospital.

By order of the Board of Management,
JAMES McKAY, Secretary.
December 1930.

The Royal Infirmary, Sheffield
(500 Beds.)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON.

The salary attached to the appointment is at the rate of £80 per annum for the first six months and £100 per annum afterwards.

There are 68 ophthalmic beds and the post offers exceptional opportunities of gaining experience in Ophthalmology.

Applications with copies of testimonials to be sent to the undersigned forthwith.

JNO. W. BARNES, F.C.I.S.
Board Room, November 17th, 1930. Gen. Supt. and Secretary.

Royal South Hants and
SOUTHAMPTON HOSPITAL,
SOUTHAMPTON

Application are invited for the following Resident appointments which will fall vacant at the end of the year.

One SENIOR HOUSE SURGEON £225 per annum. Twelve months engagement.

One HOUSE PHYSICIAN £180 per annum. Six months engagement.

Two ASSISTANT HOUSE SURGEONS £180 per annum. Six months engagement.

All with full board, lodging and laundry.

Application together with not more than three testimonials should be sent to the undersigned as soon as possible.

HY. TRUSSON, Secretary.

Poplar Hospital for Accidents,
East India Dock Road, E.14

Applications are invited for the post of SENIOR RESIDENT OFFICER. Salary £200 per annum with board, residence and laundry, plus fees £75 per annum as ANAESTHETIST to Dental Clinic for L.C.C. School Children. Appointment for 12 months. Applicants must be Fellows of the Royal College of Surgeons. Post offers considerable scope for surgical practice. Application stating age, qualifications and enclosing copies of three recent testimonials to be sent to the undersigned on or before Thursday, January 1st, 1931.

D. H. LINDSAY
House Governor & Secretary.

The Sheffield Royal Hospital

Required, OPHTHALMIC HOUSE SURGEON also RESIDENT ANAESTHETIST to commence duties at once (males). Salary for the first six months at the rate of £80 per annum after which £100 per annum with board residence and laundry. There are twelve Resident Medical Officers.

Applications should be forwarded at once to—
W. H. BOOTH,
Superintendent and Secretary.

(Appointments continued on p. 49.)

ASSISTANCIES

Wanted — Assistant, single, with view to Partnership in large Practice in East Coast town Experience in driving, panel, anaesthetics, and midwifery essential Instructions an advantage State height and usual particulars and enclose stamped envelope for return of testimonials Usual bond Salary according to qualifications — Address No 8562, B M A House Tavistock Square W C 1

Wanted immediately after Christmas indoor ASSISTANT for pleasant part of Monmouthshire £300 all found Kept Laundry Motorist essential, car provided Usual bond State age and full particulars — Address No 8569 B M A House Tavistock Square W C 1

Wanted — Male Assistant, live at Branch (N H S or H P preferred Shropshire £250 plus bonus of £50 at end of a year Able to ride motor cycle Usual bond — Address No 8568 B M A House, Tavistock Square, W C 1

Wanted — Male Assistant, single outdoor for country Practice in North of England Excellent experience for recently qualified man Give full particulars — Address No 8570 B M A House Tavistock Square W C 1

Wanted immediately — Indoor and Outdoor ASSISTANTS (male) for Town and Country Practices With and without view Good salaries State full particulars — BRITISH MEDICAL BUREAU, 33 Cross Street Manchester

Wanted immediately, Assistant-SHIP by Indian Doctor Qualifications — M B B S L R C P and M R C S P C L R C S (Eng) L C Eye Hospital — Address No 8552 B M A House Tavistock Sq W C 1

Wanted — Outdoor Assistant in a Market Town within 40 miles of London Young unmarried Salary according to experience — Address No 8565 B M A House Tavistock Square W C 1

Wanted, an indoor Assistant, for a general Practice near Nottingham Preferably one with motor cycle or small car — Address No 8557 B M A House Tavistock Square W C 1

Assistantship — F R C S (Eng), aged about 30 British required for South Africa large coast town good general and surgical Practice Attractive terms and prospects — Full details from Box Z T 905 care DEACONS ADVERTISING AGENCY Fenchurch Avenue London E C 3

Assistantship, preferably with view wanted by M B, Ch B (Glasgow) age 28 keen and energetic 3½ years C P Excellent testimonials Capital available — Address No 8536 B M A House, Tavistock Square W C 1

Assistant, indoor, male, required for January 1st 1931 for industrial and panel Practice in Yorkshire East Riding Salary £300 or more to suitable man — Address No 8255 B M A House Tavistock Sq W C 1

Woman Doctor, 28, M B, Ch B Ed Scotch desires ASSISTANTSHIP (outdoor) preferably in London Five years experience in C P Capable and energetic Own car Interview London — Address No 8576 *B M A House Tavistock Square W C 1*

LOCUMS

For Reliable Locums and Assistants
AT SHORT NOTICE CONSULT
British Medical Bureau
(Northern Branch),
33, CROSS ST, MANCHESTER
Telegrams— LOCUM MANCHESTER.
Telephones—CENTRAL 3925 after office hours 2549 RUSHOLME

Locums wanted by Lady Doctor, L R C P S L M D P H accustomed sole charge and dispensing Good personality Seven years experience Free January 3rd North Yorks will go anywhere — Address No 8567 B M A House Tavistock Sq W C 1

Locum required, now or Christmas (preferably with hospitality for wife) Age 35 6 yrs C P experience own practice good times and obs Own car — W 336 Holloway Road N 7 North 2171

LOCUM TENENS
FOR A RELIABLE SUBSTITUTE CONSULT
THE MEDICAL AGENCY
(WILLIAM GRANT)
WATERGATE HOUSE, 15 YORK BUILDINGS, ADELPHI W C 2 *Tel* { FLEET BAR 1054 RIVERSIDE 1254 *(Night Calls)*
Telegrams
REASIDE TUBERCLE WESTRAND LONDON

Locum Tenens now free for engagements qualified 1907 St Bart Experienced in C P and Panel work Recent references — Apply, MEDICUS The Red House Lancing Sussex Phone Lancing 57

FOR LOCUM TENENS APPLY TO Mr PERCIVAL TURNER, Ltd
The oldest and only Agent who for 40 years has supplied substitutes at short notice without fee to principals
4, ADAM ST, Strand, London, W C 2
Teleg Epsomian Lond — Phone Temple Bar 9011
After Office Hours Epsom 9142

PARTNERSHIPS

Wanted — Third Partner in South Yorkshire Practice Receipts last year over £5 000 Premium 2 years purchase Excellent opport for young energetic, cheerful man with sound knowledge of med and obst —No 8575 B M A House Tavistock Sq W C 1

Lancs Town — Partnership (Half SHARE) View succession in 2/3 years Approx cash receipts £1 200 p a Panel 1,500 Splendid opportunity for young man — BRITISH MEDICAL BUREAU, 33, Cross Street Manchester

Midlands, near Large City — PARTNERSHIP or ASSISTANT with view, *in a practice of £2 200 p a increasing* Panel 2 400 1/3 here at 2 years purchase —Address No 8558, B M A House, Tavistock Square W C 1

Partner wanted in good general Practice in excellent country district near Shrewsbury good panel and appointments average income over £1 500 House available for letting or purchase Half share of Practice for sale —Write giving qualifications and essential particulars to HENRY TEE BIGOTT & ECCLESTON, Solicitors 40, Dodington Whitchurch Salop

Partnership, Woman's Practice, residential country district in South 7/12 of £1 000 after short assistantship Cottage Hospital and good appointments — Address No 8556 B M A House Tavistock Square, W C 1

Yorkshire (W R) — Partnership in sound Practice Income £4,235 p a Panel 2 841 Good house to rent at £52 p a Premium — 1/4 share — £1 150 — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

MEDICAL POSTS DISPENSERS etc.

Wanted, Sheffield, by well-read young lady whole or part time SECRETARIAL WORK shorthand typewriting book keeping experienced hospital nursing experience — Address No 8554, B M A House, Tavistock Square W C 1

A *Lady Dispenser-Bookkeeper* supplied immediately on request qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write wire, or 'phone (Park 0969) Secretary 7, Westbourne Park Road W 2

Dispenser-Bookkeeper, lady, 35, seeks POST Good receptionist Experienced in private and panel Practices Good testimonials References given Typewriting —Address No 8573 B M A House Tavistock Square W C 1

Dispensers supplied to Doctors at short notice without fee Qualified and experienced in private and panel practice Permanency and part time Bookkeeper Dispensers Secretar Dispensers Nurse Dispensers and Chauffeuse Dispensers —Write wire or phone Central 3679 THE RELIANCE BUREAU FOR DISPENSERS 12 Holborn Viaduct E C 1

Doctors requiring qualified Dispensers Nurse-Dispensers Secretary Dispensers or Chauffeuse Dispensers are invited to write wire or phone Temple Bar 5858 THE DISPENSERS BUREAU, 15 Lindsay House 171, Shaftesbury Avenue London W C 2

Fully qualified Medical Man, awaiting other work would take complete CHARGE of good city PRACTICE for four or five months Experienced C P energetic own car good Aurist expert Accoucheur Total abstainer Or would take short or locum work — No 8572 B M A House Tavistock Sq W C 1

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Wanted — Old-established mixed PRACTICE £1 000—£1 500 Country Town West or South England Educational facilities essential House 5 bedrooms, required preferably to rent Capital available — Address No 8571 B M A House Tavistock Sq, W C 1

Wanted — Mixed Practice, with good panel £1 500—£2 000 20—30 miles London or South Coast Good house to rent 8 rooms etc and garden Capital available — Address No 3551, B M A House Tavistock Square W C 1

Cheshire Town, near Manchester —Average cash receipts £838 Panel 800 Much scope Good house, 2 reception 6 bedrooms Garage and garden Premium 1½ years purchase —BRITISH MEDICAL BUREAU 33 Cross Street, Manchester

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M B (Edin) desires Practice or PARTNERSHIP Midland or suburban Southern County Small panel Income £1 000—£1 500 Cash available Age 40 single Experience general practice—Address No 8470 B M A House Tavistock Sq W C 1

Near Leeds — Industrial Town PRACTICE Average cash receipts £1 280 Panel 1 350 Hospital Good house 2 reception 3 bedrooms Premium 1½ year purchase —BRITISH MEDICAL BUREAU 35 Cross Street Manchester

North Wales — Country Town near Sea Cash receipt £700 p a Panel £300 p a Good detached house garage and garden Rent £65 p a Premium for quick sale 1 year purchase — BRITISH MEDICAL BUREAU 35 Cross St Manchester

Scotland — Ayrshire Coast — NUCLEUS for disposal Panel 200 Price £350 or offer — Address No 8555 B M A House Tavistock Square W C 1

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The Hospital has 88 beds (in building 6 pay beds) to be increased in the near future to 100 (including 20 pay beds)

Application with copies of not more than three testimonials to be sent to the undersigned by January 10th 1931

H W BULLEID
Secretary & General Superintendent

Applications are invited for the post of RESIDENT MEDICAL OFFICER (male) at the DUMFRIES & GALLOWAY ROYAL INFIRMARY The Institution which contains over 100 beds is one of the premier Provincial Hospitals in Scotland and offers exceptional opportunity of gaining experience in all branches of the profession Salary at the rate of £100 per annum rising to £150 per annum

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West Suffolk General Hospital, BURY ST EDMUNDS (108 Beds)

JUNIOR RESIDENT MEDICAL OFFICER required on January 1st 1931 Salary £150 per annum with board residence and laundry

Applicants must be fully qualified and registered

Applications giving particulars and experience and enclosing copies of three recent testimonials to be sent to the undersigned

E. E. HARDWICKE, Secretary

December 15th 1930

Royal Northern Infirmary, INVERNESS (150 Beds)

HOUSE PHYSICIAN wanted to commence duties on February 1st 1931 The appointment is for six months Salary is at the rate of £100 a year with board residence and washing

Application stating age qualifications etc with copies of recent testimonials should be sent not later than January 6th 1931 to LOCKHART GILBERT Hon Secretary 20 Church Street, Inverness.

Margaret Street Hospital for CONSUMPTION (For Out Patients) 26 Margaret Street W 1

The Executive Council invite applications for the appointment of HONORARY ASSISTANT PHYSICIAN to the staff of the above Hospital

Applications with copies of testimonials should be sent to the Hospital not later than January 3rd 1931

J C HAWTHORNE, Secretary

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Leicester Royal Infirmary

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The present Senior Honorary Assistant Physician is a candidate

HONORARY ASSISTANT PHYSICIAN
On the first mentioned vacancy being filled by the election of an Honorary Assistant Physician, there will be a vacancy for an Honorary Assistant Physician Candidates must be Graduates in Medicine of one of the Universities of the United Kingdom or Ireland and duly registered Fifty Guineas annually is at present granted by the Board for out of pocket expenses Applications (in the latter case accompanied by 100 copies of recent testimonials) to reach the undersigned by January 14th 1931 The appointment will be made on January 21st
Canvassing is not allowed
HARRY JOHNSON,
Dec 6th 1930 House Cov & Secretary

Leicester Royal Infirmary

HOUSE PHYSICIAN
A vacancy will arise in January for a Resident House Physician Applicants should have held a resident Hospital post or possess *similar* experience of Hospital work Salary at the rate of £125 per annum Appointment to March 31st 1931 at the end of which time the holder may be elected for a further period of six months
Applications to the House Governor and Secretary
December 6th 1930

Hospital of St John and ST ELIZABETH
60 Grove End Road N W 8
There is a vacancy for a GYNAECOLOGICAL SECTION with charge of beds Applications with copies of three recent testimonials should be sent to the undersigned at the Hospital on or before Tuesday 30th inst All further particulars may be obtained from the Secretary
F DUDLEY HOBBS B A
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Public Assistance Department Barrington Street South Shields Dec 2nd, 1930
L J COATS, Public Assistance Officer

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4 HOME COUNTIES.—County Town.—Rapidly increasing PRACTICE at present producing about £450 p.a., but offering large scope Panel of 265 Fees from 2/6 Good house, with 4 reception 5 bedrooms etc For sale or on rental Good sport and excellent schools Premium 1½ years purchase

5 SOUTH COAST TOWN.—Rapidly increasing PRACTICE producing for last 12 months over £400 No panel Visits 5/- up Suitable house, with 2 reception 3 bedrooms etc Rent on lease £130 Prem £600

6 MIDLANDS.—COUNTY TOWN.—Old established better class PRACTICE averaging £793 p.a. and offering good scope Panel of 500 Fees 5/- upwards Well situated house with good garden with 3 reception 4 bedrooms etc Separate surgery Rent on lease £111 p.a. Premium 1½ years purchase

7 GLOS.—Unopposed very old established PRACTICE in beautiful agricultural district worth over £600 p.a. including appts of £90 and panel of 480 Very nice house (5 bedrooms etc.) water laid on electric light one acre of ground Price freehold £2 000 or would be rented Another smaller house is also available Premium £760 Good social amenities and scope for increase

8 SOUTH OF ENGLAND.—COAST TOWN.—PARTNERSHIP.—A share guaranteed to produce £600 p.a. is offered to a suitable man keen on surgery and pref holding the L.R.C.S. Rapidly increasing practice having large scope Panel of over 1 400 Fees from 3/6 Suitable house can be secured Premium 2 years purchase

9 CHESHIRE.—Coast Town, within reach of Liverpool.—Well established PRACTICE averaging over £1 200 p.a., including panel of 780 Fees from 3/6 Mid 2 to 5 gns Double fronted house with 3 reception 4 bedrooms etc Price for freehold £1,400 £800 on mortgage Premium 1½ years purchase £1 100 down

10 WITHIN 100 MILES OF LONDON.—PARTNERSHIP.—A share producing over £1 200 p.a. with prospects, is for disposal owing to the retirement of one of several partners in a very old established Practice Ingoing partner would reside in pretty country district five miles from country town where main practice lies No opposition Total income £8 250 to £8 500 including valuable appts worth about £2 000 and panel Very desirable residence (ample accommodation) with 2½ acres of ground, on lease at low rent of £60 Premium 2 years purchase

11 LONDON SOUTH WEST.—Old-estab non panel PRACTICE having good Ophthalmic connection and also scope for Ear Nose and Throat work Gross cash receipts for past 12 months over £1 400 Fees from 5/- Practically no midwifery but scope if desired Good corner house in excellent condition with 4 reception, 5 bedrooms etc Price for long lease £1 500 Premium 1½ years purchase

12 SOUTH COAST.—FAVOURITE HEALTH RESORT.—Well established mixed class PRACTICE offering good scope Average gross cash receipts over £700 p.a. including panel of 720 Very good house, with 2 reception 5 bedrooms etc Nice garden To be sold, or might be let for a time Premium 1½ years purchase

13 YORKSHIRE.—GOOD TOWN.—PARTNERSHIP.—A one half share (guaranteed to produce £2 000 p.a. in first year) is offered in a good middle class Practice Income for the past twelve months approximately £4 000 Small select panel of 430 One appointment worth nearly £650 p.a. Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

14 YORKS.—LARGE TOWN.—Old established middle and working class PRACTICE averaging £1 778 p.a. Panel of 791 Fees 3/6 to 21/- Mid 2 to 10 gns (about 12 cases yearly) Suitable house with 2 reception 4 bedrooms etc Separate entrance to professional rooms Good schools and sporting facilities Prem 1½ years pur

15 HOME COUNTIES.—PARTNERSHIP.—A third share producing about £1 000 p.a. is offered in a well established good mixed class Practice situated in very attractive district within 20 miles of London Fees 3/6 to 2 gns Suitable house available Premium 2 years purchase

16 LANCS.—PARTNERSHIP.—A one fourth share to commence (with increase up to one half later) is offered in a very old established good middle-class Practice producing for the last twelve months over £4 700 p.a. Panel of 2 730 Appts worth nearly £200 p.a. Visits 2/6 to 12/6 Not much midwifery from 2 to 3 gns Suitable house obtainable but if single purchaser can reside with Vendor, who is a bachelor Premium 2 years purchase

17 CAMBS.—PARTNERSHIP.—A one half share is offered in a good mixed class Practice producing last year nearly £2 000 Panel of Situated in pleasant agricultural district with good sporting facilities Fees 5/- to 21/- Suitable house can be rented at £75 p.a. Premium 2 years purchase

18 YORKS.—In small pleasant market town, amidst pretty and prosperous surrounding country very old established mixed class PRACTICE averaging nearly £1 250 p.a. including panel and appts. worth over £450 Visits 3/6 to 25/- Opposition weak Good house with ample accommodation and every convenience Garden Garage Price £1 300 £1 000 on mortgage or would be let at £80 p.a. Premium £1 450 Educational and social amenities

19 SOUTH WESTERN COUNTY.—Near the Sea.—Old estab. easily worked Country PRACTICE in beautiful district within reach of Market Town and averaging £1 100 p.a. including appts and panel producing £450 Exceptionally attractive modernized house in over 3 acres of ground with ample accommodation productive fruit and vegetable garden with tennis lawn etc Water laid on and electric light available shortly Price freehold £3 000, part on mortgage Premium £1 650 Sport of all kinds and schools within reach.

20 LONDON S.E.—Outlying Residential Suburb.—Very old-established PRACTICE (hitherto carried on by two men in partnership) for disposal or half share would be sold with succession to the whole in 12 months time Receipts average about £3 000 p.a. including appts worth £330 and panel over 1 500 Two houses available Premium 1½ years purchase Eminently suitable for two friends.

21 BORDERS OF NORFOLK AND SUFFOLK.—PARTNERSHIP.—A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village near two good towns Income for last 12 months £1 992 including panel of 1 000 and appts worth about £150 Fees 2/6 to 10/6 House contains 3 receptions, 6 bedrooms etc Sport of all kinds Premium 2 years purchase

22 ITALIAN RIVIERA.—SEASON PRACTICE.—Old-established and held by Vendor for the past six years Average income about £400 p.a. Fees 10/- to 20/- approximately Suitable furnished flat with one large reception room consulting room 4 bedrooms, etc Rent on lease £140 p.a. Premium £500

23 MANCHESTER DISTRICT.—Old established middle and working class PRACTICE worth last year about £700 p.a., including panel of 614 and capable of increase Expenses small Well situated house with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted.

24 PARTNERSHIP.—HOME COUNTIES.—Within 40 miles.—In very pleasant district (with large surrounding population) the third or two fifths share of old-estab mixed-class Practice, offering large scope Present income £3 000 p.a. with panel producing over £1 200 p.a. and appt worth £160 Visits 3/6 to 2 gns Good house at moderate rental Good society and sport Ingoing partner should be about 30 pref married and English or Scotch

25 LINCOLNSHIRE COAST.—Well established mixed class PRACTICE averaging £2 749 p.a. (last year £2 868) including panel of over 1 700 Fees 3/6 to 21/- Mid from 2 gns (about 70 cases yearly) Newly built modern house with special professional accommodation central heating etc Garden Garage Price freehold £2 300 part on mortgage Good sport and schools within reach Prem 1½ years purchase

26 PARTNERSHIP — LONDON, SOUTH EAST — Outlying Residential Suburb.—Owing to the retirement of one of three partners the fifth share of an old estab Practice is for disposal Cash receipts average over £5 300 p.a. (last year £5,540) including panel of upwards of 2 000 Visits 3/6 to 10/6 Good house can be rented at £80 p.a. Premium 2 years purchase

27 MIDDLESEX.—Rapidly developing district within 20 miles.—PARTNERSHIP.—A one half share in an old estab good middle-class Practice averaging for the past two years over £3 500 p.a. Panel of 1 100 and appts bring in £100 p.a. Fees 3/6 to 21/- Good corner house with 3 reception 6 bedrooms etc Garden Price for freehold £2 100 Premium 2 years purchase

28 KENT.—Country PRACTICE near Coast.—Old established mixed-class Practice averaging about £1 100 p.a. Panel of nearly 400 Fees 3/6 upwards Convenient house with 3 reception 6 bedrooms, etc Good garden Price £1,650 part on mortgage Good sport and schools within reach Premium 1½ years purchase

29 PLEASANT CATHEDRAL CITY, within 200 miles North of London.—Old established mixed class PRACTICE averaging £1 600 p.a. including £800 from panel and over £100 from clubs Visits 5/- upwards (occasionally 2 gns.) Very little midwifery from 2 to 5 gns Large attractive house with garden Rent £80 Prem 1½ yrs. purchase

30 NEAR HUDDERSFIELD.—PARTNERSHIP.—A half share in an old established mixed class Practice Income for immediate past year over £4 250 Panel of 3 500 Fees 3/6 to 7/6 Very good house with 4 reception, 6 bedrooms etc 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

31 PARTNERSHIP.—COUNTRY TOWN, within 130 miles North of London.—A one fifth share is offered in an exceptionally sound good mixed class Practice, averaging for past 3 years over £6,000 p.a. Panel of 3,400 Fees from 4/- Not much midwifery House can be rented at £50 p.a. Premium 2 years purchase

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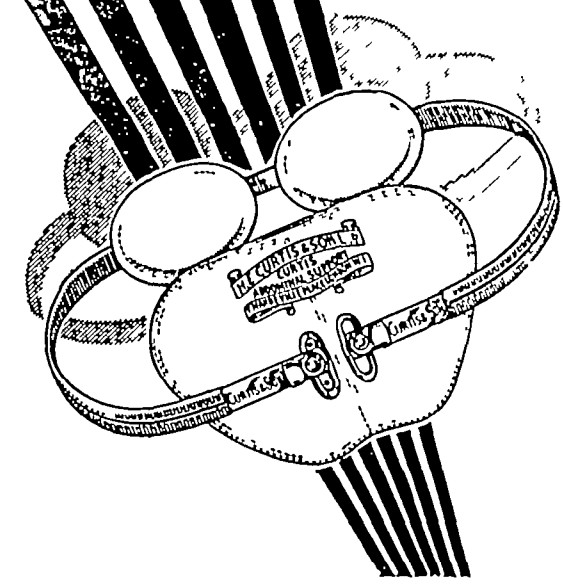


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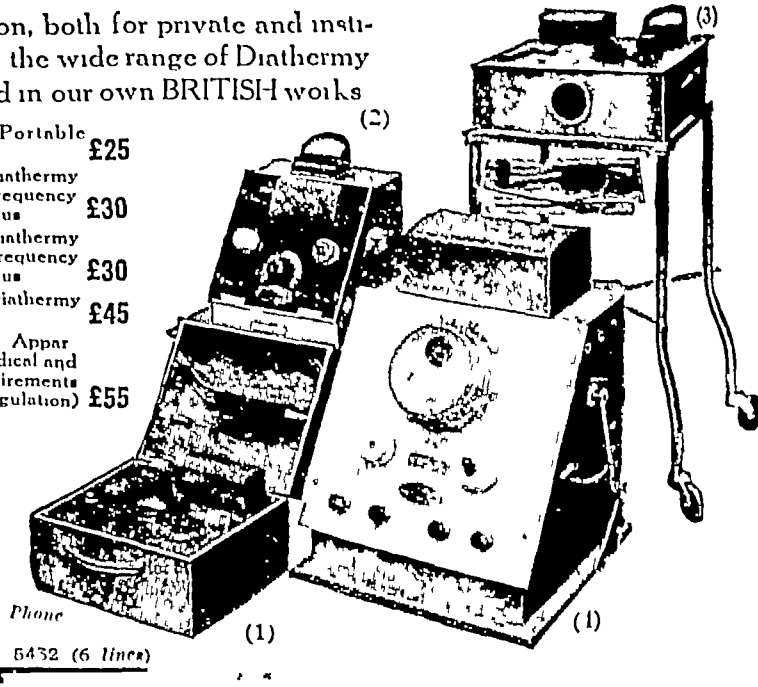
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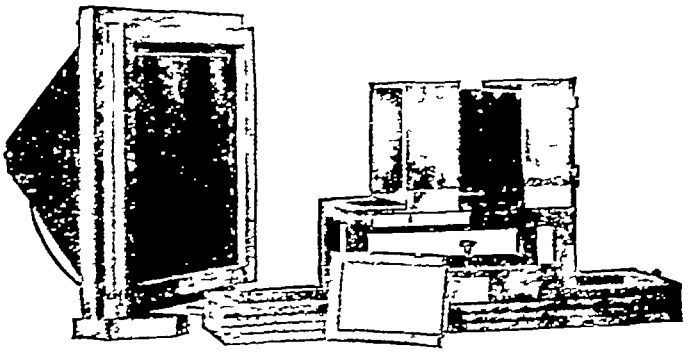
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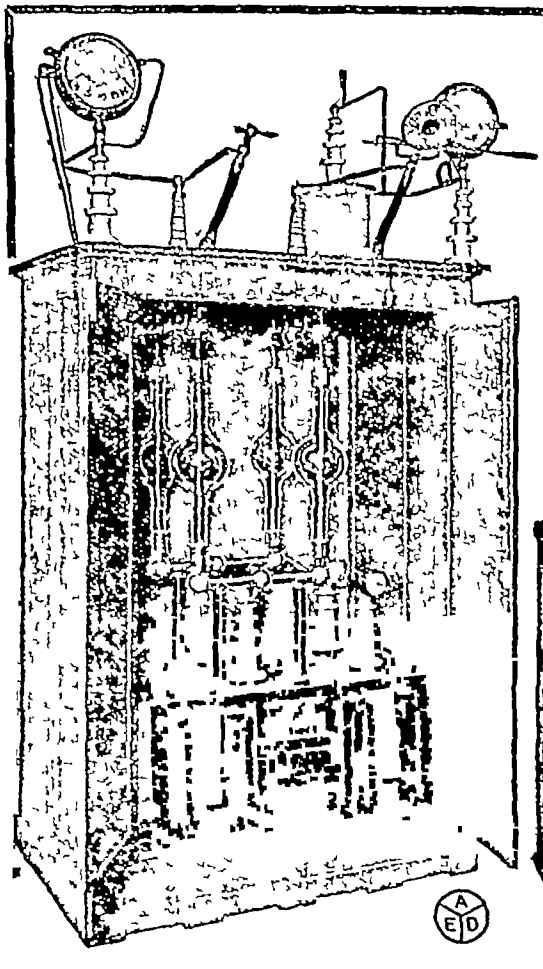
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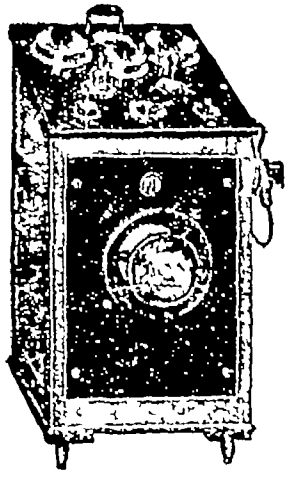
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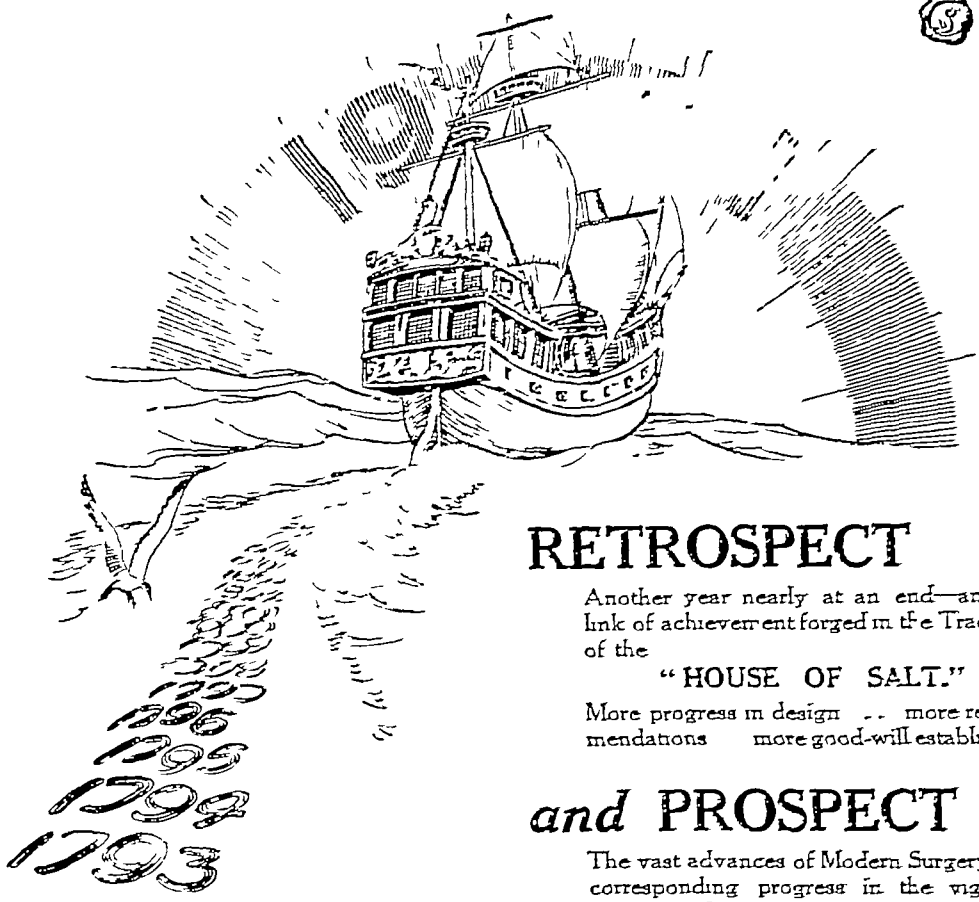
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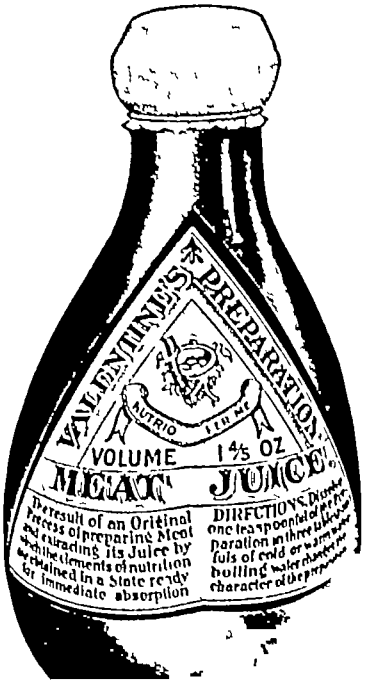
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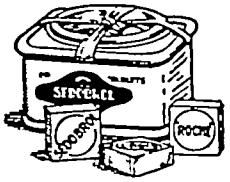
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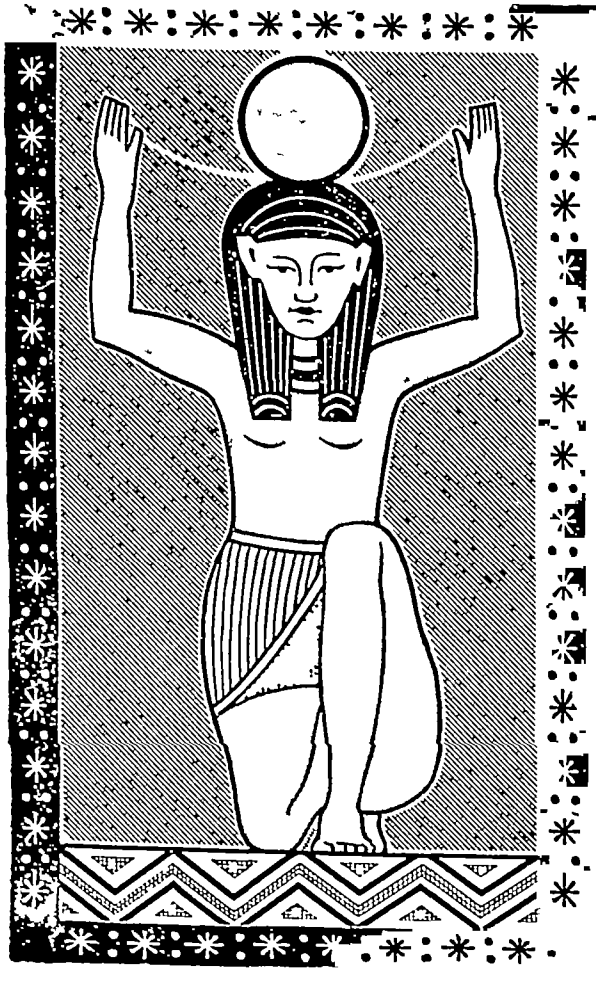
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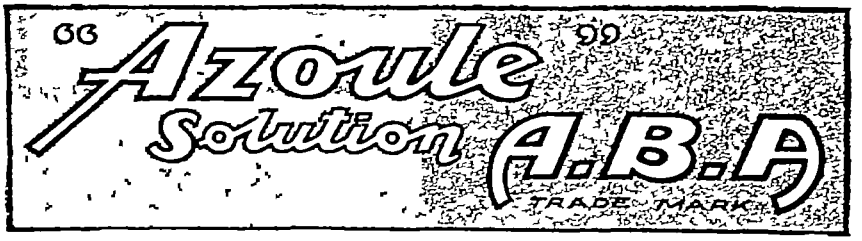
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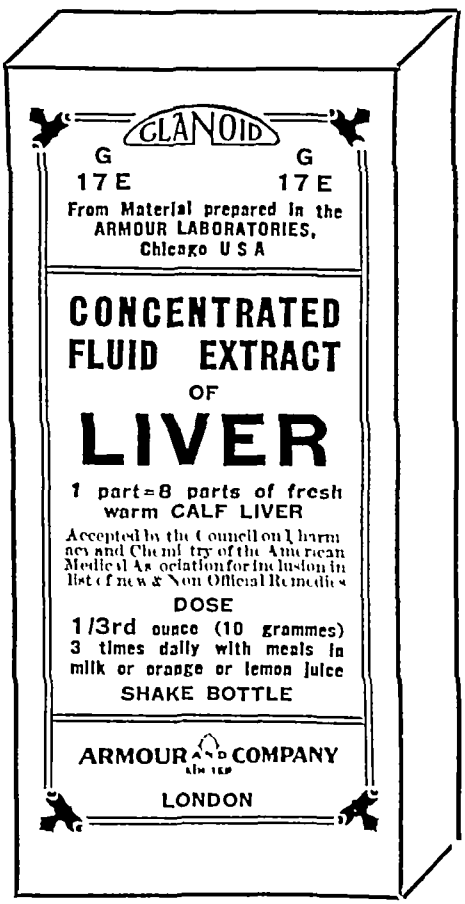
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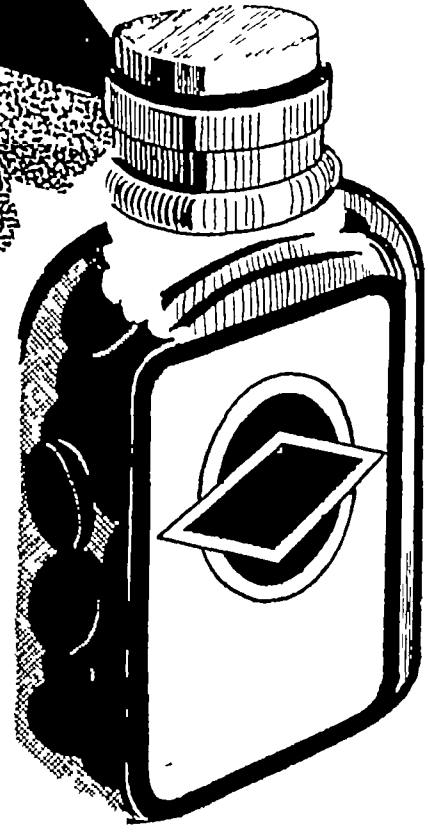
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SYMPTOMS AND PATHOGENESIS OF THE HAEMORRHAGIC DIATHESIS

BY

H. LETHEBY TIDY, M.D., F.R.C.P.,

PHYSICIAN ST. THOMAS'S HOSPITAL.

The term "haemorrhagic diathesis" is applied to a condition in which without visible extravasation of blood tends to take place into the skin and from the mucous membranes. The group in the past has been usually known by the name of "primary purpura," but numerous other terms have been employed. Purpura is the most striking feature of the group, since its occurrence as a primary symptom is confined to this entity, but it is not invariably necessarily present. The essential characteristic of the disease is the tendency to spontaneous *haemorrhages*, and the nature of these may be very varied. In secondary purpura the symptomatology may be identical, but some recognizable primary disease is present. Haemophilia, however, is a syndrome of a different nature.

PATHOGENESIS

The cause of these haemorrhages is still in doubt. Various organs and tissues have been held to be initially at fault, and the influence and action of these will be considered below.

Increased Capillary Permeability.—The small size of many of the cutaneous haemorrhages leaves no doubt that the blood has escaped from the capillaries. It is well known that the blood cells are able, in certain circumstances, to traverse the walls of these vessels. An increase in the permeability of the endothelium of the capillaries on reaching a certain stage would permit the blood cells to escape through the vessel walls in such a degree as to result in the appearance of cutaneous and other haemorrhages, depending on the site and extent of the change. Is there any evidence for the occurrence of such undue permeability in the haemorrhagic diathesis? As the permeability increases from its normal grade it will reach a point at which it permits the passage of an increased amount of plasma but not of cells. Accumulations of such plasma must manifest themselves as wheals, local oedema of the tissues, and urticaria. Lewis[1] in his study of the blood vessels of the skin came to the conclusion that skin stimulation produces wheals by causing active dilatation and increased permeability of the minute endothelial cells. The fluid present was proved to be blood plasma. Therefore if increased permeability is the cause of primary haemorrhages we would expect in the haemorrhagic diathesis to find the occurrence of local oedemas and urticaria. It is well recognized that this is so.

Clinically in certain types of the haemorrhagic diathesis there is close relationship between the occurrence of wheals and urticaria and the occurrence of purpura and ecchymoses. For example in a given individual attacks of urticaria and of haemorrhages may alternate, or both may be present simultaneously. This is referred to further under "Symptomatology." Obviously it may be accepted but in such cases the formation of wheals and of urticaria, and the occurrence of haemorrhages are due to the same factor. A striking phenomenon to which Lewis called attention is the occurrence of "refractoriness" in the minuter vessels. If a wheal is produced by skin stimulation the site affected will not produce another wheal until after the lapse of some days. For that period it is refractory to the same or similar stimuli. In refractoriness the minute vessels are dilated and do not respond either to vaso-constrictor substance or on the other hand to histamine or causes of increased permeability. Lewis decided that this is a direct property of the blood vessels. Apparently the same phenomenon occurs in the haemorrhagic diathesis. Osler[2] in 1811 recorded a case in which a mustard leaf was placed on the epigastrium of a man on account of a sudden pain. In fact this pain was the first symptom of the onset of acute purpura haemorrhagica, and on the next day the purpura appeared, and eventually haemorrhages extended over the entire body, except the site which had been covered and stimulated by the mustard leaf. In a case of mine, a man had a pain in the knee, which he thought was due to a strain, and for which he put on an elastic knee-cap. Purpura subsequently developed. When I saw him both lower extremities were covered with spots, except the area which had been compressed by the knee-cap, which was entirely free. It may be suggested that the refractoriness in these purpuric cases is similar to that observed by Lewis and exhibits the relationship *between haemorrhage and wheal formation*. Bedson,[3] in experimental purpura, watched the mesenteric vessel under a microscope, and observed the haemorrhages forming by an "exaggerated type of diapedesis"—that is to say, an increased permeability. He noted that the current of blood was not slowed, which agrees with Lewis's conclusion that there is active dilatation of the minute vessel during wheal formation. Thus there are several lines of evidence suggesting that primary haemorrhages on the one hand and urticaria and wheal formation on the other, are allied manifestations due to undue permeability of the capillary endothelium. It may be noted here that in urticaria there is as far as is known, no marked variation in the number of platelets nor does the spleen enlarge. Observation however, are scanty.

The Influence of the Blood Platelets.—In case of the haemorrhagic diathesis when haemorrhages are occurring and especially if they are severe, the blood platelets are usually reduced in number and may be entirely absent. This has given rise to the theory that the diminution of platelets is the essential cause especially in the grave form known as purpura haemorrhagica. Frank[4] believed that thrombopenia only occurred in purpura haemorrhagica, *and not in other types or lesser grades of primary* haemorrhage. He held the view that the thrombopenia was due to a primary defective action of the bone marrow, and was the direct cause of the haemorrhage. For this reason he introduced the term "essential thrombocytopenic purpura haemorrhagica." Frank now agrees that another factor besides thrombopenia is necessary and this he finds in "microtrauma" such as pressure of bed clothes. It is now recognized that the platelets may be greatly reduced or even entirely absent, and yet no haemorrhages take place; this may be so in known cases of the haemorrhagic diathesis and also in other conditions in which reduction of platelets develops. Further, in a case of the haemorrhagic diathesis the platelets may be normal in number, even at a time when haemorrhages are definitely occurring—that is to say, when the disease is active. This is often found in the type known as Henoch's purpura. Bedson[3] was able to prepare an anti-platelet serum, injection of which resulted in complete absence of platelets in the blood of an animal, yet no purpura or haemorrhages appeared. But if subsequently a second serum was injected designed to act on the endothelium of the vessels then haemorrhages developed. No ordinary serum had such a result. Thus the absence of platelets does not result, by itself, in the occurrence of haemorrhages.

It has been argued that the absence of haemorrhage in complete thrombopenia is due to the presence of protective substances set free by the destruction of platelets. This argument is contradicted by the fact that haemorrhages result in experimental thrombopenia if an anti-blood vessel serum is injected. On the other hand this *serum does* not produce haemorrhages in a normal animal—that is with normal platelets. The conclusion appears to be that platelets have a protective action against the occurrence of capillary haemorrhages, but their absence is not a direct cause of such bleeding. The primary cause of the haemorrhage must be another factor. When this factor is absent haemorrhages will not occur whether platelets are present or not. When this *factor* is present the function of the platelets is to act as a protection, and this may be achieved partly or completely. Increased permeability of the capillary endothelium will fulfil the factor. With regard to the mode of the protective action of the platelets, the platelets possess two

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principal functions which are related to each other[8,9]. First, they tend to adhere in numbers, or even in masses, to injured endothelium. This has been observed taking place in injuries of capillary endothelium. In larger vessels it is now known that the white thrombi, which often cover or start from a patch of atheroma or other pathological site, are composed of platelets. The composition of these white thrombi long puzzled our predecessors. Secondly, platelets or their products are concerned in promoting the coagulation of blood. How far the coagulation time varies with the number of platelets will be discussed later. Both these functions tend to protect a site of capillary endothelium which is either injured by trauma or weakened in other manners. But if the demand is excessive, and frequently repeated, platelets will be consumed and thrombopenia result. Such thrombopenia is a secondary occurrence, and is the result, and not the cause, of the haemorrhagic diathesis. But it establishes a vicious circle, owing to the protective powers of the platelets being diminished.

The Influence of the Spleen.—A difficult question is the reason why the spleen sometimes enlarges in the haemorrhagic diathesis, and the nature of its activity. Kaznelson[10] discovered that cases of the haemorrhagic diathesis with thrombocytopenia benefited from splenectomy. He argued that the spleen produces a toxin which acts on the marrow, resulting in thrombopenia, and that the haemorrhages are due to this thrombopenia. As stated above, thrombopenia by itself is insufficient to account for haemorrhage. Kaznelson's theory might be modified to suppose the existence of a splenic toxin acting on the capillary endothelium and causing increased permeability. Such a toxin might be a histamine-like body. On this theory the spleen is the primary cause of the haemorrhagic state. There is no doubt that splenectomy generally has this beneficial effect in the haemorrhagic diathesis. The strongest evidence for the existence of a primary splenic action on the vessels is the frequent occurrence of cases in which haemorrhages cease after splenectomy although thrombopenia persists. But, on the other hand, haemorrhages will sometimes recur, or continue, after operation. In explanation of these recurrences it has been suggested that the reticulo-endothelial tissues elsewhere take up the activities of the spleen and produce an identical toxin. It is difficult to prove or disprove such a suggestion. Since time must elapse before the reticulo-endothelial tissues could develop such functions fully, this theory would not explain the cases occasionally met with in which the haemorrhages continue unaffected by splenectomy. Another theory is that the activity of the spleen is originally secondary to the haemorrhagic state, but results in a vicious circle. From this point of view the action of the spleen in acholuric jaundice is worth consideration. It is generally accepted that the primary fault in acholuric jaundice is the production by the marrow of a proportion of red cells of excessive fragility. The spleen treats these as effete, destroys them in large numbers, and enlarges spodogenously. The symptoms of acholuric jaundice are mainly due to the anaemia and other results of the excessive activity of the spleen, and are relieved by splenectomy, although the fragility remains. The operation removes a link in a vicious circle which has come into being but does not deal with the essential factor. There is no evidence subsequently that this excessive activity is taken over to any appreciable degree by the reticulo-endothelial tissues elsewhere.

It is possible that the spleen holds a similar and secondary position in relation to the haemorrhagic diathesis. Its increased action is thus explained as being destruction of defective platelets produced under stress by the marrow, or the disposal of debris of capillary haemorrhages. Splenectomy will permit these platelets, which are somewhat defective but still valuable, to remain in the circulation. The spleen is not always enlarged. In severe acute cases the spleen is rarely more than just palpable and frequently is not enlarged at all. This is consistent with the mode of action suggested. But, on the other hand, in chronic cases the larger the spleen the less marked in general are the haemorrhages. As we follow the increasing grade of splenomegaly we come to cases with definitely enlarged spleen, severe anaemia, a tendency to ecchymoses, and occasionally a few purpuric spots, and finally to cases of "splenic anaemia," often with no haemorrhages at all. All these latter grades usually benefit from splenectomy, but it is difficult to account for them on either of the two theories mentioned. In favour of a primary splenic action on the permeability of the blood vessels is the frequent cessation of haemorrhages after splenectomy. Against this view is the recurrence or persistence of haemorrhage in certain cases, the absence of any relation between the size of the spleen and the severity of the haemorrhages, and the absence of any obvious connexion between the spleen and the allied phenomena of urticaria. Cases of "splenic anaemia" are difficult to fit into either view.

The Influence of the Bone-marrow.—In fatal cases of the haemorrhagic diathesis there are no constant changes in the bone-marrow, and this is confirmed in the few instances in which biopsy has been performed. The marrow may be hyperplastic, aplastic, or apparently normal. It is known from other conditions that neither hyperplasia nor aplasia of marrow, even when extreme, is necessarily associated with the occurrence of haemorrhage. In agreement with these varying states of the marrow, there is no characteristic blood picture, either in acute or in chronic forms. The red cells, of course, are usually diminished in number, but may be normal or even above normal. Any of these changes in the red cells may be combined with increase or decrease of the white cells, probably depending on whether the bone marrow is, on the one hand hyperplastic, or on the other hand, either aplastic or temporarily exhausted. Diminution of red or white cells of itself does not result in capillary haemorrhage; such haemorrhages do not occur in persons bleeding to death or in many forms of advanced anaemia. The influence of the marrow in the haemorrhagic diathesis is therefore not primary, but secondary. Owing to exhaustion temporary or permanent it becomes unable to respond to the increased demand for platelets. The exhaustion may also apply to blood cells, and the degree can be measured by the resulting leucopenia.

The general conclusion may be drawn that the essential cause of the haemorrhages is an increase in the permeability of the capillary endothelium. The platelets attempt to protect the weak spots, and are thus removed from the circulation. Increased demands for platelets consequently fall on the bone marrow which may or may not respond successfully. The normal action of the spleen in destroying defective constituents of the blood increases, and the spleen tends to enlarge spodogenously. So far the position is fairly clear, though, of course open to alternative views. The doubtful points are why the capillary permeability varies and whether there is a primary action of the spleen causing this permeability.

SYMPTOMS OF THE HAEMORRHAGIC DIATHESIS

The cardinal feature naturally is the tendency to the occurrence of haemorrhages. The most characteristic form of haemorrhage are purpura, ecchymoses, and bleeding from the mucous membranes. The haemorrhages may be of any of these types, separately or together, and of any grade of severity and chronicity. The occurrence of the haemorrhages may be intermittent or continuous. Cases are met with in which fresh purpuric spots have appeared daily for many years. On the other hand, there may be complete freedom from haemorrhages for long periods. It is by no means invariable for haemorrhages to occur into the skin or into the subcutaneous tissues. Certainly the occurrence of these capillary haemorrhages into the skin often determines the diagnosis. Unfortunately the past purpura has been considered the essential phenomenon, and cases with other features of the haemorrhagic diathesis but without purpura have consequently been regarded as curiosities. A single mucous membrane may be repeatedly involved, such as the nose, kidney or uterus, or even the stomach, subsequently haemorrhages may develop at other sites, or a family history may reveal the nature of the bleeding. Most of these variations have received independent and elaborate names, especially in the absence of purpura. It may be noted that haemorrha

to the joints or the pleural cavity is very rare, but meningeal haemorrhage is not so uncommon

Although haemorrhages are the outstanding manifestation of the haemorrhagic diathesis, there is another factor to be considered in the production of symptoms As mentioned under 'Pathogenesis," the capillary endothelium may permit the passage of increased amounts of blood plasma without permitting the passage of blood cells This increased passage of plasma is the cause of ordinary wheal formation In different grades of severity it produces urticaria, and occurring in other sites it results in localized oedema of the subcutaneous and other tissues Such oedematous areas are rarely absent in cases of the haemorrhagic diathesis of more than slight severity, and are usually recognized without any difficulty when looked for They are often tender, and are usually ascribed to "deep haemorrhages," but it will be found that such areas frequently subside rapidly and without any ecchymoses or bruising When the tissues of the face are affected the appearance may closely resemble acute nephritis It is consequently of importance to consider what symptoms may occur in urticaria (including angioneurotic oedema or giant urticaria) uncomplicated by any haemorrhage There are two special groups First, abdominal pain, often colicky in nature, is a frequent symptom, and may be accompanied by diarrhoea and occasionally by vomiting With the diarrhoea there may be bleeding from the intestinal mucous membrane Secondly, the joints are often painful and sometimes swollen, and these swellings may subside with great rapidity There can be no doubt that these symptoms are due to effusions into the deeper tissues It will be observed that identical symptoms are prominent in certain forms of the haemorrhagic diathesis, and are rarely absent to some degree in any acute case

The symptomatology of the haemorrhagic diathesis consequently falls into three groups (1) the occurrence of haemorrhages (2) anaemia due to loss of blood and the drain on the blood-forming tissues (3) the results of escape of plasma into the tissues—namely, oedematous areas, abdominal colic, and pain and swelling of the joints The swelling may be considerable, but does not lead to the after-effects seen in the haemorrhages of haemophilia Splenic enlargement is variable In severe acute cases the spleen is rarely palpable at the onset, though it may become so after a few days In more chronic cases it may be noted that in general the larger the spleen the less severe are the haemorrhages, though anaemia is usually marked Unlike Banti's disease, the haemorrhagic diathesis never terminates in cirrhosis of the liver and ascites Females are generally believed to be affected more frequently than males In a consecutive series of twenty cases seen in private practice nine were males and eleven females, which may be regarded as equal Most cases are sporadic, but there is abundant evidence from the literature that the condition may be hereditary or familial, or both, and that inheritance may be through either sex Of these twenty cases, one male had a sister affected and one female had a mother affected There was no familial history in any of the others

Classification

The haemorrhagic diathesis has in the past usually been classified into the following groups (1) purpura simplex, (2) purpura rheumatica or Schonlein's purpura, (3) Henoch's purpura and (4) purpura haemorrhagica

For a long time it was considered that these groups were only slightly connected with each other Even recently it has been strongly held that purpura haemorrhagica is an entirely separate entity on the erroneous view that in this group alone are the platelets diminished and that any benefit follows splenectomy But in general the more correct view has been gaining ground that these groups possess common factors and to some extent represent degrees of severity Considering Henoch's purpura, the attacks of abdominal pain are the outstanding complaint With these attacks there is frequently diarrhoea, often with passage of blood Joint pains and swelling may also occur Not uncommonly the onset of these symptoms precedes any superficial haemorrhage On examination of a case of Henoch's purpura areas of oedema are usually easily recognized and are often extensive It will also be found in many cases that the superficial haemorrhages are mainly ecchymoses and that true purpuric spots are scanty These ecchymoses tend to be on swollen oedematous areas, the sites often being more urticarial than haemorrhagic The area of an ecchymosis is thus consistent with a small amount of blood cells and a large amount of plasma, the swelling being out of proportion to the staining The appearance can be produced by the injection of 1 or 2 c.cm. of saline subcutaneously in a haemorrhagic subject, the haemorrhage in such circumstances being probably due to the distension injuring capillaries which are already of less than normal resistance, the escaping blood cells being diluted by the excess of fluid present

In accordance with these observations, the degree of anaemia in Henoch's purpura may be comparatively slight, and the platelets may be normal or increased, the spleen is rarely palpable, or not more than the tip can be felt Thus the subject of Henoch's purpura is more ill than the severity of the haemorrhages and the condition of the blood would suggest He may be said to be more sick than purpuric and the symptoms are those attributable to the urticarial factor—that is to say, to the escape of plasma rather than of blood cells In general the anaemia appears to vary with the amount of purpura The oedema of the face may be sufficiently severe to produce a facies suggestive of acute nephritis Cerebral oedema may cause convulsions, and this is probably the origin of the statement that these cases often die of uraemia As might be expected the margin between Henoch's purpura and a state with severe haemorrhage is comparatively small The condition of Henoch's purpura may 'change to purpura haemorrhagica" Indeed, cases have been described as commencing with urticaria, developing Henoch's purpura and terminating as purpura haemorrhagica Experimental anaphylaxis may exhibit the same sequence in severe cases haemorrhage may occur and thrombopenia develop Clinically Weil[19] has recorded a case of a boy in whom urticaria followed the eating of eggs, the areas would sometimes become ecchymotic or on other occasions purpuric spots would be present In Henoch's purpura, therefore, the severity of the symptoms and of the constitutional disturbances is due to urticaria rather than to haemorrhage Consequently the severity of symptoms cannot correctly be considered to place Henoch's purpura as a step between purpura simplex and purpura haemorrhagica in degrees of severity of haemorrhage Henoch's purpura belongs to a subgroup in which urticaria and haemorrhages are both prominent Purpura rheumatica is clearly of the same type as Henoch's purpura, but of less severity

Excluding these two groups from the old classification, there remain purpura simplex and purpura haemorrhagica These groups may be considered as the limits of mildness and severity, and the terms may be regarded as indicating these states The grading must not be pressed too far, for the importance of haemorrhage depends not only on the extent, but on the duration Thus individuals with only a few purpuric spots may exhibit any degree of anaemia Unfortunately, also, this nomenclature leaves no title for the common cases in which the severity of the haemorrhages lies between these extremes, since, for reasons given above, Henoch's purpura cannot be placed correctly in this position

The complete entity which we are considering thus has three principal groups

1. *Pure Primary Haemorrhagia*.—All grades from 'purpura simplex to purpura haemorrhagica Symptoms attributable to anaemia are most prominent

2. *Pure Primary Urticaria*.—Characteristic symptoms are abdominal colic and joint pains

3 *Combined Haemorrhagia and Urticaria*.—This includes the forms Henoch's purpura and purpura rheumatica The most prominent symptoms are due mainly to the urticarial factor but this factor does not cause any drain on the blood forming organs or the necessity for the removal of debris from the tissues and the spleen does not enlarge from its activity

Changes in the Blood

Coagulation Time.—The coagulation time in the haemorrhagic diathesis is of considerable interest It is unfortunate that most records of coagulation time in the literature are of little value for comparison owing to failure to recognize or to report certain factors which

influence both normal and abnormal coagulation First, the method employed is of importance Dale and Laidlaw's method is satisfactory for clinical purposes Secondly, the temperature is of obvious importance, though often not mentioned The temperatures most often employed are 36° to 38° C and 25° C The blood temperature should always be used for one set of observations, though in certain circumstances the blood clots so rapidly as to make the experimental error disproportionately large At 25° C the clotting in pathological conditions may be so long as to make observations on consecutive drops a practical difficulty Probably 28° or 30° C would be the best alternative temperature, though these have been little used, and there are few observations for comparison A third factor of very great importance is the normal rapid variation in the coagulation time in successive drops from a prick Though dimly recognized previously, this was first clearly stated by Christie[7] For the first, second, third and for the fourth and subsequent drops at 37° C, the following average times may be given 2 min 10 sec, 1 min 5 sec, 45 sec, 40 sec Christie found that the same curve was given in cases of purpura, though with some prolongation—namely, 2 min 35 sec, 1 min 30 sec, 1 min 10 sec, 1 min 5 sec Other observers confirm the result that the coagulation time in the haemorrhagic diathesis tends to lengthen about 50 per cent with a fall in platelets, but not more According to Howel Evans,[9] the coagulation time rose about this degree as the number of platelets fell to 100,000 per c mm, but no increase follows any further fall Roskam,[18] in experimental thrombopenia in dogs, obtained a closely similar increase In my experience, in cases of the haemorrhagic diathesis with normal numbers of platelets, the coagulation time has been, if anything, shorter than normal

The following cases illustrate this point

1 J M, male, aged 53 years Symptoms of Henoch's purpura for six months Red cells, 5 900 000, haemoglobin, 90 per cent, white cells, 4,200 platelets, 340,000 Bleeding time, 1 min 40 sec Coagulation time at 37° C first drop 90 sec, second drop, 50 sec, third drop, 35 sec, fourth drop, 30 sec

2 R W, female, aged 30 years Spontaneous bruises for ten years Family history of "bleeders" Red cells, 5,700,000, haemoglobin, 80 per cent, white cells, 6 200, platelets, 370,000 Bleeding time, 2 min 45 sec Coagulation time at 37° C first drop, 75 sec, second drop, 35 sec, third drop, 35 sec

3 A B H, male, aged 60 years Purpura and epistaxis for fifteen years Blood pressure, 160 mm systolic No splenomegaly Red cells, 7 100,000, haemoglobin, 105 per cent, white cells, 11,200, platelets, 285,000 Bleeding time, more than 20 min Coagulation time at 37° C less than 30 sec in first drop

It would appear that in the haemorrhagic diathesis the basal coagulation time is as short as, or shorter than, normal The time lengthens with the fall in platelets, just as it does with experimental thrombopenia in otherwise normal animals, but this increase does not exceed about 50 to 70 per cent It is probable that this increase, together with some experimental error, has accounted for cases of the haemorrhagic diathesis occasionally being confused with haemophilia The great lengthening characteristic of haemophilia never occurs in the haemorrhagic diathesis In haemophilia, further, the coagulation time does not diminish in successive drops from a prick, but tends to lengthen

Failure of Clot Retraction—If blood is collected in a small test tube from a case of the haemorrhagic diathesis, it is frequently found that the clot after forming, fails to retract and to express serum This failure appears to run parallel with the diminution in platelets It is difficult to say what effect this would have on haemorrhage occurring from a small vessel A similar failure of retractability is frequently observed in many conditions in which there is no tendency to haemorrhages, or, so far as is known, any reduction in platelets

Bleeding Time—*This test, was introduced by Duke*[4] in order to obtain some direct measure of the haemorrhagic tendency The blood from a sharp prick is soaked off with filter paper without pressure every quarter to half a minute, and the length of time until bleeding has entirely ceased is noted The normal bleeding time is one to two and a half minutes The method has a suggestion of vagueness and may be tedious, and this no doubt accounts for its unpopularity In fact, it is a valuable test of the haemorrhagic state at the moment of examination, it is easy to perform, and the variations are often sufficiently great to leave no question of experimental error The lobe of the ear is the best site, and it is essential that no pressure should be employed The bleeding time may be greatly increased, even to an hour or more, in haemophilia and in the haemorrhagic diathesis In haemophilia it runs parallel with, and is undoubtedly associated with, the difficulty in coagulation But in the haemorrhagic diathesis the coagulation time cannot be an important factor in the bleeding time Roskam[18] found that enormous differences in the bleeding time existed in various cases with the same coagulation time Roskam also observed that in experimental thrombopenia the bleeding time increased about three times as the platelets fell to zero, the coagulation time having lengthened about 50 per cent Such an increase of the bleeding time is comparatively small in relation to the long duration often recorded in the haemorrhagic diathesis In the haemorrhagic diathesis the bleeding time does not correspond either to the number of platelets or to the length of the coagulation time Thus the great increase in the bleeding time cannot be principally due to variation in the number of platelets or in the coagulation time, though these are contributory factors It is found, however, that the bleeding time varies closely with the actual occurrence of active haemorrhage When the haemorrhages cease in an active case, the bleeding time will be found to have fallen almost to normal When they recur, the bleeding time will have lengthened again The platelets during these changes may have remained constant This is well illustrated by the following case of Leschke and Wittkower[13]

Woman, aged 40 Purpura and Bleeding from Mucous Membranes for Eight Years

Date	Platelets	Bleeding Time	Haemorrhages
1924 March 29	10 000	60 min	Extensive
April 2	10 000	6 min	Bleedings ceased
„ 3	10 000	4 min	Skin clearing
„ 7	Splenectomy		
„ 25	13 000	2 hrs	Petechiae and mucous membranes bleeding again
„ 27	30 000	3 min	Bleedings ceased
„ 29	36 000	2 min 50 sec	Petechiae disappeared

Clearly the increase in the bleeding time depends essentially on the activity of the factor which results in the haemorrhage, and this is consistent with the view that the primary factor is the permeability of the capillaries

Capillary Resistance Test—This test is also known as Rumpel-Leede's or Hess's test A tourniquet is placed round the upper arm and the pressure raised as in estimating blood pressure In active states of the haemorrhagic diathesis, purpuric spots will appear on the lower arm The test needs standardization both for the height of the pressure and for its duration, as Lewis[14] has shown Probably two minutes is the best duration The pressure should be just sufficient to obliterate the pulse at the wrist With these standards the production of purpura is evidence of an active haemorrhagic state The results run parallel with the bleeding test The crop of spots is sometimes very extensive, and the patient may be alarmed at their appearance It must be noted that in a case of the haemorrhagic diathesis, an increased bleeding time and a positive capillary resistance test are evidence of *activity* at the moment, and also form a measure of the degree of the activity But their absence does not necessarily prove that the patient is not a subject of the diathesis

CHANGES IN THE BLOOD CELLS AND PLATELETS

As stated above, there is no characteristic blood count Since there is direct loss of blood, the blood-forming tissues must be called upon to supply more blood cells, and to an even greater extent more platelets in view of their action described above The leucocytes, for example, may be consequently produced in sufficient numbers as the marrow reacts, or in excessive numbers, as also occurs

after severe haemorrhage, or in defective number, as the bone-marrow fails temporarily or permanently. Such is the probable explanation of the changes observed. Certainly the leucocytes may be increased or decreased and the differential count may show wide variations. With extreme leucopenia, high percentages of lymphocytes may occur. With regard to the red cells and haemoglobin diminution naturally is usual, but erythrocytosis is not unknown.

Blood Platelets.—Great differences in the number of platelets are found in different cases and the number may also vary with great rapidity in a given instance. With severe acute haemorrhages justifying the term "purpura haemorrhagica" the platelets are very scanty or absent. In such conditions the platelets may increase very rapidly with the cessation of active bleeding and may reach normal in a few days. The active bleeding has been observed to cease before the increase of platelets commences, as in the following case recorded by Koerber:[3]

Woman aged 48. Severe Purpura and Haemorrhages for Three Days.

Date	R B C	Hb	W B C	Platelets	Haemorrhages
June 5	5	80	11 600	Nil	Extensive
„ 8	3·5	60	9 200	„	Extensive
„ 10	2·8	35	11,100	„	Less: no haematuria
„ 11	2·2	25	10 000	„	Almost ceased
„ 12	1·8	30	11,200	„	Completely ceased
„ 13	1·7	35	9,900	6,900	
„ 14	1·8	35	11 400	340 000	
„ 20	2	35	7,000	200 000	

Diminution of platelets may be present with haemorrhages of lesser severity. In chronic cases of moderate or even slight severity the number is often between 80 000 to 150,000 per c.mm., and variations do not occur very rapidly. In conditions of moderate severity of short duration the count may be within normal limits. In Henoch's purpura, even with considerable pain and constitutional disturbances, the number is frequently normal, or may show an increase. Havem[4] in an early article, noted that diminution might occur in secondary purpura, but the observation apparently was overlooked.

Relation of the Haemorrhagic Diathesis to Certain Clinical Conditions

It is impossible to decide exactly what clinical groups are manifestations of the haemorrhagic diathesis. The difficulty, as usual, is mainly on the borderline where this and other entities merge together. Certain conditions may be referred to:

1 *Haemophilia.*—The lengthened coagulation time and the normal number of platelets need no further reference. It is noteworthy that purpura does not occur in haemophilia. It is now widely accepted that women are never haemophilics. There can be no doubt that nearly all alleged female haemophilics of the past (and some of the sporadic males) were cases of the haemorrhagic diathesis. Nevertheless there is an impression among many females of haemophilic stock that they bleed more profusely and readily than ordinary individuals, though never to the degree of a male haemophilic. There are no modern studies of this possibility. The moderate lengthening of the coagulation time in the haemorrhagic diathesis may cause difficulties in diagnosis. Certainly there is no direct connexion between the two entities.

2 *Secondary or Symptomatic Purpura.*—The groups of "secondary purpura" recorded in textbooks need revision. Thus purpura is not a feature of chronic leukaemia, indeed, the occurrence of any haemorrhage, even a few purpuric spots, heralds the termination of life in leukaemia. It may be doubted whether purpura can ever be justly attributed to jaundice. I do not recollect ever having seen purpura in the jaundice of gall stones. Some at least of the 'cachectic" purpuras are mythical. I have known a man with the haemorrhagic diathesis finally die from carcinoma of the stomach, in spite of extreme wasting and an advanced chronic anaemia he had no purpura in the last six months of his life. There is no proof that purpura occurs in acute rheumatic fever personally, I have never seen an example. Scurvy, of course, produces haemorrhages, but this is a vitamin deficiency and not cachexia. Nor does scurvy produce purpura. The influence of vitamin deficiency in the production of haemorrhages needs further investigation.

3 *Banti's Disease and Splenic Anaemia.*—These terms are often used as synonyms and even as synonyms for the haemorrhagic diathesis. There is no doubt that several different entities are thus confused. Banti's disease is distinct from splenic anaemia and has no relation to the haemorrhagic diathesis, neither of these latter conditions ever terminates in hepatic cirrhosis and ascites. Since Banti's disease was first described several entities have been separated from it such as the Egyptian form due to schistosomiasis. Banti's disease affects children and young adolescents. It does not occur in true adult life. The subjects are anaemic and icteroid, with palpable but not greatly enlarged spleens, and later the characteristic hepatic cirrhosis develops. The duration covers a few years. There is no purpura or ecchymoses. The entity has been confused by the pathology ascribed to it by Banti, which needs reconsideration. Splenic anaemia usually occurs in adults, but may be found in childhood. The spleen is markedly enlarged, and commonly reaches to the umbilicus. Anaemia is severe. The facies is usually extremely pale, but without the muddy icteroid complexion of Banti's disease. The duration is often very long and may be twenty or thirty years, but cirrhosis of the liver and ascites never develop.

It is difficult to know where to draw the line between splenic anaemia and the haemorrhagic diathesis. Cases of splenic anaemia are common with markedly enlarged spleens, advanced anaemia, and no record of any haemorrhage. If this group be considered alone, there is no reason for including it in the haemorrhagic diathesis, and on any of the theories in dispute it is difficult to account for the combination of splenic enlargement and absence of haemorrhage. But on the other hand gross haemorrhage, especially haematemesis, is a recognized feature of many cases of splenic anaemia. Formerly the gross haematemesis was usually ascribed to the large spleen kinking the gastric vessels, but haematemesis may occur in undoubted cases of the haemorrhagic diathesis, even in the absence of splenic enlargement, and may be safely attributed to oozing into the stomach. Possibly in splenic anaemia both causes are acting. A definite sequence can be traced between splenic anaemia without haemorrhage and cases of the fully developed haemorrhagic diathesis. Thus in the first step there are cases with recurrent haematemesis, then cases with occasional haematuria or rectal haemorrhage in addition to haematemesis, and then a further group with a few purpuric spots. It is noticeable that the size of the spleen tends to diminish as we pass from "splenic anaemia" to the definite haemorrhagic diathesis. The question is still unsettled, but it may prove that some of the cases of typical splenic anaemia without obvious haemorrhage belong to the haemorrhagic diathesis. Others may be separate entities. Banti's disease may be regarded as distinct.

4 *Aplastic Anaemia.*—In this syndrome there is severe anaemia, leucopenia, thrombopenia, and aplasia of the bone-marrow. The condition may be either primary, without obvious cause, or secondary. A simple secondary group is that produced by the action of certain coal-tar products—for example, T.N.T. The spleen may be palpable, but is not greatly enlarged. Haemorrhages may or may not occur in this group. The development of haemorrhages is partly explained by the thrombopenia, but the nature of the additional factor necessary is doubtful. There may be no evidence of sepsis. It must be remembered that the aplastic state is not confined to the bone-marrow, and the blood vessels may share in the dyscrasia. In the haemorrhagic diathesis the marrow may become aplastic from exhaustion. But many cases of aplastic anaemia have no connexion with the haemorrhagic diathesis, and the haemorrhages are a secondary phenomenon, indeed, the patient may die of anaemia without their occurrence.

5 *Haemorrhages from a Single Site*.—An individual may have recurrent haemorrhages from the same site over a course of years. The occurrence of these in splenic anaemia has already been mentioned, but there is a group without splenic enlargement and with variable degrees of anaemia. The most common forms are epistaxis, haematuria, and metrorrhagia, but no mucous membrane is immune, and recurrent haemorrhages from the rectum and elsewhere may occur. These cases often cause much anxiety. At one time it was commonly believed that a surgical cause existed in every instance. It is now becoming recognized that these may be manifestations of the haemorrhagic diathesis. Kidd[9] was the first to observe purpura of the bladder in cases of haematuria of this origin. Probably these cases are rare, and every care must be taken to ensure that other organic causes are not overlooked. In several instances frequent severe haemorrhages have ceased after splenectomy.

TREATMENT

Splenectomy.—Many successful results have been recorded from splenectomy in cases of the haemorrhagic diathesis. It is consequently important to consider in what instances it is indicated or advisable. The results which follow splenectomy in other conditions have now been studied in many cases. It is found that there is a temporary rise in leucocytes and in the blood platelets. This occurs very rapidly, and suggests the flooding of the circulating blood from the reserves. The leucocytes are mainly polymorphonuclears, the rise being of the same type as occurs after severe haemorrhages. Howel Evans[10] has shown that a similar rise in platelets may follow other operations. This rise reaches its maximum about the twelfth day, that is to say at the time when it is known that post-operative thrombosis most commonly occurs. In these conditions the platelets have usually returned to normal about the twentieth day, although leucocytosis may persist much longer. In the haemorrhagic diathesis a similar rise in platelets is frequently observed to occur after splenectomy. Previous to operation the marrow will be producing platelets as rapidly as is possible for its state at the moment. In accordance with this the rise in platelets may reach a very high number. Rosenthal[1] found that in such cases there was a considerable incidence of fatal thrombosis. In other cases, however, the marrow is either unable to produce so great a number, or possibly the demands consume all which are produced, consequently the rise in platelets is small or transient and in such conditions the risk of thrombosis is slight. In the haemorrhagic diathesis, consequently, there are two risks to be taken into account in splenectomy. First, the general risk of the operation, secondly, the special risk of excessive thrombocytosis with resulting thrombosis.

Usually we have to consider:

1. Is the patient ill enough to justify the general risk, or alternatively, too ill for any reasonable chance of recovery?
2. Is there a special grave risk of thrombosis?

With regard to the first point, the mortality from splenectomy in the very acute severe cases is very high. But on the other hand these cases practically all die, and unless rapid improvement follows blood transfusion, splenectomy gives the best chance of life. There is a large group of cases showing a chronic moderate grade of the haemorrhagic diathesis. Over many years there may be a tendency to bruising, some purpura, and occasional haemorrhages from mucous membranes. Many of these cases show no evidence of progressing and the disability is not severe enough to justify an operation. The decision as to splenectomy in an individual case will largely rest on whether or not the degree of chronic anaemia is such as to prevent the following of a normal routine. From the point of view of the subsequent prognosis, the number of the leucocytes is also a useful guide. If leucopenia is definite and persistent this points to exhaustion of the marrow. Such exhaustion may be a permanent aplasia, but the improvement which may occur shows that it is sometimes transient. Severe chronic anaemia and leucopenia are both indications for the performance of splenectomy. Many cases of this chronic moderate group show a definite leucocytosis. It is evident that the marrow is not exhausted and is reacting, and in general it is safe to wait if the number of leucocytes is normal or above normal. With regard to the special risk of thrombosis this undoubtedly exists in those cases in which the number of platelets is within or above normal limits. Probably the bone marrow is producing an increased number, and after splenectomy the count may rise to very high figures, and thrombosis occur. In some instances the haemorrhages may form a prominent feature while the platelets are still normal, as often happens in Henoch's purpura. If, however, the haemorrhages are becoming dangerous, the platelets will usually fall, and splenectomy then becomes safer. In such cases the risk is greater if operation is done too early, and the decision as to when to operate is sometimes difficult. Experience shows that an excessive rise of platelets will not occur subsequently if the number is appreciably below normal at the time of operation. A considerable number of cases of the haemorrhagic diathesis will fall into this group. The haemorrhages may be moderate and chronic, or of a severer grade. Splenectomy will be specially indicated if anaemia is advancing and leucopenia is present in addition to the low platelet count. In this group the risk from operation is not high in the hands of experienced operators.

The haemorrhages have sometimes been observed to cease with great rapidity after operation. It is even claimed that oozing may be seen to cease directly the spleen has been removed, but this may be doubted. In many cases no haemorrhages are observed after the operation is completed. This rapid result is probably due to the flooding with platelets described above. It is not uncommon for a few haemorrhages to occur subsequently in the course of the next few weeks and then cease, occasionally they occur later over prolonged periods. In general, the operation in the conditions described is very successful. The platelets frequently fall to their previous level and may even be completely absent without obvious haemorrhages occurring.

Blood Transfusion.—This is a very important method of treatment. In cases of severe haemorrhages blood transfusion should always be performed. This may of itself check the haemorrhages, and may be followed by complete cessation at least temporarily. Blood transfusion should in all cases be performed before operation for splenectomy.

Haemostatics.—Many attempts have been made to check the haemorrhages with haemostatics. Injections of whole blood have been repeatedly successful in the haemorrhages of newly born infants, but do not appear to have the same effect in children and adults. Numerous patent haemostatic preparations are in existence. No definite results can be ascribed to these. Possibly the usual dosage is too small as the value of some preparations is supported by experiment.

Calcium Salts.—The only object of injecting calcium salts must be to increase the coagulability of the blood. Observations show that the coagulation time is little altered, and any lengthening is due to deficiency of platelets and not of calcium. As might be expected, there is no obvious benefit from the use of calcium.

Other Forms of Treatment.—Intravenous injections of adrenaline 1 in 1,000 have been known to check the haemorrhages in children. Injections of T.A.B. vaccine have also been used with a view to obtaining an anaphylactic effect. This is not an irrational procedure, and successful results have been reported in children. In adults, and in many children, no benefit has been observed.

SUMMARY

1. The haemorrhages in the haemorrhagic diathesis are primarily due to increased permeability of the capillary endothelium.
2. Blood platelets normally protect the capillary endothelium, and the diminution in number observed in the haemorrhagic diathesis is secondary to this action.
3. Escape of plasma from the vessels accounts for certain of the symptoms, especially abdominal colic.
4. Haemorrhages from a single site—for example, haematuria—may occur.
5. There is no constant characteristic change in the blood cells.

6 No sharp dividing line separates the haemorrhagic diathesis from splenic anaemia, but Banti's disease and haemophilia are separate entities

7 Splenectomy is indicated and successful in severe cases, but is contraindicated unless the platelets are diminished in numbers

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NON-FILARIAL ELEPHANTIASIS

BY

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A case of non-filarial elephantiasis recently treated at the Cardiff Royal Infirmary illustrates the value of a modified Kondoleon operation The patient had suffered for twenty-three years from a complaint which she had come to regard as incurable, and which not only caused her considerable discomfort, but, as she put it, entirely did away with any chances she might otherwise have had of finding a husband

History

The patient A B was 40 years of age At the age of 12 she suffered from a curvature of the spine tuberculous in origin and a tuberculous abscess on a rib When aged 15 she was stung on the left thigh by a wasp this soon got well At 17 the left ankle began to swell but the swelling disappeared overnight It then reappeared and gradually increased and a doctor was consulted He recommended a tight bandage from the knee to the ankle in the patient's opinion this drove the swelling from the leg into the thigh

In 1913 at the age of 23 she was admitted into Guy's Hospital where lymphangioplasty was performed without result She was again admitted to Guy's in 1920 and was operated upon by Mr Davies Colley The hospital notes were copied by the patient when the nurses were not looking These notes are so concise that they are quoted in full

The swelling extends from the ankle to Poupart's ligament anteriorly and to the level of the iliac crest posteriorly Patient has angular curvature of the spine

X ray Report—Old caries of the fifth lumbar spine probably tuberculous hip joint negative

December 9th 1920—Operation by Mr Davies Colley Anaesthetic C and E followed by ether A U-shaped incision was made on the dorsum of the left thigh the loop of the U being about a handbreadth above the knee joint the two limbs were carried up to the level of the lesser trochanter The flap of skin with the adherent adipose tissue was reflected upwards and the deep fascia exposed An elliptoidal flap of deep fascia was removed exposing the muscles of the thigh and some fat deep to the fascia This fat was not as translucent as that under the skin The enlargement of the limb was thus found to be due to increase of adipose tissue between the skin and deep fascia Some of the adipose tissue adherent to the skin reflected was excised The skin flap was reduced in size and stitched back. The calf of the same leg was treated in the same way

December 10th 1920—Wounds dressed much serous discharge

December 12th 1920—Wounds healing

January 12th 1921—Wounds healed Circumference of thigh on admission 29 inches now 26 inches The leg is diminished in size There is loss of cutaneous sensibility in a patch of skin below both incisions but deep sensibility is not impaired

Figures 1 and 2 showing the condition of the leg in October 1920 indicate the enormous increase in the size of the limb Figure 3 shows the condition on September 1st, 1929

Operation

The patient was admitted into the Cardiff Royal Infirmary on September 11th 1929—ten days after the third photograph was taken—and was operated upon on September 14th One incision was made in the thigh extending from the inner end of Poupart's ligament to the adductor tubercle of the femur another was made in the leg from a point one inch below the knee to the level of the internal malleolus and just posterior to the inner border of the tibia The deep fascia was considerably thickened and strips one inch wide were removed the whole length of the incisions The incisions were sutured with S W gut and healed in ten days

The patient left hospital on October 21st the limb showing very little improvement In January 1930 the oedema had almost completely disappeared from the lower half of the limb but the thigh was still almost as oedematous as before the operation

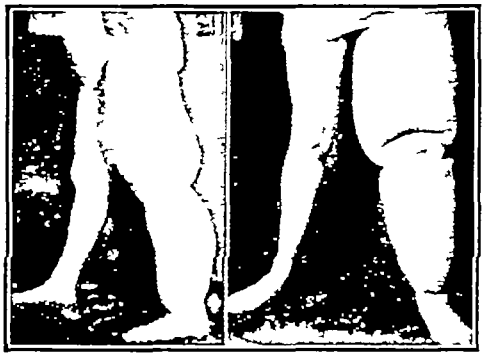


FIG. 1.

FIG. 2.

On May 7th I received a photograph (Fig 4) from the patient, with a note stating

> I think you will be interested to know that my leg has steadily improved since you saw it last January and I am enclosing photograph taken on May 5th 1930 I also desire to express my gratitude to you for such a successful operation It makes me very happy to be freed from an encumbrance which I have carried for so many years

The photographs speak for themselves The actual measurements at present are Right thigh, 20 inches left thigh, 21 inches, right calf, 12¾ inches, left calf, 13¼ inches



FIG 3.



FIG 4

COMMENTS

1 This case illustrates the value of Kondoleon's operation in elephantiasis

2 Hardly any improvement was seen during the first five weeks following the operation while the patient was still in hospital

3 The oedema gradually disappeared from below upwards, and the greater part of a year elapsed before the limb became normal

4 The incisions were planned to follow roughly the course of the main superficial lymphatic trunks It was considered that anastomoses between the superficial and deep lymphatics were more likely to form here than in any other area of the limb

5 The operation is easy to carry out, and appears to be devoid of risk

PLACENTAL HORMONES *

BY

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As a review of the literature and a progress report of our experiments on this subject has now been published elsewhere [2] a summary only of the work to date will now be given

The sulphosalicylic acid extract of human placenta made by the technique of Wiesner [3] has produced, when injected into immature female rats, increased rate of growth of ovary and the phenomena of oestrus Corpora lutea were present as a rule in the ovaries at the time oestrus was first observed The increased size of the ovaries was due for the most part to the newly formed luteal tissue This same extract, when injected into immature male rats, has produced an increased rate of growth of the prostate and seminal vesicles

Extracts of human placenta made by the use of acetone (equal volume) or alcohol (two volumes) were found to have similar physiological properties

Acetone or alcoholic extracts of human placenta which have been concentrated and fractionated with alcohol, have been divided into three parts, each of which appears to contain an active principle peculiar to itself and differing in certain properties from each of the other two The first fraction to be described contains the sex hormone oestrin, now to be known as theelin It is obtained by repeated extraction with ether of the acetic-acid acidified aqueous concentrate of the original extract, or of alcohol-soluble fractions obtained from the latter The second fraction represents the 85 per cent alcohol-soluble material present in the original extract, but from which oestrin has been removed by repeated extraction with ether Absolute removal of oestrin has been a matter of considerable difficulty and it has of late been our practice to extract ten times with ether, reacidifying the aqueous phase with acetic acid after each extraction The name emmenin has been suggested for the oestrogenic active principle of this fraction The third fraction consists of the material which has been precipitated from the original extracts by alcohol up to 85 per cent concentration This precipitate has been repeatedly extracted with water and reprecipitated by alcohol It has also been extracted with ether to remove oestrin For convenience this may be termed the anterior pituitary-like substance of the placenta The physiological properties of the second and third fractions only will be described

The second fraction referred to above has produced oestrus in immature rats in from three to seven days' time following either oral or subcutaneous administration In terms of the equivalent of original placenta tissue the smallest amount required to produce this result has been 0·5 gram per day Animals killed at the time of the induced premature oestrus have shown in gross and microscopic examination the typical oestrous changes in both uterus and vagina A slight increase in the size of the ovaries has been associated in many instances with increased development of the follicles Corpora lutea have not been observed in the ovaries at the time of the induced oestrus Similar results have been obtained with extracts of this fraction, which have been treated with pepsin or trypsin No demonstrable effects have ever been obtained in male rats either immature or adult by the injection or feeding of this fraction This fraction has been administered to normal adult female rats in doses varying from 1 to 10 grams of placenta daily or bi-daily over long periods The results of this study demonstrated conclusively that in the normal adult rat no interference with the oestrous cycle impregnation, pregnancy or lactation had occurred It has also been without effect on senile female rats A certain number of immature rats treated with the 85 per cent alcohol-soluble fraction appear to be immune to its effects and for this, as well as for other reasons, it is not possible at present to define the rat unit with any degree of certainty Another observation the significance of which is not clear, is that certain immature rats, which have been injected daily, although giving the usual oestrous response within a few days nevertheless have failed to show further oestrous cycles during the period of observation, which in some cases has been as long as nineteen days This is being further investigated The immature female rat may accept the male at the induced oestrous period, but in our experience implantation has not taken place until the second or third cycle Apparently corpora lutea must be present in the rat's ovaries if coitus is to be followed by pregnancy This is in agreement with observations of Crew [4] and others that puberty does not necessarily represent maturity

The physiological effects of the third fraction (85 per cent alcohol precipitate) have been studied along the same lines as the second fraction above described In *injection of this fraction into immature female rats has* been followed with remarkable uniformity, by the occurrence of oestrus usually on the fourth or fifth day Animals killed at this time have shown the usual phenomena of oestrus in both uterus and vagina but in addition the ovaries have been found to be considerably enlarged and to contain numerous corpora lutea in fact, the picture was practically identical with that obtained by the use of Wiesner's sulphosalicylic acid extract This alcohol-insoluble fraction was found to be ineffective when administered orally and it was destroyed by boiling Immature male rats injected with this fraction have manifested a definite increased rate of growth of the seminal vesicle and prostate gland in the course of ten days When the injections were continued for long periods the controls tended to equal the treated animals in regard to the *size of the accessory sexual apparatus* Adult males injected with this hormone also manifested hypertrophy of the accessory glands, but not of the gonads Adult female rats have continued to be cyclic with daily injections but manifested slight irregularities at times Normal pregnancy and lactation have also been observed during such continuous treatment Post-mortem findings have not as yet been of any significance

REMARKS

One must conclude from the results outlined above that the human placenta contains at least three distinct active principles or hormones These three substances are alike in that all have been observed to be oestrogenic in the immature female rat The active principle present in the second fraction (85 per cent alcohol-soluble) is very similar to oestrin in its ultimate physiological effects It is ineffective, however, in the castrate and hence it may be concluded that it functions directly or indirectly by stimulation of the intact ovary It also differs from oestrin in the degree to which it is effective by oral administration The third fraction prepared from the alcohol-insoluble material of the original extract is similar to the other two in that it is oestrogenic It differs from the emmenin fraction on three main points (1) it is ineffective by the oral route (2) it produces corpora lutea in the immature rat coincident with induced oestrus, (3) it causes an increase in the rate of growth of the accessory sex glands in the immature male

As yet we have been unable to obtain with surety from pig and cow placenta any of the above fractions other than oestrin This observation which must be given *further study* suggests that in the *human placenta* hormones exist which are absent in lower mammalian forms This suggestion receives support from the observation that pregnancy urine of certain of the lower forms has failed to give an Aschheim Zondek pregnancy test when injected into immature mice

The two oestrogenic placental hormones other than oestrin (theelin) which have been described appear to us to be the counterparts respectively in placenta of Prolan A (oestrogenic) and Prolan B (oestrogenic and luteinizing) of urine described by Zondek and Aschheim [1c7] We are also

* Read in opening a discussion in the Section of Obstetrics and Gynæcology at the Annual Meeting of the British Medical Association, July, 1930

of the opinion that these active principles are the specific products of placental tissue functioning and are actively related to the condition of pregnancy The functional interrelationship which must exist between the pituitary sex hormones and those of the placenta can in the light of our present knowledge only be conjectured Much more research must be done in this field before the data now available can be satisfactorily correlated

It is a great pleasure for me to state that through the kindness of the Medical Research Council and the National Institute for Medical Research I have recently been given facilities to repeat much of the work outlined above in Dr H H Dale s laboratory at Hampstead

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NOTES ON THE CLINICAL USE OF CERTAIN PLACENTAL EXTRACTS

BY

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THE process of menstruation in the normal state occurs every twenty-eight days from puberty to the menopause, except as interrupted by pregnancy and lactation Variations in the length of the interval the duration of the epoch, or in the amount of blood lost or endometrial tissue shed may not necessarily be considered pathological so long as such variations represent individual peculiarities The conception that physiological changes in the endometrium leading to menstruation are dependent upon chronological ovarian changes is now generally accepted Similarly, deviations from normal menstrual cycles, whether amenorrhoea, polymenorrhoea, or haemorrhage resulting from non malignant lesions of the endometrium, may likewise be considered as secondary to deranged ovarian function

Since Knauer[1] in 1896 first demonstrated the effect on the endometrium of ovarian transplants, scores of workers have used various products of glandular origin with a view to correcting menstrual disorders The demonstration that alcoholic extracts of the human placenta can be separated into three definite fractions, each having distinctive physiological properties, as described in the previous paper, suggests that a clinical trial of each of these fractions should be made The observations which are herein reported deal in the main with the possible therapeutic value of the 85 per cent alcohol soluble fraction (emmenin) A few clinical experiments with the so-called anterior pituitary like fraction of the placental extract (85 per cent alcohol precipitate) are also included As yet similar experiments involving the oestrin-containing fraction have not been carried out One hundred and twenty-three cases of deranged ovarian function as judged clinically have been treated and observed for periods

Read in the Section of Obstetrics and Gynaecology at the Annual Meeting of the British Medical Association Winnipeg 1930

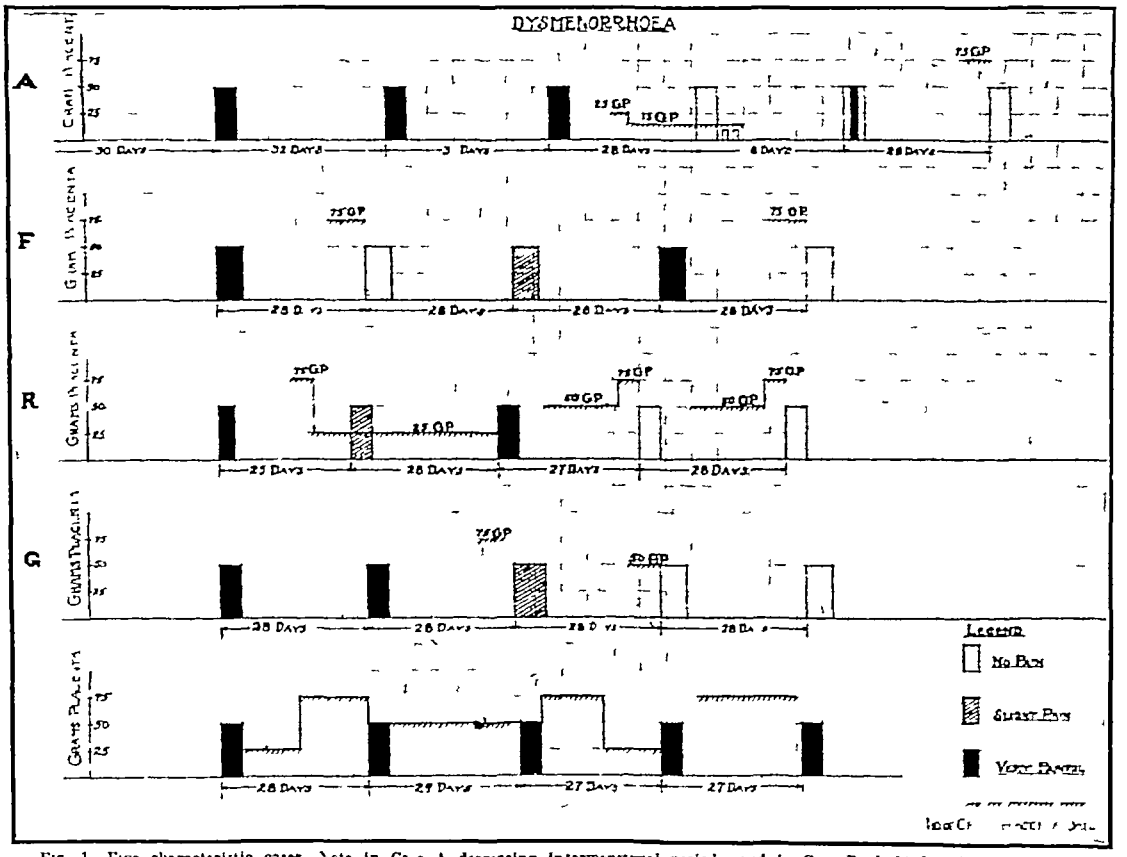


FIG 1.—Five characteristic cases Note in Case A decreasing intermenstrual periods, and in Case R slight lengthening of interval and period cycle being established in both cases at twenty-eight days. Case G stopped her extract two days before the period on one occasion and only had partial relief With proper administration complete relief was obtained. The fifth case was a problem even with varying dosage she received no benefit.

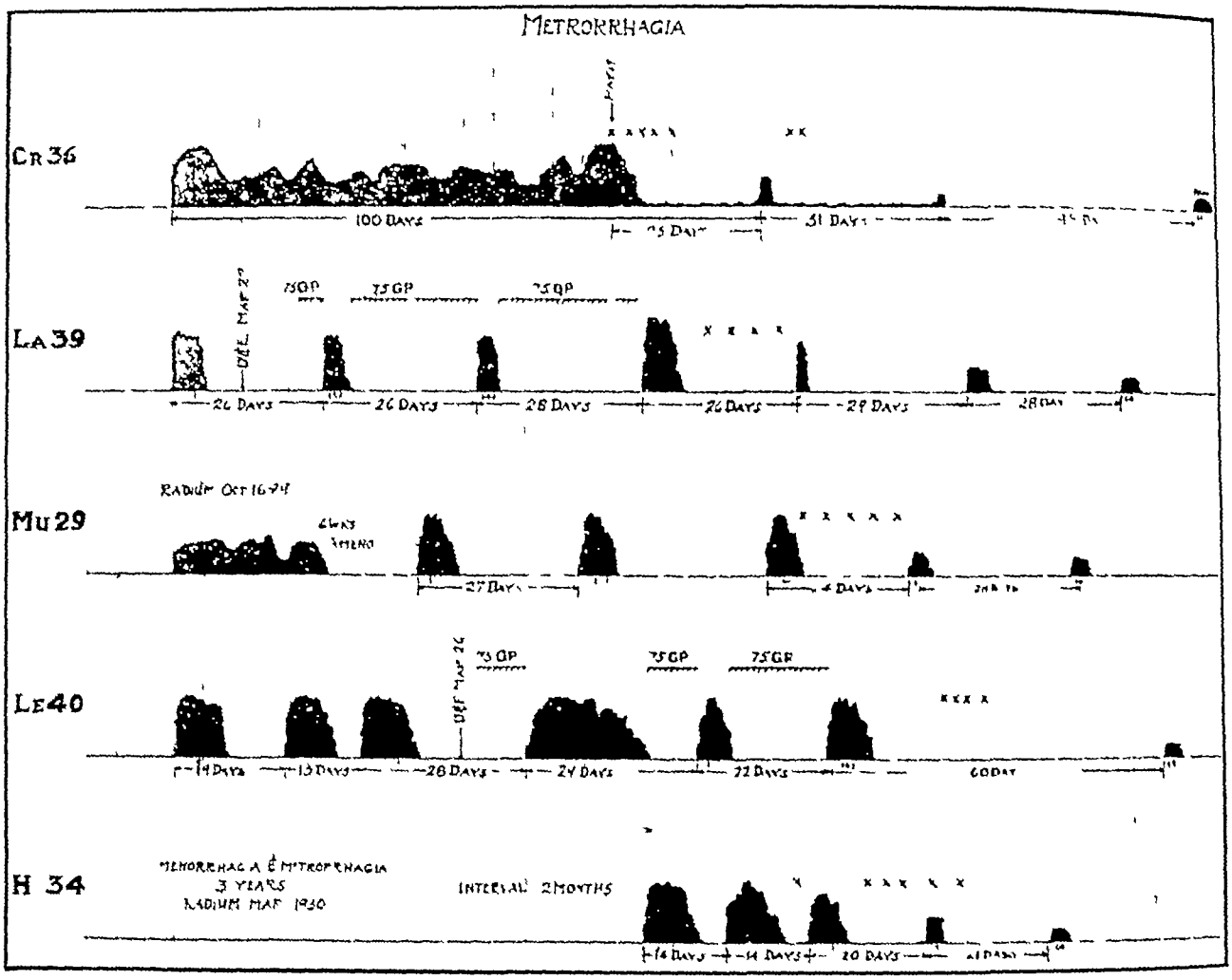


FIG. 2.—A purely diagrammatic chart to illustrate the non-effect of emmenin and the apparent effect of the anterior pituitary-like substance of the human placenta in the treatment of metrorrhagia. Injections of this latter extract are shown as X. 1½ to 2 c.cm. were administered, each cubic centimetre representing 25 grams of placenta, or approximately ten rat units. In both La 39 and Le 40 the condition was aggravated with emmenin but, as in the other cases, relief was obtained with the second principle.

varying from three to nine months. The general results are shown in the accompanying table. All the patients investigated were apparently normal individuals, and pelvic examination revealed no gross or obvious pathological conditions, either in the conformation and size of

Summary of Clinical Cases Treated with Emmenin

	Number of Cases	
	Treated	Improved
Amenorrhœa		
Primary	8	1
Secondary		
Oligomenorrhœa	20	13
Oligomenorrhœa (with lapses)	14	12
Regular (with lapse)	19	11
Polymenorrhœa	8	7
Dysmenorrhœa	35	25
Menopausal symptoms	18	14

the uterus or of its adnexa. From a study of such a comparatively small group of cases for a limited time, we are not justified in drawing final conclusions as to the possible therapeutic value of the agent employed. However, our impressions are as follows:

AMENORRHŒA

Primary Amenorrhœa.—The results in this group have not been encouraging. Out of eight cases in this group only one apparent success was obtained.

Secondary Amenorrhœa.—The cases of secondary amenorrhœa which have been studied have been arbitrarily placed in one of three groups, according to their histories:

1. *Oligomenorrhœa*: individuals with a diminished or scanty flow, and with periods occurring at irregular intervals of five to eight weeks.
2. Cases similar to No. 1 but having intervals of amenorrhœa of a duration of four months or more.
3. Those with normal menstrual cycles but with periods of amenorrhœa of upwards of four months' duration.

Encouraging results have been obtained in cases in each of these groups. The duration of the amenorrhœa proved to be of great importance, for no results were obtained where the condition had lasted for more than two and a half years.

We realize that, taken individually, any apparent success might be fortuitous. The apparent response to treatment of cases in this class occurred after an average period of twenty-three days.

POLYMENORRHŒA

Eight cases with intervals varying from eighteen to twenty-four days were treated. The intermenstrual period was increased in seven cases by four to eight days. A favourable effect on intermenstrual pain was also noted.

MENORRHAGIA AND METRORRHAGIA

No evidence was obtained which would indicate that the emmenin fraction of human placental extract is of any value in treatment of menorrhagia or metrorrhagia occurring either at puberty or in adult life.

DYSMENORRHŒA

It is possible that this condition is in some manner related to the lutein phase of ovarian activity. If the

uteral phase were absent during the earlier cycles of the human female (as it is known to be in a certain number of instances in the rat), a simple explanation might be had for the rarity of cases of dysmenorrhoea dating from the first menstrual cycle. Thirty-six cases of dysmenorrhoea have been studied and only two of these gave a history of the condition dating from the first cycle. Relief was obtained in twenty-six cases of this group.

MENOPAUSE

Observations of this type of case lead one to conclude that the duration of this symptom-complex is of prime importance, since no relief was obtained in cases of long standing whereas the symptoms were relieved for a time at least in certain cases where the condition was of recent origin—that is, less than one year since the last menstrual flow.

DOSAGE

A dose corresponding to 75 grams of placenta daily given in divided doses in water or orange juice before meals has been used in the majority of cases. There are individuals who do not tolerate the extract well. The cause of this we do not know, but in any case in which untoward symptoms, such as nausea or vertigo have been observed, the dose has been temporarily reduced until tolerance was acquired. According to our experience the use of emmenin does not seem to have any untoward effect on impregnation and gestation. It is worthy of note that four patients became pregnant while under treatment with emmenin for ovarian dysfunction. Thirty-six to forty-eight hours after the institution of therapy some patients volunteered that they experienced a feeling of general well-being and of mental alertness. No effect on libido was reported. As controls, ten cases with normal menstrual cycles were submitted to treatment for three months without any alteration being noted either in the length of the interval or in the duration of the epoch.

The dosage used in cases of dysmenorrhoea was, as a rule, the equivalent of 25 grams of placenta administered daily for approximately seventeen days, beginning with the cessation of a menstrual period. During the week preceding menstruation (twentieth to twenty-eighth day) the dose was raised to 75 grams daily, and treatment was continued until the onset of the flow, then stopped for a period of about a week. Other individuals with normal cycles obtained relief when treated for seven days preceding the anticipated period.

The second principle (85 per cent. alcohol precipitate of the anterior pituitary-like substance of placenta) was employed in metrorrhagia. The results in this small group of cases have been most encouraging (Fig. 2) and will be discussed in detail in a later communication. The extract used in these cases contained approximately ten rat units per cubic centimetre, and was administered subcutaneously. No enlargement of breasts or milk secretion occurred with the administration of this hormone. It should be noted here that the diagnosis is essential and that uterine exploration should *always* precede the treatment. Carcinoma as a cause of metrorrhagia, even in the young, must never be lost sight of.

Of 123 patients observed in this preliminary study basal metabolism determinations were carried out in practically all instances. 60 were detained in hospital for more detailed and special investigation according to the clinical indications. The sella turcica was x-rayed in 35 cases; sugar tolerance curves were taken in 27 instances, and blood cholesterol was estimated in 20 cases. The Wassermann reaction was carried out in all hospital cases, and this was negative in all cases treated. In three cases in which the basal rate was elevated, normal values followed treatment with emmenin. In another case, one of the oligomenorrhoea group, a mild diabetic condition was detected. No significant changes in blood chemistry have been noted as yet either before or after treatment, in any of the patients examined. Four cases which manifested the clinical signs of anterior lobe insufficiency were quite unaffected by treatment.

SUMMARY

1. Emmenin does not alter normal menstrual cycles.
2. Its effect in dysmenorrhoea has been particularly encouraging.
3. It appears to correct certain types of amenorrhoea of recent origin.
4. It definitely lengthens cycles in polymenorrhoea.
5. It relieves menopausal symptoms of recent origin, but does not relieve symptoms in castrates.
6. An anterior pituitary-like principle from the placenta arrests certain forms of metrorrhagia.
7. In the treatment of altered ovarian function the importance of a searching and accurate menstrual history, a detailed medical investigation, and in addition, a scrutinising pelvic examination, cannot be overestimated.

We wish to thank Drs. I. M. Rabinowitch and E. H. Mason for their kind co-operation in the study of cases which were treated in the Montreal General and Royal Victoria Hospitals. We are also especially indebted to Drs. Chipman, Fraser and Little for their advice and helpful criticism, and for the facilities which they have afforded to further this investigation.

REFERENCE

1 Knauer, *Centralbl. f. Gynak.*, No. 20, p. 824.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL

DEVELOPMENTAL MIXED TUMOUR OF THE KIDNEY IN A PATIENT AGED 80

THE following case is an example of a rare tumour of the kidney occurring during the eightieth year.

History.—Mrs. S., while walking in the street after completing a morning's shopping, experienced a sudden and unbearable pain in the right side. When examined by Dr. Armstrong Atkinson shortly after the onset of the attack a large tender mass about seven inches in diameter could be felt in the position of the right kidney. There were no urinary symptoms and the urine was quite clear although it contained a trace of albumin.

Examination.—When I examined the patient she was in great agony but spoke of having been troubled many years previously by a movable kidney which he was always able to replace by manipulation. The mass in the right kidney area felt like a large acute hydronephrosis and the patient assured me that it had come with the attack of pain. The condition set up was so distressing that it was necessary at once to look and see what could be done to relieve the pain rather than to await the result of an *x* ray and ureter catheter examination.

Operation.—The same evening Dr. Armstrong Atkinson gave her an anaesthetic and I exposed the tumour by the oblique incision for the exposure of the kidney. The tumour was dark red in colour and was continuous at its upper and back part with the right kidney. The kidney therefore together with the growth was removed. There appeared to be no shock. The patient made a good recovery. After removal of the tumour and the kidney the tumour was found to spring from the pelvis of the kidney extending to the kidney substance. The microscopical report from the pathological department of the College of Medicine, Newcastle-upon-Tyne, was that the condition was a developmental mixed tumour of the kidney of varied structure and referred to as embryonal myosarcoma, non-striped muscle being a prominent feature in the case, conforming to the condition described by Wilms.

JOHN CLAY, F.R.C.S.
Surgical Director, Newcastle-upon-Tyne General Hospital.

OVARIAN CYST WITH TWISTED PEDICLE IN A CHILD

CASES of ovarian cyst with twisted pedicle are very uncommon in the literature. Kincaed and Andrews in the *American Journal of Obstetrics and Gynecology* (February, 1928), describe a case in a girl, 5 years old, differing only in that they report a palpable mass in the left lumbar region. The authors emphasize the difficulty of differentiating the condition from appendicitis. J. Morris (*British Medical Journal*, 1926, i, 944) records a case in a girl aged 4½ years, successfully treated by operation. J. Leveuf (*Semaine d. Hôp. de Paris*, June 30th, 1927)

reports a case of twisted ovarian cyst in a child of 21 months The majority of cysts of the ovary in childhood are dermoid cysts, these are four or five times as common as simple ovarian cysts with twisted pedicle

A consensus of opinion seems to point to the fact that ovarian cysts in childhood may be commoner than is supposed, but unless there is enlargement of the abdomen or a twisted pedicle the growth remains unnoticed, and these conditions rarely occur The following case occurred in the practice of Dr Robertson of Croydon

A girl now 4½ years old was reported to have had severe pain and persistent vomiting two years ago, the pain being referred to the hypogastric region She was treated medically, with intention to promote a free action of the bowels and improvement took place Two to three months later a similar attack followed and these attacks have recurred at about this interval since that time The bowels were regular with no tendency to constipation The temperature usually ranged from 99° to 100° F during the attack The pulse rate was 100 to 120 Flatulence was usually present The child had had bleeding from the vaginal passage when three days old it continued for one day No abnormal physical signs were reported

On December 6th, 1929, she had slight pains in the hypogastrium but felt better after the administration of syrup of figs had relieved the bowels Six days later the pain returned and was very severe, sleeplessness being complete There was no vomiting and no haemorrhage from the vagina or rectum The pain was of an intermittent character sometimes very severe, and never entirely absent The severity of the symptoms increased progressively and the bowels were constipated On December 14th the child was unable to sit down or stand up straight on account of the pain The urine was normal, and the temperature 99 6° F some definite but not marked rigidity was detected in the hypogastrium The child's general condition was good No mass could be felt, and laparotomy was advised for appendicitis

A left ovarian cyst with the Fallopian tube was removed on account of pedicle twisting The cyst occupied the left lumbar region in front of the left kidney it was 2¾ inches in diameter and free from adhesions or inflammatory exudate Recovery was uneventful, and was complete in ten days

The cyst was of a dark purple colour owing to extravasation of blood The appendix showed slight signs of congestion

I wish to thank Mr F M Cowell for permission to publish an account of this case

J H K STEVENS, M D Lond, M R C P

London W 1

SEVERE FORMS OF RUBELLA

In view of the popular conception of rubella as a trivial indisposition, the following cases may be of interest

CASE I

A woman aged 40 developed swollen occipital glands nine days after exposure to infection Five days later a rash appeared on the chest and the temperature rose to 99° F The following day the rash was generalized typical, and very profuse The patient did not feel ill and refused to stay in bed but lay about in the garden the weather was very hot and dry On the third day after the appearance of the rash the knee joints became stiff, and the next day there was swelling of the knees wrists ankles and finger joints, with ulnar deviation of the hands and acute pain the feet also were painful The temperature was not raised but the axillary and crural glands were enlarged The patient was given 10 grains of aspirin three times a day as soon as the joint pain began by the seventh day after the appearance of the rash the swelling had disappeared and there was very little pain but some stiffness of the wrists, knees and shoulders By the end of the third week she was apparently quite well, although rather easily tired and the glands had not quite subsided She had had some fibrositis of her back and vague rheumatic pains at intervals for some years for which the tonsils had been removed but never articular rheumatism

CASE II

A girl aged 5 healthy though rather excitable developed a typical though scanty rubella rash with enlarged occipital and pre-auricular gland She was irritable, but not ill and the temperature was not raised Since she was an only child she was not kept in bed but did stay indoors On the fourth day of the illness she had rather an irritable food—namely pastry meat and carrots and about one pound of grapes eaten with their skins At 5.30 p.m. she suddenly said, "I can't see," rushed to the sink, and was violently sick, then collapsed on the floor At 6 p.m. she was comatose and flaccid, with the head and eyes deviated to the right, and saliva dribbling from the mouth At 7.30 she began to have right sided twitching, involving the face, arm, and leg She was given a rectal and stomach wash-out and 20 grains of chloral hydrate was left in the rectum The twitching continued until 9 p.m., after which she slept snoring and making sucking movements with her mouth At midnight she woke, and complained of a bad headache then slept naturally until 8 a.m. thereafter her convalescence was uneventful She had never had a convulsion before and has not had one since (two and a half years), in spite of having had whooping-cough and measles

CASE III

A woman, aged 34, with mitral stenosis following chorea and with a very large heart, complained of feeling ill for three days She always suffered from cough, and this was no worse than usual On the day she was seen she had begun to vomit She looked very ill, the temperature being 101° F, the pulse 120 and the respirations 32 She was sent home to bed On the following day she was still vomiting, and had several rigors A faint rash appeared on the chest, and the occipital axillary, and crural glands were enlarged and tender The rash became general on the face, body, and limbs, and was typical of rubella, she was seen by the medical officer of health, who agreed as to the diagnosis On the two days when the rash was at its height there was a temperature of 105° to 106° and signs of a lobar pneumonia of the left lower lobe The spleen was palpable On the seventh day there was a crisis, the temperature falling from 103° to 98°, and not rising again The rash and the lung signs gradually subsided a fine scaling taking place all over the body during the third week of the illness The patient regained her previous condition, and went away into the country whence she wrote to me later saying that she had had 'fluid on both knees," which had laid her up for three weeks

Sutton Surrey OLIVE POTTER, M B, B S

Reports of Societies.

TREATMENT OF FIBROSITIS

At the meeting of the Chelsea Clinical Society held on December 16th, with Dr F J McCANN in the chair, Sir THOMAS HORDER opened a discussion on the treatment of fibrositis

Sir Thomas Horder explained that he took the term "fibrositis" in the generic sense as including all the various inflammatory processes, rather than the older concept of muscular rheumatism It was not possible to consider the treatment of any disease without considering the etiological factors entering into it, and those which entered into the causation of fibrositis were very diverse They included, first of all, infection, then metabolic defects, and also defective nutrition in general, either under or over-nutrition Certain factors in the causation were outside control Fibrositic states were incidental to particular ages arthritis of the monarticular type was the heritage in the main of elderly people, for example, and at certain epochs of life—particularly on the female side but perhaps also on the male side—the individual was especially susceptible Other factors only partially if at all under control were occupation, climate, and the effect of trauma Microbic infection was thought to-day to be the dominant factor in most of the fibrositic diseases To such an extent had this idea come to prevail that in some textbooks on medicine the term "rheumatoid arthritis" had dropped out altogether It would be quite a good exercise to put the known clinical types of fibrositis in order according to the known dominance of the infective element The gouty patient, in Sir Thomas Horder's view, demonstrated two defects, one a tendency to metabolic dysfunction—purin dysfunction—and the other a microbic subinfection which in many instances activated the first There was something about the clinical picture of gout which was different from other exhibitions of focal sepsis, and it was not disposed of by changing one's view as to the mechanism by which the gouty state developed In rheumatoid arthritis there were etiological factors about

which at present there was complete ignorance It might be said as was said of gout, that there was probably in the majority of cases an infective factor, but it was not the only factor for a nutritional factor came into a number of cases, and a lowered nerve tone might exert some influence The effect of nerve control over infection or immunity had not yet been fully considered No doubt some cases of fibrositis owed their origin in the main to dental sepsis and it was right to examine the teeth very carefully, both radiologically and clinically, for devitalized teeth, gum recession deep pockets and the throwing out of the alveolar margin Guided by x rays and by his clinical experience of teeth and alveoli he sacrificed obviously infected teeth all devitalized teeth and all teeth concerning which the radiograms showed a definite early abscess formation at the root but as regards cases where the periodontal membrane was thickened or inflamed and there was a certain amount of recession of gum but the teeth were alive and useful mechanically, he required the patient to accept a certain amount of responsibility because there was a good deal of speculation about the advantage of sacrificing teeth of that description The ultimate decision on what was and what was not a septic tonsil had to be arrived at on much the same lines As to the prostate he had on two or three occasions been right in suspecting a prostate, concerning which there was a history," of being responsible for the state of fibrositis The state of the appendix and gall bladder was a matter calling for the exercise of clinical acumen If there were clinical reasons possibly also supported by radiology for suspecting the appendix and the gall bladder he would give the benefit of the doubt a little more readily to a fibrositic patient than to a patient who had no such disability He also drew attention to the possibility that in addition to the cul-de-sac to which he had drawn attention, there might be whole tracks of infection elsewhere—for example the nasopharynx and the intestinal mucosa So far as bactericidal erums were concerned, there was very little indication for their use in fibrositis apart from obvious acute microbic infection In the matter of vaccines the present position seemed to be one of indifference on the part of some practitioners disappointment on the part of more and tremendous keenness on the part of yet others Progenic cocci lent themselves very well to the production of antigen He thought that vaccination had not received as good a trial as it should have had in chronic intractable cases of fibrositis With regard to physiotherapy—and here he thought the best counterblast to the quack in this field would be a reputable Society of Physiotherapy—this in his opinion came next in importance to the method of dealing directly with the infection The question of the value, empirical or otherwise of some of the newer drugs and also of protein therapy he left to those who participated in the discussion

Dr C E SUNDELL said that one striking difference between the fibrous and other tissues was the relative avascularity of the former It was possible that some circulatory failure or anomaly might be at the basis of the fibrositic conditions In the parts affected capillary stasis was noted When dealing with the question of fibrositis it was a mistake to think merely of the late stage of the fibrous nodule the desirable thing was to spot" the patient who was likely to get the condition and prevent its further development He was quite certain that the question of heredity was of extreme importance Fibrositis was a later manifestation of an underlying state which might have been in existence from early childhood On taking the temperature of the fibrositic patient it would be found to be always subnormal and the basal metabolic rate was low His contention was that the treatment of fibrositis was in the hands of the physiotherapists By all means let them be guided by experts in searching the cul-de-sac but the treatment was to stimulate the circulation in the fibrositic areas and produce a proper action of the skin One must not allow oneself to be over-impressed by the exaggerated claims of the vaccinists The method of attack was first to discover the patient who was likely to get the condition, to stimulate his response to temperature changes, and do everything in one's power to make him a more healthy subject If the condition had already developed it should be dealt with on physiotherapeutic lines

Dr K I FECKENSTEIN said that in considering this subject it was necessary to put out of the mind all those conditions which could be called pathologically exact, and to deal with the vague cases which were the bugbear—though occasionally the triumph—of all physicians in which the patient complained of vague pains that were never very definite but were very difficult to cure Fibrositis was a typical example of one of these conditions, and it illustrated the truth in this particular respect of the remark that there is no such thing as disease, there are only diseased people"

Mr P JENNER VERRALL said that fibrositis came to the surgeon rather late With regard to the infective side, certain definite types of fibrositis were associated with some septic focus generally apical abscess Among these were tennis elbow" and painful heel" The former must not be regarded as peculiar to the players of tennis he had seen characteristic examples of it in those who scrubbed floors and performed similar operations He heartily agreed that the irritant was not necessarily a micro-organism it might be a chemical agent The whole question of fibrositis was not quite such a vague one as some speakers had suggested It boiled down to the orthopaedic principle of the circulating toxin be it chemical or microbic together with some local trauma not necessarily injury but perhaps constant pressure on a particular cartilage When the physician and the bacteriologist had cleared away the stasis physiotherapy was the treatment to follow An acute case was not suitable for any kind of osteopathy, it needed sedative massage, but there came a time in the development of the chronic case when the patient might well be put under an anaesthetic and bone setting manipulation be boldly done

Dr F TEMPLE GREY considered that the etiology of this condition must be viewed in a very broad way He thought that differences of temperament between different individuals had not been sufficiently considered in assessing susceptibility to infection Why did one kind of person escape or be seldom affected while another kind of person was particularly prone Dr J P FURBER mentioned that there was at present a vogue for deep x-ray therapy in the treatment of this condition, he could not say with what result

Dr J J MCCANN suggested that a large part of the profession had gone " eptic mad' He had been and would continue to be one of those who protected the teeth from wholesale extraction Pyorrhoea was not a disease of the teeth at all it was a disease of the gums, and was found in a well marked form when the teeth were in splendid condition He thought there was some danger in continually looking for septic foci because it might mean that the whole chemistry of the body was neglected Surely fibrositis a thing so widespread and affecting so many different people must have a common origin it could not be a septic focus A better explanation lay in the name which someone had given to it— tissue indigestion" A Frenchman had described it to him as due to congestion of the blood vessels and lymphatics, that was how it began It seemed to him largely a metabolic trouble

Sir THOMAS HORDER in a brief reply said that some of the things which had been discussed as causes seemed to him much more like effects for example, what was the cause of the capillary stasis—and was not subnormal temperature one of the expressions of the inflammatory state? He did not feel at all happy in the theory that these were the causes of fibrositis He was ready to admit that the influence of a micro-organism had been overestimated He had a feeling that the treatment on non-specific lines in cases of chronic fibrositis—the rheumatoid case—did good but he did not feel that it disposed of the infective factor to say that one would do better for the patient on non specific lines than on specific ones There was a danger with all infective processes of being content with the raising of a lowered resistance, and of leaving the microbic element alone

Reviews.

ENZYMES

In the latest addition to the Monographs on Biochemistry, Mr J B S HALDANE deals with *Enzymes*,[1] a subject of the greatest interest to most workers in biology and chemistry. Those who are not directly concerned with enzymes will find here a fund of ideas on other subjects. It is of interest to compare this book with that of the late Sir William Bayliss in the same series, published in 1908, in order to appreciate the great strides that have been made, not only in our knowledge of enzymes, but also in the physical chemistry involved. Perhaps the most striking change is in the attribution of definite shapes and sizes to molecules, which, for example, enables Mr Haldane to estimate the possible number of substrate molecules that may be packed on the surface of an enzyme particle, and suggest a diagram of their arrangement, while throughout the new book runs the idea of the variation in the degree of ionization of a weak electrolyte with hydrogen-ion concentration—an idea which does not appear in the older book.

Mr Haldane defines enzymes as soluble, colloidal, organic catalysts, thus narrowing the field by excluding crystalloid catalysts, such as glutathione, and surfaces of cells which lose their activity when broken up. This restriction, though artificial, is necessary in order to keep the size of the book within bounds. The catalytic nature of enzymes he regards as universally accepted, and he disposes shortly of supposed exceptions. The study of enzymes is therefore not concerned with the final state of equilibrium reached, but with the velocity of reaction, and throughout the book it is this kinetic aspect which is considered. In the chapter on the effect of hydrogen-ion concentration the theories of Michaelis—that only uncharged enzyme molecules are active—and of Northrop—that charged enzyme molecules act on substrate molecules of opposite charge—are discussed. It appears that some enzymes work in the first way and some in the second. Michaelis's theory of the effect of varying substrate concentration is considered, and important conclusions are drawn about the combination of enzymes with substrates and with inhibiting substances. Further chapters deal with the course of enzyme reactions, specificity, coenzymes etc., the poisoning of enzymes, the purification and chemical nature of enzymes, and theories of their action. Throughout a great wealth of actual examples is brought forward to illustrate every point.

The chapter on the course of enzyme actions is largely mathematical, but it can be skipped without missing anything essential to the rest of the book. Michaelis's theory of the relation between substrate concentration and velocity, besides a few other points, requires a certain amount of mathematics, but not of an advanced order. The author is somewhat over-inclined to assume that points which are obvious to himself will be obvious to the reader, but this is due to the extremely close style of writing, by means of which a phenomenal amount of fact and theory is packed into a short book. The bibliography occupies thirty pages, and there is a good index.

VISCERAL PAIN

The literature of pain is assuming vast proportions, but, with the exception of a few diagnostic compendiums and rare classical works, such as Hilton's *Rest and Pain*, the greater part of it has remained scattered through the journals. Visceral pain in the past decade or two has attracted particular attention, and students of the subject will therefore welcome the contribution by Drs LUNEDEI and GIANNONI of the University of Florence on Visceral Pain: Its Genesis and Characters.[2] The authors have embodied in their volume a critical review of the literature in all languages, and have given the old and the newer theories full consideration. The additions to our knowledge of referred phenomena in visceral disease which have accrued since the introduction of experiments made possible by regional and surface anæsthesia are carefully reviewed. The work of Mackenzie and Head and the English school in general finds frequent recognition, but curiously enough, there is no reference to the earlier observations of Ross and Hilton. The arrangement and the diagrams are good.

As a work of reference alone the book deserves a place on the shelves of all medical libraries. But it is much more than a work of reference, for the authors bring their critical faculties to bear on the problems involved, and both of them have recently published clinical and experimental observations which qualify them to write with some authority. There is much information included which should be of value to the practising physician and surgeon, and the writers of physiological textbooks, whose section dealing with visceral pain generally leave much to be desired, should also peruse the book with profit. With a growing interest in the special problems of symptomatology, and renewed enthusiasm for genuine clinical research, an English translation would surely be appreciated in this country and the United States.

GENITO-URINARY DISEASE IN CHILDREN

Diseases of the Genito-Urinary System in Infancy and Childhood,[3] by Dr HENRY I. HELMHOLZ and Dr SAMUEL AMBERG, is one of a series of monographs written for the general practitioner requiring information on any particular branch of medicine. Dr Helmholz is well known in this country for his investigations on urinary infections, and Dr Amberg for his contributions to the literature of diseases of children. Both authors hold professorial chairs in the University of Minnesota, and thus have special experience of teaching. They are therefore particularly fitted for the task they have undertaken. The only doubt that obtrudes itself is whether the overburdened general practitioner can afford time to read a work that deals with a specialty in a particular class of patient. His library may contain works on diseases of children and also on urology, but such specialized reading as genito-urinary diseases in children seems rather for the expert than for the general practitioner. However, if we assume that a practitioner can give his attention to such a small portion of the ground he has to cover, there is no doubt that he will find in this volume all and more than he requires.

The book contains eleven chapters, the first three of which deal with the embryology, anatomy and physiology of the genito-urinary tract, and the remaining eight with the disorders that may affect it. At the end of each chapter is appended a bibliography which allows the reader to go still more fully into any subject that may interest him. In passing, it may be noted that the references are mainly taken from American and German literature, and that few British or French writers are mentioned. In order to make the work as practical as possible considerable space is given in the chapter dealing with nephrosis to the subject of diet, and sample tables of different diets are appended, with their values in calories. In discussing nephrosis—by this term is meant a lesion of the kidney that is degenerative rather than obviously inflammatory in nature—the authors confess that we have not yet the material for a satisfactory classification of this disease. The chapter on pyuria, as might have been expected from Helmholz's interest in this subject, is undoubtedly one of the best in the book.

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[1] *Enzymes*. By J. B. S. Haldane, M.A. Monographs on Biochemistry. London and New York: Longman, Green and Co. 1930. (6 × 9¼; pp. viii + 235; 34 figures; 14s. net.)

[2] *Il Dolore Viscerale*. By A. Lunedei and A. Giannoni. Bologna: L. Cappelli. 1929. (Pp. 358; 56 figures; L. 60.)

[3] *Diseases of the Genito-Urinary System in Infancy and Childhood*. By Henry I. Helmholz, M.D., and Samuel Amberg, M.D. Clinical Pediatrics, vol. xix. New York and London: D. Appleton and Co. 1930. (6½ × 9½; pp. xii + 239; 27 figures; 16s.) This volume together with *A Laboratory Pediatrics* by John D. Lytle, M.D., and a *Comparative and Cumulative Supplement*, comprising vol. xxi. of the series, may be purchased for 32s.

NEW DRUGS FOR OLD

MODERN Pharmacotherapy[1] by Professor I. LIPOWSKI, is the tenth volume of a series entitled "Medical Practice" which is intended to provide medical men with information on recent advances in medical science. Dr. Lipowski treats his subject by considering groups of drugs, such as anaesthetics, hypnotics, antipyretics, etc. In each case he discusses important new drugs, and considers their advantages and disadvantages as compared with established remedies. For example, avertin anaesthesia is discussed at some length but the author declines to give any decisive opinion regarding the future of this method. Among the hypnotics the alkaloid banesterin or harmin is described as being of special value in the treatment of disorders of the motor system and in particular in the treatment of Parkinson's disease following encephalitis lethargica. In the same section it is interesting to note that dihodide, dihaudide, and eucodal are all accused of having produced extensive habit formation. The author remarks that the great army of "eucodalists" are comforted by the idea that eucodal is not a morphine derivative because it is made from thebaine, but he states that this drug has all the dangers of morphine possibly in an increased measure. The volume concludes with a section on organotherapy in which non-specific protein therapy is discussed. This form of therapy evidently has been pushed to almost absurd extremes in Germany but the author believes that it has a certain limited value in the treatment of chronic infections.

One of the interesting points about this short volume is that it shows differences between Continental and British opinion about the value of drugs. For example, camphor is regarded as a more important stimulant of the central nervous system than either strychnine or caffeine. Among the diuretics the new mercury compounds novasurol and salvrgan are discussed and special mention is made of the value of the combination of a diuretic with a narcotic of the veronal series. The whole volume in about 170 pages gives a very interesting summary of German opinion regarding the established merits of the more important of the new remedies that pour out in an unceasing stream from the great chemical factories of Germany.

DISEASES TRANSMITTED BY ANIMALS

THE book entitled *Diseases Transmitted by Animals to Man*[2] is mainly concerned with the bacterial and virus infections which are liable to come under the notice of the student of comparative medicine. Although it bears the stamp of a somewhat ill-digested preparation of the subject and deals mainly with it from the American point of view, it contains a considerable amount of useful information. Much of this is already well known to the British physician, who is probably better acquainted with comparative medicine than his American colleague, but it is useful to have it within the covers of a single volume. Mr. HULL groups his material into five sections. The first deals with the diseases of domestic animals, but does not include protozoal infections at all, and only discusses a few of the more obvious helminths. The second part is devoted to rodent infections but omits melioidosis. The third section considers such human diseases as are spread by animals, and the fourth such passively carried conditions as botulism, tetanus, and the gas gangrene group. The last section reviews the part played by each animal in the spread of disease. The volume is illustrated by forty-three tables and twenty-nine maps and photographs—one of the maps shows Denmark as the southern part of Sweden, and many are unduly large. While this book has obvious uses, it is evident that there is still room for a comprehensive work of reference on this most important subject, and it is equally evident that such a book cannot be written by a single worker in the subject, but must be the result of well-planned collaboration.

[1] *Moderne Pharmakotherapie*. Von Professor Dr. I. Lipowski. Medizinische Praxis Band x. Dresden und Leipzig: T. Steinkopff. 1930. (6 × 8½ in. pp. ix + 166. M. 8.50.)

[2] *Diseases Transmitted from Animals to Man*. By T. G. Hull. Chief Bacteriologist, Illinois Department of Health. With an introduction by Veranus A. Moore. London: Baillière Tindall and Cox. 1930. (6 × 9¼ in. pp. x + 350. 29 figures. 25s. net.)

NOTES ON BOOKS

WITH its sixth edition Dr. LANGDON BROWN's book *Physiological Principles in Treatment*[3] attains its majority, and becomes the product of a collaboration. Dr. HILTON's name appearing with that of the original author on the title-page. The general character of the work must by now be well known to many of our readers. It deals in the main with derangements of metabolism, digestion, and excretion, and includes sections on organotherapy, and on certain circulatory and respiratory disorders. The authors' method—following the plan of previous editions—is to describe briefly the functions of the organ or system in question, to deal with tests employed as aids to diagnosis, and then to consider treatment in the light of the physiological disturbances that have been discussed. The book is written in a clear and lively manner, is very pleasant and stimulating to read, and should continue to prove of great value to physicians and general practitioners.

Colonel BIRDWOOD's *Clinical Methods for Students in Tropical Medicine*[4] has now reached a fourth edition, and the new work of the past ten years has been incorporated, so that the book is thoroughly up to date. In particular the sections on malarial fever and mosquitos have been revised, while there is a new section by Dr. Newham on preservation of pathological material, poisonous snakes, larvae, and worms.

It is not considered necessary in this country that textbooks on dermatology and syphilis should be written for the special benefit of the nursing profession, but in sparsely populated districts such as still exist in the United States of America and in the remoter portions of the British Empire, where nurses are often thrown much more upon their own resources than they are in this closely settled island, a little book such as that by Dr. STOKES[5] may prove useful. It is sound, and besides assisting the nurses who read it to become more efficient in their ordinary duties will be found to supply them with material for instructing the lay inhabitant in proper principles both as regards the use of soap and water and as regards the proper method of imparting sexual instruction to the young. It is rarely written with plenty of pep.

Professor GELLHORN of St. Louis has written a small, well illustrated and useful book *Gynecology for Nurses*[6] which might be read with advantage by all nurses engaged in general and surgical work. The illustrations of a male and a female hermaphrodite from a photograph and from a woodcut seem, however, to fall rather outside the scope of the title, as do the concluding eleven pages on the history of gynaecology, but a nurse without an inquiring mind will never rise very high in her profession.

Applied Electrocardiography[7] by PARSONNET and HYMAN, is described as an introduction to electrocardiography for physicians and students. It is well illustrated and handsomely produced. It contains a short summary of the physiological principles underlying the methods and a description of the galvanometer and its use. An account of the various abnormalities of rhythm is followed by a useful schema for reading tracings.

Less than five years have passed since the eighth edition of Dr. T. L. STEDMAN's *Practical Medical Dictionary*[8] was noticed in these columns and now we have before us the eleventh. This well-arranged and well-produced work of reference with its convenient thumb-index has now been familiar to the English-speaking medical public for nearly two decades, and its popularity may be judged by the constant demand for fresh editions. Though it has grown in size to keep pace with the ever-expanding vocabulary of medicine and the allied sciences, Stedman remains a dictionary of moderate dimensions. The present edition, which shows evidence of careful revision throughout, contains 76 more pages than the eighth and seven more plates, the full-page illustrations at one time gathered together at the end of the volume are once again

[3] *Physiological Principles in Treatment*. By W. Langdon Brown, M.D. Cantab., F.R.C.P. With the collaboration of R. Hilton, M.B. Cantab., F.R.C.P. Sixth edition. London: Baillière Tindall and Cox. 1930. (5½ × 7½ in. pp. ix + 564. 8 figures. 10s. 6d. net.)

[4] *Clinical Methods for Students in Tropical Medicine*. By G. T. Birdwood, M.D., D.P.H., Lieut.-Colonel I.M.S. Fourth edition. Calcutta and Simla: Thacker Spink and Co.; London: W. Thacker and Co. 1930. (Fcap. 8vo. pp. xiv + 366. 29 figures. 4 plates. Rs. 8/8.)

[5] *Dermatology and Syphilology for Nurses, including Social Hygiene*. By John H. Stokes, M.D. London: W. B. Saunders Company. 1930. (5½ × 8 in. pp. 311. 69 figures. 12s. net.)

[6] *Gynecology for Nurses*. By George Gellhorn, M.D., F.A.C.S. Philadelphia and London: W. B. Saunders Company. 1930. (5½ × 8 in. pp. 275. 145 figures. 8s. 6d. net.)

[7] *Applied Electrocardiography*. By Aaron E. Parsonnet, M.D., F.A.C.P., and Albert S. Hyman, M.D., F.A.C.P. With a foreword by Harlow Brooks, M.D., F.A.C.P. New York: The Macmillan Company; London: Macmillan and Co., Ltd. (Pp. xxv + 206. 120 figures. 15s. net.)

[8] *Practical Medical Dictionary*. By Thomas Lathrop Stedman, A.M., M.D. Eleventh revised edition. London: Baillière, Tindall and Cox. 1930. (6½ × 9½ in. pp. xi + 1222. 440 figures. 22 plates. 35s. net.)

distributed through the text at appropriate places Definitions of words recently introduced into the physics of radiology are included in anticipation of their adoption into medicine and an especially thorough revision has been made of bacteriological terms in consequence of the recent changes in nomenclature proposed by the American Bacteriological Society In his preface, Dr Stedman expresses gratification at the success of his long continued efforts to purify medical spelling as shown by gradual adoption of his principles and practice by the two older medical dictionaries published in the United States But while he has saved the final e' of cesine and other alkaloids for American medicine and rightly prefers leucocyte to leukocyte, he rejects the "an English diphthong" in haemorrhage and oedema and in nearly all such words his dictionary departs from English usage

The new edition of *Whitaker's Almanack*[12] for 1931, which comprises about thirty more pages than the previous volume records with remarkable precision the changing conditions of modern life Aviation, for example has a dozen headings at least and the entries classified under 'women" have trebled in the course of the year While the new edition retains the familiar outlines of its predecessors there are noticeable improvements in several sections Legal notes are supplemented by a paragraph on vaccination and the scholastic section by a list of secondary schools for girls Public schools in the British Dominions are classified under a separate heading Two pages are devoted to porcelain marks—a feature we had not observed before In the political sphere the most obvious addition is a list of the names of members of the Senate and of the Chamber of Deputies of the Irish Free State Local government is discussed among questions of the day, which range from musical copyright to national mark beef Increasing attention appears to be given to social problems Statistics relating to crime are fuller than in the previous edition, and 'Crime and motors" is the title of an instructive article

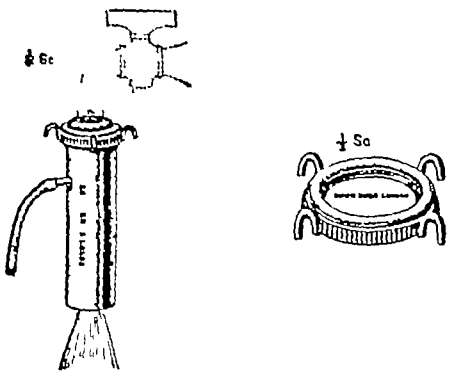
Professor C G SELIGMAN has written a lucid introductory account of the *Races of Africa*,[13] describing their physical characteristics, social organization, and religious beliefs with some reference to medical practices It is regrettable that the need for compression demanded in the series to which the volume belongs has excluded pictorial representation, but there are one or two sketch maps illustrating the distribution of languages and geographical features

[12] *Whitaker's Almanack, 1931* London 12 Warwick Lane, Paternoster Row (Cloth covers, 6s net paper cover, 3s net)
[13] *Races of Africa* By C G Seligman, F R S The Home University Library of Modern Knowledge London T Butterworth, Ltd 1930 (Pp 256 2s 6d net)

PREPARATIONS AND APPLIANCES

SUCTION PUMP FOR NOSE AND THROAT OPERATIONS

DR G A METCALFE (Bedford) writes For some time past I have been using a hydrostatic pump for obtaining suction in operations on the nose and throat, and have been greatly impressed by its value and efficiency One great drawback to the usual hydrostatic pump now in use is the fact that a good head of water, which is essential for its proper function,



tends to blow the pump off the tap I found great difficulty in securing it, and suggested to the makers that returning hooks should be fitted This has been done with the assistance of Messrs Down Bros, Ltd (St Thomas's Street S E 1) who have brazed to the lead four metal hooks, as illustrated, by which the pump can be easily and securely tied on It may be necessary to have a tap in the theatre adapted to the nozzle but this can be done by any plumber The rather objectionable noise of splashing can be silenced to a great extent by fixing a length of wide rubber tubing to the outlet and allowing it to open under water in a basin

A CHAMBER SEAT FOR INFANTILE RECTAL PROLAPSE

DR A H SHENAN (Johannesburg) writes Prolapse of the rectum in infants is a troublesome condition, its conservative treatment is tedious, always inconvenient, and often disappointing The prolapse may be present through various contributory causes, such as worms, polypus, constipation, and emaciation, but frequently no obvious reason can be discovered and in any case means must be employed to prevent the recurring descent of the mucous membrane or of the viscus itself during the prolonged treatment The accompanying sketch shows a special chamber seat which I designed and made for a patient of mine aged 15 months The points to be noted are (1) the thickness of the seat, with the edges



of the aperture bevelled to about 40 degrees, (2) the narrowness of the aperture laterally, and (3) the increased height from the ground In using the ordinary chamber the child sits low, the thighs flex sharply on the abdomen, and the buttocks sink through the rim, being pulled apart in the process With such a seat as the one here described the acute flexion is largely undone and the buttocks are forced together to give the required rectal support, the child's attendant, if necessary, tucking them in by hand

In the case of my patient the prolapse, which had previously taken place two or three times a day occurred thrice only during the following year No treatment was employed other than fattening the child, regulation of the bowels and use of the special seat After twelve months the device was discarded, and no further trouble was experienced

DENTIFRICES

The products sold in Great Britain under the familiar name of Odol have for some time past been manufactured in this country at Norwich Both the liquid dentifrice for use as a mouthwash, and the toothpaste sold in collapsible tubes, are very agreeable preparations, with antiseptic properties due to the presence of essential oils and of salicylic acid in combination

MEDICAL CONGRESSES, 1931

THE following congresses and conferences on medical and allied subjects have been announced for the ensuing year, 1931 Particulars are given below in the following order date name of organizing body place of meeting name of person to whom inquiries should be addressed More detailed information about these meetings is given from time to time as it becomes available, in the news columns of the *British Medical Journal*

April 9–10—German Psychiatric Society Breslau
April 12–16—Congress of Psychology Hamburg
April—German Balneological Society Bad Ems
May—Royal Institute of Public Health Frankfurt Secretary of Institute, 37, Russell Square W C 1
June 8–13—International Hospital Congress Vienna Professor Tandler, 9, Rathausstrasse, Vienna
June—International League against Trachoma Budapest
July 4–11—Royal Sanitary Institute Glasgow Secretary Institute, 90, Buckingham Palace Road, S W 1
July 21–25—British Medical Association Eastbourne Medical Secretary, British Medical Association, Tavistock Square, W C 1
July 27–31—International Congress of Radiology Paris Secretary of Congress, 34, Boulevard de Vaugirard Paris, XV
August 3–8—International Dental Congress Paris Mr A Rowlett, 165, London Road, Leicester
August—International Congress for Industrial Medicine Geneva Mr G L Peiry, Industrial Welfare Society, 51, Palace Street S W 1
August 31–September 4—International Congress of Neurology Bern
September 21—Faraday Centenary London Secretary Royal Institution, 21, Albemarle Street, W 1
September 23–30—British Association Centenary Meeting London Secretary of Association, Burlington House, Piccadilly W 1
October 14–18—International Congress of Comparative Pathology Paris Dr Grollet, 7, rue Gustave Nadaud, Paris 26
1931—International Congress against Alcoholism Warsaw
1931—International Congress of Military Medicine Budapest

MATERNITY WELFARE

MINISTRY OF HEALTH MEMORANDUM

It will be remembered that in July 1929, the Representative Body of the British Medical Association adopted a Memorandum outlining a National Maternity Service Scheme for England and Wales A little later the Departmental Committee on the Training of Midwives in its report suggested the establishment of a national maternity service broadly upon the same lines The Government took no action in regard to these proposals preferring to wait for a report from another Departmental Committee—that on Maternal Morbidity and Mortality—which was then sitting An interim report by that committee was published at the end of last July, and was described and commented on in the *Journal* of August 9th (pp 218 and 223) In that report, too, the establishment of a national maternity service was recommended as essential to a complete and effective effort to reduce maternal mortality and morbidity the principles and conditions of such a service followed precisely those which had been laid down in the British Medical Association's scheme, and the details of the service described kept even closer to the provisions of that scheme than did the proposals of the earlier Departmental Committee There has since been a powerfully supported public demand that a national maternity service on these lines should be established by legislation as soon as possible

The attitude of the Minister of Health towards these schemes and this demand has not been unsympathetic, but it is obvious that the political and economic exigencies of the present national situation do not make any Governmental legislative action easy In these circumstances the Minister, in several recent announcements made it clear that the immediate policy of the Government in this matter was to urge, and if necessary to enforce, upon local authorities a fuller use of the powers they now possess rather than to establish at once any more comprehensive service In a leading article in the *Journal* of November 15th last (p 831) we stated that there could be no serious objection to this policy provided that certain conditions were fulfilled These conditions were four in number (1) that when any further ante-natal clinics are established and in connexion with any extension of the work of existing clinics the local general practitioners shall be fully utilized for such work, so that practitioners who are liable to be called in at the confinement itself may be those who have knowledge of and responsibility for, the patient during pregnancy (2) that arrangements for specialist consultation and service whether ante-natal or at the time of the confinement or thereafter, shall be made with part-time consultants (3) in general, that no provisional arrangements shall be made which would interfere with the early establishment of the complete service, and especially that nothing should be done to prevent the linking of maternity work with a national insurance system, and (4) that negotiations shall be at once begun with all those concerned in the establishment of a national maternity service so that the settlement of the difficult financial and administrative questions involved may be facilitated

In pursuance of his declared policy the Minister of Health has now issued to all maternity and child welfare authorities a Memorandum (Memo 156/M C W) and an accompanying Circular (1167) drawing the attention of those authorities to the interim report of the Departmental Committee on Maternal Mortality and Morbidity reminding them that the development of the maternity and child welfare services is one of the conditions on which the amount of Exchequer grants depends, and setting out in some detail the directions in which, and the methods by which, such development may most suitably be undertaken It is a matter of great gratification to be able to say that the suggestions and requirements of the Minister stated in these documents seem to fulfil all the conditions set out above in accordance with the policy of the British Medical Association The Minister here declares that "the Government have decided to undertake the necessary negotiations with the various authorities concerned with a view to formulating a scheme on a national basis for the care of maternity which would provide the services suggested", and the immediate recommendations of the Memorandum are such as should present no real obstacle to the development of an appropriate scheme, which should promote a much closer association of local private medical practitioners with the work and encourage their active participation therein

The Memorandum emphasizes the conclusion of the Departmental Committee's interim report as to the four primary avoidable causes in regard to maternal mortality —namely, absence of ante natal care, errors of judgement in practice, lack of reasonable facilities for effective medical care and neglect to carry out the medical advice offered It is divided into six sections suggesting action with regard to (1) ante-natal services, (2) supply of midwives, (3) consultants (4) hospital beds, (5) provision of ancillaries, such as sterilized outfits home help , and milk supply, and (6) education The main portion of the Memorandum is appropriately devoted to the first of these

Ante natal Services

The twofold functions of the ante natal clinic—that of medical supervision on the one hand and educational and social work on the other—are clearly set forth Educational propaganda with regard to the need for ante-natal care is strongly recommended, and in this connexion it is stated that 'it will be essential to secure the co-operation of the doctors and midwives practising in the area, and of suitable voluntary organizations concerned with the welfare of women" The equally essential need for associating local medical practitioners with the supervisory function of the clinics is also pressed as follows

> The ante natal centre has however the obvious disadvantage that the doctor in charge of the centre seldom, if ever actually delivers the patient or is the doctor called in by the midwife in an emergency In some cases this disadvantage can be overcome to a certain extent by keeping the patient's doctor fully informed of the findings at the centre, but in many cases the medical officer of the centre is not aware of the name of the doctor who may attend the confinement It is therefore clearly desirable to encourage closer co-operation between the centre and the doctors practising in the area which it serves
>
> In the case of women who engage a doctor for the confinement the necessary ante-natal supervision will be undertaken by him, and in the case of women who are insured persons the insurance practitioner is responsible for medical attendance during pregnancy For these women the ante natal centre should be available for any additional care the doctor considers necessary But many uninsured women who engage midwives for the confinement are unable also to pay the fee of a doctor for ante-natal supervision and for such women the necessary provision should be made through the maternity and child welfare service

This can be done at an ante natal centre if it is reasonably accessible to the patients, and they are willing to attend there But in sparsely populated areas it is impracticable to provide centres within a reasonable distance of the homes of most of the women concerned and in towns there are many women who cannot be persuaded to attend the centres. In some rural areas the county councils are making arrangements with private medical practitioners whereby the latter undertake the routine ante natal examination of uninsured women who have engaged midwives for the confinement. Arrangements of this

kind might well be made by local authorities, not only in rural areas but also in towns, to meet the needs of those uninsured women who are reluctant to visit a centre for the purpose of ante natal examination

"It is suggested that a list might be prepared by the authority of those doctors practising in the area who are willing to undertake this service for uninsured women who engage midwives. The latter should be urged to explain to their patients the advantages of consulting a doctor during pregnancy, and, if they are unwilling to attend at the centre, encourage them to select one of the doctors on the list who should be the doctor to be called in by the midwife if any emergency should arise. The doctor should arrange to conduct the ante natal examination either at the patient's home or at his surgery, and he should be offered the facilities of the centre including the services of the nurse or the health visitor for the necessary following up of the case and subsequent supervision. In some cases arrangements might be made for the doctor to conduct the examination at the centre with the patient's consent. The midwife engaged by the mother should be kept fully informed, and encouraged to undertake as much of the ante natal care as she is in a position to do. It is essential that the full co-operation of the midwives should be secured, and it should be made clear to them that these arrangements are designed in their interests as well as those of their patients.

Experience has shown that unless ante natal supervision is adequately performed it may not only fail to benefit the patient but may even involve additional risk by giving her a false sense of security. Under the Local Government (Qualifications of Medical Officers and Health Visitors) Regulations, 1930, the medical officer of an ante natal centre is required to have had special experience of practical midwifery and ante natal work, and it is suggested that there are definite advantages in securing for these posts the part time services of private practitioners who possess the special qualifications prescribed by the Regulations. If possible facilities should also be provided for other doctors to see their patients at the centre if they so desire."

Similarly, in connexion with the provision of hospital beds, it is suggested that "local authorities should consider, wherever practicable, the desirability of affording facilities to private practitioners to attend their own patients in maternity institutions." All these suggestions as to the use of the services of private local practitioners and of facilities for such practitioners are of great moment. They are obviously in the interest of, and for the convenience of, the patient, and are absolutely essential if the full and hearty co-operation of the medical profession is to be secured. Without them, too, definite obstacles to the establishment of the desired national maternity service will be set up. There should now be vigilance on the part of the profession to see that maternity work is extended on these lines and on no others, and willingness to undertake the responsible duties suggested.

Strong support should be forthcoming for this forward move on the part of the Minister of Health, in accordance with principles and methods consistently advocated by the profession. The only doubtful point in the Memorandum with regard to medical services is under the heading of "consultants," where it is said "For any doctor who needs assistance in difficulties or complications arising during pregnancy, at or after confinement, it will generally no doubt be found desirable to engage the consultant at the maternity hospital or ante-natal centre serving the area." There are undoubtedly areas in which this will be found not to be the best or the usual, course.

In the section of the Memorandum regarding the supply of midwives some wise suggestions as to method are made, and here again the need for support for the privately practising midwife is not overlooked. Altogether, this is a most important memorandum, and the degree to which local authorities follow its suggestions will be watched with some anxiety.

CINCHONA TERCENTENARY CELEBRATION

CEREMONIES AT THE WELLCOME MUSEUM

A series of brilliant gatherings and learned addresses on the history and uses of cinchona have marked the celebrations at the Wellcome Historical Medical Museum of the tercentenary of the first recognized use of the bark by Europeans. The exhibition, which is to remain open until February, includes a wonderful collection of cinchona bark, and illustrates every phase of the subject. One of the exhibits is from the King of Spain, and shows three of the original seroons (containers made of straw, rushes or matting) of cinchona bark brought from Peru after an exploration in the year 1777. The Bolivian, Peruvian and Ecuadorian Consulates General have contributed, also several pharmaceutical and official bodies on the Continent while in this country the exhibition has been enriched by loans from the Imperial Institute, the Medical Research Council, the Pharmaceutical Society, the Royal Botanic Gardens, Kew, the Chelsea Physic Garden, several scientific societies and other bodies. Many tributes have been paid in the various proceedings to Dr. H. S. Wellcome, the founder of the museum, who has acted as host on all the occasions and whose special interest in the subject is derived from a visit which he himself paid fifty years ago, to the cinchona forests of South America. The catalogue of the exhibition, a beautifully bound and illustrated volume, is a choice souvenir of the occasion.

It was inevitable that in such a comparatively narrow field the subject-matter of the addresses on successive afternoons and evenings should cover much the same ground. This was specially so in the addresses delivered by Sir Humphry Rolleston and Sir David Prain, both of whom explored some of the curious byways of cinchona history and literature.

Sir Humphry Rolleston said that the British Empire with its far-spread extensions in tropical regions, had more than any other, great cause for gratitude for the discovery of cinchona and the subsequent isolation of quinine. He reminded his audience that malaria was far from being a vanquished disease. Recently it had been estimated that disability and loss due to malaria still cost the British Empire fifty-two million sterling annually, and ten years ago it was stated that in India there were 1,300,000 deaths annually from endemic malaria. The discovery of cinchona was one of the decisive victories of medicine and probably influenced Sydenham in coming to the conclusion that each disease should have its specific remedy. No other drug, said Neuberger, did so much to upset the current doctrines of medicine in Ramazzini's graphic simile it did for medicine what gunpowder had done for war. The present year by a coincidence was the fiftieth anniversary of Laveran's discovery of the malaria parasite.

Speaking of the early use of cinchona bark in England Sir Humphry Rolleston quoted advertisements which appeared in 1658—a year remarkable for the prevalence of intermittent fever—in the *Mercurius politicus*, one of which read:

"The Peruvian Bark, commonly called the Jesuites Powder which is so famous for the cure of all manner of Agues brought over by *James Thompson* Merchant of Antwerp is to be sold either at his own Lodging at the Black Spread Eagle in the Old Bailey over against Black and White Court or at *Mr. John Crooke's* Bookseller at the Ship in *St. Paul's* Churchyard with directions for its use. Which Bark or Powder is attested to be perfectly true by Doctor Prudjean and other eminent Doctor and Physitians who have made experience of it."

As for Sir Robert Tabor (or Talbor, or Talbot), the Court physician who did much to popularize the remedy in the time of Charles II, Sir Humphry Rolleston gave an account of his activities in France where he was sent to cure the Dauphin of the ague. The Dauphin recovering, Tabor received the title of Chevalier, a pension of £100 a year, and £2,000 for the secret of his "Englishmen's cure," which was an infusion of a considerable quantity of cinchona bark in good claret wine.

Sir Humphry Rolleston spoke finally of several alkaloids of which about thirty distinct kinds had been obtained from the bark, the most important being quinine, quini

dine, cinchonidine, and cinchonine. The various alkaloids differed from each other mainly in degree, the most powerful antiseptic was quinine but quinidine was the most effective in restoring the normal rhythm of the heart in auricular fibrillation and flutter. It had not yet been elucidated how quinine exerted its antimalarial action. There was something to be said in favour of the view that it acted on the parasites indirectly. Another view was that quinine favoured the production of antibodies. It had been thought to form a film on the red blood corpuscles, and so to prevent the entrance of the malaria parasite.

Sir David Prain, formerly director of the Botanical Survey of India and of the Royal Botanic Gardens, Kew, also gave an interesting historical review of the subject, and mentioned some modern work. He said that since the war much had been done in the study of the relative value of the various individual alkaloids contained in cinchona bark. When quinine was isolated in France in 1820 the two barks most in favour with French pharmacists were the "grey" and the "yellow", the latter must have been the material on which the work was done. Sir David Prain said that the cinchona bark recognized in the *London Pharmacopoeia* of 1677 was clearly the crown" bark of Loja the forest district of Southern Ecuador from which cinchona bark was first introduced to European medicine. No other bark was known to be used in England until a century later when "red" bark found its way to this country and met with much favour. Past experience indicated that at least up to 1820 the crown" the "yellow" and the "red" barks were all equally efficacious when used by competent authorities, and that "grey" bark which did not happen to contain quinine was as valuable as any of the three kinds which did yield that alkaloid.

An interesting address from a different point of view was delivered by H. E. The Marquis de Merry del Val the Spanish Ambassador, who claimed that the actual discovery of the efficacy of this wonderful medicine was due to a Jesuit missionary who was cured by its use of an attack of malarial fever in the province of Loja. He made known the remedial properties of the bark among the Spanish settlers, and in Europe the Jesuits, at that time in the zenith of their glory, introduced the newly found boon to ailing humanity.

Perhaps we may be allowed to add the remark made by the representative of a South American Consulate in one of the supplementary speeches. In his delightful English he declared that "quinine has made the world safe for malaria."

THE SURGEON'S WORK ON A POLAR EXPEDITION

In a paper on this subject read before the Sheffield Medico-Chirurgical Society Dr. A. H. MICKLEY said that the most important part of the surgeon's work lay in the preparation which was done before the party left England. The purely medical work consisted chiefly in examination of the personnel and in the collection of the equipment. The latter was likely to vary with the individual surgeon, the personnel the scope of the expedition, the stowage space and the finances.

Scurvy, Frostbite, Snow-blindness

Scurvy, frostbite, and snow-blindness were conditions common to all Polar explorations though rarely met with in home practice. A dissertation on these matters was no part of his lecture, other than to emphasize their great practical importance. There had been much discussion as to the cause of Captain Scott's failure and death, but in the history of that famous return journey from the Pole was a beautiful clinical picture of the onset and development of scurvy. Scurvy predisposed to frostbite, which, unless treated promptly and effectively, resulted in death of the part. Every effort had to be made to ensure that if gangrene set in, it should be the dry and not the moist type. Treatment was best carried out by the application of body heat, followed where necessary by warm dryness. Snow-blindness was really caused in Polar regions by dull diffuse light, on a bright day hummocks and ridges cast deep black shadows, and could be distinguished without effort whereas in diffuse light the whole area became a homogeneous dull white in which details could not be picked out, and men would stumble over lumps and pressure ridges without seeing them. In such conditions snow-blindness set in rapidly. Snow goggles, which cut out the ultra-violet rays, were only effective if the sides were protected also. The symptoms were marked conjunctival congestion, lacrymation, and photophobia, circumcorneal injection pointed to a deeper involvement. The condition was very painful. Relief could be obtained by use of zinc sulphate and cocaine, but even the mildest case lasted for days. There was no need to emphasize the disastrous effects of these three conditions on a party working under Polar conditions. They were all preventable. Careful collaboration between the leader of the expedition and the surgeon was required as to proper food and clothing. Well-fitting snow goggles were essential.

All the hands in addition to their own special jobs had to be prepared to take part in the general work of the expedition. The lecturer served not only as dog-driver and veterinary surgeon, but also was required to help work the ship on deck aloft, in the holds, in the bunkers and to take turns at being "Peggy" for the day which meant doing all the odd jobs such as scrubbing floors, helping the cook and washing dishes.

Experiences with the "Endurance" Expedition

A number of slides illustrating the actual conditions under which the surgeon would carry on his work were shown, and the course of the *Endurance* expedition was described. On the way to the ice the care of the sledge dogs was an important problem which raised the question of sanitation this was effectively dealt with by the institution of a permanent "watch". Entering the cold air of the Antarctic both men and dogs improved in health developed huge appetites, and put on weight. The *Endurance* having penetrated 1,000 miles of pack ice was beset and frozen in. There she remained imprisoned all through the long winter night of three and a half months. There was plenty of work for all hands food was good and plentiful and everyone remained cheerful and healthy. There was a liberal issue of tobacco, but no alcohol, except a small "tot" on Saturday nights.

The great spring blizzards caused the ship to be destroyed by the pressure of the ice. The party twenty-eight all told, had then to live on the floe where they remained seven months on a very short ration composed chiefly of meat obtained by hunting for seals and penguins. The flesh was dark red of coarse fibre and had a strong oily taste. The meat diet caused constipation, and troublesome fissures developed as the result of lack of sanitary and toilet facilities. The break-up of the floe involved an arduous and exhausting boat journey, during which the chief difficulty was thirst. Elephant Island was reached with many of the members suffering from frostbite, sea-water boils and various injuries. Shackleton set off with a boat's crew to make South Georgia and send relief. In getting this boat launched all those who remained were thoroughly soaked with sea-water. There was no spare clothing, a blizzard had destroyed the tents, sleeping bags were wetted through the party was houseless and the outlook at this period very black indeed. It was the only time the lecturer himself despaired of life. They were compelled to live under upturned boats. Food was a hand to-mouth business—seal, penguin sea birds, limpets and seaweed. Scurvy did not appear. Frostbites were frequent, and an operation for spreading gangrene had to be carried out on one of the party. Cessation of blizzards and finer weather effected an improvement, and life became more normal. Rescue which was expected in three weeks did not arrive for four and a half months when all hands were picked up alive. On arrival in civilization they were dirty not having washed for eleven months, but free from vermin, and the skins were in excellent condition. They had lost their immunity to bacterial infections, and all suffered from severe colds.

British Medical Journal.

SATURDAY, DECEMBER 27TH, 1930

RESEARCH AND PROTOZOOLOGY

THE science of protozoology is concerned with free-living as well as parasitic organisms, and while the study of the former is of interest mainly to the biologist, it is the habits of the parasitic species which make it so important to the medical man. This is obvious when one recalls that within its purview are included the causal organisms of malaria—one of the greatest of the four great Captains of the Men of Death—of sleeping sickness, of kala-azar, of several of the dysenteries, and various others.

While it is true that the earliest unicellular parasites seen were protozoa—Leeuwenhoek discovered the intestinal flagellates in 1676—the impetus given to bacteriology by Pasteur and those who followed him rather overshadowed protozoology. Until Ross, at the inspiration of Manson, delved into the mysteries of malaria and the mosquito, until Bruce studied the trypanosomes and the tsetses, and until Theobald Smith, in the veterinary world, unravelled the tangled skein of Texas fever and the ticks—not till then did the science start to come into its own. It became a major factor when tropical medicine became important, and its study has advanced simultaneously with the development of the Tropics. It has progressed through the usual channels of evolution of a biological science. The earlier workers were concerned with morphology, classification, and life histories. As the group became better known, its members were pressed into the service of many of the various branches of biological study—genetics, sex physiology, evolution, ecology, and so on. It has now reached its adolescence, however, and a survey of the literature shows that, although many new species are being discovered each year, the trend of investigation is towards experimental work, and much time is being spent on the study of artificial development and culture of the parasites, on immunity, and on the complex host parasite relationships. But because animals are always more difficult to study than plants, and because the diseases caused by animals are tropical rather than temperate, the progress has been relatively slow, and the workers relatively few. It is now being realized that it is not always necessary to go to the Tropics for the material necessary for study, and that the comparative method which has already proved its value in other branches of medicine, can be usefully employed here also. The parasites of our common laboratory and domestic animals are little understood, and problems of the greatest scientific importance can be studied with them and. In special cases, of course, it is still necessary to obtain species from the Tropics, but much useful work can be accomplished with temperate forms.

In these circumstances many new workers are being attracted to the field from various branches of life—zoologists, medical men, veterinarians, hygienists, and sanitarians. Their interests are diverse, and the already considerable literature is scattered. To assist in correlating these interests, and in bringing together the important parts of the experimental literature, Hegner and Andrews have just published a small encyclopædia on a new plan, called *Problems and Methods of Research in Protozoology*.[1] Written in forty-two chapters, by twenty-seven different authorities, it is intended alike for the seasoned investigator and the embryo research worker. It opens with a general introduction on the host parasite relations between animals and the protozoa, it goes on to discuss the various groups, their different methods of cultivation and transmission, their serological reactions, the methods of studying the various problems, and concludes with lists of books and journals on protozoology and references to important papers. It makes little attempt to deal with morphology, taxonomy, and life cycles. That has been done most satisfactorily in Wenyon's already classical *Protozoology*, and, on a more restricted scale, in Thomson and Robertson's *Protozoology for Medical Men*. The new book may be regarded as a supplement to these and is intended rather for the laboratory than for the classroom or study. It is well written, and should present no difficulties to the beginner in the field.

Britain has always held a front place in medical research. Her tropical possessions and interests are the greatest in the world, and it is therefore the more regrettable to find that much of the modern work in the fundamental sciences of tropical medicine is being undertaken outside her borders. Imperial problems occupy now a more prominent place in her thoughts than ever before, and her legislators are awake to the fact that a healthy, disease-free people is the first essential in the development of a tropical empire. The opportunities for successful and satisfying work in the fundamental problems of parasites and their vectors are greater to-day than they have been since Sir Patrick Manson and Joseph Chamberlain established modern tropical medicine. Yet the number of young workers in the fields of medical protozoology, helminthology, and entomology is regrettably small. The practice of tropical medicine is proceeding apace, and Britain has no need to be ashamed of the numbers of her sons and daughters who are working in that field abroad. But the advance of medical practice depends in huge measure on the application of discoveries made in the laboratory, and workers there are just as essential as in the field and the consulting room.

THE SURGEON AS A HANDICRAFTSMAN

ETYMOLOGICALLY this heading is redundant, for the word "chirurgeon" originally denoted one who worked with his hands. It came into use in the days when the learned physician delegated the base mechanical parts of his work to an inferior and less erudite person. Practical surgery is still something of a mechanical art, but now that the surgeon combines in himself the physician who diagnoses the disease and prescribes the cure and the craftsman who carries out his orders, the hand has to be controlled and directed by the highly trained brain. Of late years it must have occurred to many to ask themselves how far the development of machinery of various sorts, and especially of electrical machinery, has affected the handicraft of surgery in the sense of making it less a skilled craft than formerly. Surgery is by no means singular in being affected by this development. All sorts of handicrafts have been modified by the progress of invention. The fitter, who in former times laboriously cut his way with cold chisel and hammer through steel plates now has but to direct the nozzle of an oxy-acetylene

[1] *Problems and Methods of Research in Protozoology*. Edited by Robert Hegner and Justin Andrews. New York: The Macmillan Company. London: Macmillan and Co. Ltd. (21s. net.)

pipe and watch it dividing solid steel as a hot knife through butter The enterprising burglar has been slow to follow his example Even in such h laborious occupations as paving and street uring the passer by no longer stands entranced to *ch the wonderful rhythmic co ordination of three* our athletes driving a wedge with sledgehammers iout faltering or missing a blow he now flees as and as far as he can before the awful ear ttering jar of the pneumatic drill or chisel Most hanical improvements lighten the labourer s task diminish his sufferings But we question whether vibratory massage transmitted to its holder by the umatic chisel is as wholesome as the free play muscles and joints enjoyed by the wielder of the ge and in fact several kinds of injury or illness now known to be related to the occupation of umatic drilling [1] All that can be said for it is that ves time

he armamentarium of the surgeon has in the last eration been enriched with a large number of hances and labour saving machines for use in nosis or in treatment Some of these require cial training for their successful manipulation and their turn have rendered possible surgical pro ures formerly impossible As a case in point we d only mention the bronchoscope Fifty years ago instruments used in operative surgery differed le in essentials from those employed by Ambroise e in the sixteenth century and probably were no ter than those in use in the Roman Empire at the ght of its civilization and refinement One of the st elaborate tools employed was the trephine in or other form with which laboriously and tiously the skull was opened The trephines resented in the *Dix Livres de Chirurgie* differ little m those in use until a few years ago Now how r electrically driven machines make the opening of cavity of the cranium and the removal of large ts of its walls a quick and easy proceed ng rtions of bone are expeditiously excised from healthy ts and implanted in others and these grafts are and their beds prepared by machines which ensure uracy and eliminate the danger from tired or un tain hands In an American journal not long since read an account of a method of reducing displace nt after fractures of the long bones by the use of a achine worked by electric power and this may prove harbinger of other developments yet to come

But when we reflect on the purposes for which these chanical aids are employed we find in most cases at the new machine is used almost entirely in new ocedures and herein surgery in a sense lags behind lustry The builder no longer relies upon the ourer with his hod of bricks toiling up a ladder t lifts them a thousand at a time by means of an ctric crane The steam or electric navvy has ousted human prototype in excavation but the surgeon io performs say *an amputation of the thigh* or a rnotomy does so with very much the same instru ents as his predecessors of a hundred years ago nesthetics have made it unnecessary for him to mulate the speed of Robert Liston—a speed only proached if it be not surpassed when the technique some modern operation is being demonstrated by ms of the cinematograph and arteries appear to ligatured and stitches inserted and tied at least as st as the eye can follow them leaving the beholder ondering again why time is not represented on the m as accurately as form

[1] See *British Medical Journal* December 13th 1930 p. 1013.

The bare hand of the surgeon is no longer tolerated in an open wound and even the gloved hand is looked on askance Indeed, it is only in what is pleonastically called manipulative surgery that the forceful but bare skilled hand of the surgeon still has it all its *own way The reduction of a congenitally displaced* hip is still achieved without the use of any but human machinery although even for this procedure something like the scammum of Hippocrates has been rediscovered and used by a few In the vast field of abdominal surgery too the machine has not ousted the skilled hand The *tactus eruditus* is here as necessary as ever, *and neatness and skill in the use of needle* and suture does not seem likely to be superseded by any sewing machine unless indeed another Howe springs upon us a surprise such as is at present inconceivable When all is said however we shall find that no matter how much mechanical devices are multiplied or elaborated it is the man behind the *machine that matters* whether he be using his bare or rubber gloved hands or the latest invented and most complicated electrical or pneumatic apparatus

TRAFFIC IN DANGEROUS DRUGS

THE first or preliminary conference on the limitation of the manufacture of dangerous drugs to which allusion was made in the *Journal* of September 27th (p. 535), was held in London from October 27th to November 11th A report has been submitted to the British Government for presentation to the League of Nations It will be remembered that at this preliminary conference only producing countries were represented There were nine in number and included three which are not members of the League—namely Soviet Russia Turkey and the United States The other participating Powers were Great Britain France Germany Netherlands Switzerland, and India The deliberations of the conference were private and the minutes of the proceedings are confidential From a reply given in the House of Commons recently it was to be gathered that the report of the proceedings has been sent to the Secretariat of the League of Nations that it is now in the course of being printed but that it is not possible to say *when it will be available to the public* A communique which was vouchsafed to the press on November 13th admits that no final decision was arrived at in regard to limitation and the allocation of production in the case of morphine and heroin while some agreement appears to have been provisionally approved in regard to the manufacture of cocaine Thus far the objects aimed at in the resolution passed unanimously by the Assembly of the League last September do not seem to have been attained nor has the ground *been adequately prepared* for the larger conference to be held next May in Geneva at which all countries producers and consumers alike will be represented The Assembly shocked by the magnitude of the illicit traffic requested the preparation of plans whereby the supply of dangerous drugs should be restricted to the amounts required for medicinal purposes If the conference to be held next May is as is *contemplated to draft* a new Convention to limit effectively the production of the drugs *in question to legitimate requirements* and apportion to each producing country its quota of manufacture, a great deal more preparation will be necessary than has so far been successfully accomplished It is reported that if each producing nation were allowed the quantity which its manufacturers deem appropriate the total would greatly exceed what is considered to be the world s needs The League of Nations has been advised that 250 tons of raw opium and 6 tons of cocaine are sufficient for the world s requirements ' The recent conference had the advantage

of the presence of a representative of Turkey a country which though a large producer of opium, has not hitherto seen fit to ratify either The Hague or the Geneva Conventions Turkish statistics have been published which suggest that from its factories large quantities of opium morphine, and heroin pass into illicit channels In the first six months of this year it is stated, 2,282 kilograms of morphine and 4 383 kilograms of heroin were exported, and that this last amount represents about forty times the amount of heroin consumed in Great Britain in a year It is not surprising that Soviet Russia's representative considered that the conference was working on too narrow a basis and that it should have included in its purview the limitation of the production of raw opium and of the coca leaf This question is, we understand again likely to be raised at the Geneva conference in May Seeing that The Hague Opium Convention of 1912 was designed to secure the suppression of the use of narcotic drugs, and to pledge its signatories to co-operation with one another to prevent their uses for other than medical and legitimate purposes, and seeing that all but ten nations are now parties to that Convention, it is amazing that progress is so slow, and that action on the lines prescribed by our Dangerous Drugs Acts of 1920–25 has not been more widely adopted

THE AFRICAN SLEEPING SICKNESSES

IN 1901 Forde and Dutton discovered *Trypanosoma gambiense* in the blood of man in Gambia, and a year later Castellani isolated the same organism from cases of sleeping sickness A second human species was recorded in 1910 by Stephens and Fantham under the name of *T rhodesiense* Various species had been found in the lower animals before this time, however Lewis, in 1878 had discovered the common almost non-pathogenic, species in rats and two years later Evans found that *T evansi* was the cause of surra in domestic animals in India In 1894 Bruce made his famous investigation on n'gana, and not only discovered *T brucei* but proved that it was carried by tsetse flies from animal to animal Since that date it has been shown that n'gana is caused by a variety of trypanosomes, but it is with *T brucei* that the medical man is mainly concerned This species occurs naturally in game and domestic animals in Africa, but while many attempts have been made to transmit it to man, all have proved failures Nevertheless it is morphologically identical with *T rhodesiense*, and differs from *T gambiense* only in minor details In the blood of man in fact, these two species appear identical, although the disease caused by the former is more severe In laboratory animals, however a small percentage of both *T brucei* and *T rhodesiense* have the nucleus moved to the posterior end of the body while in *T gambiense* it is always centrally placed In recent years, British authors have generally agreed in regarding *T rhodesiense* as a human strain of *T brucei* although they accept *T gambiense* as a separate species The question of the origin of these species has recently been investigated by Yorke, Adams, and Murgatroyd[1] and some very interesting discoveries have been made Human serum was found by Laveran in 1902 to have a definite therapeutic effect on mice infected with *T brucei* from cases of n'gana The English authors have now been able to show that normal human serum or citrated plasma exerts a pronounced trypanocidal action *in vitro* on *T rhodesiense* and other species, except *T gambiense*, and they believe that man's immunity to the various animal species is due to this property of his blood The lethal effect on *T rhodesiense* was surprising, and has caused them to formulate a new and interesting hypothesis on how human beings become infected They believe that *T gambiense*, like *T rhodesiense*, is identical with *T brucei*, its apparent greater differences being due to more profound modification, resulting from numerous passages through man The natural host of the organism is wild game, but the game trypanosome is not pathogenic to normal man because of the protective action of his blood Under certain conditions pathological and dietetic, the trypanocidal substance is destroyed, and he becomes susceptible If such a person is infected he develops a *rhodesiense* infection (which would be unlikely to assume epidemic significance) This occurs in regions where the predominant tsetse is *Glossina morsitans*, which feeds chiefly on game Where however, the predominant fly is *G palpalis* (which has a more intimate contact with man), an infection similarly developed would have a greater chance of being spread from man to man, and the prolonged passage would result in its acquiring a resistance to the trypanocidal action of human blood If this property is inherited—that is if it survives passage through the fly—the infection could spread from man to man through cyclically infected flies If not, then human epidemics must either be caused by mechanical transmission by the proboscis of the fly or by the existence of some local condition such as dietary deficiency or hookworm disease which would destroy the trypanocidal power of his blood When *T gambiense* is passed to game or domestic animals it quickly loses its serum resistance and becomes incapable of infecting normal man While this is still hypothetical, it is supported by many facts One of the most interesting of these is the recent accidental infection *of a laboratory assistant in Paris with T brucei* If this hypothesis is confirmed—and it can only be confirmed in tropical Africa—it may have a very great bearing on the methods of eradication and control of the disease Meanwhile, considerable interest has been taken in recent years in the chemotherapy of the disease and several new drugs have been introduced into practice with more or less satisfactory results Atoxyl has been very extensively used in the past but it is now being displaced by another pentavalent arsenical compound "tryparsamide," the sodium salt of n-phenylglycinamide-p-arsonic acid The name is a trade mark registered and controlled by the Rockefeller Institute for Medical Research It can only be manufactured under a strict licence in the interests of the public and the institute receives no profit whatever in connexion with the sale and manufacture of the drug A similar compound is marketed in Belgium though not under licence under the name "tryponarsyl" Tryparsamide was developed by the Rockefeller Institute in the first place, and has been used extensively during the past ten years for the treatment of sleeping sickness due to *T gambiense*, but clinical observations support the view that it has little curative value in the later stages, at least of Rhodesian sleeping sickness It has a high factor of safety in experimental animals and a high mortality to the parasites Recently it has been the subject of a monograph by Louise Pearce,[2] in which is given a detailed analysis of over a thousand cases She considers that it exerts a unique action on advanced cases but is equally satisfactory in early cases, and is vastly superior to any other drug yet used It is recommended for general use under the conditions of both lazaret and field administration Most drugs in use against trypanosomiasis—and this is equally true of those used against bilharzia disease—have the great disadvantage from the point of view of administration to natives that they must be given hypodermically and undoubtedly a drug capable of oral administration would be of benefit Bayer 205 and others have occasionally been given in this manner, and a new

[1] *Ann Trop Med and Parasit* 1930 xxiv p 115

[2] *The Treatment of Human Trypanosomiasis with Tryparsamide* By Louise Pearce, M D Monographs of the Rockefeller Institute for Medical Research No 23 New York The Rockefeller Institute for Medical Research 1930

German preparation called "4002" which has yet to be tested extensively in the field has given promising results in laboratory animals Research in this sphere is very active just now and soon we may be in possession of an ideal specific that can be administered by mouth

LEPROSY IN THE BRITISH EMPIRE

Two illustrations of the advance which is being made in the campaign against leprosy have been forthcoming recently In the annual report for 1929 of the British Empire Leprosy Relief Association an account is given of the way in which the administrative side of the campaign is being intensified and extended, with a corresponding rise in cost During the year Mr Oldrieve, who has been secretary of the association since its foundation resigned and was succeeded by Dr Robert Cochrane The second illustration is afforded by a useful booklet of seventy five pages embodying the fifth edition of Dr Ernest Muir's well known book *Leprosy Diagnosis Treatment and Prevention*[1] This booklet is an outcome of an undertaking given by the Central Committee of the Indian Branch to make itself responsible for the promotion of research and propaganda against leprosy As the research worker in leprosy at the Calcutta School of Tropical Medicine and Hygiene, Dr Muir has enjoyed special facilities for observing the progress of new discoveries He has now collated and condensed all the work achieved up to the present and has included the results of his own researches in order that they may be available for the use of doctors in India and elsewhere The fact of his publication having now reached the fifth edition is a proof of its usefulness, it evinces a commendable desire to keep the work up to date and to deal with the difficulties which doctors have in carrying out the therapeutical measures propounded Another problem which has received special attention is the production of hydnocarpus esters by hot and cold processes Dr Muir gives first place in treatment to creosoted hydnocarpus oil and its esters, which he describes as the most useful economical, and painless preparation He finds that sodium hydnocarpate which was advocated so strongly by Rogers is apt to cause endophlebitis and to block the veins when injected intravenously, he suggests, therefore a technique by which this can be avoided Sodium hydnocarpate is especially convenient in countries like Africa where hydnocarpus trees are not yet available, since it occupies little bulk and can be conveniently imported Dr Muir's booklet is packed with practical information It deals with the symptoms diagnosis, and the general principles of treatment and cannot fail to be most useful not only to doctors in India, but also in other countries in which leprosy is endemic Indications are given how the campaign against leprosy should be conducted The last Indian census taken in 1921 gave the total number of lepers as 102 513 but from subsequent surveys by expert medical officers there is good reason to believe that there are between four and five times that number infected A summation of all the work done in the study of leprosy emphasizes the importance of the removal of predisposing causes which lower the resistance of the patient to this disease The desirability of early diagnosis is very great since a relative cure can be obtained if the disease is taken in hand in the first stage but this becomes more difficult and requires an increasingly long course of treatment as the disease advances By the erythrocyte sedimentation procedure it is possible to test a large number of blood samples at once with fair accuracy and with the expenditure of a minimum of time this method has been proved to be most useful also in determining the degree of resistance Those in charge of leper institutions who may wish to prepare their own hydnocarpus esters will find in this book practical methods of technique which will put them in possession of the best treatment at very moderate cost Since all authorities on leprosy are now agreed that the sheet anchor of treatment lies in preparations from the seeds of hydnocarpus trees, the British Empire Leprosy Relief Association might well consider more carefully the desirability of further botanical research into the possibility of introducing these trees in British possessions in Africa where this disease is rife *H wightiana* and *H anthelmintica* grow in Southern India, Burma, Siam and China and there is an allied species, *Carpotroche brasiliensis* which abounds in Brazil The leprosy-affected regions of Africa lie, for the most part in the tropical zone and it is probable that hydnocarpic trees could also be raised there If so, this would place the question of treatment in Africa on a more economical and widespread basis The fresher the seeds, the more active is the therapeutic action of the oils obtained from them

[1] *Leprosy Diagnosis Treatment and Prevention* By Ernest Muir MD FRCS Fifth edition Delhi and Simla Indian Council of the British Empire Leprosy Relief Association. 1930.

SPINAL TUMOUR WITH SYRINGOMYELIA

A somewhat rare but practically important type of spinal tumour forms the subject of Dr Jonesco-Sisesti's book on tumours of the spinal cord associated with a syringomyelic condition[1] Nineteen cases are described, three of which came under the author's observation, the remainder being drawn from the literature The author's attention was called to the condition by certain cases under Professor Guillain in the Salpetriere in which the clinical syndrome appeared to be clearly that of spinal compression, whereas laminectomy revealed an inoperable intramedullary tumour An anatomical examination of these cases showed that in addition to a localized central tumour there was also present a diffuse gliomatous formation which extended for a variable and sometimes great distance above and below the tumour and exhibited the cavitation familiar in syringomyelia The association of the two lesions produces certain clinical symptoms which, with an examination of the cerebro-spinal fluid and exploration with lipiodol, render a diagnosis possible This type of case being inoperable resort was had in one instance to radiotherapy, applied widely beyond the limits of the tumour The patient, a male aged 16, was admitted to the Salpetriere with paralysis of both upper and lower limbs and extensive muscular atrophy A laminectomy revealed the presence of an inoperable tumour in the cervical region After a series of eleven irradiations the atrophy of the quadriceps extensors had disappeared and the power both in the extensors and in the flexors of the thigh was almost normal In the upper limb there was partial recovery of strength on the left side On the other hand the area of superficial sensory trouble had apparently increased in extent A second series of irradiations applied a few months later, was followed by further amelioration The patient was able to walk without assistance considerable power was regained in the upper limbs and the sensory troubles had almost entirely disappeared The amelioration persisted for the three years during which the patient was under observation One must assume that in this case the gliomatous formation was reduced by the irradiations and if the tumour was of the same nature it is probable that it would also have been affected It is doubtful whether tumours having a different structure would be influenced, but these also may be associated with a widespread gliomatous formation, and symptoms referable solely to this condition would presumably be ameliorated by irradiation Has irradiation, as applied to the spinal cord in cases of tumour, any disadvantages The records under this heading refer mainly to extramedullary tumours Cases have

[1] *Tumeurs Médullaires et leur Traitement par la Syringomyélie* Par N Jonesco-Sisesti Paris Masson et Cie (45 fr.)

been reported in which this treatment has been followed by permanent exaggeration of the pains and sometimes sudden exaggeration of all the symptoms, with transformation of flaccid into spastic paralysis, and even acute decubitus—accidents apparently depending on vasomotor changes leading to serous exudation or haemorrhagic extravasation

A HISTORY OF MEDICINE IN MASSACHUSETTS

As this year is the tercentenary of the settling of the Massachusetts Bay Colony, and next year the hundred and fiftieth anniversary of the founding of the Massachusetts Medical Society will be celebrated, Dr H R Viets, a Fellow of that society, appropriately supplies *A Brief History of Medicine in Massachusetts*,[1] which sketches the events from 1620, when the pilgrims landed at Plymouth, up to the present day, thus supplementing Dr Samuel H Green's work which appeared in 1881 The Pilgrims obtained their medical advice from clerics also possessing a knowledge of the ills of the body, especially from Deacon-Doctor Samuel Fuller, who died of small-pox in 1633 After this there was not any prominent medical man in Massachusetts for nearly a century, and medical practice was carried on by several classes of people by the governors of the State, especially John Winthrop the Younger (1606–76), a correspondent of Sir Kenelm Digby and a Fellow of the Royal Society, by barber-surgeons, clergymen, and others, some with, some without, medical degrees Thomas Thacher (1620–78) was the outstanding Puritan preacher-doctor of his time, and in 1677 printed a "Brief Rule" of advice about the "Small Pocks, or Measles" Another doctor-preacher, Giles Firmin, educated at Emmanuel College, Cambridge, was probably the first anatomical lecturer in America In the eighteenth century epidemics of small-pox were frequent and were to some extent modified by direct inoculation, introduced in 1721 by Zabdiel Boylston and advocated by Cotton Mather, but it was not until Benjamin Waterhouse initiated Jennerian vaccination in 1800 that any well-marked decrease in the death rate followed In 1735 a medical society, the predecessor of the Massachusetts Medical Society established in 1781, was started and lasted about five years Boylston's rival, William Douglass, who opposed inoculation against small-pox, was the leading physician in Boston about 1750, and was a keen supporter of the medical society James Lloyd had an outstanding position as an obstetrician, and instilled into the younger men the teaching of the two Hunters and Cheselden The achievements of the Warrens and of James Jackson (of whom a striking portrait is given) are dutifully recorded, and the influence of the teaching of Louis in Paris is noted The activities of Oliver Wendell Holmes, the Bowditches, and Jacob Bigelow rightly find a place, a chapter is devoted to the discovery of ether anaesthesia, and finally G R Minot and W P Murphy's work on the liver treatment of pernicious anaemia is entered in this Valhalla of Bostonian medicine

EDUCATION FOR SCIENTIFIC INDUSTRY

"It may well be questioned whether the school education of to-day is a satisfactory one for the lad who intends to devote himself to either science or productive and progressive industry Two totally distinct subjects have here to be considered—namely, education and instruction Education consists in expanding the powers and resources of the mind, whilst instruction consists in filling it with information, it is more easy to instruct than to educate" With these remarks, made in the course of the Norman Lockyer Lecture delivered recently before the British Science Guild,[2] Sir William J Pope, who had taken for his subject "Science and modern industry," turned from his survey of the new political outlook, demanded and to some extent created by scientific industry, to a consideration of the educational problems that are peculiar to this era Modern industry, he reminded his audience, is so scientific in character that early education in science would seem to be excellently calculated to fit young men to take up an industrial career He soon made it clear, however, that by the term "education in science" he meant something very different from the application of a cramming system to young receptive minds, sating them with detail, but giving them no real understanding of general scientific principles He repeatedly found young men entering the university equipped already with a sufficient knowledge of theoretical organic chemistry to see them through the honours degree examination they were to take some years later But these young men, laden with notes on all matters about which examiners might be expected to ask questions, were weary of science, poorly trained in laboratory work, and lacking in general education Only rarely were any found among them who could read foreign languages with ease, and still rarer were those who could understand a spoken foreign tongue It is possible, suggested the lecturer, that we have passed too rapidly and unsystematically from the classical and mathematical education given in our higher schools up to fifty years ago, and have lost something essential in the process Certainly a thorough training in the intricacies of Greek grammar was a splendid mental discipline, it exercised the memory and quickened the intelligence The older school teachers never tried to make a subject easy, realizing that the more difficult the task the greater was its educational value, and that only when it was desired to instruct rather than to educate was it legitimate to make the operation as easy and painless as possible Sir William Pope explained, however, that he was far from advocating a return to the classical and mathematical education of former days Natural science, he said, offered a mental discipline far more stimulating than the study of a dead language, but it was essential that the schools should know exactly what they were at when they provided so-called scientific education, that they should inculcate the broad principles of the natural sciences and methods, and provide liberal courses of practical work in the laboratory "It must be conceded that our present-day English school system, the most expensive in Europe, calls loudly for revision, modern science and modern industry demand recruits who have received a liberal education Much has to be undone and redone when the schools send to the university or to the industries young men who cannot express their thoughts grammatically in writing, but who are stuffed with facts relating to highly specialized branches of science"

[1] *A Brief History of Medicine in Massachusetts* By Henry R Viets M D Boston and New York Houghton Mifflin Company 1930 (4 dollars)

[2] *Science and Modern Industry* Published by the British Science Guild, 6, St John Street, London, W C 2. (1s)

THE Medical Research Council announces that it has awarded three Dorothy Temple Cross Research Fellowships for 1930-31, these being the first appointments to be made under the terms of the recent benefaction in that name for research fellowships in tuberculosis, as follows Arthur Ivan Granville McLaughlin, M B, Ch M, chief assistant, tuberculosis department, St Thomas's Hospital, London, Reginald John Matthews, M D, D P H, D T M and H, chief tuberculosis officer, Mid Glamorgan area, and medical superintendent, Cymla Hospital, Sidney Malcolm Burrows, M R C S, L R C P, Lieutenant R A M C, attached Sudan Defence Force Dr McLaughlin has received a Fellowship for the study of methods of diagnosis and treatment at some chosen centre in the United States Dr Matthews and Lieutenant Burrows have received Senior Fellowships, and will make special studies of problems of tuberculosis among the native populations in Zanzibar and in the Bahr el Ghazal province of the Sudan, under arrangements made by the council with the respective Governments.

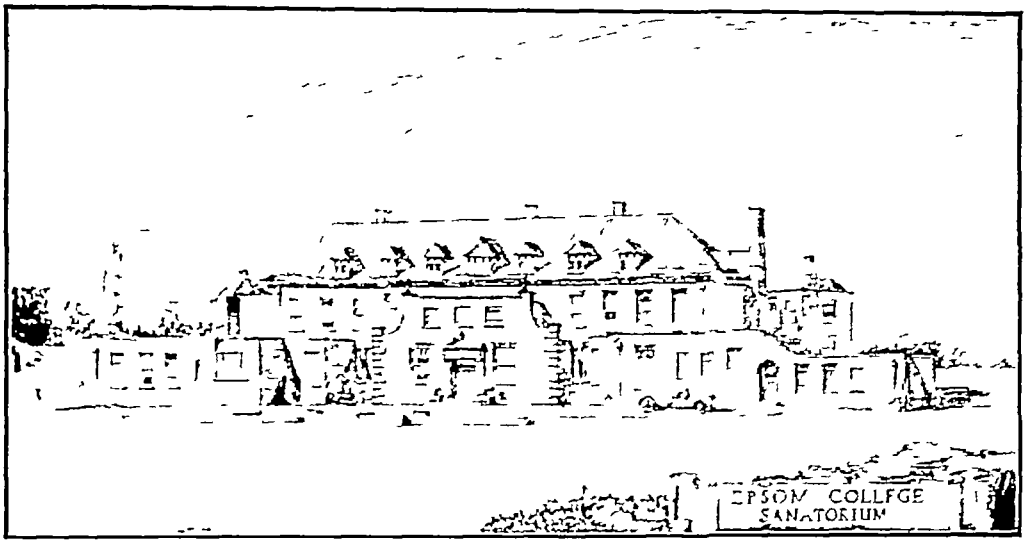
EPSOM COLLEGE SANATORIUM

THREE years ago there was published in the *British Medical Journal* an account and illustration of the sanatorium which it was proposed to erect at Epsom College, and an appeal was opened for the necessary funds. In our advertisement columns this week particulars are given of the revised plans for this sanatorium, the building of which has already started. The illustration on this page shows the north front. It will be at once apparent that certain changes have been introduced into the original scheme.

By designing a three-storey, instead of the two-storey, building previously contemplated, the architects (Messrs. William A. Pite, Son and Fairweather) have been able to provide accommodation for the patients on the ground and first floors with considerably increased floor space for each bed. There are also more bathrooms and sanitary annexes, arrangements having been made for the housing of the staff on the second floor. The positions for the operating room and x-ray room have been reversed, the first being now situated in the out-patient wing, and the second near the entrance hall—a much more satisfactory arrangement. These, and certain other changes, have been introduced as the result of friendly constructive criticisms made during the period while sufficient money was being collected to finance the building.

The new site selected is over a quarter of a mile from the main road and away from the noise of traffic—a considerable boon to both patients and nurse. The sanatorium will be heated by low-pressure hot-water radiators, but provision has been made by which they can be converted at any time to electric convection radiators should this appear to be economically advisable.

The contract of Mr. E. H. Smith of Croydon for the erection of the sanatorium has been accepted, and the actual work began on October 16th. The contract price is £26,245 for a fifty-bed sanatorium, and by the terms of the agreement the building is to be completed in June, 1931. This will allow the late sanatorium to be converted to its new use as a house for fifty boys by the beginning of the Michaelmas term next year.



EPSOM COLLEGE SANATORIUM: PROSPECT FROM THE NORTH WEST.

TREATMENT OF EYE CONDITIONS IN INDIA.

BY

E. R. SHETTI, L.C.P. AND S. BOMBAY,

MEDICAL OFFICER IN CHARGE OF THE HENDERSON EYE INSTITUTE, CIVIL HOSPITAL, BIJAPUR.

THE following are some of the methods of treatment carried out at the Henderson Eye Institute, the ophthalmic branch of the Civil Hospital, Bijapur, Bombay Presidency. I have confined myself to conditions that occur commonly in this district and of which the ophthalmologist in India is able to acquire considerable experience.

Keratomalacia with Xerophthalmia

This disease is very common in the Bijapur district and in Southern India in general. Its prevalence is due to ignorance of feeding and rearing babies, most of whom get a wrong diet. Deficiencies in the essential food elements during fever and other illnesses cause weakness and emaciation. Diarrhoea sets in and gets worse day by day. The first evidences of keratomalacia are night blindness and dryness of the part of the cornea and conjunctiva exposed in the palpebral aperture. Lustre of the cornea and conjunctiva is diminished, slowly a haze of increasing density forms over the cornea, and advances to ulceration, sloughing, perforation, and even to panophthalmitis.

The prognosis of these cases if they arrive early is most promising. A dose of santonine is first administered and often a lot of worms pass. The eyes are treated with instillations of drops of pure cod liver oil daily and dionin occasionally, and a little yellow ointment, a pad and a bandage. Fever and diarrhoea are met with quinine and astringents. Milk injections, 1 to 3 c.cm. for children below 5 years, are given intramuscularly once in four to six days to stimulate leucocyte formation and phagocytosis. Cod liver oil is rubbed on the whole body especially to parts like the abdomen, axilla and groins. The patients are fed on albumin water and thin milk mixed with lime water. By this treatment many early cases are cured.

Trachoma

These cases are common. We touch the everted lids with copper sulphate solution 10 per cent. once daily. For flabby and prominent granulations expression with Knapp's roller forceps and brushing with 10 per cent. copper solution in glycerin is the routine treatment. The eyes are then daily washed with mercuric chloride lotion and argyrol, and yellow ointment is put in. When the inflammation subsides—that is, after about a week or ten days—1/2 to 1 c.cm. of 1 per cent. solution of copper sulphate with novocain is injected

underneath the conjunctiva just behind the tarsus, and the injection is repeated once a week for three or four weeks This treatment has met with success in many cases

Glaucoma

Glaucoma cases are treated first with eserine and adrenaline and then submitted to operations—iridectomy for acute, and trephining (sclero corneal) for chronic cases For very high tension an intravenous injection of sodium chloride solution 1½ per cent is given up to about half a pint at a time This reduces the tension and enables trephining to be done safely

Trephining with Iridectomy

Trephining with iridectomy is often done for staphyloma of the cornea in cases where the cornea is not much thinned By this method a big segment of iris can be removed and staphyloma reduced For a large staphyloma with thinning of the cornea nothing short of enucleation is of any use Trephining with iridectomy is also successfully done for adherent opacity of the cornea where the anterior chamber is very shallow and is in close contact with the back of the cornea In these cases the usual optical iridectomy often fails, as the iris lies close to the cornea and iris forceps fail to bring any portion of iris out In such cases sclero corneal trephining brings up a segment of iris in the wound and iridectomy can be performed easily

Recent Staphylomata

Recent staphylomata are often treated successfully with continued use of eserine, dionin, adrenaline chloride, and pressure bandage On reduction of the staphyloma iridectomy or trephining with iridectomy is done for restoration of vision

Cataract

Both methods (intra and extra capsular) are adopted according to indications During the past year there has not been a single case of iris prolapse or of sepsis or of large escape of vitreous By washing the eyes with mercuric chloride 1 in 6,000, before and after cocaine anaesthesia, sepsis has been abolished from the Eye Institute during the last ten years The canthus is generally split to enlarge the palpebral aperture and minimize the danger of squeezing As B P Banaji says, "It gives a broader field for operations, lessens the squeezing power of the lids, drains away the conjunctival fluids, and lessens the chances of the instruments becoming contaminated by coming in contact with lid borders, and it is absolutely free from any bad effect"

Corneal Ulcer

Ulcers of the cornea are successfully treated with atropine and bandage, silvering of the lids also being done for some days, as these ulcers are generally due to conjunctivitis Septic ulcers and hypopyon ulcers are cauterized with camphor and carbolic (equal parts of camphor and carbolic), and paracentesis of the anterior chamber is repeated as required A few iodine injections intravenously hasten the cure

Fundus Cases

For papillitis, retinitis pigmentosa, and optic atrophy or optic neuritis, besides treating the root cause, such as syphilis, septic tonsils and pyorrhoea, iodine injections (1/2 grain pot iodid and 1/2 grain iodine in 10 c cm distilled water) are given intravenously once every three or four days till about six injections have been made Mercurial ointment for rubbing into the temples daily, and deep cyanide injections (cyanide of mercury 1 in 2 000 with novocain) 1/2 to 1 c cm once in about eight days are given Many cases have progressed markedly on this treatment and a notable feature is the rapidity with which the vision often improves after one or two intravenous iodine injections Where there are no prominent veins the following is given intramuscularly sodium iodide 250 grains, iodine 200 grains ac carbol liq 3 drachms, aq dest 4,000 c cm Of this 10 c cm are injected into the muscles (preferably gluteal) every six or eight days The mixture should not be stirred

I am greatly obliged to the civil surgeon and chairman, Blind Relief Association, Bijapur, for permission to publish this note

Union of South Africa.

[FROM OUR CORRESPONDENT IN PRETORIA]

Antimalaria Measures

DURING the past two summers outbreaks of malaria of epidemic proportions have occurred in Natal and Zululand Last summer the disease reached areas in Southern Natal, which had not been affected for the two previous decades Although this outbreak was less virulent—accounting for 1,653 recorded deaths, compared with 2,758 the previous year—it has had a disquieting effect, and demands for direct Government action have been made in the lay press and elsewhere The idea is prevalent that the central Government should itself carry out drainage of privately owned land and other measures to combat future outbreaks To clarify the position, the Union Health Department has issued a memorandum on the subject, in which it points out that owners and occupiers of land are responsible for carrying out measures against mosquitos and malaria The Government is not prepared in any way to relieve them of such responsibilities and thereby improve localized areas of land at the cost of the general taxpayer It is, however, carrying out active investigation with a view to advising private owners and local authorities as to the best and most economical methods of dealing with the malaria danger Last summer it employed two medical officers, five inspectors, and a large number of European and native assistants to make malaria and mosquito surveys, and to advise owners of land and local authorities The native assistants proved most useful They had previously received an intensive course of training from the malaria medical officer, which included diagnosis of the disease, the recognition of mosquito carriers and their larvae, and the methods of destroying the larvae They kept in close touch with the native population, investigating suspected outbreaks and reporting them to the magistrates of the district The attitude of native chiefs varied Many showed great interest and readily co-operated, others were indifferent and even hostile

Malaria Investigations

During the following winter Sir Malcolm Watson, principal of the department of malaria control, Ross Institute, London, who was investigating malaria on the copper fields of Northern Rhodesia, was invited by the Union Government to visit and report on the worst malarial districts Accompanied by Dr Annecke, Government malaria officer, and Mr de Meillon, entomologist to the South African Institute for Medical Research, he investigated during June last the conditions in the malarial areas of the Transvaal, Zululand, and Natal In addition to his field investigations, he did useful propaganda work, giving several public lectures He took an optimistic view of the possibility of malaria control in the Union, emphasizing the necessity of a vigorous campaign based on further scientific research Such research, he said, must include the study of the malaria-carrying mosquitos, their breeding grounds, and bionomics generally, and spleen surveys of the human population in affected areas The Government's next step was to secure the services of Professor N H Swellengrebel of the Amsterdam University to study the problem in the two affected provinces of the Union, Transvaal and Natal, and to advise and assist in framing an effective antimalaria policy, based on the scientific study of the problem on the spot Professor Swellengrebel landed in South Africa in October, and has started a preliminary general survey of the affected regions On these tours he is being accompanied by the malaria officer of the Union Health Department and the entomologist of the South African Institute for Medical Research Professor Swellengrebel, who is a member of the Malaria Committee of the Health Organization of the League of Nations, is a distinguished entomologist and protozoologist His work in the field of tropical hygiene is well known, especially with reference to plague, dysentery, and malaria

Leprosy in South Africa.

Although segregation continues to be the only practicable policy for dealing with leprosy in the Union, definite progress in the solution of the problem is being made. Until recently most cases of leprosy were in a fairly advanced stage and had been infective for a long time before they were reported and segregated in one of the institutions. This may have been due partly to the fact that acknowledged leprosy meant lifelong incarceration. With the policy adopted during recent years of liberating non-infective lepers on probation the horror, especially among the native population, of entering a leprosy institution is diminishing. Active propaganda in the native territories aimed at presenting these institutions in a more favourable light is having useful results, and voluntary notifications by lepers is now not uncommon. The natives are beginning to learn that if a leper presents himself at an early stage of the disease he has a reasonable hope of cure by taking advantage of the opportunities of treatment at the institutions, also that duration in the institution is not indefinite, and that institutional life—except for the breaking up of home life—is in many ways attractive. A result of this propaganda has been an increase in the annual number of admissions. According to the annual report of the Department of Public Health for the year ended last June 127 more natives were admitted than during the previous year. Bantu lepers treated during the two years numbered 648 and 521 respectively. This increase is due to the number of early cases that are now being admitted. The average period between the onset of the disease and admission is being shortened, with the result that progress is being made in reducing the large reservoir of undiscovered cases in the native territories. Another improvement in this respect is the increased efficiency in removing notified lepers. Depots for temporary detention of newly discovered lepers, pending removal to an institution, have been erected at various points in native areas, and the number of these depots is being increased. Motor ambulance removal of patients has already been arranged for one circuit, and it is hoped during the coming year to arrange similar services for other areas. A very successful publicity tour was carried out in one native district by five non-infective lepers from the Emjanyana Institution, who addressed meetings in several kraals and described the conditions prevailing in the institution. The result of the meetings was that several undiscovered lepers came forward voluntarily. The historic leper institution on Robben Island, off Capetown, is being closed down owing to the unnecessarily high cost of maintenance and to the fact that the climatic and other conditions of the island are unfavourable for leprosy patients. Since public opinion no longer demands the excessive degree of isolation suggested by an island, the patients are being transferred to the Pretoria Institution. It is expected that all the lepers will have been removed and the institution closed down by the end of next March.

Infection of Leper Official

Last June one of the medical officers of the Pretoria Leper Institution retired from the public service on account of having contracted leprosy. At the October meeting of the Northern Transvaal Branch of the Medical Association of South Africa (B.M.A.), which was held at the Pretoria Leper Institution, the patient himself gave an account of his early symptoms and observations.

In February 1929, while applying pressure in touching up the skin with the tip of a pencil, he noticed that the lipped end penetrated deeply into the leper's flesh. He at once pulled off the glove, squeezed the finger, and dipped it in tincture of iodine. The wound healed quickly, but the following May he noticed a discoloration and some anæsthesia at the site of the wound. There was also pain on pressure. The condition which he noticed was associated with the pricking incident progressed without attracting any great attention, but had become troublesome that he was obliged to use his middle finger for holding microscope slides. In February numbness and neuritic pains were experienced in both hands, and a small patch appeared on the left index finger. Deep ulceration of the original prick and elsewhere on the hand followed, and the ulnar nerve was swollen and tender. A similar patch appeared on the outer side of the right ankle, the left hand swelled up, the tips of the third and fourth fingers of the right hand became hyperæsthetic. Nasal smears were taken in February and subsequently, but no *B. leprae* have been found. In March the patient decided to have the finger amputated. The portions removed were examined at the South African Institute for Medical Research, but nothing specific was found. Active antileprotic treatment has been carried out, and the condition now appears to be quiescent or retrogressive. His general condition is good. The disease is not of the infective type, and it is probable that it will soon become completely arrested.

Special compensation was voted to this officer by Parliament. This is the second doctor who has contracted leprosy at a leper institution. The previous case was that of Sir George Turner, who retired from the post of medical officer of health for the Transvaal in 1903 on reaching pensionage. Part of his duties was to superintend the Pretoria Leper Institution, where he resided. On retirement he settled in Scotland, and two years later he informed the South African Government that he had developed leprosy. The disease was at first of the slow-developed type but later developed more rapidly, and became of the mixed (anæsthetic and nodular) type. He died in March 1915. Two other European leprosy officials and the son of a third have hitherto developed leprosy, and four Bantu employees at leprosy institutions have been admitted for this disease.

The Bangkok Leprosy Conference

The authorities of the Leonard Wood Memorial for the Eradication of Leprosy, acting in conjunction with the public health authorities of the Philippines and the Health Organization of the League of Nations, have arranged for a conference of leprologists to be held at Bangkok in January next, and have invited Dr. J. A. Mitchell, Secretary for Public Health for the Union of South Africa, to attend. On his outward voyage he will call at Delhi, where he will discuss several matters of mutual interest to the Union and Indian Governments, including precautions against the introduction of mall-pox into the Union by passengers from India. This is a subject of correspondence between the two Governments at present.

Governor-General's Farewell to the Medical Profession.

The Earl of Athlone was the guest of honour at the annual dinner of the Northern Transvaal Branch of the Medical Association of South Africa (B.M.A.), held on October 18th at Pollock's Hotel, Pretoria. In replying to the toast of his health he said he was convinced that some scheme had to be evolved to increase considerably the health services available to the very large native population in the Reserves and Locations of the Union. The question of a medical and nursing service among the native population had been very fully discussed at the medical congress which he had opened at Durban a few months previously, but it had eventually to be left over for further consideration. In spite of the very considerable difficulties he hoped that the problem would be tackled firmly, resolutely and expeditiously. He expressed his deep interest in the work of the Association. His previous experience in connexion with hospital administration in England, he said, had brought him into touch to some extent with the medical world, and had afforded him an opportunity of appreciating the enormous value of the Association. In bidding farewell to the Branch he extended his very sincere wishes for its future success and prosperity.

Ireland

Annual Meeting of the Ulster Branch.

THE annual meeting of the Ulster Branch of the British Medical Association was held on November 20th in the Medical Institute, College Square North, Belfast. Dr. J. C. Loughridge presided, and there were over seventy members present. He extended a hearty welcome to Dr. T. Henry, the Irish Medical Secretary, and the members of the Irish Committee present, this being the first occasion on which that committee had met in Belfast. He then introduced Mr. Howard Stevenson, the incoming president, who took the chair. Mr. Stevenson announced that a course of

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post-graduate instruction was being arranged to be held early in the New Year at the Royal Victoria Hospital, and then proceeded to deliver the presidential address on oral cancer. In a comprehensive review of etiology and past and present methods of treatment, both of the initial growth and its secondaries, he was able to hold out considerable hope from radium treatment, combined, if necessary, with diathermy and x-ray irradiation. He stressed the enormous importance of employing treatment early, because many of the deplorable failures of past methods were due to the fact that the disease had advanced beyond real hope of cure when first seen. Dr. Killen proposed, and Dr. Armstrong seconded, a vote of thanks to the president for his valuable address. Mr. Stevenson, after expressing his thanks, introduced Dr. Hennessy, who reviewed the Medical Benefit Act, and emphasized the necessity for every member of the medical profession to join the British Medical Association in this way a united front could be presented when any question affecting its welfare arose. Dr. Leslie proposed, and Dr. David Gray seconded, a vote of thanks, and corroborated the need for organization of the profession. The president conveyed the vote of thanks to Dr. Hennessy, who replied.

Voluntary Aid for Hospitals

Since the institution of the Dublin Hospital Sunday Fund in 1874, the authorities have distributed £224,482. In the present year the contributions to the hospitals totalled £3,557—a decrease of about £1,500 compared with 1921. With the passing of the Sweepstakes Act for the relief of the hospitals, the situation has become serious for those institutions which have opposed participation in sweepstakes, since it is thought that the charity-giving public will feel tempted to withdraw their voluntary contributions. At a special general meeting of the authorities of the fund, held in July, a resolution was passed that any hospital promoting or taking part in the promotion of a sweepstake, in pursuance of the provisions of the Public Charitable Hospitals (Temporary Provisions) Act, 1930, shall cease to participate in the fund, and shall not thereafter be readmitted as a participating hospital, except by a resolution. Of the sixteen hospitals which have long benefited from the Hospital Sunday Fund, St. Patrick Dun's and the National Children's Hospital are excluded from further benefit having participated in the sweepstake organized in connexion with the recent race in Manchester. Four other hospitals—namely, the Royal City of Dublin, Meath, Coombe, and Cork Street Hospitals—have decided to take part in the next sweepstake, which is already being organized. The following ten hospitals will continue to rely on voluntary contributions: Stevens', Mercer's Drumcondra, Rotunda, Royal Victoria Eye and Ear, Convalescent Home, Adelaide, Monkstown, Orthopaedic, and the Rest for the Dying.

Grangegorman and Portrane Mental Hospitals

In his report of Portrane Mental Hospital Dr. J. O'C. Donelan, resident medical superintendent, gives some interesting facts regarding the history and working of the institution. At present there are 3,731 patients, 2,084 being housed in the parent institution at Grangegorman, and the remainder at Portrane. Commenting on the undue deprecation that has occurred to various parts of the building he mentions that although the Portrane institution was built less than thirty years ago the entire slating has had to be renewed at a cost of £20,000, the original slates, obtained from France during the period of the prolonged strike in Penrhyn quarries, having become soft and porous. The wooden buildings at Portrane are stated to provide excellent accommodation for 350 patients, all on the ground floor. They were originally intended to meet a temporary emergency during the building of the main institution, but during that period the number of patients increased so rapidly that it was found impossible to dispense with them. When the Portrane demesne was purchased for the erection of a branch mental hospital, the number of patients in residence at Grangegorman was under 1,500. Among the causes that have contributed to the increased number of patients are the transfer of insane patients from the workhouses of the district, the recognition by the public that the mentally afflicted should be treated in mental hospitals, and the fact that many offenders charged before the magistrates are now certified insane. Since 1894 accommodation has been found for 2,200 additional patients, or 1,000 more than the number contemplated when the permanent buildings at Portrane were designed. Although the main institution in Grangegorman has been considerably improved and extended during the last twenty years, it is still necessary to utilize a part of the old Grangegorman prison for the accommodation of patients. The report also refers to the progress that is being made towards the establishment of a tuberculosis-free dairy herd on the farm at Portrane.

England and Wales.

St. Dunstan's

Each year an attempt is made in the annual report of St. Dunstan's to indicate in the title some special side of the activities of this institution. Last year the title chosen was "Fifteen years after," and in the present year the fifteenth annual report carries the inscription "An help meet for him," because special reference is made to the part played by the wives of the blinded in making the most of physically darkened lives. The little community which is indicated in the title "St. Dunstan's" consists of 1,911 officers and men, and 5,101 wives and children. It is claimed that in it no necessity has remained unrelieved, no legitimate and attainable ambition on the part of a blinded soldier has been refused encouragement, no eligible case has been denied admission to benefit, no blinded soldier has died without receiving an old soldier's funeral, and no widow or fatherless child has been left helpless. Accounts are given of the ways in which the various activities involved in these claims are being conducted, and the report is illustrated with photographs of the many industries which are undertaken. The greater part of the training of the new men who are still coming to the institution each year is carried on at Brighton. These are mainly cases in which the blindness due to war service has only recently reached the stage where it renders the men eligible for the benefits of the institution. The Brighton establishment forms also an ideal convalescent home for those suffering from illness, or who have had operations. It also shelters many men who were so seriously injured in the war, in addition to their blindness, that their physical weaknesses (and too often their mental deterioration) make them permanent invalids.

Central Midwives Board

At the December meeting of the Central Midwives Board for England and Wales a letter from the Birmingham branch of the National Council of Women enclosed a resolution welcoming the interim report of the Departmental Committee on Maternal Mortality and Morbidity, "which while it gives a message of hope to the possibility of a general reduction of maternal mortality and morbidity, recommends (1) the better education of the medical student in obstetrics, (2) better supervision of pregnancy, (3) the improvement of medical practice, and (4) the co-ordination of maternity services. It therefore urges the medical and nursing professions and the public health authorities to do everything possible to improve and co-ordinate the health services of the nation to secure an improvement as soon as possible." It was agreed to send a reply assuring the branch that the Central Midwives Board was taking all steps in its power to assist in the bringing about of a reduction of maternal mortality and morbidity. Dr. J. J. Jervis was appointed to represent the Board at the Congress of the Royal Sanitary Institute at Glasgow next July, and Dr. R. A. Lyster to represent the Board at the Congress of the Royal Institute of Public Health at Frankfurt in May. The dates of the ordinary meetings of the Board for the year 1931 were fixed as follows: January 8th, February 5th, March 5th, April 1st, May 7th, June 4th, July 2nd, October 1st, November 5th, and December 3rd.

Cost of Tuberculosis Treatment.

A memorandum (122 D/T) has been issued by the Ministry of Health as in previous years at this season, indicating under different heads the weekly cost of treating patients with tuberculosis at various residential institutions in England and Wales during the year ending March 31st 1930. These figures have been tabulated as in former years and it appears that the total cost of each patient per week has increased often in consequence of additional expenditure having been found necessary for renewals and repairs of the equipment in the institution. In previous memoranda emphasis has been laid upon the importance of keeping the beds constantly occupied, and this year it is satisfactory to note that there is an appreciable improvement generally in this respect as compared with last year. In some cases however it is obvious that more attention requires to be devoted by local authorities to the necessity of keeping beds filled to the greatest possible extent. The recommendation is repeated that when some beds in an institution are not required for patients from the areas served every effort should be made to obtain patients from other areas.

Correspondence.

TREATMENT OF VARICOSE ULCERS.

SIR,—The method of treating varicose ulcers employed by Mr. Dickson Wright and described by him in the *Journal* of December 13th (p. 996) is based upon the principle of overcoming venous stagnation by means of artificial support in Mr. Wright's own words "Put the hydraulics right and the ulcer will take care of itself." The methods of many of the older writers were conducted upon the same principle and in the hand of these practitioners these methods were very successful. Why, then, it may be asked, have they failed to give satisfaction when used by others, so that the treatment of varicose ulcer has still remained generally ineffectual?

The answer may be found in a little volume *Diseases of the Skin*, by Thomas Hunt, J.R.C.S., published some sixty or more years ago; my own copy is the ninth edition, 1871. In a masterly chapter on ulcers of the leg Hunt states that the 'principle on which all practical men are agreed is that of giving constant and equable support to the whole surface of the limb from the toes to the knee.' He says that the plans of treatment proposed severally by Messrs. Whately, Barnton, Scott Spender and others were all founded on the simple principle of giving due artificial support to the limb by the application of plaster or bandages; and that the extraordinary success attending the practice of each one consisted mainly in their skill and adroitness in applying bandage or plaster so as to get equable pressure. 'Modern surgery therefore,' he maintains, 'is competent to the treatment of ulcerative disease of the leg. There is I believe no essential defect in it; no necessity for anything new. Why, then, is it so notoriously unsuccessful? Mainly because the application of a bandage is looked upon as an easy and simple operation, whereas I know few operations in surgery more difficult to perform or requiring more painstaking practice than the application of a bandage to the human leg in such a manner that every portion of the limb shall receive equal and abiding support.' Then 'at the risk of being tedious by minute,' he details his method of application of the bandage. This method might with advantage be taught to every house-surgeon and be carefully studied by every medical man who has to do with these cases, and I would like therefore to quote it in full.

Application of the Bandage.—Before applying the bandage it should be rolled up very tightly and evenly, otherwise it will slip on being applied. The wound being dressed, the patient should sit in a chair and place the heel on the corner of another chair, so as to give room to apply the bandage to the heel. The first turn or two should be taken round the foot at the little toe, taking care that every turn is even, so that one edge of the flannel does not cut while the other is lax. The next turn should be round the ankle, just as far from the heel as is required to lay the bandage even and tight; next round the foot again, nearer the heel than before; then round the point of the heel and over the instep; then under the foot and slantingly enclosing the hollow of the inner malleolus it should be brought round the leg and afterwards round the hollow of the outer malleolus; then round the point of the heel a second time and round the foot a fourth time; then round the leg and then carried spirally over the calf up to the knee, allowing the bandage to take a turn on itself just as often as it fails to lie even and flat without such a turn. Care should be taken that the bandage is rather tighter round the foot and instep than round the small of the leg and calf. The bandage should reach to the knee where it should be pinned not tied and the stocking should be pulled over it, no garter being allowed on any account. If the patient complains that the bandage cuts anywhere it should be taken off and reapplied with additional care. It is very often requisite to apply a compress of fewer cotton wadding to the hollow of the ankle to secure sufficient pressure there especially if that be the seat of the ulcer which often happens. In the method of applying the bandage recommended in books on surgery and even by Whately himself this part is left altogether unsupported and the pressure is applied to every part of the leg except where it is most wanted. It requires some practice to adjust this matter nicely without putting too many folds round the foot but it may be done and is worth the trouble much as without it we may fail.

A *flannel bandage* is essential—moderately fine Welsh flannel not too coarse, for then it is too rigid and rough for the tender skin, neither should it be very fine otherwise it will fall into folds or become loose. It should be from six to eight yards long and exactly two and a half inches wide. So long as there is any discharge from the ulcer it will be necessary to apply a clean bandage daily and soiled bandages must be washed in not very hot water to avoid shrinking. During the treatment the patient pursues his or her occupation. Many of Hunt's patients walked several miles to be dressed, and then walked back again.

The success of Hunt's method depends then mainly upon the care with which the details of the bandaging are carried out and no doubt the same may be said of the elastoplast bandage method. Drs. Twiston Davies and Drynan indeed hint at this when they say that the results have been poor when their technique has been attempted by those who have not actually seen the method demonstrated practically. I have myself used and taught Hunt's flannel bandage method for many years and on account of its simplicity and its efficacy as an ambulatory treatment have preferred it to strapping, Unna's paste, Martin's bandage, crepe or domett bandage or any other method of securing the same principle of continuous and uniform support.

Whether intravenous injection is an essential part of Mr. Wright's method is to me not quite clear, but I gather that it is not since he states that the 'advent of the injection treatment has not altered things very much.' The method of blocking the vein by intravenous injection was of course not known to Hunt, but it is interesting to note what were his views as to the value of other methods of obliterating the veins. It has been proposed, he says, "to relieve the venous pressure which originates these ulcers by cutting out the portion of the vein containing the diseased valves. This is uncertain in its results and by no means a safe operation. A better plan" and here he seems to anticipate intravenous injection "is to bind a small piece of nitrate of silver on the vein, but there is reason to believe that, as the varicose veins often disappear after the bandage has been worn for a few months, the valves recover and resume their proper office without any operation for their destruction."—I am, etc.,

London, W.1, Dec. 15th. H. C. ADAMSON.

CHOLERA EPIDEMIOLOGY.

SIR,—The obituary notice referring to Professor Haffkine which appeared over the signature of Sir William Simpson in your issue of November 8th rightly calls attention to the great debt the Empire owes to the memory of that savant not only in regard to life saving in the plague- and cholera-stricken populations of India but also in the British Army. I hope that the good work fulfilled by Haffkine need not be regarded as terminated by his decease.

In 1894 at the First Indian Medical Congress in a conjoint paper by Haffkine and Simpson the following statement was made. In different parts of Calcutta

and Howrah, and in examining cesspools connected with cowsheds in which cows had been ill, we found commas in the cows and in the cesspools The results of further investigation on this subject we hope to be able to communicate on a future occasion" In his annual report for that year, as health officer for Calcutta, Dr (now Sir William) Simpson stated that, owing to pressure of other work, it had not been possible to deal further with the matter I hold the possible connexion of cattle with cholera spread as of great importance, and I suggest that, as the originators of the idea were not in a position to complete the work, it is one well worthy of full investigation in India with the aid of the India Research Fund

Of recent years cholera research has been largely confined to the question of "carriers," agglutinability of vibrios, and the suitability of the environment of the human intestine for inducing virulence, yet in India cholera prevalence clearly coincides with meteorological conditions, whilst in large divisions of the country dietetic conditions do not differ materially with the seasons—unless it be in the composition of the water imbibed following meteorological influences As affecting the vitality of vibrios—which, as it happens, would accord with this aspect of the matter—various saline solutions have been experimentally utilized by Trenkmann[1] Dr Tombs and Captain Maitra, by laborious bacteriological examinations, have shown that in a typical Bengal tank cholera vibrios differed greatly with the cold weather, the hot weather, the occurrence of rain showers, the establishment of the monsoon, and breaks in the monsoon They found that the "chemical analysis of the water of ground tanks with high vibrionic content usually revealed a higher percentage of organic matter than in tanks not so heavily affected" They used the information so gained by modifying the media for cultivation Incidentally, therefore, they thus recognized the crucial fact that, granted the presence of vibrios, the qualitative composition of the water containing them is an important factor in their vitality I suggest that had they been able to add to their already heavy task the securing of chemical analysis of water side by side with their bacteriological work *throughout the period of seasonal changes* (when necessarily nitrification of organic matter in surface water and in subsoil water would undergo marked comparative changes) the long-disputed connexion between cholera epidemicity and meteorology would have been finally demonstrated Dr Tombs and Captain Maitra found that 35 per cent of the apparently healthy population they dealt with were 'carriers" Greig, in his original work, found six out of twenty-seven supposedly healthy persons

Such considerations bring into relief Pettenkofer's now little-respected theory In India, in the seventies, it was treated with scepticism Nevertheless, Cunningham and Lewis declared it was applicable to Calcutta, and, later, Kenneth Macleod maintained that it was operative in Bengal as a whole In 1882 I was placed by the Government of Madras on special duty to report on a severe epidemic which occurred in the city of Madras In my published report, after recounting facts on which I based my conclusion, I stated "There was a decided connexion between the maximum prevalence of cholera and fluctuations of the subsoil water, at its rise the influence was probably slight, at its fall it was intensified, and as it reached certain limits underwent diminution and cessation" By 1894 I had the advantage of dealing with conditions as found in the Madras Presidency (142,000 square miles) I collected data in a diagram,[3] since known as the "Madras cholera clock," which an able successor (Lieut.-Colonel A J H Russell, C B E), who has made a special study of the epidemicity of cholera, has stated "still keeps time"[4] Relying on these data, I stated at the First Indian Medical Congress (1894), in reference to subsoil water influence, as follows "So long therefore as *fluctuations* in the water level are proceeding, so long cholera is possessed of favourable opportunities for spread, but the moment its maximum or its minimum level is reached cholera ceases to be thus favoured" Obviously, the alternate rise and fall of subsoil water implies a varying extent of oxygenation of soil, with attendant grades of nitrification of organic matter as conveyed in the subsoil flow Later, I had the advantage of being kept informed by telegram of all first attacks of cholera throughout the area of the Presidency, and of their subsequent verified connexions until no longer traceable I formed the opinion that, granted favourable local conditions existed, notwithstanding the introduction of a recently infected case or "carrier," were due sanitary care exercised, no spread would occur but, allowing for possible laxity in reporting cases promptly, I never conquered my unproved suspicion that, in an area infected *during its chief monsoon*, irrespective of proved recent introduction, there occurred independently a wave of endemic origin Here accord might well be found, in the presence of favouring seasonal water composition, unrecognized chronic carriers, a normal degree of multiple contamination of water incident to Indian habits, and mass attacks of vibrios in the hitherto healthy, that exalted virulence which is decisive of an epidemic

But such sources of *cholera* spread *would* be almost negligible compared with the possibility of bovines being "carriers," as suggested by Haffkine and Simpson's unfortunately incomplete work The truth of such an estimate must be obvious to those having the slightest insight into the daily routine use, domestic and ceremonial, of the dung of the sacred cow by millions of Hindus Here it is necessary to remember that the period of vitality of the cholera microbe in earth cannot be neglected, and that in rural areas of India the buffalo, which is not held sacred, is encouraged to feed on human faeces by way of increasing the milk supply The finding of the Austrian Plague Commission as to dogs would show that at least one microbe pathogenic to man (plague) may pass through an animal's intestines and retain its virulence without untoward results to the bearer—I am, etc,

W G KING
Colonel I M S (ret)

Hendon, N W 4, Dec 9th

MERCUROCHROME IN OCULAR DISEASE

SIR,—I was very pleased to see the article you published on December 13th by Mr T R Chambers of Bristol, on the treatment of ocular disease with mercurochrome I first used it at the Western Ophthalmic Hospital in October, 1927, on a case of Parinaud's conjunctivitis, which had resisted all other treatment Mercurochrome drops cleared up the case completely in two weeks, and there has been no recurrence of the trouble I have also found the drops useful in the conjunctivitis which one finds in patients with a tuberculous history Mercurochrome is also very beneficial in clearing up chronic cases of dacryocystitis—I am, etc,

J COLT MARSHALL

London, W 1, Dec 17th

MINERS' NYSTAGMUS

SIR,—In certain quarters there is a feeling that the reports issued by the Medical Research Council are sometimes very unsatisfactory and by no means authoritative As an example, the two reports on the subject of miners' nystagmus, one published in 1922 and the other in 1923, seem to me to leave much to be desired In one of them there is a tolerably long paragraph on the diagnosis of the disease, and that paragraph makes no reference whatsoever to the very important cardiac symptoms, to the nyctalopia, to the hemeralopia, and to the pain in certain well-defined areas of the skull, which features appear to be the cause of the incapacity which the disease produces The movements of the eyes are often present in coal-pit workers without their producing any incapacity until the pits are lit with bright electric lights, when intolerable photophobia frequently ensues

Now as regards the investigation, it should be mentioned that one of the investigators, who believed the disease to be an eye disease, could not even take a visual acuteness, and did not manifest any great familiarity with the use of the ophthalmoscope Miners' nystagmus is, in certain cases, a fairly prevalent disease, and the reports issued by the Medical Research Council do not seem to have relieved the situation in the least Yet the present

[1] *Centralbl. f. Bakt* 1893 Abt 1 xiii No 10
[2] *Indian Medical Gazette* lxii No 2 February 1927 ibid February, 1925 p 56 and November 1926 p 537
[3] Reproduced in Sanitation Number, Tropical Diseases Bureau, July 15th 1919
[4] *Indian Journal of Medical Research*, 1928-29, xvi.

Minister of Mines appears to take them as being authoritative which I think is an untenable position

There is the further question of miners nystagmus being absent in other occupations where the lighting is extremely bad nor does it exist among the Kimos although their hovels are extremely badly lit The disease is rampant in certain districts and entirely absent in others If the light theory be adopted—as it seems to be by the Minister of Mines—it means that in certain areas the lights are chronically defective while in others they are always satisfactory That is how the matter stands—I am etc

Rhayader Dec 11th FREELAND FIRTH

AMIDOPYRIN IN MEASLES

SIR,—Having given my experience of twenty four cases treated by amidopyrin (*Journal* June 28th p 1198) I would like to point out that Dr Attlee's nine patients were at ages of from 12½ to 16 years but those of Drs Ronaldson and Collier were 9 and under Of their 150 cases 140 were of 5 years of age and under Their observations were on measles at ages at which it usually occurs in general practice Drugs act differently at different ages as is shown in the cases of morphine and atropine and the organism of a child of 5 is quite different from that of one at puberty These observations though differing totally are really not contradictory but seem to show that from 1 year up to 9 years amidopyrin has a definitely good action on measles but that over 12 it is not indicated Perhaps the age limit will be drawn closer by others who may try the drug—I am etc

London S.E.5 Dec 13th HOWARD B GRADSTONE

NOCTURNAL INCONTINENCE IN CHILDREN

SIR,—The recent correspondence on the subject of nocturnal enuresis in children shows that there is no specific remedy Enuresis is a symptom common to a number of causes which may be local or general one method of treatment will not therefore meet all complaint The supposed cause having been decided upon one of the recognized aids to treatment should then be brought in for relief

We have the choice of several method at our disposal and cannot afford to despise any of the time-honoured so-called 'cures" Drugs undoubtedly have their place Bromid and belladonna (the latter pushed in large doses) are used with successful results by some practitioners Bromide especially in a nervous child is of great benefit The highly strung child begins to sleep better the appetite returns and the world of fear becomes less terrifying, with the result that the wet bed presents a less formidable difficulty and begins to be less frequent Ergot in a child round about 5 years old is helpful iron and fresh open air are other aids for the anaemic child, better health being followed by greater control

If the incontinence is thought to be due to inability of the bladder to hold the normal quantity—and this is more common in the neglected child—abstention from fluids after 5 p m should be made a rule the child quite easily gets into the way of doing without fluid until the next day This is no hardship but it is necessary to get the willing co-operation of the child To awaken the child at 10 p m, and possibly, once again before the morning is of doubtful benefit it may do more harm than good to break his sleep and certainly with little ones this should not be practised Irradiation with ultra-violet rays, and also electricity, have cured some cases and this method is worth exploring Acid urine, without definite pyelitis is hardly ever a cause of chronic enuresis The "dry night" chart as mentioned in Dr T W Hill's letter of December 13th (p 1025), is undoubtedly a great help to many

Of surgical measures circumcision is of great value in selected cases Good results follow when the prepuce is tight and adherent and where secretion of smegma is in excess causing irritation and difficulty in cleaning Older boys with long and thickened foreskins derive much benefit from circumcision The psychological stimulus of going into hospital and undergoing an operation undoubtedly in some cases has the desired effect, the result of hospitalization for some other illness has had a curative effect in a number of cases in fact this has been noticed so often that it is well worth while to send a boy into hospital for a fortnight as an in-patient Results while in hospital are invariably good, but more often than not a lapse occurs on going home Psychologically this is of great use to the child for he finds that he can be dry The enucleation of unhealthy tonsils and adenoids has brought health to some Here again the process of healing is a complex one the fact of being in hospital helping to bring about a cure

Punishment acts as a deterrent to a cure and no threat to any child must be used Boards and uncomfortable beds have no place in dealing with the trouble which causes enuresis Such method only cause distress to the child, and cannot be too strongly condemned We must bring every means we know to the help of the child in his desire to overcome the habit, and the sympathetic aid of mother or nurse is a *sine qua non* Harshness or impatience at home may be the cause of months of disappointment to the child and the right home atmosphere is of the utmost importance

These remarks lead up to the most potent means at our disposal—namely the treatment of the mind the better the mind is understood, the more successful will be the results Mental factors are of great importance in the healing of physical weaknesses Once the child's confidence has been gained he must be disabused of fear or a sense of self-depreciation and he should be given a cheerful outlook on life It unhealthiness of the mind whatever this may be due to, is causing the bed-wetting it must be tuned to the reception of healthy and normal ideas It is not easy to know how soon the human being begins to have mental conflict, or how early he is open to bad mental suggestion he certainly understand kindness at a very early period The treatment of the mind is the most encouraging of the means at the disposal of the medical adviser in the cure of nocturnal enuresis—I am etc,

London E.1 Dec 15th A H MACDONALD

SIR,—I have read the recent communication in the *Journal* on this subject and desire to suggest that those who have such cases to deal with should try adrenaline or ephedrine

Both these drugs contract the trigone and relax the fundus of the bladder and it was on learning this fact that I first used adrenaline in nocturnal incontinence As adrenaline is destroyed in the stomach and hypodermic injections in these cases are not practical politics I give instructions that five minims or so of the 1 in 1 000 solution are to be dropped under the tongue and retained there as long as possible before swallowing Since ephedrine—which is not destroyed in the process of digestion—came into use I have given it with equal success in doses of half a grain for a child of 10 or 12 years of age The dose is given at bedtime, the usual precautions as to emptying the bladder before and two hours after going to sleep being adopted the results are immediate I have had quite a number of these cases in the past five years and only one failure (which was afterwards cured by enormous doses of belladonna) and I am led to consider that these drugs are almost "specific"

In this connexion it is interesting to note that one of your correspondents lately found that an asthma patient of his treated by adrenaline for the relief of his attacks suffered from retention of urine afterward—I am etc

Brackley Dec 13th. J E PARFITT D.M

THE WORK OF LABORATORIES

SIR,—Sir Walter Fletcher is really incorrigible I convict him of the grave offence of misquotation and reprove him very tenderly in proportion to his demerit He replies, not with apology or withdrawal but with a shoal of petulant irrelevancies, he repeats his offence in even more reprehensible form, and excuses himself as a humorist! In one sentence of his speech which I criticized Sir Walter jumbled together a number of statements made by me in Toronto Two of these gave my meaning not inaccurately others were garbled and corrupted I objected to the

latter, and completely disproved their claim to represent my views I am told in reply that I "must not run away from" the former Was there ever such obliquity of argument?

Let me first deal briefly with Sir Walter's irrelevancies He says that my address gave rise to "consternation" in Canada What has that to do with his defilement of it? Or the circles in which he moved, and of himself, at that moment I think in Canada, it may be true, to produce such an effect on him and those like-minded with him was indeed my hope and firm intention, and I rejoice greatly at his unsolicited testimony to my success Of other very different effects on all sides it would not be becoming for me to speak, but I receive overwhelming evidence of it from most responsible sources, even to the very day on which I write Would Sir Walter care to see it? In all directions, therefore, my desires appear to be fulfilled A further irrelevance deals with his criticism of my choice of time and place for such an address The plea in my address was for the return of truant physiology to human problems a cry for help from those most competent now *to give it to the clinicians* No more exquisitely appropriate place in all the world could have been chosen than the city in which the greatest of all recent discoveries had by this very method been made, and no more fitting time than that when the discoverer himself was present to receive honour What a faculty Sir Walter has for blunting the fine points of sensitive understanding Time, place, subject, were all perfectly attuned, the opportunity unique, my choice inspired

I cannot chase Sir Walter, an elusive quarry, into all his haunts of inaccuracy and misrepresentation, but some of them, at least, must be destroyed, lest he shelter therein again Sir Walter writes "Lord Moynihan quoted a rhetorical question in his address" ("Is scientific work by the physician or surgeon limited to the application in his art of scientific results worked out elsewhere in the laboratory and delivered to him for use?") "and pretended that it had been asked in serious doubt" The words of the annual report of the Medical Research Council which immediately follow the "rhetorical question" are "The mere fact that these questions can be seriously asked, etc ." Sir Walter is not only careless in handling my words, but quite forgetful of his own

I am newly accused of "disparagement of our physiologists and biochemists as such" Those by now familiar with the reckless inexactitude of Sir Walter's quotations will hardly need to be told that there is not one single word in my address to justify statements so utterly divergent from any opinion I have expressed I write "Physiologists are justly proud of the great conquests of knowledge which lie to their credit *English physiologists have pride of place* in many discoveries of recent years" What charming "disparagement" I speak of them as "among the ablest minds of our profession," as "highly competent scientific men", and there is much more in the same strain As to the charge that I "belittle the recent work of British laboratories," may I put myself to the pain, in all humility, of asking if any surgeon in this country has ever directly done as much as I towards the foundation of laboratories, and the support of the workers? I will confidently answer for myself that no surgeon could ever regard these matters as a more necessary or a more honourable part of his duty

Sir Walter seems unable to reconcile my warm appreciation of physiologists and their work with my lament that "the science of hominal physiology is more and more neglected" Does it not occur to him that it is my deep appreciation of the need of physiology to support and inspire clinical work that excites my protest? Cannot even he see that the chief purpose of my address was not to "belittle physiologists as such" but was an earnest, almost an anguished, appeal that their great scientific abilities might more often find application to human problems, in respect of which they were, and are (let me repeat it lest I am thought to be "running away"), too somnolent, too aloof from medicine, to our great loss and theirs? It was in this connexion that I made my comment upon the Medical Research Council, of which Sir Walter is secretary He is himself wholly unfamiliar with, and (if his views are represented in the annual report of the Council) a little disdainful of, the clinical activities of members of his own profession, a little too truculent over the supremacy of laboratory workers For example "It is important here to draw at once a clear distinction between the work of the physician engaged in practice and the work of a man engaged in the task of advancing knowledge," says his last report In my opening address at Guy's I read this sentence, and asked what their own physicians engaged in practice—Bright, Addison, Hodgkin, Wilks, Moxon, Pagge, Hale-White, Hurst, Ryle—had done to advance knowledge This note of estrangement from clinical affairs is really deplorable I pointed out that it is due to the fact that upon the Medical Research Council there has never (let me emphasize *never*) been adequate clinical representation I have now good reason to hope that my protestations may lead to changes in the near future, and I am therefore for the moment quite content But I deeply grieve that struggling in the net of my gentle criticism Sir Walter's flurry should bring him to the state of intellectual confusion which he so unhappily displays, and should permit him to use methods of controversy, misstatement, and irrelevancy, which are unworthy of him May I beg him to rid his mind of prejudice, and to read my address once again, not to "admire the eloquence and moving beauty" (for that tribute I am grateful) in it but, what is far more important, to appreciate the truth (for it is surely that) of its message? —I am, etc ,

London, W , Dec 15th MOYNIHAN

⁂ We have sent a proof of Lord Moynihan's letter to Sir Walter Fletcher, whose reply, printed below, brings this correspondence to an end —ED , *B M J*

SIR,—Lord Moynihan's address contained several mutually destructive propositions His way, as I said before, is to evade responsibility for what he said by quoting something else he said in an opposite sense But your readers now have ample material, if they have the patience, to form their own opinions of his modesty and his dialectical method —I am, etc ,

London, W , Dec 19th WALTER M FLETCHER

LOTTERIES AND SWEEPSTAKES AND HOSPITAL FINANCE

SIR,—This method of financing hospitals would be not only ethically unsound, but would at once cause a closure of the source of their present income—namely contributions from patients and the voluntary gifts of generous donors, both of whom would be deprived of the pleasure of expressing their gratitude and the enjoyment of helping good work Far better would it be to establish a sound contributory scheme for all classes than to encourage the gaming and acceptance of something for nothing, which is derogatory to the national character —I am, etc ,

Eastbourne Dec 15th A DEANE, M D

THE DISCOVERY OF TRICHINA SPIRALIS

SIR,—In your issue of October 11th is an interesting note on the discovery of *Trichina spiralis* The correction is timely, though the confusion is surely unnecessary when one notes that the case is rightly though briefly stated in the well-known English textbook, *The Animal Parasites of Man*, by Fantham, Stephens, and Theobald (1916) and in numerous other works Inadvertently, and apparently in the brevity of statement, your writer has made an unfortunate slip in the last sentence in discussing the life-history of this parasite, where he omits the name of Joseph Leidy of Philadelphia In 1846 Dr Leidy found an encysted worm in the hog He "could perceive no distinction between it and specimens of *Trichina spiralis* which he had met with in several human subjects"

In 1880 Nolan stated, in a sketch of Leidy, that "Leuckart afterwards acknowledged he was indebted to this communication for his success in tracing the development of *Trichina* in hog and man" In 1896 Virchow, in personal conversation, told of his correspondence with

study in 1849 and 1850 and stated that this suggested to him and to Leuckart the scheme of experimentation in the life-cycle of the parasite Leidy's demonstration was really the key to the solution of the problem The case is discussed in detail in my paper on "The founder of American parasitology Joseph Leidy" printed on the occasion of the sixty-centenary (*Journal of Parasitology*, September, 1923, 1-21).—I am, etc

University of Illinois Nov 25th HENRY B WARD

Medico-Legal

ROBERTSON v MISKIN

MEDICAL MAN'S SLANDER SUIT AGAINST PARTNER.

In the King's Bench Division, before Mr Justice Horridge and a special jury an action for slander was brought by Dr Graham Robertson of Dartford against his partner Dr Leonard John Miskin The plaintiff alleged that defendant had stated that he (Dr Robertson) was addicted to drug taking and had stolen drugs which were their joint property

Sir Boyd Merriman K C and Mr E C Palmer appeared for the plaintiff and Sir Patrick Hastings, K C, and Mr J C Joseph for the defendant

Sir Boyd Merriman stated that the parties had been in partnership since 1911 but had always been antipathetic in character and outlook In February, 1929 the plaintiff had an acute attack of gastritis but the defendant suggested that he was shamming and reproached him for being out of the way at a busy time In July of that year Dr Robertson consulted a medical colleague who gave him a prescription but Dr Miskin made an unsympathetic remark and apparently by this time had persuaded himself that his partner's condition was due to the habit of excessive drug taking In August the plaintiff went to France for a holiday but Dr Miskin believed that he had remained in the purlieus of Dartford in order that he might come back into his house and obtain drugs to satisfy his craving The defendant told the lieutenant Dr Watson, that a large quantity of drugs was missing and that he suspected Dr Robertson of taking them He communicated the same suspicion to a regional medical officer who was making a routine inspection visit A few days later he tackled Dr Robertson him self on the subject saying that he did not believe that his illness was due to his heart but due to the taking of morphine and that seven eighths of the morphine contained in a bottle in the surgery had disappeared Dr Robertson who absolutely denied the insinuation set out to discover the real cause for the disappearance of the morphine and a nurse who was in the house was caught in the act of taking it She was shortly afterwards admitted to a Salvation Army home for drug addicts the matron of which recognized her as an occasional inmate during the previous seven years

Dr Miskin in evidence for the defence said that he had noticed the disappearance of many ounces of morphine from the dispensary between the end of August and the middle of October and connecting it with the plaintiff's bad state of health he came to the conclusion that the plaintiff was using it He mentioned his suspicions to the regional medical officer whose duty it was to see that the morphine was not being misused In so doing he was actuated by no feeling of ill will but merely by a desire to protect the interests of the partnership He spoke to the plaintiff on the subject because he was seriously alarmed about the missing drugs It was not until later that he heard that the nurse had taken the morphine Negotiations were at that time going forward to determine the partnership but these came to an abortive end in February of the present year the plaintiff having in the meantime raised his terms In saying what he did to the plaintiff and others he did not intend to convey the meaning that Dr Robertson was rendering himself unfit to continue practice as a doctor but he had believed that he was rendering himself less fit as a doctor by taking drugs and was endangering the partnership business

In reply to Sir Boyd Merriman Dr Miskin said that he did not now believe that Dr Robertson's illness was due to drug poisoning or that any of his previous illnesses were due to that cause He had some appreciation of what Dr Robertson must have felt when he realized that he had been suspected for a year of drug taking and he added that he felt regret for what he had done this was the first time he had expressed regret to Dr Robertson

Sir Patrick Hastings submitted that the words complained of were not actionable that they were not spoken of the plaintiff in his capacity as a doctor and his Lordship said that he would rule that all the occasions were privileged

Mr Justice Horridge in summing up said that his ruling that the occasions were privileged would protect Dr Miskin unless the jury thought that he had used the occasions in some improper way If he had acted honestly he had the greatest reason for investigating what his partner, Dr Robertson was doing, and a perfect right to make the statements he did to the other two doctors Before the jury could find that he was actuated by malice they must be satisfied either that he did not honestly believe what he said or that he used the occasion intending to injure Dr Robertson or from some other indirect motive, such as to assist him in getting the partnership dissolved

The special jury found that the words complained of were not spoken of Dr Robertson in his professional capacity that they did not impute to him any unfitness in his profession nor the criminal offence of stealing drugs and they also found that Dr Miskin was not actuated by malice

Judgement was entered with costs for Dr Miskin

Obituary

LIEUT-COLONEL N S SIMPSON, I M S,

Inspector-General of Prisons Bengal

LIEUT COLONEL N S SIMPSON Indian Medical Service Inspector General of Prisons in Bengal, was assassinated by Bengali anarchists in Calcutta on December 8th Three Bengalis in European dress entered Writers Buildings in Dalhousie Square, Calcutta, the headquarters of the Bengal Government and Secretariat and ran along the main corridor firing into each of the offices they passed Colonel Simpson was sitting in his chair in the first office, six or seven shots were fired at him one of which struck him over the heart killing him instantly The only other officer hit was Mr John Wood Nelson Legal Remembrancer, who was struck by a bullet in the thigh but was not dangerously wounded The three assassins were chased into an office where they turned their revolvers on themselves and when the police entered they found one man dead and the other two seriously wounded

Norman Skinner Simpson was born on January 1st, 1881 the eldest son of the late Charles Skinner Simpson He took the Scottish triple qualification in 1905 and entered the Indian Medical Service as lieutenant on September 1st 1906 becoming lieutenant-colonel after twenty years service After seven years on military duty he entered civil employ in 1913 and served for about a year on plague duty but reverted to military duty at the beginning of the war in August 1914 During the war he served successively in Egypt in 1915 in Gallipoli in 1915–16 in the Mahsud campaign on the North West Frontier of India in 1917, and again with the Egyptian Expeditionary Force in 1918 After the war he again took up civil duty in February 1921 entering the Indian Jail Department After serving for some time as superintendent of the Presidency Jail in Calcutta he officiated for six months as Inspector-General of Prisons Bengal in December 1925 and was appointed to that post in October 1929 In 1908 he married Edith Helen daughter of Major-General F R C Wilcox, Bengal Staff Corps, and is survived by her and one son

Lieut Colonel W C HAMILTON I M S (ret) writes Lieut Colonel Norman Skinner Simpson succeeded me as Inspector General of Prisons Bengal in October 1929, little more than a year ago Our work brought us into close association for several years and during the last six years of my service our relation were even more intimate, and when in Calcutta I saw him practically every day both officially and in ordinary social intercourse Simpson had a high standard of duty and never spared himself I am glad to say that our official relations were always very happy and I do not remember to have had any serious difference of opinion with him on matters of jail policy Our view on penal reform were identical He was a humane man and held enlightened and very progressive views on the treatment of prisoners When I was on leave in England in the summer of 1929 convalescing from a severe attack of enteric fever he took up the English

prison system and methods, and went through the course arranged by the Prison Commissioners for overseas prison officers He never lost his keenness for purely professional work, and kept himself well up to date in medical knowledge He did some good work investigating the incidence of hookworm among Bengal prisoners when he was superintendent of the Presidency Jail, Calcutta Simpson was an enthusiastic sportsman, and had a good eye for all ball games, he was one of the best amateur billiards players I have seen He had a judicial mind and wonderful tact, which made him an ideal jail officer He paid me a generous tribute on my work as Inspector-General of Prisons (which I greatly appreciated) in the annual report of the Bengal Jail Department for 1929, issued a few months ago It is sad to think that his work was cut short by such a tragic ending I have suffered a personal loss by Norman Simpson's death which cannot be replaced

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With the death of Dr WILLIAM MCLEAN, county medical officer of health for Ross and Cromarty, the medical profession in the North of Scotland loses an outstanding personality, and many individuals their truest friend and mentor He graduated at Edinburgh in 1892, and for some years was in general practice with Dr Adam of Dingwall and later in Fortrose When the Countess of Seaforth opened her sanatorium at Maryburgh in 1908 he became its medical superintendent, and in 1920 he succeeded the late Dr Bruce as M O H for the county "H W" writes When any epidemics occurred Dr McLean seemed to combine the modern scientific certainty with an instinctive knowledge which guided him to a right course of action In 1923 a mysterious outbreak of food poisoning occurred at Loch Maree, and McLean was the first to recognize it as botulism The Department of Health trusted him as a sure guide to many problems of rural hygiene in the Highlands, and many official Orders were modified through his influence By the community in which he worked and the public bodies whom he served, he was regarded with unique and affectionate respect He leaves no written works behind him, although his research into Mesolithic remains alone would have made the reputation of another man It was a drawback to his seemingly inexhaustible range that his talent for expression seemed disinclined to leave anything in a permanent mould To some, whose minds did not move quickly, his public addresses appeared fantastic and full of picturesque exaggeration, but in any controversy he was always several moves ahead of his opponent, and seemed merely to be interpreting a deeper and hidden scheme of things At public meetings no one ever spoke more frankly and forcibly, yet made fewer enemies He had the gift of stating a proposition so brilliantly and in such a form that to oppose it seemed not only fruitless, but imbecile Yet his case was always so broad and free from prejudice that it commanded an instinctive assent Dr McLean was at his best as a talker, especially when describing human evolution In a strain of vivid and mordant expressions, with humour and without a trace of pedantry, he would describe the cosmic movements of the Gaels, the Iberians, and the Alpine men before the land bridges were sundered His eyes flashed then, and his charming smile left an unforgettable memory

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Dr JOHN HARRY MAYSTON, who died at Clapton, E, on December 1st at the age of 45 received his medical education at Guy's Hospital, and obtained the diplomas M R C S, L R C P in 1907 He subsequently held the posts of house-surgeon at the Central London Ophthalmic Hospital and at the Bolingbroke Hospital During the war he held a commission in the R A M C, was seriously wounded, and eventually invalided out of the service He had been in failing health for the three years before his death Dr Mayston was a member of the City Division of the British Medical Association He married in 1911 Edith, daughter of Walter Morgan of Wrotham, Kent, who survives him

The following well-known foreign medical men have recently died Professor ACHILLE SCLAVO, director of the Institute of Hygiene of Siena University, Dr MARTIAL LANNELONGUE, formerly professor of clinical surgery at Bordeaux, Professor LUDWIG REHN, formerly director of the surgical clinic at Frankfurt University, aged 81, Professor ERNST THOMAYER, senior physician to the neurological department of St George's Hospital, Hamburg aged 62 Dr HUMMEL COOVER, formerly professor of ophthalmology at Colorado, aged 77, Dr L C LEHR, formerly professor of urology at Georgetown, aged 54, Dr WOODS HUTCHINSON, formerly clinical professor of medicine, New York Polyclinic, aged 68 of cerebral haemorrhage Dr KENKICHI ASAHI, professor of dermatology and syphilology at Kyushu University and president of the Japanese Dermatological Association, aged 57 Dr PIERRE GUIGES, professor of pharmacology at Beyrouth, and corresponding member of the Academie de Medecine aged 62, Dr SAMUEL LIVINGSTON LAMB clinical professor of medicine, Indiana University School of Medicine, aged 71, Dr CHARLES LUCIUS RICES, emeritus professor of nervous and mental diseases, University of Minnesota, aged 76, and Dr GILES CHRISTOPHER SAYRE professor of ophthalmology at the Vanderbilt University, and formerly editor of the *Ophthalmic Review*, aged 76

The Services

No 14 STATIONARY HOSPITAL

THE eleventh annual dinner of the No 14 Stationary Hospital was held at the Trocadero Restaurant London on December 12th, with Lieut Colonel J R Harper C B E in the chair The toast of The Hospital was proposed by the chairman, who expressed his pleasure at the steady continuance of these annual meetings, and welcomed back Colonel M Perry Dr H Letheby Tidy the organizer of the dinner gave an account of the doings of some who had been prevented from being present and the greater part of the evening was then devoted to reminiscences

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DEATHS IN THE SERVICES

Lieut Colonel Thomas James Potter O B E R A M C (ret), died at Totnes, South Devon, on September 6th He was born at Queenstown, co Cork on September 15th, 1874 the son of the late Surgeon Robert Potter R N was educated at the Catholic University, Dublin, and the Royal College of Surgeons Medical School, and took the L R C P and S I in 1897 After filling the posts of senior resident surgeon and medical registrar at the Jervis Street Hospital, Dublin and house surgeon of the National Eye and Ear Infirmary Dublin and serving for nearly a year as a civil surgeon in the R A M C he entered the R A M C as lieutenant on January 27th, 1901 becoming major on January 27th, 1912, and retired on half pay on account of ill health, due to war nephritis, on September 23rd, 1922 being at the same time promoted to lieutenant colonel After serving in India and in the Aden Hinterland in 1908-10 he was employed in the pathological laboratory at Millbank under Sir William Leishman and Sir David Bruce From December, 1910 to August 1911, he was on special duty under the Colonial Office in Jamaica, investigating the so called "vomiting sickness" He was then employed as pathologist at the Citadel Hospital in Cairo, but, having come to England on leave in July 1914, was sent to France with the Expeditionary Forces, and commanded the 6th Field Ambulance in the Second Division in the advance to and retreat from Mons, and in the battles of the Marne and the Aisne at Ypres and in 1916 on the Somme He was subsequently with No 30 General Hospital at Barfleur, and, later, commandant of the military orthopaedic hospital at Blackrock co Dublin He was mentioned in dispatches in the *London Gazette* of January 4th, 1917, and received the 1914 Star with rosette the war medal, and the Victory medal, and also the O B E After retirement he lived at Totnes, where he took great interest in local first aid work and in the British Legion He leaves a widow

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

On December 16th the National Health Insurance (Prolongation of Insurance) Money resolution was considered on report. Mr. Greenwood afterwards brought in the bill which was read the first time. On December 17th this bill passed through all stages.

Dame Louie McIlroy addressed the Parliamentary Medical Committee on December 16th, her subject being maternal mortality and its prevention. She advocated further education of medical students and of midwives in the prevention of the problem.

In the House of Lords on December 17th Lord Marley for Earl Russell presented the Pharmacy and Poisons Bill. This was read a first time without debate and has since been printed. It is a Government measure based on the recommendations of the Departmental Committee on the Poisons and Pharmacy Acts. Further modifications of the text have been under discussion with representatives of the pharmacist.

Before Parliament adjourned for the Christmas recess on December 19th the Royal Assent was signified to the National Health Insurance (Prolongation of Insurance) Act and to the Expiring Laws Continuance Act. A proposal to continue the Dye-stuffs Act for one year is included in the Expiring Laws Act.

Anti-Vivisection Bill

On December 16th Lieut.-Commander KENWORTHY asked leave to bring in a bill to prevent the application of public money to vivisection experiments. He explained that this was the third time he had introduced the bill. The British Medical Association had sent to him—and no doubt to other members—a document in reference to the bill asking for it to be opposed, and the ordinary reading of the document would make it appear that he wished to prevent those vivisection experiments. He might do so, but it was not intended to prevent them by this bill, and that would not be the result of the bill. There was a very wide objection to the money of the taxpayer and the ratepayer to the extent of £130 000 to £145 000 a year being devoted to subsidizing these experiments. If the experiments were to go on there were many wealthy institutions which could continue to support them, but it was unfair that the ordinary taxpayer or ratepayer who might object should be taxed against his will to subsidize the experiments. Many of these were unnecessary and a good deal harmless and useless, and as a practical means of economy there was nothing better than to save this money. There had been a tremendous increase in the number of these experiments, and that increase could not possibly be warranted by the results. In 1927 there took place 13 871 cutting operations with anæsthetics and 279 431 experiments without anæsthetics—a total of 293 302. In 1928 the figures had risen to 315 891 and in 1929 to 403 142—an increase of 87 250 in twelve months. That was unjustified and led to a great deal of unnecessary expenditure and undue extravagance. In 1929 513 animals, including cast army horses, were exterminated by poison gas experiments all paid for by the taxpayers' money against the conscience and desire of, he believed, a large majority of the people of this country.

Major CHURCH said that very few members would be reluctant to have a full discussion on this interesting and important subject, but as that was not possible in the circumstances he must, on behalf of the Medical Research Council, which body he had the honour to represent in the House, oppose the bill, not because he believed in giving unnecessary pain to animals. Very few members would like to see the slightest harm done to any of the smaller creatures. Very few of them would view with anything but misgiving any experiment clumsily carried out on any animal, whether it was for the purpose of curing it of a disease or in the course of experiment upon that animal with the object of saving human life. But they had to take into account other matters than sentimental considerations. They had to take into account the advance of knowledge and the uses to which animal experiments were put for the purpose not merely of saving human life, but of saving animal lives themselves. When he reminded Lieut.-Commander Kenworthy that we should probably have half the cattle of the Dominions destroyed if we were not able to use animals for the purpose of experiment, he hoped that he would consider seriously the position in which he would place this country or any country if he pursued this bill.

Lieut.-Commander KENWORTHY said that he did not wish to prevent these experiments, but only to prevent our money being spent on them. Major CHURCH replied that it would be extremely difficult to differentiate between money spent directly by the State in State research institutions, such as the National Institute for Medical Research at Hampstead and similar institutions, and that which was granted by the universities and other research bodies in the country carrying out experiments on animals. Lieut.-Commander Kenworthy had quoted the number of experiments carried out on animals in three consecutive years and gave apparently some alarming figures which mounted from 300 000 approximately in 1927 to over 403 000 in 1929. The hon. member should realize that the greater number of those experiments were experiments in which there was not the slightest suspicion of pain being inflicted on the animals, and in which there was no necessity for an anæsthetic. A large number of those experiments were carried out on mice, rats, guinea-pigs and animals of that kind, to test the various diets which were afterwards standardized for the cure of certain specific diseases among children—rickets, for example. A cure for rickets was established by experiments on animals. Every one of those experiments involving merely the feeding of animals on certain foods in a certain way had to be tabled as an experiment and done under licence by the Home Secretary. Under the Bill such experiments would necessarily be excluded. Many friends of his were engaged at present in a whole series of experiments on mice, rats, hedgehogs and other similar animals for the purpose of carrying out certain tests in regard to pituitary and other glandular extracts. Those experiments were of the simplest kind. They consisted of the injection by hypodermic syringe at certain times of certain substances. Every experiment of that kind—the tiniest injection that was made—had to count for the purpose of the bill as an experiment. The case against the bill had been stated quite clearly and specifically by the British Medical Association in a circular which he understood had been sent to every member. The case had been more fully considered and stated more specifically and even more clearly and pointedly by the State body itself, the Medical Research Council, in a memorandum which was issued for the information of members of Parliament in 1927. Since then there had been really remarkable results from experiments on animals. Members might feel that a good deal of pain was inflicted, but experiments of a serious nature were only allowed under regulations and only under the most stringent conditions were animals allowed to live after serious experiments had been carried out on them. In all other cases the animal were destroyed. The experiments were carried out under an anæsthetic. He thought that the House would acquit him of any desire to perpetuate a system that would lead to inhumanity.

On a division leave to bring in the bill was refused by 170 votes to 156. Dr. Addison, Dr. Forgan, Dr. Fremantle, Dr. Elliot, Mr. Hastings, Dr. Morgan, Dr. Morris-Jones, Dr. Salter, Dr. Drummond Shiels, Dr. Ethel Bentham and Dr. Williams voted against the bill.

Spahlinger's Serum.

On December 15th Dr. Addison, replying to Mr. Hurd, said that Captain Richard Buxton had presented him with a summary of the report on experiments with M. Spahlinger's vaccine which had been carried out on his farm in Norfolk. He had suggested to Captain Buxton in the interest of all concerned in the problem that he should arrange for a complete test to be made by and under the independent control of recognized authorities who were experienced in research in this disease. So far as the Ministry was concerned it was anxious that this vaccine should be properly tested. Dr. FREMANTLE: Is the right hon. gentleman in touch with the Medical Research Council and the Privy Council, which are the bodies responsible for these researches? Dr. Addison asked for notice of that question.

Gas Experiments at Porton.—On December 11th Mr. FREEMAN called the attention of Mr. Shaw to the allegation that the effect of many drugs and poisons such as prussic acid, belladonna on rabbits, opium on pigeon, lemon juice on cat, and strychnine on monkey was different from their effects on human beings. Mr. SHAW answered that these allegations afforded no reason for disregarding the connexion between the effect of various gases on animals and their effect on human beings. The experience in the war established it. Asked by Mr. Freeman whether he did not think such experiments were useless, Mr. Shaw said that he had taken the best professional advice and was satisfied that the experiment as carried on at Porton were necessary in the interests of research.

X-ray Examination for Tuberculosis.—Mr. GREENWOOD on December 4th told Mr. Somerville Hastings that the number of x-ray examinations made in 1929 for every 100 persons examined in tuberculous dispensaries of England and Wales slightly over twenty-five. He had no information on how many of these examinations resulted in the confirmation of a diagnosis

Definite arrangements for x ray examination had been made by 122 out of 140 tuberculosis authorities in England and Wales, and by all the metropolitan borough councils Other tuberculosis authorities had from time to time provided x ray examinations for particular cases

Suicides in England and Wales—On December 9th Mr GREENWOOD replying to Mr Kinley, gave a return of suicides in England and Wales in the past ten years This showed that in 1920 52 males and 49 females under 20, 556 males and 338 females between 20 and 40, 1,415 males and 513 females between 40 and 65, and 404 males and 98 females of 65 and over committed suicide, the total being 2,427 males and 998 females In 1925 the total had risen to 2,852 males and 1,232 females, in 1926 it was 3,099 males and 1,350 females, and in 1927 3,458 males and 1 449 females In 1929 the figures were 3,480 males and 1,504 females

Radium—On December 16th Mr GREENWOOD, replying to Commander Bellairs, said that he was not aware that the last Government had given any undertaking to refer the question of radium supplies and prices to the League of Nations He was, however, informed that proposals for investigation of these matters were made at the last session of the Health Committee of the League of Nations and would be further considered at the next meeting of that committee

Universities and Colleges.

UNIVERSITY OF OXFORD

AT a congregation held on December 17th the following medical degrees were conferred

D M—R S Creed E B Strauss
B M—F R Crookes M A Hatt F M Trofusis, Q St L Myles, J M Lees, R S Harrison E H Rink, N C Parfit H R J Donald, H C Harley, Anne D M Adams

UNIVERSITY OF LONDON

THE following have been recognized as teachers of the University in the subjects indicated St Bartholomew's Hospital Medical School, Dr L P Garrod (pathology), Dr C F Harris (diseases of children), Mr H G Bedford Russell (oto rhino laryngology), Middlesex Hospital Medical School, Mr D H Patey and Mr E W Riches (surgery), Charing Cross Hospital Medical School, Mr W H McMullen (ophthalmology), London (Royal Free Hospital) School of Medicine for Women, Miss Mildred Wardle (oto rhino laryngology)

The Senate has noted with pleasure that the governing body of King's College Hospital Medical School had decided to admit ten women annually to the medical school

The regulations for the academic Diploma in Public Health (Red Book, 1930-31, p 469) have been amended by the addition after the words A mark of distinction will be placed against the names of those candidates who show exceptional merit" of the following 'in the whole examination, whether taken at the same time or in two parts'

Mr H L Eason, C B, M S, has been elected chairman of the Library Committee

A Rogers Prize of £100 will be offered for award in 1931 The subject is 'Filterable viruses as a cause of disease in man" Essays or dissertations must be received by the Vice Chancellor by April 30th, 1931 Copies of the regulations and any further information can be obtained from the Academic Registrar

The title of Emeritus Professor of Fine Art in the University has been conferred on Mr Henry Tonks F R C S, on his retirement from the Slade Chair of Fine Art at University College

The degree of D Sc in biochemistry has been conferred on Mr G F Marrian, and that of D Sc in physiology on Mr Philip Eggleton, both internal students of University College

Sir George Newman, K C B, has, on the recommendation of the Board of Management of the London School of Hygiene and Tropical Medicine, been appointed Heath Clark Lecturer for the year 1931

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

The next series of eight lectures and demonstrations on tropical hygiene, which are intended for men and women outside the medical profession proceeding to the Tropics, will be given by Lieut Col G E F Stammers from January 14th to 23rd, at 2 p m A second series of lectures will be given from March 18th to 27th at 5 o'clock These courses of instruction, in addition to providing simple rules for guidance in regard to preparation for life in the Tropics and personal hygiene, will also embrace a short account of some of the more common diseases, with advice in regard to measures of protection against such diseases and some guidance in simple methods of self treatment Syllabuses and full particulars can be obtained on application to the secretary, London School of Hygiene and Tropical Medicine Keppel Street, Gower Street, W C 1

UNIVERSITY OF MANCHESTER

THE following candidates have been approved at the examination indicated

FINAL M B CH B—A N Birkett B R Bramwell S T Cowan, C G Eastwood J R P Edkins Dorothy A Geller E W Hardman, L Jones D Ockman H I O Loughlin B P Robinson G H C Walmsley *Part I Forensic Medicine and Hygiene and Preventive Medicine* C B Ainscow G H M Franklin, J K Hadfield, J F E Johnson E D Portman

UNIVERSITY OF LIVERPOOL

THE following candidates have been approved at the examination indicated

M CH ORTH—A C Armstrong J C Drummond, L W N Gibson, M K Hussain, P Roux V J M Taylor
M D—G S Clouston T B Davie J H Dollows J Hatton D I P Pritchard J I Wallace Kathleen M Ward
DIPL M B CH B—(1924 Regulations)—*Part A* I C Angior, Mary F Lacey I T B Lovegrove D I A Williams (Passed in individual subjects) G R Critton (Public Health), D J Hoskinson (Forensic Medicine) C V Howarth (Public Health Pharmacy and General Therapeutics) Beatrice L H Sergeant (Forensic Medicine Pharmacy and General Therapeutics) *Part B* C G Burgess (distinction in Surgery) J M Erskine-Young H I C Sutton (1923 Regulations) *Part I* R Fairhurst *Part III* H I Cohen, J J H Crawford V Gardner Teresa Lighthound V T Parkinson
DIPLOMA IN TROPICAL MEDICINE—K N Bagchi L B Blor J Caplan, D S Chowdhary T H Davey L M Ghosh F Hawking L J V Loewenthal D Meltzer J B Mackie V B Mangrulkar W K Miau H W Mulligan J O Driscoll M Singh J K Sung G Aergheso J L A Webster J Willoughby

ROYAL COLLEGE OF SURGEONS OF ENGLAND

THE following 57, out of 178 candidates who presented themselves, have been approved at the primary examination for the Fellowship held from December 2nd to December 13th

S C Alagappan, L V Bailey F H Bentley A Birnbaum G W Black, H A Body S G Browne M Bryer I L Button, F G L Bywaters, I A d'Abreu D O Davies G V Fegketter S V Fegketter, G S Ferraby W C Gissane J Grocott J D Hay F J Hector J C R Hindenach, I K S Hirschfeld Iva Ho Tung W F A. Hughes-Jones Muriel S Hulke I A Hunt J Kelly H B Lee G I Lillie I W Lindeck W S Mckenzie R J W Malcolm, G S Malik B R Medlycott T W Mimpriss W F Nicholson J A R O Regan R C Percival K M A Perry H A Phillips A K Price R B Pringle R W Raven R K Reeves L C Rogers L S Rogers G I Rowbotham, B W Rycroft R Shackman M Silverstone, C G Sinclair V A J Swain, S M Thompson T M Tyrell P Welsh, W K Welsh I G Williams H R I Wolfe.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

A MEETING of the Royal College of Surgeons of Edinburgh was held on December 17th, with Dr J Haig Ferguson, LL.D, in the chair The following 30 successful candidates, out of 95 entered who passed the requisite examinations between September 29th and October 7th, were admitted Fellows

P J Alpers, S Amir ud Din A F R S A Ammar, T C. Baker Diana J K Beck I F Birkenstock W M Brown A R K. Burne, W J A Coldstream J Cook G H Duncan H M Fisher I C Fraser P Gibbin L S Henry B F Lawrence D R Lewis, W L Macdonald H G McPherson A M Martell A S Morton J D Murdoch T A Ogilvie D H Rao W O Reid K. Sen, T D Shahani R S Venters B Williams T I Williams

Medical News.

AT a meeting of the Illuminating Engineering Society in the board room at 28, Grosvenor Gardens, S W, on Monday, January 12th, at 6 30 p m, a discussion will be held on recent developments in gas lighting

THE Mental After Care Association, founded in 1879, appeals for funds to maintain and extend its work on behalf of poor patients who have recovered from mental disease Its main object is to aid the convalescence of such patients from all parts of the country on their discharge from public mental hospitals by ensuring for them a period of rest and change under skilled and sympathetic supervision For this purpose a large number of cottage homes have been established in the London area and in the country where patients are encouraged to adjust themselves to normal conditions On their recovery they are assisted by grants in kind or money, and efforts are made to find them suitable employment The association also facilitates the early treatment of mental disease by arranging for the residence of patients in the neighbourhood of hospitals and clinics The average number of patients assisted during the past year was 194 every month Apart from contributions from authorities and persons concerned, the funds available are wholly derived from voluntary subscriptions and donations While administrative expenses have doubled within the last ten years, the benefits administered have increased sixfold The association is non sectarian, and is the only charity organization in the country devoting its entire resources to work of this kind Communications should be addressed to the secretary, Church *House, Dean's Yard, Westminster, S W*

THE second National Congress organized by the Italian League for the Campaign against Cancer will be held on January 4th and 5th, 1931, in the Anatomical Institute of Bologna University, under the presidency of Professor Giacinto Viola The following subjects, among others, will be discussed modern views on the etiology of tumours (Professor P Rondoni), cancer and tuberculosis (Professor E Centanni), the problem of constitution and cancer (Dr P Benedetti), and diagnostic and therapeutic centres for

malignant growths (Professor P Gallenga) An international exhibition of the literature of malignant growths will be held during the congress The subscription of 20 lire should be sent by those intending to join the congress to the general secretary Professor V Dalla Volta, R Clinica Medica, Policlinico S Orsola, Bologna

THE first Congress of Latin American Ophthalmology will be held at Santiago (Chili) in 1931, under the presidency of Professor Charlin

A MEDITERRANEAN cruise will be organized by the *Bruxelles Medical* next year, leaving Marseilles on March 28th and returning thither on April 23rd The places to be visited include Tripoli Alexandria, Jaffa Beirut Rhodes, Stamboul (Constantinople) the Piraeus (for Athens), Corfu and Naples Special charges are available for medical practitioners and their families and also for laymen who are recommended by their family doctor Optional excursions will be organized in every port The minimum charge for medical practitioners is £37 18s first class, and £22 18s second class The steamboat which will be used is the *Champollion* of the Messageries Maritimes, it contains state cabins and also cabins for one two, three and four persons Further particulars may be obtained from the Section des Voyages of the *Bruxelles Medical*, 29, Boulevard Adolphe Max, Brussels

THE Minister of Health with the approval of the Prime Minister has appointed Sir E J Strohmenger to be Deputy Secretary to the Ministry of Health in succession to Mr J R Forber and Mr S H G Hughes to be Principal Assistant Secretary for Finance and Accountant General of the Ministry

THE ninth scientific report on the investigations of the Imperial Cancer Research Fund, which has just been published by Taylor and Francis price 20s, contains twelve original contributions and four reprints of articles which appeared in the *British Journal of Experimental Pathology* and the *Biochemical Journal* The eighth scientific report was published in 1923

WE have received a copy of the December number of *Antiquity* which completes the publication of the fourth volume It is insufficiently known that this quarterly—which is a distinguished product of the printer's art—is not devoted exclusively to the interests of the student of archaeology Thus the present number includes a very interesting account of the lion and the unicorn by Mr Cyril G Bunt, who traces their traditional rivalry through fifty five centuries of symbolic art His contention, which would dispose of the widespread notion that the legend is in any sense peculiarly British, is that the device is a religious symbol, representing the triumph of summer over spring The potency of the unicorn's horn is familiar to readers of Renaissance medicine Another article in this issue reviews Professor Herzfeld's recent discoveries in Persia

THE centenary of the birth of General Antoine François Davila, who died in 1884 the founder of the Bucarest faculty of medicine and principal medical officer of the Rumanian army, has recently been celebrated at Bucarest

ACCORDING to Surgeon General H S Cumming of the United States Public Health Service, 470 cases of tularaemia with 17 deaths have hitherto been notified in the United States The nine north eastern States are the only ones in which no cases have so far been recorded

THE high incidence and mortality of measles in Egypt during the last four years are shown by the fact that during this period the incidence has ranged from 3 995 cases in 1927 to 22 365 cases in 1929 and the case mortality from 41 8 per cent in 1926 to 45 8 per cent in 1928

THE French Government has accepted an offer of the Rockefeller Foundation to establish a centre for the study of undulant fever at Montpellier

A MEMORIAL has recently been unveiled at Marienbad to Professor Samuel Ritter von Basch the father of sphygmomanometry on the occasion of the twenty fifth anniversary of his death

DR ALFONS JAKOB professor of psychiatry at Hamburg has been made a corresponding member of the National Academy of Rio de Janeiro and Dr Franz Groedel professor of roentgenology at Berlin a corresponding member of the medico chirurgical society of Bologna

GEHEIMRAT LEXER of Munich Alfred Guttich (professor of oto-rhino laryngology at Cologne) and Dr Siebeel (director of the medical policlinic at Bonn) have been appointed deans of the medical faculties

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to *The EDITOR British Medical Journal British Medical Association House Tavistock Square, W C.1*

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QUERIES AND ANSWERS

Climate of Cairo

"T D R" writes I should like to know whether the climate of Cairo is suitable for a breast fed baby of 5 months and in what months of the year it is necessary to take the baby home because of the hot weather

Leucoplakia?

DR W E CODY (Twickenham) writes I should be grateful for the opinions of your readers on the following case The patient an artist aged 35 has suffered from psoriasis for many years In the last six months he has had several white patches each about 1/8 in diameter scattered over his tongue These patches are not raised above the mucous membrane but feel less soft than the healthy parts of the tongue There are also spots looking like aphthae seen in children on the buccal mucous membrane opposite the second molar teeth No history or stigmata of syphilis The patient looks and feels quite well, and is physically sound

Amenorrhoea in a Girl

DR N CARPP (Schweizer Reneke Transvaal) writes In the *Journal* of October 18th (p 670) "M E I" asks for advice as to the persistent amenorrhoea in a patient of his Let him prescribe an alkaline powder Pot cit sod bicarb āā 5ss in 2 ounces of water or milk thrice daily—that is 180 grains per diem To be used daily for a month The periods will most probably reappear long before the month has passed For further information let him read the article on "Acidosis in amenorrhoea" by Osman and Close in the *Practitioner* of April 1930

LETTERS, NOTES, ETC

Relation of Diabetes and Cancer

DR J N MCINTOSH (Jamaica) calls attention to the excessive formation of lactic acid in the growth of cancer cells a process which appears to be checked by pancreatic acid He states that diabetes is more prevalent than cancer among the black and coloured population of Jamaica and suggests that such a comparison is worth working out as regards the various world races He writes I am more than ever convinced that there is a close relation between a faulty carbohydrate metabolism and malignant growths and that the hormones (especially that of the islets of Langerhans) closely linked up with the reaction of the autonomic nervous system determine whether the local pathological process is to be one of diabetes or malignant neoplasm It seems that if the tissues first become thoroughly "bathed" in fermentative products from an auto intoxication (so-called "antibodies") it is utterly impossible for a malignant growth to appear even although there may be a hereditary tendency and the only disease present will be diabetes On the other hand if the pancreatic "antocold" through its chalones causes a "mild" depression on the tissues then the pathological process present may be malignancy the outstanding feature associated with a glycosuria.

Determination of Sex

DR N MCCONNELL BOYCE (Romford) writes In the *Journal* of November 13th, 1926 (p 918), I suggested that sex determination was a question of pre menstrual or post menstrual conceptions, the former tending to produce males and the latter females From letters received and further notes in the *Journal* it appeared that observers agreed that the time of insemination with relation to the menstrual period did determine sex, but while one group believed that conceptions before menstruation produced males, the other group were of the opinion that pre menstrual insemination resulted in females I agreed with the first group, and had great success I [illegible] obtain children of the desired sex, but in one [illegible] boy rule did not apply This woman was [illegible] the pre-menstrual girl rule I attended two of her three confine ments In each she had taken care that the time of insemination was in accordance with her rule, and in each she had a baby of the sex desired by her The truth appears to be that there is a sex-determining factor in the relationship between the time of conception and the menstrual date, but for each individual that relationship has to be worked out It may well be impossible to prearrange or predetermine the sex of the first child, but from the facts of this first birth it is a simple matter to calculate the sex-determining rule for the particular mother For example, a woman bore a full term male child on October 10th, counting back 281 days from that date, the probable date of conception is reached—namely, January 3rd The mother dates the last period from December 26th, 1929 to January 1st, conception, therefore, was post-menstrual The baby was a boy, and so the mother follows the post menstrual boy rule Giving this mother advice with regard to pre menstrual conception in order to obtain a girl, if desired, can do no harm This is the only means at one's disposal to probe the truth or otherwise of the theory The calculation from the date of birth may show that conception was midway between two periods, or rather was about ten days after the last period, and presumably about the same number of days before the period that failed to appear In this case nothing with regard to the individual's sex determining equation can be calculated, but conception at such a time is supposed to be rare I should appreciate hearing of specific instances which support the theory

Pond Snails in the Spread of Disease

DR F G CAWSTON (Durban) writes Although schistosomes capable of attacking man have not been recorded in Europe north of Portugal, allied parasites which depend on the water snail for a completion of their life cycle are common, in the summer of 1926 I found cercarine plentiful in pools at Frensham in Surrey and near Farnham and Bromley in Kent, while they have also been reported from other centres Though serving as one of nature's scavengers, snails in a stagnant pool become a source of danger to man when they are infested with trematode parasitic worms such as *Fasciola* and *Schistosoma* On becoming acquainted with bilharzia disease in Natal a colonist immedi ately recalled the experience of a boy with whom he had collected the eggs of waterfowl at the village of Aveley in 1880, and who contracted haematuria, which Dr *de Brent* attributed to his wading in the stagnant pools of the Mardyke tributary of the Thames, close to Purfleet in Essex Whether *Schistosoma* might have accounted for this condition or not, the presence of neglected pools on private property invites a danger from snail borne disease

NSPCC

SINCE the National Society for the Prevention of Cruelty to Children was founded forty six years ago it has dealt with over a million c[illegible] [illegible]ne of about 4 million children In this pe[illegible] [illegible]stablished over two hundred branches [illegible] Ireland, and has organized an extensive [illegible] and supervision Some idea of the vigilant protection it affords to the community may be obtained from the annual report of the society for the year ended March 31st, 1930 which reveals that the number of children on whose behalf the society intervened was 351 every working day, and that the total number exceeded the figure of the previous year by 6 000—a circumstance which is attributed mainly to successful propaganda Although the society is inclined to accept the suggestion that the standard of case reported is tending to become higher, it is disquieting to learn that cases of brutality increased by 294 during the year under review, and that the number of such cases—namely, 3,440—is as high as it was thirty years ago More reassuring is the decrease in the number of prosecutions, which are undertaken by the society only when all other methods of correction have failed The proportion of these cases (1 16 per cent) is the lowest recorded There is also evidence that an increasing number of parents are voluntarily seeking the advice of the society in matters affecting the welfare of their children The chief causes of neglect reported during the year were ignorance, indifference, laziness, drunkenness and gambling Slum conditions were found to be a recurrent evil, in 5 633 cases the families con cerned lived in single rooms, representing 13 per cent of the cases investigated in the course of the year In commenting on the amelioration of housing conditions the society points out that while the clearing of slum buildings and the rehousing of their occupants continues without interruption in our large cities, there is also need for reconditioning property unfit for habitation in rural areas, where schemes of this kind have received less attention Satisfaction is expressed that the society's Canal Boats Bill has been introduced into Parliament to give children living on these boats an opportunity of ele mentary education Another aspect of child welfare which has shown steady and progressive development in recent years has been the assistance the society provides in securing medical aid for sick children During the year 946 children successfully underwent operations in various hospitals in the country through the agency of the society's staff of inspectors These include eleven women, who are responsible for sick and ailing children in several of the large provincial towns More than a thousand children are reported to have recovered from minor complaints. In his annual report for the year Dr L D Saunders, medical officer to the society, refers to some of the difficulties in arranging for satisfactory medical treatment, owing partly to the limited accommodation of hospitals and institutions, and partly to the lack of proper care in nursing children in their own homes He insists that it is most undesirable that children recovering from encephalitis should remain at home without supervision The report contains a detailed statement of the London medical branch of the society

"The Royal Jennerian Society"

"D S M" asks for information about the Royal Jennerian Society He has acquired an honorary testimonial, dated September 29th, 1835, electing John Dove, Esq , as an honorary member

*** The Royal Jennerian Society for the Extermination of the Small Pox was started under Royal patronage at a meeting held in London on January 19th, 1803, at which it was resolved to call the society the "Royal Jennerian Institution" Dr John Walker was appointed resident inoculator The society's office was in Salisbury Square, Fleet Street The committee, after a time, disapproved of Dr Walker's proceedings, and he resigned Dr John Baron, in his *Life of Edward Jenner, M D* (London, 1838), says It lingered on for some time, but on the establish ment of the London Vaccine Institution in 1808, its finances being exhausted, its operations would appear to have ceased entirely An attempt was made in 1813 to revive this society, and the chairman of a general meeting held for that purpose, Dr Bradley, applied to Dr Jenner requesting his acceptance of the office of president He, in an answer dated Cheltenham, September 3rd, 1813, declined this proposal It is desirable that this fact should be remembered, inasmuch as it proves that Dr Jenner's name ought to be entirely disconnected from the proceedings of what is still unaccountably termed the 'Royal Jennerian Society'" Nevertheless, it appears that there is in the library of the United States Surgeon General at Washington a report of the Board of Managers of the Royal Jennerian and London Vaccine Institution to the governors for the year 1851, and that that association was formed by the union of the Royal Jennerian Society for the Extermination of the Small Pox and the London Vaccine Institution We have found no record of the existence of the society after 1851

A Home for Invalid Ladies

DR L N HERSKITH BIGGS writes I want to bring to the notice of your many readers a home for invalid ladies of limited means, who earn their own living, situated at San Remo, Italy, a spot which is considered to have the best all round climate on the Riviera The "Villa Emily" was built by an English artist for his own use, and is a commodious house in a large sheltered garden All the rooms face south, and wide verandahs run almost the entire length of the two floors The object of the institution, which was started over fifty years ago and deserves to be better known, is to provide a comfortable home for ladies in ill health who need a winter in a warm sunny climate to fit them once again for their duties It is under the patronage of Princess Beatrice, is run by an English committee, and is in the charge of an experienced trained matron with trained nurses under her Each lady has to pay £2 a week, which sum is quite inadequate to cover expenses, and the annual deficit is made up by generous friends Medical attendance and nursing are given free The home has central heating, and has been extensively renovated Information and forms may be had from Miss Janet Kay Shuttleworth care of Messrs Coutts and Co, 440, Strand, London, W C 2, from June 15th to October 1st, and Villa Luna, San Remo, Italy, from October 1st to June 15th

The New Mercurial Diuretics

Correction

IN our report of Dr Warren Crowe's reference to the use of salyrgan in Ménière's disease, made at the meeting of the Section of Therapeutics of the Royal Society of Medicine (December 20th, p 1047), the name *Mygind* was incorrectly given as Meakin

Vacancies

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 39, 41, and 42 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41

A short summary of vacant posts notified in the advertisement columns appears in the *Supplément* at page *272*

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

560 Clinical Features of Arterial Hypertension

H Vergeer (*Journ de Méd de Bordeaux*, October 10th 1930 p 725) discusses the symptomatology and pathology of high blood pressure in the light of the clinical findings in four patients Three of these latter were under the age of 45, and all showed hemiplegic manifestations in the course of their illness It is pointed out that the transient symptoms described by Dieulafoy as early signs of Bright's disease—for example, vertigo, headache, numbness of the fingers, and claudication—cannot be due solely to the hypertension which is permanent, but are more likely referable to local fluctuations in the peripheral circulation Such signs as these and transient paralyses were found principally in patients showing no great rise of blood pressure—that is, in patients as yet unadapted to the new pressure level Vergeer classifies the dangers of hypertension as follows cerebral haemorrhage ischaemic cerebral softening and renal insufficiency Rupture in minute cerebral vessels in a patient whose vascular system is little diseased may lead to hemiplegia from which recovery ensues, whereas rupture of sclerosed arteries into the capsule is almost always fatal Vergeer agrees with the view of Josue and Vaquez, that hypertension is the primary manifestation in most cases *arterio-sclerosis being a secondary phenomenon* Patients suffering from long standing hypertension and showing no evidence of haemorrhage or encephalopathy, ultimately acquire renal insufficiency they may die of uraemia or the myocardium may fail first giving rise to the common form of cardio renal failure It is remarked that the prognosis in high blood pressure is worse in the earlier decades and better after the age of 50 but the ultimate fates of the latter group of patients are the same Vergeer has no confidence in any specific drug for hypertension, he finds that hydrotherapy is only of passing benefit He recommends use of sedative drugs such as valerian and gardenal, and he advises the restriction of salt and nitrogenous foods in the diet

561 Active Immunization against Diphtheria.

According to G Moreels (*Per Belge Sci Med*, July–August 1930 p 710) a study of the statistics of the diphtheria department at the civil hospital at Ghent shows that during the period 1905–14 the mortality was 17 5 per cent from 1915–20 11.2 per cent, and from 1921–29 8 per cent Although there had been a progressive fall in the mortality the last figure which had shown no tendency to fall, is much too high and active *immunization on a large scale* appears to be indicated According to the author's observations 41 per cent of children, including those of school age are susceptible to diphtheria The percentage of those immune to diphtheria is lowest between the ages of 2 and 3 years it rapidly increases as the age diminishes and also with advance in age so as to reach about 60 per cent at the age of 7 years and during the rest of life Although anatoxin causes a general reaction less frequently than Henseval's vaccine which produced a local or general reaction in 100 per cent in 1928, it gave rise to severe local reactions in 80 per cent, and in 1930 in 55 per cent, half of which were severe These reactions as other observers had found were chiefly observed in adolescents and adults and were rare or slight in young children As regards the duration of immunity Moreels found that the children he had immunized with anatoxin in 1928 were still Schick negative in 1930, while 80 per cent of those inoculated with Henseval's vaccine in 1923 were immune in 1928 The 20 per cent who were susceptible were immunized the same year with anatoxin, and their Schick reaction in 1930 was still negative

562. Acute and Chronic Yellow Atrophy of the Liver

H Berg-Strand (*Nordisk Medicinsk Tidsskrift*, November 1st 1930 p 639) gives an account of an epidemic of yellow atrophy of the liver in 1927 in Sweden During the latter part of the war this disease began to increase in frequency but it was not till 1927 that the highest peak was reached In the period 1914–23 necropsies on only 25 such cases were performed in Stockholm and as many as 19 of these belonged to the five year period 1919–23 In 1927 necropsies were performed on 42 cases in Stockholm and simultaneously 97 similar cases were observed in other parts of Sweden The Stockholm cases showed two peaks one culminating in the summer the other in the autumn—a phenomenon very suggestive of an infectious disease Simultaneously with this increase in the frequency of acute yellow atrophy of the liver there has been an increase in the *frequency of catarrhal jaundice* in Stockholm and Gothenberg and for that matter, in the world at large With regard to the old observation that syphilis and pregnancy are the most important predisposing causes of acute yellow atrophy of the liver, the author notes that in none of his 97 cases did he find any sure sign of syphilis not one of the 72 women in this series was pregnant or in the puerperium On the other hand there was a history in many cases of some gastro intestinal disease or rheumatic affection in three instances the disease was ushered in by articular rheumatism Ascites was observed in about 20 per cent being most common among the comparatively chronic cases With regard to the chronicity of the disease, the author has observed several cases in which it lasted three to four years, and in one case the disease lasted ten years Jaundice was not an invariable sign, in some cases the clinical picture was that of cirrhosis of the liver and it was no until the necropsy that the true nature of the disease was discovered In addition to pointing out the many features common to catarrhal jaundice and acute and chronic atrophy of the liver the author notes that an attack of the first does not apparently confer immunity as regards the other two for in some of his cases there was a history of jaundice in childhood

563. Primary Mumps Meningitis.

G Esquief and L Protteaux (*Bull et Mem Soc Méd Hop de Paris* October 27th 1930 p 1507) refer to the recent paper on this subject by Weissenbach and G and M Basch (see *Epitome*, April 5th, 1930 para 318) and record a personal case in a soldier, aged 26 who during an epidemic of mumps in his garrison suddenly developed symptoms of meningitis The cerebro-spinal fluid showed an enormous lymphocytosis and slight increase of albumin The parotid swellings first on the left and then on the right side did not appear until the fourth day Recovery was rapid and uneventful

Surgery

564. Sepsis following Wounds of the Hand.

M L Mason and S L Koch (*Surg, Gynecol and Obstet* November, 1930 p 591) studied the routes of extension of *infection from the dorsum of the hand and report their* experience of thirteen cases suffering from human bite infections in this region Three factors appear to influence *the clinical and pathological picture such infections are* often prolonged and difficult to eradicate because the infection is introduced deeply through a comparatively small opening because of the anatomy of the involved structures, and because of the relatively low resistance of fascia tendon and bone to the mixed infections caused by organisms from the mouth With the hand doubled into a fist the tooth punctures the skin and extensor tendons while they are tightly stretched over the metacarpo-phalangeal joint usually the right second and third it may even penetrate the joint With the extension of the fingers the line of entrance is sealed off by the skin and gliding tendon Three spaces are infected thus—namely the dorsal subcutaneous the joint and *the dorsal subtendinous space between the tendon and* the capsule extension is determined by the anatomical arrangement of the tissues From injection experiments the course of the spread of the process as borne out by clinical experience, is described The resulting incapacity may be prolonged and except in very mild infections in which the organisms have not been introduced below the fascial sheets of the hand this has frequently to be reckoned in weeks and months rather than days *The most important* factors in treatment are the careful cleansing of the wound with soap and water without a tempting closure cutting away damaged tissue, and either the immediate application of warm wet sterile dressings or the instillation of Carrel Dakin treatment A *knowledge of the sites to which in*fection may spread is important in order that early and adequate drainage may be adopted to prevent bone joint and tendon involvement with resulting extensive impairment of function In order of frequency such sites are (1) the subcutaneous space of the dorsum of the hand (2) the subfascial space of the dorsum of the proximal phalanx (3) the subaponeurotic spaces directly over the metacarpals and proximal phalanges (4) the metacarpo-phalangeal joint and (5) the fascial spaces of the palm and flexor tendon sheath

565 **Congenital Torticollis**

D S MIDDLETON (*Brit Journ of Surg*, October, 1930, p 188) surveys 90 cases of torticollis and sterno mastoid tumour treated during the last few years The various theories of the etiology of these conditions are discussed, the ischaemic theory being described as the most modern and accurate It recognizes that the muscular fibrosis seen in torticollis is a similar process to that occurring in Volkmann's ischaemic contracture of the flexor muscles of the forearm The author differs from the belief that Volkmann's contracture results from arterial deprivation of the flexor muscles, and shows that such fibrosis in muscle can only result from venous obstruction, which probably takes place during labour in cases of sterno mastoid tumour It has been found that there is a definite relation between a sterno mastoid tumour and torticollis, it is stated that all cases of "congenital" torticollis result from fibrosis in the sterno mastoid muscle, consequent upon the development and absorption of the so called "sterno mastoid tumour" of infancy This tumour appears most commonly about ten days after birth, and remains more or less stationary for two or three months, it is then gradually absorbed and disappears at the end of four to six months after birth In some cases a slight torticollis may develop, but this may be only transient and of the nature of an acute torticollis In other cases a true torticollis may develop at about the age of 4 months, coinciding with the absorption of the tumour In 36 cases of torticollis 25 gave a definite history of a sterno mastoid tumour in infancy which underwent absorption and was followed later by the development of torticollis Out of 83 cases in which the history of the labour was known only 14 were normal, 46 were difficult or prolonged, 15 were breech presentations, and 8 were "crossbirths" It is considered that the temporary venous obstruction induced during labour becomes permanent owing to patchy intravascular clotting in the obstructed venous tree An exostosis was frequently found to occur at the clavicular attachment of the sterno mastoid muscle in cases of fibrosis affecting the clavicular head The facial asymmetry and plagiocephaly associated with torticollis is dependent upon the prolongation of the cervical curve into the base of the skull, and is described as a scoliosis capitis

563 **Biliary Fistulae following Cholecystectomy**

T H LAHEY (*Ann of Surg*, October, 1930, p 649) records the result of further operations performed for the transplantation of complete external biliary fistulae since 1923, when the author's first experiences with this procedure were published Ten cases are now reported, in six the patients are well and free from symptoms, one requires further operation since the complete external fistula returned, one was a partial failure as the patient suffers from frequent attacks of biliary obstruction, and two died following the operation It has been found that the fistulous tract may be cored out of the abdominal wall but should not be dissected free from the under surface of the liver It is therefore necessary to mobilize the stomach, duodenum, or jejunum so that it can be brought up to the anterior surface of the liver, the entire fistulous tract can then be pushed into the intestinal canal, the wall of which is sutured about it, and the stomach or bowel is sutured to the capsule of the liver In four of the cases under review spontaneous internal biliary fistulae had occurred, the duodenum or stomach attaching itself to the hepatic duct above a stricture, and establishing a small and inadequate spontaneous fistulous canal between the two In each of these cases the spontaneous fistulae were detached, and complete external biliary fistulae were established The fistula should be transplanted into the stomach whenever possible since it tolerates the introduction of bile satisfactorily, should leakage occur a gastric fistula is less dangerous than a duodenal or jejunal fistula

567 **Acute Peritonitis**

H PIRIE (*Med Journ and Record*, October 1st, 1930, p 328) calls attention to the value of caecostomy and enterostomy in acute peritonitis, he urges their performance earlier and more frequently to save the life of patients overcome by the toxaemia of obstruction In a bad case of appendicitis in which the peritonitis is well localized a caecostomy should be performed by inserting a tube into the caecum through the base of the appendix In cases with generalized peritonitis the performance of a caecostomy and an enterostomy has reduced the mortality of such cases more than 50 per cent The operation can be done under local anaesthesia even in desperate cases, with a remarkably immediate relief, in addition to acting as a drain the enterostomy can also serve the purpose of giving saline and glucose solutions to prevent the patient being dehydrated Through an incision to the left of the rectus sheath just above the level of the umbilicus a healthy loop of jejunum is clamped, and a purse string suture in the gut is pulled up and around a No 16 catheter inserted through a small incision A needle is carried through the catheter and a thread is tied to prevent slipping After removing the clamp a second purse string suture is placed above the first and tied round the tube Directly after the operation 500 c cm of 10 per cent glucose should be given by hypodermoclysis and 100 c cm every hour, with rectal enemata of glucose and soda every four hours, and about five ounces of 25 per cent glucose introduced through the enterostomy tube every hour

583 **Symmetrical Gangrene in Scarlet Fever**

G FREDERIKS (*Jahrb f Kinderheilk*, November, 1930, p 270) has collected eight cases from the literature, including those reported by Southey (*Journal*, 1883, vol I, 856) and Davies (ibid, 1891, I, 458) and records the following personal case A girl, aged 4 years, eight days after the onset of a mild attack of scarlet fever developed symmetrical areas of cutaneous gangrene on the upper arms, elbows, thighs, and legs The necrosis of the skin was the only complication present The blood picture contraindicated a septic infection, and the contents of the gangrenous lesions were sterile There was no reason to regard the skin as hypersensitive to scarlet fever toxin, since the Dick test was already negative on the twelfth day of disease A considerable portion of the lesions were absorbed and only superficial areas of necrosis resulted, complete recovery ensued

Therapeutics.

569 **Treatment of Whooping-cough**

E RADU and S ACKERMAN (*Journ de Radiol et d'Electrol*, October, 1930, p 559) comment on the frequent failure in whooping cough of such well known remedies as atropine, morphine, sodium benzoate, ozone, ethyl iodide, and quinoline The accidental discovery that radioscopic examinations were followed by marked improvement in two cases of this disease led them to try radiotherapy in all cases of whooping cough Two series of irradiations at seven to eight days' interval were administered The whole thorax was irradiated, the face, neck, and abdomen being protected, and the rays being centred on the middle of the sternum On the same or the following day the dorsal region was similarly treated, the rays being centred on the fifth or sixth dorsal vertebra The authors found that after the first application the paroxysms of cough became more frequent and intense, and the condition was apparently worse On the following day improvement was noted, and complete cure was established after the second series of radiations It is pointed out by the authors that the paroxysms of coughing are characteristic, and appear in the second period of the disease They may be serious and cause epistaxis, cerebral and meningeal haemorrhages, hernias, and broncho pneumonia Most medical treatment hitherto has been directed to controlling these paroxysms, but with little success, though Leopold and others have employed ultra violet rays with benefit The present authors have also tried these rays, but the results were much less satisfactory than when they used x rays, the exposures being made in the third and fourth weeks of the illness after all other therapeutic measures had failed The radiations act probably on the nervous system

570 **Therapeutics of Olive Oil**

WHILE advocating the administration of olive oil by the mouth in certain affections, CHIRAY (*Presse Med*, November 1st, 1930, p 1481) emphasizes the importance of employing an absolutely pure preparation The oil is emulsified in the intestine by the bile and pancreatic juice, a small quantity after saponification is split up into fatty acids and glycerin The undigested part of the oil is passed in the stools, either in a pure state or as fatty acid concretions, which are often mistaken for biliary calculi The use of olive oil has been gradually limited to the following diseases hepato biliary affections, gastro duodenal disorders and a few other conditions, including diabetes, pulmonary tuberculosis, and lead colic Various theories as to the action of this oil are reviewed, and it is shown that it possesses two properties—that of exciting the biliary secretion and of stimulating the flow of bile, it has no dissolving action on calculi In lithiasis olive oil is given in the painful crises of the disease to aid in the expulsion of calculi, it is also used in the troubles following cholecystectomy In these cases the dosage is one to two soupspoonfuls of the oil, either pure or mixed with a few drops of lemon juice which stimulates opening of the pylorus, thus lessening the time of the gastric retention of the oil This dose should be administered fasting, half an hour before breakfast, for ten days, with monthly intervals This method should not be used for the expulsion of calculi when the patients are very fatigued, infected, or suffering from marked hepatic deficiency, immediate operation is then

indicated After cholecystectomy olive oil is useful in the recurrences of hepatic colic and in the icteric syndromes which often remain as sequels In non lithiasic cholecystitis the same amount of oil is given hot in order to encourage vesicular contraction Olive oil with a little lecithin, such as the yoll of eggs is of remarkable benefit in cholecystatony, a condition characterized by vesicular distension independent of extrinsic obstruction and by a loss of tone and contractility of the cholecystic muscular tunic In hyperchlorhydria with or without ulceration this treatment is of great value One to two teaspoonfuls of the oil should be administered half an hour before the three or four daily meals this should be continued for two to three weeks and be often repeated at regular intervals In diabetic and tuberculous cases olive oil is useful if a digestive tolerance for fats and hepatic integrity be present In lead colic a glass of oil causes a cessation of the pains and a copious stool, with definite cure in three to five days

571 Pituitrin Snuff in Diabetes Insipidus.

K L Reksten (*Tidsskrift f d Norske Laegefor* October 15th, 1930 p 1125) was led to use pituitrin snuffed up the nose in cases of diabetes insipidus by the perusal of a paper by Adlersberger and Porges who had achieved striking successes in three cases They found that dry powdered extract of pituitrin given by the mouth was inert their successes were achieved only when they induced their patients to employ as snuff a dried powder obtained from the posterior lobe of the pituitary body and containing 2,000 Voegtlin units per gram Reksten describes two cases of patients thus treated the procedure proved to be remarkably effective provided that potent preparations were used Two different Norwegian preparations one of which contained 1 790 Voegtlin units in each gram were remarkably uniform and reliable in their action each patient used up 1 gram in the course of two to three weeks The first patient was a married women aged 48 the specific gravity of her urine was 1004 and she passed 8 to 10 litres in the twenty four hours After taking pituitrin as snuff only twice the excretion of urine fell on the same day to 3 5 litres She continued this treatment snuffing from one to four times a day with the same prompt success The second patient was an unmarried woman aged 27, who as long as she was suffering from a cold in the head obtained little benefit from the snuff When the cold began to pass off the snuffing became more effective and the excretion of urine fell from 13 to 2 litres She found snuffing two or three a day sufficient to keep the excretion of urine within normal limits On discontinuing this treatment for twenty four hours she found that her thirst and polyuria returned promptly so she resumed treatment at once During the two and a half months Reksten has treated these two patients he has observed no ill effects, nor has he had to increase his dosage

Laryngology and Otology

572. Mastoiditis from Contusion

T D Onofrio (*Arch Ital di Otol Rinol e Laringol*, July, 1930 p 332) who records two examples states that while cases of traumatic mastoiditis are not uncommon both in war and in peace mastoiditis from contusion without fracture or suppurative otitis media is very rare His first patient was a man aged 60 who as the result of a fall on the occipito-mastoid region developed a haematoma, which became absorbed in a fortnight eighteen days after the injury he began to suffer from severe pain in the mastoid region with pyrexia and a discharge from the ear No pus was found beneath the periosteum, nor any infiltration of the soft tissues but the mastoid was full of pus Recovery ensued in four months The second case was that of a man aged 47 who developed osteo periostitis of the mastoid without involvement of the middle ear as the result of sleeping in a train with his head resting on a seat, thus causing compression and contusing of the mastoid An operation was performed and recovery was complete in about two months

573. Middle ear Infection

J Lippi (*New York State Journ of Med* October 1st 1930 p 1146) dealing with the common forms of otitis media, states that the distinction between catarrhal and suppurative inflammation can be determined by taking into account the duration of the illness and the appearance of the drum He defines as indications for myringotomy an inflamed drum associated with severe pain which is not relieved by palliative measures or with high fever not otherwise accounted for or with marked ma toid tenderness Bulging of the drum is of secondary importance relatively and of itself does not necessarily call for incision since in the absence of pus such cases often recover Popper gives a brief outline of an ordinary case, indicating the treatment suitable at the various stages He calls attention to a sign of mastoid involvement which he has not found to be generally known—namely a doughy sensation on incision of the drum followed by the escape of very little pus A round perforation with smooth edges is suggestive of chronic otitis he recommends for such cases insufflations of iodine powder (Sulzberger) which he finds much more effective than the commonly used powders

574 The Blood in the Anginas

J J Shea (*Arch of Otolaryngol* September 1930 p 366) draws attention to the fact that a throat infection may be the initial or terminal manifestation of haematopoietic disease The changes produced in the blood are (1) polymorphonuclear leucocytosis, as seen in follicular tonsillitis (2) mononuclear leucocytosis, as in infective mononucleosis (3) leucopenia agranulocytic angina and (4) leucocytosis with relative increase in the large lymphocytes as seen in generalized Vincent s infection Shea points out that there are two varieties of agranulocytic angina, one that ends fatally and is usually seen in middle aged women, and a second which is a complex and is sometimes seen in arsenical poisoning In true agranulocytic angina various organisms have been recovered from the throat, but the exact etiology is uncertain The portal of entry is the initial sore throat though other mucous membranes may later become involved There is paralysis of the haematopoietic system and the extent of the throat lesion depends on the amount of lymphoid tissue remaining There is cervical adenitis but no other glandular enlargement In generalized Vincent s infection the lymphocyte count may rise up to 90 per cent of the total white cells This condition is usually fatal Acute infective mononucleosis is a relatively benign condition, and starts as an angina with the usual malaise and headache The cervical glands and the spleen are enlarged The lesion in the throat ranges from slight ulceration to extensive disease Although the presence of Vincent s organisms in smears from the throat is common examination of blood films by the oxidase process demonstrates the increase of large mononuclear leucocytes and differentiates this relatively benign condition from the very serious generalized Vincent s infection The author describes six illustrative cases and concludes with a plea for the study of the blood by expert haematologists in all cases of angina

Obstetrics and Gynaecology

575 Diagnosis of Tubal Pregnancy

L Stern and K Stern Dreifuss (*Med Welt* November 8th 1930 p 1621) remark that tubal pregnancies very often give rise to a mistaken diagnosis not only by the general practitioner but also by the gynaecologist The condition may be mistaken for acute cardiac failure appendicitis perforative peritonitis or an ovarian tumour, but most frequently it is diagnosed as an abortion and curetting is performed with fatal results In spite of the undoubted increase in tubal pregnancies in recent years the subject has received little attention as compared with appendicitis Within the last two and a half years, however the authors have had to operate on five cases of tubal pregnancy and only two of appendicitis Moreover, spontaneous recovery from appendicitis is frequent, whereas tubal pregnancy left to itself, is almost always fatal Haemorrhage after a period of amenorrhoea indicates a disturbance of pregnancy but whereas intrauterine abortion is commonest in the third month or later interruption of tubal pregnancy almost always occurs in the first four weeks after cessation of the periods The haemorrhage is accompanied by more severe pain than is the case in menstruation, and this pain sometimes radiates to the sacrum The general condition is at first good in the absence of a sudden haemorrhage into the abdominal cavity The temperature is usually somewhat raised On abdominal palpation there is distinct tenderness which is most marked on the side of the affected tube On vaginal examination there is a livid discoloration of the mucous membrane, especially of the cervix and the uterus is of normal size The administration of ergot or quinine is now indicated, since if the case is one of intrauterine abortion the uterine contractions will expel the decidua which can be recognized by the naked eye If no decidual fragments are found expectant treatment must be adopted The pain and haemorrhage may cease for from one to three days but then soon return and symptoms of collapse develop On vaginal examination a tender swelling is found on the side of the affected tube It gradually increases in size while the uterus remains unchanged The diagnosis of tubal pregnancy is then established

576. **Pregnancy and Epilepsy**

H BACHMANN (*Zentralbl f Gynak*, October 18th, 1930, p 2636) describes two cases in which pre existing epilepsy became much worse during pregnancy, with mental deterioration and status epilepticus respectively In both cases rapid improvement followed operative emptying of the uterus, combined for prophylactic reasons with tubal sterilization It has been stated that epilepsy is unaffected by pregnancy in about one third of cases, in the remainder, in equal proportions it becomes considerably worse or considerably better There is no evidence that pregnancy can either cause or cure epilepsy That the influence of the one condition on the other is probably due to hormones from the ovum appears probable from the fact that some patients have fits when carrying male but not female foetuses, and from the therapeutic results achieved by the induction of abortion Of the progeny of epileptics, it is said that only 20 to 25 per cent are healthy 35 per cent die young, 20 per cent are mentally defective, and 7 per cent are paretic or deformed Artificial termination of pregnancy in epileptics is held to be justified when the disease first appears during pregnancy, when it becomes worse during pregnancy, or by the presence of status epilepticus or severe mental symptoms, sterilization should be performed at the same time

577 **Primary Carcinoma of the Fallopian Tubes**

W W HOLLAND (*Surg, Gynecol and Obstet*, November, 1930, p 683) thinks that carcinoma of the Fallopian tubes is not so rare as formerly believed, the number of cases seems to be gradually increasing He doubts whether the etiological significance attributed by many writers to inflammatory changes in the tubes is warranted A correct diagnosis is possible only after macroscopical and microscopical examination, from which it appears that papillary alveolar and alveolar types are advanced stages of primary papillary malignancy A review of the records of the Mayo Clinic during the course of eight years brought to light only nine cases of primary carcinoma of the Fallopian tubes in a series of approximately 10,000 completely removed tubes In seven, one tube only was concerned, and two were bilateral, so that eleven primary carcinomata were actually found, an incidence of 0 11 per cent Carcinomatous growths were found in eighty one tubes, seventy of which were regarded as secondary in origin either by contiguity or metastasis The records of the Johns Hopkins Hospital showed an incidence of primary carcinoma in 0 04 per cent only, being found in five out of 12,000 tubes These statistics rather support the view that inflammation plays a less significant part in the development of the condition than has been thought

Pathology.

578 **Pathology of Bright's Disease**

IN a comprehensive paper D D VAN SLYKE *et al* (*Medicine*, September, 1930, p 257) record detailed observations of 67 patients with Bright's disease, who were followed up for periods ranging from a few weeks to several years The gross and microscopical findings in 17 of the cases are described These observations support the views of Volhard and Fahr and of Addis that the three types of this disease differ essentially in their genesis and pathology the haemorrhagic or glomerular, marked primarily by glomerular inflammation with haematuria and usually diminished renal function, the sclerotic, marked chiefly by changes in the small renal arteries, with hypertension as the first sign and diminished renal function only terminally, the degenerative disease or diseases, called nephrosis, characterized by degenerative renal changes, without hypertension and with haematuria Contrary to the general belief (except that of Addis), it was noted that gradual decrease of urea excreting ability frequently develops during nephrosis, and the disease may end in uraemia, the glomerula then being involved in the degenerative changes The renal pathological changes occurring during the disease could be deduced, this also is the view of the three authorities previously mentioned Diagnoses were chiefly made by noting the renal urea excreting power (measured by the blood urea clearance), the haematuria blood pressure, plasma protein content, proteinuria, and oedema In acute haemorrhagic nephritis the prognosis depended on the plasma albumin content, most cases in which this fell markedly became chronic Renal function (measured by the blood urea clearance) may fall to 10 per cent of the normal with apparently complete recovery The majority of the cases showed a decided fall during the first two months, but in those of improvement or recovery a rise began within four months after the acute onset The presence or absence of this rise was the most definite single prognostic sign Some cases of haemorrhagic nephritis, after the initial acute stage, were indistinguishable for a period from nephrosis In a few months, however, they either improved or recovered, which is rare in nephrosis, or became chronic Non cardiac oedema approximately paralleled the fall in plasma albumin content, except during the first weeks of the acute haemorrhagic type During this period oedema was reportedly noted, even when the proteins remained normal The oedema however, was moderate and temporary unless plasma albumin deficit developed In all stages of nephrosis this deficit and oedema were concurrent In arterio sclerotic disease plasma proteins were never markedly reduced, and only cardiac oedema was present The blood urea clearance proved to be the most clearly related to final renal failure If the renal function fell to below 5 per cent of the normal, uraemia, usually fatal, ensued Occasional acute cases can recover if the functional depression does not last too long, and rare terminal ones in which the fall is partly due to factors such as desiccation, other than destruction of the renal tissue The variations within each of the three types of Bright's disease were found to be great

579 **The Blood Lactic Acid Content after Muscular Contraction**

THE chemical changes connected with muscular contraction have been studied mainly in cold blooded animals M GRACE EGGLETON and C L EVANS (*Journ of Physiol*, October 31st, 1930, p 269) believe that the investigation of these changes in warm blooded animals is of value Such study must necessarily be conducted by somewhat indirect methods, among these is the estimation of the lactic acid in the blood as an index of its concentration in the tissues, including active or recovering muscles A series of experiments on dogs and cats are here recorded It was found that while the average lactic acid content of superficial venous blood closely parallels that of arterial blood, individual samples show variations The lactic acid content of tissues in general is somewhat less than that of the blood plasma, both at rest and during recovery from exercise, this difference is less readily observable in muscle, and up to about 10 per cent could be accounted for by the higher water content of the plasma The lactic acid content of muscles, severely exercised for a short period, does not equilibrate with that of the blood and other tissues until at least ten minutes after the end of the exercises In the equilibrium then reached the muscle lactate content is lower than the arterial blood lactate figure The lactic acid content of the venous blood returning from muscles which have been contracting remains higher than that of the arterial blood throughout recovery, while that from unexercised muscles is lower The lungs play no part in the removal of lactic acid during recovery Since the blood returning from the liver contains less lactic acid than arterial blood after recovery, the liver removes lactic acid from the blood In eviscerated animals the rate of removal was reduced to about one third, it is concluded, therefore, that the liver is not solely responsible for lactic acid removal The lactic acid content of the blood in resting eviscerated animals does not rise during the four hours following evisceration A few points on glycogen resynthesis in muscles during recovery from exercise are appended

580 **Neutralization and Excretion of Avertin**

W STARK (*Schmerz Narkose Anaesthesie*, October, 1930, p 247) states that according to statistics published so far the death risk in avertin anaesthesia is at least as great as in chloroform, untoward effects such as cyanosis, collapse, and the temporary suspension of respiration are relatively common Opinions vary as to clinical contraindications to avertin anaesthesia, cachectic states, liver and kidney diseases, and thyroid disorders, having all been mentioned Since avertin is apparently neutralized in the body and excreted in combination with glycuronic acid, it was thought that the risk in some of these cases might be due to a shortage of glycogen in the body The author therefore undertook a series of experiments on rabbits to determine the effects of starvation and of hypo and hyper thyroidism on the length of anaesthesia produced by avertin, and on the rate of its excretion as judged by the glycuronic output It was found that starvation enhanced the effect of avertin, it prolonged the anaesthesia, and delayed the excretion of the drug Thyroidectomy (performed four weeks before the experiments) had a similar effect, the duration of the anaesthesia being markedly increased The administration of thyroxin before the avertin was given produced uncertain results, there being a lack of correspondence between the length of sleep and the rate of excretion If severe hyperthyroidism was induced the risk of avertin anaesthesia was greatly increased, and many of the animals died during or shortly after the experiment, even though only a comparatively small dose of avertin had been administered.

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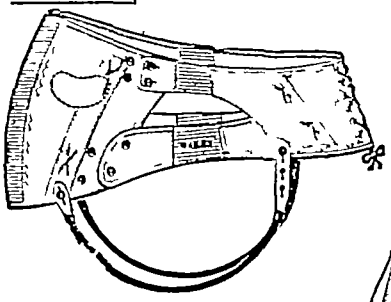
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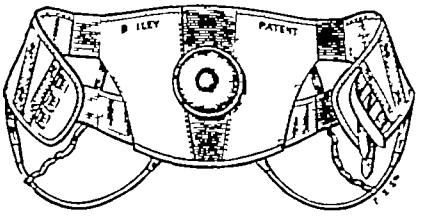
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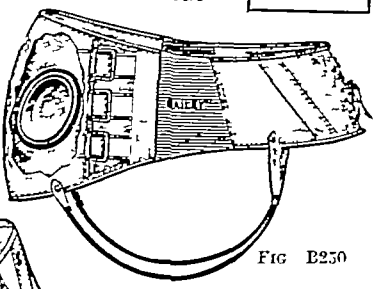


FIG B250
(Showing Interior of Cup)
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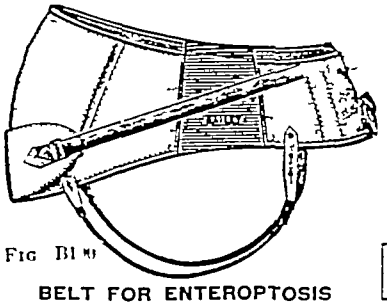
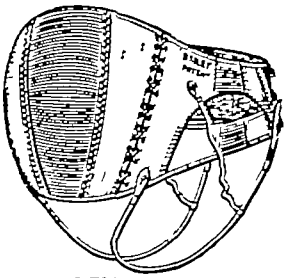


FIG B1 M
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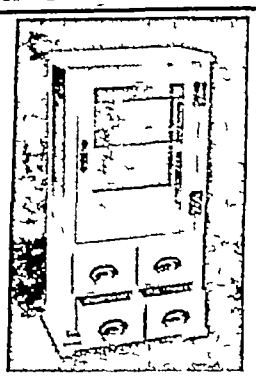
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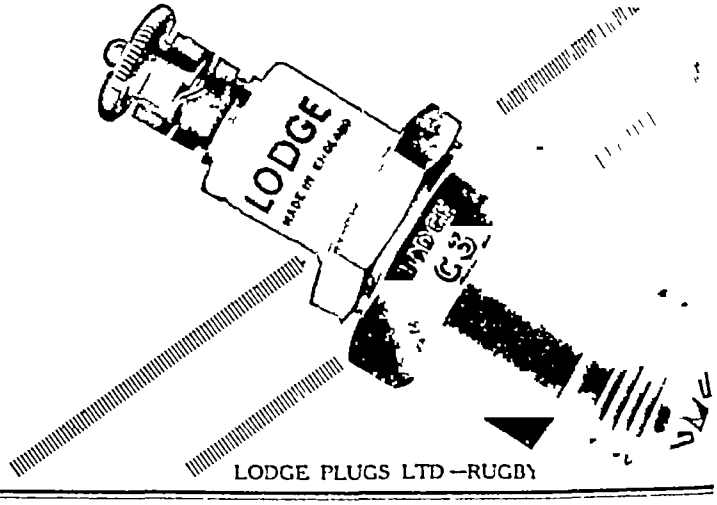
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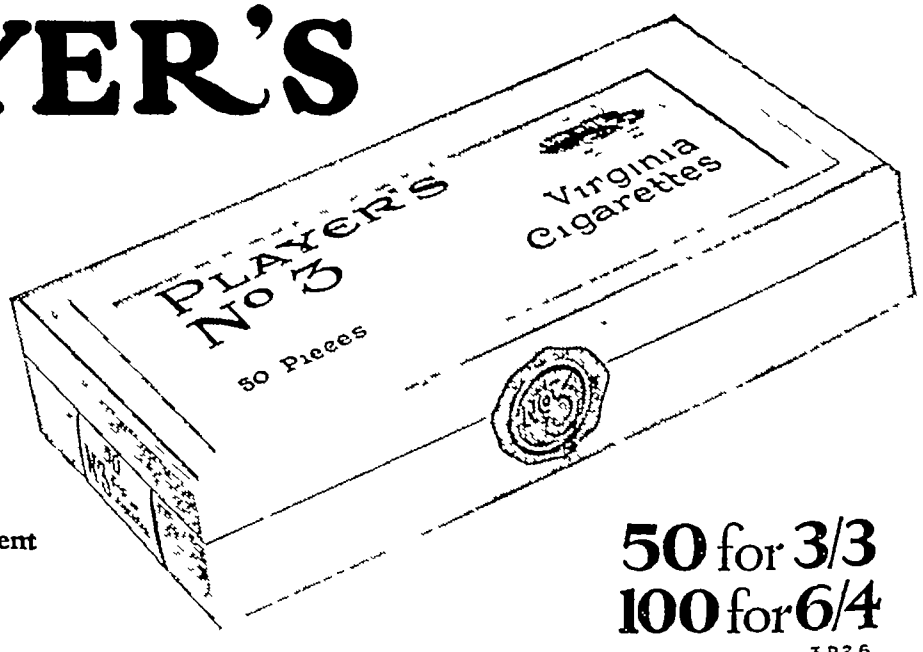
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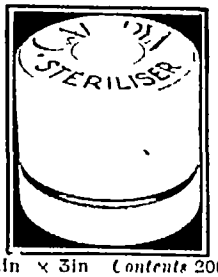
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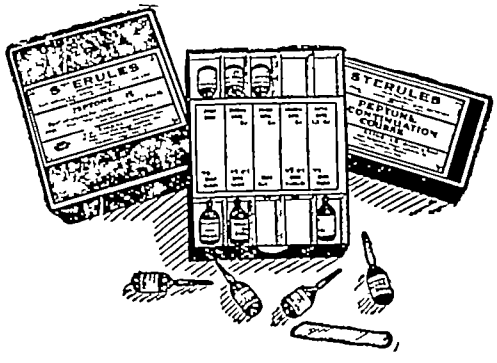
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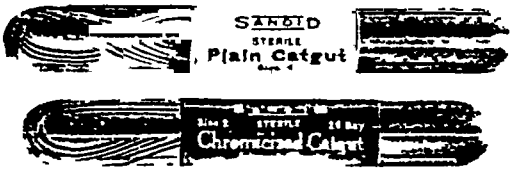
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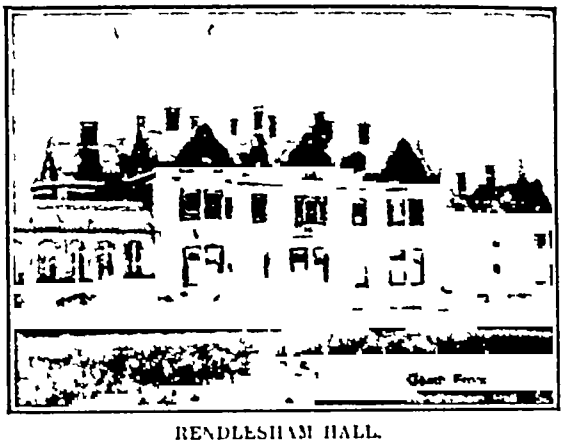
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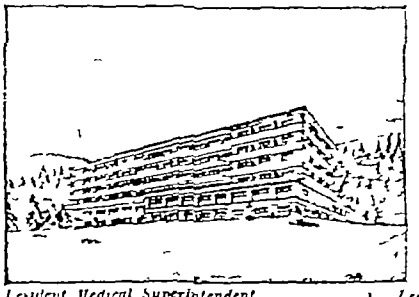
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SCHOOLS for BOYS and GIRLS

TUTORS FOR ALL EXAMS

Messrs. J. & J. PATON having an up-to-date knowledge of the BEST SCHOOLS and TUTORS in this Country and on the Continent will be pleased to AID PARENTS in their choice by sending (free of charge) Prospectuses and TRUSTWORTHY INFORMATION and ADVICE.

The age of the pupil, district preferred and rough idea of fees should be given.

J. & J. PATON Educational Agent, 143 Cannon St., London, E.C.4. Tel. Mansion House 5053.

TAUNTON SCHOOL,

TAUNTON

A PUBLIC SCHOOL FOR BOYS

Boys are regularly prepared for the First M.B. Examination. University Scholarship in Chemistry, Biology, etc.

Special facilities are offered for the teaching of Chemistry, Physics, Botany and Zoology.

New Science Building containing seven laboratories, two lecture rooms, large library, study room, etc., opened in September 1929.

Prospectus from Head Master.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE

(UNIVERSITY OF LIVERPOOL.)

COURSES OF INSTRUCTION (at one time about three months) for the Diploma in Tropical Medicine commence on October 1st and January 6th, and for the Diploma in Tropical Hygiene on January 13th and April 23rd. Candidates for the D.P.H. must possess the D.T.M. of this University.

For particulars apply to the Hon. Dean, Liverpool School of Tropical Medicine, Temporary Premises, Brownlow Hill, Liverpool.

UNIVERSITY EXAMINATION POSTAL INSTITUTION

17, RED LION SQ., LONDON, W.C.1
(FOUNDED A. 1882.)

Principal Mr. E. S. WEYMOUTH M.A. (Lond.). POSTAL OR ORAL PREPARATIONS FOR ALL MEDICAL EXAMINATIONS.

SOME SUCCESSES

M.D. (Lond.), 1901-29 (9 Gold Medallists during 1913-29)		319
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M.B., B.S. (Lond.), *Final* 1906-29 (Completed Exam.)		257
F.R.C.S. (Eng.), *Primary* 1906-29)		154
	Final	149
M.R.C.P. (Lond.), 1914-29		168
D.P.H. (Various) 1906-29 (Completed Exam.)		286
F.R.C.S. (Edin.), 1918-29		43
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Medical Prospectus gratis along with list of Tutors etc., on application to the Principal Mr. E. S. WEYMOUTH M.A. 17 Red Lion Sq. London W.C.1. (Telephone HOLBORN 6313.)

POST-GRADUATE MIDWIFERY

Qualified Medical Women are admitted to
The Mothers Hospital of the Salvation Army, Lower Clapton Road, E.5
for practical forthnightly Courses in Midwifery. These include delivery of normal cases attended at all abnormal cases, operative work, rounds of visiting staff, V.D. clinics and antenatal clinics. For further particulars fees etc., apply to EDGAR DILDEN, the Secretary.

THE ART OF RELAXATION

THE ARCHER NERVE TRAINING COLONY, LANGLEY RISE, Ltd., by Slough, Bucks. Lectures evening. French spoken. For Consultation, Treatment and Classes at 22 PEMBRIDGE SQUARE, W.2 (Tel. Paddington 2176), on Wednesdays and Saturdays, 10—1 and 2—5.30. Enquiries on all other days to Kings Langley (Tel. 19).

Society of Apothecaries of LONDON

MASTERY OF MIDWIFERY EXAMINATION

The next Examination will take place on Monday, November 17th, 1930, and following days. For regulations apply to—
FRANK HAYDON, Secretary.

F.R.C.S. (Edin.)

CLASSES or POSTAL TUITION.—Full Preparation. Classes with DEMONSTRATIONS will commence shortly. Co-Ed. DEPT. OF COLLEGE for Nat. and Int. Exams. Full particulars—H. C. ORMIS, F.R.C.S., Surgeons' Hall, Edinburgh.

INDIAN MEDICAL SERVICE

Recruitment of European Officers.

Applications are invited from medical men for permanent commissions in H.M.'s Indian Medical Service. The terms offered include a gratuity of £1,000 on retirement after six years' service, or £2,500 after 12 years' service, together with free return passages, for those who no longer desire to remain in the Service. In other respects the terms will be as detailed below.

Candidates must be British subjects under 32 years of age at the time of application, and must be registered under the Medical Acts in force in Great Britain and Northern Ireland.

CAREERS

The Indian Medical Service offers wide opportunities of medical experience, including clinical, preventive, specialist and research work. At the beginning of his career an officer is employed on the military side which has medical charge of the Indian Army. Promotion is on a time scale up to the rank of Lieutenant-Colonel and by selection to the ranks of Colonel and Major-General. An officer may apply after one year's Indian service to have his name registered for transfer to the civil side, from which appointments are made to Civil Surgeoncies which are established at the principal civil centres to provide for the medical needs of civil officials and for general medical administrative purposes; to specialist (for example public health and bacteriological) services; to research posts, and to professorships at the Medical Schools.

PAY

The monthly rates of pay for European officers in the Service who have a "non-Asiatic" domicile are as follows:

Rank	Service in Rank	Basic Pay	Overseas Pay	Years of Total Service
1	2	3	4	5
		Rs.	Rs.	
Lieut.	—	500	150	1st
			150	2nd
			150	3rd
Capt.	(i) During first 3 years service as Captain	650	150	4th
			£15	5th
	(ii) With more than 3 and less than 6 yrs. service as Captain	750	£15	6th
			£25	7th
			£25	8th
	(iii) With more than 6 years service as Captain	850	£25	9th
			£25	10th
			£25	11th
			£50	12th
Major	(i) During first 3 years service as Major	950		
	(ii) With more than 3 and less than 6 years service as Major	1100		
	(iii) With more than 6 years service as Major	1250		
Lieut.-Col.	(i) Until completion of 21 years total service	1500	£250	17th and over
	(ii) During 21th and 25th years service	1600		
	(iii) After completion of 25 years total service	1700		
	(iv) When selected for increased pay	1850		

EXTRAS.—In addition to the above rates various allowances are admissible for a large number of special appointments on both the military and the civil side which may be held by members of the Indian Medical Service. Special high rates of pay are also attached to the numerous administrative appointments open to officers in both branches of the Service.

ANTEDATES IN COMMISSION

Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer may be counted as service for increments of pay, promotion, retirement and retired pay, but not for gratuity.

One half of any service in the ranks during the war may be counted as service for retirement and retired pay only.

Candidates possessing certain higher medical qualifications may be granted an antedate of one year in their commissions. Past service in certain hospital appointment may also render candidates eligible for an antedate of one year. Persons holding or about to hold resident posts at recognized hospitals may be seconded in those posts for a period not exceeding one year. The maximum period of antedate secondment or antedate and secondment combined admissible under this paragraph, is limited to one year.

OUTFIT ALLOWANCE

Officers on appointment will receive an outfit allowance of £50.

PRIVATE PRACTICE

With the exception of Administrative Officers, military or civil, and officers holding certain special appointment officers are not debarred from taking private practice, so long as it does not interfere with their proper duties.

LEAVE

Leave can be taken at reasonable intervals, and adequate rates of leave pay are provided. Extra leave (known as study leave) which may not exceed 12 months in all during an officer's service, may be granted to officers desirous of pursuing special courses of study of a post-graduate nature. During such leave, study allowance at present fixed at the rate of 12s. a day in the United Kingdom, £1 a day on the Continent of Europe, and £1 10s. a day in the United States of America is granted to an officer in addition to ordinary rate of leave pay.

PENSIONS

The rates of pension are as follows	Per annum £
After 17 years' service for pension	400
,, 18 ,, ,, ,,	430
,, 19 ,, ,, ,,	460
,, 20 ,, ,, ,,	500
,, 21 ,, ,, ,,	540
,, 22 ,, ,, ,,	580
,, 23 ,, ,, ,,	620
,, 24 ,, ,, ,,	660
,, 25 ,, ,, ,,	700
,, 26 ,, ,, ,,	750
,, 27 ,, ,, ,,	800

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919 to an extent not exceeding 20 per cent. in all, the revision being undertaken triennially. With effect from July 1st 1930 a reduction of 5½ per cent. has been made on this account from the amounts shown.

There are additional pensions ranging from £65 to £350 per annum for officers who have held administrative appointments.

PASSAGES

An officer on appointment is provided with free passage to India. The wives and families of officers who are married prior to the date of the officer's embarkation on first appointment will also be provided with free passage to India subject to the payment of messing charges.

Officers and their families are also eligible for passage concessions under which they are granted a certain number of return passages home at Government expense during their service.

INSTRUCTION PRIOR TO EMBARKATION

Officers are required to undergo courses of instruction at the Royal Army Medical College and at Aldershot, lasting approximately six months prior to their embarkation for India on first appointment.

Full details regarding these appointments and forms of application may be obtained from the Under-Secretary of State for India, Military Department, India Office, London, S.W.1. The Selection Committee will meet at the India Office early in January next, and the selected candidates will be required to join a course of instruction commencing early in February, 1931, prior to sailing for India in the Autumn of 1931. Applications should be submitted as soon as possible.

EPSOM COLLEGE

Established in 1855 as a Public School with a Royal Medical Foundation

Patron HIS MOST GRACIOUS MAJESTY THE KING
President THE RIGHT HON THE VISCOUNT BURNHAM, G C M G
Treasurer SIR WILLIAM HALE WHITE K B E, M D
Chairman of the Council RAYMOND CRAWFURD, Esq M D I R C P
Vice Chairman of the Council SIR JOHN F H BROADBENT, Bart, M D
Head Master of the School ARNOLD C POWELL, Esq, M A

EPSOM COLLEGE has an exceptionally fine position with a dry bracing climate on the slope of Epsom Downs The buildings include the War Memorial Chapel large science buildings with lecture theatre and several laboratories for physics chemistry and biology the Holman art room and the Propert library a covered swimming bath heated throughout the year a gymnasium a rifle range a drill hall and armoury a separate sanatorium (60 beds) with X ray department and isolation annexe There are also a museum a carpenter's workshop music rooms fives courts a pavilion and a laundry Large central heating and hot water systems have recently been installed There are over 30 acres of playing fields and 7 acres of vegetables

For boys who have matriculated at the University of London and who desire to enter the Medical Profession the First Medical Examination of that University is conducted at Epsom College and they are spared the expense of going to London for the purpose

The General Council of Medical Education and Registration of the United Kingdom has included Epsom College in the list of Recognized Institutions approved of by that Council as places at which medical study may be commenced and the College has been recognized as a School of Science by the Royal Colleges of Physicians and of Surgeons for the purpose of their Conjoint Diplomas

Boys are also prepared for the Army Navy Air Force Civil Service the Universities and for mercantile careers

Ten Medical Scholarships differing in value and one Dental Scholarship are awarded annually at the Hospital Schools in London and 32 leaving Scholarships ranging in value from £15 to £105 are awarded under varying conditions some of them annually but most of them tenable for several years Besides these there are one Dr Robert Thomson and Phyllis Broughton Open Entrance Scholarship of £120 a year one Domett Stone Open Entrance Scholarship of £50 a year and four Salomons Entrance Scholarships of £50 a year each Hugh Vardon Scholarships of £24 and Junior Open Scholarships of £60 are awarded annually

ANNUAL FEES.—Sons of Medical Men £135 Those who are not the sons of Medical Men £155 Day Scholars £57 These fees cover all the extras which used to be charged for separately under the heading Consolidated Charges'

NEW SANATORIUM

Since the publication of the plans of the New Sanatorium in the Lancet and British Medical Journal in December 1927 the Council with the help of friendly criticism from various Medical friends has reconsidered both the plans and the site A retired but convenient site which stands back a quarter of a mile from the main road away from the noise of traffic has been selected

The revised plans prepared by the Architects Messrs William A Pite Son and Fairweather show a three story building instead of the former two story building The ground and first floors accommodate patients while the second floor is occupied by rooms for the nursing and domestic staff

The main entrance faces North and all wards face South the long axis of the building being East and West

This new plan has made it possible considerably to increase the floor space per bed in the wards and also to add to the number of Bathrooms and Sanitary Annexes The positions of the Minor Surgery Operating Room and the X ray Room have been reversed the former is now placed next to the Casualty Room in the Out patient Wing and the latter near the Entrance Hall

In October last the Council decided that it was imperative to commence building at once and tenders were called for That of Mr E H Smith of Croydon for £26,215 was accepted and work was started on October 16th By the terms of the contract the building is to be completed in June 1931 which will allow time for the conversion of the Old Sanatorium to its new use as a House for 50 boys in September 1931

A sum of over £8 400 has been received towards the cost of the building and the Council will welcome further donations from those who feel that a College so closely connected with the Medical Profession should possess a Sanatorium worthy to be a model for all other Public Schools

A donor of £10 000 may give his own name or the name of any person whom he desires to commemorate to the Main Sanatorium a donor of £5 000 may do likewise to the Isolation Wing while a large ward may be named for £3 000 or a small ward for £1 000 and a single bed for £100

ROYAL MEDICAL FOUNDATION

FIFTY FOUNDATION SCHOLARS receive an education of the highest class in Epsom College and are boarded clothed and maintained at the expense of the College They must be elected after approval by the Council from among the sons of necessitous Medical Men who have been Registered Medical Practitioners for five years

FIFTY ORDINARY PENSIONERS who must be legally qualified Medical Men registered for five years or the Widows of such receive an annual pension They must be not less than 60 years of age at the time of their application for admission as candidates

The Ordinary Pensioners and the Foundation Scholars are elected by the Governors voting by ballot and having votes in proportion to the amount of their contributions There is one election in the year namely in June

The Ordinary Pupils the majority of whom are sons of Medical Men pay fees which cover the entire cost of their board and education

A sum of close upon £9 000 is required annually to maintain fifty Foundation Scholars and fifty Pensioners yet this leaves much destitution in the profession untouched The Council earnestly plead for more and larger subscriptions so that they may extend the work to the relief of this distress

The profession and the public are therefore asked to make the Royal Medical Foundation attached to the College a refuge in time of trouble for all those members of a great profession and their children who fall on evil days

Donors of 10 guineas and collectors of 20 guineas are Life Governors of the College subscribers of one guinea annually are Governors during the continuance of their subscriptions

J BERNARD LAMB Secretary

Office 49 Bedford Square W C 1

Post-Graduate Teaching, West London Hospital.

Continuous Clinical Instruction daily from 10 a.m. to 4 p.m.—Post-Graduates may enrol at any time for any period from 1 week to 3 months.—Special facilities for "Study Leave," and for those wishing to take a course under the "Grant-aided Scheme for Post-Graduate Study by Insurance Practitioners."—Anaesthetic Courses.—Clinical Assistantships.—Annual Membership Tickets at Special Terms available for General Practitioners who wish to attend the Hospital Practice at irregular intervals.

Prospectus from the DEAN, West London Hospital, Hammersmith, W 6.

THE NORTH-EAST LONDON POST-GRADUATE COLLEGE

The Prince of Wales's General Hospital, Tottenham, N.15. North Middlesex Hospital, Edmonton, and Associated Hospitals.

An INTENSIVE REFRESHER COURSE will be held from January 26th—February 7th. Lectures, demonstrations and clinics in the various general and special departments.

The number is limited to 25.

Enquiries and applications should be sent to the Dean at the Hospital or to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

MARLBOROUGH COLLEGE,

Near MACCLESFIELD,

Specialises in

CAREERS FOR GIRLS

List and Prospectus from Principal

Special Terms to Medical Men

Medical and Dental Students

Special Classes for Pre-Medical and Dental Exams., Matric., and Prelims.

Chemistry, Physics and Biology Labs.

MANCHESTER TUTORIAL COLLEGE

327 Oxford Road, Manchester.

F.R.C.S. (Edin.)

CLASSES with Museum and Anatomical Demonstrations for next Exam. will commence shortly. Correspondence work at any time. Particulars from CHAS. WHITTAKER, F.R.C.S., Surgeons' Hall, Edinburgh.

Preliminary Examinations

The COLLEGE OF PRECEPTORS holds Preliminary Examinations for Medical and Dental Students in London and at Provincial Centres in March, June, September and December. For Regulations apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.1.

Victoria Hospital, Burnley

(120 Beds.)

TWO HOUSE SURGEONS (Male).

Applications are invited for the above posts which become vacant on January 1st next. The appointments are for six months in the first instance and carry a salary of £150 per annum with board, etc. This Hospital is approved by the London University for the purpose of the M.B. and M.S. examinations.

Applications, giving full details of qualifications and experience and accompanied by testimonials, should be addressed to the undersigned forthwith.

GEO. W. COOLING,
Nov. 28th, 1930. Secretary, Supt.

Wrexham & East Denbighshire War Memorial Hospital

(109 Beds.)

Two RESIDENT HOUSE SURGEONS required at above Hospital to commence on Feb. 1st. Appointments for a period of not less than six months. Salaries £150 per annum, with board and laundry.

Applications stating age, nationality, experience and qualifications, accompanied by copies of three recent testimonials, to be sent to the undersigned not later than Monday, January 12th, 1931.

LESLIE SPENCER,
December 16th, 1930. Secretary.

The Sheffield Royal Hospital

Required OPHTHALMIC HOUSE SURGEON also RESIDENT ANAESTHETIST to commence duties at once (males). Salary for the first six months at the rate of £80 per annum, after which £100 per annum, with board, residence and laundry. There are twelve Resident Medical Officers.

Applications should be forwarded at once to—

W. H. BOOTH,
Superintendent and Secretary.

Harlow Wood Orthopaedic Hospital

near MANSFIELD, NOTTS.

Applications are invited for the post of RESIDENT SURGICAL OFFICER. The appointment will be for twelve months in the first instance at a salary of £275 with board, residence and laundry. The selected candidate will be eligible for re-election for a further period of a year at the salary of £300. Applicants should have had surgical experience and preferably some special experience of Orthopaedic Surgery. The Hospital is a central Orthopaedic Hospital treating both children and adults and serving a large area in the East Midlands.

The duties which include assistance at the associated Out-patient Clinics will commence on March 1st, 1931.

Applications stating age and qualifications with copies of recent testimonials should reach the Secretary on or before Monday, January 19th, 1931.

The Royal Infirmary, Sheffield

(500 Beds.)

The Weekly Board of Management invite applications for the undermentioned posts:

HOUSE PHYSICIAN.
HOUSE SURGEON.
ASSISTANT AURAL AND OPHTHALMIC HOUSE SURGEON.
ASSISTANT CASUALTY OFFICER.

The appointments will be tenable for six months from January 1st, 1931. The salary attached to each post is £80 per annum rising after six months' service to £100 per annum together with board and residence.

Applications together with copies of testimonials to be sent to the undersigned immediately.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. & Secretary.
November 27th, 1930.

The Royal Infirmary, Sheffield

(500 Beds.)

The Weekly Board of Management invite applications for the post of OPHTHALMIC HOUSE SURGEON.

The salary attached to the appointment is at the rate of £80 per annum for the first six months and £100 per annum afterwards.

There are 68 ophthalmic beds and the post offers exceptional opportunities of gaining experience in Ophthalmology.

Applications with copies of testimonials to be sent to the undersigned forthwith.

JNO. W. BARNES, F.C.I.S.,
Board Room, Gen. Supt. and
November 17th, 1930. Secretary.

Darlington General Hospital

(120 Beds.)

Wanted HOUSE SURGEON male or female fully qualified British. Salary £150 per annum with board, residence and laundry. Special Departments—Eye, Ear, Nose and Throat, Orthopaedic, Maternity, Ultra-violet rays. Applications, stating age, experience, qualifications together with copies of two recent testimonials to be addressed to me forthwith.

A. RIDDLE, Secretary.

Warneford General Hospital,

LEAMINGTON SPA.

RESIDENT HOUSE PHYSICIAN required. Salary at the rate of £165 per annum, with board and laundry. Applications and copies of testimonials from qualified and registered Medical Practitioners should reach the undersigned not later than January 18th, 1931.

W. RUSSELL RUDALL,
House Governor & Secretary.

Warneford General Hospital,

LEAMINGTON SPA.

RESIDENT HOUSE SURGEON required. Salary at the rate of £165 per annum with board and laundry. Applications and copies of testimonials should reach the undersigned not later than January 18th, 1931.

W. RUSSELL RUDALL,
House Governor & Secretary.

The General Hospital,

BIRMINGHAM.

Applications are invited for the following Resident appointments from January 15th, 1931:

RESIDENT ANAESTHETIST. Salary £120 per annum.
One HOUSE PHYSICIAN. Salary £70 per annum.
Two HOUSE SURGEONS. Salary £70 per annum.

Applications giving full details of qualifications and accompanied by testimonials (if desired) should reach the undersigned by January 3rd, 1931.

A. H. EVANS,
House Governor.

Hull Royal Infirmary

SUTTON BRANCH.

The above Branch will be opened in February next and will be a self-contained modern General Hospital of 100 beds. There will be Two Resident posts.

Applications are now invited for the post of HOUSE PHYSICIAN (male) at a salary of £160 per annum plus board, residence and laundry. The appointment will be for six months in the first instance and will be terminable by one month's notice on either side.

Applications stating age, qualifications and nationality, and with copies of testimonials, should be sent to the undersigned.

J. J. CARLESS,
November 22nd, 1930. House Governor.

Chesterfield & North Derbyshire Royal Hospital

(190 Surgical and Medical Beds.)

HOUSE SURGEONS.

Applications are invited from fully qualified men for the above posts.

The appointments are for six months.

Salary from £100 to £175 per annum, according to experience, with board, apartments, and laundry.

Applications stating age, together with copies of three recent testimonials, should be sent to the undersigned on or before the 31st instant.

C. SUNNUCK,
December 15th, 1930. Supt. & Secretary.

Weston-super-Mare General Hospital

(80 Beds.)

HOUSE SURGEON.

Applications are invited for the post of Resident House Surgeon at this Hospital for a period of six months. Salary at the rate of £150 per annum with board, rooms and laundry. Duties to commence January 1st next.

Applications, stating age and qualifications, and enclosing copies of testimonials, should be addressed to the undersigned.

LESLIE J. FURSLAND,
Secretary.

Hospital of St. John and St. Elizabeth

60, Grove End Road, N.W.8.

Applications are invited for the post of RADIOLOGIST. Applications with copies of three recent testimonials should be sent to the undersigned at the Hospital on or before 30th inst. Further particulars may be obtained from the Secretary.

F. DUDLEY HOBBS, B.A.,
Secretary.

Hospital of St. John and St. Elizabeth,

60, Grove End Road, N.W.8.

There is a vacancy for a GYNAECOLOGICAL SURGEON with charge of beds. Applications, with copies of three recent testimonials, should be sent to the undersigned at the Hospital on or before Tuesday, 30th inst. All further particulars may be obtained from the Secretary.

F. DUDLEY HOBBS, B.A.,
Secretary.

APPOINTMENTS—Important Notice.

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1 (in the case of Scottish appointments with the Scottish Medical Secretary 7 Drumsheugh Gardens Edinburgh)

(a) British Islands

Town or District.	Town or District.	Town or District.
CONTRACT PRACTICE.	**CONTRACT PRACTICE** *(contd.)*	**PUBLIC HEALTH**
EBBW VALE, MON. *(Workmen's Medical Society)*	MERTHYR VALE COLLIERY WORKMEN'S MEDICAL COMMITTEE. *(Workmen's Medical Scheme)*	CORNWALL EDUCATION COMMITTEE. *(Assistant School Medical Officer—Female)*
GILFACH GOCH, GLAMORGAN. *(Workmen's Medical Scheme)*	NEATH AND DISTRICT *(Medical Aid Association)*	PLYMOUTH EDUCATION AUTHORITY *(Deputy Assistant Medical Officer)*
LOWESTOFT MEDICAL INSTITUTE. *(Male Medical Officer)*	OAKDALE, MON. *(Medical Officer for Medical Aid Association)*	STIRLING ROYAL BURGH. *(Medical Officer of Health.)*
LLWYNYPIA, CLYDACH VALE, TYNYCLAIC, GLAMORGAN. *(Workmen's Medical Scheme)*	OGMORE VALLEY, GLAMORGAN. *(Bryndu'r Colliery Medical Aid Society)* *(Workmen's Medical Scheme)*	YORKSHIRE NORTH RIDING EDUCATION COMMITTEE. *(Assistant School Medical Officer)*
MARDY, GLAMORGAN. *(Workmen's Medical Scheme)*		

(b) Overseas

Medical Practitioners are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Division or Branch named in the second column or with the Medical Secretary of the British Medical Association B.M.A. House Tavistock Square W.C.1

Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.	Town or District.	Hon. Sec. of Division or Branch.
NEW SOUTH WALES *(All Friendly Society Appointments)*	Dr. R. H. TODD (Hon. Sec. New South Wales Branch, Savings Bank Building, 21 Elizabeth St. Sydney, N.S.W.	**SOUTH AUSTRALIA.** *(Lodge Appointments)*	Secretary South Australian Branch B.M.A. House, 20th North Terrace, Adelaide.	**WELLINGTON, NEW ZEALAND** *(Contract Practice Appointments)*	Dr. G. F. V. ANSON (Hon. Sec., New Zealand Branch, British Medical Association, P.O. Box 155, Wellington, New Zealand.
QUEENSLAND *(Brisbane Associated Friendly Societies Institute)*	The Hon. Sec. Queensland Branch) British Medical Association, B.M.A. Building, Adelaide St. Brisbane.	**VICTORIA.** *(All Institute or Medical Dispensaries)*	Dr. J. P. Major (Hon. Sec. Victorian Branch) British Medical Association, Medical Society Hall, East Melbourne, Victoria.	**WESTERN AUSTRALIA.** *(Contract and Lodge Practices)*	Hon. Sec., Western Australian Branch, British Medical Association, No. 6 Bank of N.S.W. Chambers, St. Georges Terr., Perth, Western Australia.

December 22nd 1930 By Order of the Council ALFRED COX, Medical Secretary

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The Hospital for Sick Children,
Great Ormond Street, London, W.C.1

A PART-TIME JUNIOR CASUALTY OFFICER is required on January 9th 1931 to assist in the Casualty Department from 10 a.m. to 3 p.m. (Saturdays 10 a.m. to 1 p.m.) under the direction of the Casualty Officer.

The work of this officer includes a large number of Tonsillectomies and other minor operations.

Candidates must be registered Medical Practitioners and have held a responsible Hospital appointment.

Gentlemen are invited to send in their applications addressed to the Secretary before 12 o'clock on Monday, January 5th 1931 accompanied by copies of not more than three testimonials written specially for the purpose.

The appointment is made for six months and is non-resident.

Salary at the rate of £150 per annum with luncheon.

All candidates must be in attendance to appear before the Joint Committee if required at the meeting on Wednesday, January 7th, 1931 at 4.45 p.m. precisely.

Forms of application and copies of the Rules may be obtained from the Secretary at the Hospital.

By order of the Board of Management.
JAMES MCKAY, Secretary.

December 1930.

Swansea County Borough

LADY ASSISTANT MEDICAL OFFICER.

The Swansea Borough Council invite applications from [illegible] and experienced Women Medical Practitioners (unmarried) for the post of Assistant Medical Officer to assist with the medical services of the Corporation Hospital. Resident and special experience in diseases of women (ante-natal and obstetrics) and young children, medical service work are desirable qualifications. Salary £600 per annum, rising by annual increments of £30 to £700 per annum. Forms of application and list of duties can be obtained from Dr. THOMAS EVANS, Medical Officer of Health, Public Health Office, Swansea. Applications must be received not later than January 2nd 1931.

National Hospital, Queen Sq.,
For the Relief and Cure of Diseases of the Nervous System, including Paralysis and Epilepsy.

HONORARY ASSISTANT SURGEON.

The Board of Management invite applications from Fellows of the Royal College of Surgeons for the post of Honorary Assistant Surgeon.

Applications should be sent to the undersigned on or before January 5th 1931. The rules of the appointment will be forwarded on request.

GODFREY H. HAMILTON,
National Hospital, Queen Sq., London, W.C.1. Secretary.

National Hospital, Queen Sq.,
For the Relief and Cure of Diseases of the Nervous System, including Paralysis and Epilepsy.

HONORARY SURGICAL ASSISTANT.

The Board of Management invite applications from Fellows of the Royal College of Surgeons for the appointment of Honorary Surgical Assistant. The post is tenable for one year and the holder is eligible for re-election for a second year.

Applications should be sent to the undersigned on or before January 5th 1931. The rules of the appointment will be forwarded on request.

GODFREY H. HAMILTON,
National Hospital, Queen Square, London, W.C.1. Secretary.

General Hospital, Nottingham

Wanted, A HOUSE SURGEON. Appointment for six month. Salary at the rate of £150 a year with board, residence and laundry. Applications stating age, qualification and experience, together with copies of testimonials to be sent to the undersigned not later than Monday, January 5th 1931. Duties to commence on or about January 13th 1931.

PETER M. MacCOLL,
House Governor & Secretary.

Swansea Hospital
(316 Beds.)

SENIOR RESIDENT OFFICER wanted gentleman, single, experienced. Duties to include that of House Surgeon to the Honorary Gynaecologist.

Salary £300 per annum, rising by annual increment of £50 to £500 per annum, with board, residence and laundry.

Application, stating age, nationality, qualification and experience, together with copies of three recent testimonials to be forwarded at the undersigned.

O. C. HOWELLS, Secretary.

West Suffolk General Hospital,
BURY ST. EDMUNDS (108 Beds.)

JUNIOR RESIDENT MEDICAL OFFICER required on January 1st, 1931. Salary £150 *per annum with board, residence and laundry.*

Applicants must be fully qualified and registered.

Applications giving particulars and experience and enclosing copies of three recent testimonials to be sent to the undersigned.

E. E. HARDWICKE, Secretary.

December 15th 1930.

The Jessop Hospital for Women,
SHEFFIELD (145 Beds.)
Gynaecological and Maternity Departments.

The Board of Management [illegible] applications for the appointment of [illegible] HOUSE SURGEONS (male) for six months from January 15th 1931.

Salary £100 per annum, [illegible] board, residence and laundry.

Applications stating age, [illegible] with copies of recent testimonials, to be addressed to the undersigned not later than January 5th 1931.

H. B. SHELSTWELL, Secretary.

Junior House Surgeon
required for PETER INFIRMARY (male). Salary £150 with board and residence. Applications, with testimonials, to be addressed to the Medical Committee, 2, Clement's Inn, Strand, London, not later than December 31.

(Appointments continued on p. 41)

British Medical Journal,
BRITISH MEDICAL ASSOCIATION HOUSE,
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Wanted —Assistant of experience to manage Branch Surgery in West Wales Experienced in Minor Surgery and Midwifery Little night work Salary £325 indoor, or £425 outdoor —Address No 8652 B.M.A House, Tavistock Square, W.C.1

Wanted immediately — Indoor *and Outdoor* ASSISTANTS (male) for Town and Country Practices with and without view Good salaries State full particulars — BRITISH MEDICAL BUREAU 33, *Cross* Street Manchester

Wanted — Outdoor Assistant in a Market Town within 40 miles of London Young unmarried Salary according to experience — Address No 8563 B.M.A House Tavistock Square W.C.1

Male Assistant wanted, South-West London Branch Surgery Live in State essential particulars —Address No 8656 B.M.A House Tavistock Square W.C.1

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MEDICAL POSTS DISPENSERS etc.

A Lady Dispenser-Bookkeeper supplied immediately on request, qualified and with practical experience in private practice and dispensary work, also trained in Bacteriological Laboratories of the LONDON COLLEGE OF PHARMACY FOR WOMEN Preparation for Examinations —Write wire, or phone (Park 0969) Secretary 7, Westbourne Park Road W.2

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Doctor recommends Secretary-RECEPTIONIST 2½ years experience Capable shorthand typist and bookkeeper Aged 22 Educated abroad Can drive car Free January — Address No 8654, B.M.A House, Tavistock Square W.C.1

Doctors requiring qualified Dispensers, Nurse-Dispensers Secretary Dispensers or Chauffeuse Dispensers, are invited to write wire, or phone Temple Bar 5858 THE DISPENSERS BUREAU, 15, Lindsay House, 171 Shaftesbury Avenue, London W.C.2

First Division Football League CLUB require MASSEUR None but fully qualified applicants need apply Opportunity will be given to work private practice in conjunction Applications stating age experience and wages required —Address No 8657, B.M.A House, Tavistock Square W.C.1

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Lancs Town — Partnership (half share), view to succession in 2/3 years Approx cash receipts £1 200 p.a. Panel 1,500 Splendid opportunity for young man — BRITISH MEDICAL BUREAU 33 Cross Street Manchester

Midlands, near Large City — PARTNERSHIP or ASSISTANT with view, in a Practice of £2 200 p.a., increasing Panel 2,400 1/3 share at 2 years purchase —Address No 8558, B.M.A House Tavistock Square, W.C.1

M.R.C.S., aged 26, desires PARTNERSHIP or ASSISTANTSHIP with view Share £1 000—£1 500 Ex H.S. R.M.O. Experience general practice anaesth, and surgery —Address No 8651, B.M.A *House, Tavistock* Square W.C.1

Yorkshire (W.R.) — Partnership in good Practice Income £4 2.. p.a. Panel 2841 *Good house to rent at £5* p.a. Premium—1/4 share—£1 150 for quick sale —BRITISH MEDICAL BUREAU, 33, Cross Street, Manchester

PRACTICES

Wanted —Practice, with panel 500 to 1 000 with *good house to rent* or buy in residential district within 12 miles of Charing Cross N. or N.W. preferred but *not essential Advertiser is private* but is willing to negotiate direct with Vendor or through agents — Address No 8655 B.M.A House *Tavistock Square*, W.C.1

Wanted — London preferred, a mixed PRACTICE in middle-class locality, with medium sized house with garden and garage *Would purchase if necessary* Receipts £1 500 up Panel 1 000 up Ample capital available —Write THE MEDICAL AGENCY, *Watergate House* Adelphi, W.C.2

Death Vacancy in prosperous important City near Birmingham —Good class general PRACTICE with opportunity of Surgery Averaging £1,140 a year Good house, moderate rental or purchase Excellent prospect for well qualified purchaser Premium 1 year's purchase —Address No 8665 B.M.A. House, Tavistock Square W.C.1

Death Vacancy —Lancs Town — Average cash receipts £848 p.a. Panel 1,005 Scope Excellent house, 2 reception 4 bedrooms Garage and large garden Rent £65 p.a. Premium 1 year's purchase— BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester

Eastern Suburb —Old-established cash and panel PRACTICE. Receipts average £880 p.a. Nice house to rent £75 p.a. Premium £1 250, part by arrangement— Apply PEACOCK & HADLEY, Ltd 19 Craven Street Strand W.C.2

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Invalid Doctor offers immediately small panel, private PRACTICE, 14 miles London Estab 11 years Quick development by energetic successor *House* £65 Small prem Strictest confid desired Exc opening lady —No 8658, B.M.A House, Tavistock Sq., W.C.1

Isle of Man — Seaside Town — Old-established PRACTICE. Receipts average £946 (including £350 p.a. from panel). Semi-detached house; 3 reception, 4 bedrooms; Garden; Good school. Premium—Practice and house (freehold)—£1,000, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown Street.

Lancs — Unopposed Practice in lively country Nine hours. 8 rooms. Bath, garden, garage. Receipts over £500 much scope. Applications £150. Price—Practice and house (freehold)—£1,000, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown Street.

London, S.E.—Residential part.—Old-established non-panel PRACTICE. Held 36 years by Vendor now retiring. Receipts average £1,000 p.a. Good-sized house. Rent £110. Scope for panel if desired. Premium moderate.—Apply PEACOCK & HADLEY, Ltd., 19 Cranbourn Street, Strand, W.C.2.

Manchester — Industrial Practice.—Average cash receipts £978. Panel 721. Plenty of scope. Good house, 2 reception, 5 bedrooms. Rent £50 p.a. Premium 1½ years' purchase.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

Norfolk — Large Town — Quarter Share of old-established non-panel PRACTICE. Total receipts £4,500 p.a. Rooms available for Partner. Premium for share 2 years' purchase.—Apply PEACOCK & HADLEY, Ltd., 19 Cranbourn Street, Strand, W.C.2.

North Wales — Country Town, over Sea. Cash receipts £700 p.a. Panel £300 p.a. Good detached house, garage and garden. Rent £65 p.a. Premium for quick sale. 1 years' purchase.—BRITISH MEDICAL BUREAU, 33 Cross St., Manchester.

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South Devon (not on coast) — Wanted in May 1931.—A small Country PRACTICE of about £600 p.a. by a middle-aged energetic Medical Man experienced in Hospital and general practice. A small house with 5 bedrooms, electric light, garden and garage.—Address No. 8381, B.M.A. House, Tavistock Square, W.C.1.

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Yorks — Old-established — Good house, large garden, garage, rent and rates. £150. Average receipts £1,210. Panel average over £300. Much scope. Transferable appointment £100. Price 1½ years' purchase, part deferred.—MANCHESTER MEDICAL & SCHOLASTIC ASSOCIATION, 6 Brown Street.

Yorkshire (W.R.) —Large City —Old-established mixed-class PRACTICE. Average cash receipts £1,778 p.a. Panel 800. Excellent corner house for sale. 2 reception, 4 bedrooms, garage, etc. Premium—Practice—1 years' purchase.—BRITISH MEDICAL BUREAU, 33 Cross Street, Manchester.

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Several good Second-hand Micro-SCOPES and OBJECTIVES by Ross, Zeiss, Watson, etc., to be cleared at very low prices. Details on application.—CITY SALE & EXCHANGE (1929) LTD., 93/4 Fleet Street, E.C.4.

X-Ray Set for Sale—Coil type with wall switchboard. Couch with protective box beneath, etc. All in good working order. Interrupter for 200 v. D.C. Complete with tubes £25 or near offer. Also Potter Bucky Diaphragm £25 or near.—Address No. 8464, B.M.A. House, Tavistock Sq., W.C.1.

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Hove (Sussex) — Eligible corner POSITION suitable for new or Branch Practice. House erected to meet requirement. Developing high-class residential district.—Particulars PTE, 11 Fitzwilliam St., Sheffield.

127, Harley Street —Large well-lit ground floor CONSULTING ROOM with excellent waiting accommodation and joint use of beautifully furnished waiting room. £300 per annum.—Apply the Secretary, Welbeck 7840.

Medical Surgical Sundries Ltd

Supply Instrument etc. Easeff Inhaling Apparatus price £12 10s (can be hired particulars on application). Write for price list of Tablets and Government surplus articles. Showroom 87 Swinderby Road, Wembley.

APPOINTMENTS—Contd.

The Otago Hospital Board,
DUNEDIN, NEW ZEALAND

Applications will be received by the undersigned until February 19th, 1931, for the position of RADIO-THERAPEUTIST, Dunedin Hospital, at a salary commencing at the rate of £1,000 per annum, rising by annual increments of £50 each to a maximum salary at the rate of £1,250 per annum, and £100 travelling allowance.

Full details of duties obtainable on application to the High Commissioner for New Zealand.

Otago Hospital Board, JOHN JACOBS,
Dunedin, New Zealand Secretary.
November 14th, 1930.

County Council of Middlesex

The County Council invites applications from duly qualified Medical Practitioners for the undermentioned appointments:

DISTRICT MEDICAL OFFICER,
TOTTENHAM (High Cross).

Salary £180 per annum. The officer appointed will be required to carry out his duties in accordance with the Public Assistance Order 1930 of the Minister of Health, to reside in the district and to name to the Council some duly qualified Medical Practitioner who will in the case of his absence or other hindrance to his personal attendance act in his place.

PUBLIC VACCINATOR,
TOTTENHAM (High Cross).

The person appointed will be required to produce to the Council a certificate of proficiency in vaccination unless such certificate was required as a condition of obtaining any diploma, licence or degree which he possesses.

He will be required also to enter into a contract with the Council in accordance with the Vaccination Order 1930 of the Minister of Health. The contract will provide for the payment of the minimum fees laid down in the Order.

Application, stating (1) name, (2) age, (3) qualifications and experience, accompanied by copies of not more than three recent testimonials, must be received by the undersigned not later than January 10th, 1931.

No special application forms are provided. Envelopes must be endorsed "District Medical Officer" or "Public Vaccinator," as the case may be.

Canvassing directly or indirectly will be a disqualification.

Guildhall, ERNEST S. W. HART,
Westminster, S.W.1 Clerk of the
December 18th, 1930. County Council.

The Royal Sea-Bathing Hospital
FOR SURGICAL TUBERCULOSIS,
MARGATE.

HOUSE SURGEON Required.

A Male House Surgeon is required to take up duties in January, 1931. The salary is at the rate of £200 per annum with board, residence, attendance and laundry.

Candidates for the post must be legally qualified and registered. The appointment is for six months.

There are 308 beds for adults and children which afford special opportunities for the study of surgical tuberculosis.

Application, stating age and previous appointments, with copies of three recent testimonials, should be sent to the Secretary, R.S.B.H. Offices, 15 York Buildings, Strand, London, W.C.2.

St. Paul's Hospital for Diseases
(INCLUDING CANCER) OF THE
GENITO-URINARY ORGANS AND SKIN,
Endell Street, London, W.C.2.

Applications are invited for the undermentioned [illegible]

HOUSE SURGEON (Vacancy from January 26th, 1931). Candidates must be duly registered. Salary at the rate of £150 per annum, with board and residence. The appointment is for a period of six months, terminating on which the holder [illegible] the position [illegible] Medical Officer in which capacity he will have charge of the Surgical Ward.

Applications, with copies of [illegible] testimonials, [illegible] January 26th, 1931, to the Chairman of the Medical Committee.

Walsall General Hospital

The Committee invite applications from men for the post of HOUSE SURGEON Salary £150 per annum Candidates who must be registered under the Medical Acts must produce three recent testimonials The appointment will be for six months The Hospital contains 100 beds and is equipped in all Special De partments

Applications stating age qualifications and nationality, must be received by the under signed immediately

WALTER FRANCOMBE
December 7th 1930 Secretary

Nottingham General Dispensary
(BRANCH)

Wanted RESIDENT LADY SURGEON Must have Medical and Surgical qualifications Salary £250 with £25 increase per year up to £300 Apartments (not board) attendance, lights and fuel This Institution is a non provident one No beds No midwifery Preference given to anyone experienced in Heliotherapy

Applications stating age and accompanied by recent testimonials, to be sent by January 14th 1931

5 Thurland St, Nottingham R. J WILLATT, Secretary

Liverpool Sanatorium,
DELAMERE FOREST FRODSHAM

The Committee invite applications for the post of ASSISTANT to the Medical Superin tendent at the Sanatorium (175 beds) at a salary of £250 per annum, with board and residence

Candidates must be fully qualified

Applications, with copies of three recent testimonials to be sent in sealed envelopes marked Medical not later than January 3rd 1931 to the Medical Superintendent, Liverpool Sanatorium Delamere Forest, Frod sham

The Children's Hospital,
SUNDERLAND (70 Beds)

Wanted immediately, HOUSE SURGEON (female) also HOUSE PHYSICIAN (female), at end of January Candidates must possess double qualifications (registered) Salary in each case £100 per annum, with board resi dence, and laundry The appointments are for six months

Applications stating age with copies of three recent testimonials to be sent to the under signed

S C FRYERS
House Governor & Secretary

Royal West Sussex Hospital,
CHICHESTER (111 Beds)

The Board of Management invite applications for the post of ASSISTANT HOUSE SURGEON, vacant about January 12th 1931

Salary £150 per annum with board, resi dence and laundry

Applications stating age, with three recent testimonials should be sent to the undersigned as soon as possible

HERBERT S AYLMORE,
Secretary

Wallasey Victoria Central
HOSPITAL, WALLASEY

Applications are invited for the position of JUNIOR HOUSE SURGEON (male) Salary at the rate of £100 per annum with board resi dence and laundry Candidates chosen would be appointed for six months Duties include Dispensary, Out patients and some Home Visiting

Applications with copies of recent testi monials to be sent to the Secretary not later than January 5th 1931

Hertford County Hospital

Applications are invited for the post of HON ORARY ASSISTANT SURGEON (A former Resident Surgical Officer will be an applicant)

Candidates should possess a degree in Surgery of a British University or the Fellow ship of one of the Royal Colleges of Surgeons

Applications together with copies of testi monials should be made by Monday, January 5th, 1931, to the undersigned

PERCY G BROOKS Secretary

Hertford County Hospital

Applications are invited for the post of HOUSE PHYSICIAN (male) Salary £150 per annum with board residence and laundry The appointment is for six months in the first instance

Applications with copies of three recent testimonials should be sent to the undersigned not later than Monday January 5th 1931

PERCY G BROOKS Secretary

Rural District Council of Castle
DONINGTON

APPOINTMENT OF MEDICAL OFFICER OF HEALTH

The Council invite applications from duly qualified persons for the appointment of a Medical Officer of Health for the District at a salary of £40 and an allowance of £25 per annum for travelling expenses.

The duties to be performed are those defined by the Sanitary Officers Order 1926, made by the Minister of Health, together with any other duties which may from time to time devolve on a Medical Officer of Health by virtue of any present or future Act of Parliament or Orders or Regulations of the Ministry of Health

The person appointed will be required to devote such time to the duties of the office as may be necessary to efficiently perform the same Applicants should hold a diploma in Sanitary Science Public Health or State Medicine or have not less than three years previous experience of the duties of a Medical Officer of Health

The appointment in the first instance will be made to March 31st next and thereafter subject to the directions of the Ministry of Health and the Council

The succe sful applicant will be required to commence his duties on or before February 13th, 1931

Applications stating full particulars as to age, qualifications etc to be sent on or before January 1st 1931 endorsed Medical Officer, to the undersigned

H MONTAGUE CLIFFORD
Market Place Clerk to the Council
Castle Donington,
near Derby December 11th, 1930

Royal Sussex County Hospital,
BRIGHTON (238 Beds)

HOUSE SURGEON (male) required February 1st 1931 with charge of beds part casualties and anaesthetics Salary £150 per annum with board residence and laundry

Candidates must hold Medical and Surgical qualifications of the British Empire and be duly registered under the Medical Acts They must be unmarried, and when elected under 30 years of age

Applications with copies of testimonials should reach the undersigned not later than January 19th 1931

L L W LANCASTER CAVE
Secretary Superintendent

David Lewis Northern Hospital,
LIVERPOOL

The Committee invite applications for the undermentioned posts

(a) HONORARY MEDICAL OFFICER in Charge of Ear Nose, and Throat Departments

(b) HONORARY MEDICAL OFFICER in Charge of Dermatological Department

Applications together with copies of testi monials, should be sent to the undersigned on or before Saturday January 31st 1931

THORNBURROW GIBSON M A
Secretary Superintendent

Greenock Royal Infirmary

Wanted a HOUSE PHYSICIAN (lady), for February 1st, 1931 Salary £100 p a includ ing board, residence and laundry Other two Residents on staff 150 beds Good experience

Applications invited with testimonials, to be sent to the Secretary, 2, Hamilton Street Greenock.

JAS A LOVE Secretary

Eccles & Patricroft Hospital,
near MANCHESTER
(General Hospital—60 Beds)

Applications are invited for the positions of RESIDENTS (2) Salary £175, plus usual Address Secretary as above

Lowestoft and North Suffolk
HOSPITAL LOWESTOFT

JUNIOR HOUSE SURGEON (male) required Salary £120 per annum with board residence, and laundry Duties to commence in January Applications together with copies of three recent testimonials to be sent to the Honorary Medical Superintendent.

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LONDON W 10.—Cash and Panel PRACTICE, situated in middle and working-class locality Suitable accommodation available for rent at £76 p.a. inclusive Fees 2/6 up Midwifery 2 gns up Jan 1 300 Book audited Receipts £385 Premium £600

GLOS.—Mixed Town PRACTICE Receipts over £1 800 p.a. Panel 2 146 Fees 2/6 up Three Hospitals Good school Scope for increase Alternative accommodation available Premium for Practice £3 640 or near offer Partnership considered

LONDON E.13.—NUCLEUS working-class PRACTICE (mostly cash) situated in thickly populated locality House to rent at £60 p.a. (part sublet at £26 p.a.) Receipts approximately £350 Panel 400 Fees 1/6 up Mid 2—3 gns Premium £400

MIDDLESEX (WEST).—NUCLEUS *middle and working-class* PRACTICE (mostly cash) situated in growing locality within 10 miles of London Receipts for 9½ months £240 Panel 30 Fees 2/6 up Premium £450 or near offer to include fixtures fittings etc. *Excellent scope*

SURREY (near Windsor).—Well-established middle-class PRACTICE. Double-fronted detached house with charming garden to rent on lease at £120 p.a. or may be purchased freehold. Receipts over £700 p.a. Panel 220 Fees 2/6 up Cottage Hospital. Good social life Good school Premium for Practice £900

ESSEX.—Middle-class General PRACTICE situated in well populated *locality* Receipts over £1 000 p.a. Panel approximately 1 200 Suitable house available Fees 2/6 up Excellent scope Premium £1.500

DEVON (SOUTH).—PARTNERSHIP in Country Town Practice Suitable house available Receipts nearly £3.500 Panel 2.252. *Fees 3 up Several appointments* Hospital Scope for surgery Good school Premium for 1/3 share £2.030 Terms considered to the right man

LONDON E.—Well-established PRACTICE in middle-class residential locality Corner house to rent on lease (4 bedrooms) garden *garage etc Receipts* just over £800 Book audited Panel 718 Fees 2 up Premium £1 250

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6. DERBYS (Country Town).—PARTNERSHIP 2/5 share with short preliminary assistantship and ultimate Succession Receipts average £1 146 p.a. Panel 550 and good scope Appointment worth about £250 Good fees and hou
7. LANCASHIRE.—*Old estab.* Panel and Industrial PRACTICE. *Receipts* £2 242 and increasing Panel 1 450 Appointments worth about £95 Good house to rent.
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1 DEATH VACANCY —Staffs —Practice of over £1 100 p a in manufacturing town No panel or midwifery Semi detached 8 roomed house, with garage for sale or rent Scope for great increase

2 EAST ANGLIA —Partnership in unopposed country Practice about £3 500 p a easy distance of important town Panel about 2 300 Beautiful house (4 bedrooms) garage and nearly two acres garden to rent Sport One third share at 2 years purchase

3 LONDON, W —Good-class non-dispensing PRACTICE of nearly £1 600 p a in the West End No panel or appointments Rent of consulting rooms £200 p a on lease Good introduction Premium 1½ years purchase.

4 EAST ANGLIA — Partnership in good-class non panel Practice averaging £4 450 p a in first-rate county town Good opportunity for first-class man inclined towards medicine who should ultimately get on the staff of Hospital One fourth share at first at 2 years' purchase Preliminary Assistantship

5 LONDON, W — Small good-class non-dispensing PRACTICE of about £450 p a in West Kensington Small select panel No midwifery or night work Very good residence for sale Great scope Premium £500

6 SOUTH MIDLANDS — Partnership in increasing Practice in rapidly growing residential district Suitable house to rent Incoming Partner should be aged about 30 and hold a University degree Share worth about £500 p a at 2 years purchase

7 W OF ENGLAND — Small increasing PRACTICE doing over £400 p a in Cathedral City Panel 570 Semi detached house (4/5 bedrooms) garage and garden for sale Good scope Premium £500

8 MIDDLESEX —Steadily increasing PRACTICE about £800 p a in growing district Panel 600 Very good hous (4 bed and dressing rooms) with garage and excellent garden for sale Ample scope Premium £900

9 LIVERPOOL — Increasing middle and working class Practice Receipts last year nearly £1 100 Panel 900 Well situated house (3 bedrooms and large attic) for sale or rent Good scope Premium £1 000

10 EASTERN COUNTIES —Practice of about £2 400 p a in small country town Panel 1,400 Detached house (7 bed and dressing rooms) garage, and garden, for sale Cottage Hospital Premium 1½ years purchase

11 LONDON, W — Partnership in Practice about £2 000 p a in suburban area Panel about 1 650 Well situated house (6 bedrooms), garage and small garden, to rent Scope Premium two-fifth share 2 years purchase

12 OXON —Partnership in country Practice nearly £1 600 p a in delightful district Panel 850 Suitable house could be obtained Premium for one third share 2 years purchase

13 KENT AND SURREY BORDERS — PRACTICE about £800 p a in growing and pleasant residential district Choice of residence for sale Good scope Prem. £1,200

14 W OF ENGLAND —Practice of about £270 p a in good residential part of first rate town No panel Well situated house (4 bed and 3 attics), garage and garden, for sale Plenty of scope Premium £200

15 EASTERN COUNTIES —Country Practice nearly £1 200 p a, easy reach of two good towns Panel 759 Small house (5 bedrooms) garage, and garden, to rent Premium 1½ years purchase

6 MIDLANDS —Practice, over £1,700 p a, in important city Panel 1 570 Centrally situated house (7 bed and dressing rooms) with garage and garden for sale Scope for increase Premium £2 250

17 CHESHIRE — Chiefly non-dispensing PRACTICE of nearly £500 p a in residential town Panel 100 New semi detached double fronted house (4 bedrooms) for sale Scope for considerable increase Premium £500

18 MIDLANDS —Practice of about £350 p a in manufacturing town Panel 350 House contains 5 bedrooms, etc Rent £42 p a Scope for increase Premium £350

19 LONDON, E — Cash and Panel Practice (held by Medical Woman) in densely populated area Receipts £360 p a Panel 290 Small house to rent Premium £450

20 HOME COUNTIES —Partnership in Practice over £7 000 p a in progressive town within 20 miles of London Panel about 2 000 Partner required for new developing district where suitable house could be purchased Good Hospital and scope for surgery Graduate or preferably F R C S required Share £800/£1 000 at 2 years purchase

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Practices and Partnerships for Disposal (continued)

21 MIDLANDS.—Partnership in Practice of between £1,800/£2,000 p.a. in a beautiful district in a hunting centre. Panel about 1,000. Good house with 5 bed and dressing rooms, garage and one acre garden for sale. Smaller one might be exchanged. Premium one-third share 2 years' purchase. Public School or University man preferred.

22 SCOTLAND.—Sound well-established Practice of £1,800 p.a. in attractive district near distance of Aberdeen. Panel 1,100. Well-built house (5 bedrooms), large garage and acre of garden for sale. Salmon fishing and other sport. Premium 1½ years' purchase.

23 S. COAST.—Partnership in good mixed non-dispensing Practice averaging £1,635 p.a. in Health Resort. Panel nearly 900. Excellent situated house (6 bedrooms) in rapidly growing part to rent. Partner should not be over 40 years of age. Premium one-third share 2 years' purchase.

24 N. WALES.—Country Practice of £1,230 p.a. in Welsh-speaking district. Panel about 550. Convenient and well-situated house with electric light, etc., for sale. All kinds of sport. Premium for a quick sale 1 year's purchase or even slightly less.

25 S. COAST.—Partnership (after preliminary Assistantship) in well-established Practice in Seaside Resort. Share worth £700 p.a., offering good scope to a suitable man (unmarried preferred) after six months.

26 S. OF ENGLAND.—Practice averaging about £900 p.a. in Sporting Town. Small panel. Semi-detached house (5 bedrooms) for sale. Great scope for increase. Premium 1½ years' purchase.

27 ISLE OF MAN.—Non-dispensing Practice in small Seaside Town. Receipts average £946 (in reading £550 from panel). Nice compact house (5 bedrooms) with garden for sale. Sport. Premium £1,200.

28 KENT.—Partnership in Practice about £4,000 p.a. in outlying suburban district. Panel 2,400. Good House (7 bedrooms) to rent. Premium one-fourth share 2 years' purchase.

29 NOTTINGHAMSHIRE.—Country Practice of nearly £1,100 p.a. Panel 700. Good house (6 bedrooms), garage and 1½ acres garden to rent. Great scope. Premium 1½ years' purchase.

30 HOME COUNTY.—Partnership in non-dispensing Practice £3,200 p.a. in first-rate residential town under 30 miles from London. Panel over 4,000. Detached house (6 bedrooms) with large garden to rent. Partner should be aged 30—40 and experienced in anæsthetics. Two-fifths share at 2 years' purchase.

31 SURREY.—Partnership in good mixed-class Practice about £3,000 p.a. in Town within 10 miles South of London. Small panel. Suitable house obtainable. Excellent scope. Premium one-third or one-half share 2 years' purchase.

32 S. DEVON.—Practice nearly £950 p.a. in small country town easy distance of the coast. Panel 340. Good house and garage, 10 acres of garden for sale. All kinds of sport. Premium £1,500.

33 LONDON, S.E.—Partnership in Practice £6,000 p.a. in outlying suburban district. Panel 2,000. Premium one-sixth share 2 years' purchase.

34 NURSING HOME in fashionable Inland Health Resort. Receipts over £5,000 (net profit between £600—£700). Premises rented on lease. Premium £1,000 or near offer. Furniture, etc., at valuation.

35 LONDON E.C.—Partnership (with Succession) in steadily increasing Practice of about £1,200 p.a. in the City. Majority of consultations £1 1s. Excellent consulting room. Premium one-half share 2 years' purchase.

36 MIDLANDS.—Compact middle-aged working PRACTICE nearly £2,200 p.a. in manufacturing town. Panel over 2,500. Ten-roomed house (with surgery accommodation) to rent at premium £3,500.

37 YORKSHIRE (W.R.).—Compact easily worked PRACTICE averaging £1,600 p.a. in manufacturing town. Panel over 1,500. Splendidly situated house (4 bedrooms) for sale. Premium 1 year purchase.

38 EAST COAST.—Partnership in non-panel Practice in favourite watering-place. Partner should be young and with Hospital experience. Share of about £1,000 p.a. at 2 years' purchase. Preliminary Assistantship.

39 KENT.—Practice of £1,200 p.a. in residential outlying suburban district. Fair panel. Corner house (7 bed and dressing rooms) with large garage and garden for sale. Scope. Premium 1½ years' purchase.

40 CORNWALL.—Partnership in Country Practice on Coast. Convenient house (6 bedrooms) with good garden for sale. Share of about £1,200 p.a. at 1½ years' purchase.

41 EASTERN COUNTIES.—Good-class Practice of £1,545 p.a. in famous Country Town. Panel 350. House contains 5 bedrooms, etc., and would be sold or let. Good society and sport. Considerable scope. Premium 1½ years' purchase.

42 LONDON, S.E.—Practice averaging over £1,700 p.a. in outlying residential suburb. Small panel. Good and well-situated house (6 bedrooms) with small garden for sale. Premium—Practice—1½ years' purchase.

43 KENT.—Country Practice about £650 p.a. in beautiful district. Panel about 700. No house but surgery and waiting room to rent. Capable of much increase. Moderate premium.

44 W. MIDLANDS.—Partnership in Practice about £2,700 p.a. in Market Town. Panel about 800. One-third or one-half share at 2 years' purchase. Partner must be well qualified and experienced in General Practice. Preliminary Assistantship.

45 W. OF ENGLAND.—*Partnership in Practice* over £3,000 p.a. in pleasant Country Town under 130 miles from London. Young keen Partner preferably with the F.R.C.S., who has held Hospital appointments. Premium for a two-fifths or one-half share 2 years' purchase.

46 MIDLANDS.—Partnership in Practice nearly £1,900 p.a. in good Town. Panel 1,100. Suitable house. Plenty of sport. Partner must be Public School or Oxford or Cambridge man. Prospect of Hospital appointment. One-half share at 2 years' purchase with ultimate succession.

47 MIDDLESEX.—Partnership in Practice nearly £3,500 p.a. in rapidly growing residential town under 20 miles from London. Panel about 1,150. Semi-detached corner residence (6 bedrooms), garage and garden for sale. Premium one-half share 2 years' purchase.

48 WITHIN 50 MILES OF LONDON.—PARTNERSHIP in Practice averaging over £3,500 p.a. in first-rate county town. Panel over 1,100. Good house (7 bed and dressing rooms) to purchase or rent. One-third share at 2 years' purchase. Partner should be aged 28-35 and have held H.S. and H.P. appointments. Preliminary assistantship.

49 CHESHIRE.—Partnership in increasing better-class non-panel Practice over £4,500 p.a. in first-rate residential district. One-fourth share at 2 years' purchase. Partner should be University Graduate who must have held Resident appointments.

50 LANCASHIRE.—Increasing Practice in rapidly growing district close to sea and within few miles of popular resort. Present last year nearly £1,250. Panel 250. Very nice compact house (4 bedrooms), garage and garden for sale. Golf. Premium £1,000.

51 S. DEVON.—Partnership in Country Practice about £1,500 p.a. in beautiful part easy distance of coast. Panel over 950. House containing 5,6 bedrooms, etc. Premium one-half share £1,500 to include drugs, etc. Work very light.

52 S. MIDLANDS.—Practice averaging over £1,200 p.a. in Market Town. Panel over 900. Pleasantly situated house (5 bed and dressing rooms and attics), garage and half-acre of garden for sale. Scope. Premium 1½ years' purchase.

53 SURREY.—*Steadily increasing Practice* averaging £1,335 p.a. in a first-rate Country Town. Panel nearly 1,300. Large attractive old-fashioned House (7 bedrooms) for sale or rent. Cottage Hospital. Premium 1½ years' purchase.

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1 WITHIN 100 MILES OF LONDON (NORTH)—PARTNERSHIP—The two-sevenths share (with option to third and eventually half) producing about £1 000 p a is offered in very old established Practice averaging about £3 500 p a including panel of 2 500 Situated in pleasant town with pop of 2 000 Ingoing partner should be unmarried (about 25 to 30) until suitable house available Premium 2 years purchase Short preliminary assistantship

2 WEST MIDLANDS—Within seven miles of County Town—Old established unopposed Country PRACTICE in pretty district averaging nearly £2 400 p a including appt over £100 and panel upwards of 1 000 Railway station Very nice house and garden, with tennis court Price (copyhold) £1,000 £500 on mortgage Premium 1½ years purchase payable as arranged Sport of all kinds and exceptionally good educational facilities

3 WITHIN FIFTY MILES OF LONDON—Old established chiefly better class PRACTICE situated in very good residential district Cross cash receipts for past 12 months approximately £2 000 with panel producing about £340 p a Fees 5/ to 21/ Exceptionally nice house in own grounds with 3 reception 5 bedrooms, etc Freehold for sale Premium £3 000

4 PARTNERSHIP—SURREY—Attractive residential district within 40 miles A one half share with ultimate succession, is offered in a good mixed Practice averaging about £1,500 p a but capable of large increase. Panel of over 1 000 Fees 3/6 to 21/ Suitable house with 3 reception 3 bedrooms etc Good garden Price for freehold £1 500 £1,000 on mortgage Premium 1½ years purchase

5 NEAR FOREST OF DEAN—Old established Country PRACTICE in picturesque surroundings, averaging about £1 250 p a Panel of 1 100 Visits from 3/6 Suitable house with 3 reception 6 bedrooms etc Garden Price for freehold £1 500 £1 000 on mortgage Premium £350 cash and £1 500 by instalments over five years

6 HOME COUNTIES—County Town—Rapidly increasing PRACTICE at present producing about £450 p a but offering large scope Panel of 265 Fees from 2/6 Good house, with 4 reception 5 bedrooms etc For sale or on rental Good sport and excellent schools Premium 1½ years purchase

7 SOUTH COAST TOWN—Rapidly increasing PRACTICE producing for last 12 months over £400 No panel Visits 5/ up Suitable house with 2 reception 5 bedrooms etc Rent on lease £130 Prem £600

8 MIDLANDS—COUNTY TOWN—Old established better class PRACTICE averaging £793 p a and offering good scope Panel of 500 Fees 5/ upwards Well situated house with good garden with 3 reception 4 bedrooms etc Separate surgery Rent on lease £111 p a Premium 1½ years purchase

9 GLOS—Unopposed very old established PRACTICE in beautiful agricultural district worth over £500 p a including appts of £90 and panel of 480 Very nice house (5 bedrooms etc) water laid on electric light one acre of ground Price freehold £2 000 or would be rented Another smaller house is also available Premium £750 Good social amenities and scope for increase

10 SOUTH OF ENGLAND—COAST TOWN—PARTNERSHIP—A share guaranteed to produce £600 p a is offered to a suitable man keen on surgery and pref holding the F R C S Rapidly increasing practice having large scope Panel of over 1 400 Fees from 3/6 Suitable house can be secured Premium 2 years purchase

11 CHESHIRE—Coast Town within reach of Liverpool—Well established PRACTICE averaging over £1 200 p a including panel of 780 Fees from 3/6 Mid 2 to 5 gns Double fronted house with 3 reception 4 bedrooms etc Price for freehold £1 400 £800 on mortgage Premium 1½ years purchase £1 100 down

12 LONDON SOUTH WEST—Old estab non panel PRACTICE having good Ophthalmic connection and also scope for Ear Nose and Throat work Gross cash receipts for past 12 months over £1 400 Fees from 5/ Practically no midwifery but scope if desired Good corner house in excellent condition with 4 reception 5 bedrooms etc Price for long lease £1 500 Premium 1½ years purchase

13 SOUTH COAST—FAVOURITE HEALTH RESORT—Well established mixed class PRACTICE offering good scope Average gross cash receipts over £700 p a including panel of 720 Very good house with 2 reception 5 bedrooms etc Nice garden To be sold or might be let for a time Premium 1½ years purchase

14 YORKSHIRE—GOOD TOWN—PARTNERSHIP—A one half share (guaranteed to produce £2 000 p a in first year) is offered in a good middle-class Practice Income for the past twelve months approximately £4 000 Small select panel of 430 One appointment worth nearly £650 p a Fees 3/6 upwards Opposition not strong Suitable house can be bought or leased Very good educational and sporting facilities Premium 2 years purchase

15 YORKS—LARGE TOWN—Old established middle and working class PRACTICE averaging £1 778 p a Panel of 791 Fees 3/6 to 21/ Mid 2 to 10 gns (about 12 cases yearly) Suitable house with 2 reception 4 bedrooms etc Separate entrance to professional rooms Good schools and sporting facilities Prem 1½ years pur

16 HOME COUNTIES—PARTNERSHIP—A third share producing about £1 000 p a is offered in a well established good mixed class Practice situated in very attractive district within 20 miles of London Fees 3/6 to 2 gns Suitable house available Premium 2 years purchase

17 LINCS—PARTNERSHIP—A one fourth share to commence (with option to increase up to one half later) is offered in a very old established good middle class Practice producing for the last twelve months over £4 700 p a Panel of 2 730 Appts worth nearly £200 p a Visits 2/6 to 12/6 Not much midwifery from 2 to 3 gns Suitable house obtainable but, if single purchaser can reside with Vendor who is a bachelor Premium 2 years purchase

18 CAMBS—PARTNERSHIP—A one-half share is offered in a sound mixed class Practice producing last year nearly £2 000 Panel of 765. Situated in pleasant agricultural district with good sporting facilities. Fees 5/ to 21/ Suitable house can be rented at £75 p a Premium 2 years purchase

19 SOUTH WESTERN COUNTY—Near the Sea—Old estab easily worked Country PRACTICE in beautiful district within reach of Market Town and averaging £1 100 p a including appts and panel producing £450 Exceptionally attractive modernized house in over 3 acres of ground with ample accommodation productive fruit and vegetable garden with tennis lawn etc Water laid on and electric light available shortly Price freehold £3 000 part on mortgage Premium £1 650 Sport of all kinds and schools within reach

20 LONDON, S E.—Outlying Residential Suburb—Very old-established PRACTICE (with rto carried on by two men in partnership) is for disposal or half share would be sold with succession to the whole in 12 months time Receipts average about £3 000 p a including appts worth £330 and panel over 1 500 Two houses available. Premium 1½ years purchase Eminently suitable for two friends.

21 BORDERS OF NORFOLK AND SUFFOLK—PARTNERSHIP—A half share (with succession in 2 to 3 years time) in a good mixed unopposed Practice in pleasant village near two good towns Income for last 12 months £1 992 including panel of 1 000 and appts worth about £150 Fees 2/6 to 10/6 House contains 3 reception, 6 bedrooms etc Sport of all kinds Premium 2 years purchase

22 ITALIAN RIVIERA—SEASON PRACTICE—Old established and held by Vendor for the past six years Average income about £400 p a. Fees 10/ to 20/ approximately Suitable furnished flat with one large reception room consulting room 4 bedrooms etc Rent on lease £140 p a Premium £500

23 MANCHESTER DISTRICT—Old established middle and working-class PRACTICE worth last year about £700 p a including panel of 614 and capable of increase Expenses small Well situated house with six rooms in addition to professional accommodation Large garden Price for freehold £850 Moderate premium accepted

24 LINCOLNSHIRE COAST—Well established mixed-class PRACTICE averaging £2 749 p a (last year £2 808) including panel of over 1 700 Fees 3/6 to 21/ Mid from 2 gns (about 70 cases yearly). Newly built modern house with special professional accom central heating etc Garden Garage Price freehold £2 300 part on mortgage Good sport and schools within reach Prem 1½ years pur

25 PARTNERSHIP — LONDON SOUTH EAST — Outlying Residential Suburb—Owing to the retirement of one of three partners the fifth share of an old estab Practice is for disposal Cash receipts average over £5 300 p a (last year £5 540) including panel of upwards of 2 000 Visits 3/6 to 10/6 Good house can be rented at £80 p a. Premium 2 years purchase

26 MIDDLESEX—Rapidly developing district within 20 miles—PARTNERSHIP—A one half share in an old estab good middle-class Practice averaging for the past two years over £3 500 p a Panel of 1 100 and appts bring in £100 p a Fees 3/6 to 21/ Good corner house with 3 reception 6 bedrooms etc. Garden Price for freehold £2 100 Premium 2 years purchase

27 KENT—Country PRACTICE near Coast—Old established mixed-class Practice averaging about £1 100 p a Panel of nearly 400 Fees 3/6 upwards Convenient house with 3 reception 6 bedrooms etc Good garden Price £1 650 part on mortgage Good sport and schools within reach Premium 1½ years purchase

28 PLEASANT CATHEDRAL CITY within 200 miles North of London—Old established mixed class PRACTICE averaging £1 600 p a including £800 from panel and over £100 from clubs Visits 5/ upwards (occasionally 2 gns) Very little midwifery from 2 to 5 gns Large attractive house with garden Rent £80 Prem 1½ yrs. pur

29 NEAR HUDDERSFIELD—PARTNERSHIP—A half share in an old established mixed class Practice Income for immediate past year over £4 250 Panel of 3 500 Fees 3/6 to 7/6 Very good house with 4 reception 6 bedrooms etc 1½ acres of garden Price for freehold £2 500 Premium 1½ years purchase

30 PARTNERSHIP—COUNTRY TOWN, within 130 miles North of London—A one fifth share is offered in an exceptionally sound good mixed-class Practice averaging for past 3 years over £6 000 p a Panel of 3 400 Fees from 4/ Not much midwifery House can be rented at £50 p a Premium 2 years purchase

ASSISTANTS REQUIRED—(1) HOME COUNTIES Outdoor £450 (2) SUFFOLK Indoor or outdoor £300 or £450 p a (3) WILTS Outdoor £450 p a (4) LINCS Country Practice £300 Indoor (5) LONDON N Outdoor Married £400 p a, with free unfurnished house

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